Pell Frischmann

Sclenteuch Wind Farm

Technical Appendix 11.1: Transport Assessment

May 2022

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Contents

Figures

Tables

1 Introduction

1.1 Purpose of the Report

Pell Frischmann (PF) has been commissioned by RES (the Applicant) to undertake a Transport Assessment (TA) for the Sclenteuch Wind Farm ('the Proposed Development'), located to the west of Waterside, Ayrshire.

The report identifies the key transport and access issues associated with the Proposed Development, including the route for abnormal loads. EIAR Volume 3: Technical Appendix 11.2 identifies where the Proposed Development may require mitigation works to accommodate the predicted traffic; however, the detailed design of these remedial works is beyond the agreed scope of this report.

1.2 Report Structure

Following this introduction, the TA report is structured as follows:

- Chapter Two describes the Proposed Development;
- Chapter Three reviews the relevant transport and planning policies;
- Chapter Four sets out the methodology used within this assessment;
- Chapter Five describes the baseline transport conditions;
- Chapter Six describes the trip generation and distribution of traffic in the study area;
- Chapter Seven summarises the traffic impact assessment;
- Chapter Eight considers mitigation proposals for development related traffic within the study network; and
- Chapter Nine summarises the findings of the TA and outlines the key conclusions.

2 Proposed Development

2.1 Site Location

The Proposed Development is located in both East Ayrshire and South Ayrshire, near Waterside, Ayr. The location of the Proposed Development is illustrated in Figure 1.

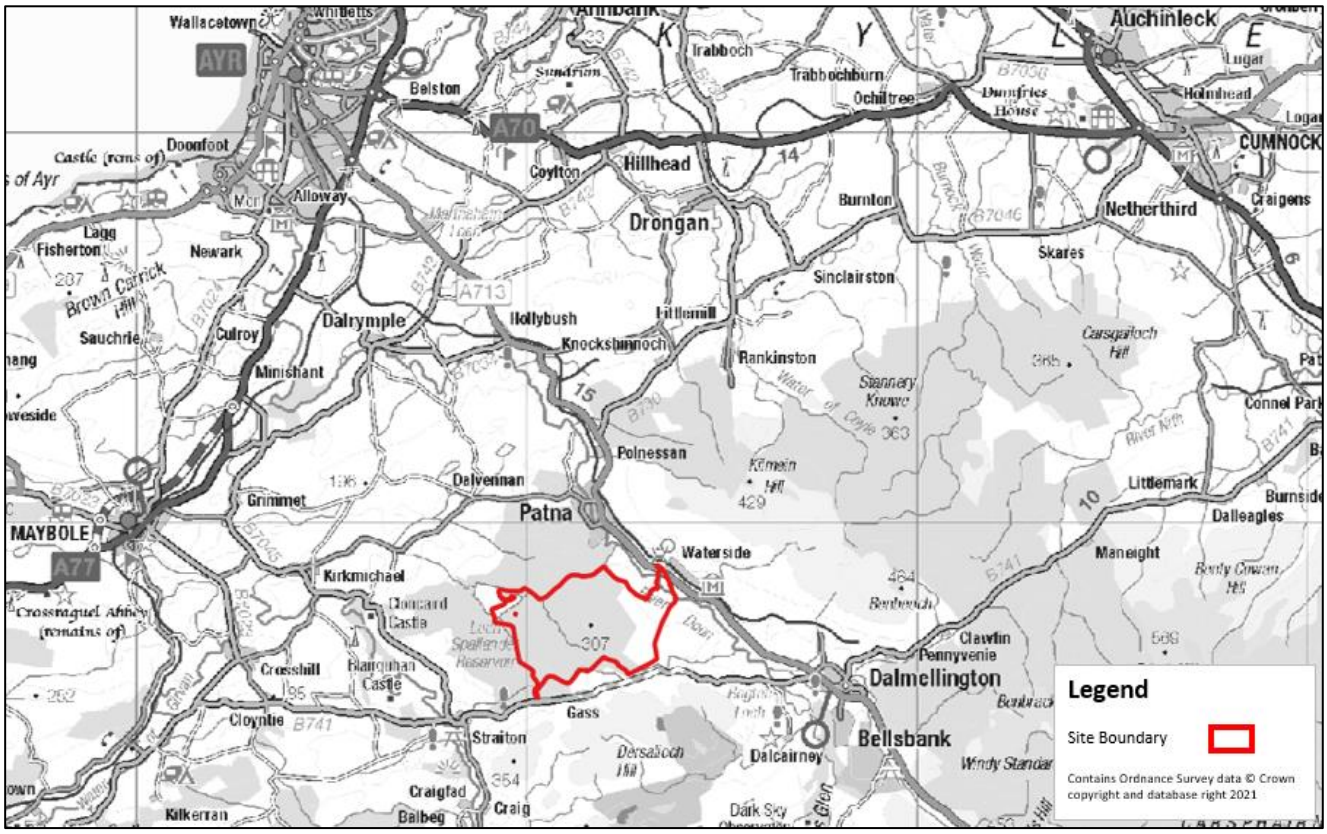


Figure 1 General Site Location

The Proposed Development Area currently comprises a combination of agricultural and commercial forestry.

2.2 Proposed Development

In summary, the Proposed Development may comprise:

- up to nine three-bladed horizontal axis wind turbines of up to 200 m tip height;
- at each wind turbine, associated low to medium voltage transformers and related switchgear;
- wind turbine foundations;
- hardstand areas for erection cranes at each wind turbine location;
- a network of access tracks including passing bays, watercourse crossings and a site entrance from the public road;
- a substation compound including a communications mast;
- potential for battery energy storage system compound of up to 54 MW;
- a network of buried electrical cables;
- borrow pits (dependent on availability of stone on-site);
- felling and replanting of forestry; and
- temporary construction compounds, working areas and laydown areas;

The Proposed Development is presented in Figure 2 below.

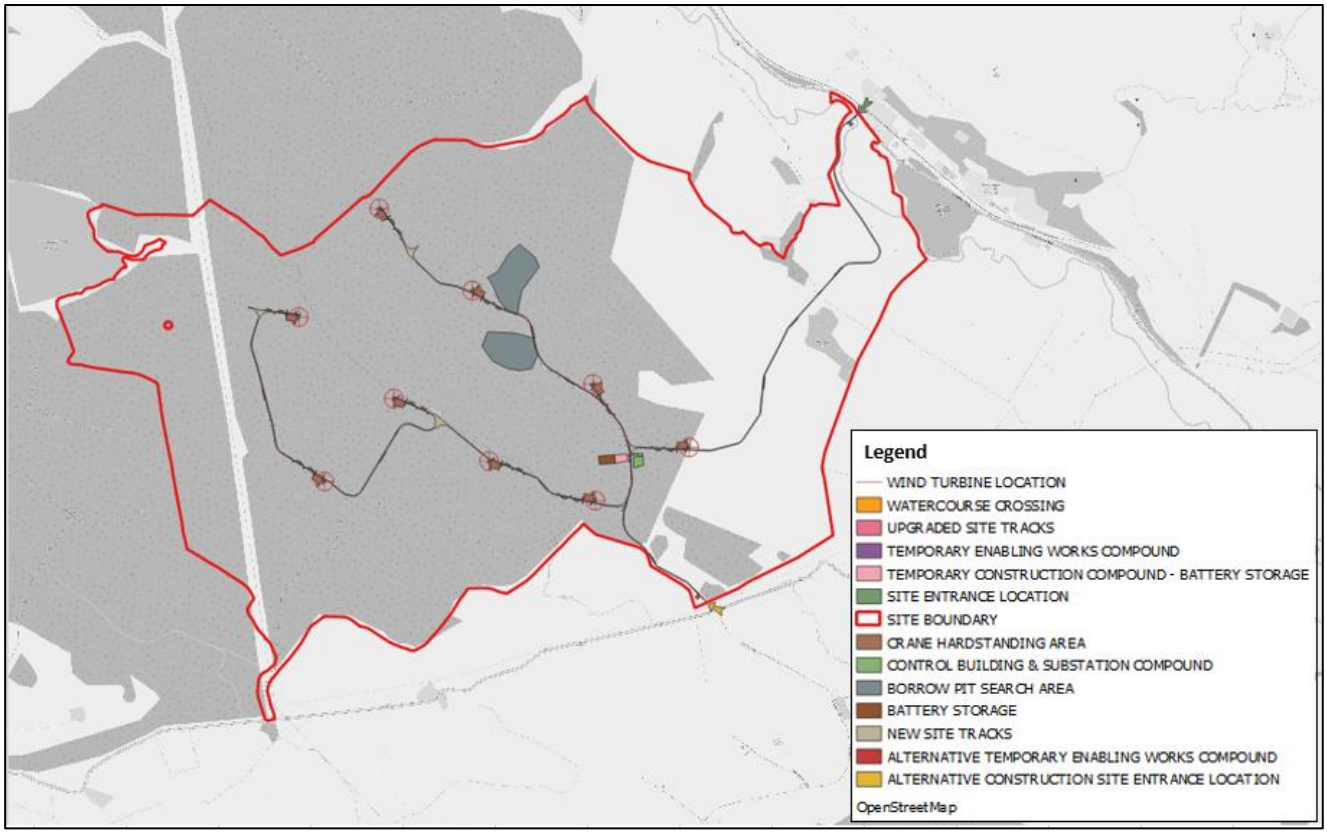


Figure 2 Proposed Development (shapefiles courtesy of RES)

A complete description of the Proposed Development for the purposes of the EIA regulations is provided in the EIAR Volume 1 Chapter 2: Proposed Development/Project Description.

2.3 Potential Candidate Wind Turbines

The Vestas V150 with a tip height of up to 200 m was selected by the Applicant as a potential representative candidate wind turbine for the purpose of assessment in the EIAR and in this TA. Tower and blade dimensions have been supplied by Vestas and are presented in EIAR Volume 3: Technical Appendix 11.2. These sections were used for the swept path assessment of the proposed loads along the access route which are also presented in Technical Appendix 11.2.

The selection of the final wind turbine model and specification will be subject to a commercial procurement process following consent of the application. The assumed dimensions may therefore vary slightly form those assumed as part of this assessment.

To provide an accurate assessment scenario based upon the known issues along the access route, it has been assumed that all blades would be carried on a Nooteboom Super Wing trailer to reduce the need for physical mitigation on constrained sections of the route.

Base and mid tower sections would be carried in a 4+7 clamp adaptor style trailer, whereas loads such as the hub, nacelle housing and the V150 upper tower sections would be carried on a six-axle step frame trailer.

Examples of the vehicles and trailers that are likely to transport the loads are shown in Figure 3 and 4.

Figure 3 Super Wing Carrier with Loaded Wind Turbine Blade

Figure 4 Typical Tower Transport Trailer

3 Transport Policy Review

3.1 Introduction

This chapter of the report provides an overview of relevant national and local transport planning policy.

3.1.1 Scottish Planning Policy (2014)

The Scottish Planning Policy (SPP) was developed to set out the national planning policies which demonstrates the priorities of Scottish Ministers' for the operation of the planning system as well as for the development and use of land. The document notes that:

"Where a new development or a change of use is likely to generate a significant increase in the number of trips, a transport assessment should be carried out. This should identify any potential cumulative effects which need to be addressed."

In relation to the construction of new developments, the SPP notes:

"Consideration should be given to appropriate planning restrictions on construction and operation related transport modes when granting planning permission, especially where bulk material movements are expected, for example freight from extraction operations."

3.1.2 National Planning Framework 3 (2014)

Scotland's National Planning Framework (NPF3) sets the context for development planning in Scotland and provides a framework for the spatial development of Scotland as a whole. It sets out the Scottish Government's development priorities over the next 20 to 30 years and identifies national developments which support the development strategy. Scotland's third NPF was laid in the Scottish Parliament on 23 June 2014.

The Draft National Planning Framework 4 (DNPF4) was laid in Parliament on 10 November 2021 and will be considered by Scottish Parliament for up to 120 days. In relation to transportation, Policy 19: Green Energy within the DNPF4 notes that:

"…development proposals for renewable energy developments must take into account:

- *cumulative impacts – taking into account the cumulative impact of existing and consented energy development;*
- *public access, including impact on long-distance walking and cycling routes and scenic routes; and*
- *impacts on road traffic and on adjacent trunk roads.*

On 31 March 2022, the consultation on the DNPF4 closed. A final NPF4 will be produced once the responses are analysed.

3.1.3 Planning Advice Note 75 (PAN 75) – Planning for Transport

Planning Advice Note (PAN) 75: Planning for Transport provides advice on the requirements for Transport Assessments. The document notes that:

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

"All planning applications that involve the generation of person trips should provide information which covers the transport implications of the development. The level of detail will be proportionate to the complexity and scale of the impact of the proposal...For smaller developments the information on transport implications will enable local authorities to monitor potential cumulative impact and for larger developments it will form part of a scoping exercise for a full transport assessment. Development applications will therefore be assessed by relevant parties at levels of detail corresponding to their potential impact."

3.1.4 Transport Assessment Guidance

Transport Scotland's (TS) Transport Assessment Guidance (TAG) was published in 2012. It aims to assist in the preparation of a TA for development proposals in Scotland such that the likely transport impacts can be identified and dealt with as early as possible in the planning process. The document sets out requirements according to the scale of development being proposed.

The document notes that a TA will be required where a development is likely to have significant transport impacts but that the specific scope and contents of a TA will vary for developments, depending on location, scale and type of development.

3.2 Local Policy

3.2.1 East Ayrshire Council Local Development Plan

East Ayrshire Council's Local Development Plan was adopted in February 2017. In relation to wind energy, Policy RE3: Wind Energy Proposals Over 50m in Height within the Local Development Plan states that:

"All wind energy proposals over 50m in height, including extensions and proposals for repowering, will be assessed using the spatial framework for wind development…"

In relation to transport, Policy T1: Transportation Requirements for New Development outlines that:

"All new development will require to fully embrace active travel by incorporating new, and providing links to existing footpaths, cycle routes and public transport routes. Developments which maximise the extent to which travel demands are met first through walking, then cycling, then public transport and finally through the use of private cars will be particularly supported."

"Where considered appropriate, developers will be requested to enter into Section 75 Obligations with the Council with regard to making financial contributions towards the provision of transportation infrastructure improvements and/or public transport services which may be required as a result of their development."

Policy T4: Development and Protection of Core Paths and Natural Routes outlines that:

'The Council will not be supportive of development which disrupts or adversely impacts on any existing or potential core path, right of way, bridle path, or footpath used by the general public for recreational or other purposes, particularly where the route concerned forms, or has the potential to form, part of the network of circular routes or footpath links between settlements, actively promoted by the Council.

Where such disruption or adverse impact is demonstrated to be unavoidable, the Council will require developers, as an integral part of the proposed development, to provide for the appropriate diversion of the route in question elsewhere within the development site or to put into place appropriate measures to mitigate and overcome the adverse impact expected.'

3.2.2 South Ayrshire Local Development Plan

South Ayrshire Council's Development Plan (LDP) was adopted in October 2014. In relation to wind energy, LDP Policy: Wind Energy notes that South Ayrshire Council will support proposals if:

"…they are capable of being accommodated in the landscape in a manner which respects its main feature and character, and which keeps their effect on the landscape and the wider area to a minimum"

"…their cumulative impact in combination with other existing and approved wind energy developments, and those for which applications for approval have already has been submitted, is acceptable."

In relation to transport, LDP Policy: Land Use and Transport notes that development proposals should:

"…take appropriate measures to keep any negative effects of road traffic on the environment to a minimum"

"…where otherwise in accordance with the LDP and where required to facilitate development, provide interventions to the strategic transport network to maintain the efficiency of the transport network for both users and operators"

3.3 Policy Summary

The Proposed Development can align with the stated policy objectives and the design of the site and proposed mitigation measures will ensure compliance with national and local objectives.

4 Study Methodology

4.1 Introduction

There are three phases of the life of the Proposed Development. All three phases have been considered in this assessment and are as follows:

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

4.2 Project Phases – Transport Overview

Of the three aforementioned phases, the decommissioning phase involves fewer trips on the network than the construction phase, as minor elements of infrastructure are likely to be left in place, adding to local infrastructure that can potentially be used for further agricultural, commercial forestry or leisure uses in the future.

The operational phase is restricted to occasional maintenance operation which generate significantly lower volumes of traffic that are not considered to be in excess of daily traffic variation levels on the road network. It is expected that operational phase trips will equate to an average of less than two vehicle movements per week.

It should be noted however that the construction effects are short lived and transitory in nature.

4.3 Scoping Discussion

The Applicant submitted a scoping report to Energy Consents Unit (ECU) who consulted East Ayrshire Council, South Ayrshire Council and Transport Scotland in respect of the Environmental Impact Assessment which included a section considering traffic and transport.

A full review of that scoping opinion is provided in the EIAR Volume 1 Chapter 11: Traffic and Transport.

5 Baseline Conditions

5.1 Access Arrangement

The Proposed Development will be accessed directly from a new site entrance off the A713, near Waterside, East Ayrshire. This main site entrance will be used by Abnormal Indivisible Load (AIL) delivery vehicles and construction delivery vehicles. The main site entrance will connect to a proposed watercourse crossing over the River Doon. Throughout the Proposed Development Area, there will be a combination of new and upgraded tracks to access each of the elements of the Proposed Development.

A secondary site entrance will be located at the existing forestry access to High Keirs Forest off the B741. This site entrance will be used by plant and equipment for site establishment and as a staff entrance.

The main site entrance would have the first 6 m surfaced in a bituminous macadam and appropriate junction markings and reflective junction markers would be provided at the bell-mouth. The throat of the main site entrance would be widened to a minimum of 5.5 m to ensure that opposing vehicles can pass in safety.

Visibility splays of 215 m in both directions with a set-back distance of 4.5 m from the centre of the main site entrance would be provided.

The layout of the main site entrance is illustrated in Appendix A.

5.2 Study Area Determination

Scoping responses from East Ayrshire Council, South Ayrshire Council, the Ayrshire Roads Alliance and Transport Scotland centred around data collection count sites, likely points of origin for materials to assist in developing a suitable study network.

The study area includes local roads that are likely to experience increased traffic flows resulting from the Proposed Development. The geographic scope was determined through a review of Ordnance Survey (OS) plans and an assessment of the potential origin locations of construction staff and supply locations for construction materials.

Where feasible, local materials will be sourced which will avoid traffic impacting on local communities as much as possible. Access for construction materials would be predominantly from the north, along the A713.

AILs will be delivered to Proposed Development Area from the King George V (KGV) Dock in Glasgow or the Port of Ayr.

A full description of the routes, as well as constraints along the route are presented in the Route Survey Report in EIAR Volume 3: Technical Appendix 11.2.

The study area for this assessment is as follows:

- The B714, between Daily and Dalmellington;
- The A713, from Bankfield Roundabout to the south of Dalmellington;
- Along the A77, between Whitletts Roundabout and Bankfield Roundabout;
- Along the A70 between Cumnock and Ayr and
- Along the A76 (T), between Auchinleck and Cumnock.

5.3 Pedestrian and Cyclist Networks

A review of the online core path mapping available on East Ayrshire Council's online mapping facility[1] indicates that Core Path D6: Patna to Straiton is located within the Proposed Development Area. The core path is approximately 6.8 km in length.

Right of Way SKC11/1 travels along part of the same route as Core Path D6, however, the routes slightly deviate from each other to the south west of Loch Spallander Reservior. They both subsequently continue in a north-eastbound direction.

Both Core Path D6 and SKC11/1 travel through the northwest section of the Proposed Development Area.

Core Path D13: Auchenroy Hill and Dalcairnie Falls is located to the west of Dalmellington, and crosses the B741 in two locations between Doon Bridge and the B741 / A713 / Gateside Road junction. The core path is approximately 7.5 km in length.

South Ayrshire Council's online core plan mapping facility[2] shows core paths within the South Ayrshire Council boundary and indicates that there are no core paths in the vicinity of the secondary site entrance, along the B741.

Along the A713, there is a narrow, substandard footway located along the western edge of the road between the main site entrance and Patna.

A review of of Sustrans map of the National Cycle Network[3] indicates that there are no National Cycle Network routes in the vicinity of either of the site entrances.

5.4 Road Access

As previously noted, the Proposed Development will be accessed via two separate site entrances which include an AIL access offthe A713 (the main site entrance) and a construction vehicle access off the B741 (the secondary site entrance).

The B741 comprises mainly a single track road with passing places. There is a 13 tonne restriction on Doon Bridge which is located on the B741 to the east of the secondary site entrance, near Dalmellington.

The A713 is a two-way single carriageway which is approximately 6.5 m in width. The A713 is generally subject to the national speed limit, however, in the vicinity of the main site entrance, the speed limit is reduced to 30 mph. The A713 is maintained by the Ayrshire Roads Alliance.

The section of the A77 (T) which forms part of the study area is a single carriageway which is subject to the national speed limit and forms part of the trunk road network. The A77 (T) is maintained by Amey on behalf of Transport Scotland.

The A70 is a two-way single carriageway which is approximately 7.3 m in width and links the A77 (T) to the A76 (T). The A70 is mainly subject to the national speed limit which reduces to 30 mph through local villages, and to an advisory part-time 20 mph speed limit in the vicinity of schools.

The A76 (T) forms part of the trunk road network and is maintained by Amey on behalf of Transport Scotland. The A76 (T) is subject to the national speed limit.

5.5 Existing Traffic Conditions

In order to assess the impact of development traffic on the study area, one Automatic Traffic Count (ATC) site was established between 26 November to 02 December 2021.

[1] East Ayrshire Council, Online Mapping (https://webgis.east-ayrshire.gov.uk/webgis2016/)
[2] South Ayrshire Council, Open Map Data, Core Paths (https://maps-south-ayrshire.opendata.arcgis.com/datasets/core-paths/)
[3] Sustrans, National Cycle Network (https://www.sustrans.org.uk/national-cycle-network)

The count site used was as follows:

1. A713, to the north of the proposed main site entrance.

In addition to the ATC data, further traffic count data was obtained from the Department for Transport (DfT) website count sites on the B741, A713, A77 (T), A70 and A76 (T) (sites 2, 3, 4, 5, 6, 7, 8 and 9).

The DfT count sites are as follows:

2. A713 (north of Patna) – Count Site ID No.10885;
3. A713 (near Ailsa Hospital) – Count Site ID No.74362;
4. A77 (T) (between Bankfield and Holmston Roundabout) – Count Site ID No.50750;
5. A70 (west of Joppa) – Count Site ID No.1017;
6. A70 (west of Ochiltree) – Count Site No. 80519;
7. A76 (T) (north of Dettingen Roundabout) – Count Site ID No. 80522;
8. A76 (T) (south of Dettingen Roundabout) – Count Site ID No. 80521;
9. B741 (east of Cloyntie) – Count Site ID No. 930171;
10. A77 (T) (between Holmston and Whitletts Roundabout) – Count Site ID No. 74302; and
11. A713 (south of Dalmellington) – Count Site ID No. 30887.

These sites were identified as being areas where sensitive receptors on the access route would be located. A full receptor sensitivity and effect review is prepared in EIAR Volume 1: Chapter 11.

The traffic counters allowed the traffic flows to be split into vehicle classes and the data has been summarised into cars / light good vehicles (LGVs) and heavy goods vehicles (HGVs) (all goods vehicles >3.5 tonnes gross maximum weight).

The locations of the traffic sites are illustrated in Figure 5.

Figure 5 Traffic Count Location

The ATC survey undertaken along the A713, north of the main site entrance, comprised 2021 flows during the survey period. A National Road Traffic Forecast (NRTF) low growth factor of 1.005 was applied to the 2021 flows to estimate 2022 flows.

The traffic flows from the DfT count locations were extracted for 2019 flows. A NRTF low growth factor of 1.022 was applied to the 2019 flows to forecast 2022 flows.

The 24-hour two-way average traffic flows for each of the traffic count locations are presented in Table 1.

Table 1 24-hour Two-way Average Traffic Data (2022)

No.	Survey Location	Data Source	Cars & Lights	HGV	Total
1	A713, North of Main Site Entrance	ATC	2846	788	3635
2	A713, North of Patna	DfT	3681	276	3957
3	A713, South of Ailsa Hospital	DfT	3681	276	3957
4	A77 (T), between Bankfield and Holmston Rbt	DfT	22661	1428	24089
5	A70, between Belston and Joppa	DfT	10261	655	10916
6	A70, west of Ochiltree	DfT	6054	1112	7166
7	A76 (T), north of Dettingen Rbt	DfT	7113	838	7951
8	A76 (T), south of Dettingen Rbt	DfT	5790	425	6215
9	B741, east of Cloyntie	DfT	560	76	636
10	A77 (T), between Holmston and Whitletts Rbt	DfT	34942	2132	37074
11	A713, South of Dalmellington	DfT	1461	189	1651

Speed data collected from the ATC survey along the A713, to the north of the main site entrance (count site 1) indicated that the two-way average 5-day mean speed was observed as 48.4 mph and the average 5-day 85th percentile speed was observed as 55.5 mph. This indicates that there is compliance with the speed limit at this location.

5.6 Accident Review

Road traffic accident data for the period commencing 01 January 2018 through to 31 May 2021 along the A713, between Ayr and Dalmellington and along the B714 between Dalmellington and Straiton, was obtained from the online resource crashmap.co.uk which uses data collected by police about road traffic crashes occurring on British roads. It should be noted that at the time of writing, 2021 traffic information comprised provisional data until June. In order to ensure that a full three years' worth of accident data is reviewed, accidents recorded along the surveyed routes during 2018 are included in the analysis.

The statistics are categorised into three categories which include "slight" for damage only incidents, "serious" for injury accidents and "fatal" for accidents that result in death.

A summary of analysis of the incidents indicates that:

- A total of 23 accidents were recorded along the A713 and B714, as described above, of which nine accidents were recorded as slight and 14 accidents were recorded as serious. No fatal accidents were recorded within the surveyed area;
- Of the 23 recorded accidents, 19 accidents occurred along the A713 and four accidents occurred along the B714;
- A total of three accidents involved motorcycles, of which two occurred along the A713, both of which were classified as serious accidents. One accident involving a motorcycle occurred along the B714 which was classified as serious. All three accidents were multi-vehicle accidents also involving cars;
- Two accidents were recorded to involve HGV, both of which occurred along the A941 and were recorded as serious. The two accidents were multi-vehicle accidents which also involved cars;
- Two accidents were recorded to involve buses along the A713, to the north-west of Doon Valley Glamping Pods access. The accidents were recorded approximately 100 m and 650 m to the north-west of the A713 from the Doon Valley Glamping Pods access, respectively. The two accidents were multi-vehicle accidents which also involved cars;
- One of the recorded accidents involved a pedestrian casualty which was recorded as serious and involved a car. The accident occurred approximately 270 m to the south-east of Chalmerston Opencast Coal access junction with the A713. There are no pedestrian facilities at the location of the accident;
- No accidents were recorded which involved a pedal cycle;
- A total of three accidents were recorded in the vicinity of A713 / B742 staggered junction, of which two accidents were recorded as serious and one accident was recorded as slight. Signage is located on both approaches to the junction to alert oncoming vehicles of the junction layout; and
- Two accidents were recorded at the A713 / Dalmellington Road signalised junction, which provides access to Alisa Hospital and University Hospital Ayr. The two recorded accidents were recorded as slight and involved cars; and
- Two accidents were recorded along the A713, at the A713 / Ayrshire Equestrian Centre access priority junction. One accident involved a car and a motorcycle and was classified as serious and one accident involved cars and was classified as slight.

5.7 Future Baseline Traffic Conditions

5.7.1 2025 Traffic Flows, excluding Committed Development Trips

Construction of the Proposed Development is expected to commence in 2025, if consent is granted, and it is expected to take up to 14 months, depending on weather conditions and ecological considerations.

To assess the likely effects during the construction phase, base year traffic flows were determined by applying a National Road Traffic Forecast (NRTF) low growth to the obtained traffic flows. The NRTF low growth factor for 2022 to 2025 is 1.016.

These factors were applied to the DfT traffic flows to estimate the 2025 traffic flows in Table 2. These flows will be used in the Construction Peak Traffic Impact Assessment.

Table 2 2025 Two-way Average Daily Traffic Data (excluding Committed Development Trips)

No.	Survey Location	Cars & Lights	HGV	Total
1	A713, North of Main Site Entrance	2892	801	3693
2	A713, North of Patna	3740	280	4020
3	A713, South of Ailsa Hospital	3740	280	4020
4	A77 (T), between Bankfield and Holmston Rbt	23023	1451	24474
5	A70, between Belston and Joppa	10425	666	11091
6	A70, west of Ochiltree	6151	1130	7281
7	A76 (T), north of Dettingen Rbt	7227	851	8078
8	A76 (T), south of Dettingen Rbt	5882	432	6314
9	B741, east of Cloyntie	569	77	646
10	A77 (T), between Holmston and Whitletts Rbt	35501	2166	37667
11	A713, South of Dalmellington	1485	192	1677

5.7.2 Committed Development

5.7.2.1 Onshore Wind Farm Planning Applications

A review of surrounding wind farm planning applications has been undertaken. Within a 25 km radius of the Proposed Development Area, there are currently eleven consented wind farm proposals which are shown in Table 3.

Table 3 Onshore Wind Farm Planning Applications

Reference	Name	Distance (Approx.)	Number of Wind Turbines		Current Status
14/0569/PP – East Ayrshire Council	Knockshinnoch Wind Farm	6 km	2		Consented. An extension is being sought to extend the commencement period.
14/0860/PP – East Ayrshire Council	Polquhairn Wind Farm	Within 10 km	9		Consented. An application has been lodged on the same site for a development comprising 9 wind turbines with a maximum tip height of 145.0m.
19/0006/S36 – East Ayrshire Council	North Kyle Wind Farm	10 km	49		Consented.
17/0395/PP – East Ayrshire Council	Over Hill Wind Farm	Within 15 km	10		Consented. An application has been lodged for a wind farm on the same site for a development comprising 10 wind turbines with a maximum tip height of 180.0m. This has been refused by EAC however a planning appeal has been lodged.
20/0001/S36VAR – East Ayrshire Council	Enoch Hill Wind Farm	Within 15 km	16		Consented. An application has been lodged for a variation in tip height.
15/P/2/0024 – Dumfries and Galloway Council	Benbrack Wind Farm	Within 15 km	18		Consented.
16/1852/S36 – Dumfries and Galloway Council	Brockloch Rig Phase 3 (formerly Windy Standard 3 Wind Farm)	Within 20 km	20		Consented.
19/0001/S36VAR – East Ayrshire Council	Pencloe Wind Farm	Within 20 km	19		Consented.

Reference	Name	Distance (Approx.)	Number of Wind Turbines		Current Status
19/00065/FURM – South Ayrshire Council	Kirk Hill Wind Farm	Within 15 km	8		Consented.
20/1294/S42 – Dumfries and Galloway Council	Sanquhar 'Six' (formerly Magheuchan Rig Wind Farm)	Within 25 km	6		Consented.
15/0002/S36 – East Ayrshire Council	Lethans Wind Farm	Within 25 km	26		Consented.

South Kyle Wind Farm is currently under construction and will be complete in 2022 / 2023 and as such is not included in the cumulative review.

It should be noted that the construction period of a wind farm development is transitory in nature and all impacts are short lived and temporary, therefore, traffic flows associated with the consented wind farm developments will not be included in the 2025 Future Baseline Flows to be used in the Construction Peak Traffic Impact Assessment. The inclusion of further traffic flows in the baseline will dilute the potential impact that the Proposed Development's proposals will have. The approach taken is therefore considered to be a robust assessment.

However, in order to inform the planning authorities of possible issues if the consented sites were to be constructed concurrently with the Proposed Development, a combined sensitivity review will be undertaken as part of the cumulative assessment, which is presented in the EIAR Volume 1: Chapter 11. As a robust assessment, the sensitivity review will assess the wind farm development's peak construction period.

Benbrack Wind Farm's initial site works are expected to commence mid 2022[4] and the construction is expected to take 12 months, while Kirk Hill Wind Farm is anticipated to be operational in November 2023[5]. It can therefore be reasonably concluded that Benbrack Wind Farm and Kirk Hill Wind Farm will be operational prior to the construction of the Proposed Development, which is anticipated to commence in 2025, and will therefore not be included in the combined sensitivity review.

A review of planning application documents for Sanquhar 'Six' (formerly Magheuchan Rig Wind Farm) indicates that construction traffic associated with the wind farm proposal will not impact the Proposed Development's study area, and therefore Sanquhar 'Six' will not be included in the assessment.

5.7.2.2 Other Planning Applications

A review of local online planning applications on the East Ayrshire Council planning applications website was undertaken to determine committed developments which should be considered. The review established that the following consented developments are located within the study area:

- Residential development (138 dwellings) (14/0473/PP), Caravan Park Carskeoch, Patna, East Ayrshire;
- Residential development (19 dwellings) (18/0409/PP), Land Adjacent Carnshalloch Avenue, Patna, East Ayrshire;
- Residential development (28 dwellings) (16/0225/PP), Ayr Road, Patna, East Ayrshire; and
- Residential development (20 dwellings) (17/0114/PP), Land Adjacent Hayhill, Sinclairton, East Ayrshire.

There is no information on the planning portal that provides specific information regarding trips to and from each of the residential development applications listed above, however, the use of NRTF low growth factors for

[4] https://www.redrockpower.co.uk/benbrack/about-benbrack-wind-farm/
[5] https://rippleenergy.com/our-wind-farms/kirk-hill/

background traffic is considered robust for addressing smaller, non-significant traffic generation caused by smaller developments, such as those listed, within the study area.

To the west of Ochilltree, Cumnock a planning application (21/0369/PP) has been submitted for Killoch Energy Recovery Park. On land south of Ayr Road, Coylton, a planning application (21/0748/PP) has been submitted for Coylton Greener Grid Park which includes energy management and storage. As these applications have not received planning consent, they cannot be considered as committed development.

A review of South Ayrshire Council's online planning application website indicated that planning permission in principle has been granted for a mixed-use residential (circa 250 dwellings) and neighbourhood / commercial development (20/00970/PPPM) which is located on land to the south-west of the A713, and forms part of the AYR4 (South East Ayr) proposed housing release site in South Ayrshire Local Development Plan (2014). From reviewing the planning application documents, it was estimated that approximately 407 daily trips associated with the mixed-use development will impact count sites along the A77 (T), which have been included in this assessment. These flows will be included as committed development daily flows as these flows are not short lived or temporary and are expected to form part of the 2025 Future Baseline Flows which will be used Construction Peak Traffic Impact Assessment.

5.7.3 2025 Future Baseline Flows (including Committed Development Trips)

The 2025 Future Baseline Flows, which include the committed development trips, are presented in Table 4. This will be used in the Construction Peak Traffic Impact Assessment.

Table 4 2025 Future Baseline Flows (including Committed Development Trips)

No.	Survey Location	Cars & Lights	HGV	Total
1	A713, North of Main Site Entrance	2892	801	3693
2	A713, North of Patna	3740	280	4020
3	A713, South of Ailsa Hospital	3740	280	4020
4	A77 (T), between Bankfield and Holmston Rbt	23431	1451	24881
5	A70, between Belston and Joppa	10425	666	11091
6	A70, west of Ochiltree	6151	1130	7281
7	A76 (T), north of Dettingen Rbt	7227	851	8078
8	A76 (T), south of Dettingen Rbt	5882	432	6314
9	B741, east of Cloyntie	569	77	646
10	A77 (T), between Holmston and Whitletts Rbt	35908	2166	38074
11	A713, South of Dalmellington	1485	192	1677

6 Trip Generation and Distribution

6.1 Construction Phase

6.1.1 Trip Derivation

During the 14 month construction period, the following traffic will require access to the Proposed Development Area:

- Staff transport, in either cars or minibuses;
- Construction equipment and materials, deliveries of machinery and supplies such as concrete and crushed rock; and
- Abnormal loads comprising wind turbine sections and also heavy lift crane(s).

Average monthly traffic flow data were used to establish the construction trips associated with the Proposed Development based on the assumptions detailed in the following sections.

Please note that there may variances in the following estimated trips due to rounding, which are not considered significant.

6.1.2 Construction Staff

Staff would arrive in non-HGV vehicles and where possible will be encouraged to car share. The workforce on-site will depend on the activities undertaken, but, based on previous wind farm construction site experience for a project of this scale which suggests three staff per wind turbine during the short peak period of construction is likely, the maximum number of staff expected on-site could be around 27 per day.

For the purposes of estimating traffic movements, it was assumed that 40% of staff would be transported by minibus and 60% would arrive by car (single car occupancy was assumed as the worst case at this stage with potentially fewer movements through car sharing).

Based on these assumptions, staff transport cars and light vehicles would account for a maximum of 35 vehicle trips (18 inbound and 17 outbound) per day during the peak period of construction.

6.1.3 Abnormal Indivisible Load Deliveries

The wind turbines are broken down into components for transport to the Proposed Development Area. The nacelle, blade and tower sections are classified as AIL due to their weight, length, width and height when loaded. For the purposes of the report, the ‘worst case’ numbers of components requiring transport are illustrated in Table 5.

In addition to the wind turbine deliveries, two high capacity erection cranes would be needed to offload a number of components and erect the wind turbines. The cranes are likely to be mobile cranes with a capacity up to 1,000 tonnes that are escorted by boom and ballast trucks to allow full mobilisation on-site. Smaller erector cranes would also be present to allow the assembly of the main cranes and to ease the overall erection of the wind turbines.

Escort vehicles would accompany the AIL convoys to support the traffic management measures. Up to three vehicles would be deployed and it is assumed that three wind turbine components would be delivered per convoy.

Table 5 Wind Turbine Components

Component	Number of Components per Wind Turbine
Rotor Blades	3
Tower Sections	5
Nacelle	1
Hub	1
Drive Train	1

Component	Number of Components per Wind Turbine
Nose Cone	1
Transformer	1
Ancillary	1
Site Parts	0.2

6.1.4 General Deliveries

Throughout the construction phase, general deliveries will be made to the Proposed Development Area by means of HGV. These would include fuel, site office and staff welfare. At the height of construction, it is assumed that up to 40 journeys to the Proposed Development are made (20 in and 20 out) per month.

6.1.5 Material Deliveries

Various materials will need to be delivered to the Proposed Development Area to form the Proposed Development. At the outset, HGV deliveries will deliver plant and initial material deliveries to the Proposed Development Area to enable the formation of the site compound and to delivery construction machinery.

Concrete to construct the foundations for the wind turbines and ancillary buildings foundations will be delivered to the Proposed Development Area from ready mix suppliers, which for the purpose of this assessment, is assumed to be located to the west of Ochiltree. It is estimated that there will be approximately 1,662 lorry journeys (831 inbound trips and 831 outbound trips).

The quantity of reinforcement required in the foundations across the Proposed Development is detailed in Table 6 below.

Table 6 Steel Reinforcement Deliveries

Element	Weight / Installation (t)	Total Weight (t)	Lorry Capacity (t)	Inbound Trips	Total Journeys
Wind Turbine Foundation	68	610	30	21	42
Ancillary Buildings Foundation	20	20	30	1	2

The access tracks will be constructed from crushed rock and material won from the borrow pits. This material would also be used to help create the crane hardstands and compounds.

While it is anticipated that the borrow pits will be able to provide 100% of required crushed rock and material, in order to provide a robust assessment, the trip generation calculations assumes that 100% of this material will be delivered to the Proposed Development Area from the north east via the A741.

The access tracks, crane hardstands and compounds will require geotextile in the foundations. Geotextile will be delivered the Proposed Development in rolls. A total of 69 large rolls may be required at on-site and would be delivered by HGV, which will result in a total of 8 journeys (4 inbound trips and 4 outbound trips).

Cables will connect each wind turbine to the substation compound. Trip estimates for the cable materials are provided below in Tables 7 and 8.

It has been assumed that three cables will to be provided within each cable trench and would be backfilled with cable sand. The cable materials would be likely sourced from sites along the A77 (T).

Table 7 Cable Trip Estimate

Element	Total Cable Length (m)	Length per Drum (m)	Number of Drums	Inbound Trips	Total Journeys
Cables	29,630	500	59	7	14

Table 8 Cable Sand Trip Estimate

Element	Volume / Installation (m3)	Lorry Capacity (t)	Inbound Trips	Total Journeys

Cable Sand	3,333	20	267	534

A substation will be constructed on-site which will require deliveries of building materials and structural elements and would result in 120 journeys. Storage battery deliveries will result in a further 76 HGV journeys.

It is estimated that a total of 5,000 journeys (2,500 inbound trips and 2,500 outbound trips) will be required to export forestry materials from the Proposed Development Area.

The resulting traffic generation estimates have been plotted onto the indicative construction programme to illustrate the peak journeys on the network. Table 9 illustrates the trip generation throughout the construction programme. The calculations assume that each month comprises an average of 22 working days.

The peak of construction occurs in Month 3 with 123 journeys (35 Cars & LGVs and 88 HGV journeys).

Table 9 Construction Traffic Profile

Activity	Class	Month													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Site Establishment	HGV	50	70											70	50
Plant Deliveries	HGV	10	20											20	10
General Site Deliveries	HGV	40	40	**40**	40	40	40	40	40	40	40	40	40	40	40
Forestry Extraction	HGV			**833**	833	833	833	833	833						
Imported Stone	HGV	1055	1055	**1055**	1055	1055	1055								
Reinforcement	HGV								15	15	15				
Concrete Deliveries	HGV								554	554	554				
Cable and Ducting Deliveries	HGV									24					
Cabling Sand	HGV									178	178	178			
Geotextile Deliveries	HGV		2	**2**						2	2				
HV Deliveries & Substation Building	HGV									49	49	49	49		
Cranes	HGV										10			10	
Wind Turbine Deliveries	HGV											128	128		
AIL Escorts	Car & LGV											101	101		
Commissioning	Car & LGV													44	44
Staff	Car & LGV	193	386	**772**	772	772	772	772	772	772	772	772	772	386	386
Total HGV	HGV	1155	1187	**1930**	1928	1928	1928	873	1442	862	848	395	217	140	100
Total Cars / LGV	Car & LGV	193	386	**772**	772	772	772	772	772	772	772	873	873	430	430
Total Movements	Total	1348	1573	**2702**	2700	2700	2700	1646	2214	1634	1620	1268	1090	570	530
Total HGV per Day	HGV	52	54	**88**	88	88	88	40	66	39	39	18	10	6	5
Total Cars / LGV per Day	Car & LGV	9	18	**35**	35	35	35	35	35	35	35	40	40	20	20
Total per Day	Total	61	71	**123**	123	123	123	75	101	74	74	58	50	26	24

6.1.6 Distribution of Construction Trips

The distribution of development traffic on the network would vary depending on the types of loads being transported. The assumptions for the distribution of construction traffic during the peak months would be as follows:

- The main access to the Proposed Development Area will be taken from a newly formed site entrance off the A713, near Waterside and will be used by AIL delivery vehicles and construction delivery vehicles. The secondary site entrance will be located off the B741, at the existing forestry access to High Keirs Forest and will provide access to plant and equipment for site establishment as well as a staff entrance. HGV traffic will arrive at secondary site entrance from the west due to the 13 tonne restriction on Doon Bridge while cars and light goods vehicles from both the east and the west;
- It is assumed that deliveries associated with ready mix concrete will arrive via the A70, A77 (T) and A741;
- For the purposes of the assessment, it is assumed that 100% of the required aggregate material will be taken from a quarry located near the A76 (T), to the north of Cumnock. The contractor will confirm final quarry and material sourcing with East Ayrshire Council and South Ayrshire Council in the Construction Traffic Management Plan (CTMP);
- HGV deliveries associated with the HV electrical installation, the substation building, batteries, etc will arrive via the A77 (T);
- It is assumed that forestry materials will be exported from the Proposed Development Area to the Port of Ayr;
- Staff working at the Proposed Development are likely to be based locally. It is assumed that 40% of staff will arrive from Ayr, 20% from the east near Auchinleck, 20% from near Cumnock, 10% from the west, via the B741 and 10% from the south, via the A713; and
- General site deliveries will be from the north from Ayr via the A713 to the Proposed Development Area. These are generally smaller rigid HGV vehicles.

6.1.7 AIL Delivery Route - KGV Dock and Port of Ayr to the Proposed Development Area

It is proposed that V150 blades will be brought into KGV Dock in Glasgow due to constraints for this size of blade exiting the Port of Ayr. All other V150 components could be brought into the Port of Ayr or from Gloasgow. All component deliveries will follow the same route to the Proposed Development Area from the A77 Whitletts Roundabout, which is described as follows:

Route from KGV to Whitletts Roundabout

- Loads will exit the port onto Kings Inch Drive;
- Loads will turn left onto Mayo Avenue and continue onto the eastbound carriageway of the M8 at Junction 25;
- Loads will continue east on the M8 before departing at Junction 8 and continue south on the M73 before joining the westbound M74 at Junction 4;
- Loads will travel west before joining the southbound carriageway of the M77 at Junction 22 of the M8; and
- Loads will continue south on the M77 / A77 to Whitletts Roundabout.

Route from Port of Ayr to Whitletts Roundabout

- Loads will depart the dock onto Waggon Road through the abnormal loads gate;
- Loads will turn right onto Allison Street and then left onto the A719;
- Loads will continue west along the A719 Whitletts Road; and
- At Whitletts Road Roundabout, loads will turn right and continue south on the A77.

Route from Whitletts Roundabout to the Proposed Site Entrance

- Loads will continue south on the A77; and
- At Bankfield Roundabout, loads will turn left onto the A713 and continue to the main site entrance to the north of Waterside.

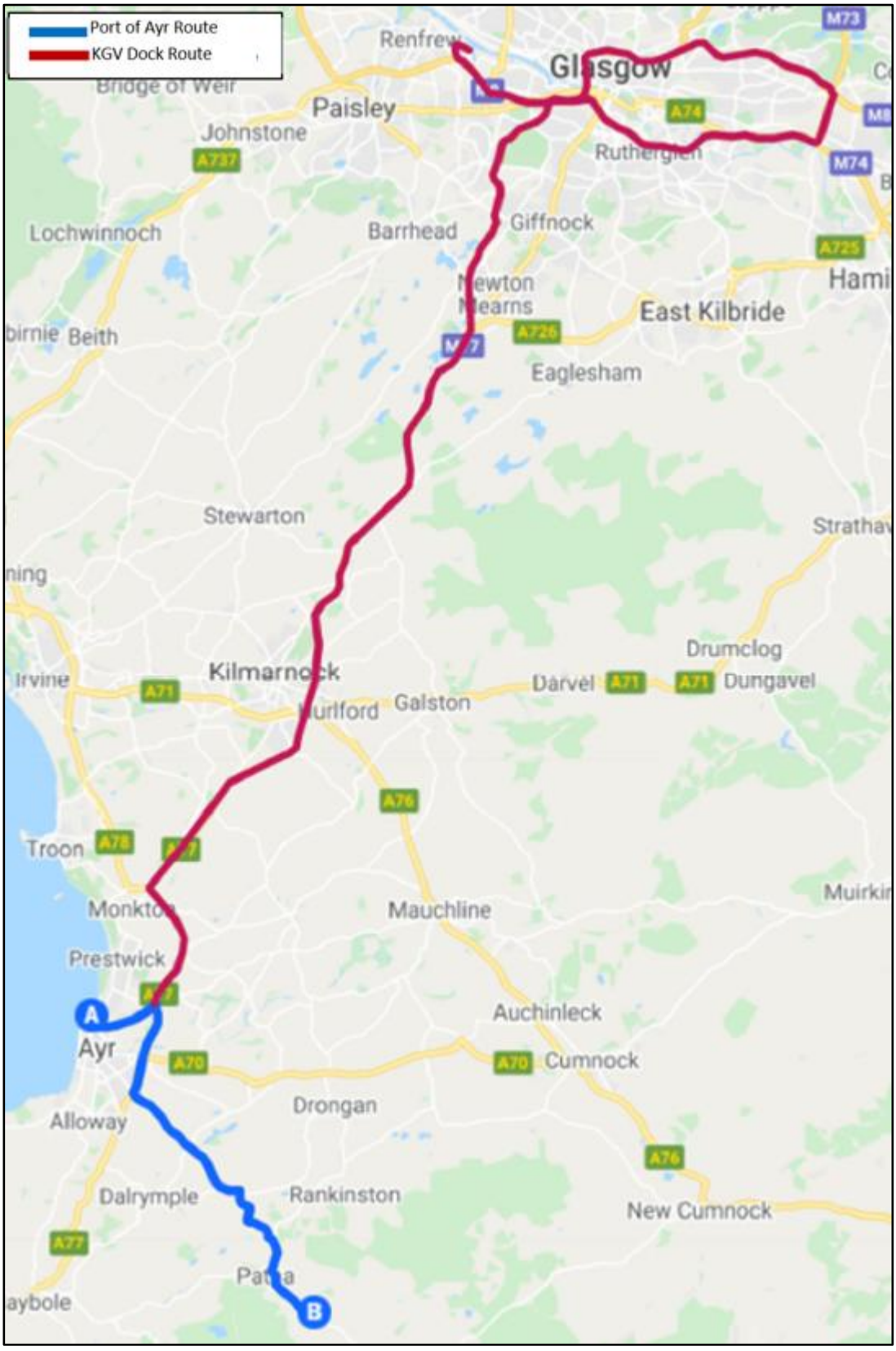


Figure 6 AIL Component Delivery Route

Following the distribution and assignment of traffic flows to the study area network, the resultant daily traffic flows during the peak of construction are summarised in Table 10.

Table 10 Peak Construction Traffic

No.	Survey Location	Cars & Lights	HGV	Total
1	A713, North of Main Site Entrance	28	88	116
2	A713, North of Patna	28	88	116
3	A713, South of Ailsa Hospital	28	88	116
4	A77 (T), between Bankfield and Holmston Rbt	28	88	116
5	A70, between Belston and Joppa	14	48	62
6	A70, west of Ochiltree	14	48	62
7	A76 (T), north of Dettingen Rbt	7	48	55
8	A76 (T), south of Dettingen Rbt	7	0	7
9	B741, east of Cloyntie	4	0	4
10	A77 (T), between Holmston and Whitletts Rbt	14	40	54
11	A713, South of Dalmellington	4	0	4

6.2 Decommissioning Phase

Prior to decommissioning of the site, a traffic assessment would be undertaken and appropriate traffic management procedures followed.

The decommissioning phase would result in fewer trips on the road network than the construction or operational phases as it is considered likely that elements of infrastructure such as access tracks would be left in place and structures may be broken up on-site to allow transport by a reduced number of HGVs.

7 Traffic Impact Assessment

7.1 Construction Impact

The peak month traffic data was combined with the future year (2025) traffic data to allow a comparison between the baseline results to be made. The increase in traffic volumes is illustrated in percentage increases for each class of vehicle. This is illustrated in Table 11.

Table 11 2025 Peak Month Daily Traffic Data

No.	Location	Cars & Lights	HGV	Total	Cars & Lights % Increase	HGV % Increase	Total Traffic % Increase
1	A713, North of Main Site Entrance	2920	889	3808	1.0%	10.9%	3.1%
2	A713, North of Patna	3768	368	4136	0.8%	31.3%	2.9%
3	A713, South of Ailsa Hospital	3768	368	4136	0.8%	31.3%	2.9%
4	A77 (T), between Bankfield and Holmston Rbt	23459	1538	24997	0.1%	6.0%	0.5%
5	A70, between Belston and Joppa	10439	714	11153	0.1%	7.2%	0.6%
6	A70, west of Ochiltree	6165	1178	7343	0.2%	4.2%	0.9%
7	A76 (T), north of Dettingen Rbt	7234	899	8133	0.1%	5.6%	0.7%
8	A76 (T), south of Dettingen Rbt	5889	432	6321	0.1%	0.0%	0.1%
9	B741, east of Cloyntie	573	77	649	0.6%	0.0%	0.5%
10	A77 (T), between Holmston and Whitletts Rbt	35923	2206	38128	0.0%	1.8%	0.1%
11	A713, South of Dalmellington	1488	192	1680	0.2%	0.0%	0.2%

The total traffic movements are not predicted to increase by more than 30% on all of the study network, with the increase in total traffic levels all below 10% at the traffic count locations.

The HGV traffic along the A713, to the north of Patna and to the south of Ailsa Hospital is predicted to increase by over 30%. Whilst the increases are statistically significant, they are generally caused by the relatively low HGV flows on these links, which would see an additional 88 HGV journeys (44 inbound and 44 outbound). This represents approximately four additional HGV journeys every hour during peak construction activities, which is not considered significant in terms of total flows.

It should also be noted the construction phase is transitory in nature and the peak of construction activities is short- lived.

A review of existing road capacity has been undertaken using the Design Manual for Roads and Bridges, Volume 15, Part 5 “The NESA Manual”. The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the study area. The results are summarised in Table 12.

Table 12 2025 Daily Traffic Data

No.	Location	2025 Baseline Flow	2025 Base + Development Flows	Theoretical Road Capacity (12 hr)	Spare Road Capacity %
1	A713, North of Main Site Entrance	3693	3808	21600	82.4%
2	A713, North of Patna	4020	4136	28800	85.6%
3	A713, South of Ailsa Hospital	4020	4136	21600	80.9%
4	A77 (T), between Bankfield and Holmston Rbt	24881	24997	36000	30.6%
5	A70, between Belston and Joppa	11091	11153	28800	61.3%
6	A70, west of Ochiltree	7281	7343	28800	74.5%
7	A76 (T), north of Dettingen Rbt	8078	8133	28800	71.8%
8	A76 (T), south of Dettingen Rbt	6314	6321	28800	78.1%
9	B741, east of Cloyntie	646	649	21600	97.0%
10	A77 (T), between Holmston and Whitletts Rbt	38074	38128	36000	-5.9%
11	A713, South of Dalmellington	1677	1680	21600	92.2%

The results indicate there are no road capacity issues caused by the Proposed Development and that ample spare capacity exists within the local road network to accommodate construction phase traffic. However, there would be a capacity issue on the trunk road network as Table 12 suggests that the capacity of the A77(T) between Holmston and Whitletts Roundabouts is currently operating over capacity.

The Proposed Development would see an additional 54 daily journeys (14 cars & lights journeys and 40 HGV journeys) on this section of road during peak construction activities which is negligible in terms of overall flows and unlikely to cause a detrimental effect.

8 Proposed Traffic Mitigation Measures

8.1 Construction Phase

The following measures would be implemented through a Construction Traffic Management Plan (CTMP) during the construction phase. The CTMP would be agreed with East Ayrshire and South Ayrshire Councils prior to construction works commencing:

- Agree AIL route modifications and improvements with East Ayrshire Council, South Ayrshire Council and Ayrshire Roads Alliance and other relevant stakeholders. Details of the proposed mitigation measures are presented in the Route Survey Report provided in EIAR Volume 3: Technical Appendix 11.2;
- Where possible the detailed design process would minimise the volume of material to be imported to the Proposed Development to help reduce HGV numbers;
- A site worker Staff Travel Plan, including transport modes to and from the worksite (including pick up and drop off times);
- All materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads;
- Specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- Wheel cleaning facilities may be established at the site entrances, depending the views of East Ayrshire Council and South Ayrshire Council;
- Normal site working hours would be limited to between 0700 and 1900 (Monday to Saturday) though component delivery and wind turbine erection may take place outside these hours;
- Appropriate traffic management measures would be put in place on the A713 and B741 in the vicinity of the site entrances providing access to the Proposed Development Area to avoid conflict with general traffic, subject to the agreement of the roads authority. Typical measures would include HGV turning and crossing signs and / or banksmen at the site entrances and warning signs;
- Provide construction updates on the project website and or a newsletter to be distributed to residents within an agreed distance of the Proposed Development Area.
- Adoption of a voluntary speed limit of 20 mph for all construction vehicles through Patna and Waterside;
- All drivers would be required to attend an induction to include:
    - A tool box talk safety briefing;
    - The need for appropriate care and speed control;
    - A briefing on driver speed reduction agreements (to slow site traffic at sensitive locations through the villages); and
    - Identification of the required access routes and the controls to ensure no departure from these routes.

East Ayrshire Council and South Ayrshire Council may require an agreement to cover the cost of abnormal wear and tear on the A713.

Video footage of the pre-construction phase condition of the abnormal loads access route and the construction vehicles route would be recorded to provide a baseline of the state of the road prior to any construction work commencing. This baseline would inform any change in the road condition during the construction stage of the Proposed Development. Any necessary repairs would be coordinated with the relevant authorities. Any damage caused by traffic associated with the Proposed Development, during the construction period that would be hazardous to public traffic, would be repaired immediately.

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

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

8.2 AIL Mitigation Works

An AIL Route Survey Report highlights a number of constraint points which have been assessed within the report using swept path assessment software. The locations of the constraint points and the swept path drawings are included in EIAR Volume 3: Technical Appendix 11.2.

Key points and issues associated with the route that requires the temporary removal of physical obstructions are outlined in Technical Appendix 11.2.

The main site entrance at the A713 will to be designed to accommodate the delivery of AILs. The general arrangement of the main site entrance is presented in EIAR Volume 2a : Figure 2.5.

AIL mitigation works can be designed to be temporary in nature to enable the restoration to their original condition (if required by East Ayrshire Council, South Ayrshire Council, the Ayrshire Roads Alliance and Transport Scotland).

8.3 Abnormal Load Management Plan

There are a number of traffic management measures that could help reduce the effect of abnormal load convoys.

All abnormal load deliveries would be undertaken at appropriate times (to be discussed and agreed with the relevant roads authorities and police) with the aim to minimise the effect on the local road network. It is likely that the abnormal load convoys would travel in the early morning periods, before peak times while general construction traffic would generally avoid the morning and evening peak periods.

The majority of potential conflicts between construction traffic and other road users will occur with abnormal load traffic. General construction traffic is not likely to come into conflict with other road users as the vehicles are smaller and road users are generally more accustomed to them.

Advance warning signs would be installed on the approaches to the affected road network. Information signage could be installed to help assist drivers and an example is illustrated in Figure 7. Flip up panels (shown in grey) would be used to mask over days where convoys would not be operating. When no convoys are moving, the sign would be bagged over by the Traffic Management contractor.

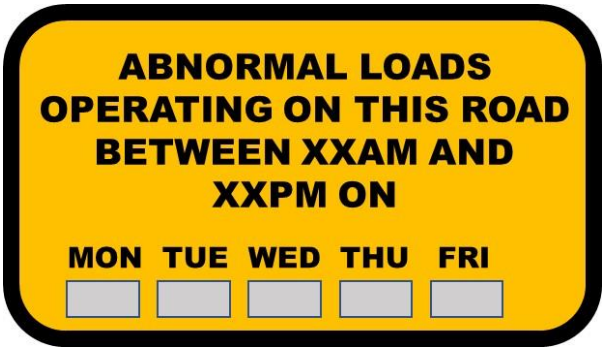


Figure 7: General Site Location

This signage will assist in helping improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).

The location and numbers of signs would be agreed post consent and would form part of the wider Traffic Management Proposal for the project.

The Abnormal Load Transport Management Plan would also include:

- Procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates and agreeing communication protocols and lay over areas to allow overtaking;
- A diary of proposed delivery movements to liaise with the communities to avoid key dates;
- A protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and
- Proposals to establish a construction liaison committee to ensure the smooth management of the project / public interface with the applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.

8.4 A Staff Travel Plan

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

- Appointment of a Travel Plan Coordinator (TPC);
- Provision of public transport information;
- Mini-bus service for transport of Site staff;
- Promotion of a car sharing scheme; and
- Car parking management.

8.5 Public Information

Information on the wind turbine convoys would be provided to local media outlets such as local papers and local radio to help assist the public.

Information would relate to expected vehicle movements from the port of entry through to the main site entrance. This will assist residents becoming aware of the convoy movements and may help reduce any potential conflicts.

The applicant would also ensure information was distributed through its communication team via the project website, local newsletters and social media.

8.6 Convoy System

A police escort would be required to facilitate the delivery of the predicted loads. The police escort would be further supplemented by a civilian pilot car to assist with the escort duty. It is proposed that an advance escort would warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. The escorts and convoy would remain in radio contact at all times where possible.

The abnormal loads convoys would be no more than three AILs long, or as advised by the police, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so.

The times in which the convoys would travel will need to be agreed with Police Scotland who have sole discretion on when loads can be moved.

8.7 Operational Phase Mitigation

Access tracks will be well maintained and monitored during the operational life of the development. Regular maintenance will be undertaken to keep the access track drainage systems fully operation and to ensure there are no run-off issues onto the public road network.

9 Summary and Conclusions

Pell Frischmann (PF) has been commissioned by RES to undertake a Transport Assessment (TA) for the proposed Sclenteuch Wind Farm, located to the west of Waterside, Ayr.

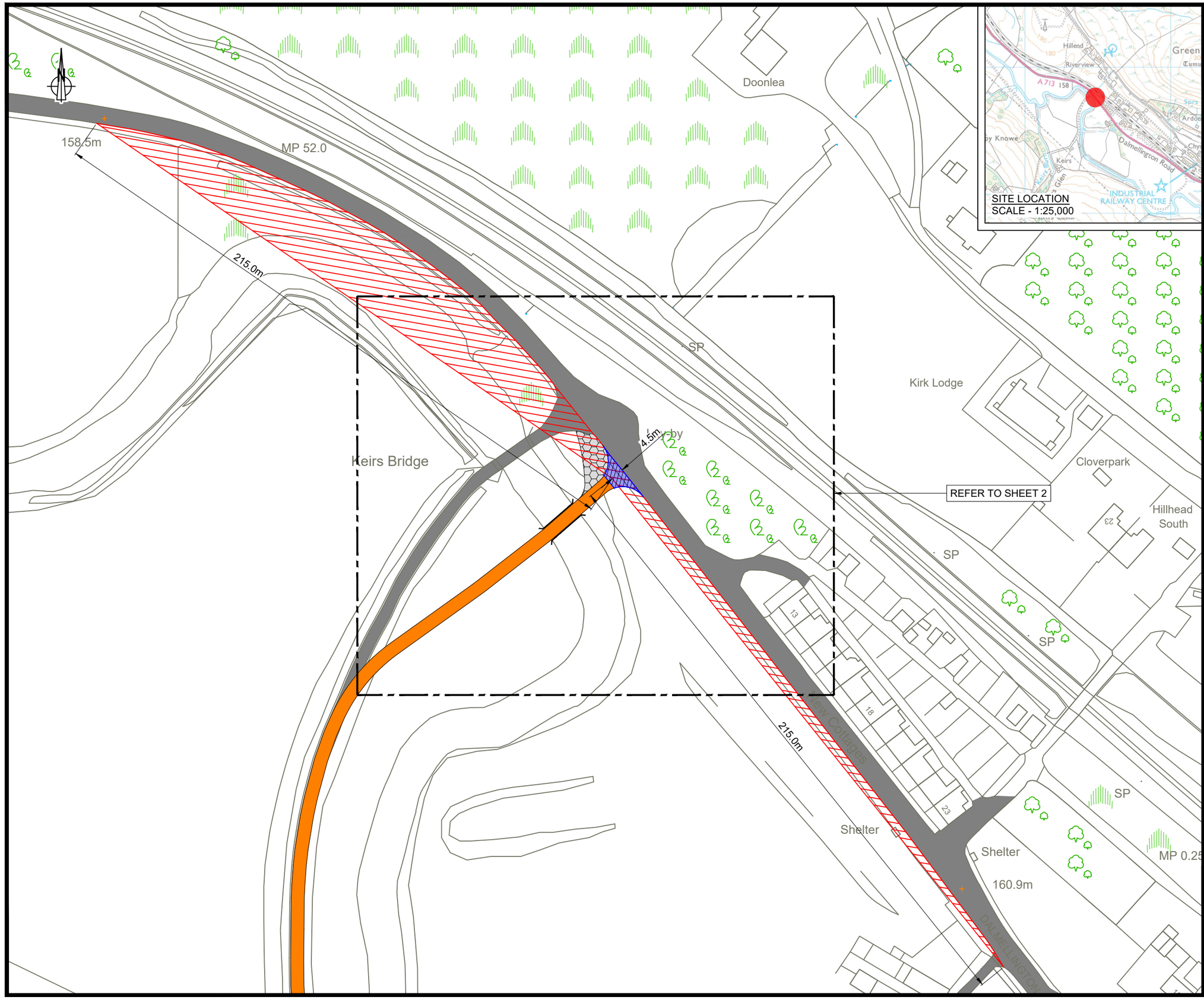
Existing traffic data established a base point for determining the impact during the construction phase and was factored to future levels to help determine the effect of construction traffic on the local road network.

The construction traffic would result in a temporary increase in traffic flows on the road network surrounding the Proposed Development. The maximum traffic effect associated with construction of the Proposed Development is predicted to occur in Month 3 of the construction programme. During this month, an average of 88 HGV movements is predicted per day and it is estimated that there would be a further 35 car and light van movements per day to transport construction workers to and from the Proposed Development Area.

A series of mitigation measures and management plans have been proposed to help mitigate and offset the impacts of both the construction and operational phase traffic flows.

No link capacity issues are expected on any of the roads assessed due to the additional movements associated with the Proposed Development. The effects of construction traffic are temporary in nature and are transitory.

Appendix A



SCLENTEUCH WIND FARM

FIGURE 2.5

INDICATIVE SITE ENTRANCE LAYOUT SHEET 1 OF 2

KEY

- EXISTING ROAD
- PROPOSED SITE TRACK
- PROPOSED ABNORMAL LOADS: WIDENING
- POTENTIAL REPLACEMENT CROSSING
- 60mm SURFACE COURSE, 75mm BINDER COURSE
- MINIMUM 150mm TYPE 1 SUB-BASE SOFT AREAS AND UNSUITABLE MATERIAL (PEAT, TOPSOIL, SILT) TO BE REMOVED.
- MINIMUM FALL FROM ENTRANCE GATE TO PUBLIC ROAD 1:100.
- EXISTENCE OF SERVICES TO BE CHECKED WITH RELEVANT AUTHORITIES.
- MINIMUM REQUIREMENTS FOR VISIBILITY IN ACCORDANCE WITH THE DESIGN MANUAL FOR ROADS AND BRIDGES.
- VEGETATION TO BE TRIMMED AS NECESSARY.

NOTES:

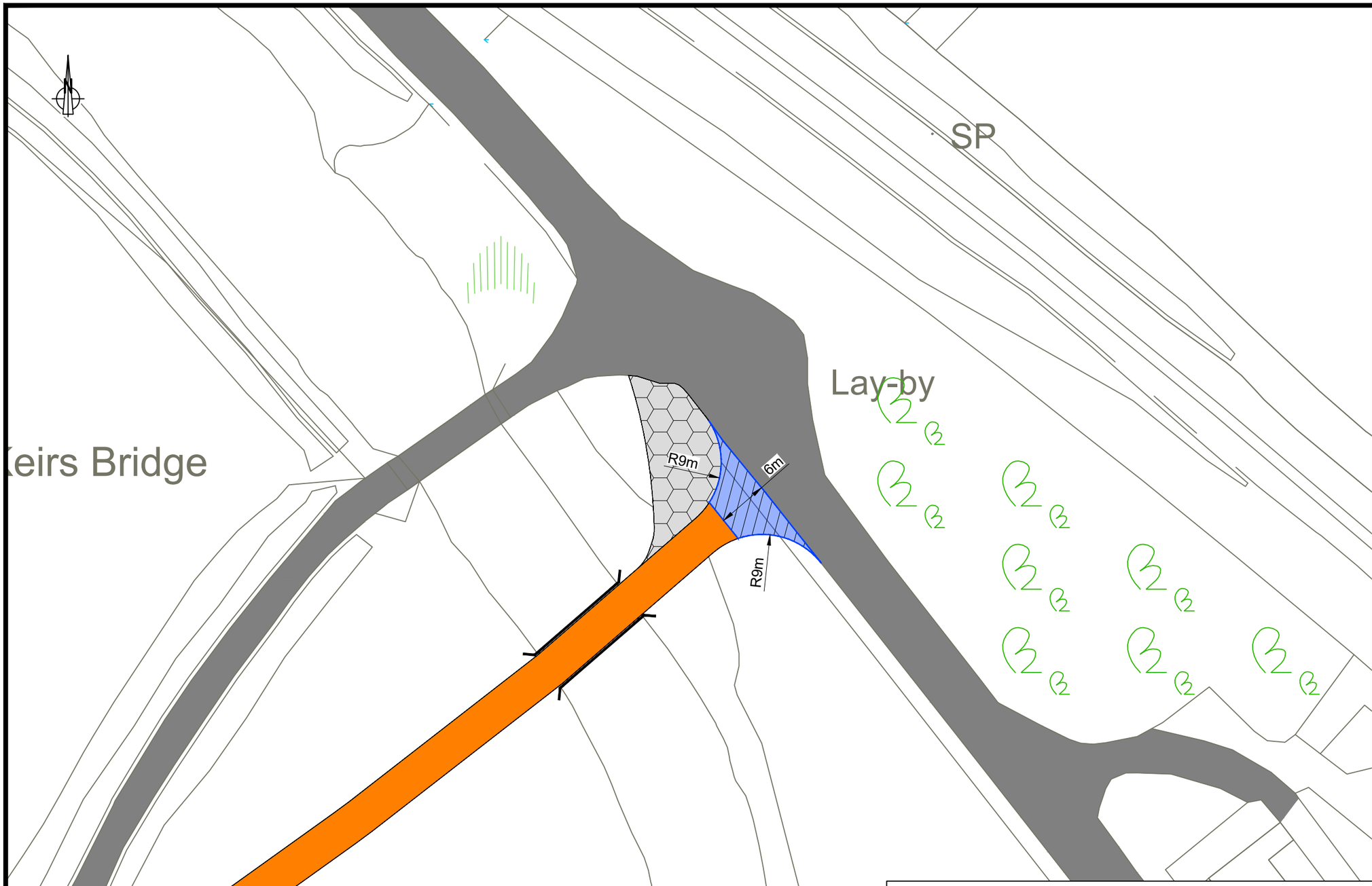
1. DO NOT SCALE FROM DRAWING.
2. DETAILS AND DIMENSIONS ARE INDICATIVE ONLY AND SUBJECT TO CHANGES AT DETAILED DESIGN STAGE.
3. APPROPRIATE SUDS DESIGN MEASURES WILL BE EMPLOYED AT DETAIL DESIGN STAGE.
4. ALL VISIBILITY SPLAYS SHOWN ARE WITHIN LANDS UNDER APPLICANTS CONTROL. ANY PHYSICAL HINDRANCES WITHIN THE EXTENTS OF THE VISIBILITY SPLAYS WILL BE REMOVED. VEGETATION WILL BE TRIMMED TO A MAXIMUM OF 250MM ABOVE EGL.

LAYOUT DWG	T-LAYOUT NO.
N/A	N/A

DRAWING NUMBER
03896-RES-ACC-DR-LO-002

SCALE - 1:1,250 @ A3

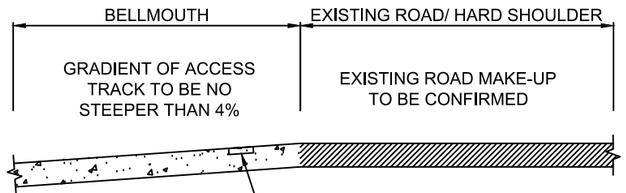
ENVIRONMENTAL IMPACT ASSESSMENT REPORT 2022



BELLMOUTH | EXISTING ROAD/ HARD SHOULDER

GRADIENT OF ACCESS TRACK TO BE NO STEEPER THAN 4%

EXISTING ROAD MAKE-UP TO BE CONFIRMED



INDICATIVE CROSS SECTION AT SITE ENTRANCE

SCALE - N.T.S.

SCLENTEUCH WIND FARM

FIGURE 2.5

INDICATIVE SITE ENTRANCE LAYOUT SHEET 2 OF 2

KEY

- EXISTING ROAD
- PROPOSED SITE TRACK
- PROPOSED ABNORMAL LOADS: WIDENING
- POTENTIAL REPLACEMENT CROSSING
- 60mm SURFACE COURSE, 75mm BINDER COURSE
- MINIMUM 150mm TYPE 1 SUB-BASE SOFT AREAS AND UNSUITABLE MATERIAL (PEAT, TOPSOIL, SILT) TO BE REMOVED.
- MINIMUM FALL FROM ENTRANCE GATE TO PUBLIC ROAD 1:100.
- EXISTENCE OF SERVICES TO BE CHECKED WITH RELEVANT AUTHORITIES.

NOTES:

1. DO NOT SCALE FROM DRAWING.
2. DETAILS AND DIMENSIONS ARE INDICATIVE ONLY AND SUBJECT TO CHANGES AT DETAILED DESIGN STAGE.
3. APPROPRIATE SUDS DESIGN MEASURES WILL BE EMPLOYED AT DETAIL DESIGN STAGE.
4. ALL VISIBILITY SPLAYS SHOWN ARE WITHIN LANDS UNDER APPLICANTS CONTROL. ANY PHYSICAL HINDRANCES WITHIN THE EXTENTS OF THE VISIBILITY SPLAYS WILL BE REMOVED. VEGETATION WILL BE TRIMMED TO A MAXIMUM OF 250MM ABOVE EGL.

LAYOUT DWG	T-LAYOUT NO.
N/A	N/A

DRAWING NUMBER

03896-RES-ACC-DR-LO-002

SCALE - 1:500 @ A3

ENVIRONMENTAL IMPACT ASSESSMENT REPORT 2022

Pell Frischmann

Sclenteuch Wind Farm

Technical Appendix 11.2

Abnormal Indivisible Load Route Survey Review

105268
May 2022

Revision Record Document2					
Rev	**Description**	**Date**	**Originator**	**Checker**	**Approver**
A	Draft	30/07/20	T Lockett	G Buchan	G Buchan
B	Issue	07/06/2022	G Buchan	T Lockett	G Buchan

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93 George Street
Edinburgh
EH2 3ES

Contents

Figures

Tables

Appendices

1 Introduction

1.1 Purpose of the Report

Pell Frischmann (PF) has been commissioned by Renewable Energy Systems Group (RES) to undertake an access study of potential delivery routes for wind turbine Abnormal Indivisible Loads (AIL) associated with the construction and development of Sclenteuch Wind Farm ('the Proposed Development'), located to the west of Waterside, Ayrshire.

The Route Survey Review (RSR) has been prepared to help inform RES on the issues associated with the Proposed Development with regards to off-site transport and access for AIL traffic. The 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 designs of any remedial works are beyond the agreed scope of works between PF and RES at this point in time.

No site visit had been undertaken at this time. A site visit will be required to confirm the results of this report.

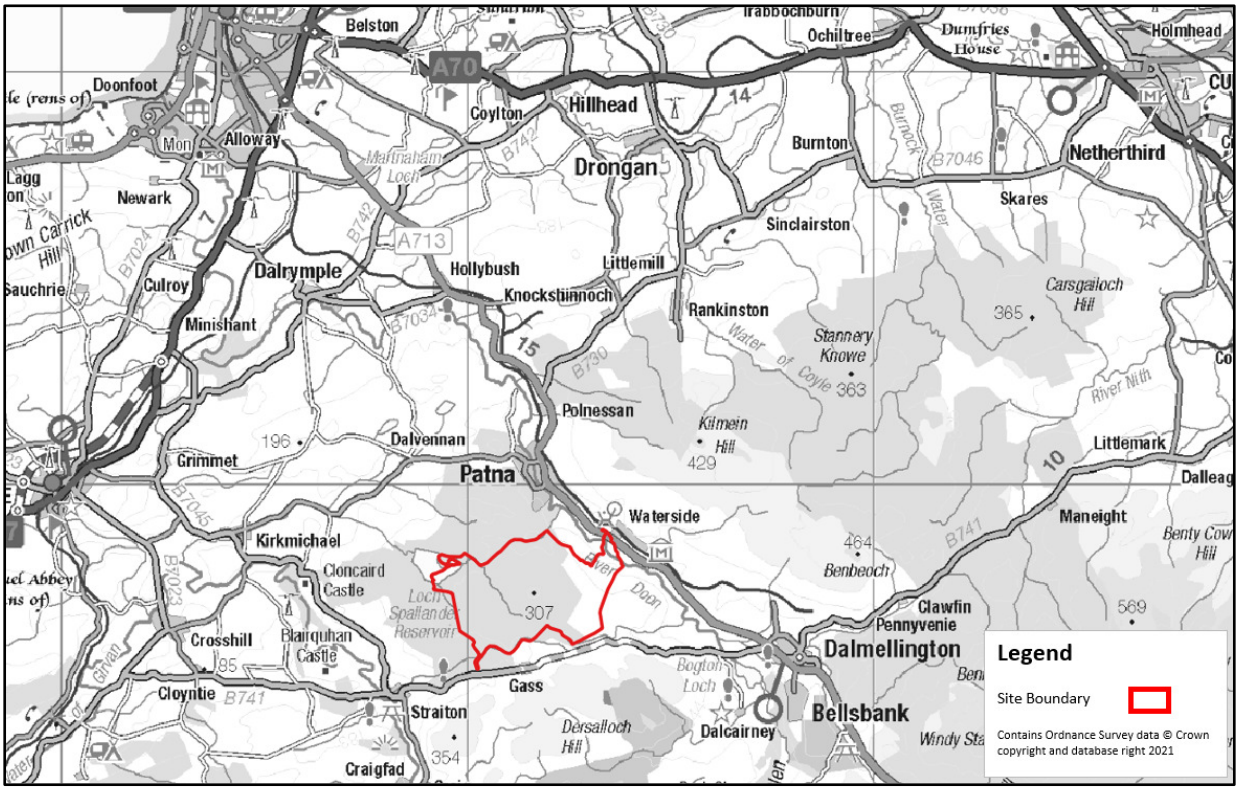
It is the responsibility of the wind turbine supplier to ensure that the entirety of the proposed access route is suitable and meets with their satisfaction. The wind turbine supplier will be responsible for ensuring that the finalised proposals meet with the appropriate levels of health and safety consideration for all road users, in line with the relevant legislation at the time of delivery.

2 Site Background

2.1 Site Location

The Proposed Development is located in both East Ayrshire and South Ayrshire, near Waterside, Ayr. The location of the Proposed Development is illustrated in Figure 1.

Figure 1 Site Location



2.2 Candidate Wind Turbines

RES has indicated that they wish to consider the Vestas V150 at a tip height of 200m. Tower and blade dimensions have been supplied by Vestas and are indicated below in Tables 2-1.

Table 2-1: Wind Turbine Dimensions

Section	Length (m)	Width (m)	Height (m)	Weight (t)
V150 Blade	73.700	(4.500) 4.150	4.150	84.000
Base Tower	13.950	4.65	4.697	86.000
Mid Tower 1	19.600	4.697	4.687	85.500
Mid Tower 2	25.760	4.687	4.676	85.000
Mid Tower 3	29.960	4.676	4.170	73.000
Top Tower	33.000	4.170	4.008	66.500

2.3 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 Nooteboom Super Wing trailer to reduce the need for mitigation in constrained sections of the route.

Base and mid tower sections would be carried in a 4+7 clamp adaptor style trailer, whereas loads such as the hub and nacelle housing would be carried on a six-axle step frame trailer.

Figure 2: Super Wing Carrier Trailer

Figure 3: Tower Trailer

The swept path assessments have been based upon the V150 blades and the and mid tower 3 for the V150 to represent the worst case assessment loads.

3 Access Route Review

3.1 Access Route

The nearest suitable Port of Entry (PoE) for the site is King George V (KGV) Docks in Glasgow. Loads can be offloaded by geared vessels or onshore mobile cranes.

KGV Dock has been used in the past for a number of wind farms, including the Andershaw Wind Farm, as well as developments including Kype Muir, Clyde, Kilgallioch and Sanquhar wind farms. The port has 32.6 hectares of storage space and is well located for the strategic trunk road network.

Access from the Port of Ayr is not feasible due to restrictions on the size of vessel required to transport the V150 turbine sections and access constraints from the port to the site.

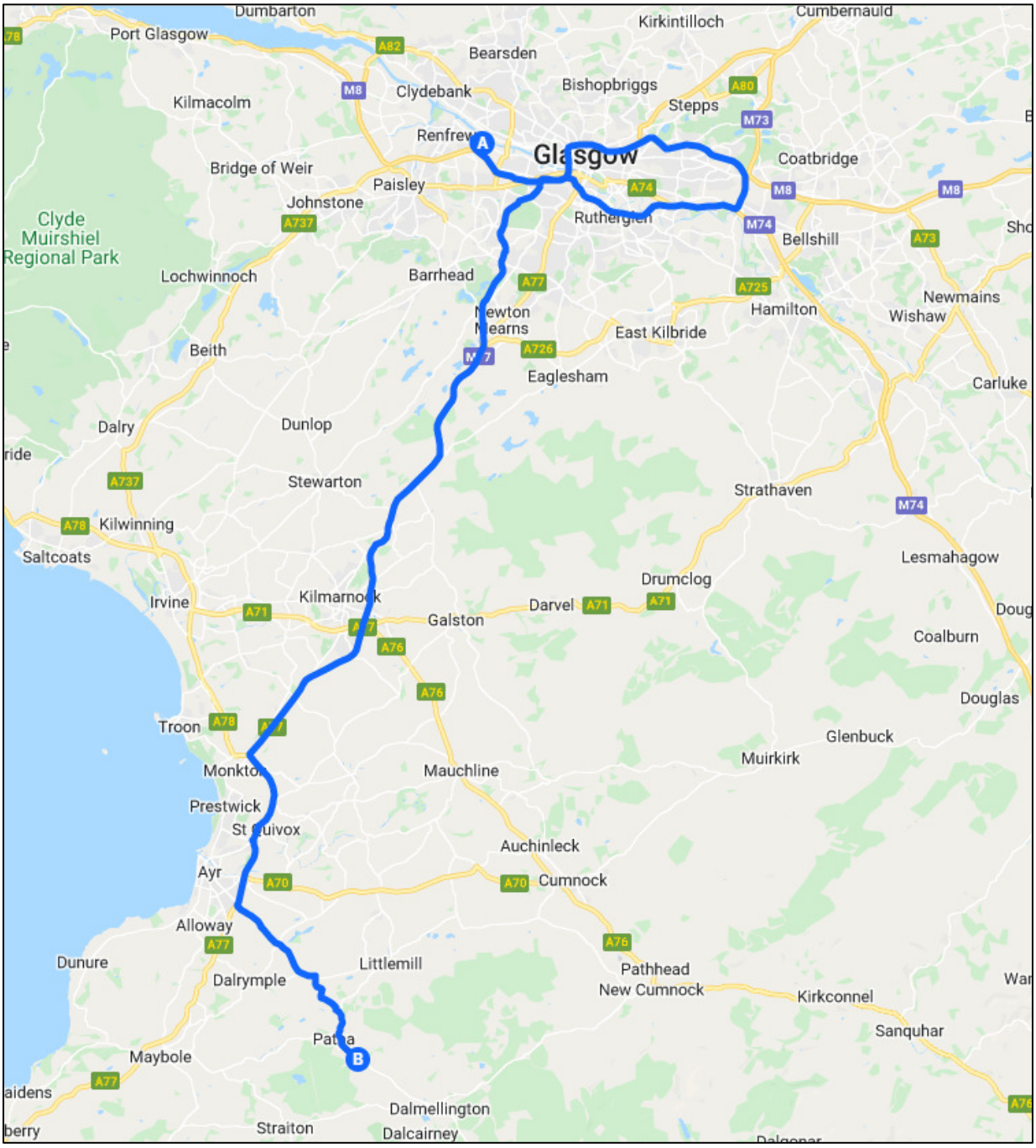
3.2 Proposed Access Route

The proposed access route to site is as follows:

- Loads will exit the port onto Kings Inch Drive;
- Loads will turn left onto Mayo Avenue and continue onto the eastbound carriageway of the M8 at Junction 25;
- Blade loads will continue east on the M8 before departing at Junction 8 and continue south on the M73 before joining the westbound M74 at Junction 4. They will travel west before joining the southbound carriageway of the M77 at Junction 22 of the M8;
- Non-blade loads will use the Seaward Street Interchange to U turn and access the M77 from the M8;
- Loads will continue south on the M77 / A77;
- At Bankfield Roundabout, loads will turn left onto the A713 and continue to the proposed site entrance to the south of Patna.

The proposed access route is illustrated in Figure 4.

Figure 4: Proposed Access Route



3.3 Route Constraints

The constraints noted in the review for the access option is detailed in Table 3-1. No consideration of the transport issues within the port or within the development site have been undertaken and this includes the design of the site access junction.

Plans illustrating the location of the constraints and a detailed list of POI are provided in Appendix A.

Table 3-1: Constraint Points and Details

POI	Key Constraint	Details
1	**KGV Port Access Gate** 	Loads will exit the port via the AIL access gate onto Kings Inch Drive. A swept path assessment has been undertaken and indicates that loads will over-sail the southern verge of the port exit where vegetation should be trimmed. Loads should utilise the existing over-run area across the central island of the roundabout. Two lit road signs should be removed from the exit splitter island.
2	**Kings Inch Drive Roundabout 1** 	Loads will proceed ahead taking the second exit onto Kings Inch Drive. A swept path assessment has been undertaken and indicates that loads will over-sail both verges while navigating the roundabout. One lighting column should be removed from the southern verge.
3	**Kings Inch Drive Roundabout 2** 	Loads will proceed ahead at the junction, taking the second exit. A swept path assessment has been undertaken and indicates that no physical mitigation works are required though loads will require access to all lanes.

POI	Key Constraint	Details
4	**Kings Inch Drive / Mayo Avenue Junction** 	Loads will turn left at the junction and will enter the M8 spur road. A swept path assessment has been undertaken and indicates that loads will over-sail the northern central reserve. Escorts should hold oncoming vehicles during load movements. The blade tip will over-sail the splitter island though no physical mitigation measures will be required. Loads will over-run and over-sail the eastern verge where a load bearing surface should be laid in over-run areas and existing utilities protected. One VMS road sign, one road sign, and one lighting column should be removed. The pedestrian call post should be set down. Vegetation should be cleared back.
5	**M8 Junction 25a Slip Road** 	Loads will continue on the M8 at this location. A swept path assessment has been undertaken and indicates that no physical mitigation measures are required.
6	**M8 / M73 Slip Road** 	Loads will take the slip road and join the M73 at this location. No physical mitigation is required, though loads will need access to all lanes.
7	**M73 / M74 Bend** 	Loads will proceed ahead at this location. No physical mitigation works are required, though loads will require access to all lanes.

POI	Key Constraint	Details
8	**M77 Slip Road** 	Loads will take the slip road and join the M77 at this location. No physical mitigation is required, though loads will need access to all lanes.
9	**Dutch House Roundabout** 	Loads will take the first exit at the roundabout. A swept path assessment has been undertaken and indicates that no physical mitigation measures are required, however loads will need access to both lanes.
10	**Sandyford Toll Roundabout** 	Loads will take the second exit at the roundabout. A swept path assessment has been undertaken and indicates that loads will over-sail the eastern verge where one lighting column should be removed. Loads will over-run and over-sail the eastern side of the central island where one set of chevron signs should be removed, and a load bearing surface should be laid. Vegetation should be cleared from this area.
11	**A77 Whitletts Roundabout** 	Loads will navigate the roundabout as normal and require no physical mitigation. They will however require access to all traffic lanes.

POI	Key Constraint	Details
12	**A77 Holmston Roundabout** 	Loads will over-sail the eastern verge on the approach to the roundabout where the blade tip will over-sail the pedestrian barrier. One lighting column should be removed. Loads will over-sail the eastern edge of the roundabout island.
13	**A77 Bankfield Roundabout** 	At the roundabout loads will take the first exit onto the A713. Loads will over-sail both verges of the carriageway though this location. On the eastern verge of the exit arm one lighting column and one road sign should be removed. Vegetation should be trimmed in this location. Mitigation for both wind turbine options is in line with that required for South Kyle Wind Farm.
14	**A713 Ailsa Hospital** 	It is recommended that loads undertake a **contraflow** manoeuvre through the junction in order to remove the requirement for street furniture modifications. Loads will oversail both verges however no physical mitigation works are required. Oncoming vehicles must be held during load movements.

POI	Key Constraint	Details
15	**A713 Craigs Road Bend** 	Loads will continue on the A713 at this location. ***Loads will traverse over Boneston Bridge in advance of the bend. Works undertaken by Vattenfall have improved the strength of the bridge.*** SWECO (acting for Vattenfall) has previously indicated that the aspiration for the bridge works is to achieve HB45 loading however they have advised that it would be better to assume HB34 loading. It is our understanding that the blade loads are suitable for the structure. It is recommended that once the haulier is chosen and, final loaded design details for all turbine loads are provided to the Ayrshire Roads Alliance for review and to allow them to confirm the load movements across the bridge. On approach to the right-hand bend, the blade tip will over-sail the traffic barrier. A set of chevron signs and one utility pole should be removed. Loads will over-sail and over-run the splitter island where a load bearing surface should be laid along with the removal of four bollards, two road signs, and one chevron sign. Loads will over-run and over-sail the eastern verge through the right bend where a load bearing surface should be laid. Four chevron signs should be removed along with all traffic bollards. Loads will over-run and over-sail the verge on the inside of the right bend where a load bearing surface should be laid in over-run areas. Trees, fences, and vegetation should be removed. **Third party land is required.** Throughout the route, the tree canopy needs to be trimmed to provide a clear 5m head height. Trimming of the tree canopy can be subject to ecological constraints and it is suggested that early consultation with the Ayrshire Roads Alliance is undertaken to agree cutting times and permits.

POI	Key Constraint	Details
16	**A713 Right Bend North West of Holehouse Cottage** 	Loads will continue on the A713 at this location. The blade tip will over-sail the northern verge where two sets of chevron signs and bollards will be over-sailed. On the inside of the bend the vegetation should be trimmed to allow load over-sail. Works are in line with those proposed for South Kyle Wind Farm.
17	**A713 Right Bend at Holehouse Cottage** 	Loads will continue on the A713 at this location. Loads will over-sail both verges throughout the section. Vegetation should be trimmed back on the inside of the bend. Works are in line with those proposed for South Kyle Wind Farm.
18	**A713 Holehouse Junction** 	Loads will continue on the A713 at this location. Loads will over-sail both verges through the bend, however no physical works are required. Works are in line with those proposed for South Kyle Wind Farm.

POI	Key Constraint	Details
19, 20	**A713 Holehouse Railway Bridge**  	Loads will continue on the A713 over the railway bridge at this location. Based on the OS mapping, loads will over-run and over-sail into **third party land** on the west where a load bearing surface should be laid and the land reprofiled. Bollards, one road sign, fencing and vegetation should be removed. To design the over-run surfacing, a topographical survey will be required. Loads will over-sail the north eastern verge, but no works are required. Loads will over-sail the south western verge where traffic bollards should be removed. Loads will over-sail both verges of the carriageway through the double bend east of the bridge, but no works are required. Loads will oversail both verges through the following left / right bends. Vegetation should be cleared.
21	**A713 Bends near Smithston** 	Loads will continue on the A713 at this location. Loads will over-sail both verges of the carriageway. Loads will over-run and over-sail the north eastern verge where a load bearing surface should be laid in over-run areas. The drainage ditch should be culverted, and vegetation cleared. Traffic bollards and one chevron sign should be removed. Works differ from that proposed for South Kyle in order to avoid potential alterations to utility poles. An overrun area will be required. The proximity to the utility pole within the south western verge should be confirmed during the test run.
22	**A713 Old Smithston** 	Loads will continue on the A713 at this location. Loads will over-sail the western verge, however no works are required. It is strongly recommended that a full overhead utility search is carried out along the route to ensure that height clearances are suitable for normal temperature ranges.

POI	Key Constraint	Details
23	**A713 Carnochan** 	Loads will continue on the A713 at this location. On approach to the bend the blade tip will over-sail the western verge, though no physical works are required. Loads will over-run and over-sail the southwestern verge where a load bearing surface should be laid. Detailed design is required to confirm whether the verge will require strengthening works. Traffic bollards and three sets of chevron signs should be removed. Loads will over-sail the eastern verge where the utility pole and vegetation should be removed.
24	**A713 Polnessan** 	Loads will continue on the A713 at this location. Loads will over-sail the north eastern verge where loads will over-sail the bollards. Loads will over-sail the western verge where vegetation should be cleared
25	**A713 Polnessan** 	Loads will continue on the A713 at this location. Loads will over-sail both verges where the blade tip will over-sail the traffic bollards.
26	**A713 North of Patna** 	Loads will continue south to Patna. Loads will over-sail the verge on the inside of the right bend and left bend however no mitigation measures are required.

POI	Key Constraint	Details
27	**A713 Patna** 	Loads will continue south through Patna. Loads will over-sail both verges through the right bend however no mitigation measures are required.
28	**A713 Proposed Eastern Site Entrance** 	It is proposed that loads would turn right into a new access junction that would be designed to turbine supplier and Ayrshire Roads Alliance standards. Loads would then proceed to the turbine locations via a new access bridge and private access tracks.

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:

- Grey / Black – OS / Topographical Base Mapping;
- Green – Vehicle body outline (body swept path);
- Red – Tracked pathway of the wheels (wheel swept path); and
- Purple – The over-sail 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 over-sail areas are illustrated on the swept path drawings.

Please note that where assessments have been undertaken using Ordnance Survey (OS) base mapping and available aerial mapping, there can be errors in this data source.

Please note that PF cannot accept liability for errors on the data source, be that OS base mapping, aerial mapping or client supplied data.

3.5 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.

Table 3-2: ESDAL Contacts

Organisation	Email Address
Renfrew Council*	ei@renfrewshire.gov.uk
Glasgow City Council	abnormalloads@glasgow.gov.uk
Police Scotland	osdwindfarmabnormalloads@scotland.pnn.police.uk
Network Rail	AbLoadsESDAL@networkrail.co.uk
Historic Rail Estate	rsgbrb@jacobs.com
Ayrshire Roads Alliance	abloads@ayrshireroadsalliance.org
Transport Scotland	AbnormalLoads@transport.gov.scot
Scotland Transerv (South West)	abnormalloadrouting@scotlandtranserv.co.uk

* Renfrewshire Council have previously advised that they will not enter into discussions with consultants and will only engage with hauliers immediately prior to loads moving. As such they have not been consulted.

The responses from the ESDAL search are contained in Appendix C.

3.6 Land Ownership

The limits of road adoption can vary depending upon the location of the site and the history of the road authorities . The road adopted area is generally defined as land contained within a defined boundary where the road authority holds the maintenance rights for the land from the original land owner.

In urban areas, this is 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 road adoption is between established fence / hedge lines or a maximum 2m from the road edge. This can vary between council areas.

3.7 Summary Issues

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

- That a full site visit is completed and the RSR is updated to ensure that all constraints have been noted;
- That any necessary topographical surveys are undertaken and the swept path results repeated;
- A review of axle loading on structures along the entire access route with the various road authorities;

- A review of clear heights 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 is 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;

- That a test run is completed to confirm the route and review any vertical clearance issues; 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 RES to prepare a desk based RSR to examine the issues associated with the transport of AIL wind turbine components to the Proposed Development.

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

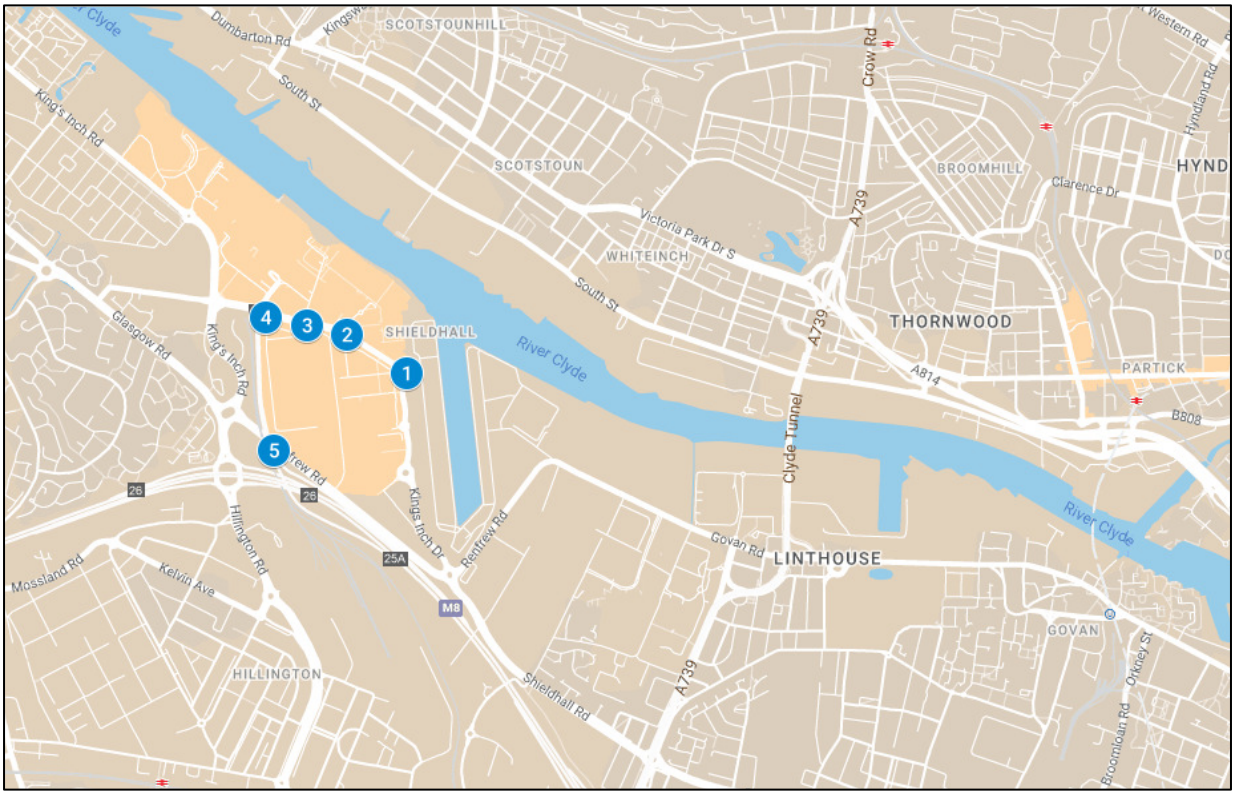
The RSR is presented for consideration to RES. Various third party land arrangements, road modifications and interventions are required to successfully access the Proposed Development. If these are assessed, approved and undertaken, access to the Proposed Development is considered potentially feasible.

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 authorities;
- 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 Locations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A739
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Clarence Dr
A814
Clyde Tunnel
Govan Rd
Renfrew Rd
Kings Inch Dr
Shieldhall Rd
Glasgow Rd
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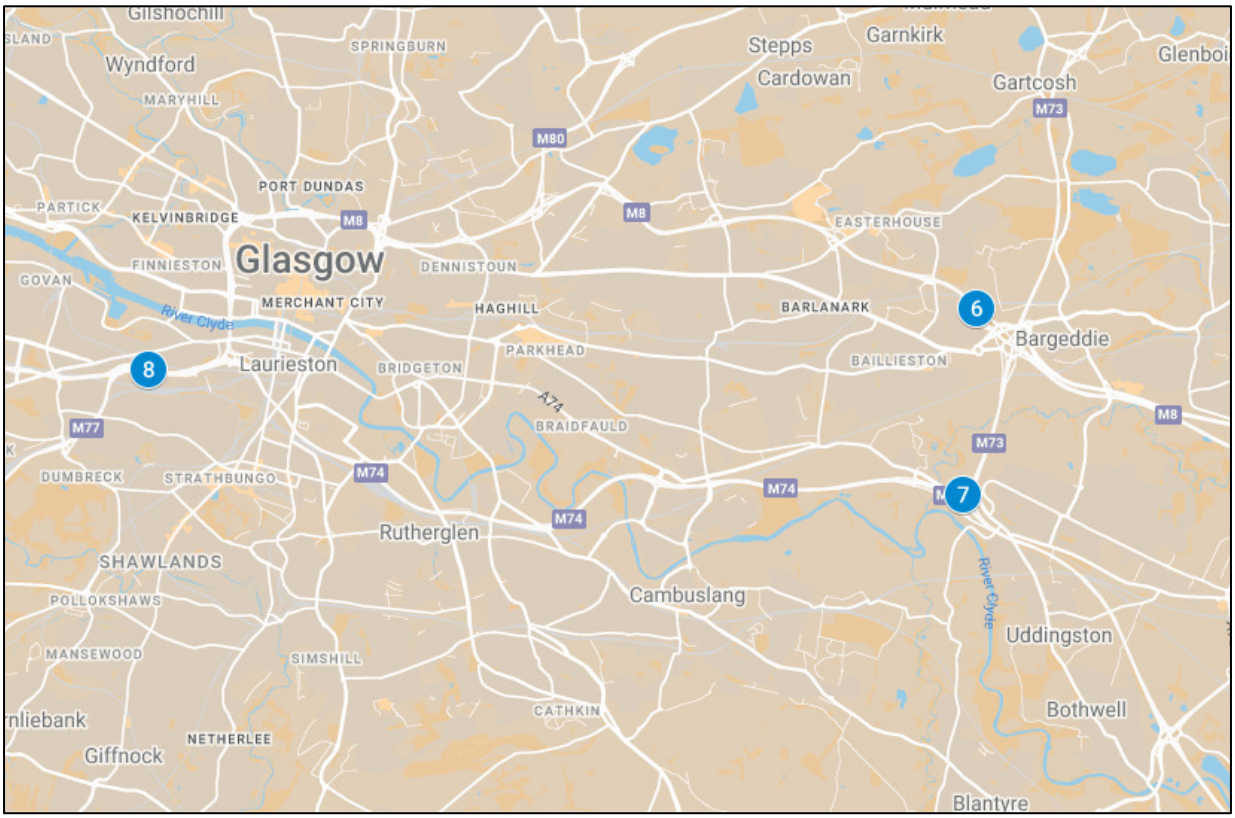
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M8
Glasgow
FINNIESTON
GOVAN
DENNISTOUN
MERCHANT CITY
HAGHILL
River Clyde
EASTERHOUSE
BARLANARK
Bargeddie
BAILLIESTON
Laurieston
BRIDGETON
PARKHEAD
A74
BRAIDFAULD
M77
DUMBRECK
STRATHBUNGO
M74
Rutherglen
SHAWLANDS
POLLOKSHAWS
Cambuslang
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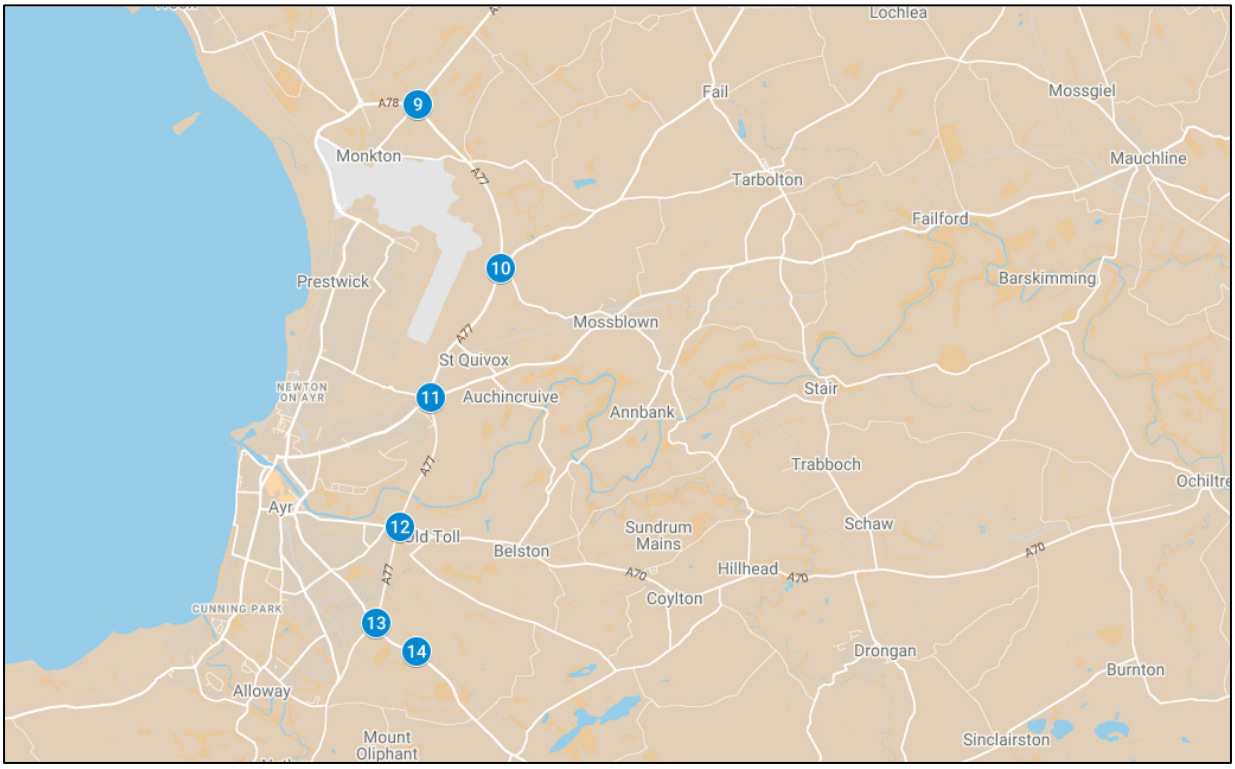
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Stair
Annbank
Trabboch
Ochiltre
Ayr
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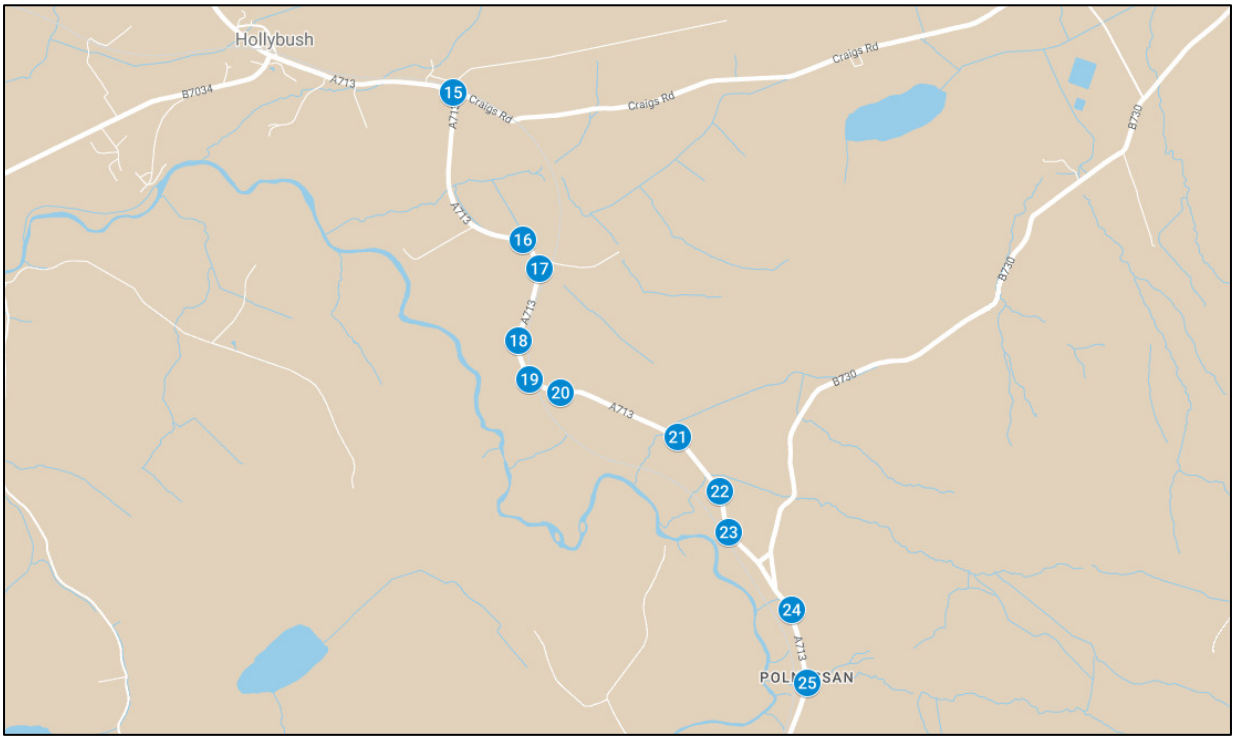
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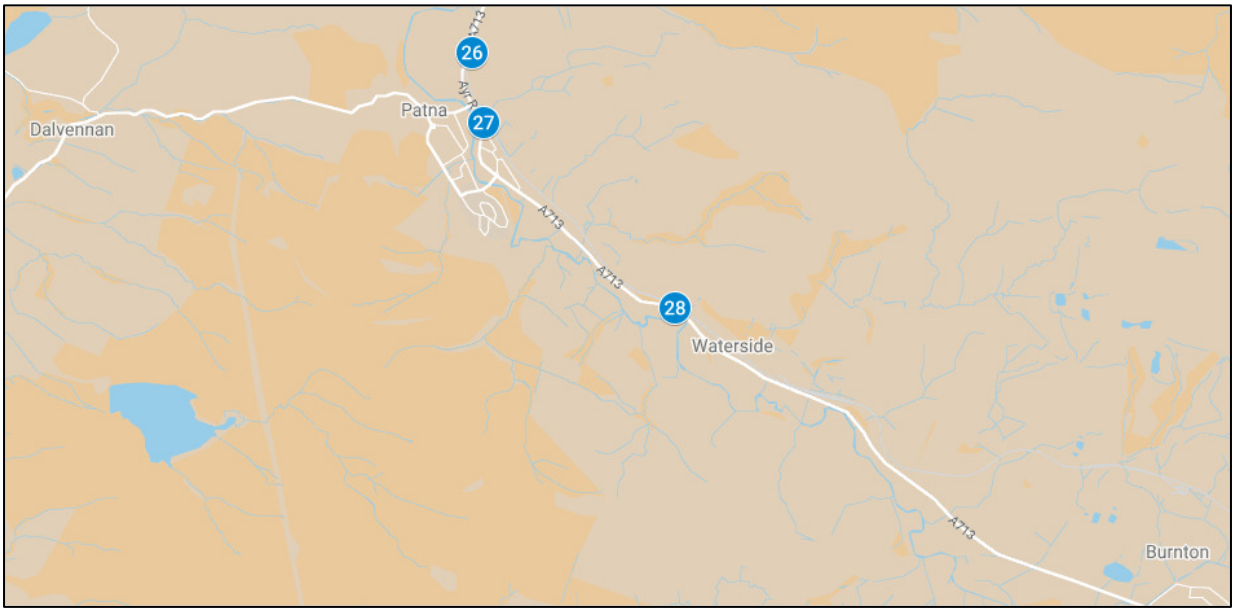
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Patna
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Waterside
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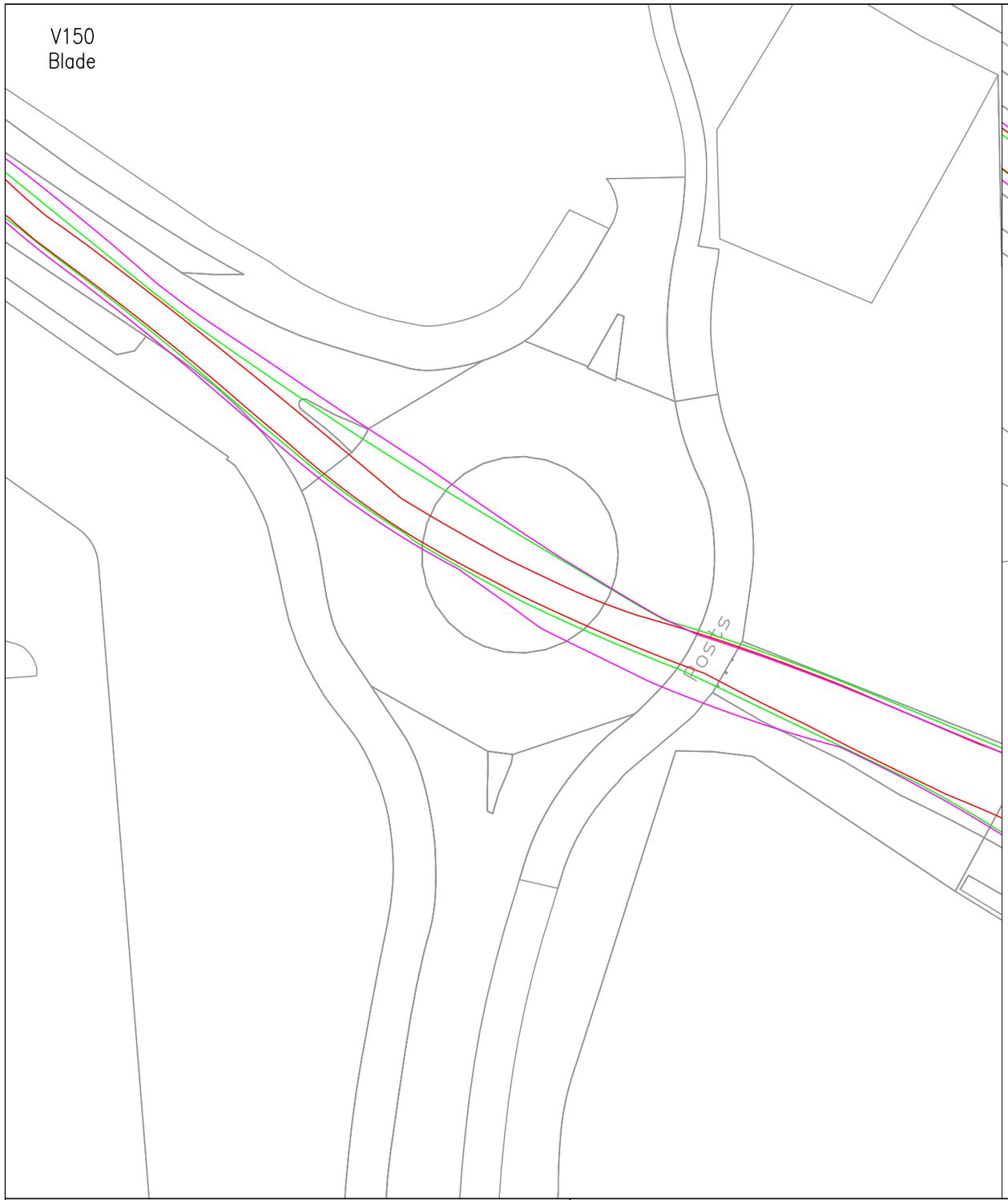
Appendix B
Swept Path Assessments



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Client: RES

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: KGV Port Access Gate

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		1

Scale: 1:500 @ A3

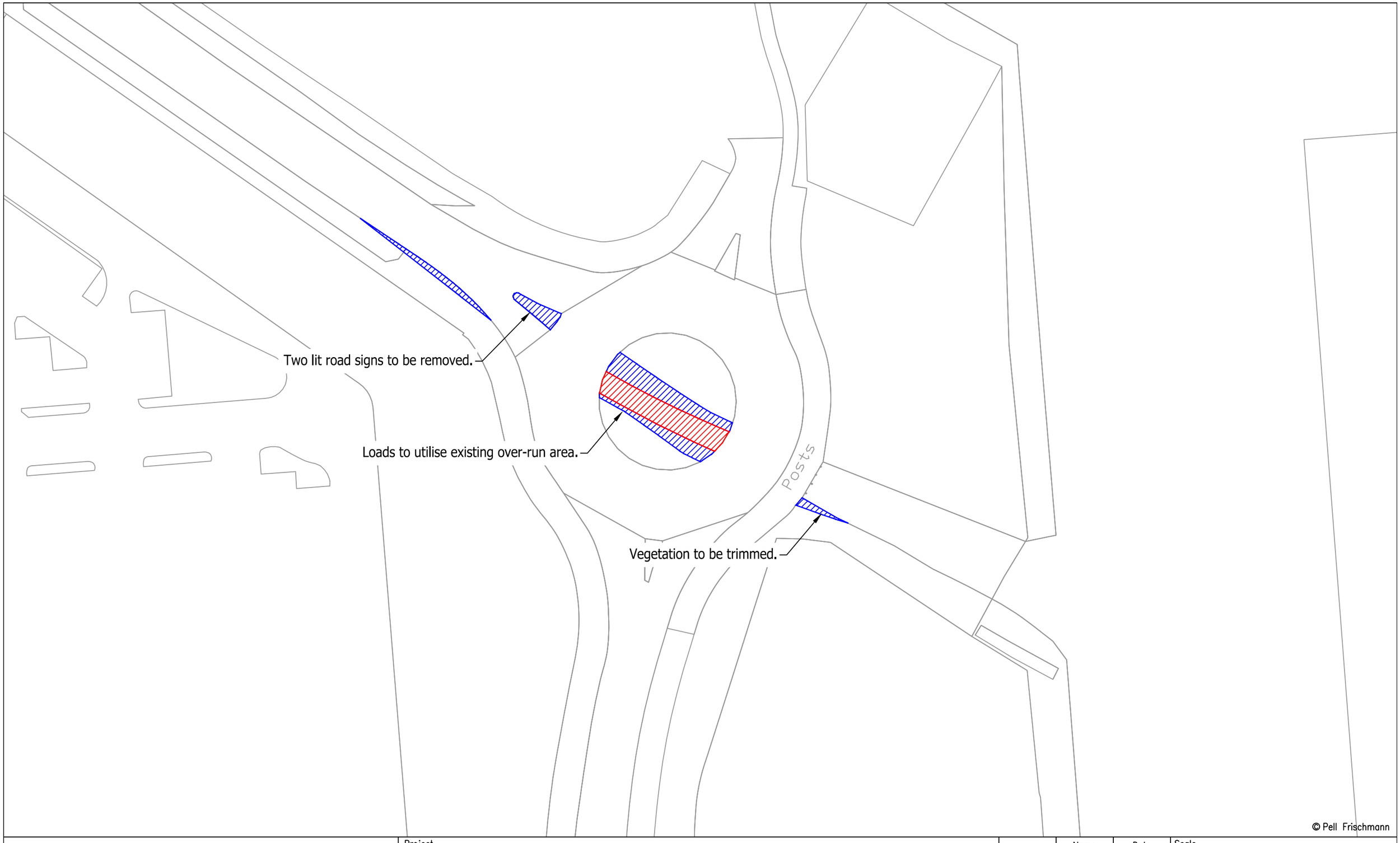
File No.: 220527 Slenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK01

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

Revision: 1



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www.pellfrischmann.com

Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: KGV Port Access Gate

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		1

Scale: 1:500 @ A3

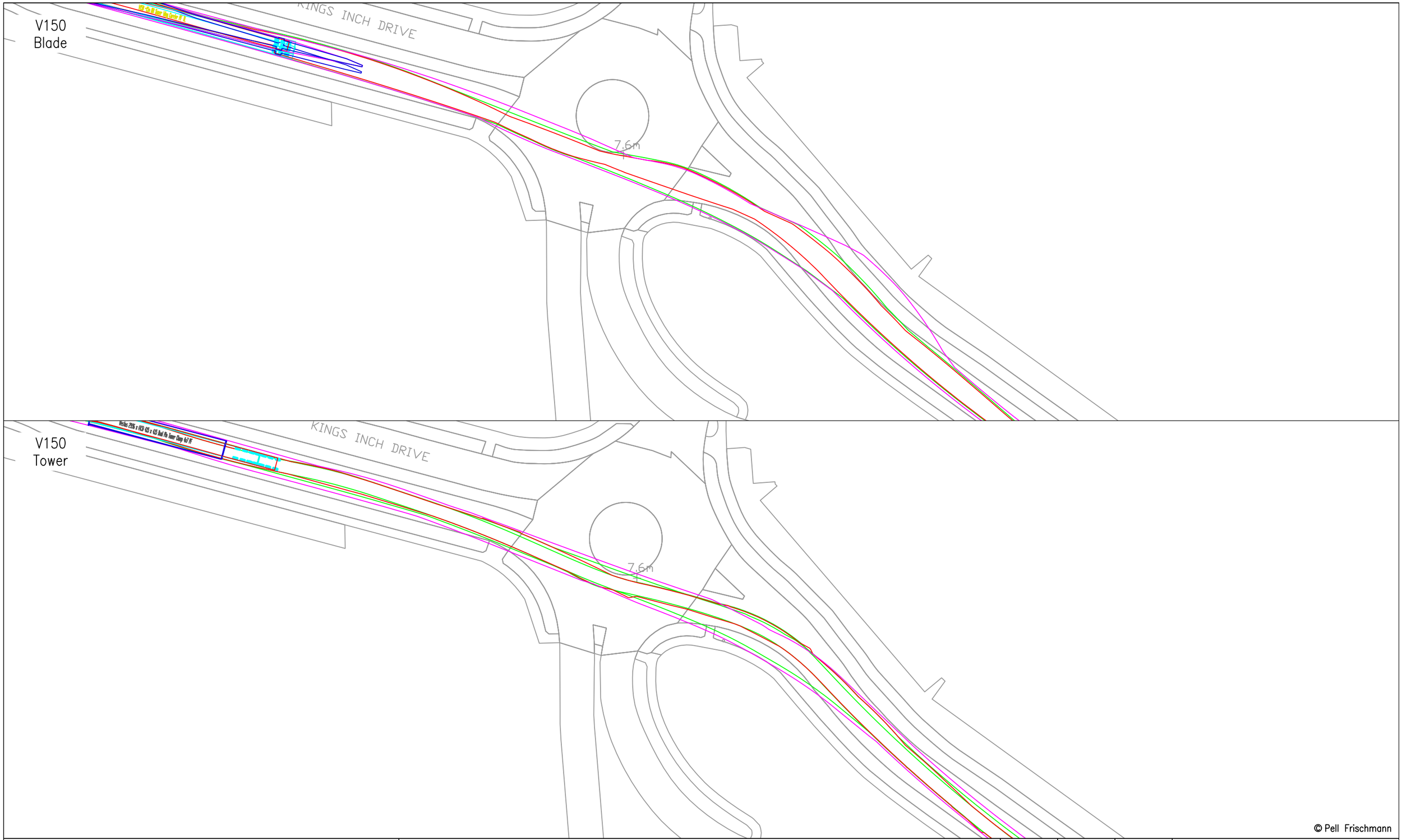
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

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



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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: Kings Inch Drive Roundabout 1

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		2

Scale: 1:750 @ A3

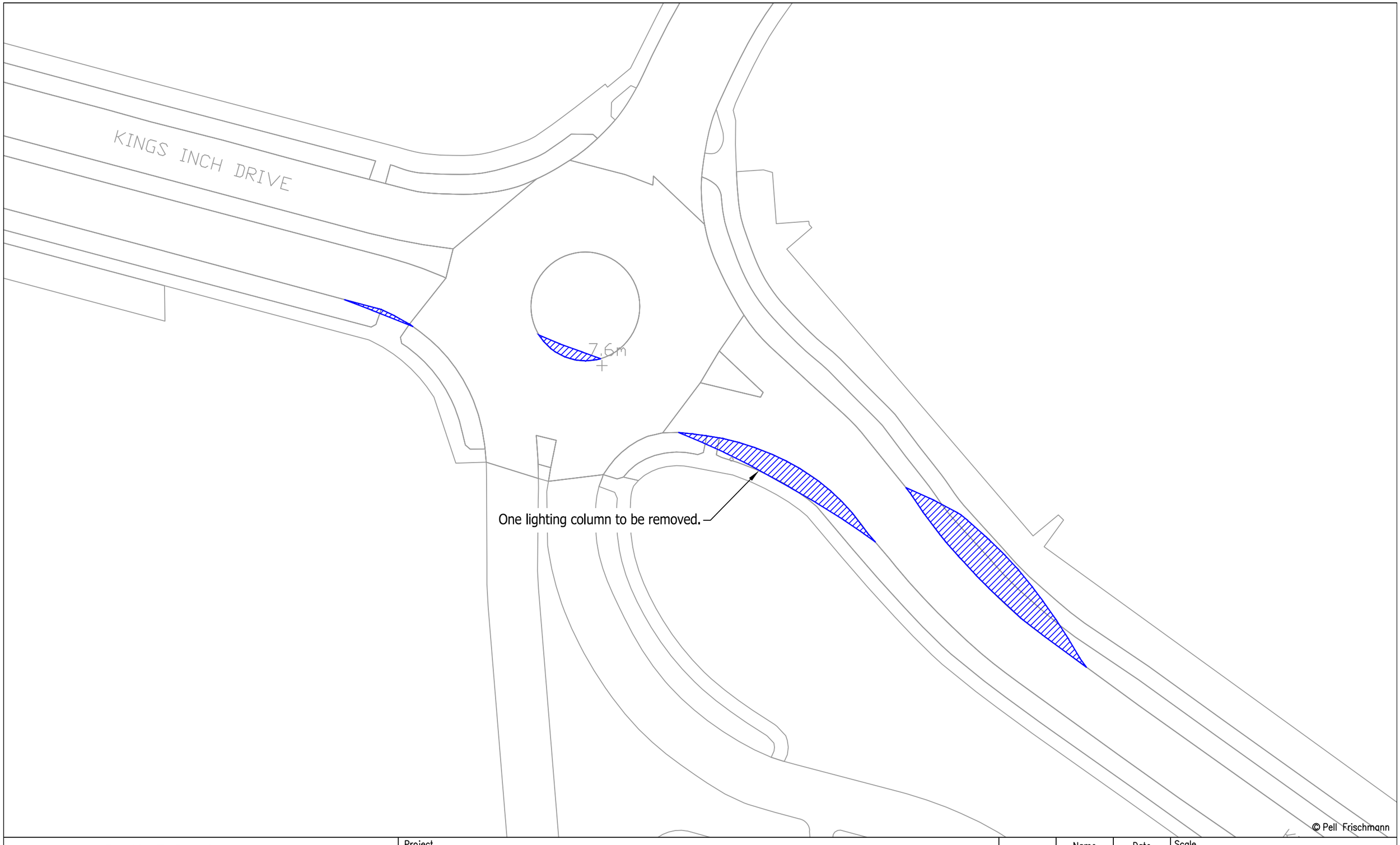
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK02

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

Revision: 1



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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: Kings Inch Drive Roundabout 1

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		2

Scale: 1:500 @ A3

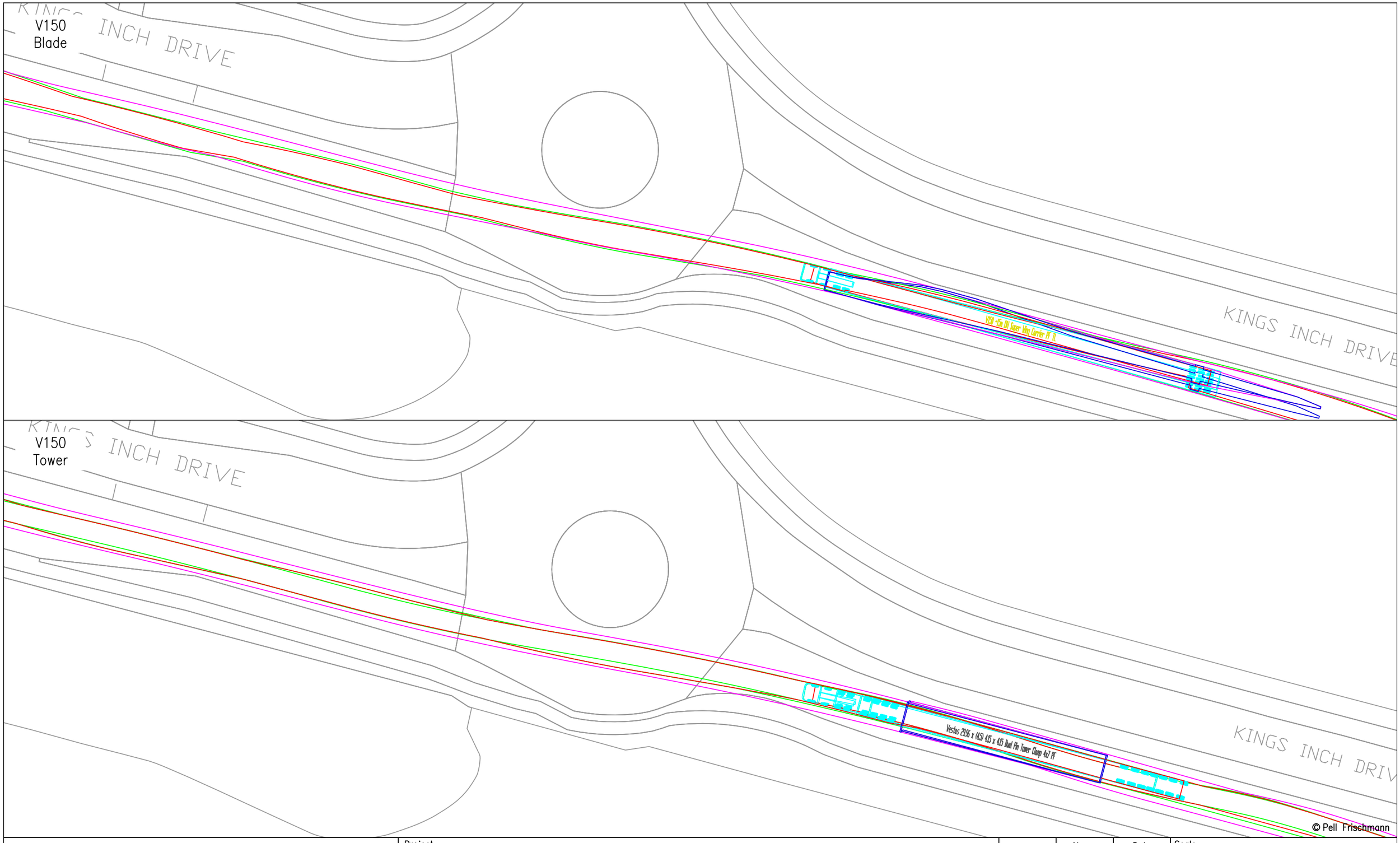
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK02A

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: Kings Inch Drive Roundabout 2

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		3

Scale: 1:500 @ A3

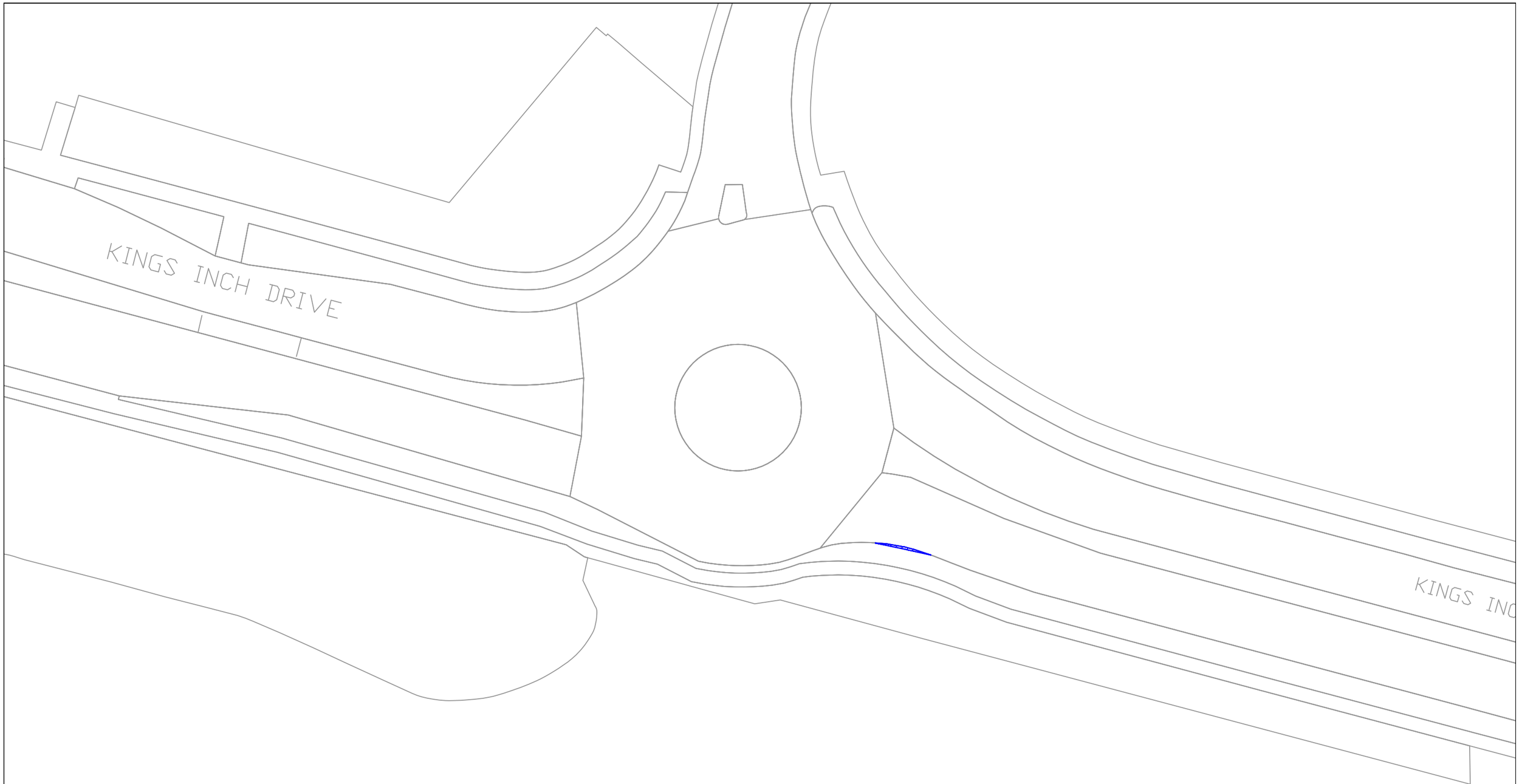
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK03

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: Kings Inch Drive Roundabout 2

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		3

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK3A

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: RES

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: Kings Inch Drive / Mayo Avenue Junction

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		4

Scale: 1:750 @ A3

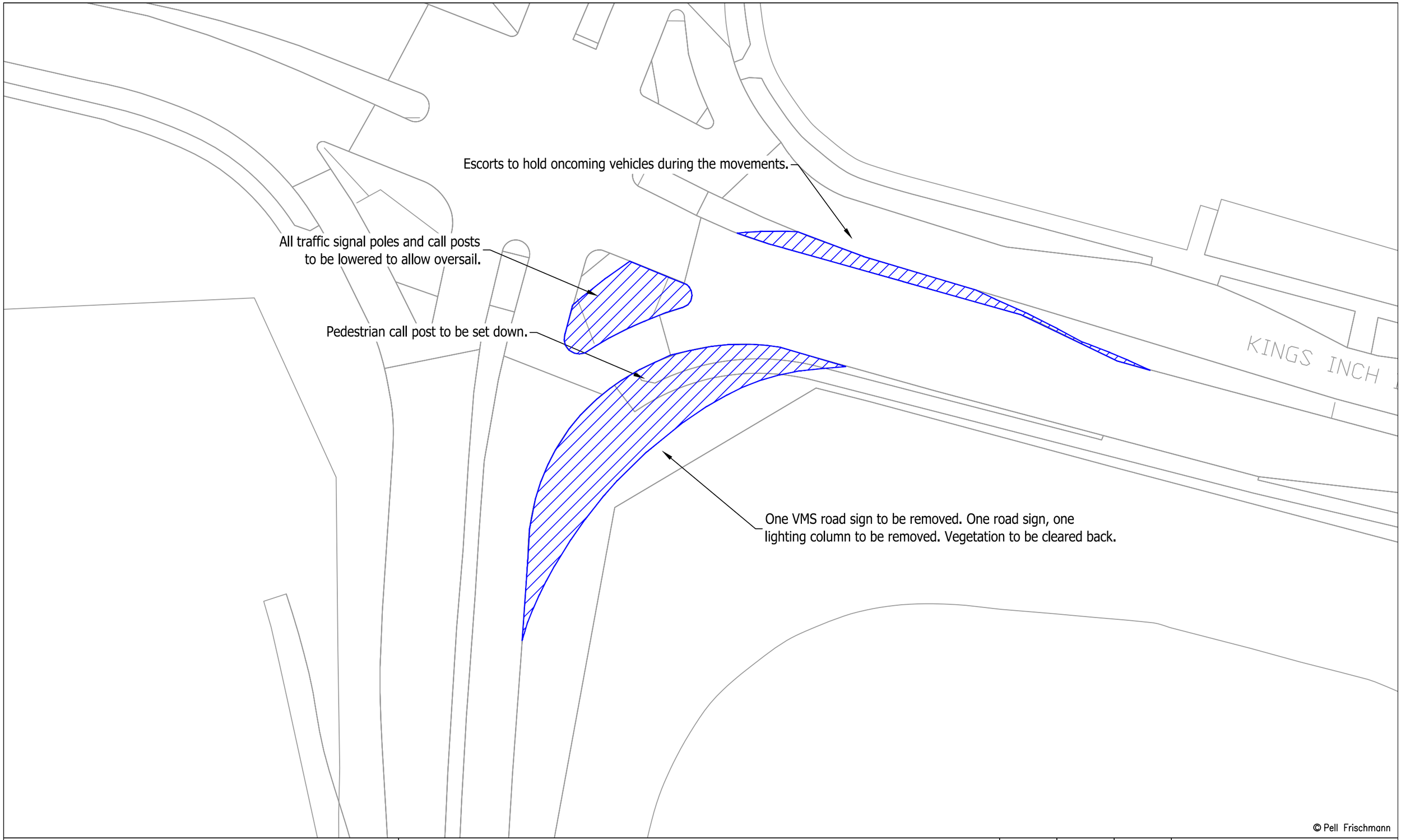
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK4

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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Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: Kings Inch Drive / Mayo Avenue Junction

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		4

Scale: 1:500 @ A3

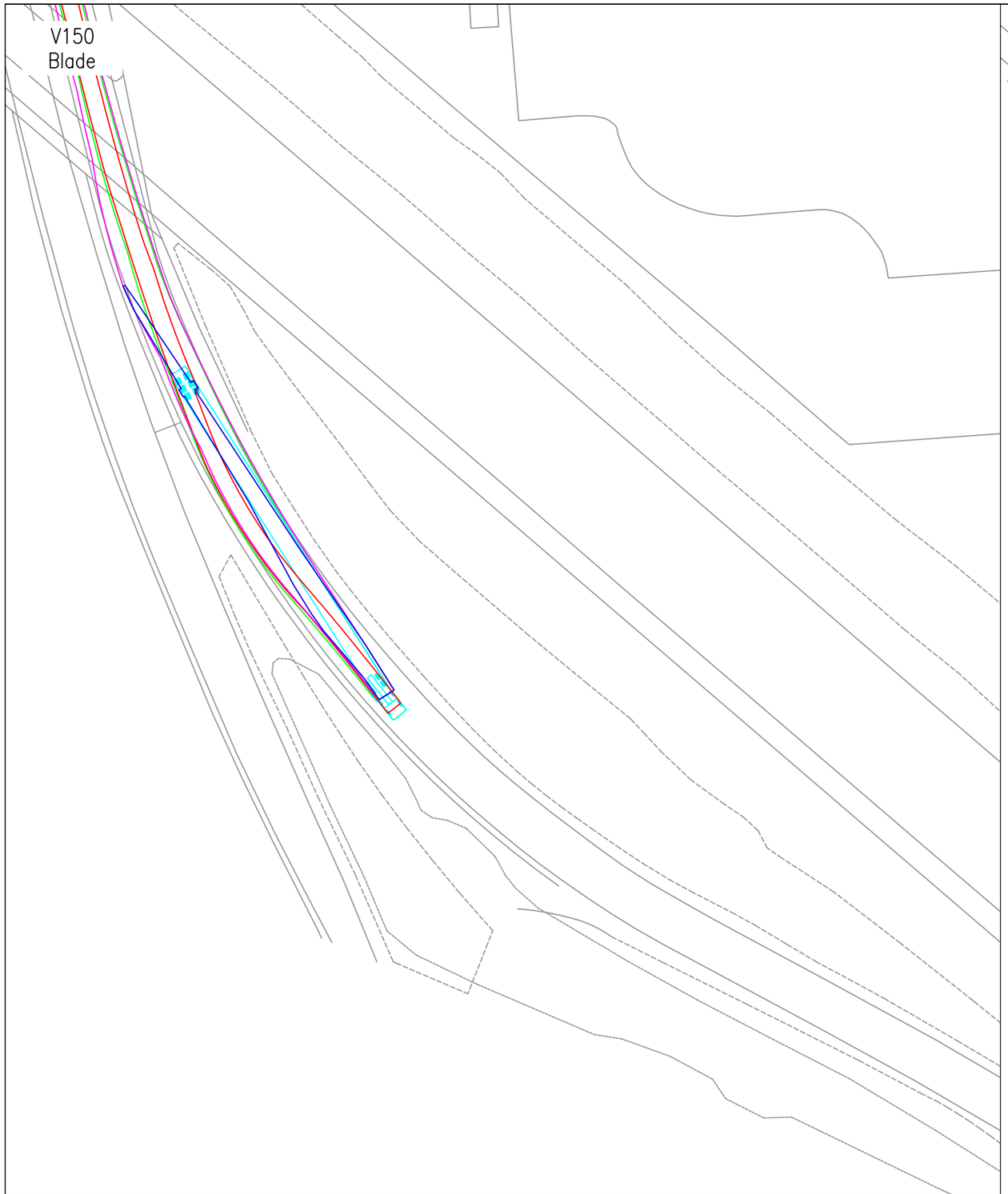
File No.: 220527 Slenteuch SPA.dwg

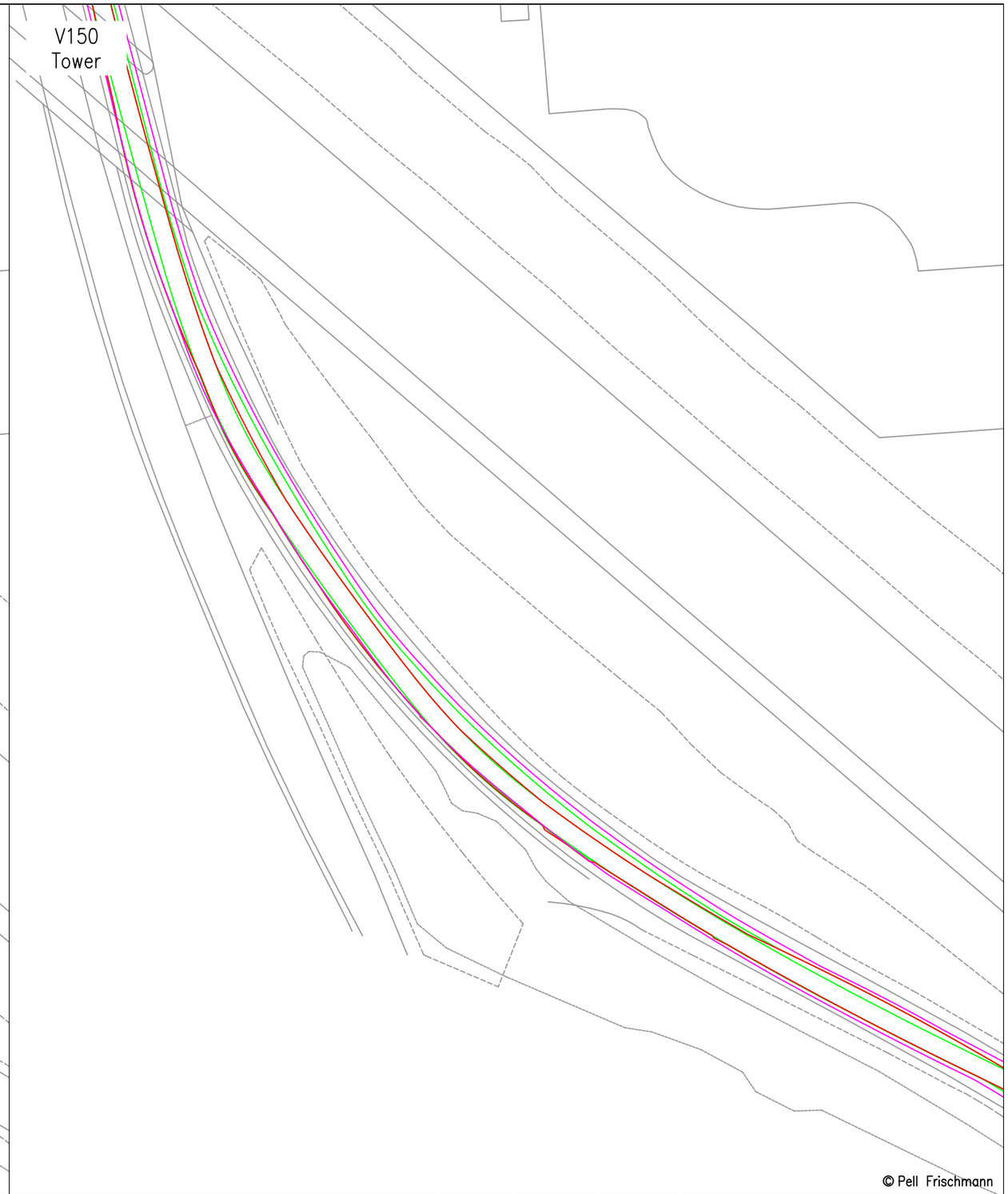
Drawing Status: Draft

Drawing No.: SK4A

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

NO MITIGATION

SPA Location: M8 Junction 25a Slip Road

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		5

Scale: 1:750 @ A3

File No.: 220527 Sclenteuch SPA.dwg

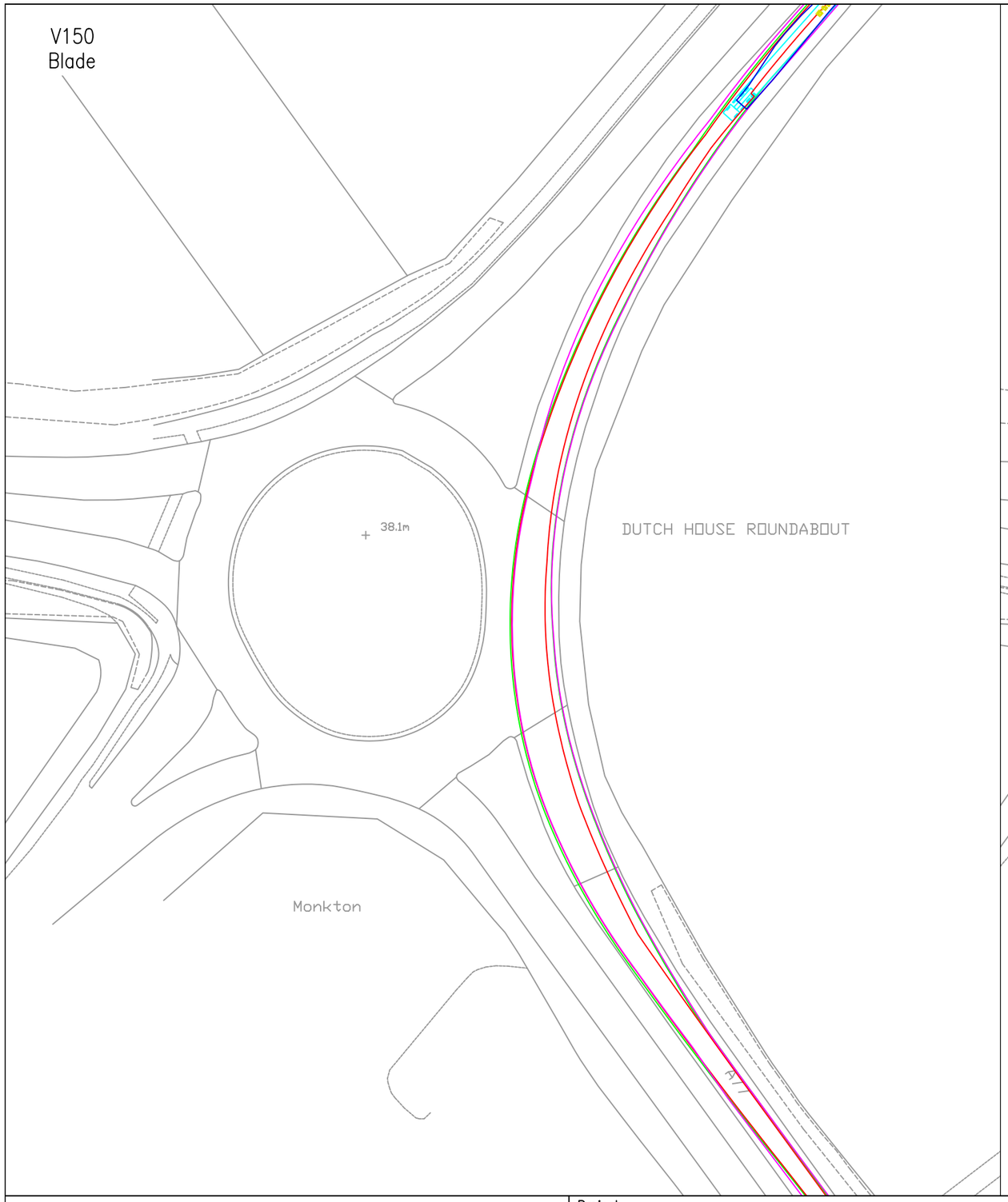
Drawing Status: Draft

Drawing No.: SK5

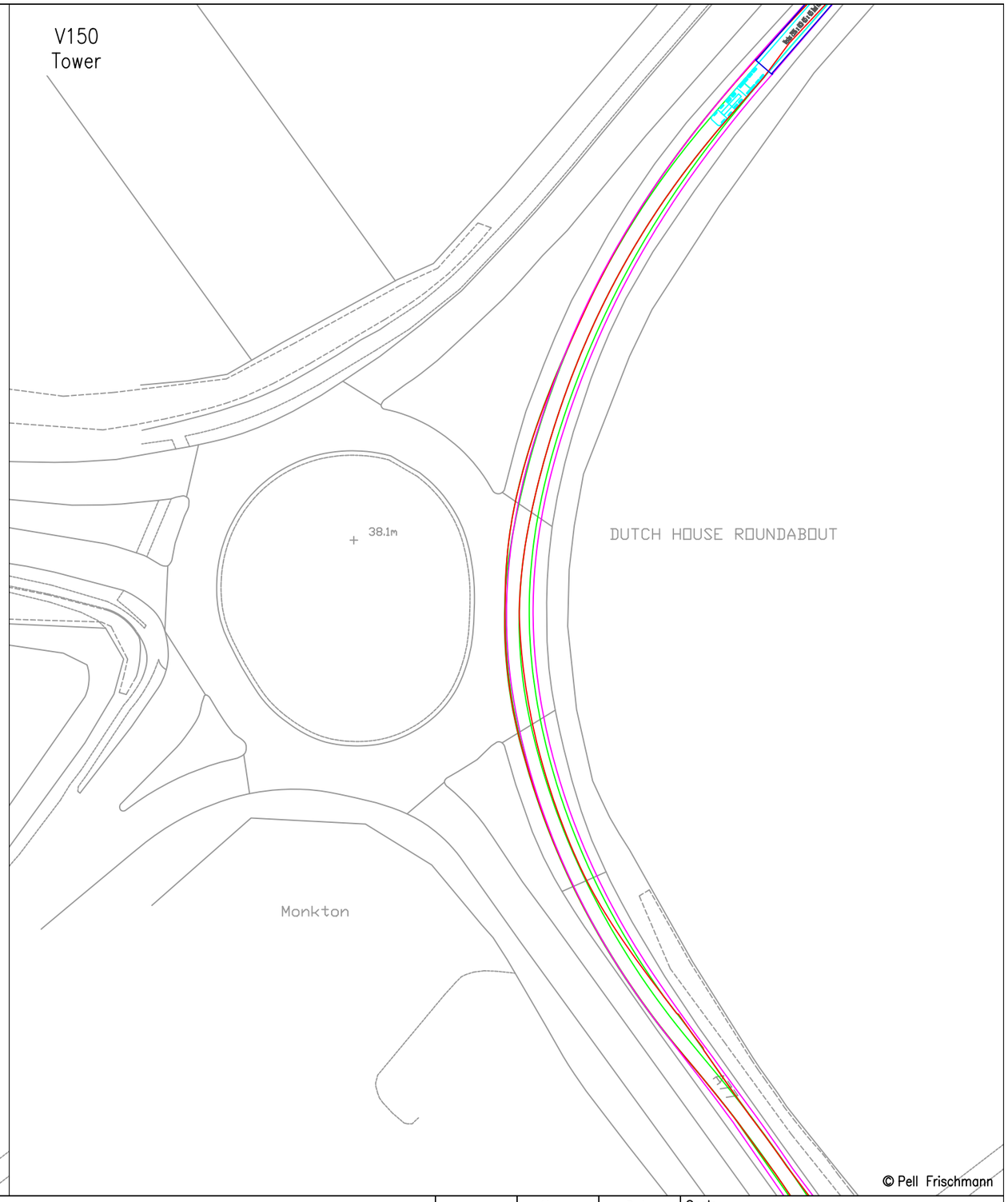
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

V150
Blade



V150
Tower



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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower — NO MITIGATION

SPA Location: Dutch House Roundabout

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		9

Scale: 1:1000 @ A3

File No.: 220527 Sclenteuch SPA.dwg

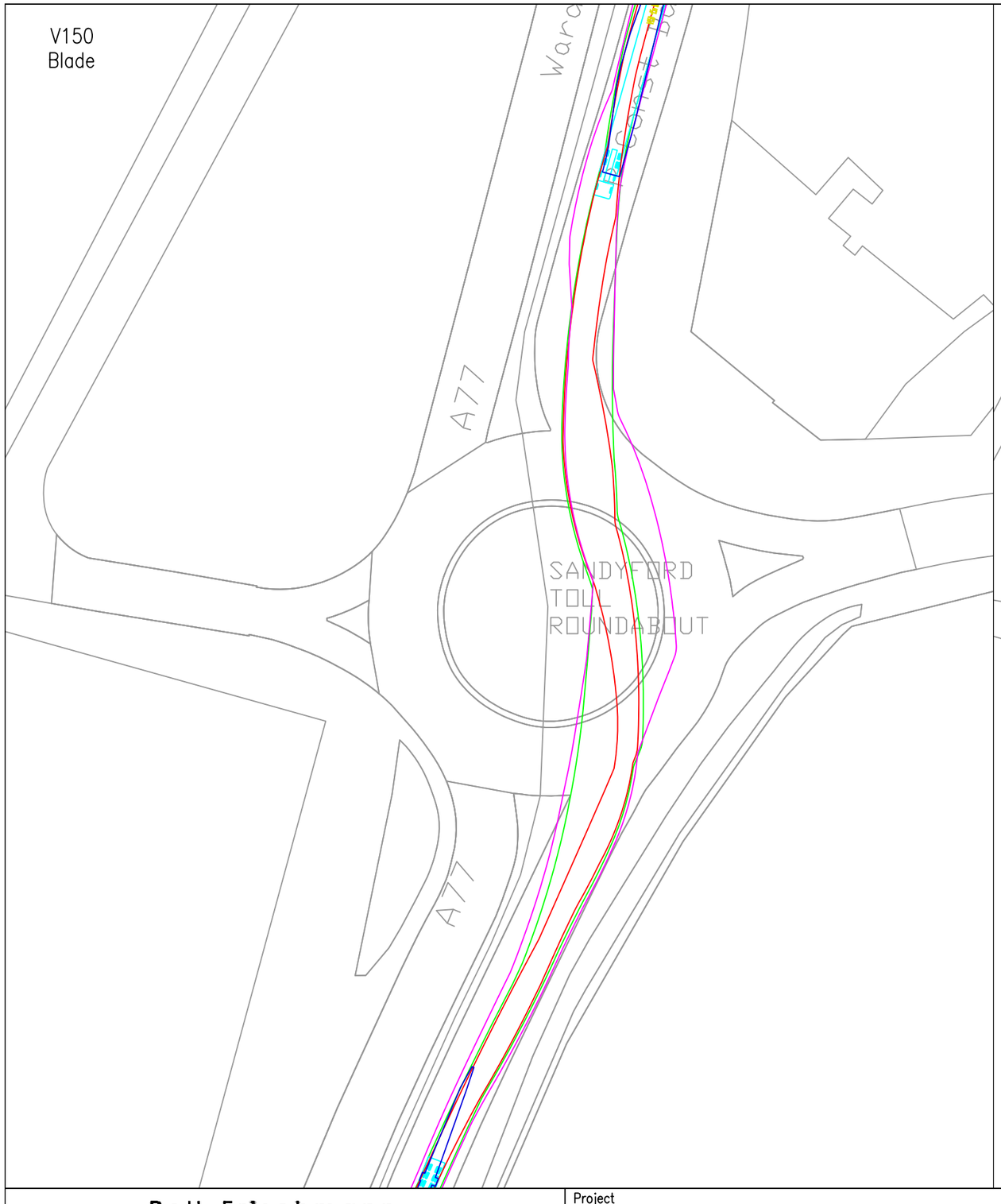
Drawing Status: Draft

Drawing No.: SK6

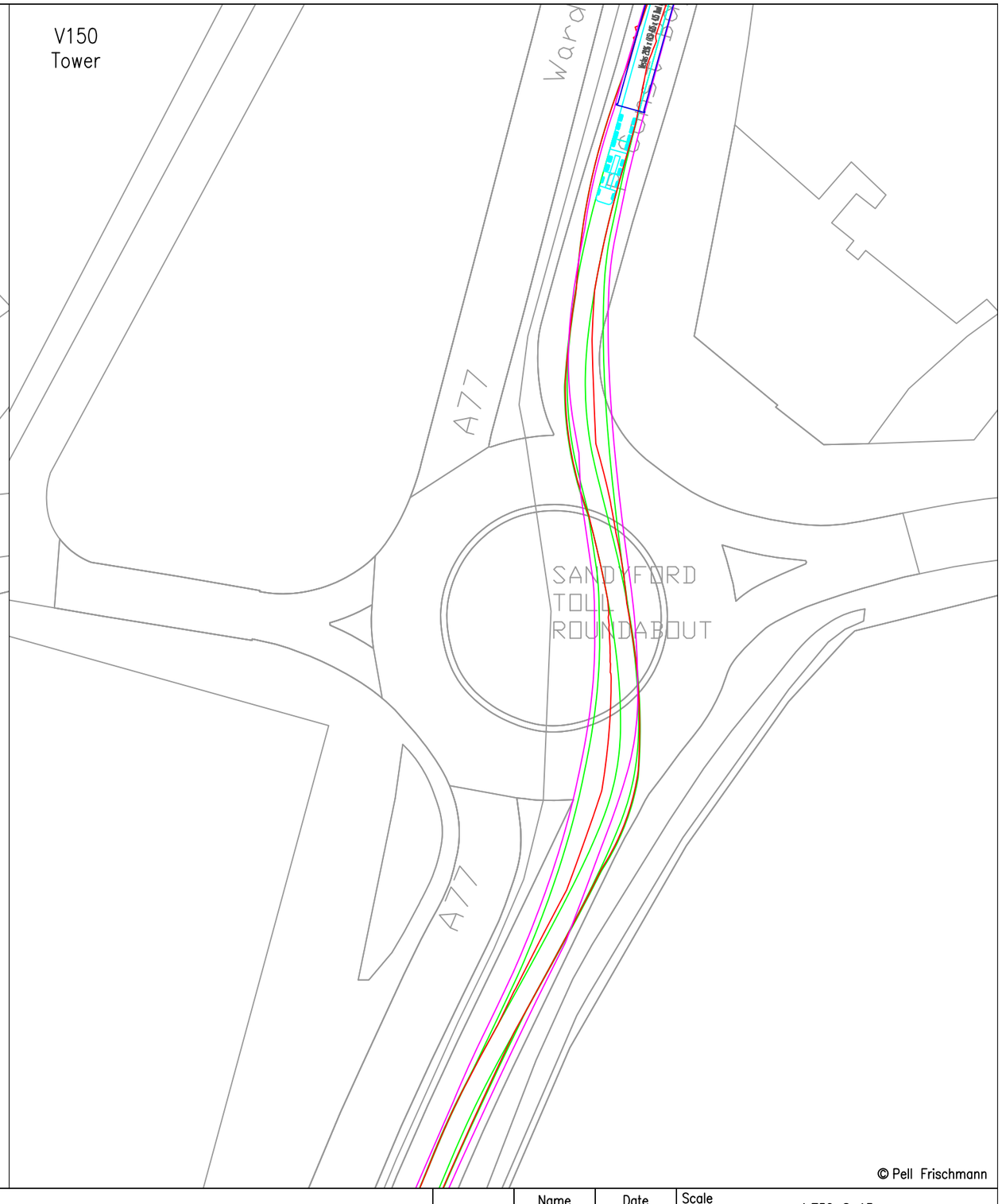
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

V150
Blade



V150
Tower



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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: Sandyford Toll Roundabout

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		10

Scale: 1:750 @ A3

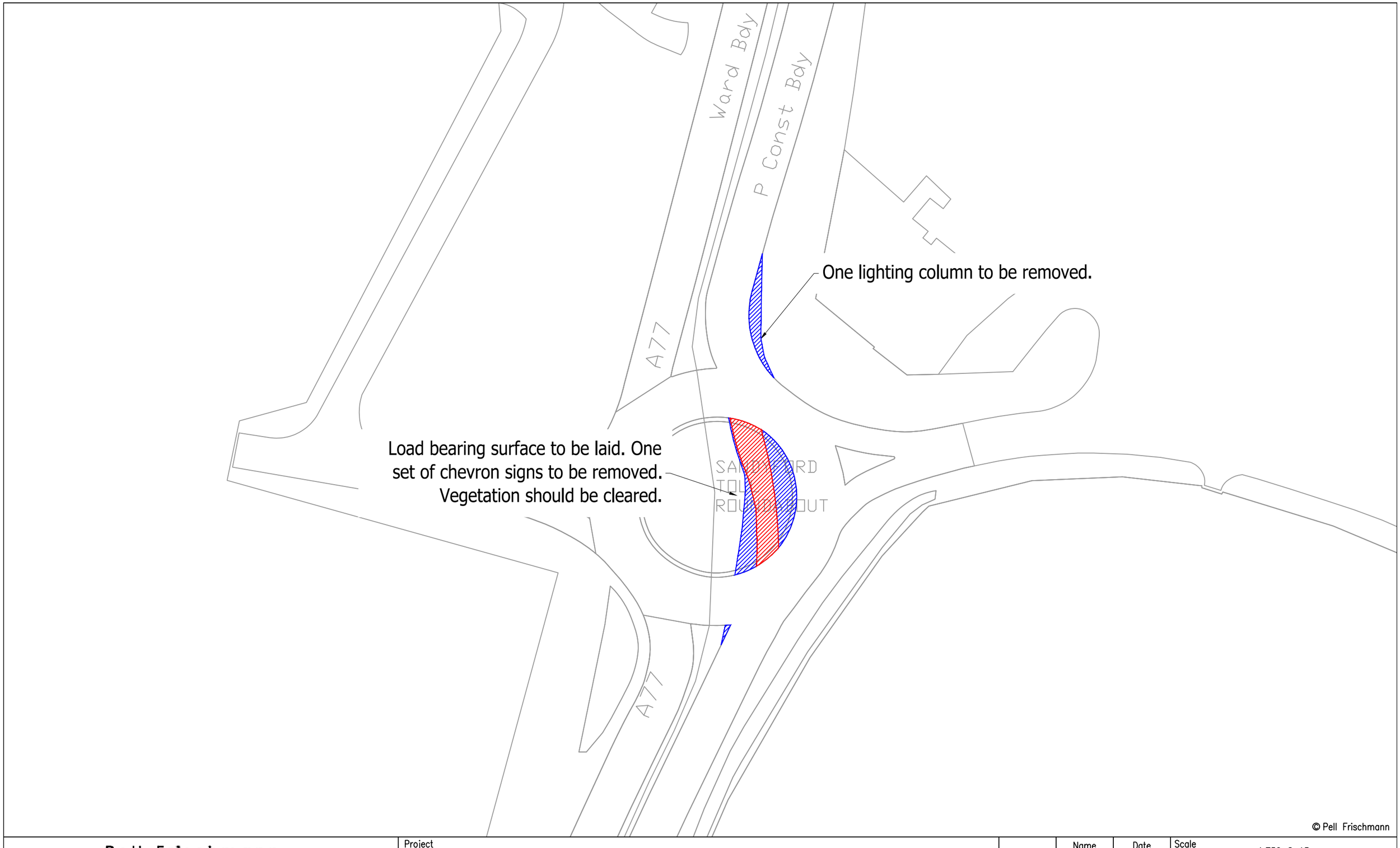
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK7

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: Sandyford Toll Roundabout

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		10

Scale: 1:750 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK7A

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

V150
Blade

V150
Tower

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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: Whitletts Roundabout

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		10

Scale: 1:1000 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK8

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

V150
Blade

V150
Tower

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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A77 Holmston Roundabout

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		12

Scale: 1:1000 @ A3

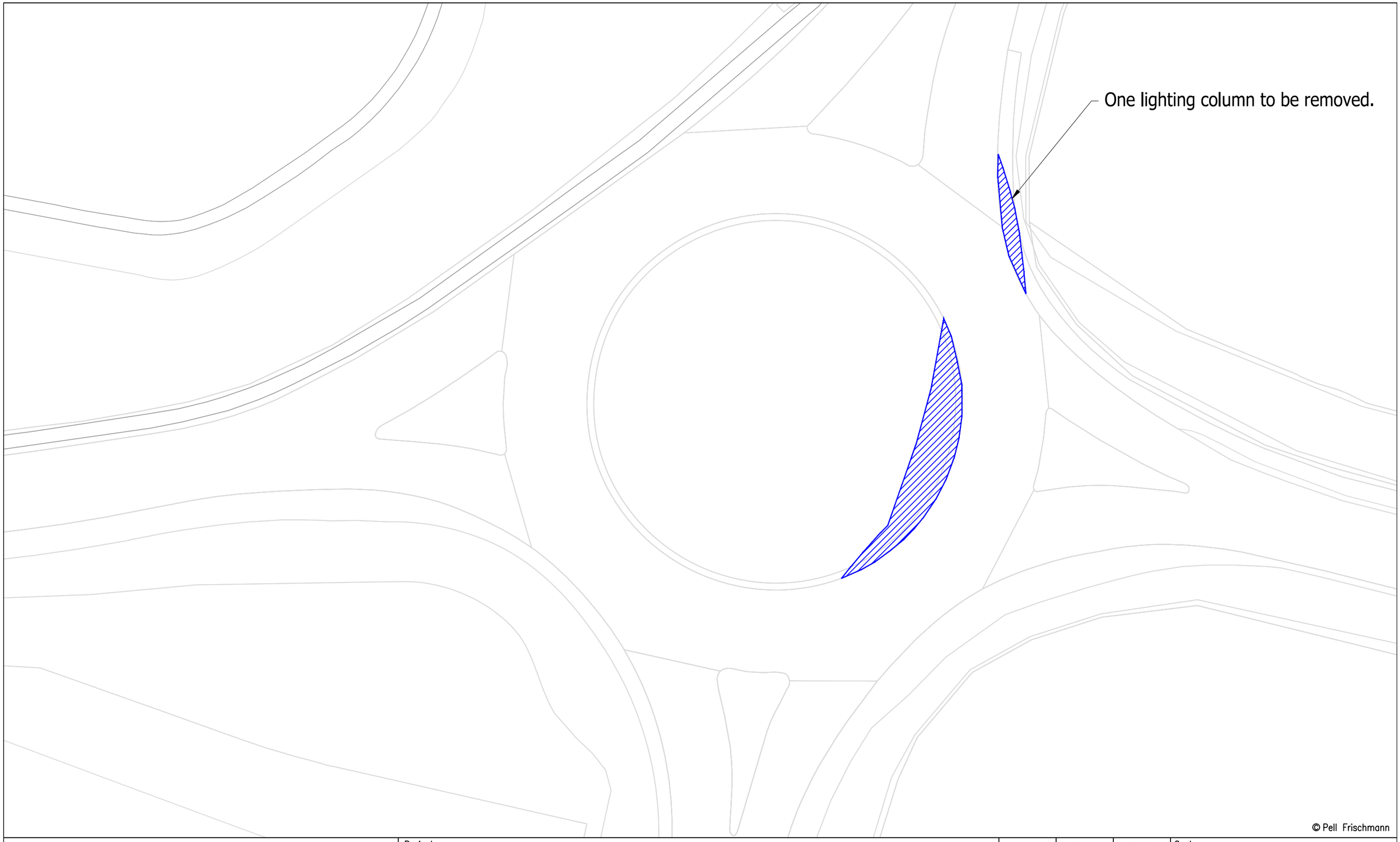
File No.: 220527 Slenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK09

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A77 Holmston Roundabout

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		12

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

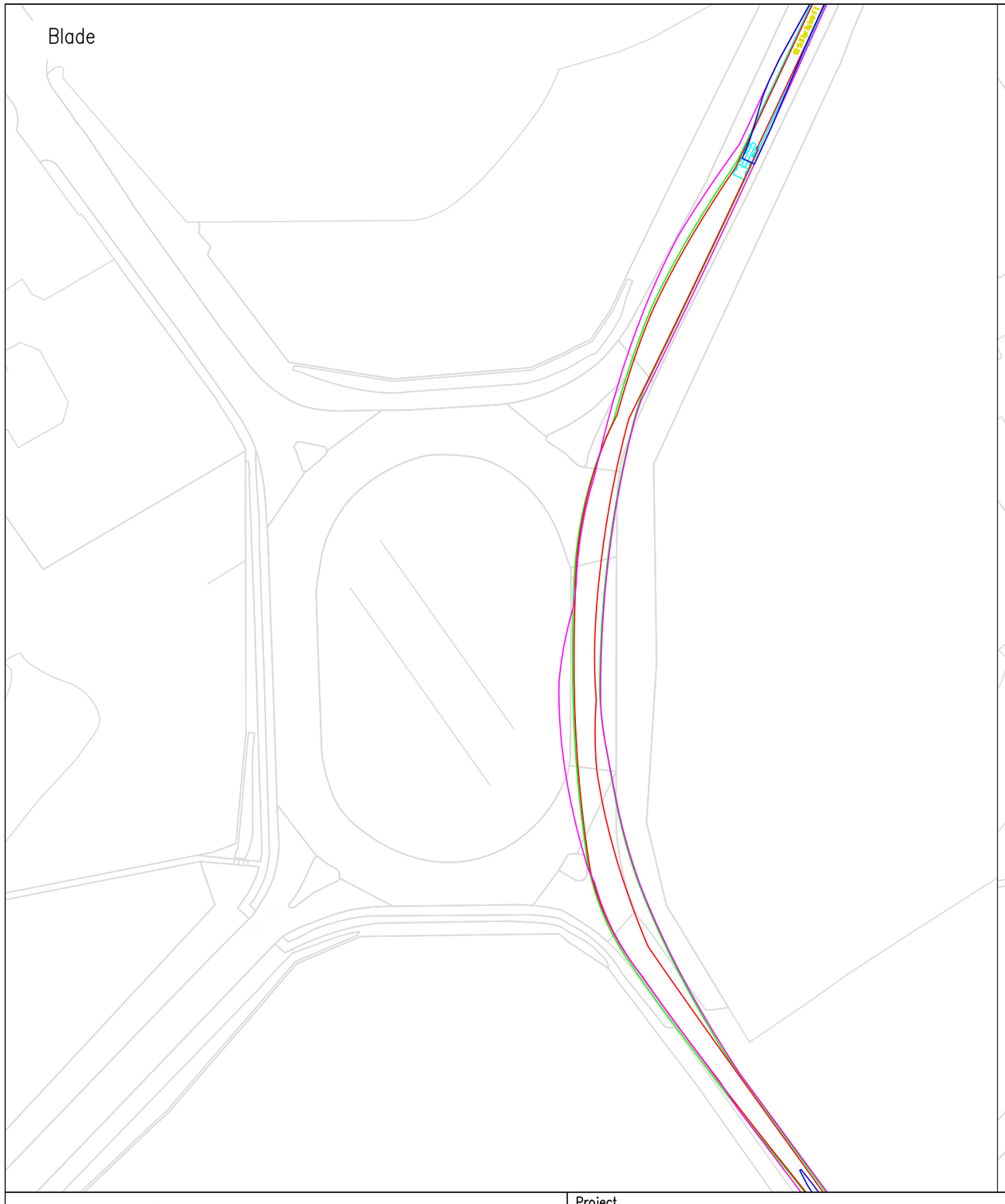
Drawing Status: Draft

Drawing No.: SK09A

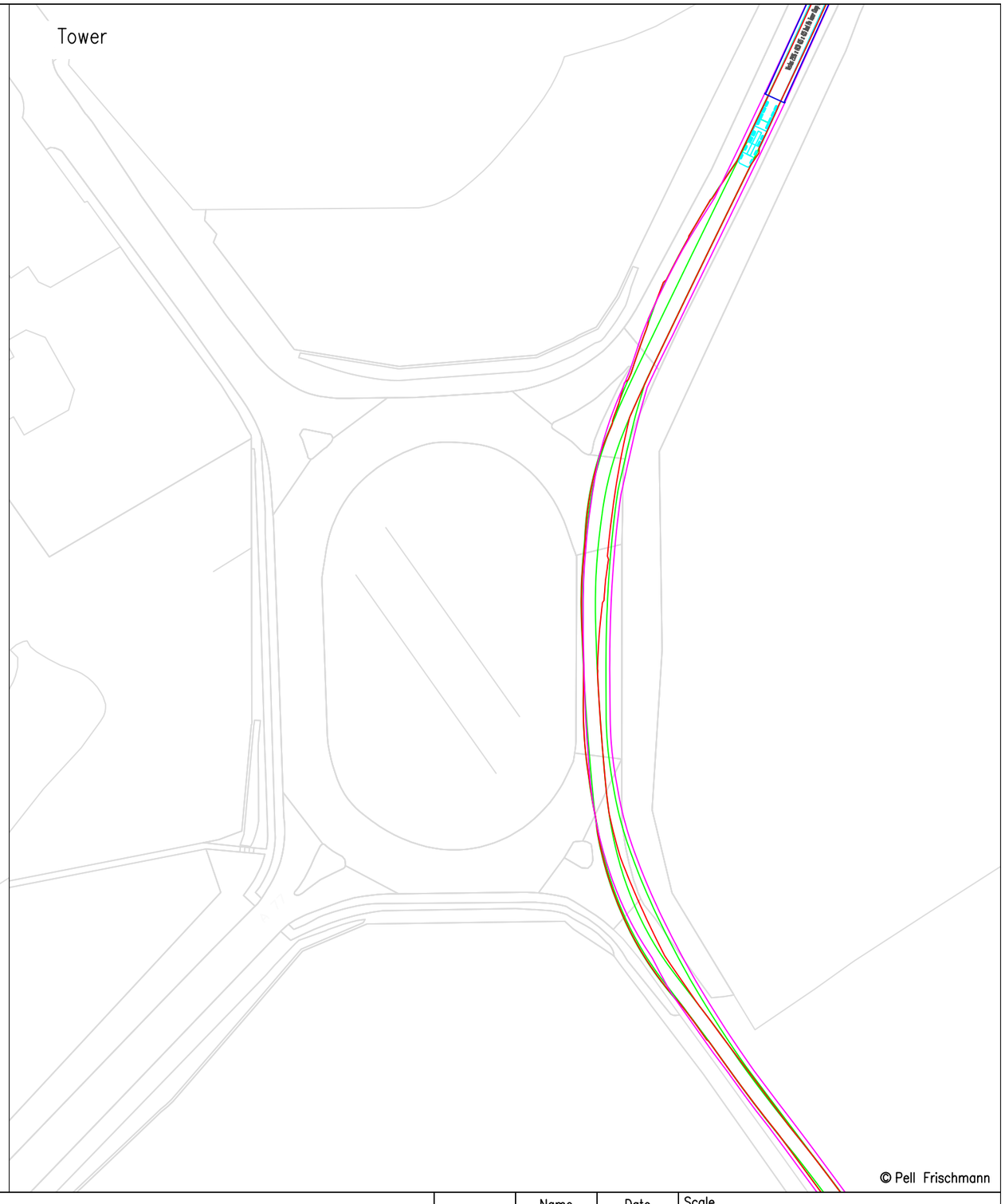
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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Client: RES

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A77 Bankfield Roundabout

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		13

Scale: 1:1000 @ A3

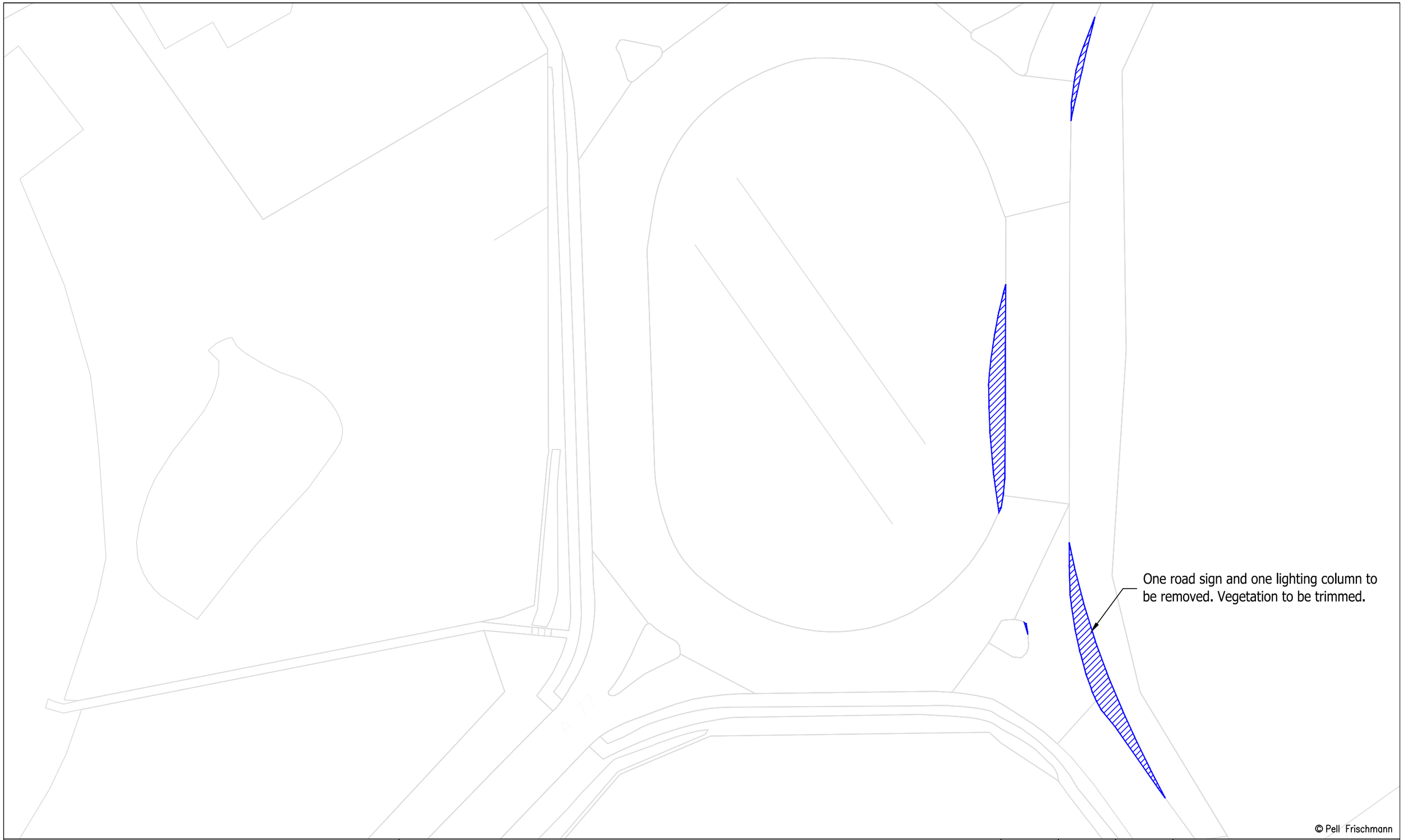
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

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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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A77 Bankfield Roundabout

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		13

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

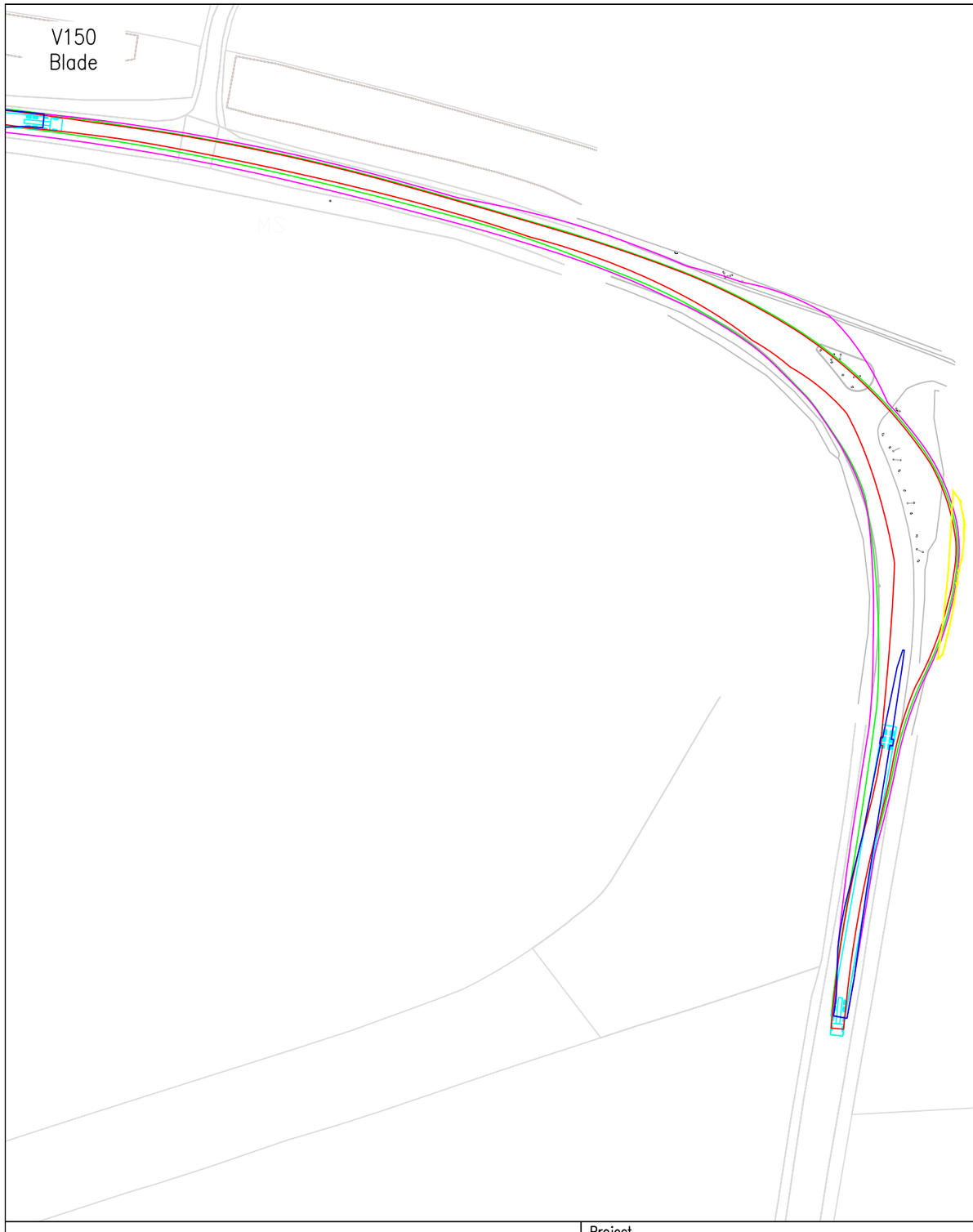
Drawing Status: Draft

Drawing No.: SK11A

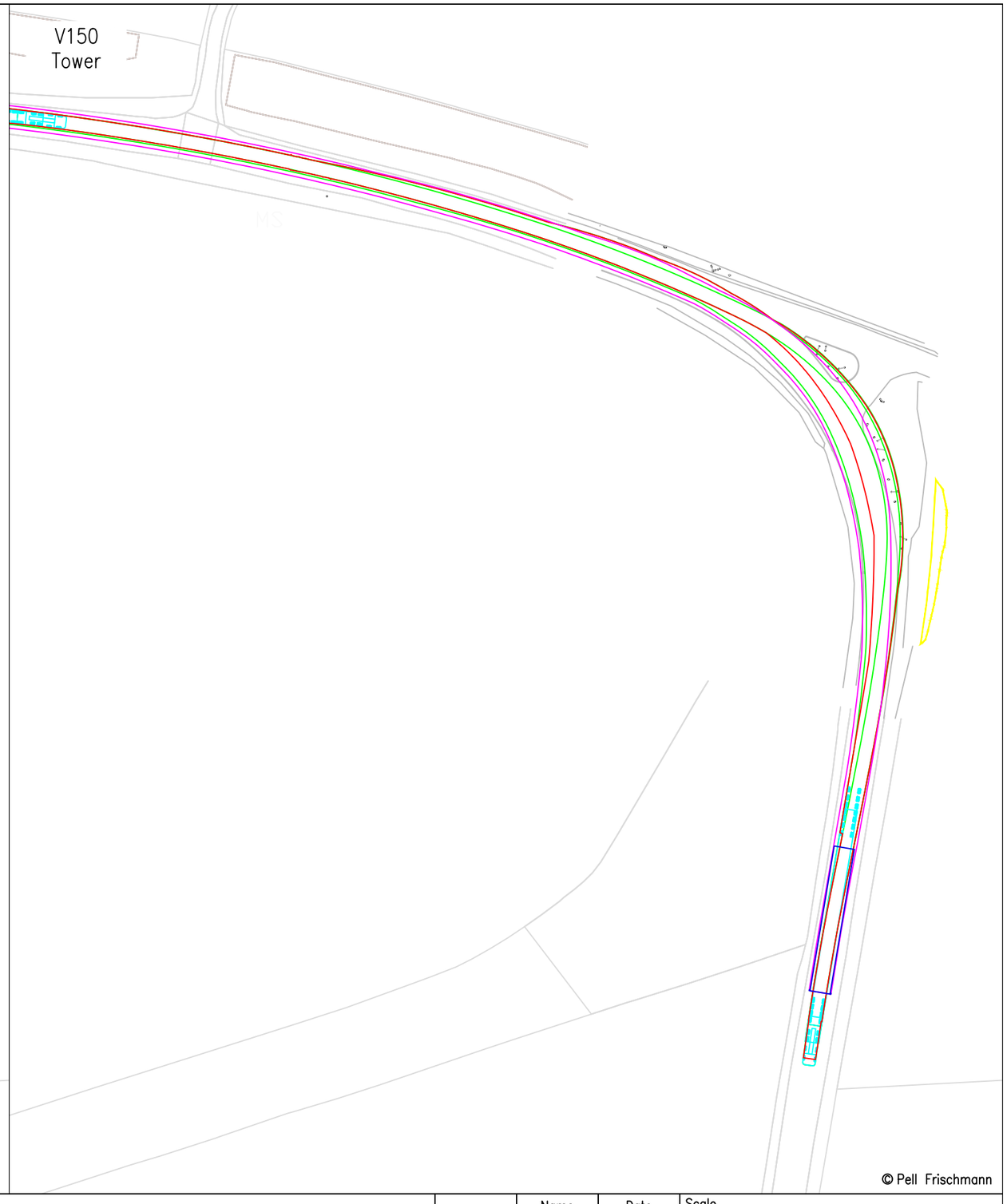
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

V150
Blade



V150
Tower



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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Craigs Road Bend

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		15

Scale: 1:1000 @ A3

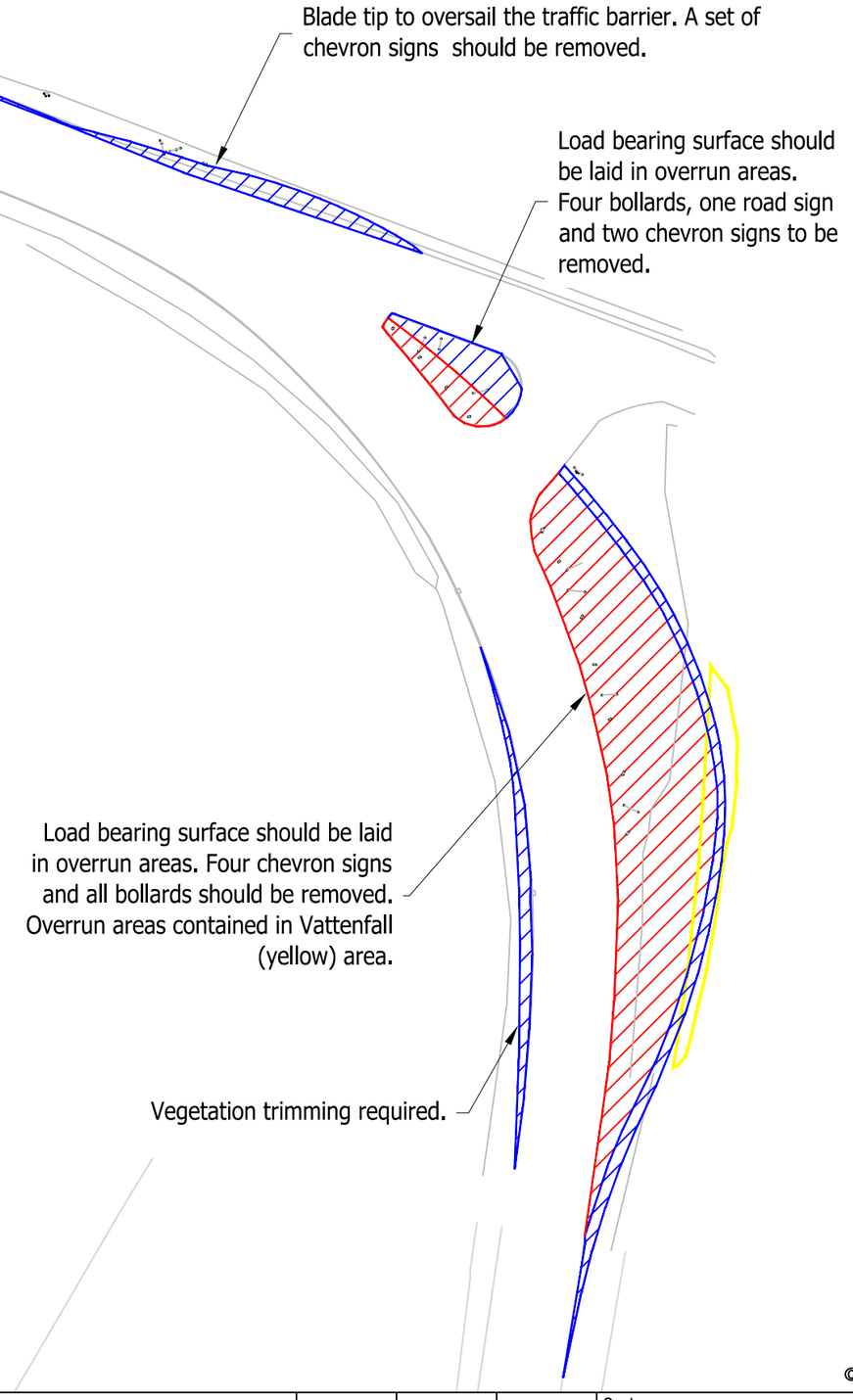
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK12

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Craigs Road Bend

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		15

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

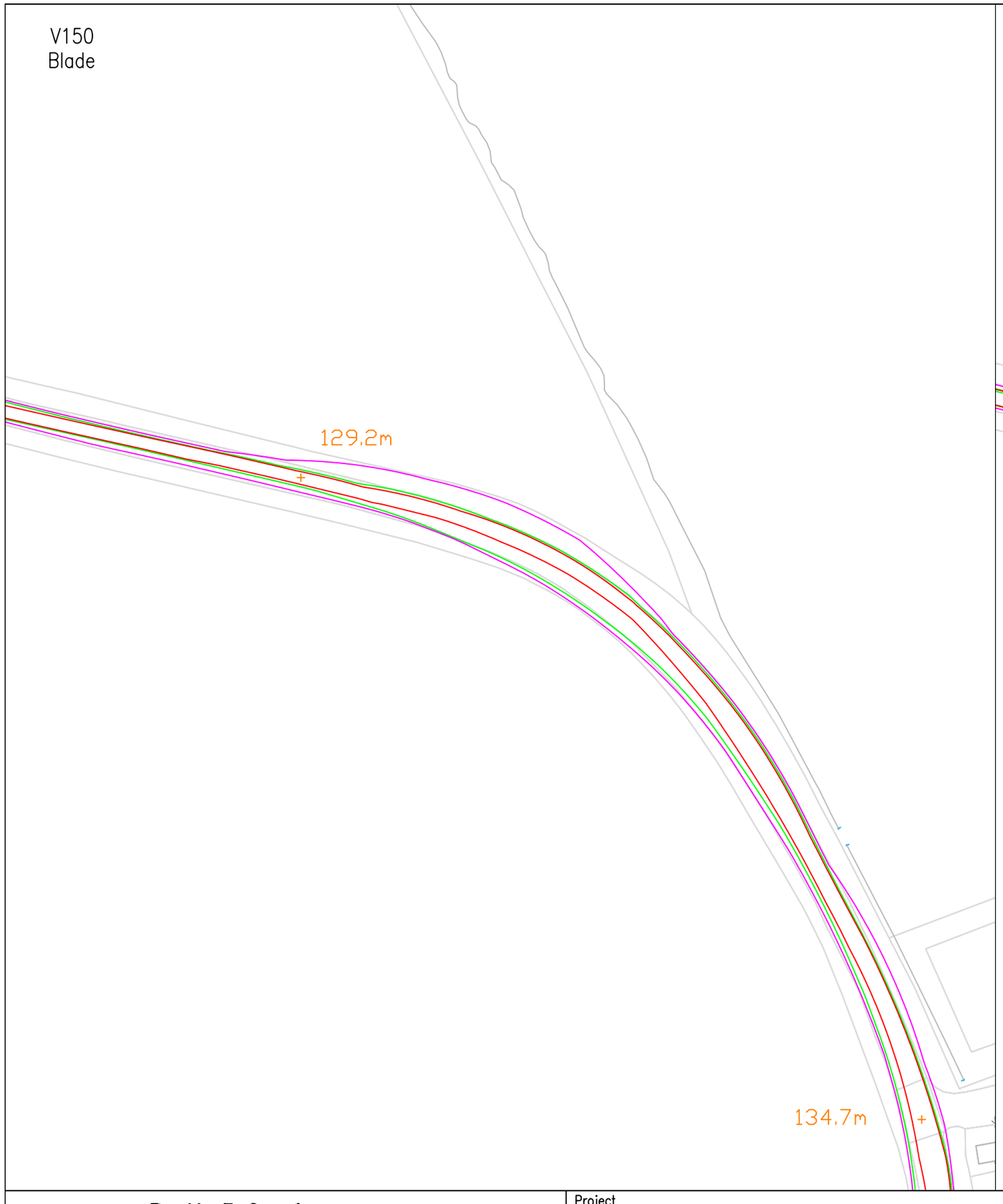
Drawing Status: Draft

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

V150
Blade



V150
Tower

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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Right Bend North West of Holehouse Cottage

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		16

Scale: 1:1000 @ A3

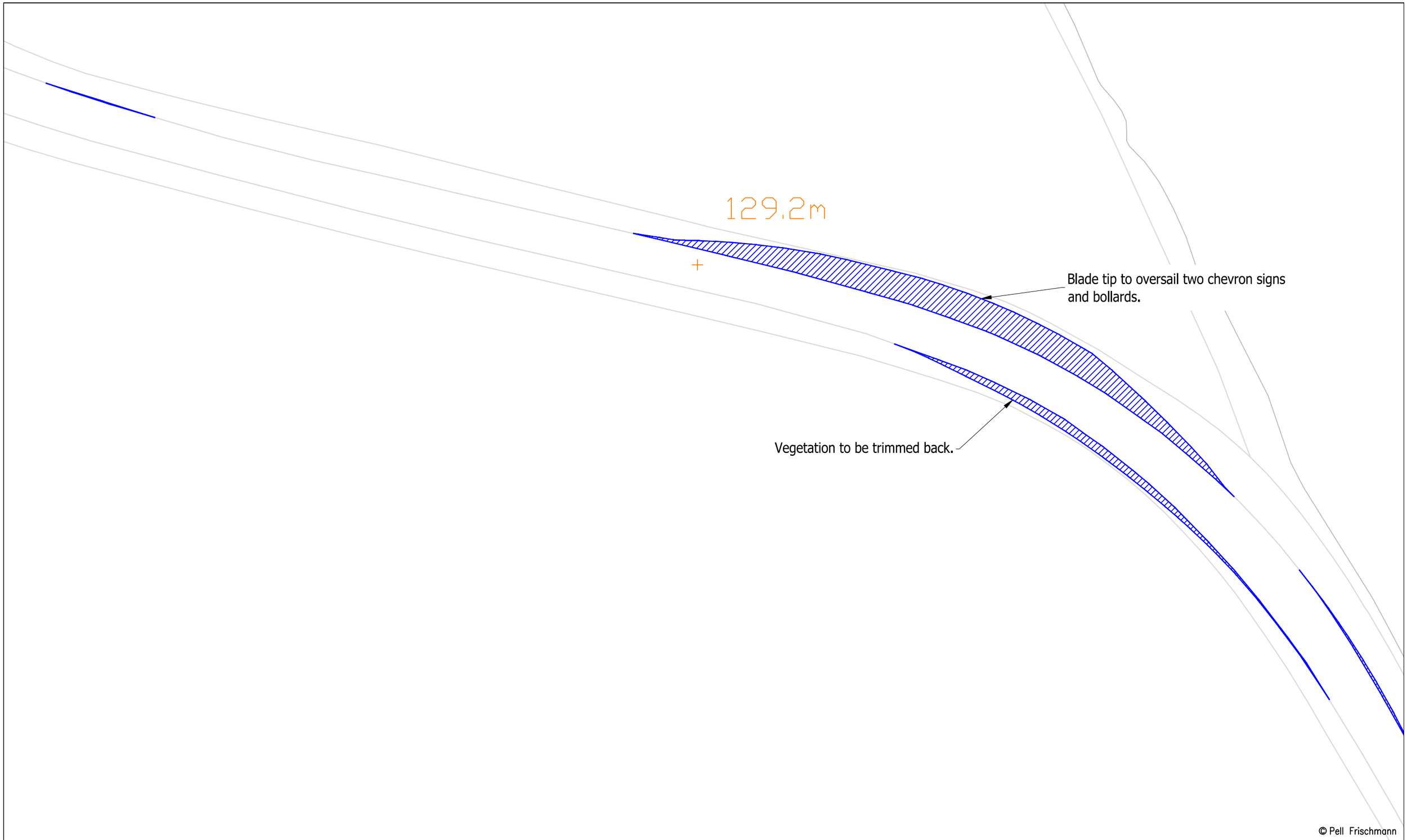
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK13

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Right Bend North West of Holehouse Cottage

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		16

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

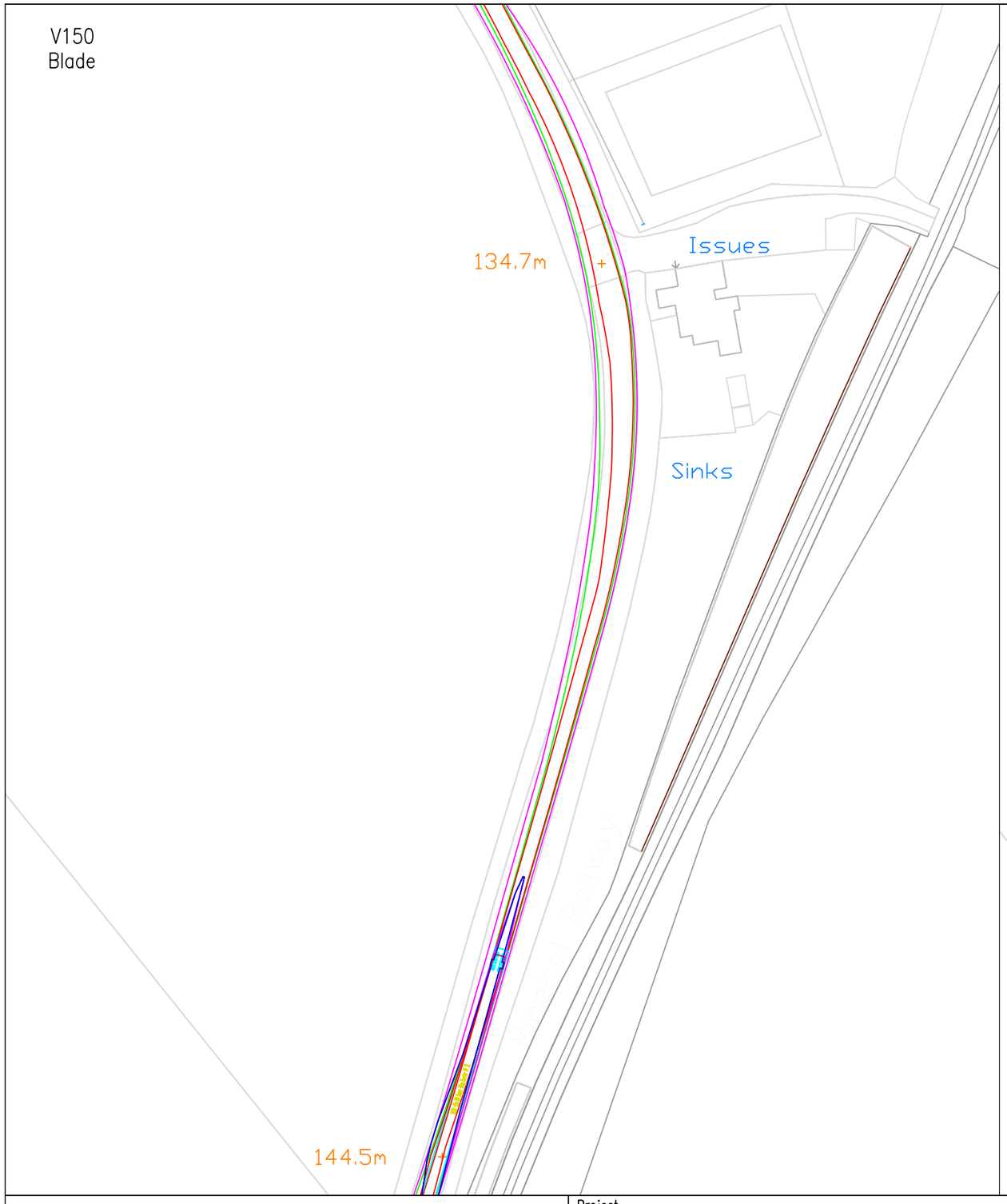
Drawing Status: Draft

Drawing No.: SK13A

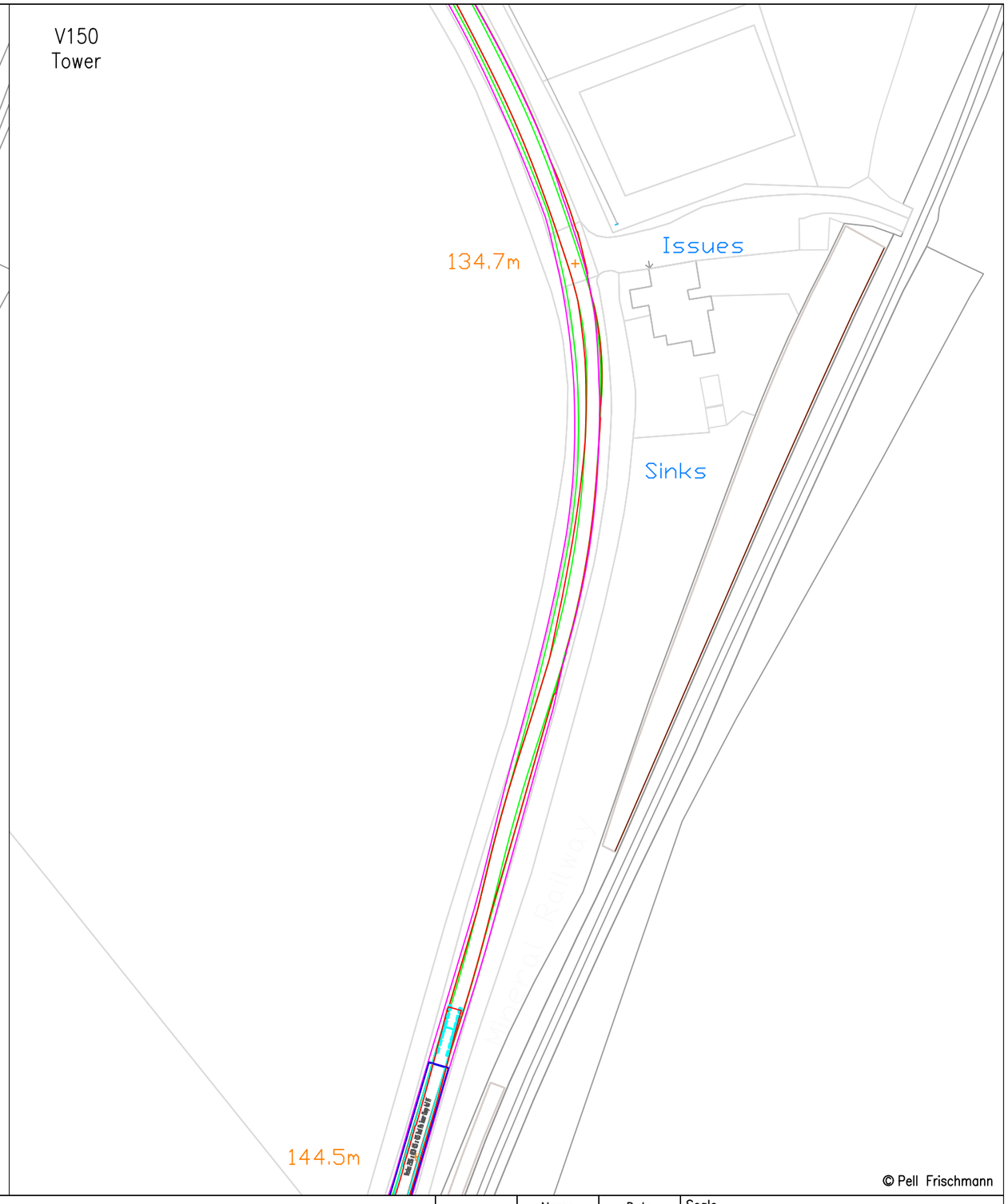
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

V150
Blade



V150
Tower



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Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Right Bend at Holehouse Cottage

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		17

Scale: 1:1000 @ A3

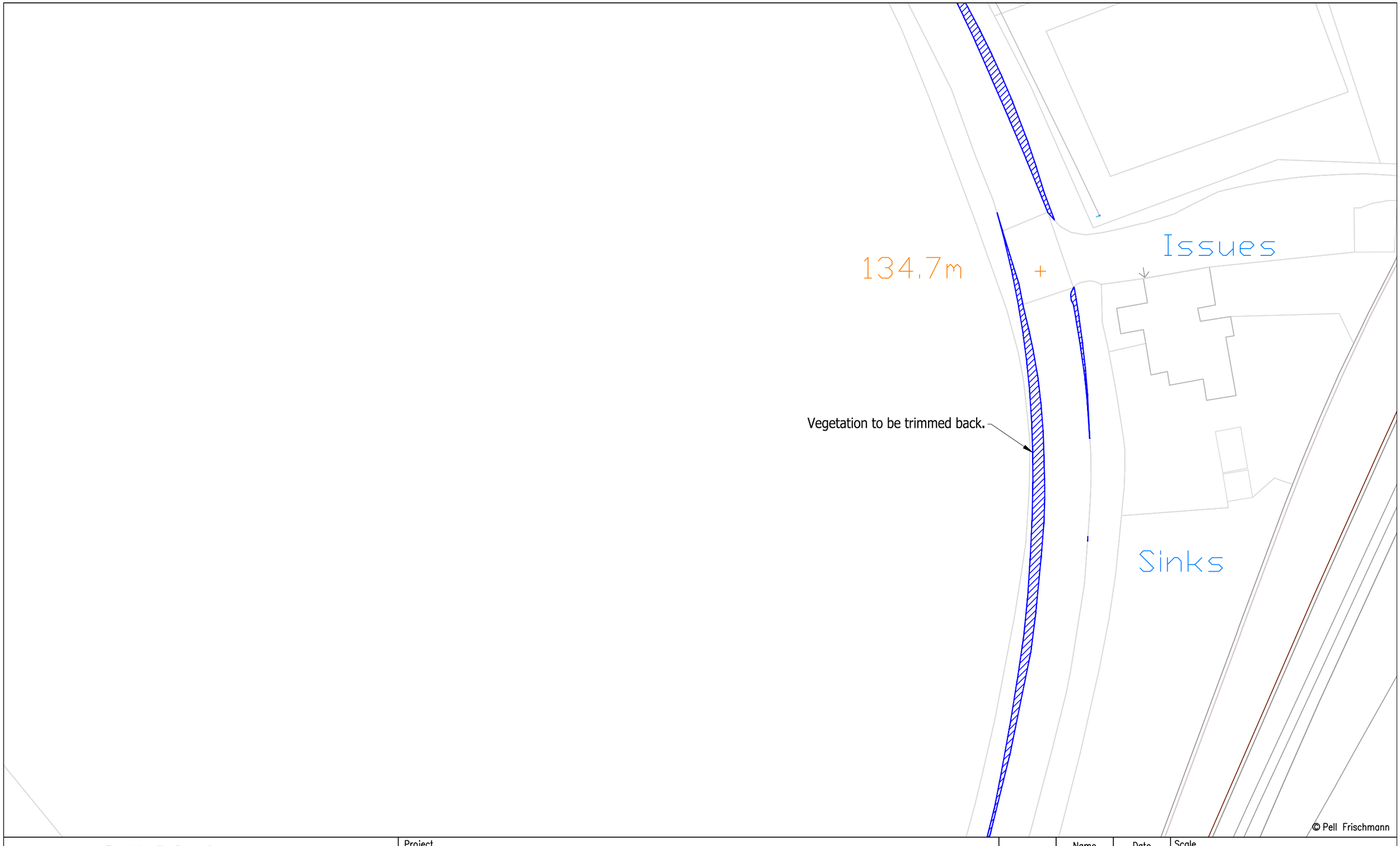
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK14

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Right Bend at Holehouse Cottage

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		17

Scale: 1:1000 @ A3

File No.: 220527 Sclenteuch SPA.dwg

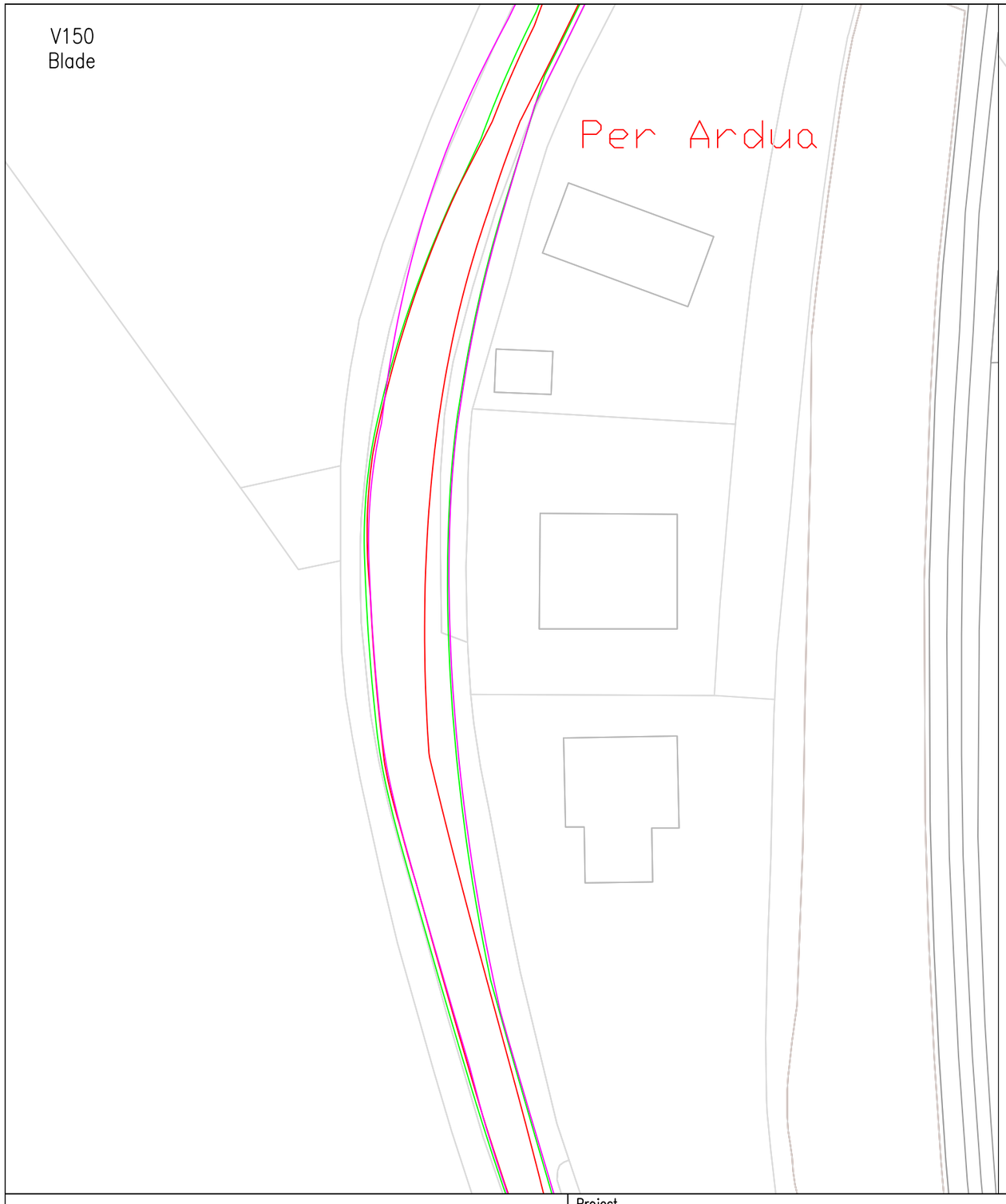
Drawing Status: Draft

Drawing No.: SK14A

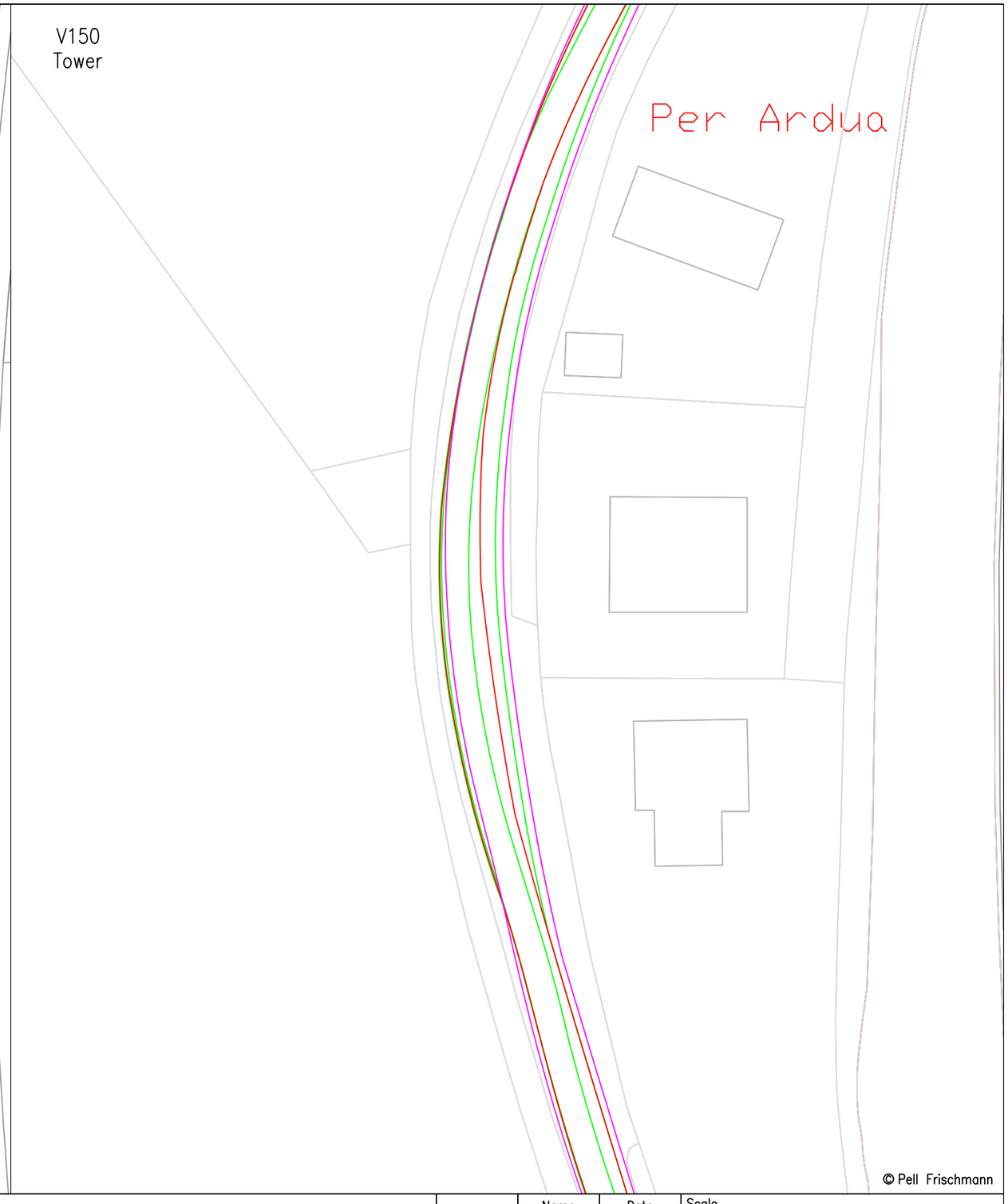
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

V150
Blade



V150
Tower



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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Holehouse Junction

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		18

Scale: 1:500 @ A3

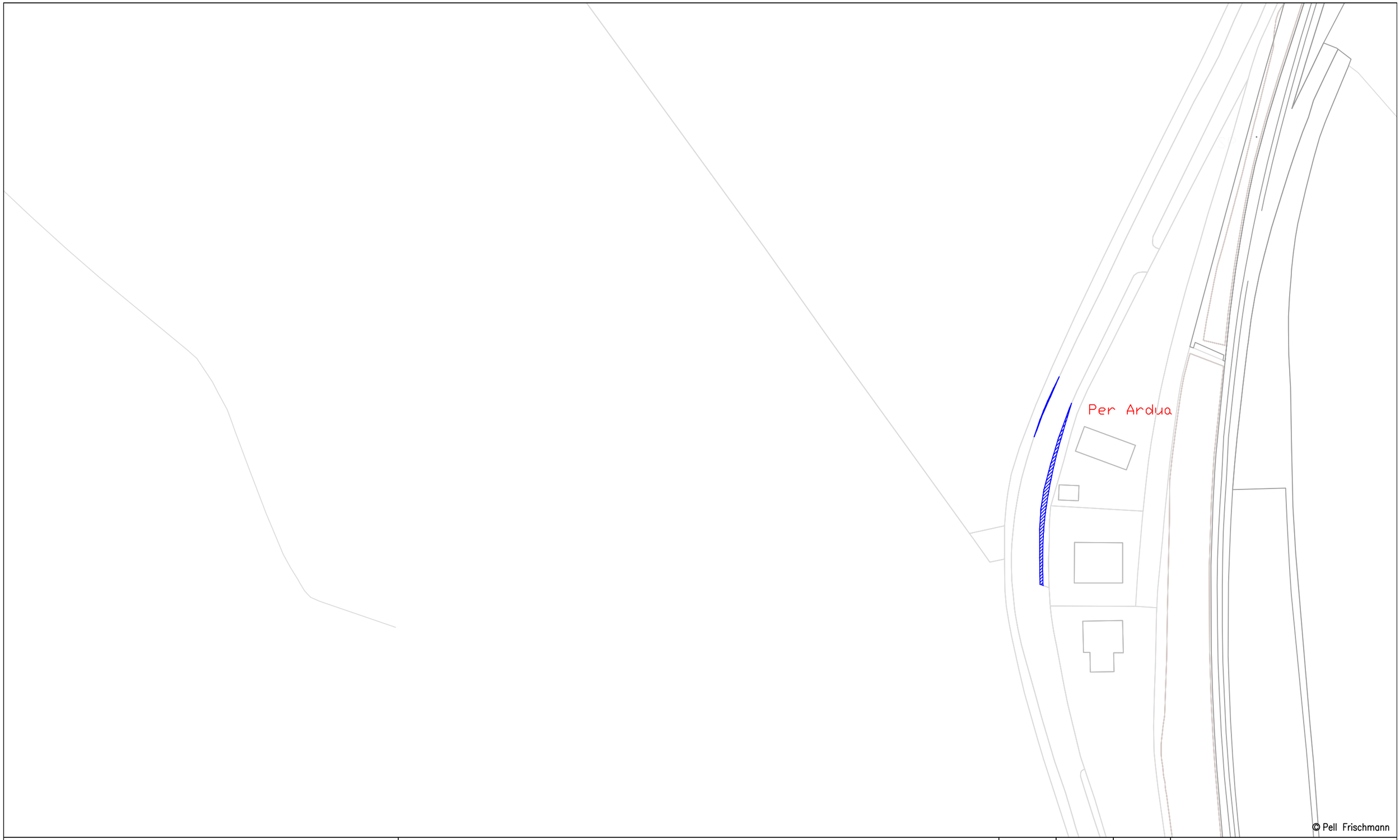
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK15

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Holehouse Junction

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		18

Scale: 1:1000 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK15A

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

V150
Blade

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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Holehouse Railway Bridge

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		19,20

Scale: 1:1000 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK16

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Holehouse Railway Bridge

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		19,20

Scale: 1:1000 @ A3

File No.: 220527 Slenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK16A

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

V150 Blade
& Tower

Vattenfall boundary in yellow.

Load bearing surface to be laid in overrun areas. Bollards, one road sign, fence and vegetation to be removed. **Overrun and oversail areas contained in Vattenfall (yellow) area.**

Vegetation to be removed.

Vegetation to be removed.

156.7m

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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over–run | Over–sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Holehouse Railway Bridge

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		19,20

Scale: 1:1000 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK16B

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

V150
Blade

V150
Tower

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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Bends near Smithston

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		21

Scale: 1:1000 @ A3

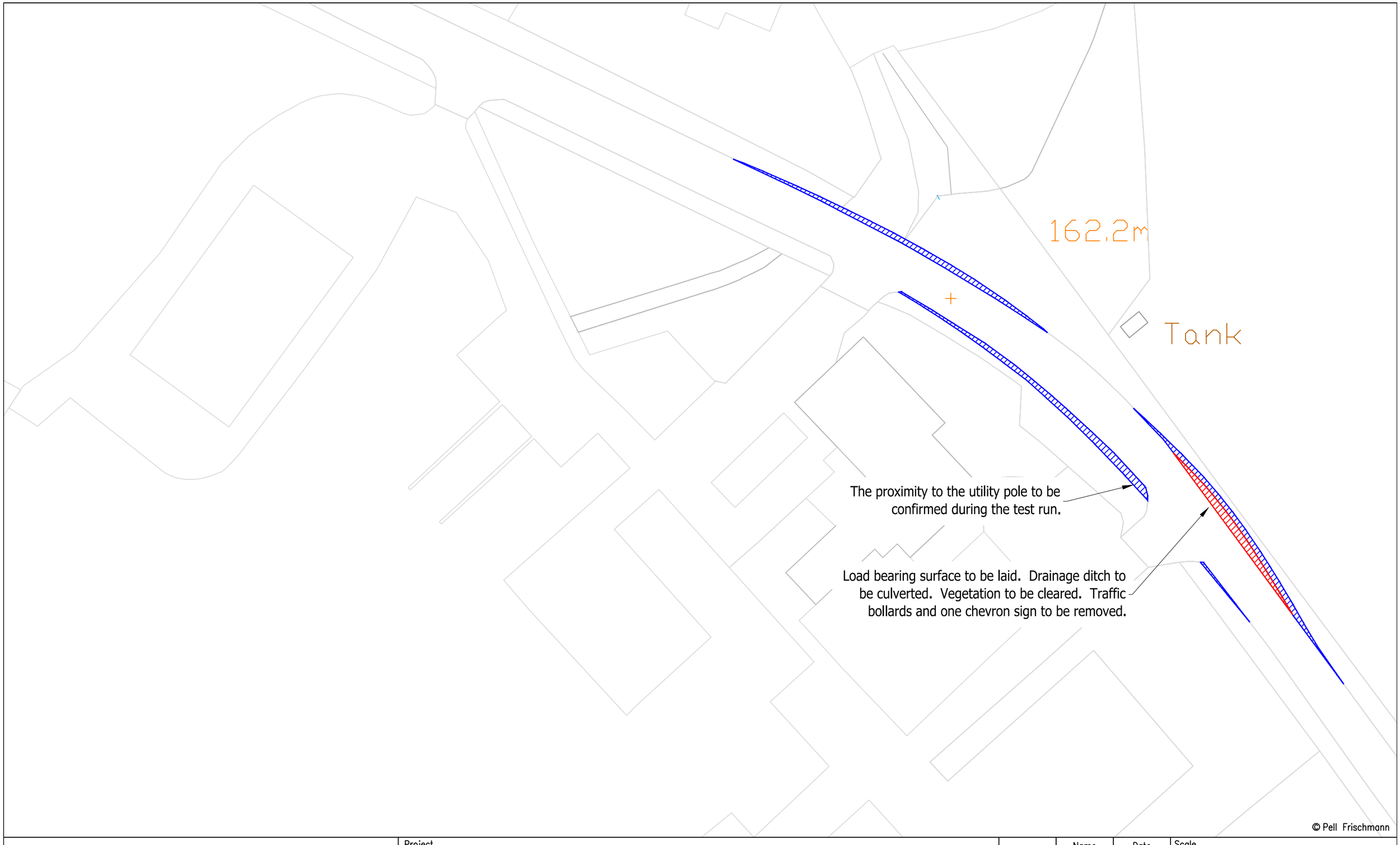
File No.: 220527 Slenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK17

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Bends near Smithston

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		21

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

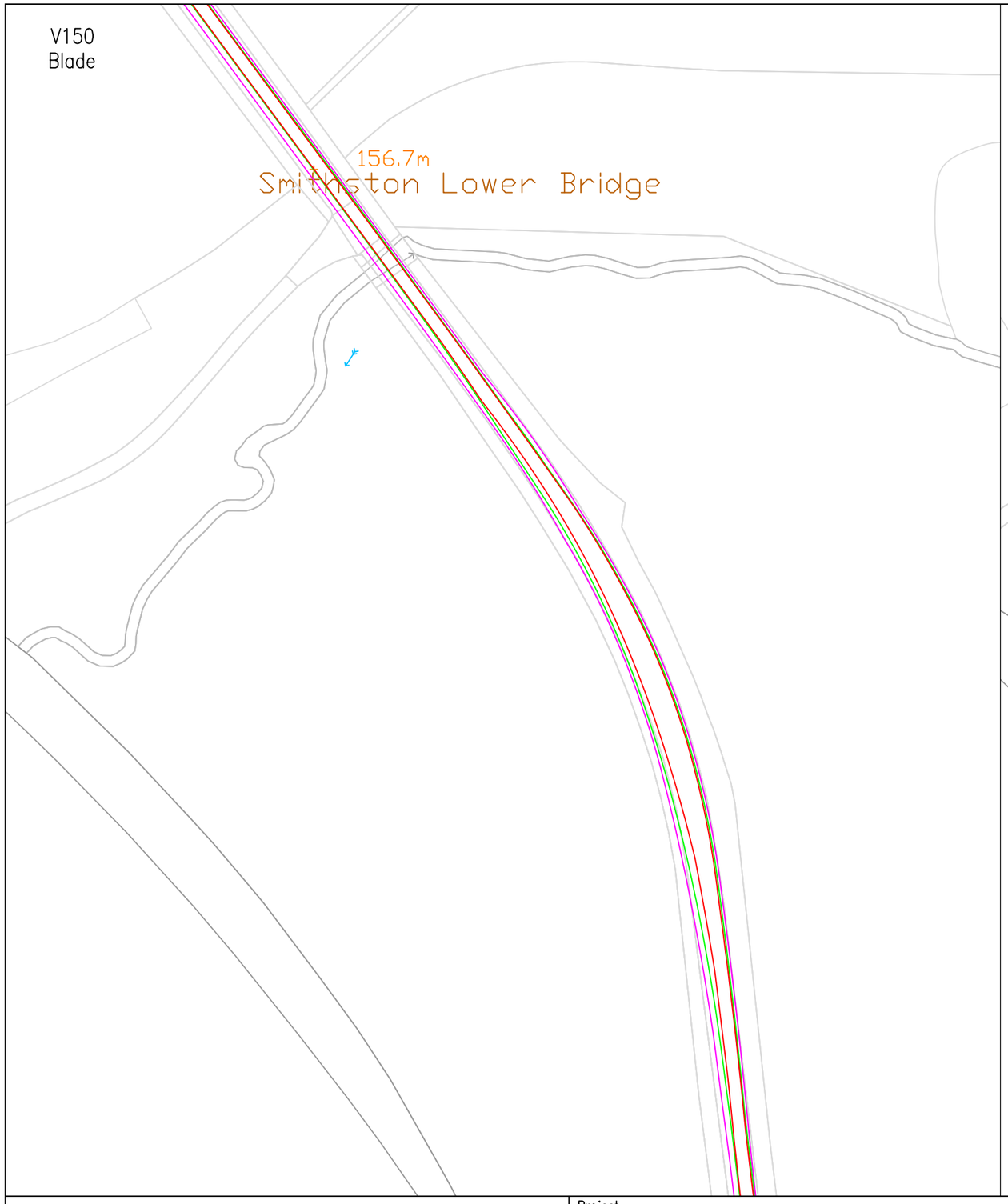
Drawing Status: Draft

Drawing No.: SK17A

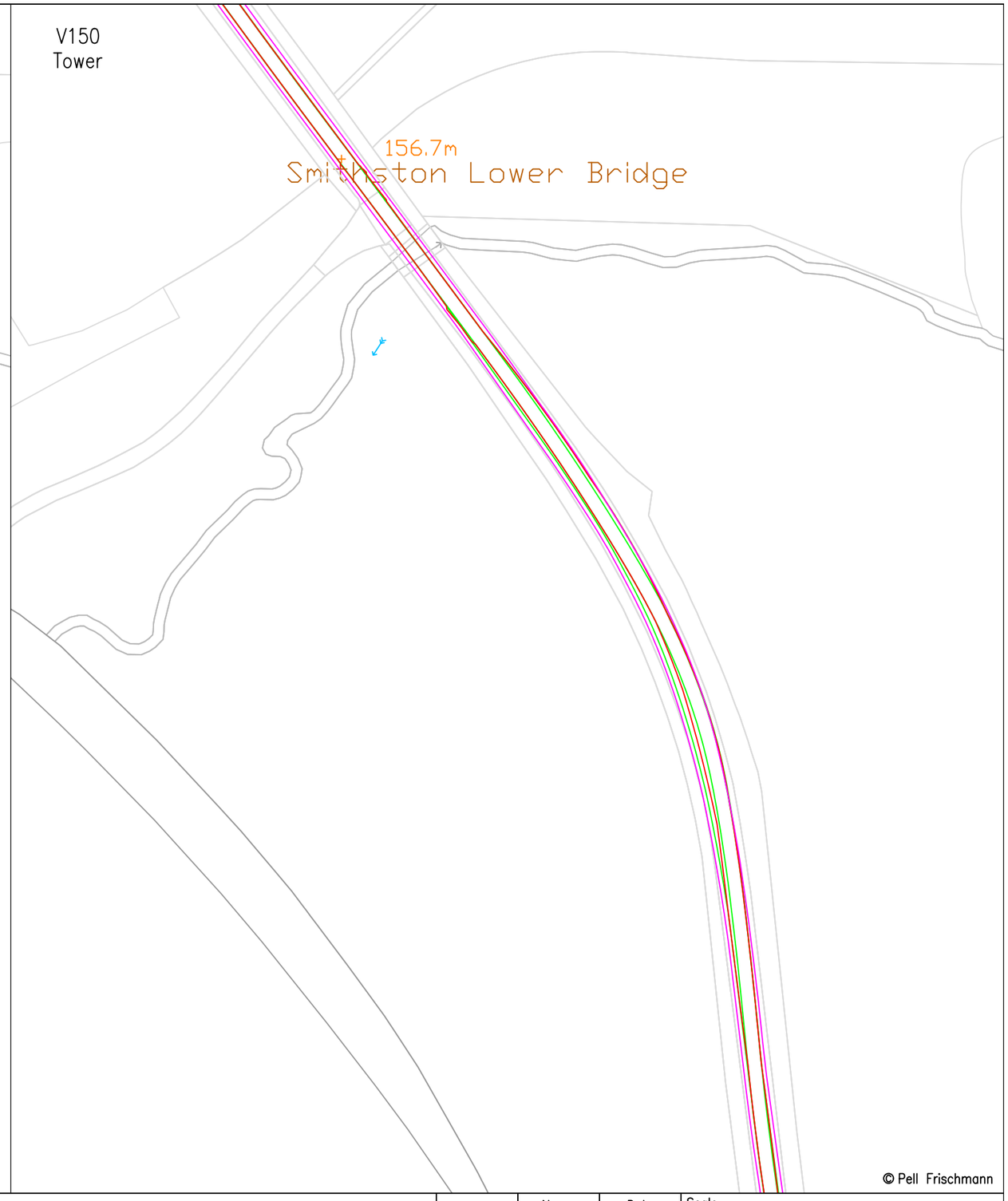
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

V150
Blade



V150
Tower



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Client: RES

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Old Smithston

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		22

Scale: 1:1000 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK18

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Old Smithston

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		22

Scale: 1:500 @ A3

File No.: 220527 Slenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK18A

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

V150
Blade

160.9m

V150
Tower

160.9m

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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Carnochan

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		23

Scale: 1:1000 @ A3

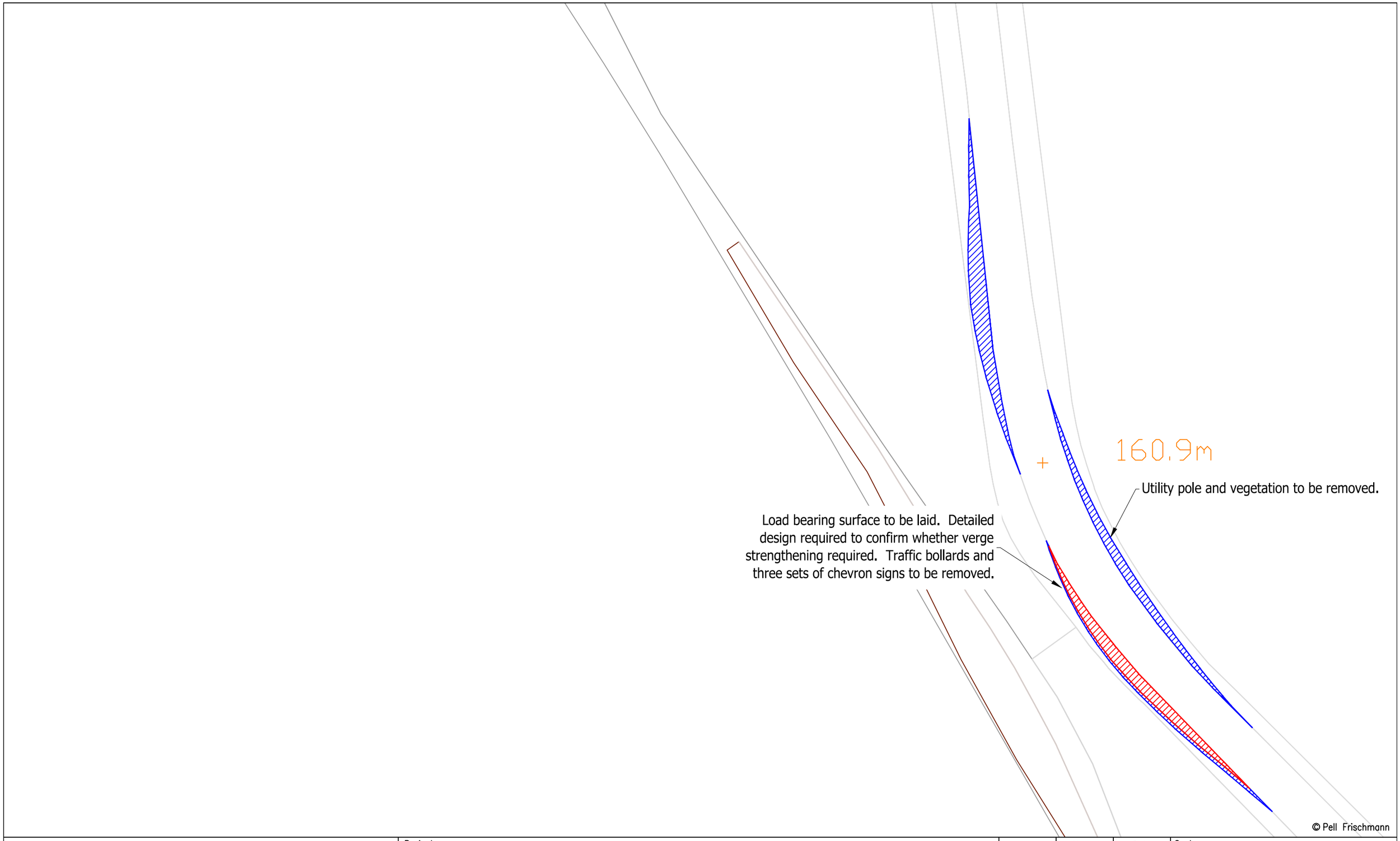
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK19

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Carnochan

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		23

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK19A

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

V150
Blade

V150
Tower

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Client: RES

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over–run; Over–sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Polnessan

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		24

Scale: 1:1000 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK20

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Polnessan

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		24

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK20A

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

V150
Blade

V150
Tower

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Client: RES

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Polnessan

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		25

Scale: 1:1000 @ A3

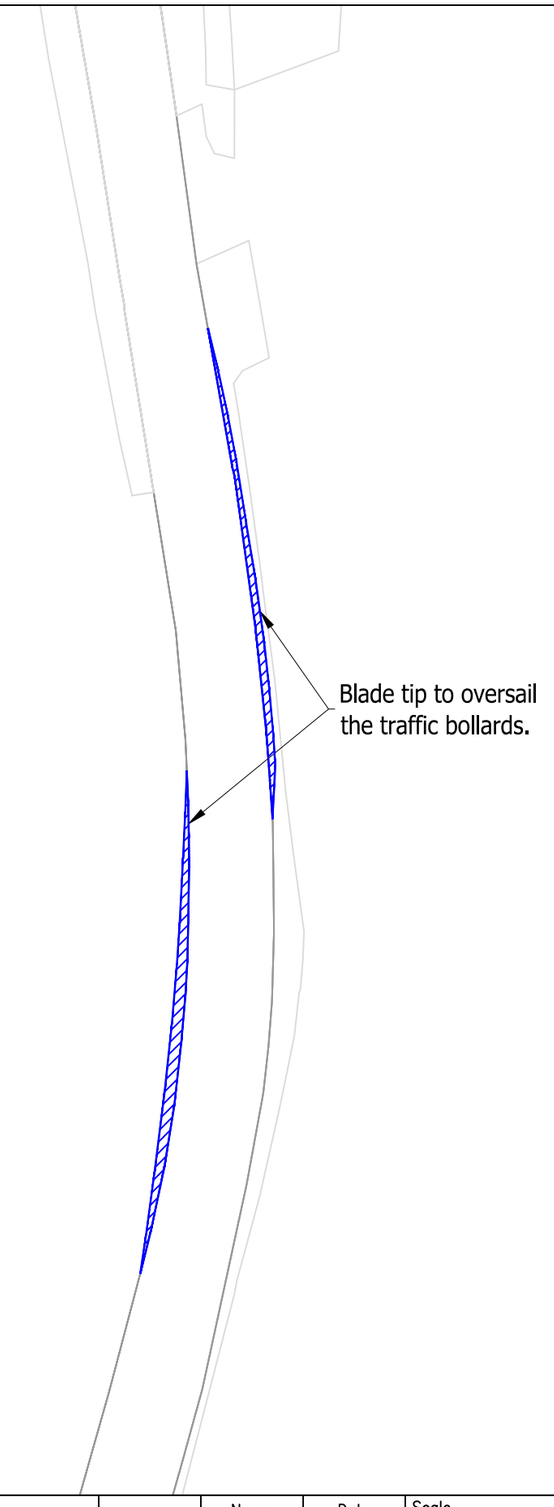
File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK21

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Polnessan

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		26

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK21A

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

V150
Blade

V150
Tower

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Client: RES

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 North of Patna

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		26

Scale: 1:1000 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK22

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: RES

Key: Wheel SPA; Body SPA; Load SPA; Indicative; Over-run; Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 North of Patna

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		26

Scale: 1:500 @ A3

File No.: 220527 Slenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK22A

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

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Client: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Patna

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		27

Scale: 1:1000 @ A3

File No.: 220527 Slenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK23

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: RES

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Over-run | Over-sail

Project: Slenteuch Wind Farm

Drawing Title: Vestas V150 Blade and Tower

SPA Location: A713 Patna

	Name	Date
Drawn	TL	23/07/20
Designed	GB	23/07/20
Checked	GB	23/07/20
Point of Interest		27

Scale: 1:500 @ A3

File No.: 220527 Sclenteuch SPA.dwg

Drawing Status: Draft

Drawing No.: SK23A

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

Appendix C
ESDAL Consultation

From: Irene.Young[redacted]
Sent: 31 May 2022 13:17
To: Gordon Buchan
Subject: RE: Sclenteuch Wind Farm

Hi Gordon,

Thanks for this information.

I will pass this to the appropriate people.

Kind Regards
Irene Young

- -

From: Gordon Buchan
Sent: 31 May 2022 13:16
To: Young I (Irene)
Subject: RE: Sclenteuch Wind Farm

Dear Irene

Yes, but the port at Ayr is too small and the access from it is unsuitable for the proposed loads

Kind regards

Gordon

Gordon Buchan

- -

From: Irene.Young[redacted]
Sent: 31 May 2022 12:53
To: Gordon Buchan
Subject: RE: Sclenteuch Wind Farm

Afternoon Gordon,

Thank you for your email.

Can I ask if Ayr Dock has been considered for this or is Ayr going to be too small.

I would be grateful for any feedback about using Ayr Dock

Kind Regards
Irene Young
Currently working from home
Network Administrator
Administration Team
Roads Directorate

From: rsgbrb
Sent: 30 May 2022 11:19
To: Gordon Buchan
Subject: RE: Sclenteuch Wind Farm

Hi Gordon,

Thank you – that's excellent.

Cheers
Tania
Tania Howell
Abnormal Loads Officer (on behalf of National Highways Historical Railways Estate)
Jacobs

- -

From: Gordon Buchan
Sent: 30 May 2022 10:51
To: rsgbrb
Subject: [EXTERNAL] RE: Sclenteuch Wind Farm

Hi Tania

No, they stay on the roundabout and don't leave it

Cheers

Gordon

Gordon Buchan

- -

From: rsgbrb
Sent: 30 May 2022 10:49
To: Gordon Buchan
Subject: RE: Sclenteuch Wind Farm
Importance: High

Hi Gordon,

Thank you for your enquiry.

I just need to check that the non-blade loads will not be going onto Scotland Street when they execute their U-turn at the Seaward Street junction of the M8 (to join the M74)?
There's a vulnerable HRE structure mostly hidden beneath the M8/M74 flyover…….

Other than this, I don't have any issues with the route

Look forward to hearing from you.

Best regards
Tania
Tania Howell
Abnormal Loads Officer (on behalf of National Highways Historical Railways Estate)
Jacobs

From: Ford, James (NRS)
Sent: 01 June 2022 10:35
To: Gordon Buchan
Subject: RE: Sclenteuch Wind Farm (NOT OFFICIAL)

NOT OFFICIAL

Gordon,

There are no issues on the proposed route with regards any Glasgow City Council Infrastructure.

Kind regards,

James Ford
Technician
Consultancy Services [Infrastructure]
Neighbourhoods, Regeneration & Sustainability
Glasgow City Council
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From: Ierland, Alan
Sent: 30 May 2022 16:35
To: Gordon Buchan
Cc: Nairn, Douglas; Ferguson, Iain; Greig, Scott; Smith, Kirsty; Walker, Ciaran
Subject: RE: Sclenteuch Wind Farm [OFFICIAL]

CLASSIFICATION: OFFICIAL

Hi Gordon,

I sent a response to RES earlier in the year re a similar enquiry, copy attached for your information.

With regards to the indicative vehicle loads attached to your email below, the gross weights of the Sclenteuch vehicles are heavier than the SKWF vehicles. However, axle weights/spacings are not dissimilar to the SKWF vehicles, albeit the Sclenteuch blade and nacelle axle weights are slightly heavier than SKWF. The Sclenteuch Drive train and tower vehicles have slightly lighter axle weights than SKWF but have more axles.

As part of the SKWF assessments the structures have also been checked for a transformer vehicle of multiple 15.27T axles at 1.5m cc and shown to be acceptable

It is thus likely that the proposed Sclenteuch vehicles will be acceptable in terms of axle weight. ARA does not however, rule out at this time the need for the Sclenteuch developer to undertake their own bridge assessments to prove the route.

A713 Boneston Bridge was strengthened by the SKWF developer for their vehicles and so should likewise be OK for the Sclenteuch WF vehicles.

The SKWF assessments have determined some constraints on how the abnormal load vehicles pass over specific structures and their proximity to certain retaining walls. Similar restrictions will likely be required for the Sclenteuch WF vehicles.

I also remind you that the adopted extents of the three A713 road widenings constructed by the South Kyle WF developer has not yet been agreed. Two of these widenings are within the section of A713 to be utilised for the Sclenteuch WF.

I trust the above is of assistance.

Regards,

Alan Ierland, BSc Hons, CENG, MICE
Design & Environment Team Manager – Ayrshire Roads Alliance
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