Pell Frischmann

Windy Standard I Repower Wind Farm

Abnormal Indivisible Load Route Survey

March 2022

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1 Introduction

1.1 Purpose of the Report

Pell Frischmann (PF) has been commissioned by Fred. Olsen Renewables Limited (FORL) to undertake a route access review of potential delivery routes for wind turbine Abnormal Indivisible Loads (AIL) associated with the construction and development of Windy Standard I Repower Wind Farm, north of Carsphairn, Dumfries and Galloway.

The Route Survey Report (RSR) has been prepared to help inform FORL on the likely issues associated with the development of the site with regards to off-site transport and access for AIL traffic. This report is based upon a desk top review and 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. A detailed site visit would still be required to fully assess the impact on the study area road network.

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

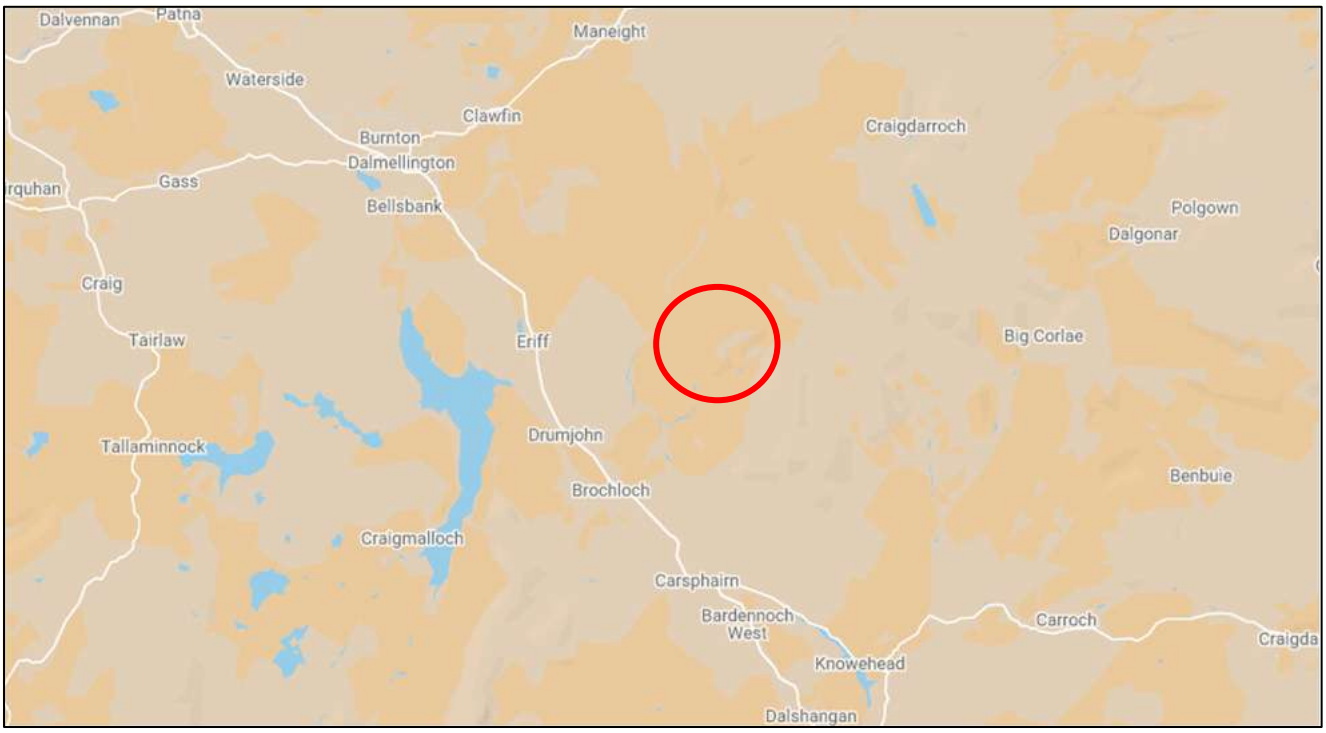
It is the responsibility of the wind turbine supplier to ensure that the entirety of the proposed access route is suitable and meets with their satisfaction. The turbine supplier will be responsible for ensuring that the finalised proposals meet with the appropriate levels of health and safety consideration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

2 Site Background

2.1 Site Location

The development site is located to the north of Carsphairn, Dumfries and Galloway. Figure 2-1 illustrates the general site location.

Figure 2-1: Site Location Plan



2.2 Candidate Turbine

FORL have indicated that they wish to consider the worst case components from the Vestas V162 turbine at a maximum tip height of 200m.

The details of the components have been provided by Vestas and are detailed in Table 2-1.

Table 2-1: Turbine Components Summary

Component	Length (m)	Width (m)	Height / Min Diameter (m)	Weight (t)
Blade	81.100	4.500	4.000	27.100
Base Tower	9.790	(4.45) 4.15	4.436	71.000
Mid Tower 1	12.040	4.436	4.448	66.500
Mid Tower 2	15.400	4.448	4.440	68.500
Mid Tower 3	14.840	4.440	4.433	55.000
Mid Tower 4	19.320	4.433	4.423	56.000
Mid Tower 5	19.880	4.423	4.168	47.000
Top Tower	25.000	4.168	4.008	52.500

For the purposes of this RSR, a worst case envelope has been determined using a combination of the top tower with the width of the base tower.

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 Superwing Carrier trailer to reduce the need for mitigation in constrained sections of the route.

The base and mid towers would be carried on a 4+7 clamp adaptor style trailer. The hub, nacelle housing, and top towers would be carried on a six-axle step frame trailer.

Figure 2-2: Superwing Carrier Trailer

Figure 2-3: Tower Trailer

3 Access Route Review

3.1 Port of Entry

The proposed Port of Entry (POE) is KGV Docks in Glasgow. The port is the closest suitable port to site and as such is in line with the Government's "Water Preferred" policy towards AIL movements.

The port has been used by renewables deliveries in the past for a number of wind farms, including Kype Muir, Kilgallioch, and Clyde wind farms.

The port has sufficient quay and storage space and is well located for the strategic trunk road network.

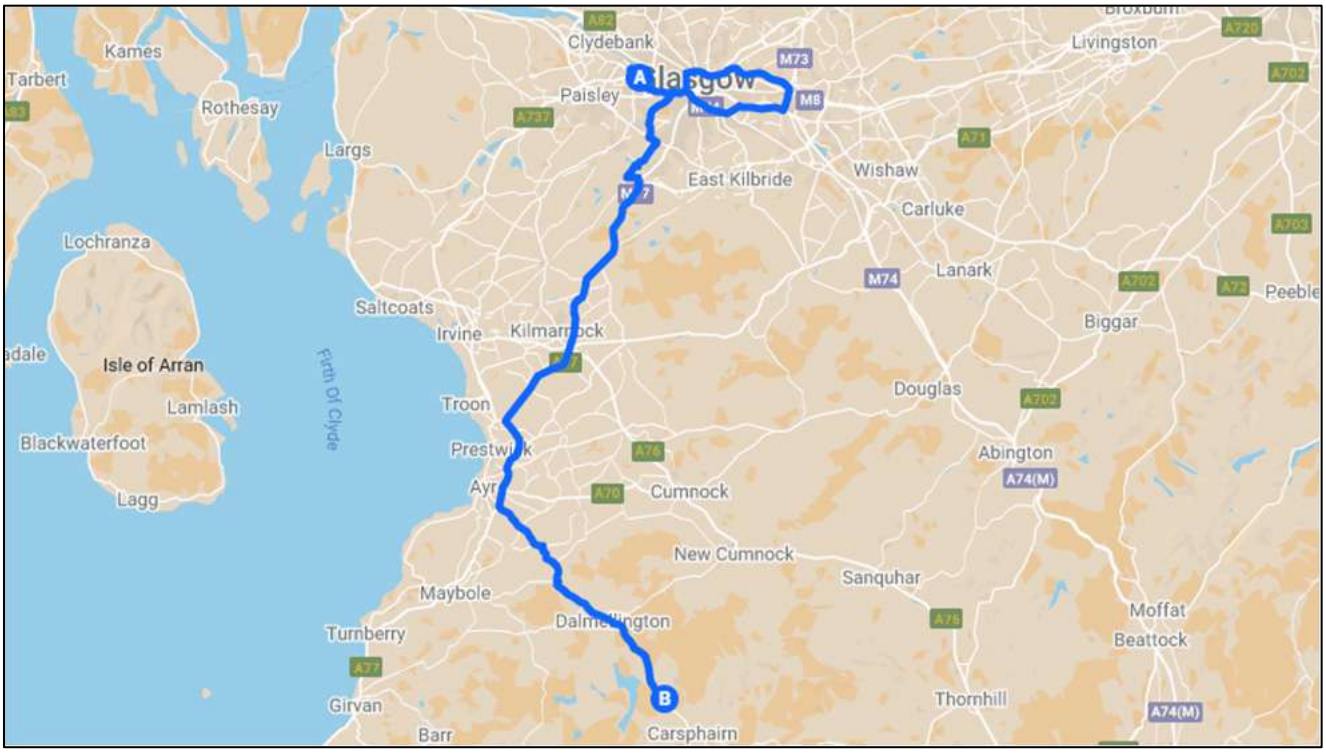
3.2 Proposed Access Route

The proposed access route is detailed below:

- Loads would exit the docks and join Kings Inch Drive northbound;
- Loads would continue on Kings Inch Drive before turning left onto the M8 slip road;
- Loads would merge onto the M8 at Junction 25A and continue east before departing and performing a U-turn back onto the M8 westbound at the Seaward Street Interchange;
- Loads would diverge from the M8 onto the M77 / A77 southbound;
- Loads would exit the A77 at Bankfield Roundabout at join the A713 southbound; and
- Loads would continue on the A713 before turning left into the site access junction north of Brochloch.

The proposed access route is illustrated in Figure 3-1.

Figure 3-1: Proposed Access Route



3.3 Route Constraints

The constraints noted on the site visit are detailed in the table below. These cover all constraints from the port access gate through to the site access junction. No consideration of the transport issues within the port or development site have been undertaken and this includes the design of the site access junction.

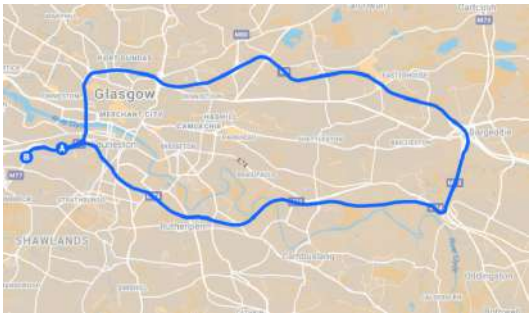
Plans illustrating the location of the constraints are provided in Appendix A.

Table 3-1: Constraint Points and Details

POI	Key Constraint	Details
1	**KGV Dock Exit** 	Loads will exit KGV and take the third exit at the roundabout to join Kings Inch Drive northbound, undertaking a **contraflow** manoeuvre. *This is a new exit arrangement for KGV Docks and works are ongoing to formalise the design of the junction to ensure its suitability for use by abnormal loads.* A swept path assessment has been undertaken. All of the required works are being delivered by Peel Ports as part of the junction upgrade works. The blade tip will over-sail the pedestrian guardrail and one bollard on Renfrew Road. Loads will over-sail the eastern verge of Kings Inch Drive, though no physical mitigation measures will be required. Swept path assessment SK01 is included in Appendix B.
2	**Kings Inch Drive Sheils Gate Roundabout** 	Loads will take the third exit at the roundabout to continue on Kings Inch Drive northbound, undertaking a **contraflow** manoeuvre. A swept path assessment has been undertaken and indicates that loads will over-sail the eastern verge on entry, though no physical mitigation measures will be required. Loads should be raised on their suspension settings to over-sail the north-eastern verge of the central island, where one lit road sign should be removed. On exit loads will over-sail the splitter island and the eastern verge, though no physical mitigation measures will be required. Swept path assessment SK02 is included in Appendix B.

POI	Key Constraint	Details
3	**Kings Inch Drive IKEA Roundabout** 	Loads will take the second exit at the roundabout to continue on Kings Inch Drive northbound, undertaking a **contraflow** manoeuvre. A swept path assessment has been undertaken and indicates that loads should be raised on their suspension settings to over-sail the north-eastern verge of the central island, where one lit road sign should be removed. On exit loads will over-sail the eastern verge, though no physical mitigation measures will be required. Swept path assessment SK03 is included in Appendix B.
4	**Kings Inch Drive Sainsbury's Roundabout** 	Loads will take the first exit at the roundabout to continue on Kings Inch Drive westbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail the eastern verge on approach to the roundabout where the trees and vegetation should be trimmed. The blade tip will over-sail the entry splitter island where one lighting column and one lit road sign should be removed. Loads will over-sail the western verge on entry, though no physical mitigation measures will be required. The blade tip will over-sail the south-western verge of the central island where one set of lit chevron signs should be removed. Loads will over-sail the south-western verge on exit, though no physical mitigation measures will be required. The blade tip will over-sail the exit splitter island where one lit road sign should be removed. Swept path assessment SK04 is included in Appendix B.
5	**Kings Inch Drive McDonald's Roundabout** 	Loads will take the second exit at the roundabout to continue on Kings Inch Drive westbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail the northern verge on approach, though no physical mitigation measures will be required. Loads will over-sail the southern verge on entry where one lighting column should be removed. Loads should be raised on their suspension settings to over-sail the southern verge of the central island where two lit road signs should be removed. Swept path assessment SK05 is included in Appendix B.

POI	Key Constraint	Details
6	**Kings Inch Drive Braehead Roundabout** 	Loads will take the second exit at the roundabout to continue on Kings Inch Drive westbound. A swept path assessment has been undertaken and indicates that no physical mitigation measures will be required. Swept path assessment SK06 is included in Appendix B.
7	**Kings Inch Drive / Mayo Avenue Junction** 	Loads will turn left to exit Kings Inch Drive and join Mayo Avenue southbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail the central reservation on the approach arm and the northern verge of the adjacent carriageway. Escorts should hold back oncoming traffic during deliveries. The blade tip will over-sail the pedestrian guardrail on the splitter island where three traffic signals should be lowered. Loads will over-sail the inside verge of the turn where one VMS road sign should be removed and the pedestrian call post should be lowered. Swept path assessment SK07 is included in Appendix B.
8	**M8 Merge**  	Loads will pass under the M8 and join the M8 eastbound at Junction 25A. A swept path assessment has been undertaken and indicates that loads will over-sail the safety barrier on the inside verge of the bend. Vehicle escorts must ensure that loads can merge safely. Swept path assessment SK08 is included in Appendix B.
9	**M8 Junction 21 (Towers Only)** 	All non-blade loads will depart the M8 at Junction 21. Blade loads will continue on the M8. Vehicle escorts must ensure that trailing traffic does not attempt to merge into the convoy at this location.

POI	Key Constraint	Details
10	**Seaward Street Interchange (Towers Only)** 	Loads will proceed around the interchange and join the M8 westbound. A swept path assessment has been undertaken and indicates that loads will over-sail the northern verge slightly prior to the junction, though no physical mitigation measures will be required. Loads will require access to all lanes of the interchange and no other vehicles should be permitted to enter the roundabout. Swept path assessment SK09 is included in Appendix B.
11	**M8 / M73 Slip Road (Blades Only)** 	Blade loads are unable to navigate the interchange and so will continue on the M8 to the east of Glasgow. Blade loads will then utilise the M73 and M74 to re-join the other loads on the M8 westbound.
12	**M8 Junction 22** 	Loads will exit onto the slip road at Junction 22 and join the A77 / M77 southbound. Vehicle escorts must ensure that trailing traffic does not attempt to merge into the convoy at this location.
13	**A77 Dutch House Roundabout** 	Loads will take the first exit at the roundabout to continue on the A77 southbound. A swept path assessment has been undertaken and indicates that no physical mitigation measures will be required. Swept path assessment SK10 is included in Appendix B.

POI	Key Constraint	Details
14	**A77 Sandyford Toll Roundabout** 	Loads will take the second exit at the roundabout to continue on the A77 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail the eastern verge on entry where one lighting column should be removed. Loads will over-run and over-sail through the central island where a load bearing surface should be laid and land reprofiling is required. One set of lit chevron signs and one lit road sign should be removed. The trees and vegetation should be cleared. Loads will over-sail the exit splitter island where one road sign should be removed. Swept path assessment SK11 is included in Appendix B.
15	**A77 Whitletts Roundabout** 	Loads will take the second exit at the roundabout to continue on the A77 southbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail the safety barrier on the approach arm where the weed vegetation should be trimmed. Swept path assessment SK12 is included in Appendix B.
16	**A77 Holmston Roundabout** 	Loads will take the second exit at the roundabout to continue on the A77 southbound. A swept path assessment has been undertaken and indicates that loads will over-run and over-sail through the central island where a load bearing surface should be laid and two sets of chevron signs should be removed. Swept path assessment SK13 is included in Appendix B.
17	**A77 Bankfield Roundabout** 	Loads will take the first exit at the roundabout to join the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail the entry splitter island and the eastern verge on entry, though no physical mitigation measures will be required. The blade tip will over-sail the eastern verge of the central island where one set of lit chevron signs should be removed. Loads will over-sail the eastern verge on exit where one lighting column and one lit road sign should be removed. The vegetation should be trimmed. The blade tip will over-sail the exit splitter island where one lighting column and one road sign should be removed. Swept path assessment SK14 is included in Appendix B.

POI	Key Constraint	Details
18	**A713 Ailsa Hospital** 	Loads will continue on the A713 southbound, passing the hospital junction using a contraflow transit. A swept path assessment has been undertaken and indicates that loads will over-sail both verges through the junction, though no physical mitigation measures will be required. Swept path assessment SK15 is included in Appendix B.
19	**A713 Boneston Bridge** 	Loads will continue on the A713 southbound over Boneston Bridge. The bridge should be crossed at caution due to historic weight restrictions.
20	**A713 Milreoch**  	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail the safety barrier on the northern verge prior to the bend where the trees and vegetation should be trimmed. The blade tip will over-sail the bollards on the splitter island where three road signs should be removed. The blade tip will over-sail the bollards on the eastern verge through the bend where two sets of chevron signs should be removed. Loads will over-run and over-sail the inside verge of the bend where a load bearing surface should be laid, and the fence should be removed. The trees and vegetation should be cleared. **Third party land** will be required. The works at this location are greater than those being constructed by Vattenfall for their South Kyle project. The tree canopy should be trimmed to ensure that there is a 5m clear head height. Trimming works can be subject to ecological time constraints and early engagement with the relevant authority is recommended. Swept path assessment SK16 is included in Appendix B.

POI	Key Constraint	Details
21	**A713 Holehouse**  	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail the inside verge of the first right-hand bend where the vegetation should be trimmed. Loads will over-run and over-sail the outside verge where a load bearing surface should be laid, and six chevron signs and a series of bollards should be removed. The blade tip will over-sail several bollards. The blade tip will over-sail several bollards on the outside verge of the second right-hand bend where one utility pole and one chevron sign should be removed. Loads will over-sail the inside verge where the vegetation should be trimmed. Swept path assessment SK17 is included in Appendix B.
22	**A713 Holehouse Junction**   	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail the bollards on the outside verge of the first left-hand bend. Loads will over-sail the inside verge, though no physical mitigation measures will be required. Loads will over-run and over-sail the outside verge of the following left-hand bend where a load bearing surface should be laid, and the land may require reprofiling. A series of bollards, fence, gate, and two chevron signs should be removed. The vegetation should be cleared. **Third party land** will be required. Loads will over-sail the inside verge, though no physical mitigation measures will be required. The blade tip will over-sail several bollards on the outside verge of the third left-hand bend where three chevron signs should be removed. Loads will over-sail the inside verge where the vegetation should be cleared. The blade tip will over-sail the bollards on the outside verge of the final right-hand bend where three chevron signs should be removed. Loads will over-sail the inside verge, though no physical mitigation measures will be required. Swept path assessment SK18 is included in Appendix B. The works at this location are greater than the accommodation works that Vattenfall have recently undertaken for South Kyle Wind Farm.

POI	Key Constraint	Details
23	**A713 Smithston** 	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-run and over-sail the outside verge of the bend where one utility pole, three chevron signs, and several bollards should be removed. The blade tip will over-sail several bollards. The trees and vegetation should be trimmed. Loads will over-sail the inside verge where one utility pole should be removed. Swept path assessment SK19 is included in Appendix B.
24	**A713 Old Smithston**  	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail the inside verge of the first right-hand bend where the vegetation should be trimmed. Loads will over-run and over-sail the outside verge of the following left-hand bend where a load bearing surface should be laid, and verge strengthening may be required. Several bollards and four chevron signs should be removed. The blade tip will over-sail several bollards. The trees and vegetation should be cleared. Loads will over-sail the inside verge where one utility pole should be removed. The trees and vegetation should be cleared. Loads will over-sail both verges of the final right-hand bend. The vegetation should be trimmed on the inside verge. The clearances to overhead power lines at this location should be reviewed with the utility provider prior to loads moving to ensure that there is sufficient head height and flashover protection for all temperature ranges. Swept path assessment SK20 is included in Appendix B.
25	**A713 north of Polnessan** 	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail several bollards on the outside verge of the bend where one utility pole, one lighting column, two road signs, and two chevron signs should be removed. The trees and vegetation should be trimmed. Loads will over-sail the inside verge where the bollards should be removed, and the vegetation should be cleared. Swept path assessment SK21 is included in Appendix B.
26	**A713 Polnessan** 	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail both verges through the bend. On the inside verge the bollards should be removed and the vegetation trimmed. Swept path assessment SK22 is included in Appendix B.

POI	Key Constraint	Details
27	**A713 northeast of Downieston** 	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail both verges through the bends, though no physical mitigation measures will be required. Swept path assessment SK23 is included in Appendix B.
28	**A713 Downieston** 	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail both verges through the bends, though no physical mitigation measures will be required. Swept path assessment SK24 is included in Appendix B.
29	**A713 Patna**  	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-run and over-sail the outside verge of the right-hand bend where a load bearing surface should be laid and one lighting column removed. Loads will over-sail the inside verge, though no physical mitigation measures will be required. Loads should proceed with caution over the traffic calming measures to avoid suspension damage and straining of retaining devices. Temporary parking restrictions are required to allow loads to utilise the entire carriageway through the section. Swept path assessment SK25 is included in Appendix B.
30	**A713 Hillend** 	Loads will continue on the A713 southbound. Loads are likely to over-sail the northern verge through the first bend, though no physical mitigation measures will be required.

POI	Key Constraint	Details
31	**A713 west of Laight** 	Loads will continue on the A713 southbound. The vertical profile of the road at this location is pronounced and should be reviewed during the test run stage to ascertain if tar wedges will be required to prevent grounding.
32	**A713 southwest of Laight** 	Loads will continue on the A713 southbound. The vertical profile of the road at this location is pronounced and should be reviewed during the test run stage to ascertain if tar wedges will be required to prevent grounding.
33	**A713 Minnivey Cottage** 	Loads will continue on the A713 southbound. Loads are likely to over-sail the northern verge through the bend, though no physical mitigation measures will be required.
34	**A713 Buchan's Bridge** 	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-run and over-sail the north-eastern verge prior to the bridge where a load bearing surface should be laid, and verge strengthening may be required. The bollards, one road sign, and four chevron signs should be removed. Loads will over-sail the south-western verge slightly, though no physical mitigation measures will be required. Swept path assessment SK26 is included in Appendix B.
35	**A713 east of Wight's Knowe** 	Loads will continue on the A713 southbound. Loads should proceed with caution over the traffic calming measures to avoid suspension damage and straining of retaining devices.

POI	Key Constraint	Details
36	**A713 Dalmellington War Memorial** 	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail one bollard on the outside verge of the left-hand bend. Loads will over-sail the inside verge slightly, though no physical mitigation measures will be required. Loads should proceed with caution over the traffic calming measures to avoid suspension damage and straining of retaining devices. Swept path assessment SK27 is included in Appendix B.
37	**A713 north of Bellsbank** 	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail the inside verge of the right-hand bend where the trees should be trimmed. The blade tip will over-sail the outside verge of the following left-hand bend where one road sign should be removed. Loads will over-sail the inside verge, though no physical mitigation measures will be required. Temporary parking restrictions are required to allow loads to utilise the entire carriageway through the section. Swept path assessment SK28 is included in Appendix B.

POI	Key Constraint	Details
38	**A713 Kirn Bridge**  	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail several bollards on the outside verge of the first right-hand bend where four chevron signs and one road sign should be removed. Loads will over-sail the inside verge where the vegetation should be trimmed and verge reprofiling may be required. The blade tip will over-sail one junction box on the south-western verge prior to the bridge. Loads should be raised on their suspension settings to over-sail both stone bridge parapets and the safety barrier on the north-eastern verge. The vertical clearance to the south-western parapet should be confirmed during the test run. Both bridge railings should be removed. Several bollards and two chevron signs should be removed from the north-eastern verge, and stone posts should be removed from the south-western verge. **Third party land** will be required on both verges. The blade tip will over-sail several bollards on the eastern verge following the bridge. Loads will over-sail the western verge, though no physical mitigation measures will be required. Swept path assessment SK29 is included in Appendix B. The works proposed at this location will be larger than those currently being constructed by Vattenfall for their South Kyle project.
39	**A713 east of Pennyarthur**  	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail the bollards on the outside verge of the right-hand bend where two chevron signs should be removed. Loads will over-sail the inside verge where the fence should be removed, and the trees and vegetation should be cleared. **Third party land** will be required. The blade tip will over-sail the bollards and fence on the outside verge of the following left-hand bend where two chevron signs should be removed. **Third party land** will be required. Loads will over-sail the inside verge, though no physical mitigation measures will be required. The vertical profile of the road at this location is pronounced and should be reviewed during the test run stage to ascertain if tar wedges will be required to prevent grounding. Swept path assessment SK30 is included in Appendix B.

POI	Key Constraint	Details
40	**A713 Mossdale**  	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail the south-western verge prior to the bends where one road sign and one bollard should be removed. The blade tip will over-sail several other bollards. The blade tip will over-sail the bollards on the outside verge of the right-hand bend where the trees should be trimmed. Loads will over-sail the inside verge where one road sign should be removed and trees and vegetation trimmed. A land search is recommended to confirm the extent of the adopted land boundary. It is recommended that the vertical clearance through this section is assessed during the test run to ensure adequate ground clearance is available. Swept path assessment SK31 is included in Appendix B.
41	**A713 Mossdale Craig** 	Loads will continue on the A713 southbound. *The OS mapping from this location onwards does not accurately represent the road alignment. As such, available aerial resources were used to provide an indicative road edge. It is recommended that the swept path assessments are repeated on a topographical base survey to confirm the proposed mitigation.* A swept path assessment has been undertaken and indicates that loads will over-sail both verges through the section, though no physical mitigation measures will be required. Swept path assessment SK32 is included in Appendix B.

POI	Key Constraint	Details
42	**A713 north of Bryan's Heights**  	Loads will continue on the A713 southbound. *The OS mapping from this location onwards does not accurately represent the road alignment. As such, available aerial resources were used to provide an indicative road edge. It is recommended that the swept path assessments are repeated on a topographical base survey to confirm the proposed mitigation.* A swept path assessment has been undertaken and indicates that the blade tip will over-sail the bollards on the outside verge of the first right-hand bend where one utility pole and four chevron signs should be removed. The trees and vegetation should be trimmed. A land search is recommended to confirm the extent of the adopted land boundary. Loads will over-sail the inside verge where the wooden posts should be removed, and the trees and vegetation should be cleared. A land search is recommended to confirm the extent of the adopted land boundary. The blade tip will over-sail the bollards on the outside verge of the following left-hand bend where three chevron signs should be removed, and the trees and vegetation should be trimmed. Loads will over-sail the inside verge where one utility pole should be removed. The clearances to overhead power lines at this location should be reviewed with the utility provider prior to loads moving to ensure that there is sufficient head height and flashover protection for all temperature ranges. Swept path assessment SK33 is included in Appendix B.
43	**A713 Craig House** 	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that loads will over-sail both verges through the first slight right-hand bend, though no physical mitigation measures will be required. The blade tip will over-sail the bollards on the outside verge of the following right-hand bend. Loads will over-sail the inside verge where the fence should be removed. **Third party land** will be required. Loads will over-sail both verges following the bends, though no physical mitigation measures will be required. Swept path assessment SK34 is included in Appendix B.

POI	Key Constraint	Details
44	**A713 Horse Knowe** 	Loads will continue on the A713 southbound. *The OS mapping from this location onwards does not accurately represent the road alignment. As such, available aerial resources were used to provide an indicative road edge. It is recommended that the swept path assessments are repeated on a topographical base survey to confirm the proposed mitigation.* A swept path assessment has been undertaken and indicates that the blade tip will over-sail the bollards on the outside verge of the left-hand bend. Loads will over-sail the inside verge where one utility pole should be removed. Loads will over-sail both verges through the following right-hand bend, though no physical mitigation measures will be required. Swept path assessment SK35 is included in Appendix B.
45	**A713 Troston Knowe**   	Loads will continue on the A713 southbound. A swept path assessment has been undertaken and indicates that the blade tip will over-sail the bollards on the outside verge of the first left-hand bend. Loads will over-sail the inside verge slightly, though no physical mitigation measures will be required. Loads will over-run and over-sail the outside verge of the following right-hand bend where a load bearing surface should be laid, and the bollards should be removed. The blade tip will over-sail the fence. The trees should be cleared. **Third party land** will be required. Loads will over-sail the inside verge where the vegetation should be trimmed. Loads will over-sail the western verge following the bends, though no physical mitigation measures will be required. Swept path assessment SK36 is included in Appendix B.

POI	Key Constraint	Details
46	**Site Access Junction** 	Loads will turn left into the existing site access junction. The junction should be upgraded in accordance with local authority and turbine manufacturer standards.

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, there can be errors in this data source.

Where provided by the client, topographical data has been utilised. Please note that PF cannot accept liability for errors on the data source, be that OS base mapping 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. The feedback from the consultees is provided in Appendix C where received.

Table 3-2: ESDAL Contacts

Organisation	Email Address
Police Scotland	osdwindfarmabnormalloads@scotland.pnn.police.uk
Network Rail	AbLoadsESDAL@networkrail.co.uk
Historic Rail Estate	rsgbrb@jacobs.com
Scottish Canals	SCAbnormal.Loads@scottishcanals.co.uk
Transport Scotland	AbnormalLoads@transport.gov.scot
Dumfries & Galloway Council	esdal@dumgal.gov.uk
Ayrshire Roads Alliance	abloads@ayrshireroadsalliance.org
Renfrewshire Council*	ei@renfrewshire.gov.uk

Glasgow City Council	abnormalloads@glasgow.gov.uk
M8 DBFO	m8dbfo.abloads@amey.co.uk
Connect M77/GSO PLC	M77DBFOAbnormalLoads@balfourbeatty.com
Amey	SWAbloads@amey.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.

3.6 Land Ownership

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

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

3.7 Summary Issues

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

- That any necessary topographical surveys are undertaken, and the swept path results repeated;
- A review of axle loading on structures along the entire access route with the various road agencies is undertaken immediately prior to the loads being transported in case of last minute changes to structures;
- A review of 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 FORL to prepare a Route Survey Report to examine the issues associated with the transport of AIL turbine components to Windy Standard I Repower Wind Farm.

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 report is presented for consideration to FORL. Various road modifications, structural reviews, and interventions are required to successfully access the site. If these are undertaken, access to the consented wind farm site is considered feasible.

4.2 Further Actions

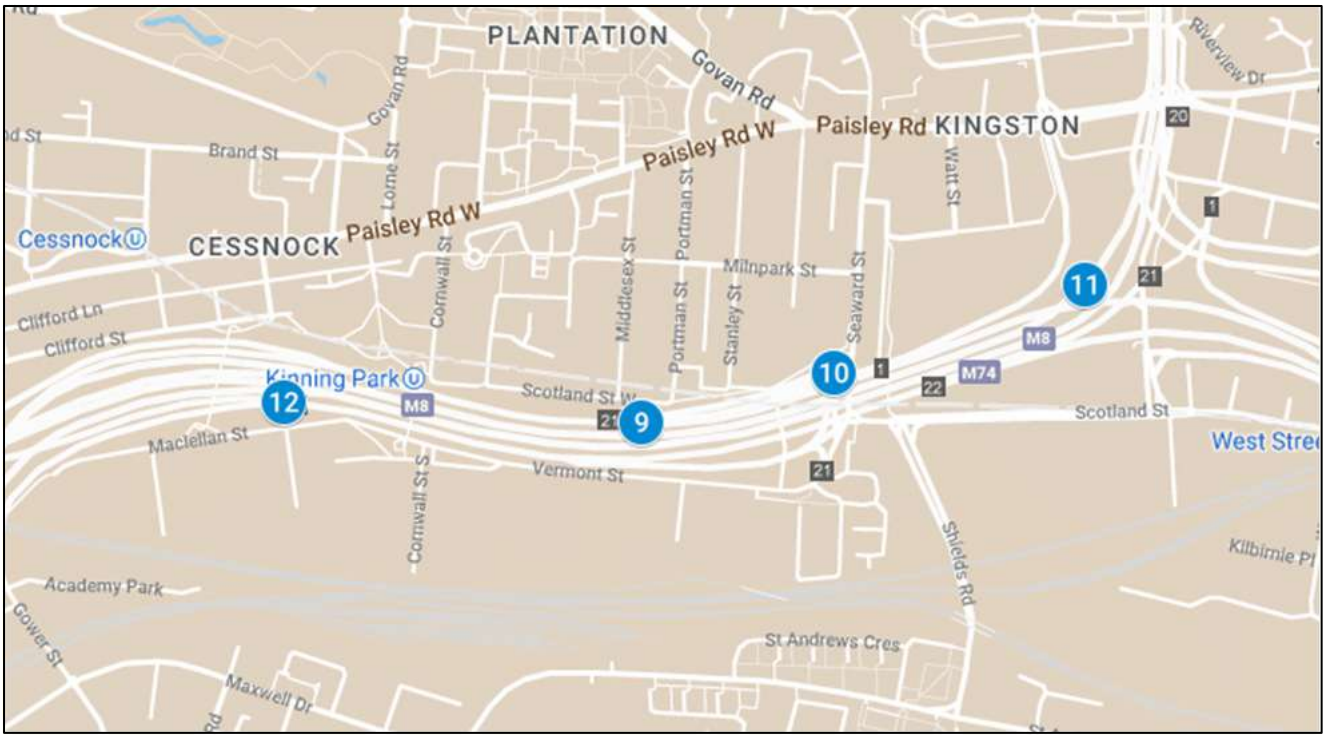
The following actions are recommended to pursue the transport and access issues further:

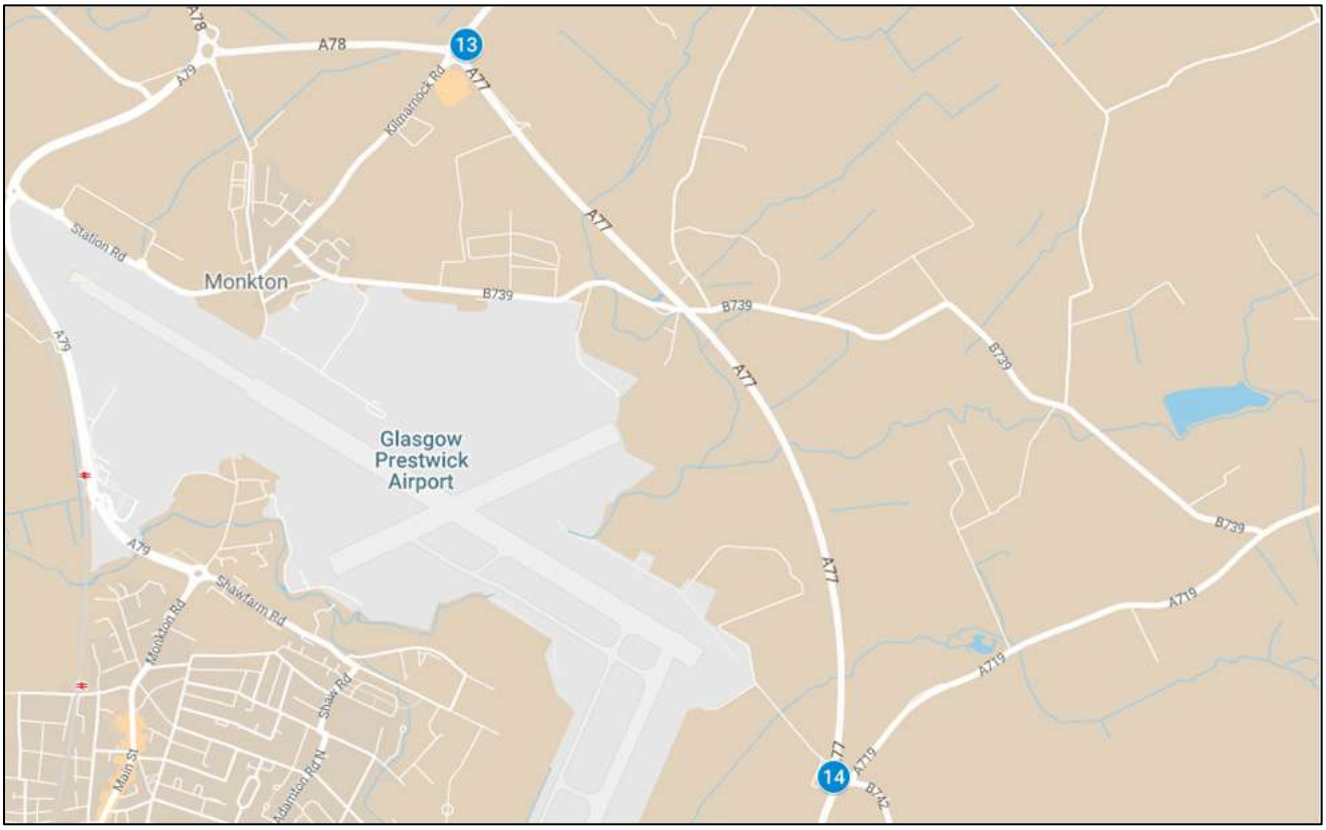
- Prepare detailed mitigation design proposals to help inform the land option / consultee discussions;
- Obtain the necessary land options;
- Undertake discussion with the affected utility providers and roads agencies;
- Obtain the necessary statutory licences to enable the mitigation measures; and
-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

Appendix A Points of Interest

An electronic version of the plans can be found here:

https://www.google.com/maps/d/u/0/edit?mid=1YQOBiAQnPbGBYpc1ZctI7afM0FWMwXU2&usp=sharing

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Adamton Rd N
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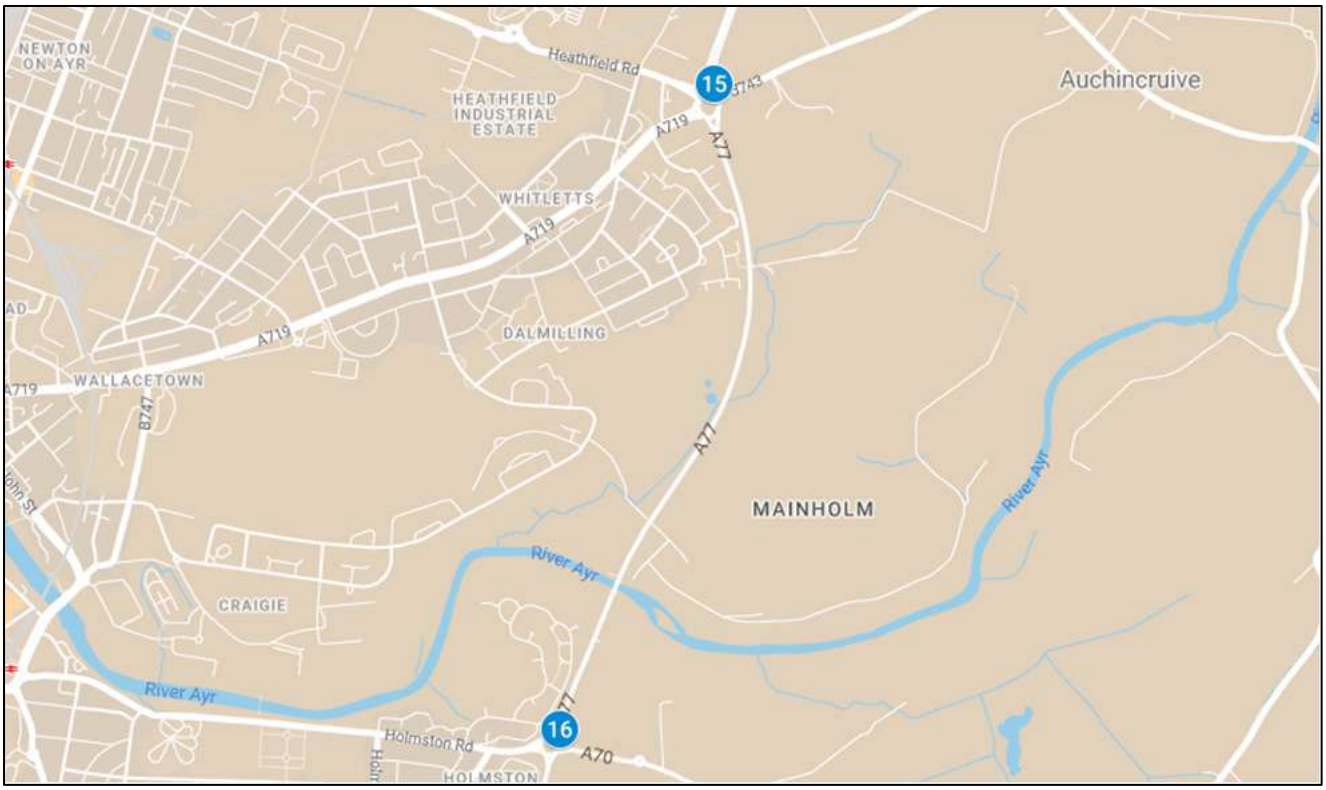
14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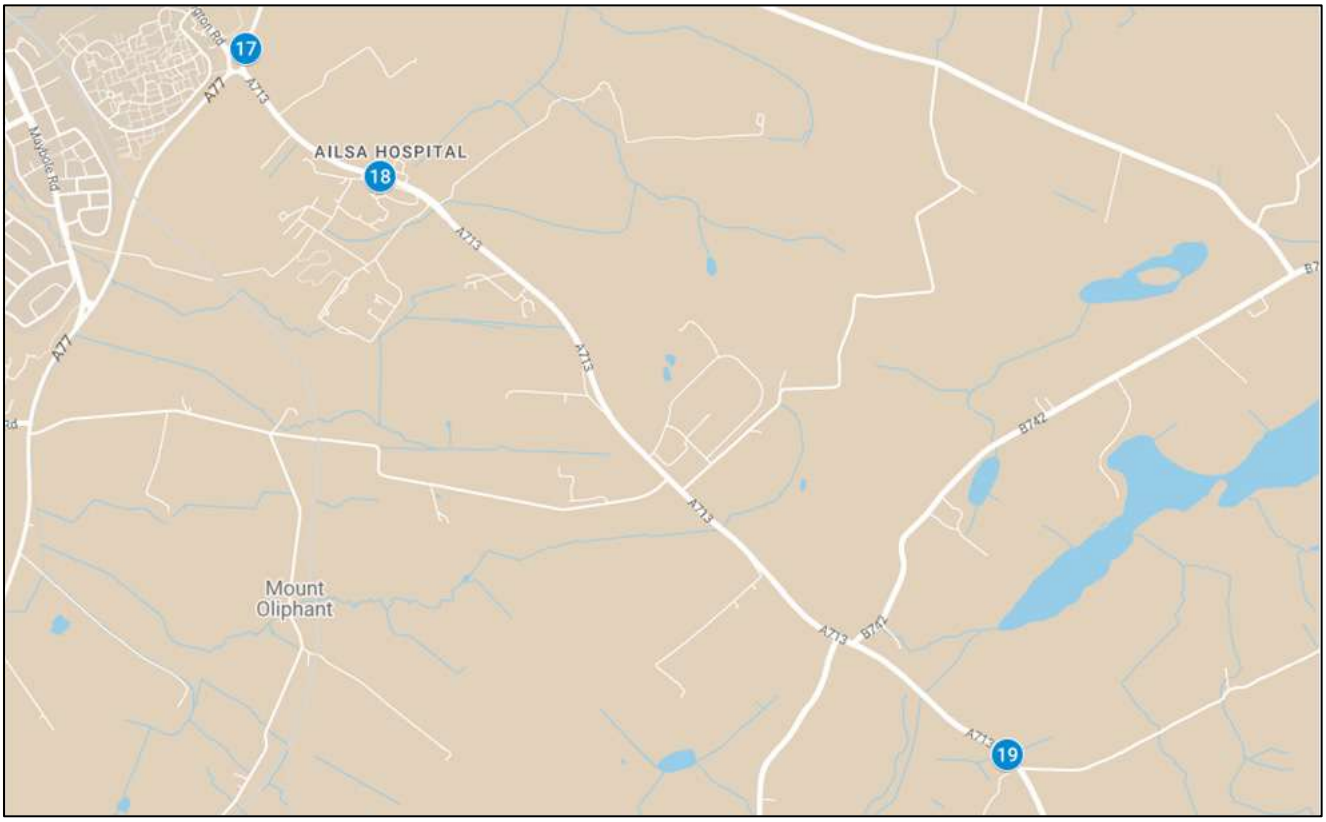
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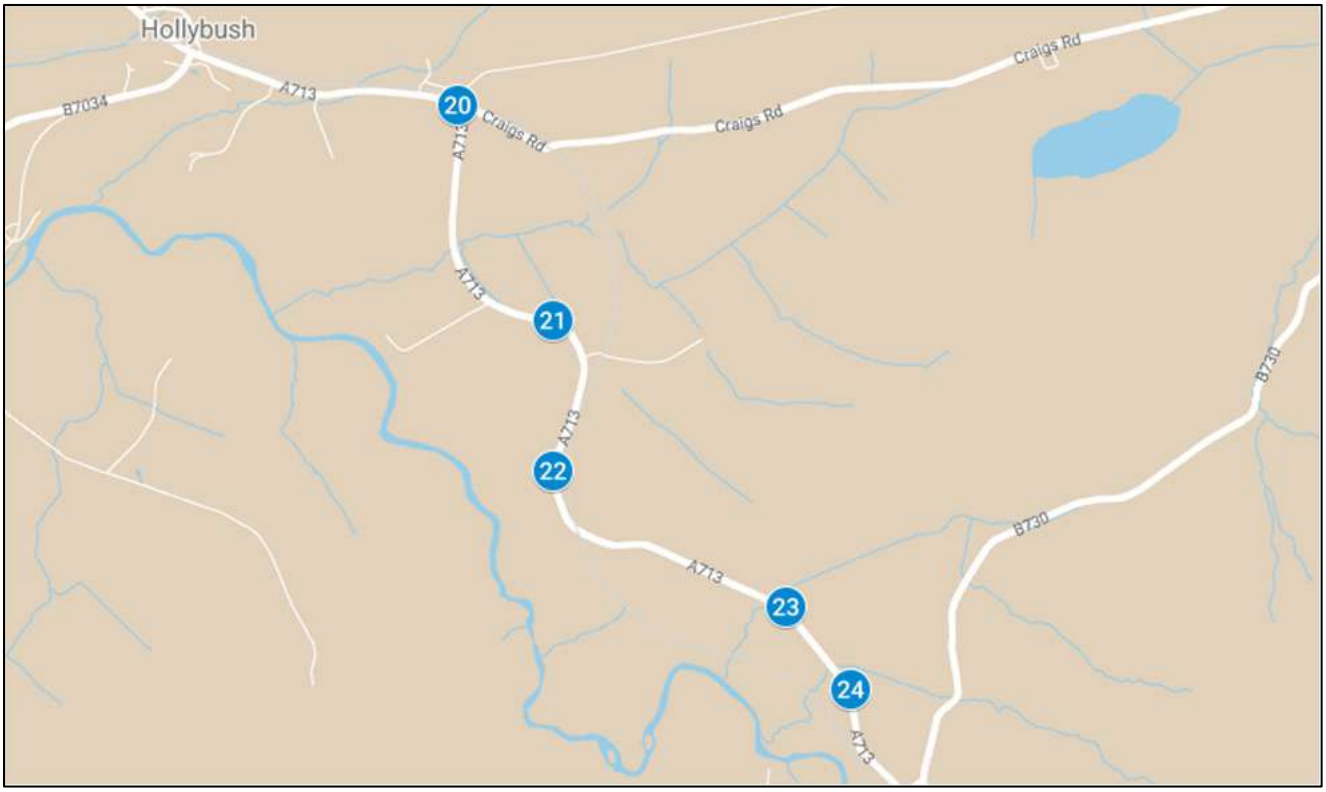
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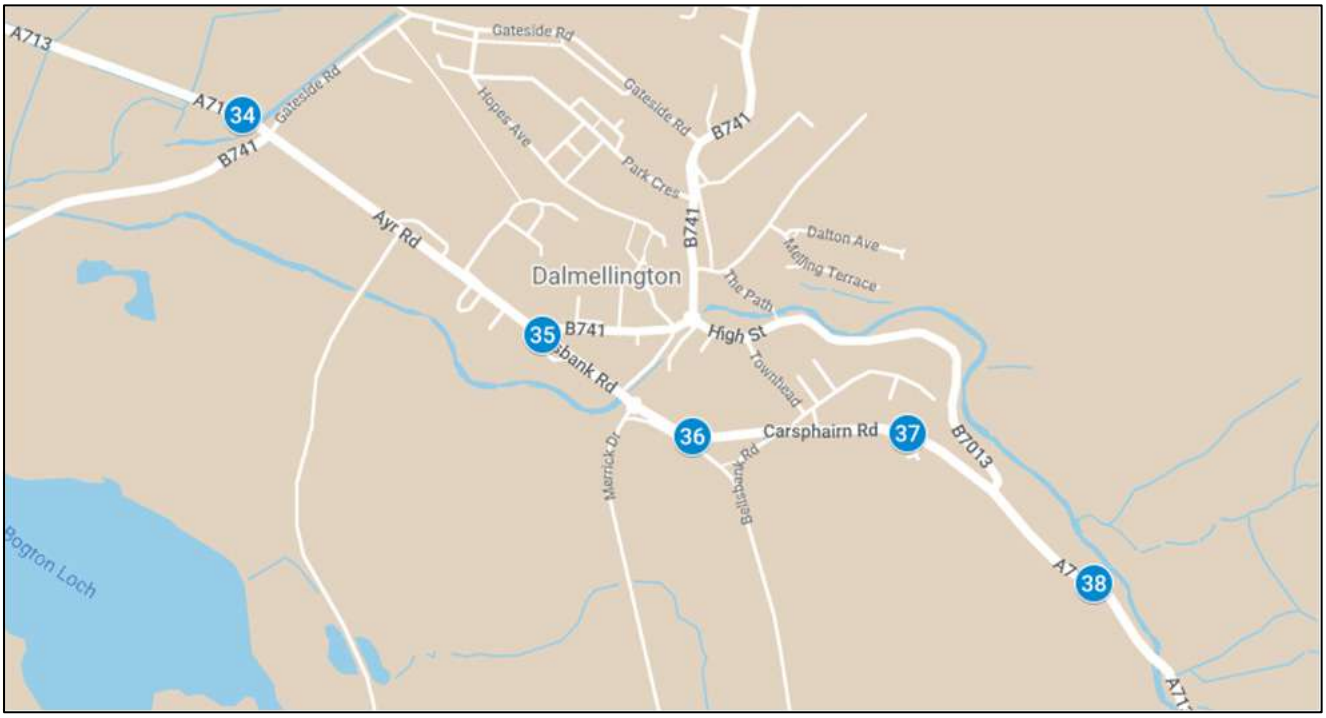
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Melfing Terrace
Ayr Rd
Dalmellington
The Path
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B741
High St
Townhead
Bogton Loch
36
Carsphairn Rd
37
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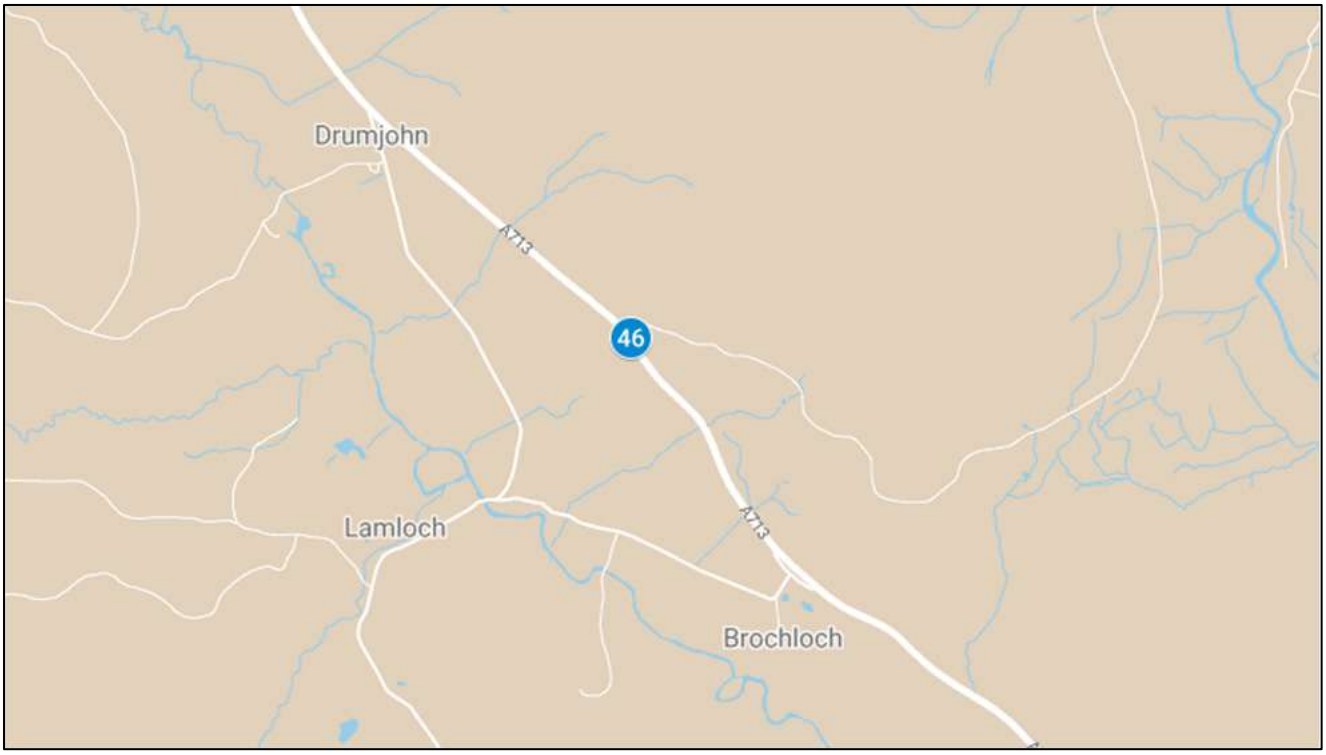
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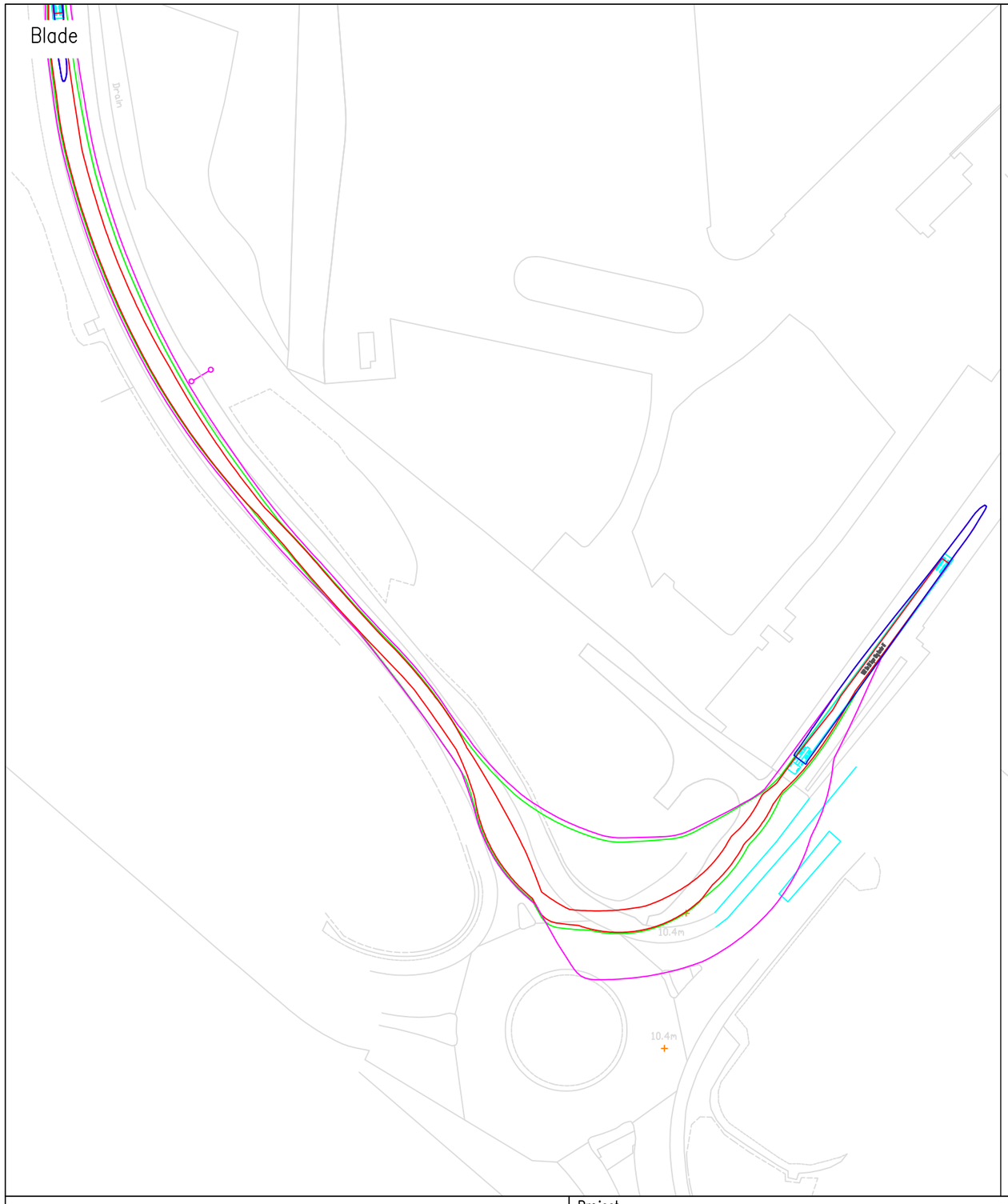
A713
Brochloch

Appendix B Swept Path Assessments



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

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: KGV Dock Exit

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		1

Scale: 1:1250 @ A3

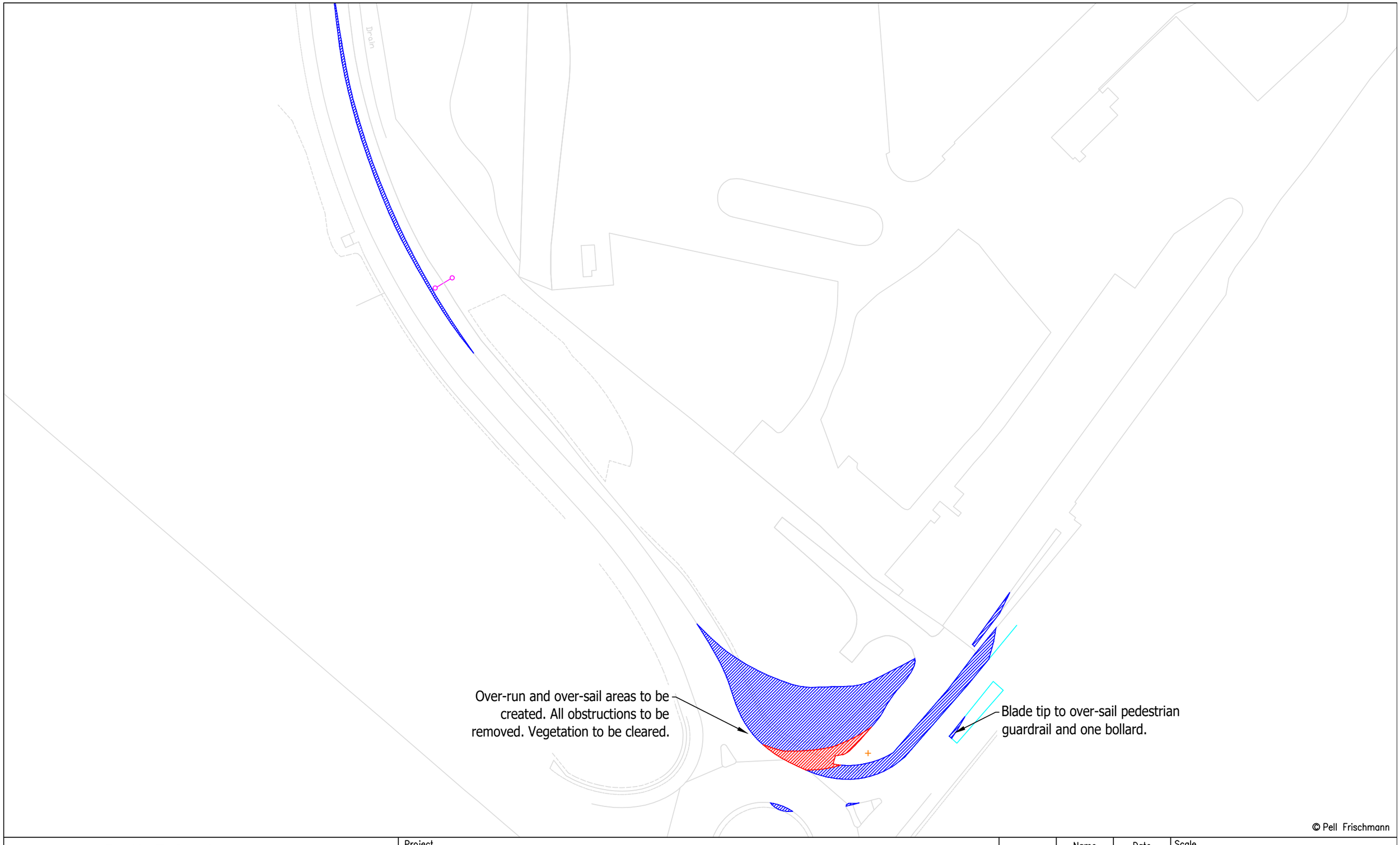
File No.: 220314 Brockloch Rig Tracking.dwg

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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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: KGV Dock Exit

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		1

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

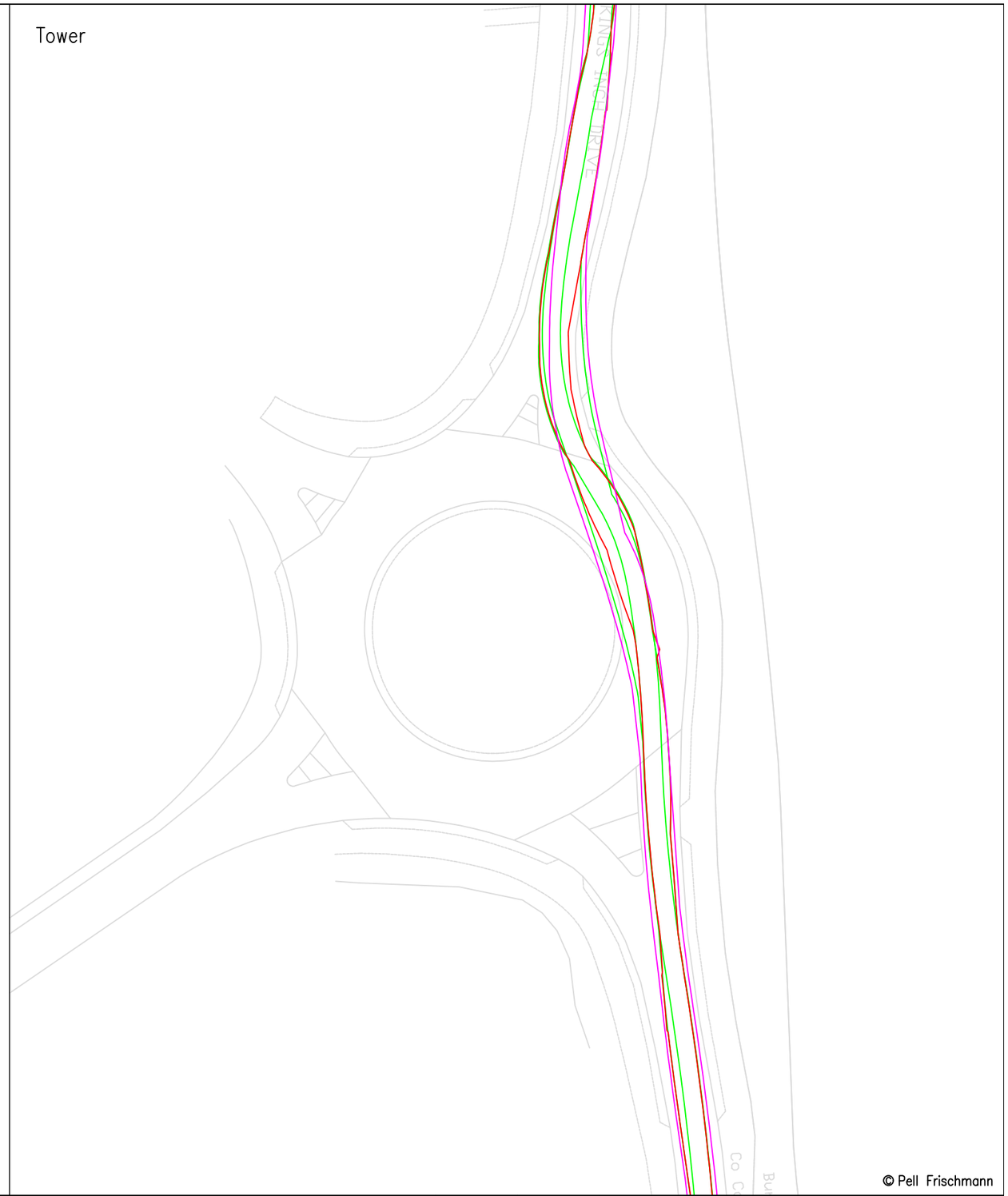
Drawing No.: SK01A

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

Blade

Tower



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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive Sheils Gate Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		2

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK02

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

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive Sheils Gate Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		2

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.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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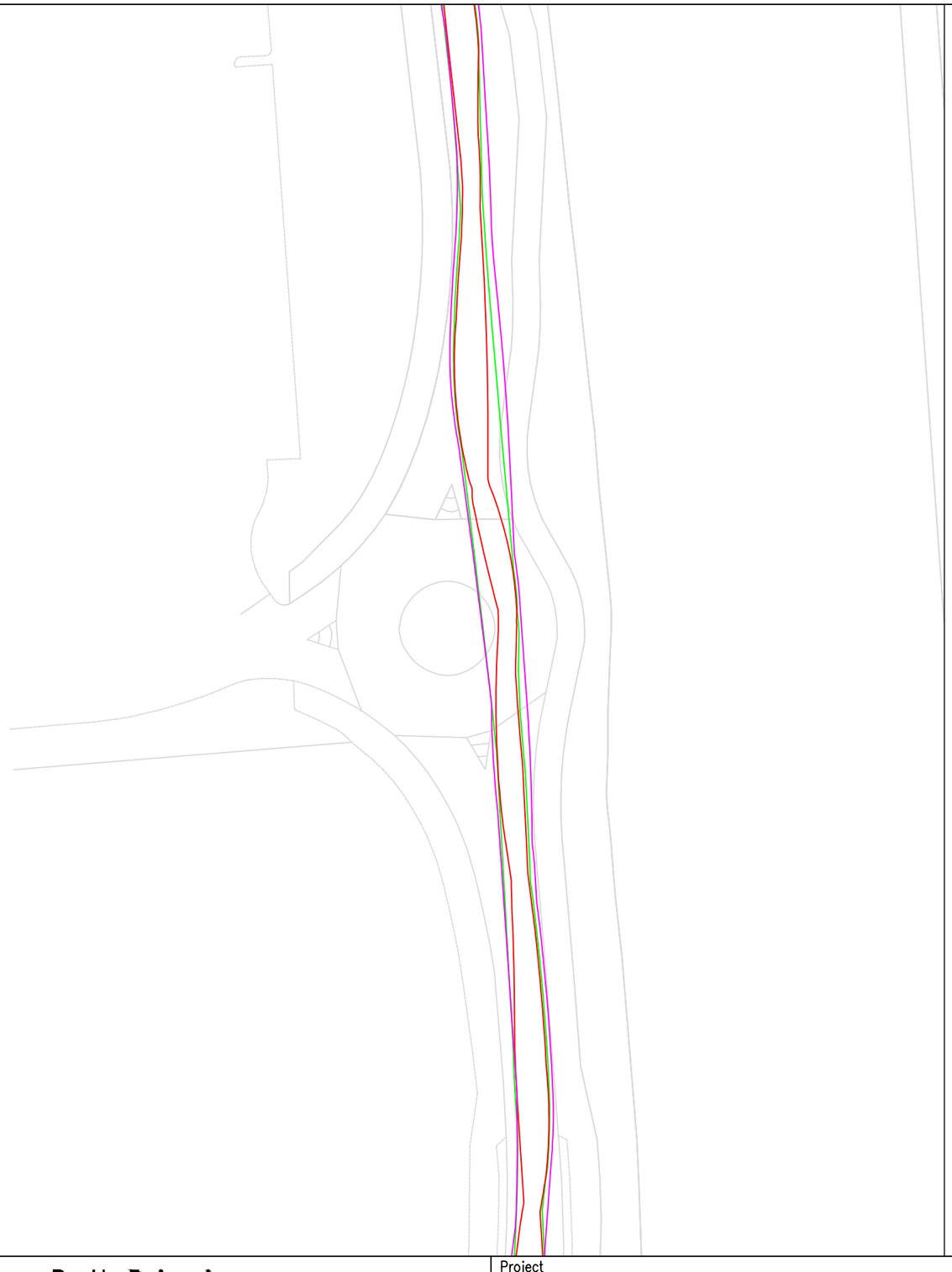

Tower

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive IKEA Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		3

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive IKEA Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		3

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK03A

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

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive Sainsbury's Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		4

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK04

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

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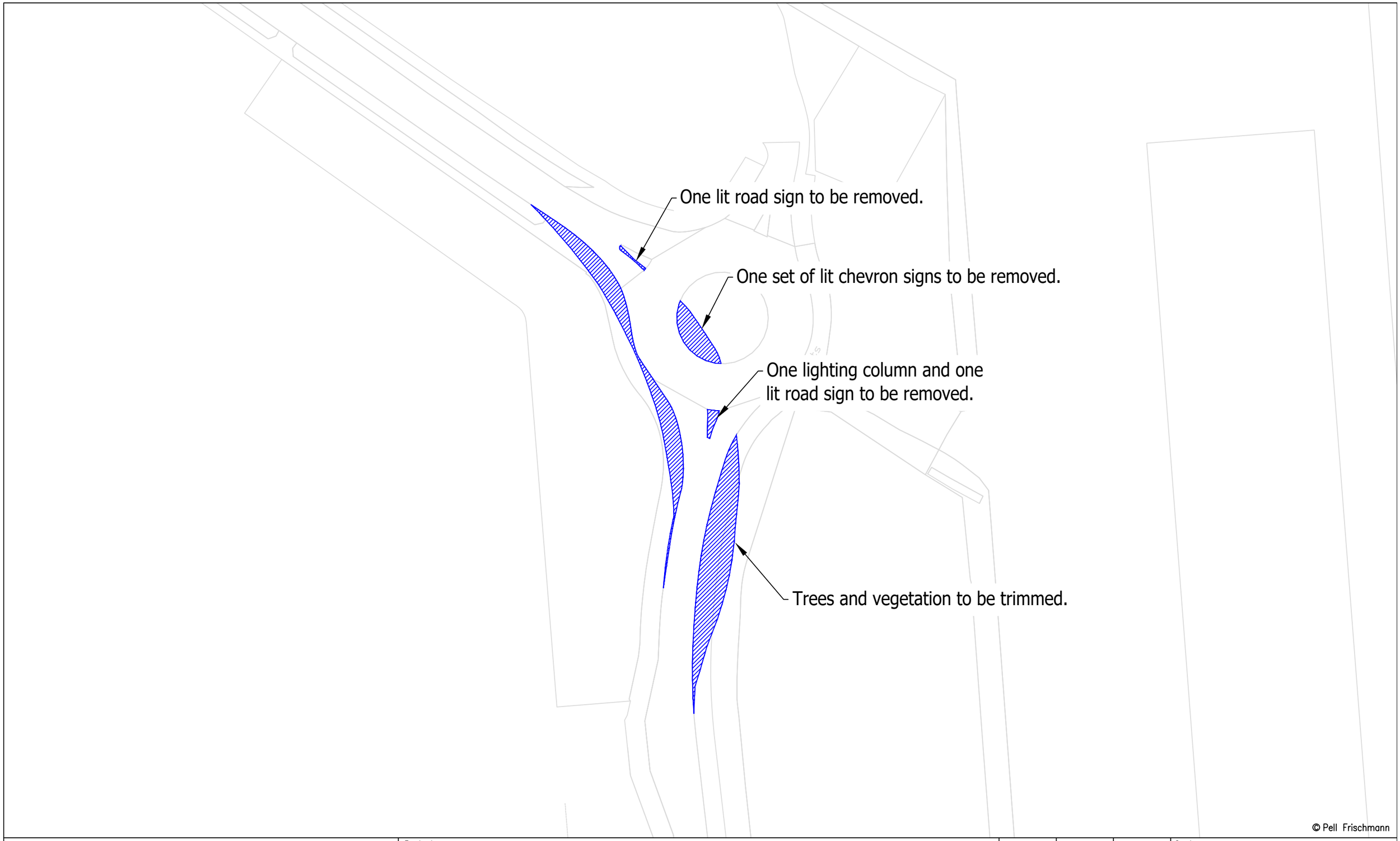

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www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive Sainsbury's Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		4

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK04A

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

Revision: 1

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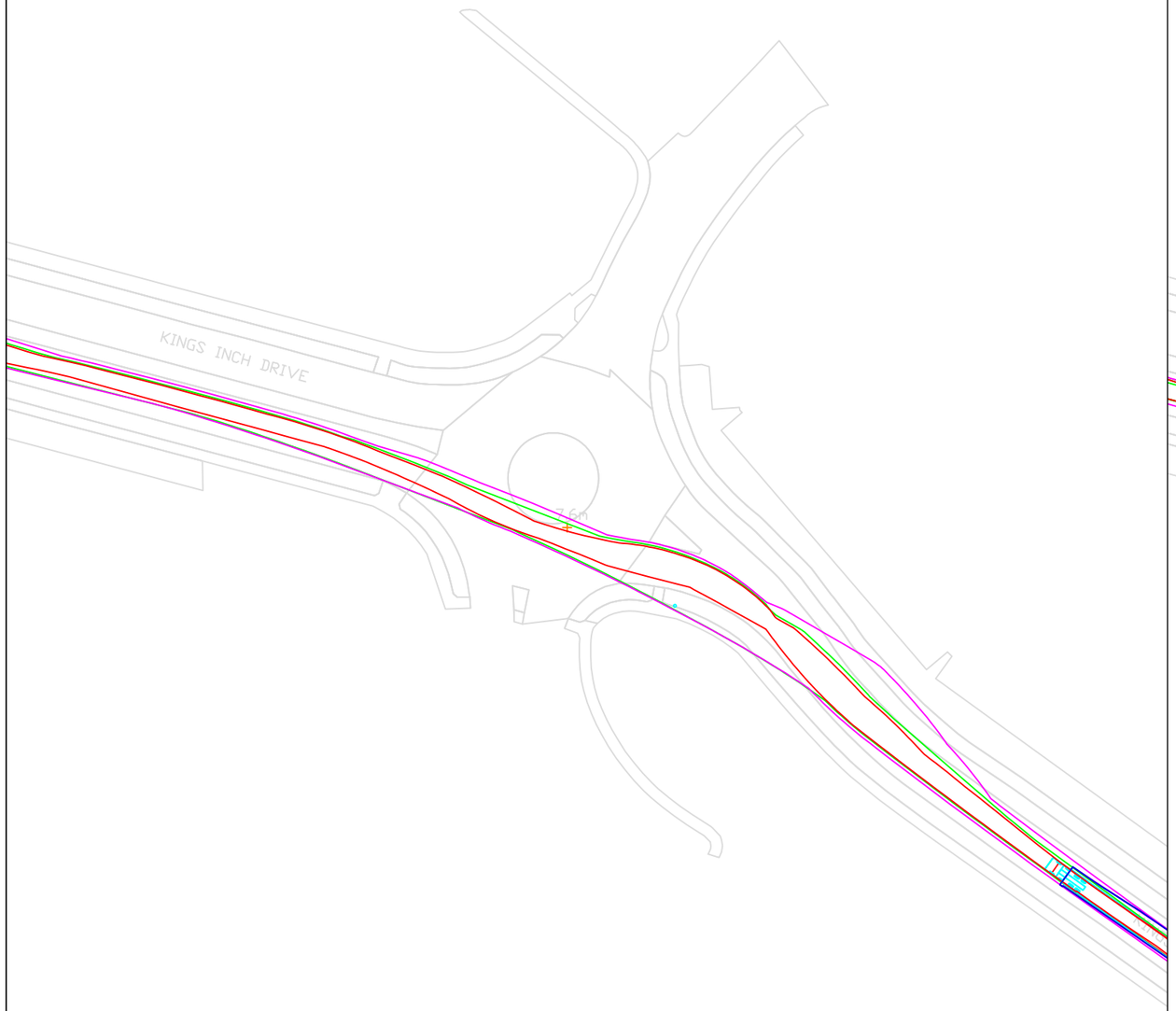

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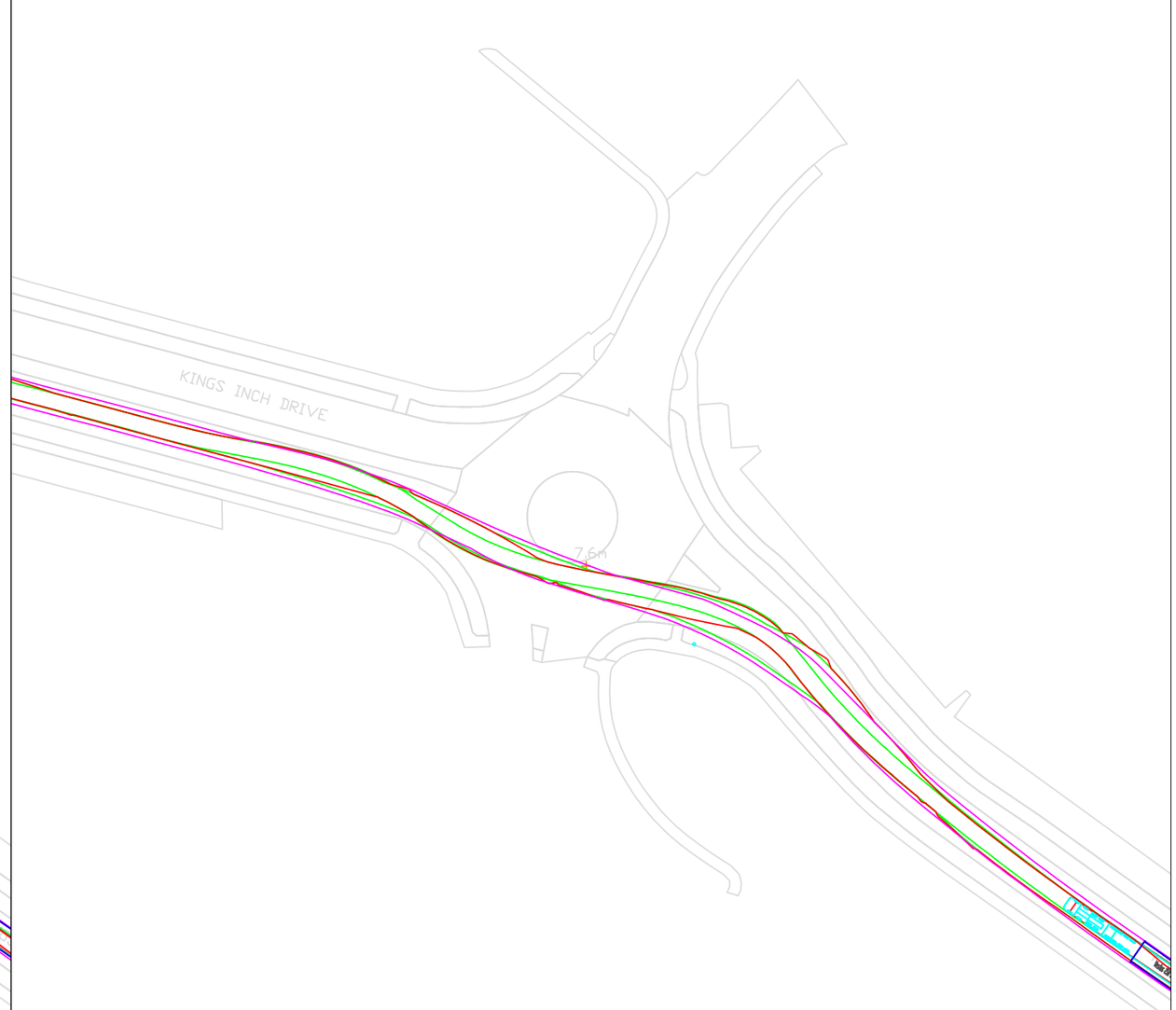

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive McDonald's Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		5

Scale: 1:1000 @ A3

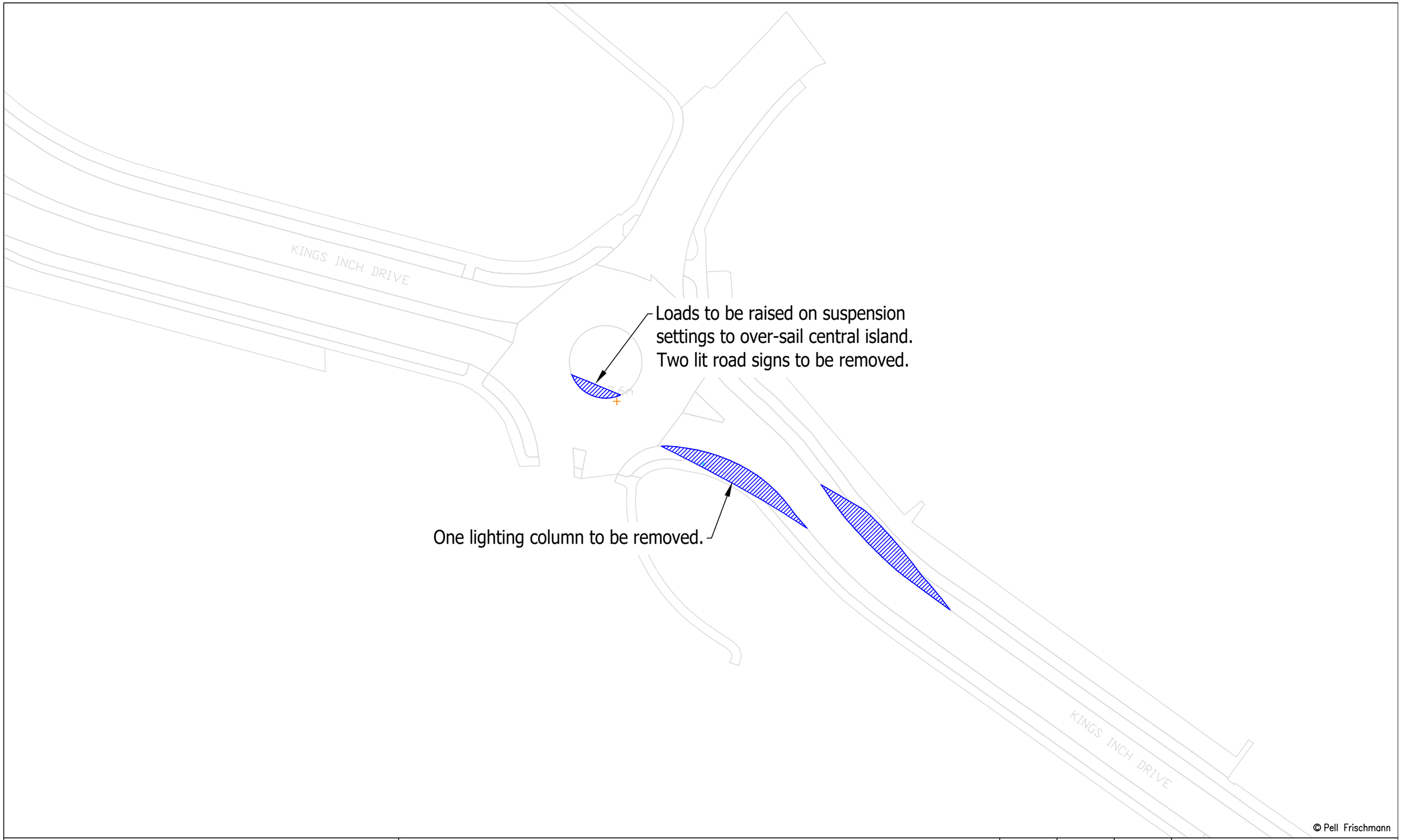
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK05

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive McDonald's Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		5

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK05A

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

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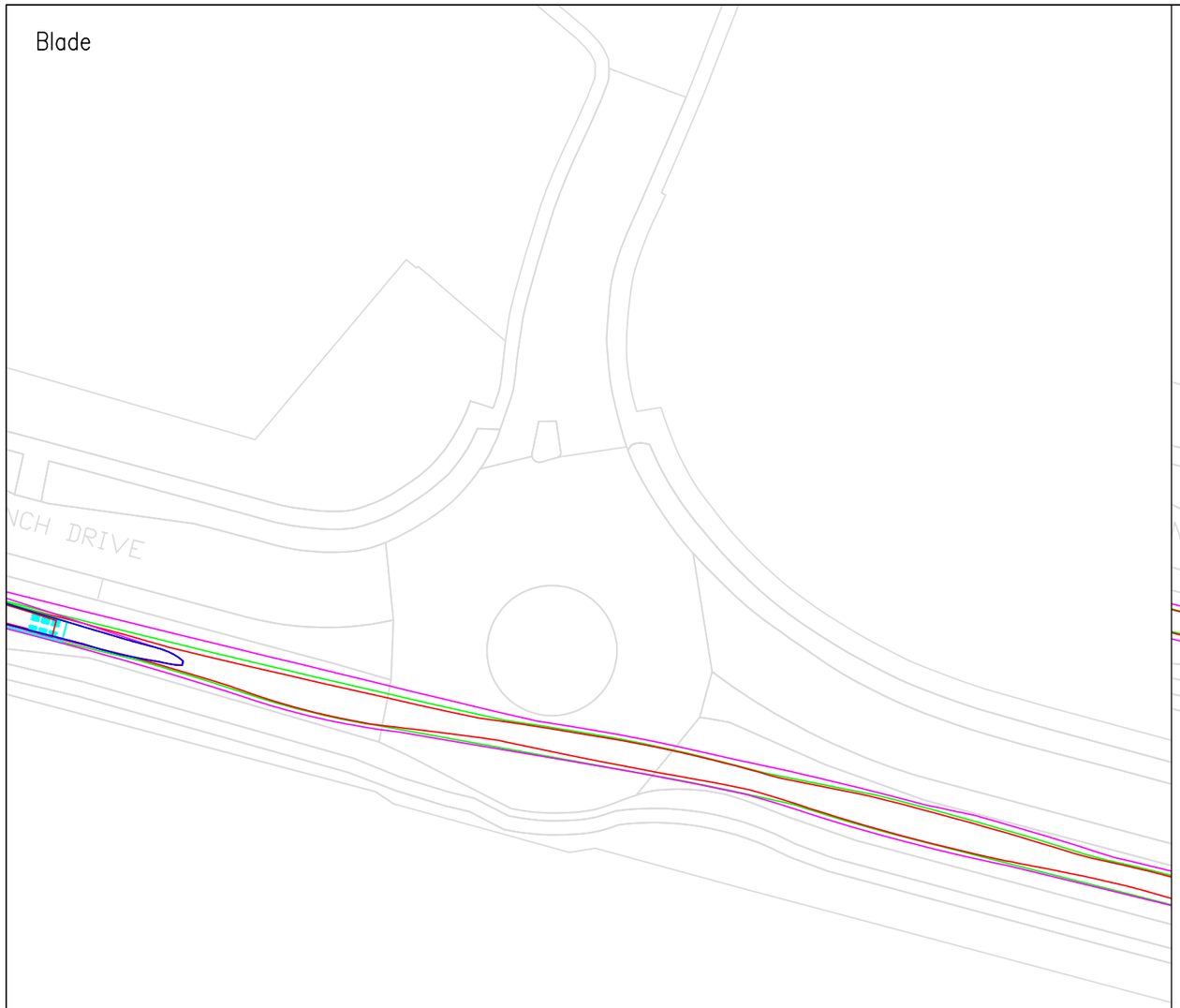

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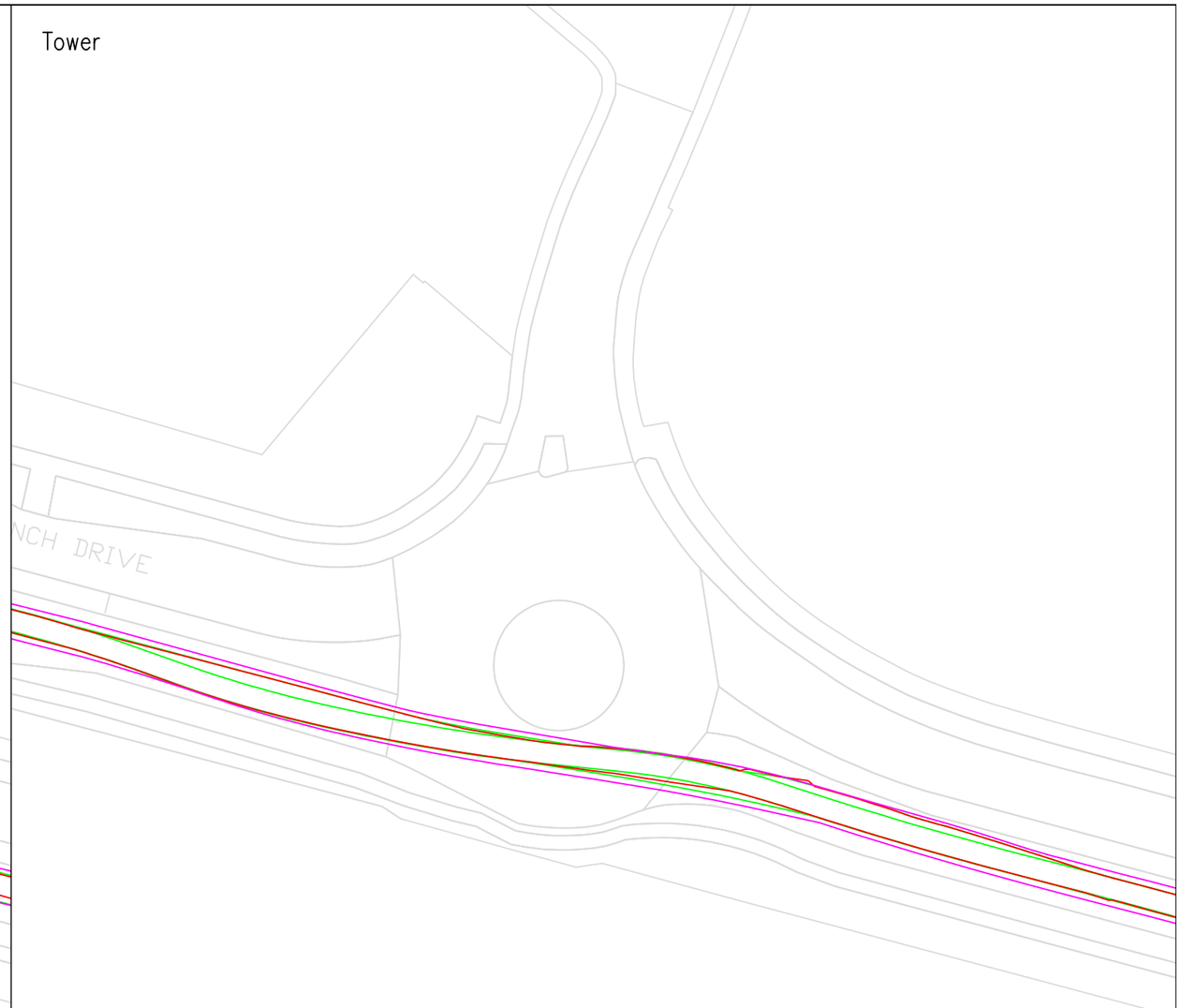

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

NO MITIGATION

SPA Location: Kings Inch Drive Braehead Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		6

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK06

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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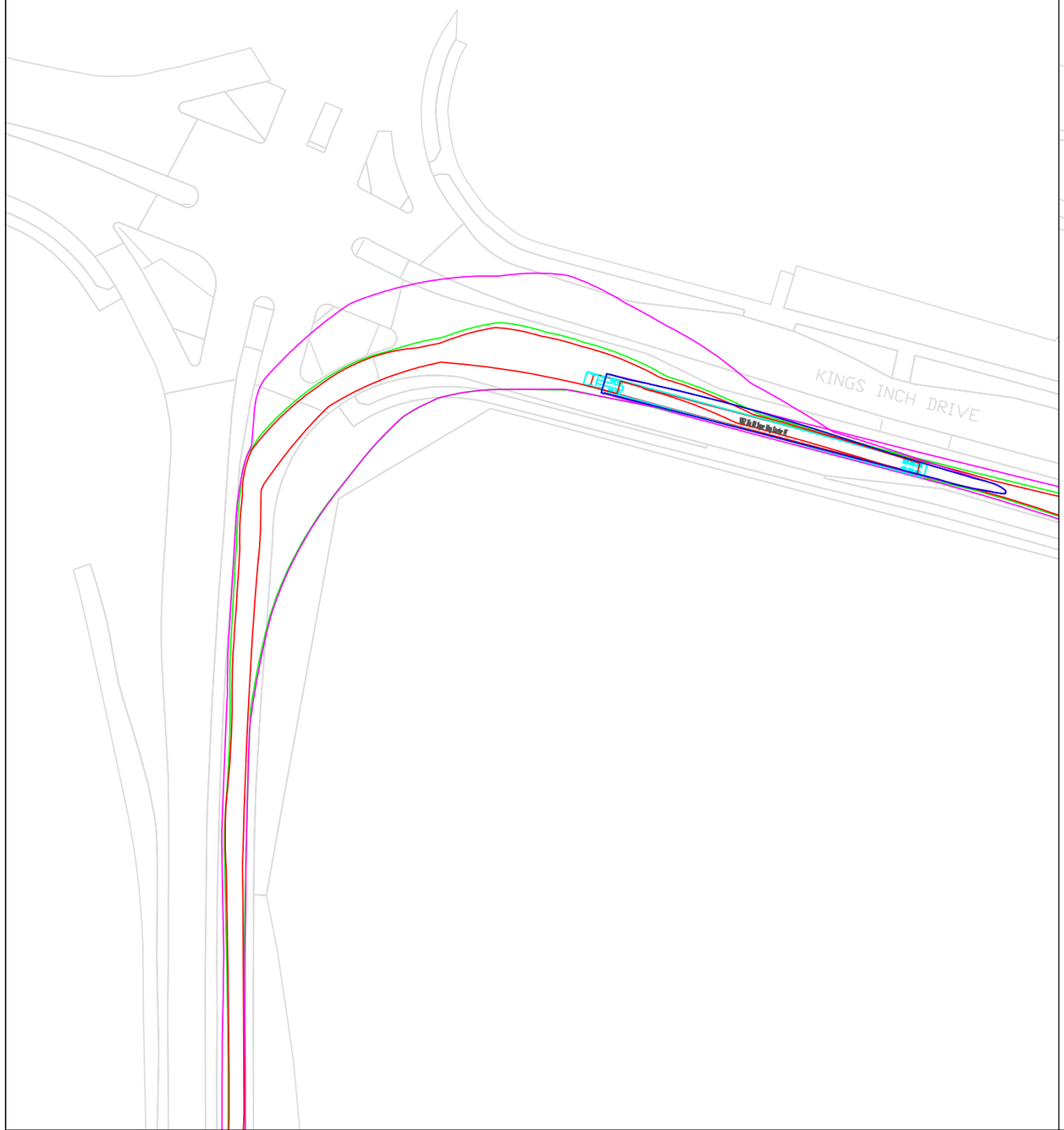

Tower

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

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive / Mayo Avenue Junction

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		7

Scale: 1:1000 @ A3

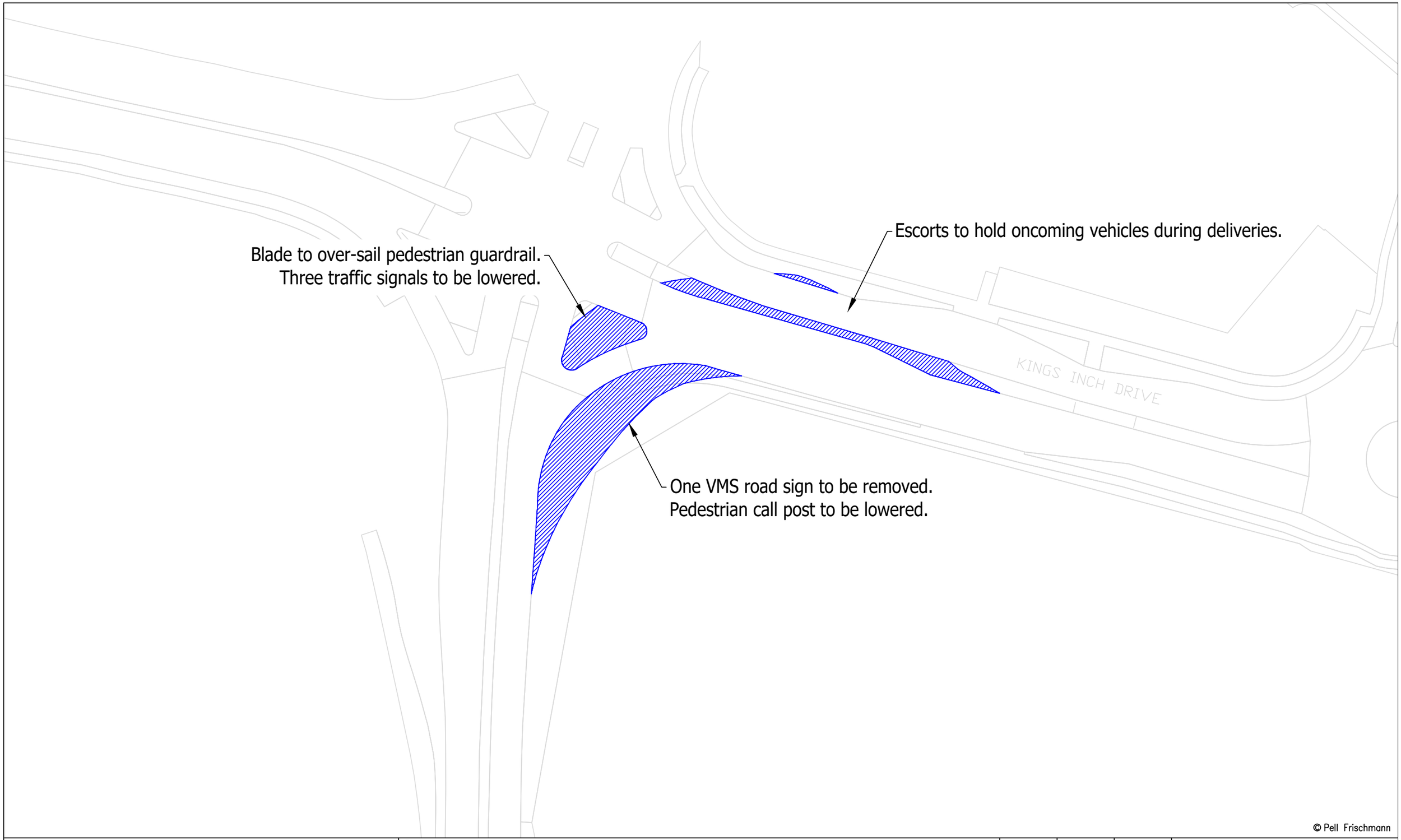
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK07

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Kings Inch Drive / Mayo Avenue Junction

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		7

Scale: 1:750 @ A3

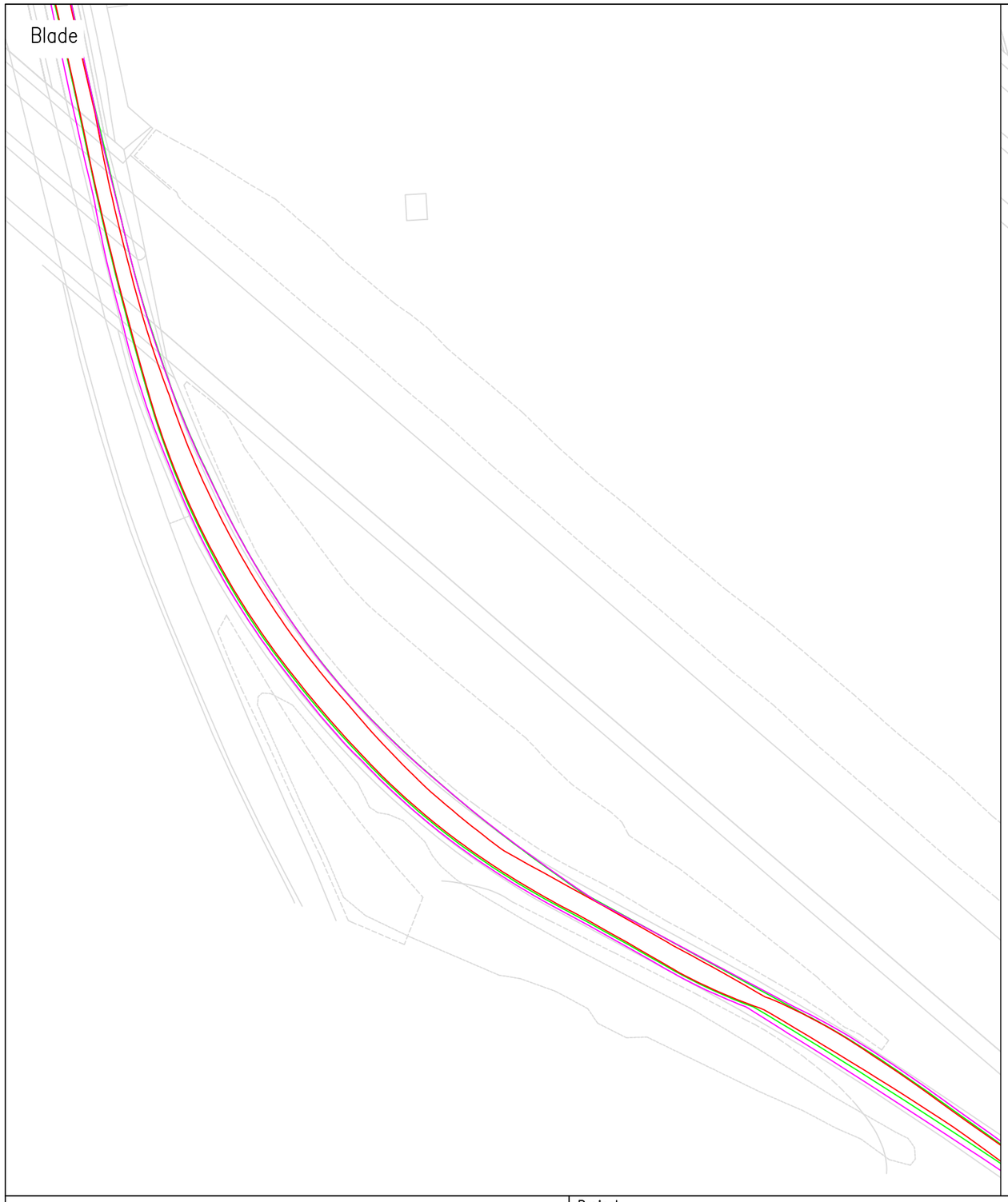
File No.: 220314 Brockloch Rig Tracking.dwg

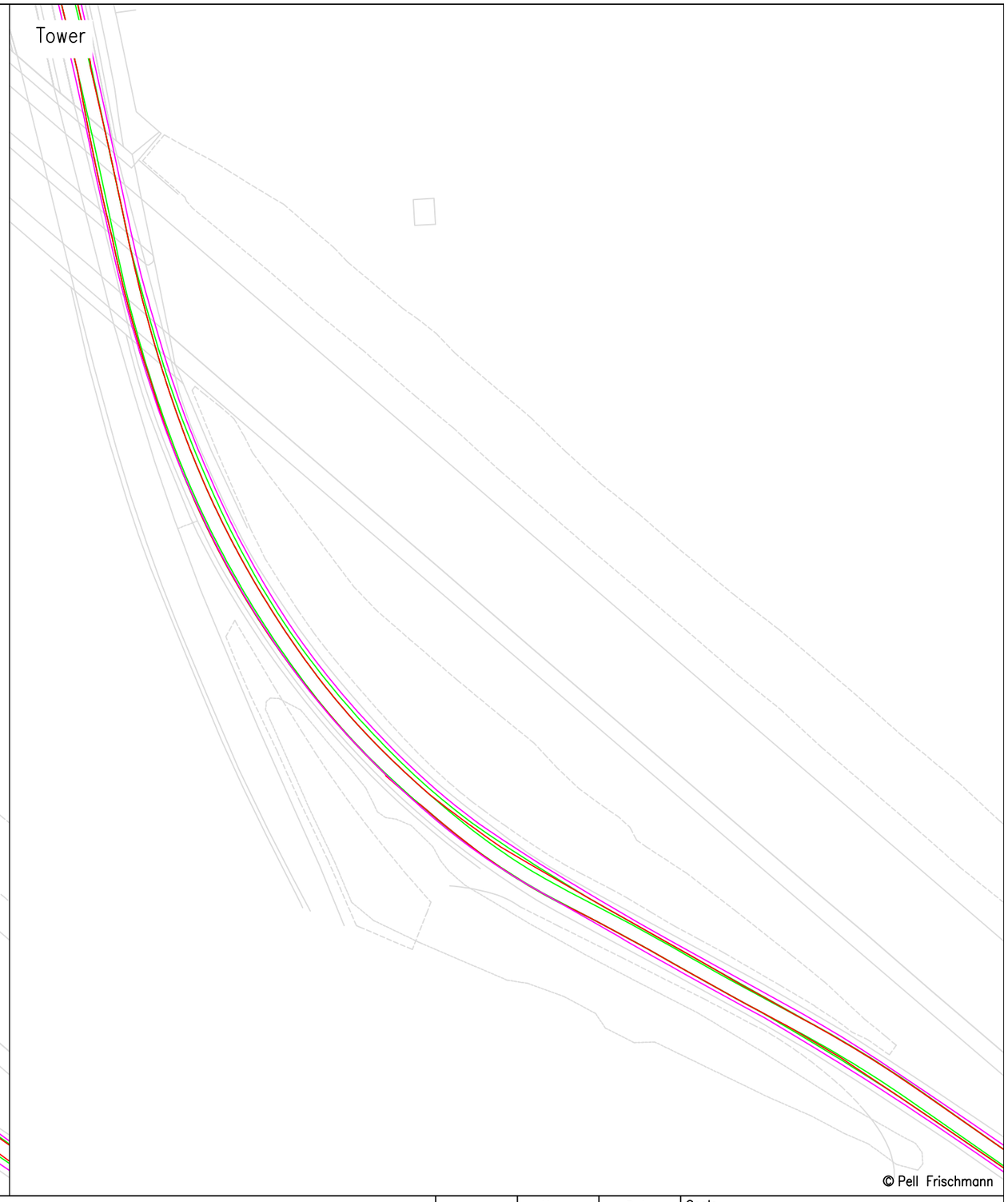
Drawing Status: Draft

Drawing No.: SK07A

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

Revision: 1





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

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: M8 Merge

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		8

Scale: 1:1000 @ A3

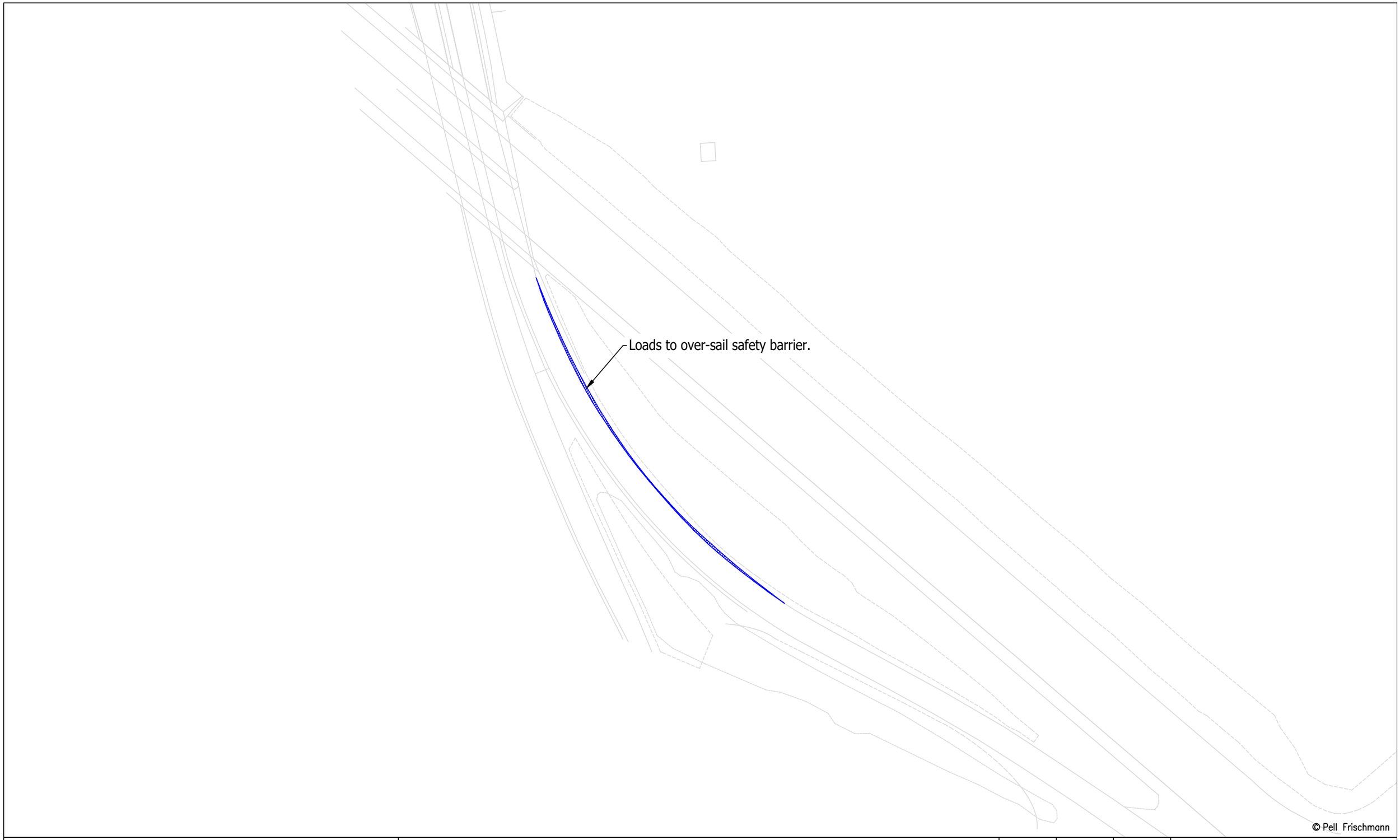
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK08

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: M8 Merge

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		8

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK08A

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

Tower

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www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Seaward Street Interchange (Towers Only)

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		10

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: Seaward Street Interchange (Towers Only)

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		10

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

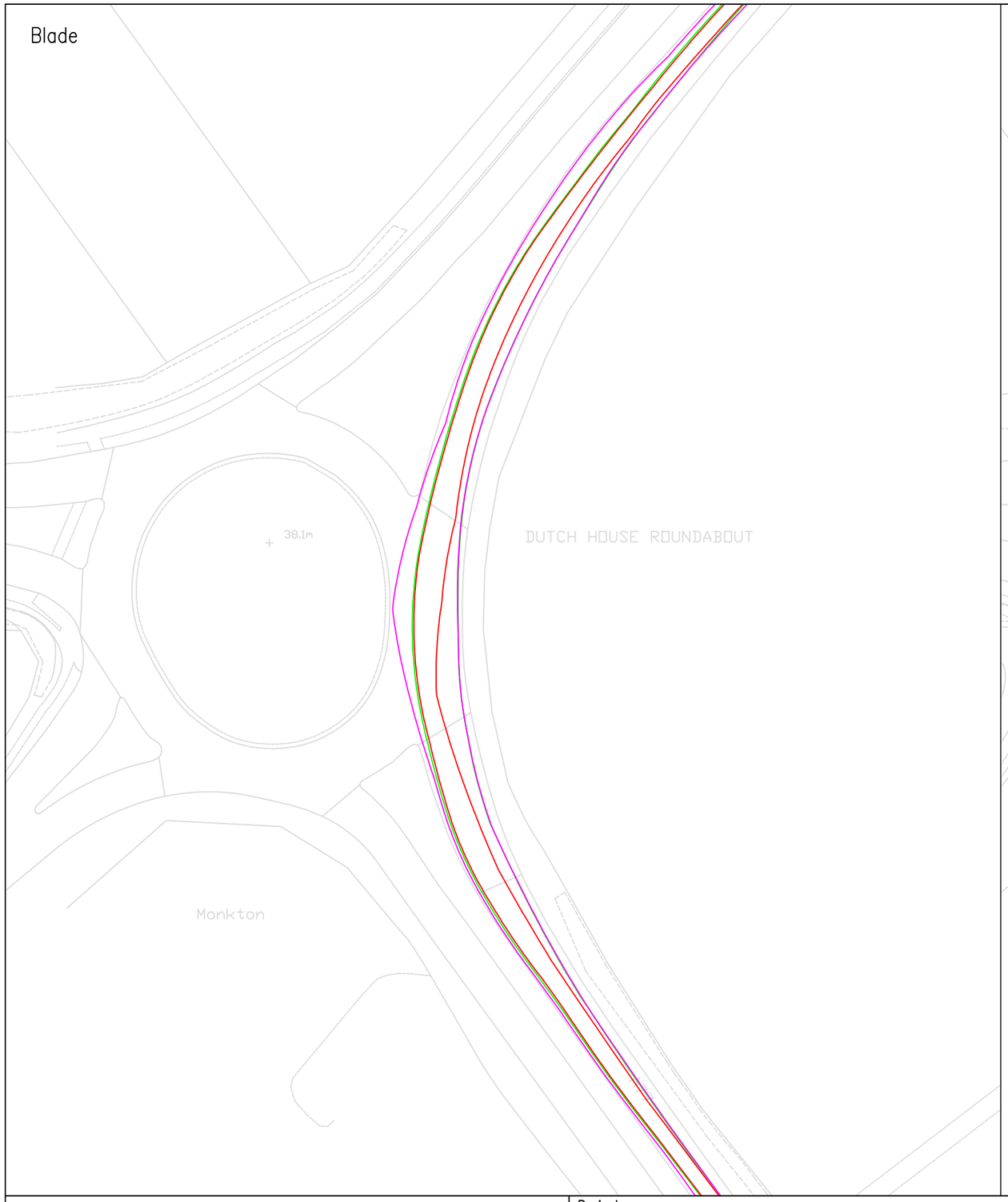
Drawing Status: Draft

Drawing No.: SK09A

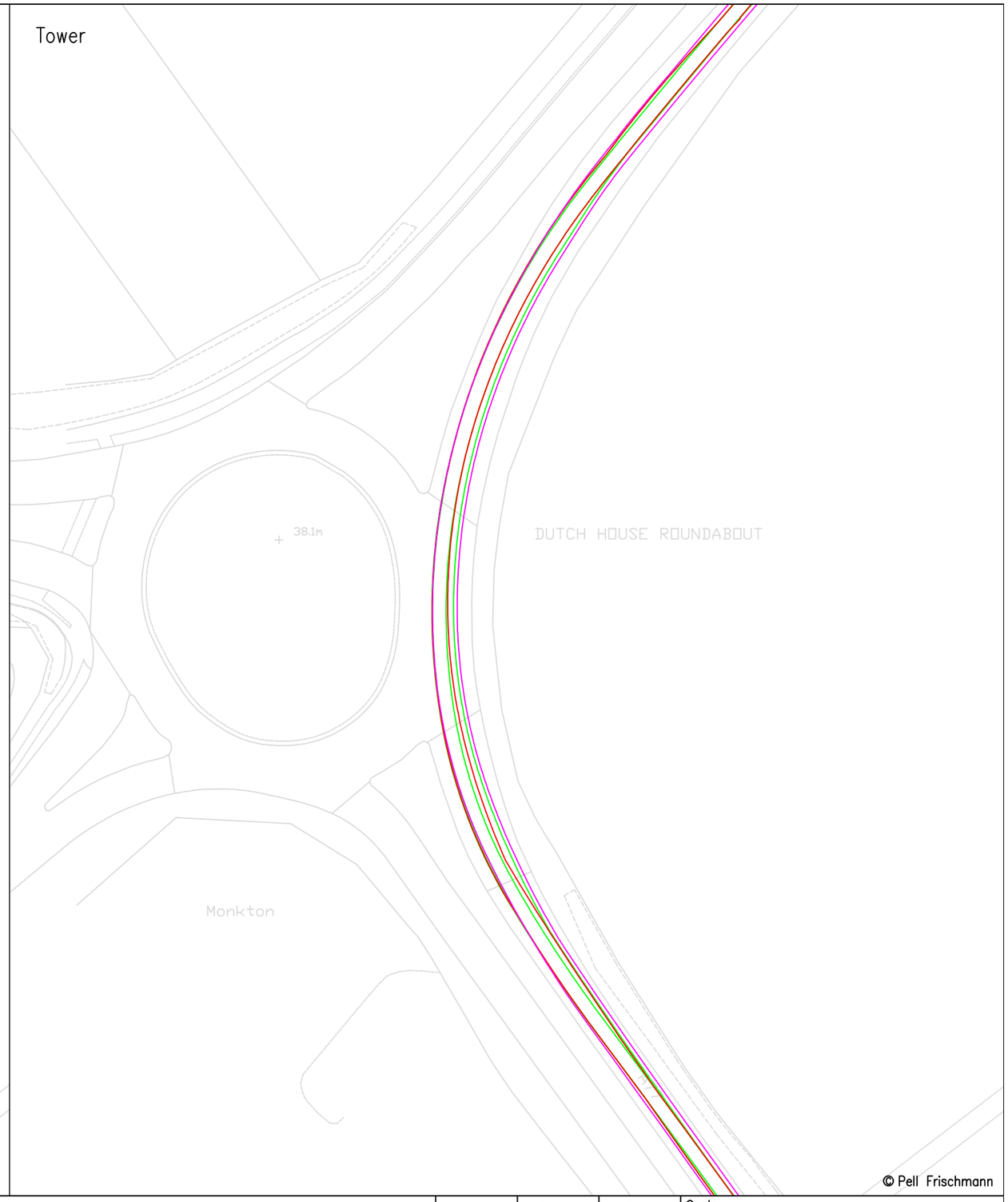
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower — NO MITIGATION

SPA Location: A77 Dutch House Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		13

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

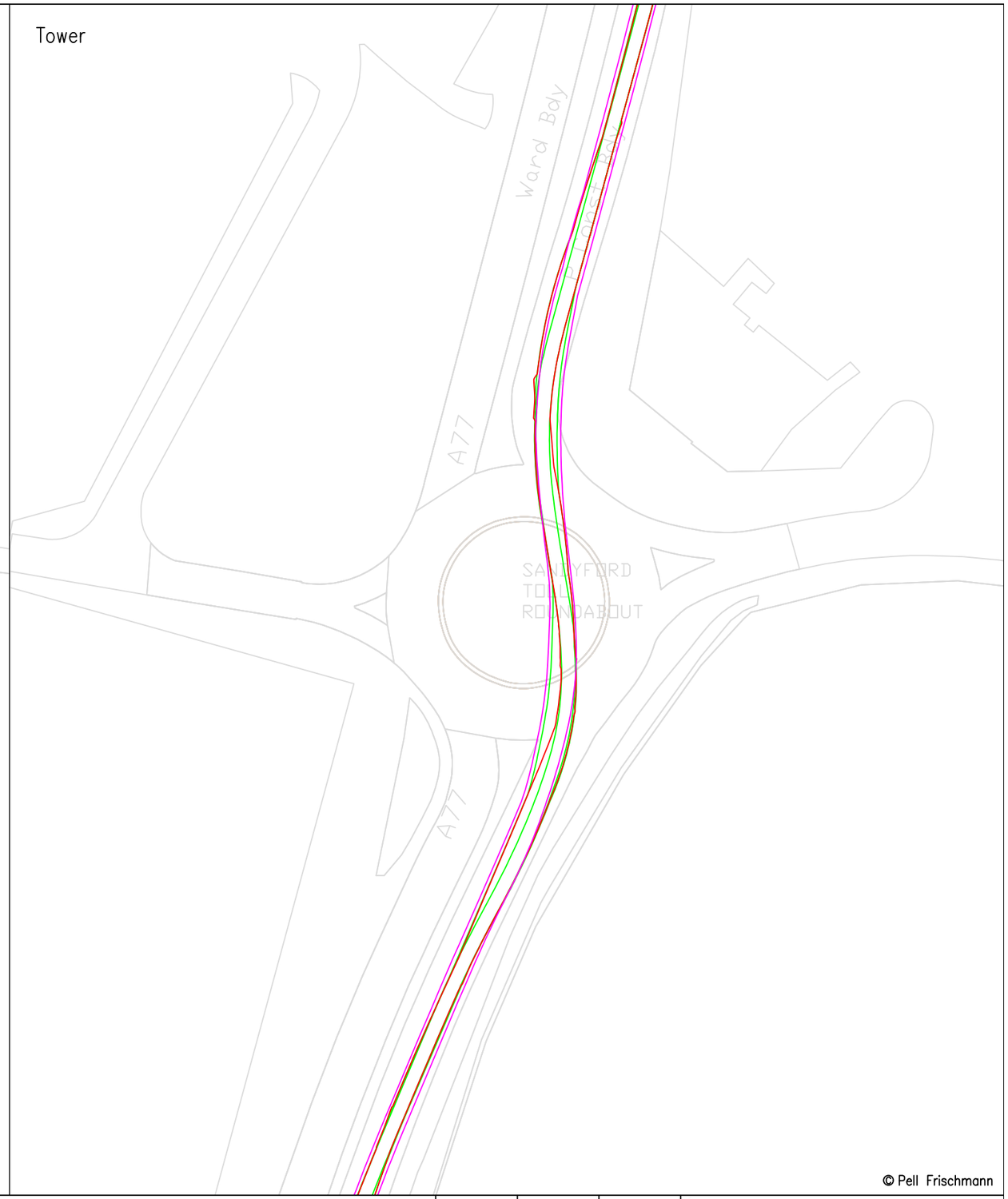
Drawing No.: SK10

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A77 Sandyford Toll Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		14

Scale: 1:1000 @ A3

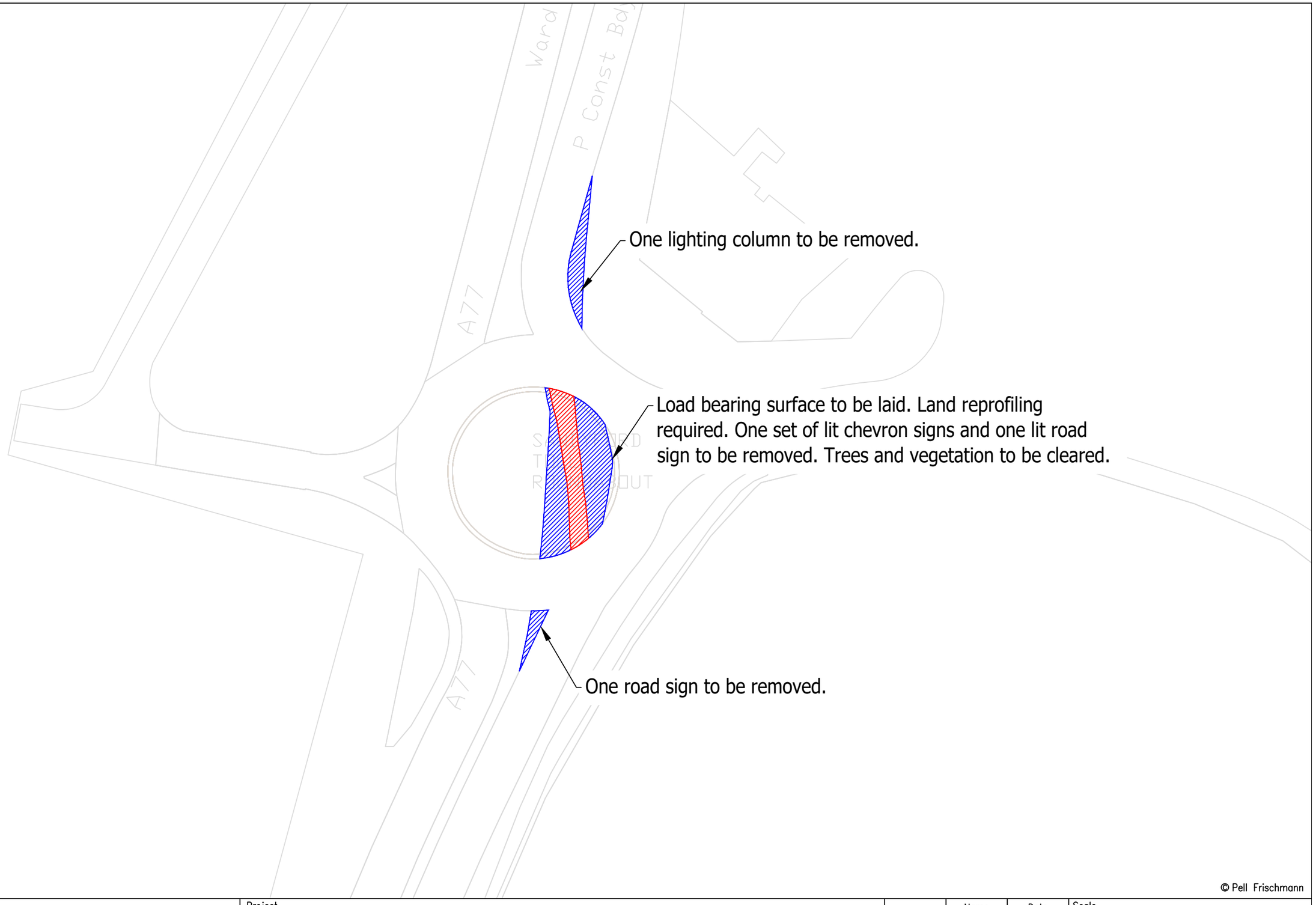
File No.: 220314 Brockloch Rig Tracking.dwg

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A77 Sandyford Toll Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		14

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.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

Blade

Tower

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A77 Whitletts Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		15

Scale: 1:1250 @ A3

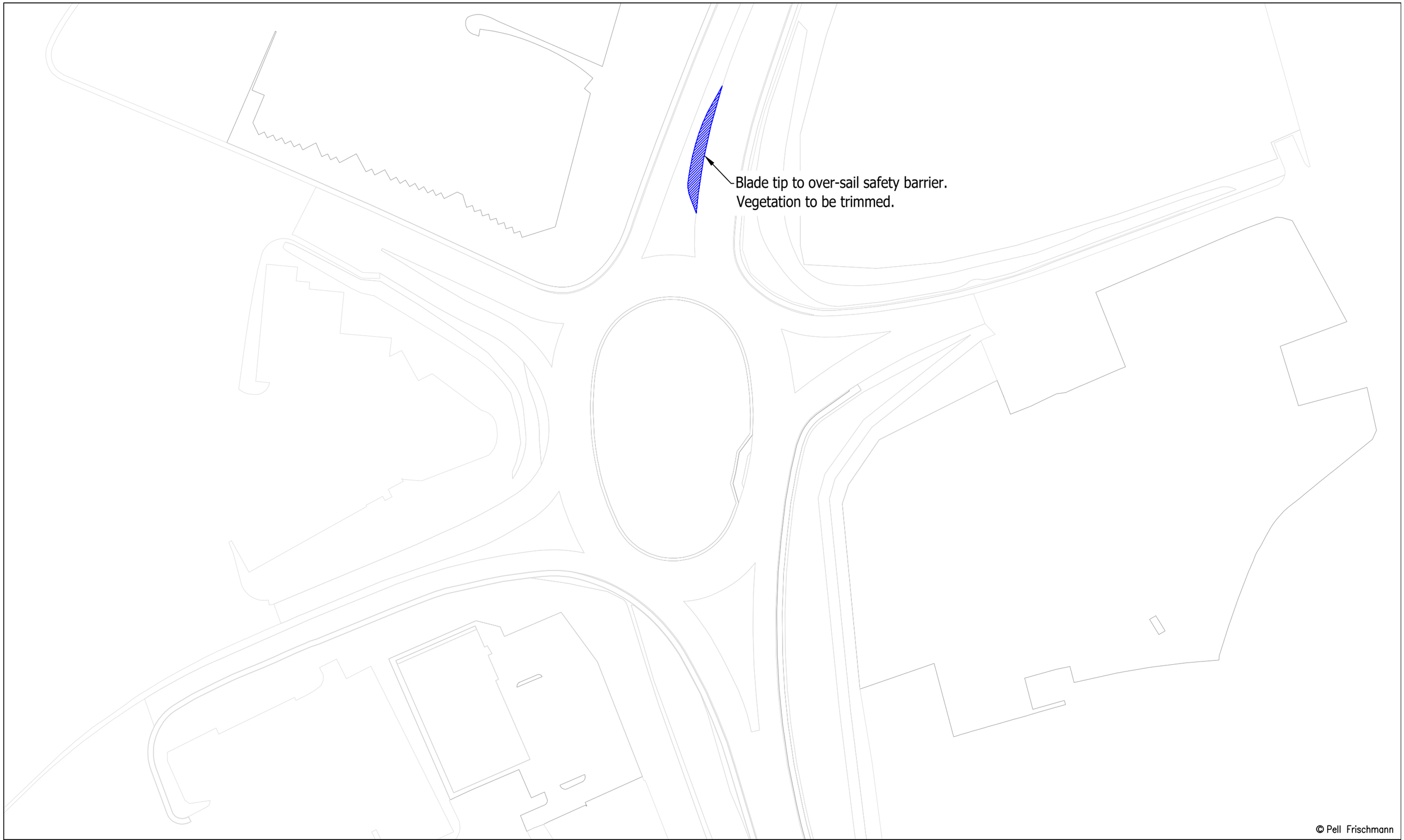
File No.: 220314 Brockloch Rig Tracking.dwg

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A77 Whitletts Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		15

Scale: 1:1250 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

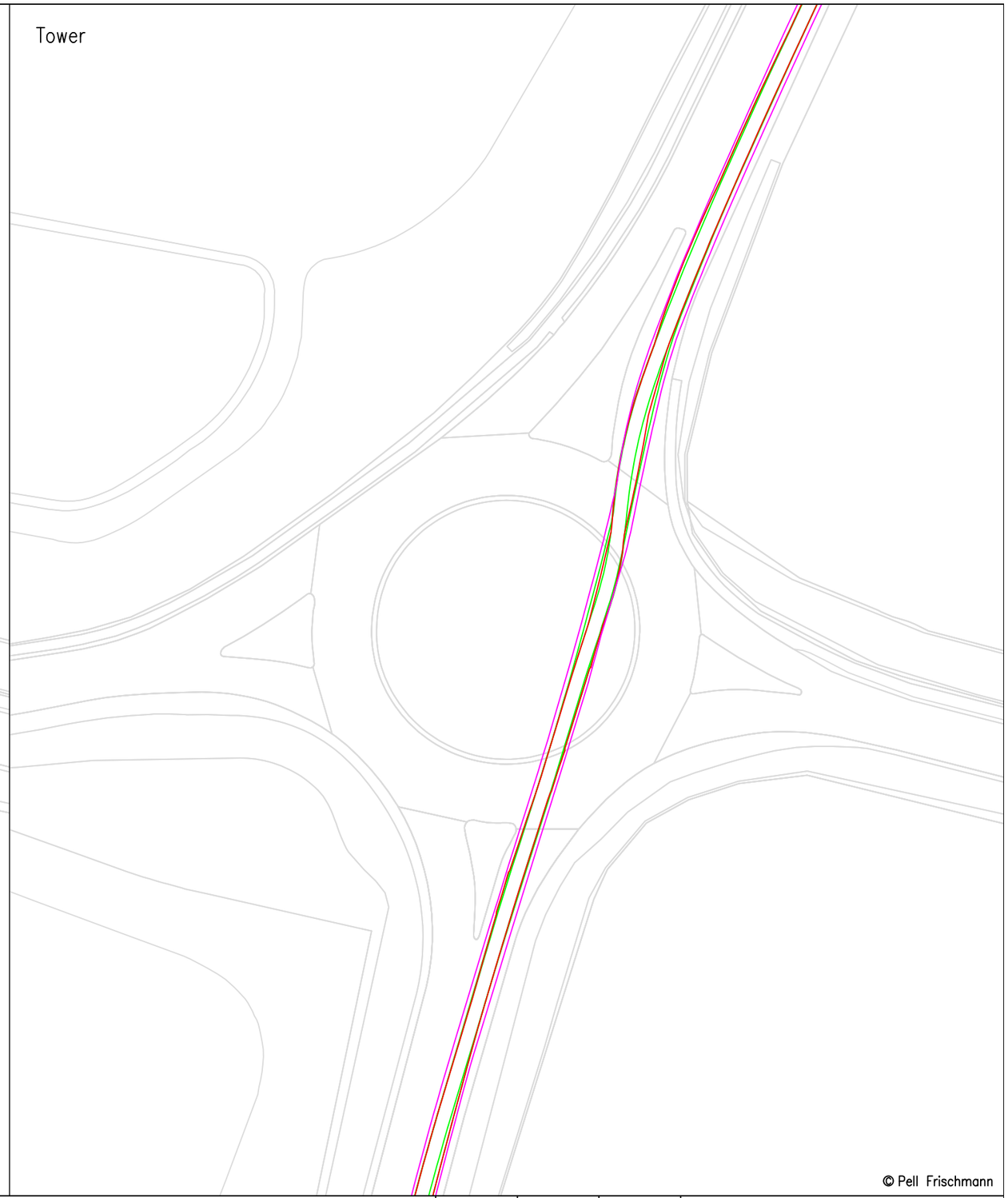
Drawing No.: SK12A

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

Blade

Tower



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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A77 Holmston Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		16

Scale: 1:1000 @ A3

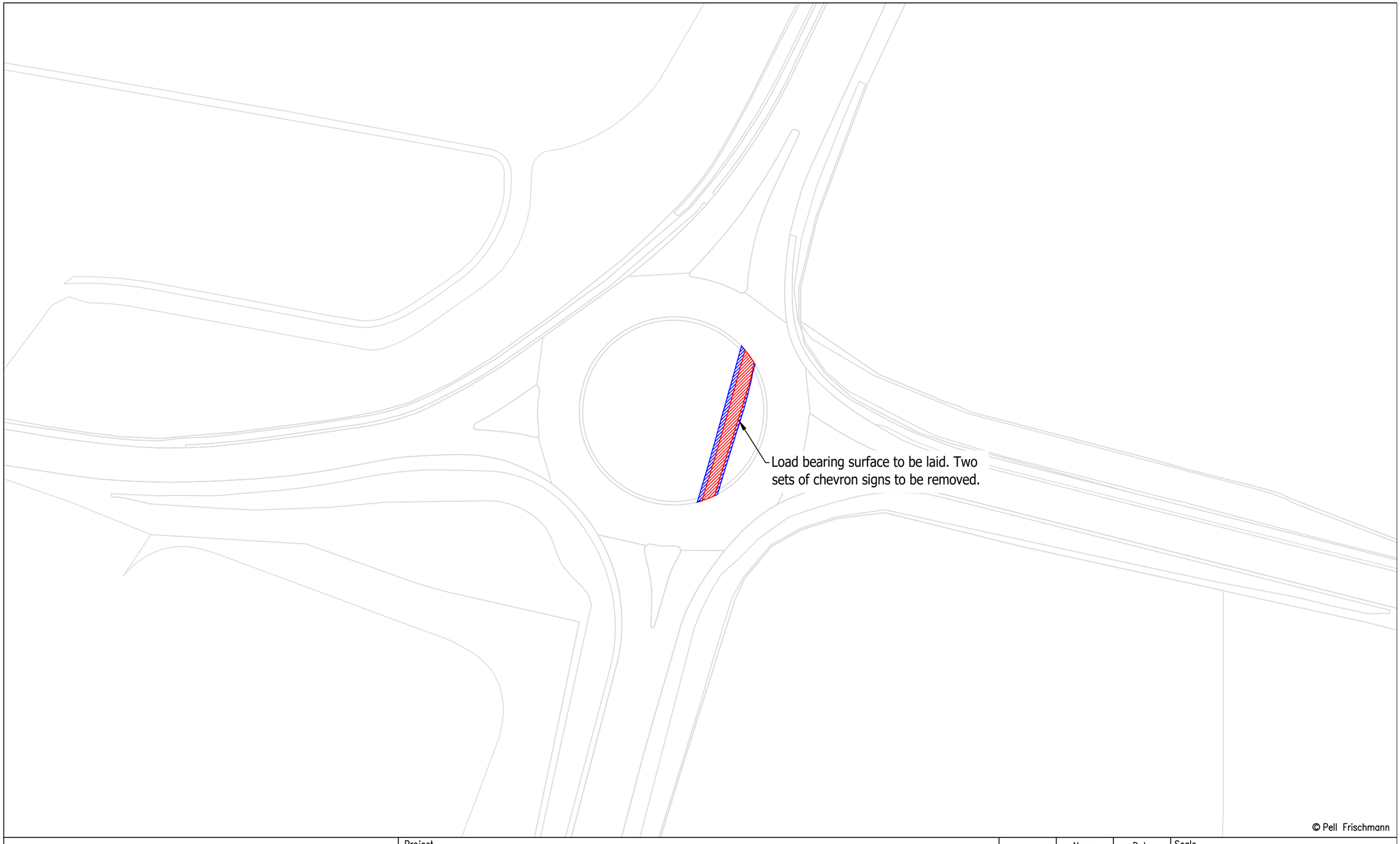
File No.: 220314 Brockloch Rig Tracking.dwg

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A77 Holmston Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		16

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.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

Blade

Tower

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A77 Bankfield Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		17

Scale: 1:1000 @ A3

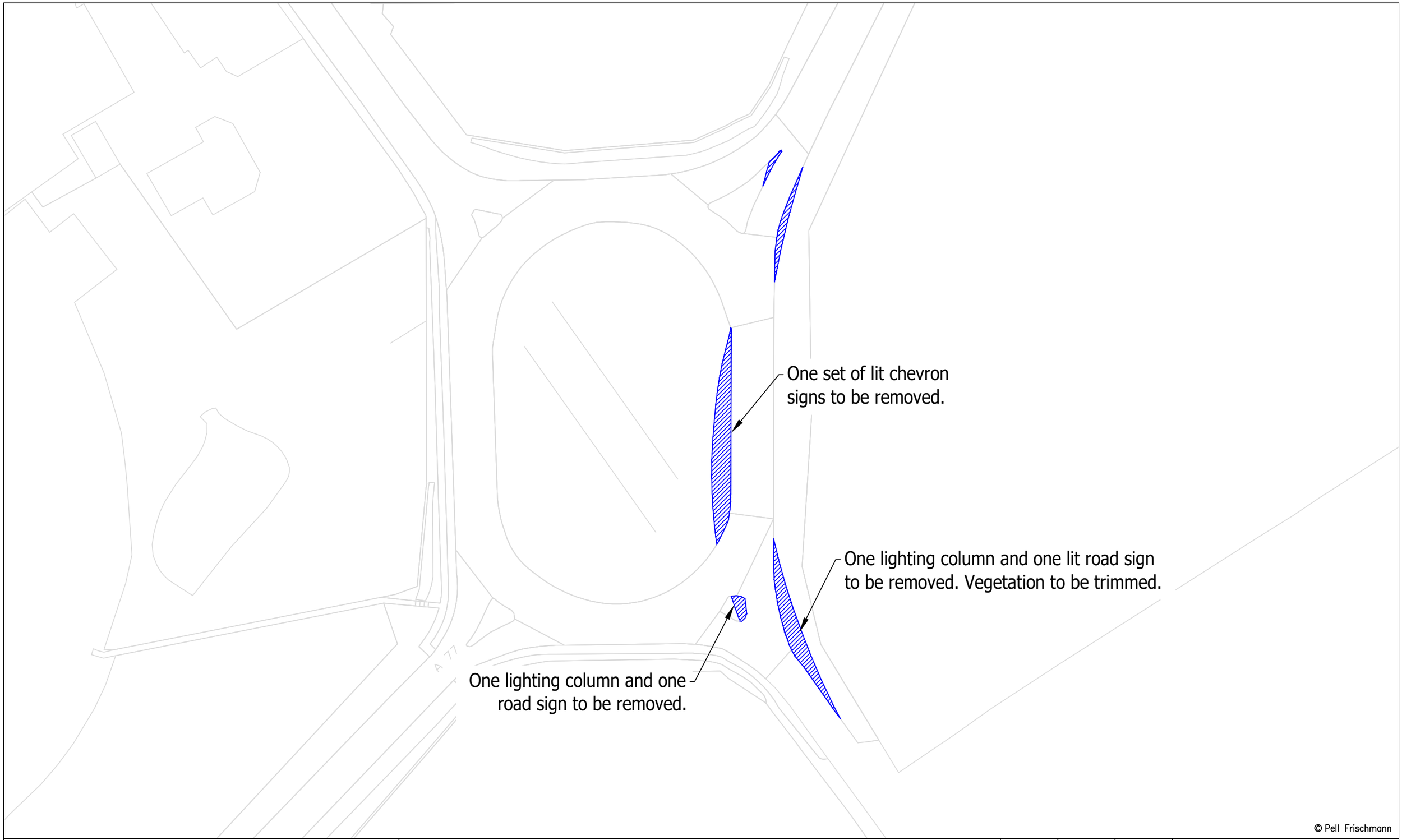
File No.: 220314 Brockloch Rig Tracking.dwg

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A77 Bankfield Roundabout

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		17

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.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

Blade

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Ailsa Hospital

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		18

Scale: 1:2000 @ A3

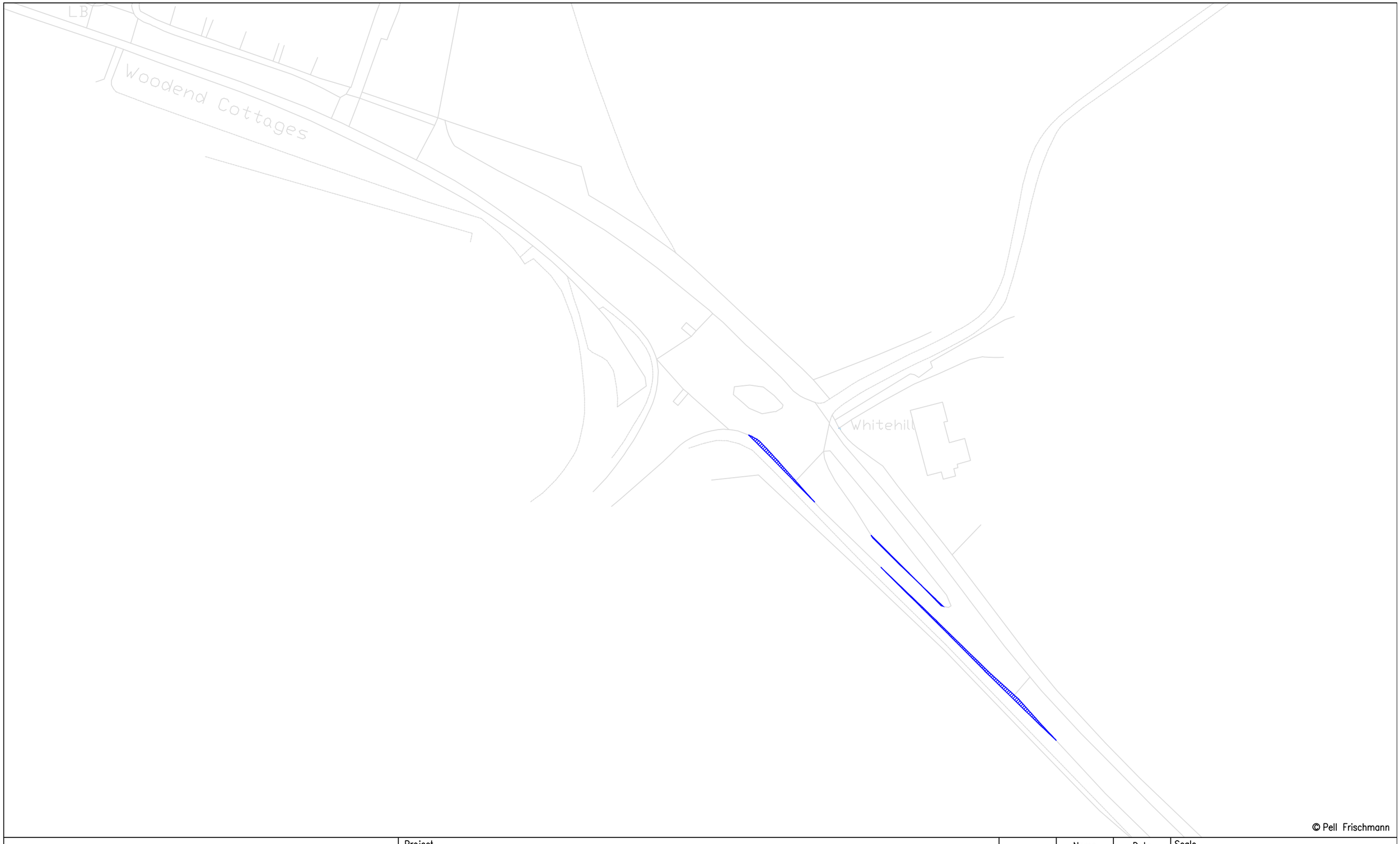
File No.: 220314 Brockloch Rig Tracking.dwg

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Ailsa Hospital

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		18

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

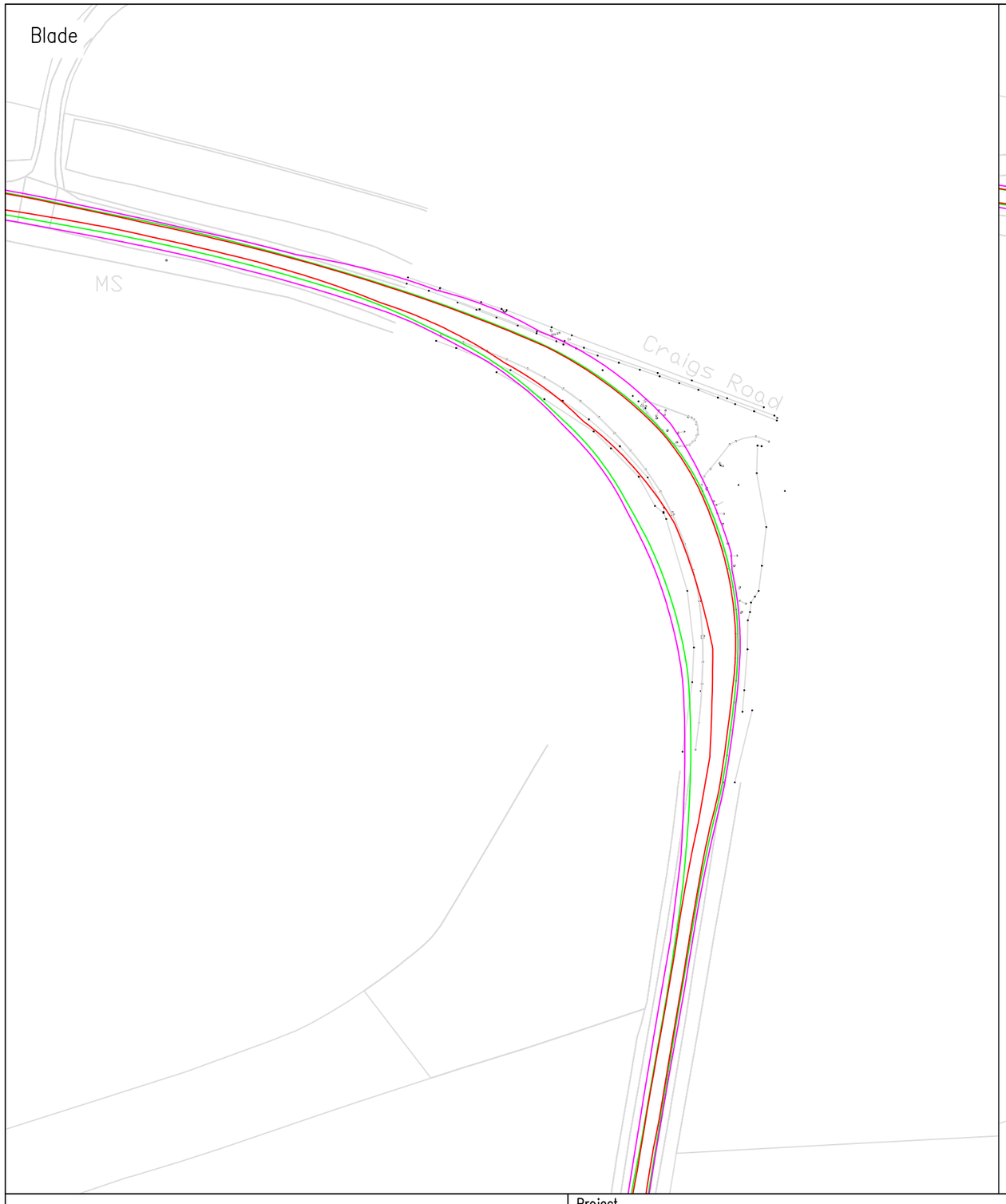
Drawing Status: Draft

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

Blade



Tower

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Milreoch

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		20

Scale: 1:1000 @ A3

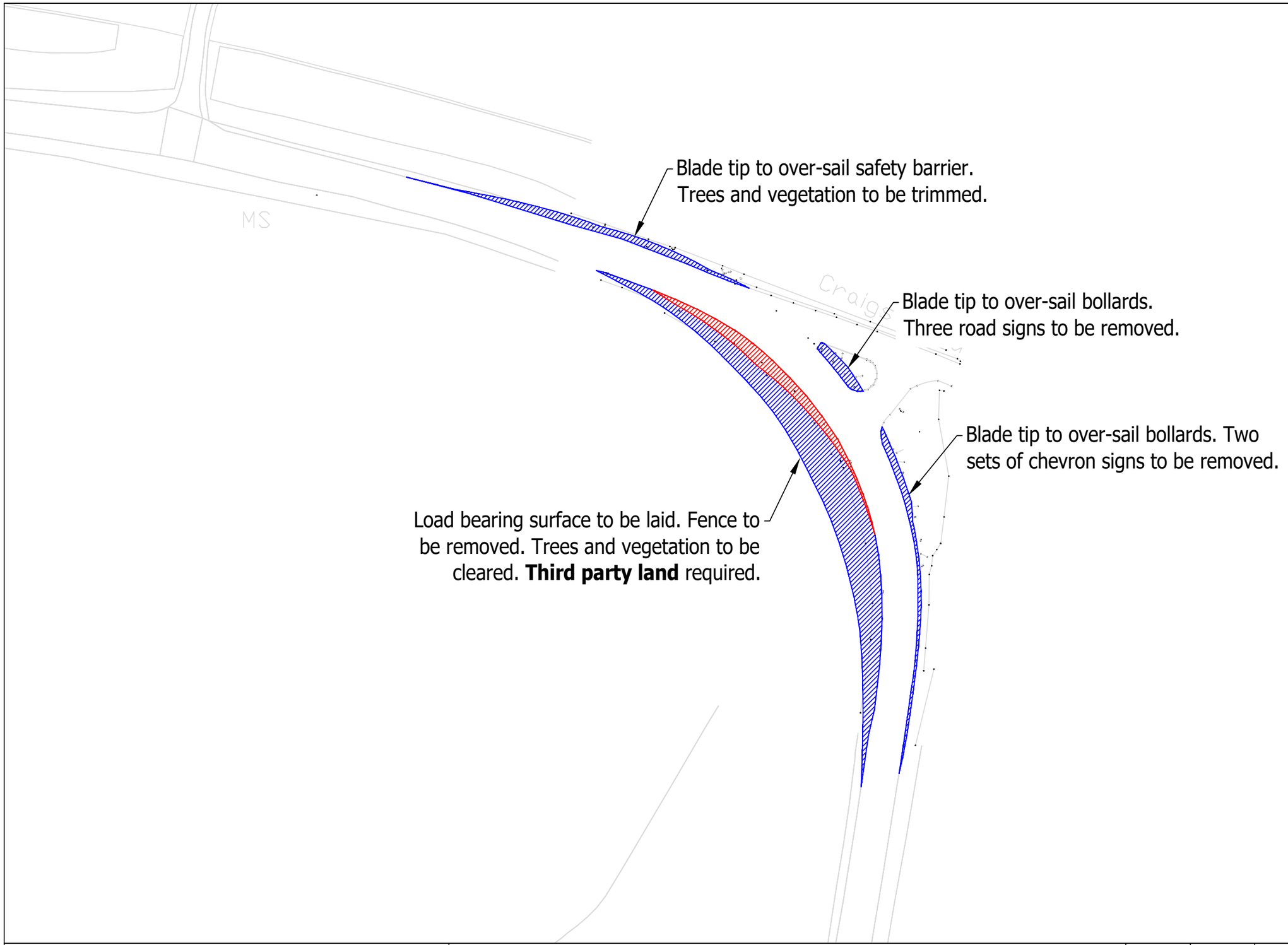
File No.: 220314 Brockloch Rig Tracking.dwg

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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www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Milreoch

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		20

Scale: 1:750 @ A3

File No.: 220314 Brockloch Rig Tracking.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

Blade

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Holehouse

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		21

Scale: 1:1250 @ A3

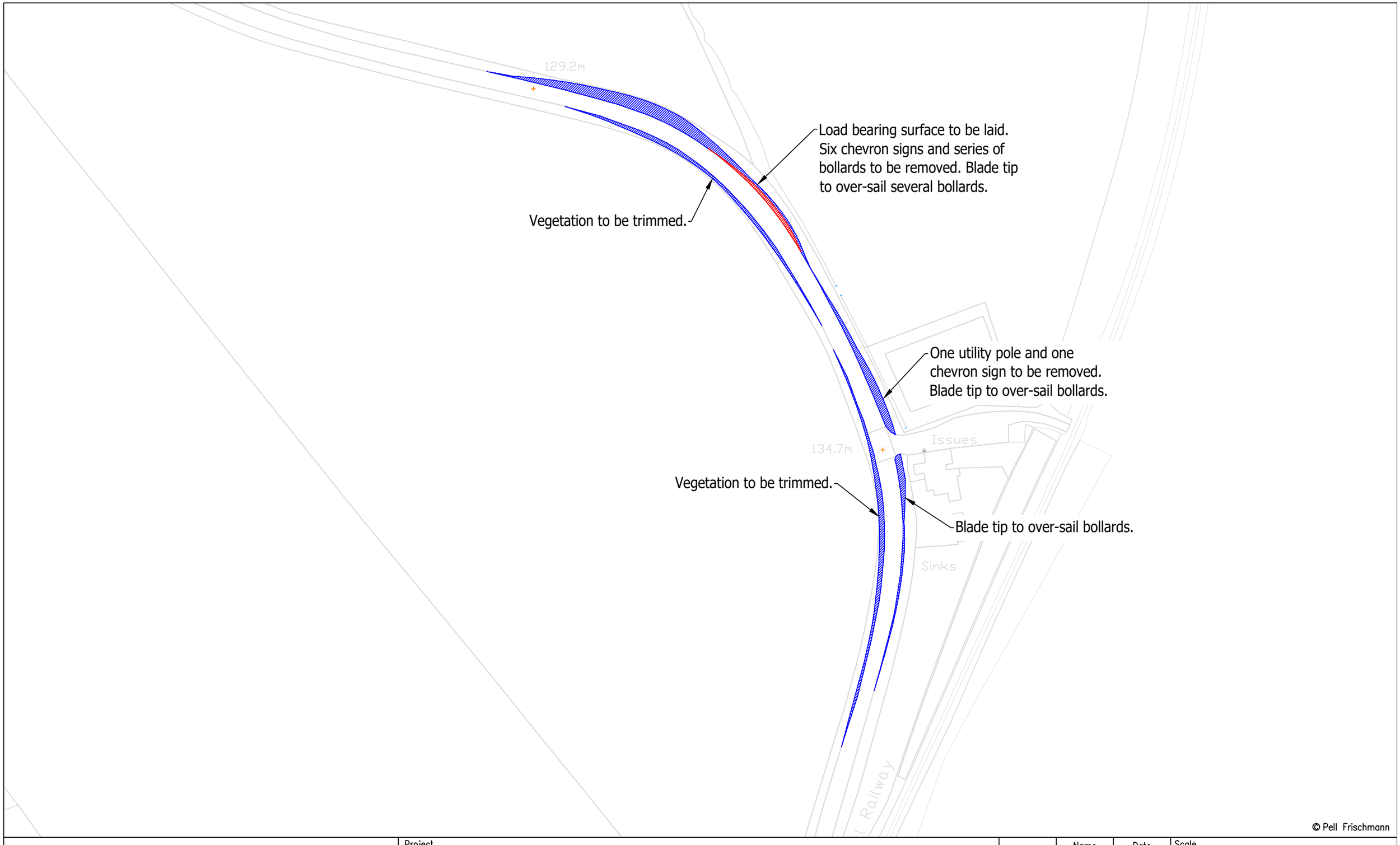
File No.: 220314 Brockloch Rig Tracking.dwg

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Holehouse

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		21

Scale: 1:1250 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

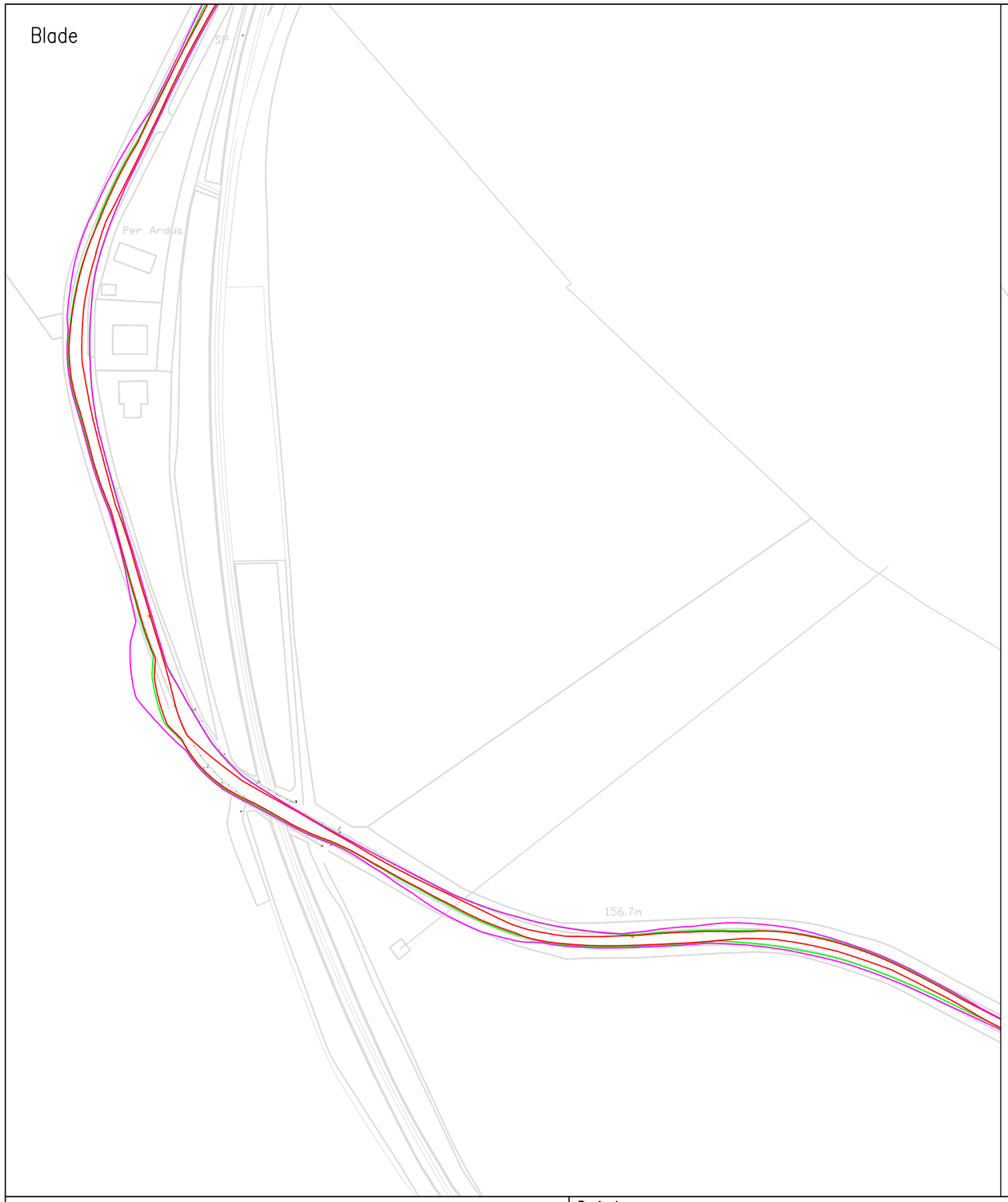
Drawing Status: Draft

Drawing No.: SK17A

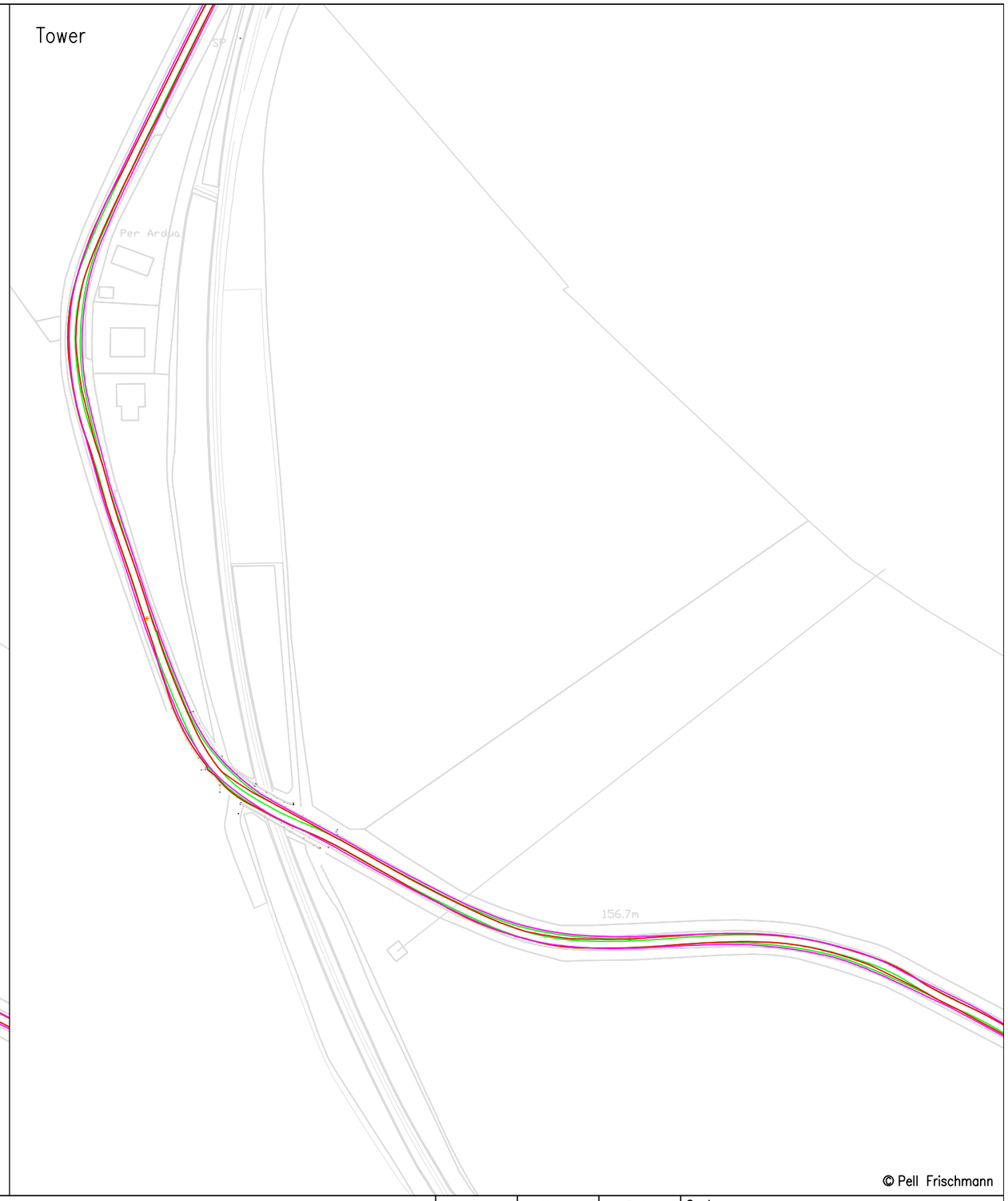
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Holehouse Junction

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		22

Scale: 1:2000 @ A3

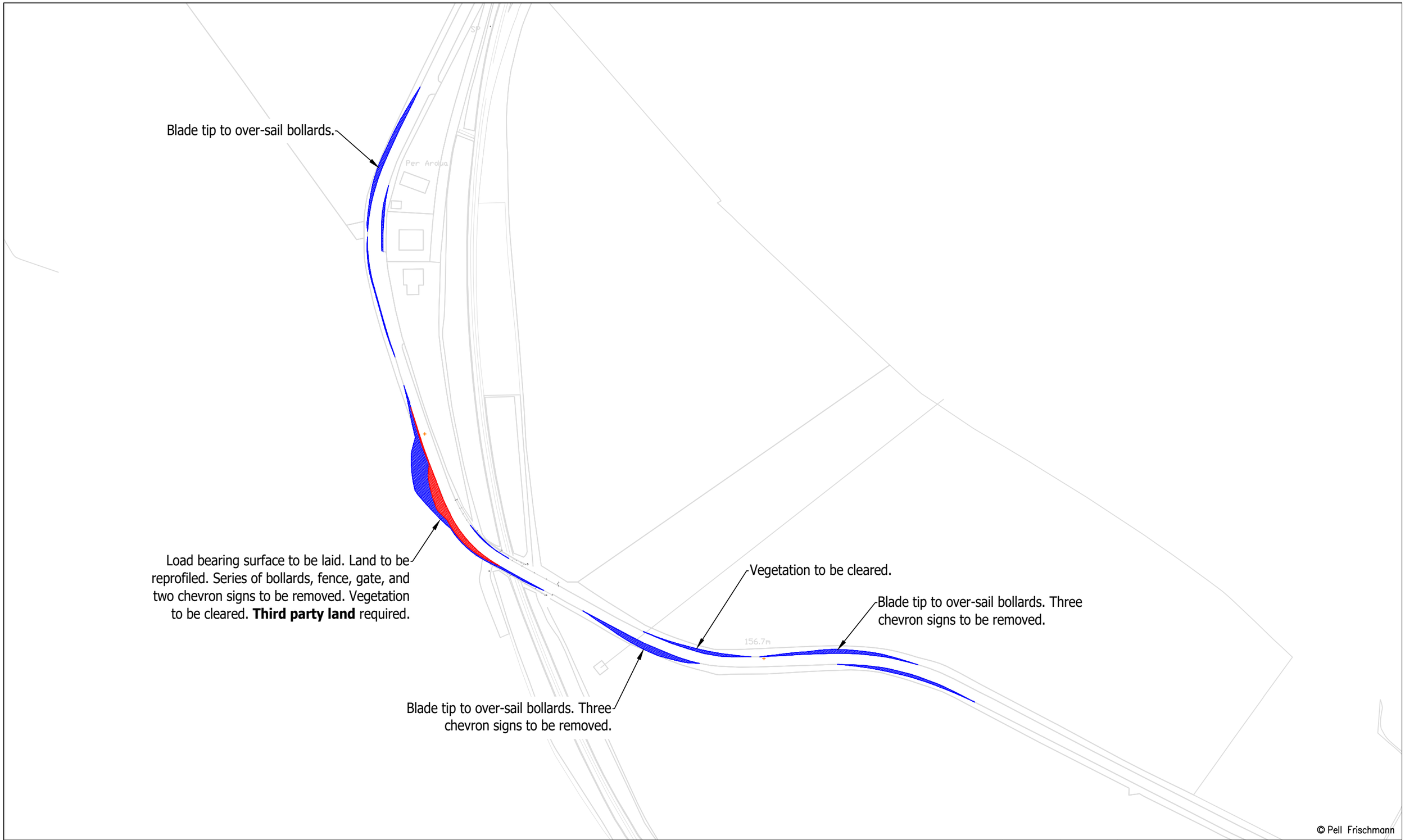
File No.: 220314 Brockloch Rig Tracking.dwg

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Holehouse Junction

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		22

Scale: 1:2000 @ A3

File No. 220314 Brockloch Rig Tracking.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

Blade

Tower

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Smithston

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		23

Scale: 1:1000 @ A3

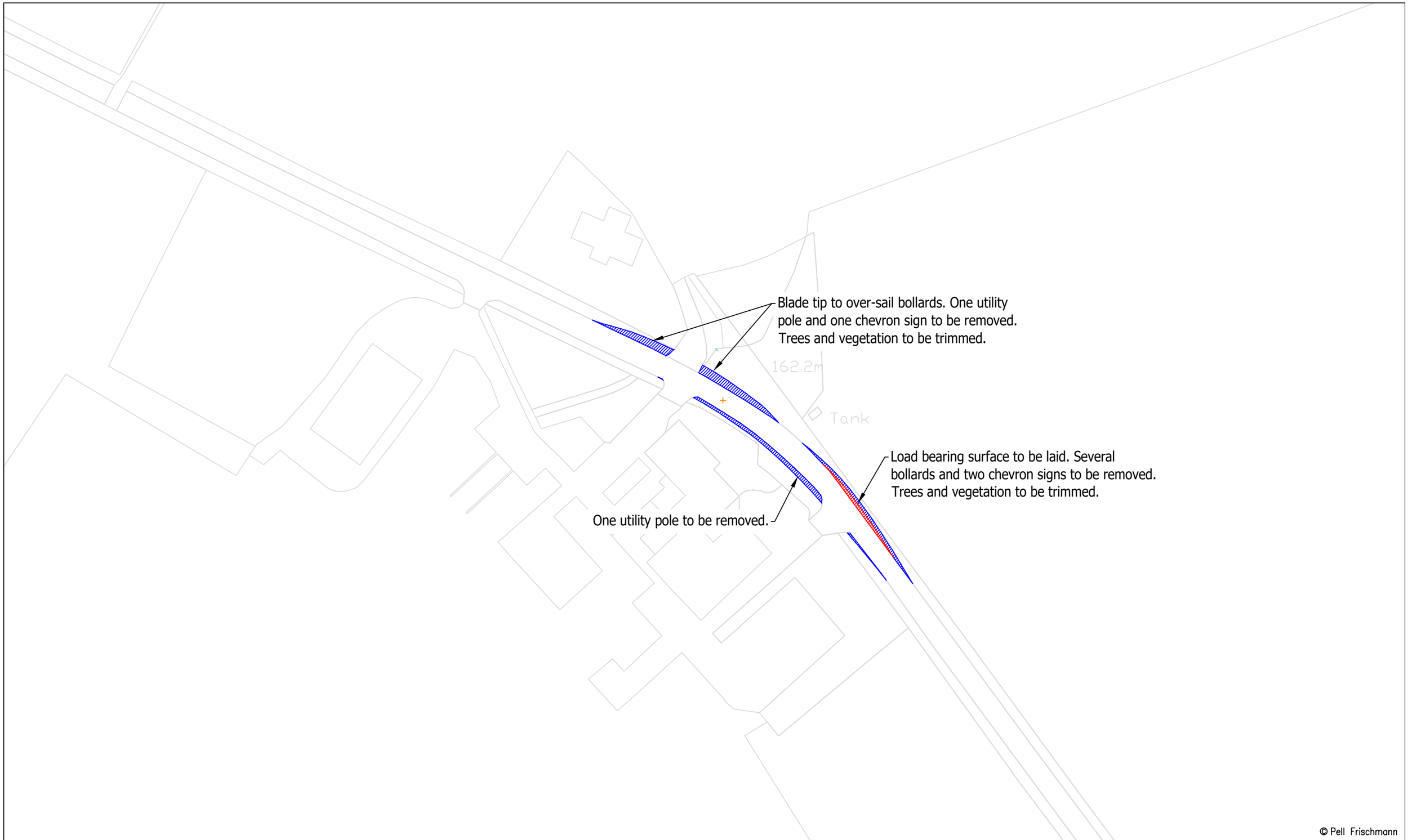
File No.: 220314 Brockloch Rig Tracking.dwg

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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www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Smithston

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		23

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.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

Blade

Tower

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www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Old Smithston

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		24

Scale: 1:2000 @ A3

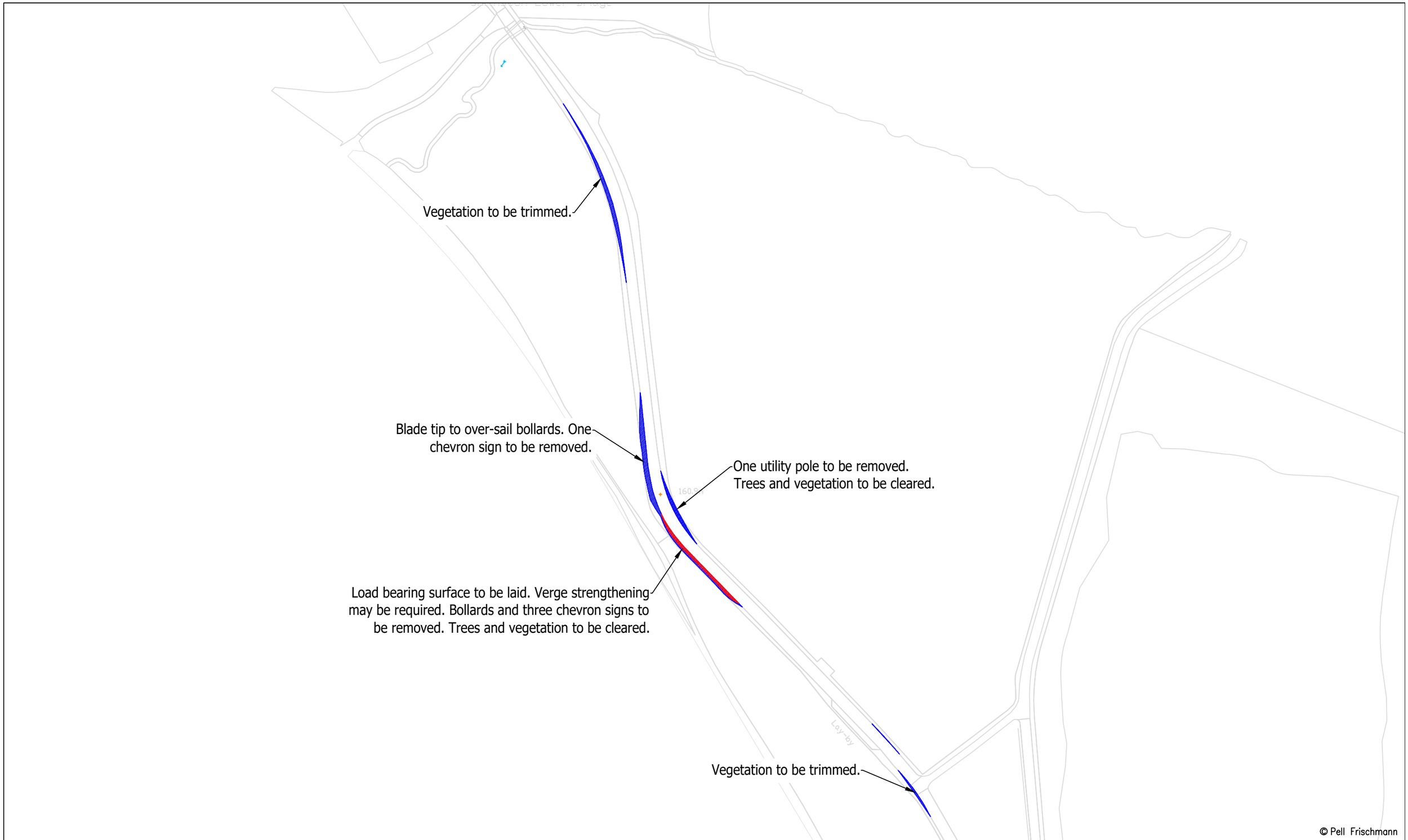
File No.: 220314 Brockloch Rig Tracking.dwg

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Old Smithston

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		24

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.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

Blade

Tower

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www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 north of Polnessan

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		25

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.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

One utility pole, one lighting column, two road signs, and two chevron signs to be removed. Blade tip to over-sail bollards. Trees and vegetation to be trimmed.

Bollards to be removed.
Vegetation to be cleared.

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 north of Polnessan

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		25

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

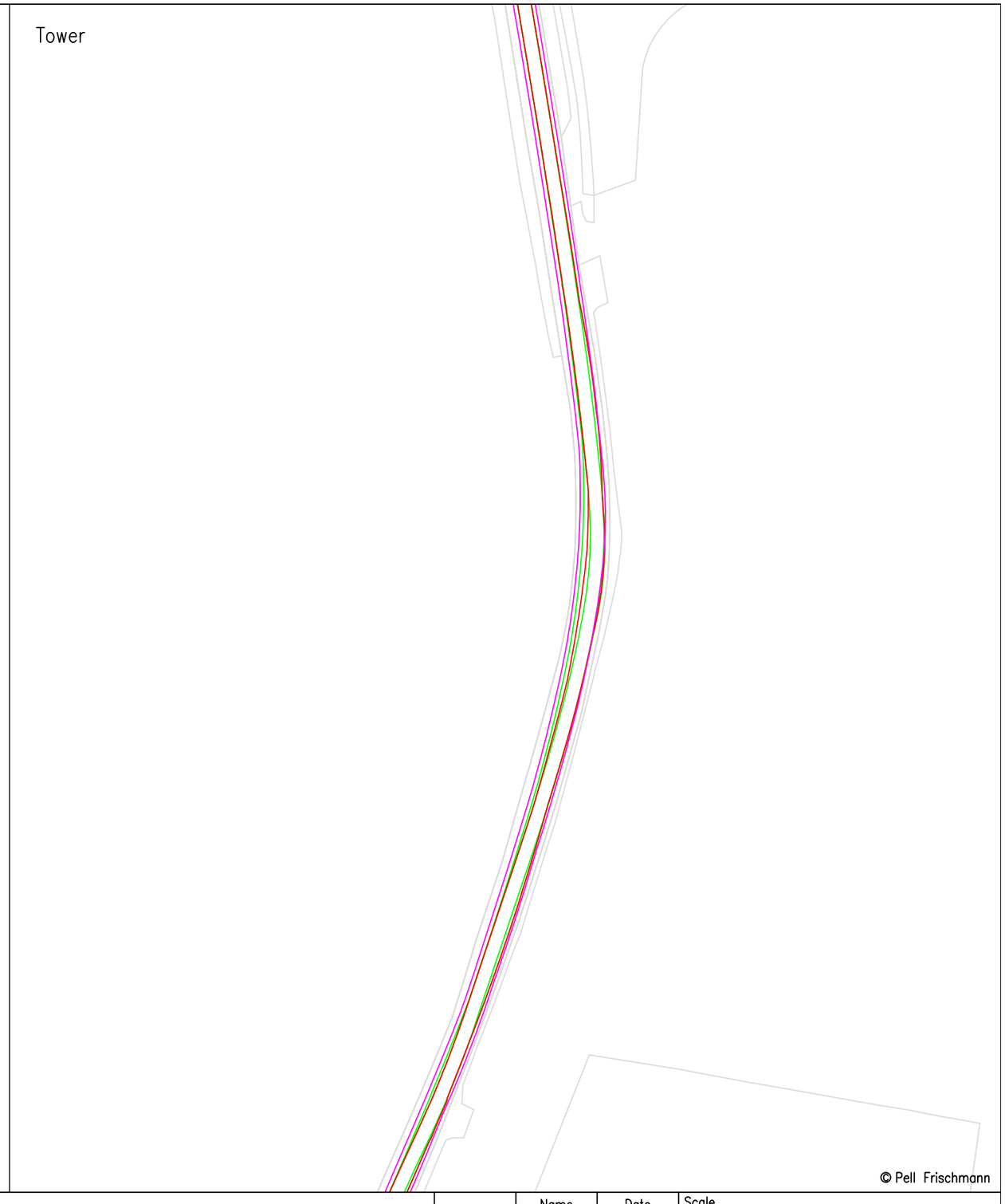
Drawing No.: SK21A

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

Blade

Tower



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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Polnessan

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		26

Scale: 1:1000 @ A3

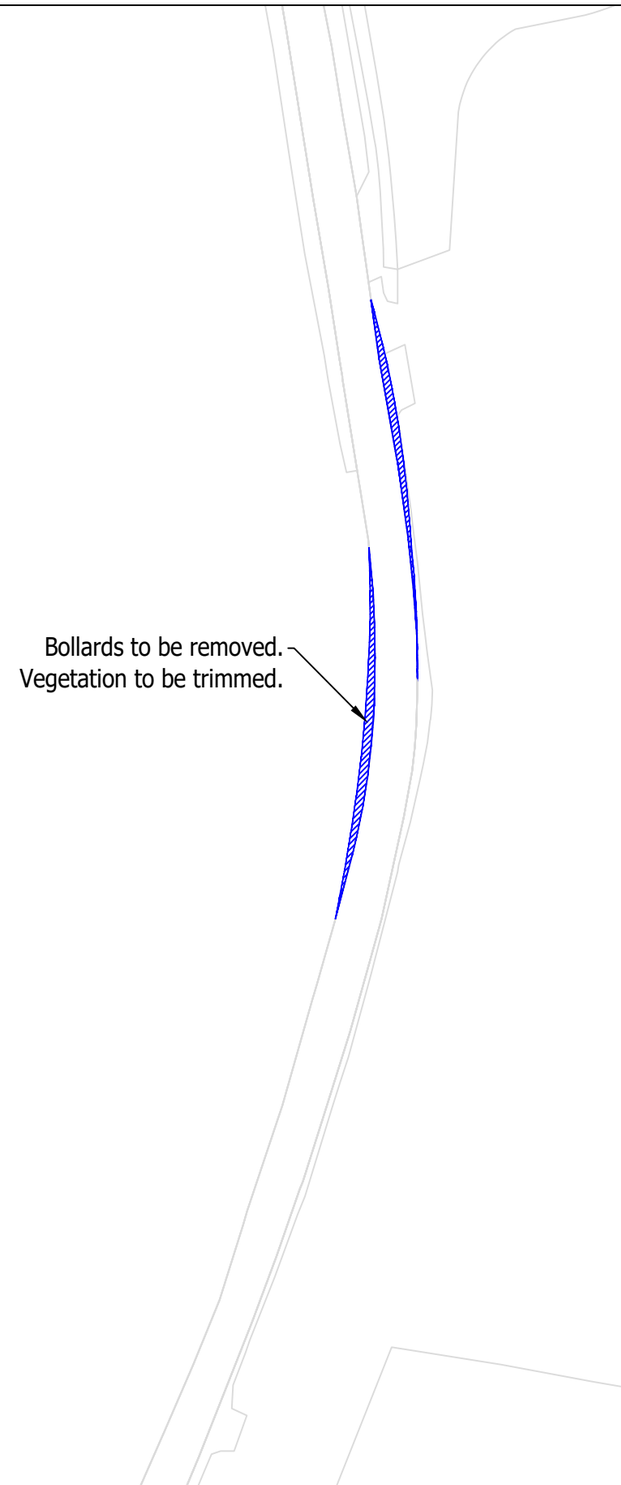
File No.: 220314 Brockloch Rig Tracking.dwg

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Polnessan

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		26

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

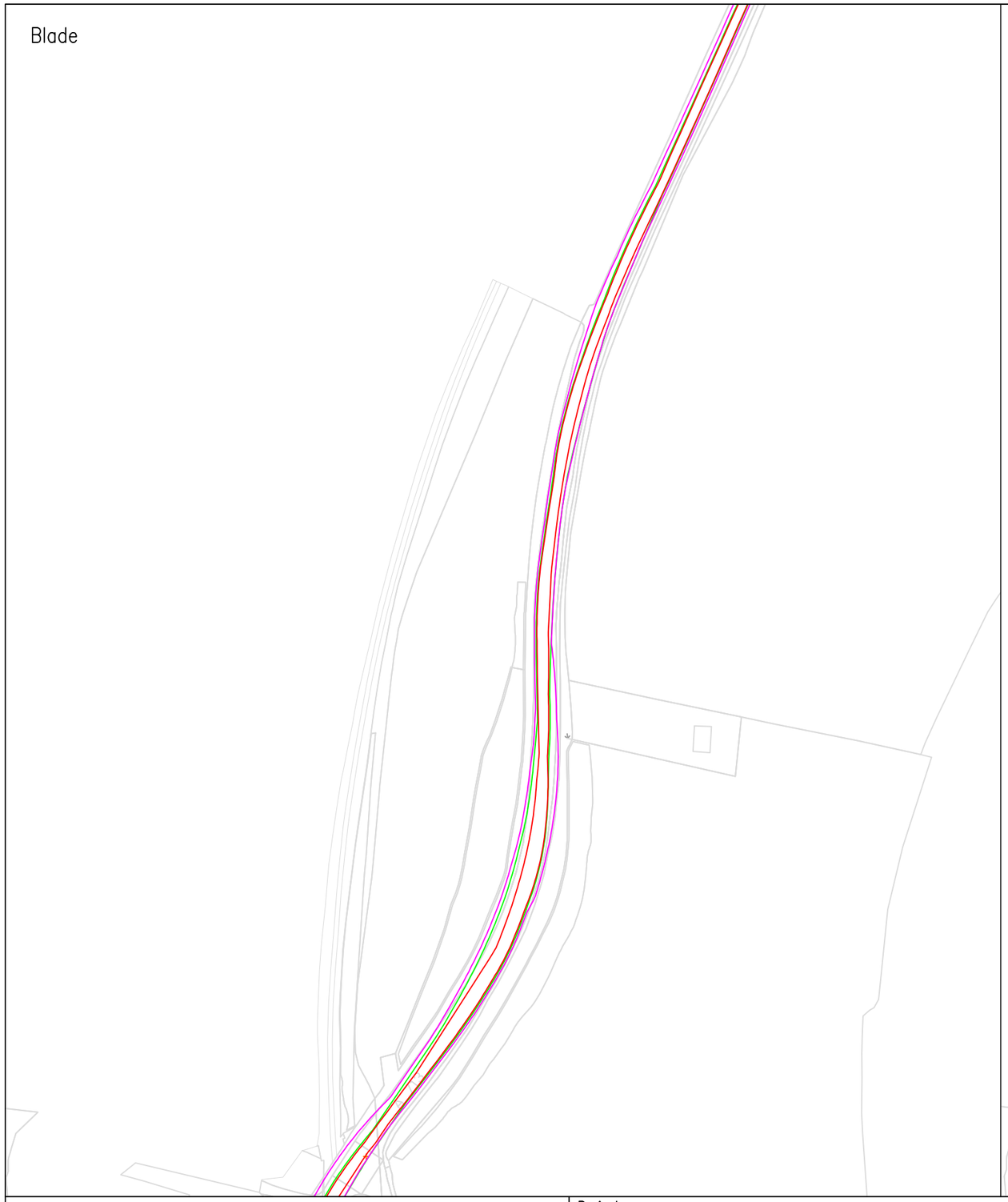
Drawing Status: Draft

Drawing No.: SK22A

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 northeast of Downieston

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		27

Scale: 1:1500 @ A3

File No.: 220314 Brockloch Rig Tracking.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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 northeast of Downieston

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		27

Scale: 1:1500 @ A3

File No.: 220314 Brockloch Rig Tracking.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

Blade

Tower

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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Downieston

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		28

Scale: 1:1500 @ A3

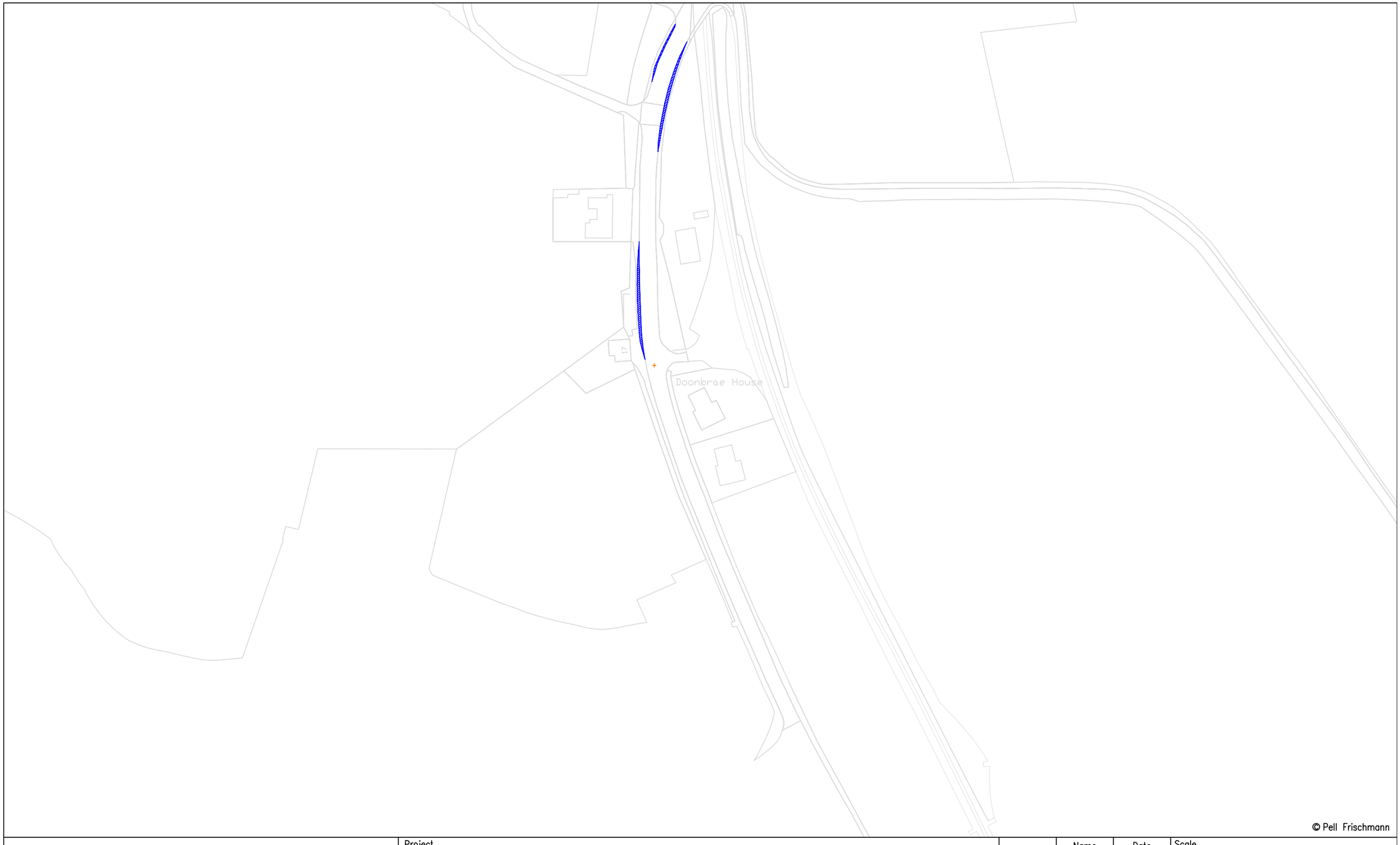
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK24

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Downieston

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		28

Scale: 1:1500 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

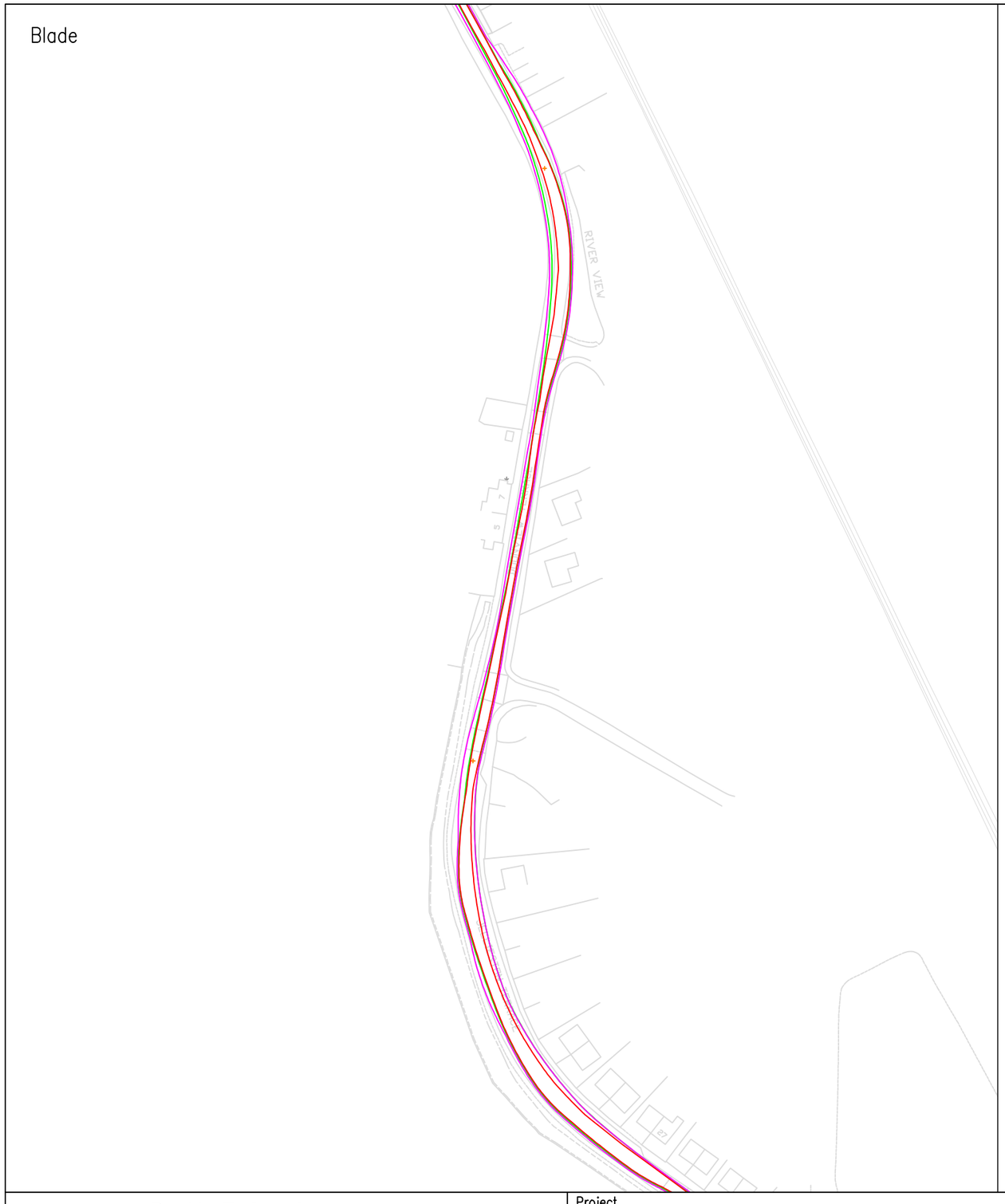
Drawing Status: Draft

Drawing No.: SK24A

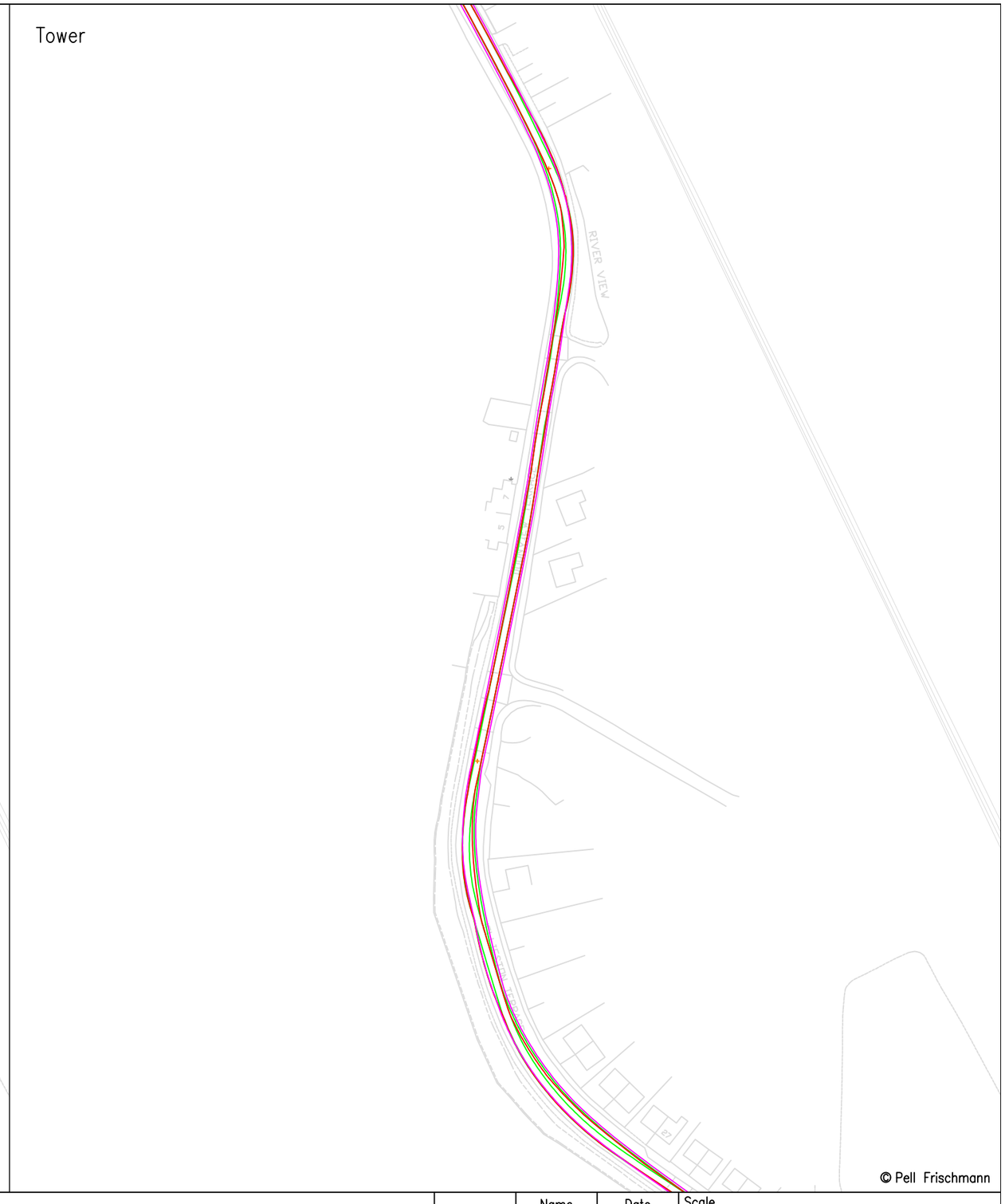
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Patna

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		29

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK25

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Patna

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		29

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

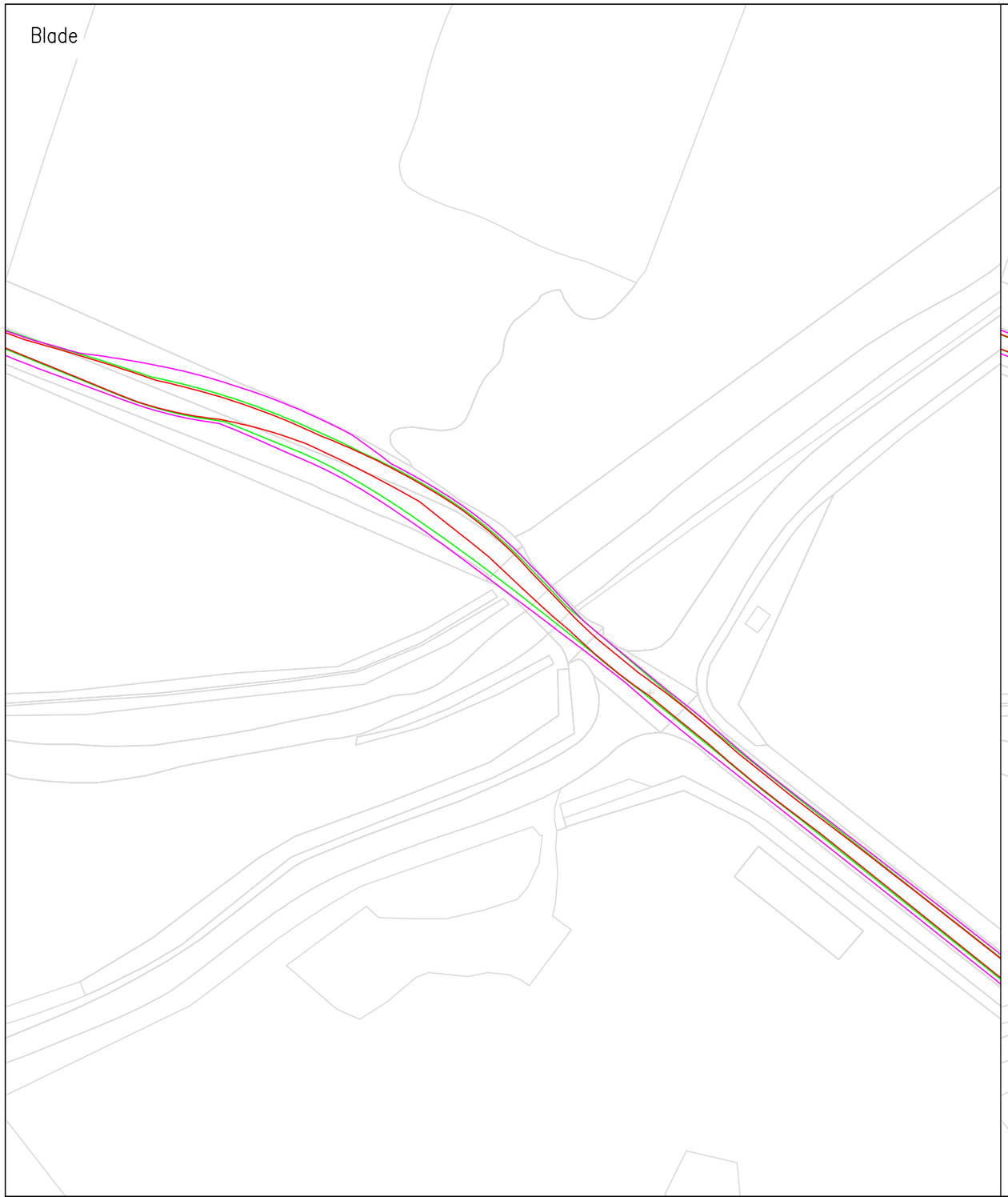
Drawing Status: Draft

Drawing No.: SK25A

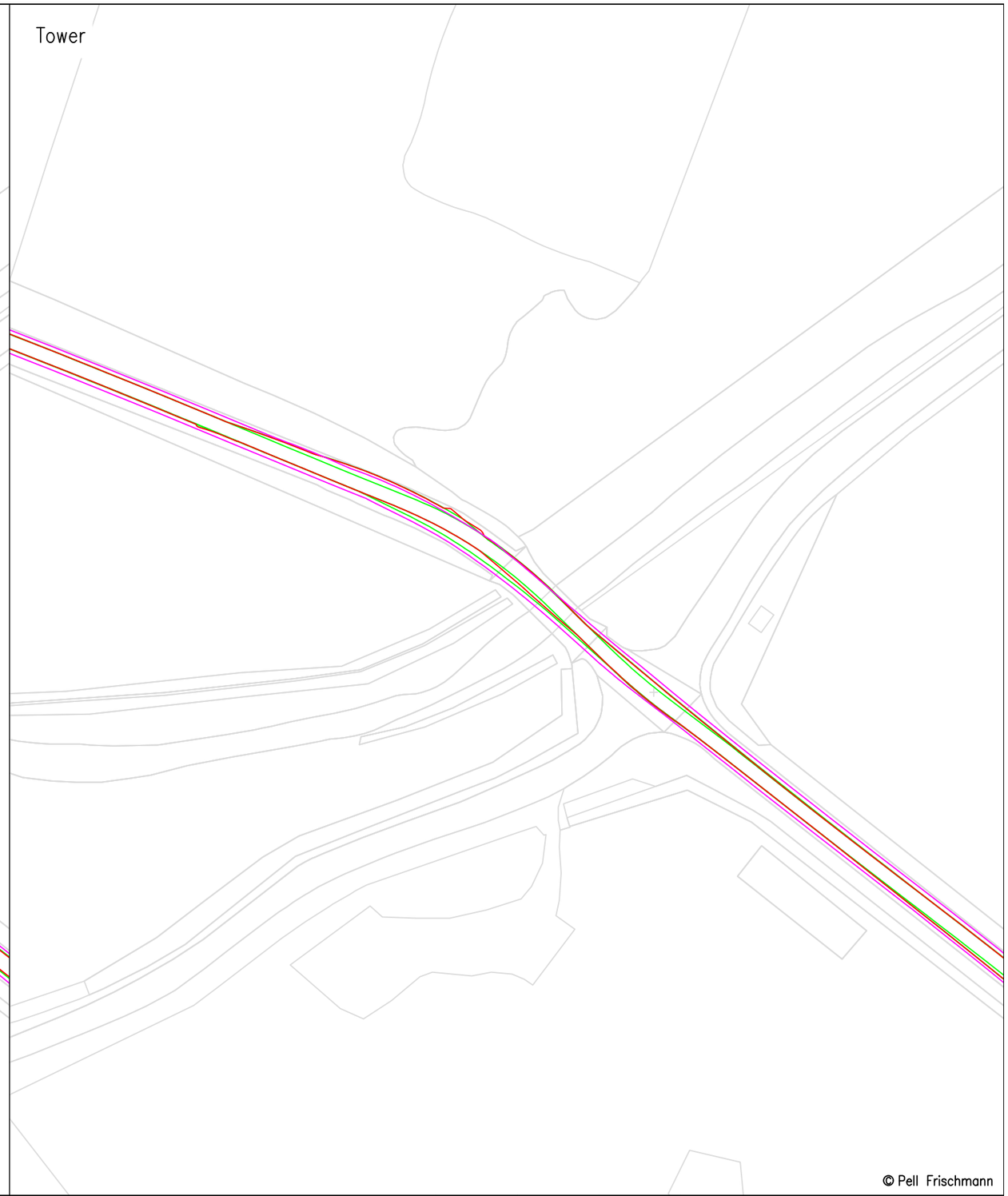
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Buchan's Bridge

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		34

Scale: 1:1000 @ A3

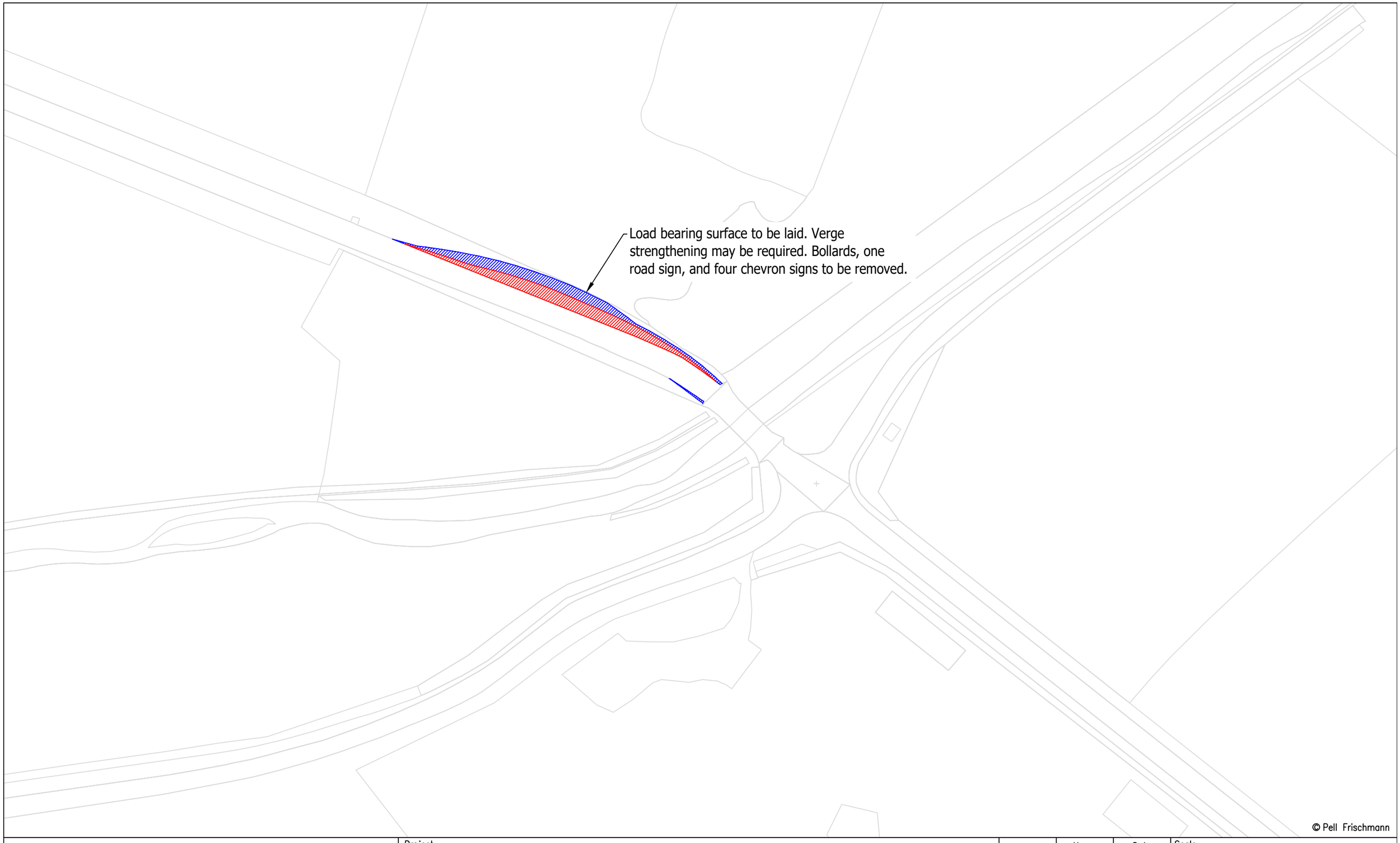
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK26

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Buchan's Bridge

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		34

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

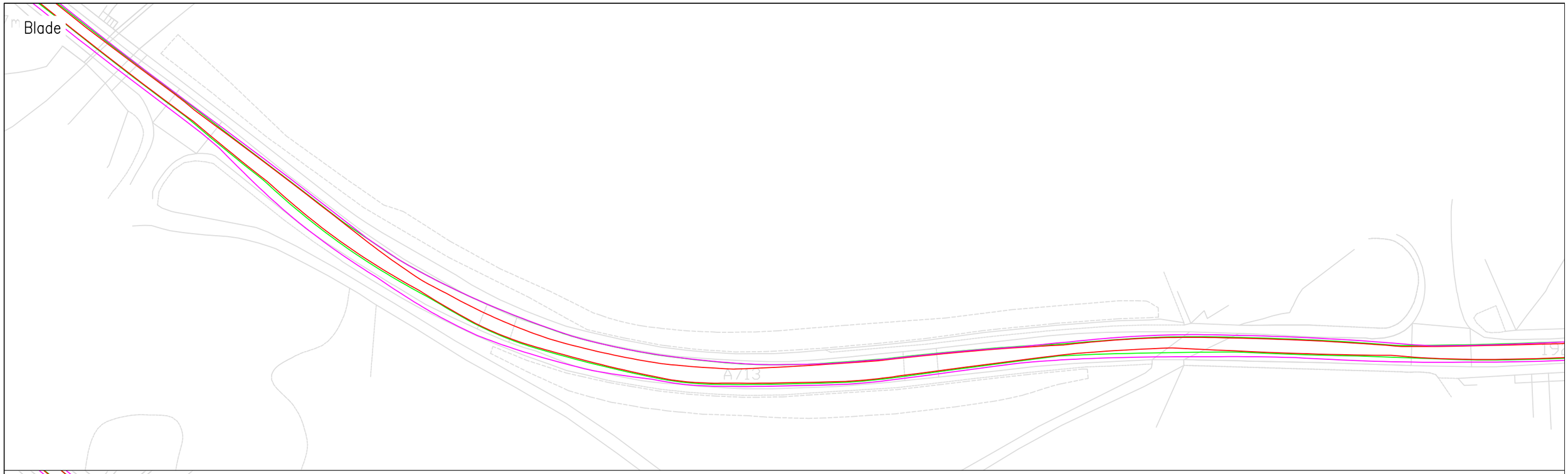
Drawing Status: Draft

Drawing No.: SK26A

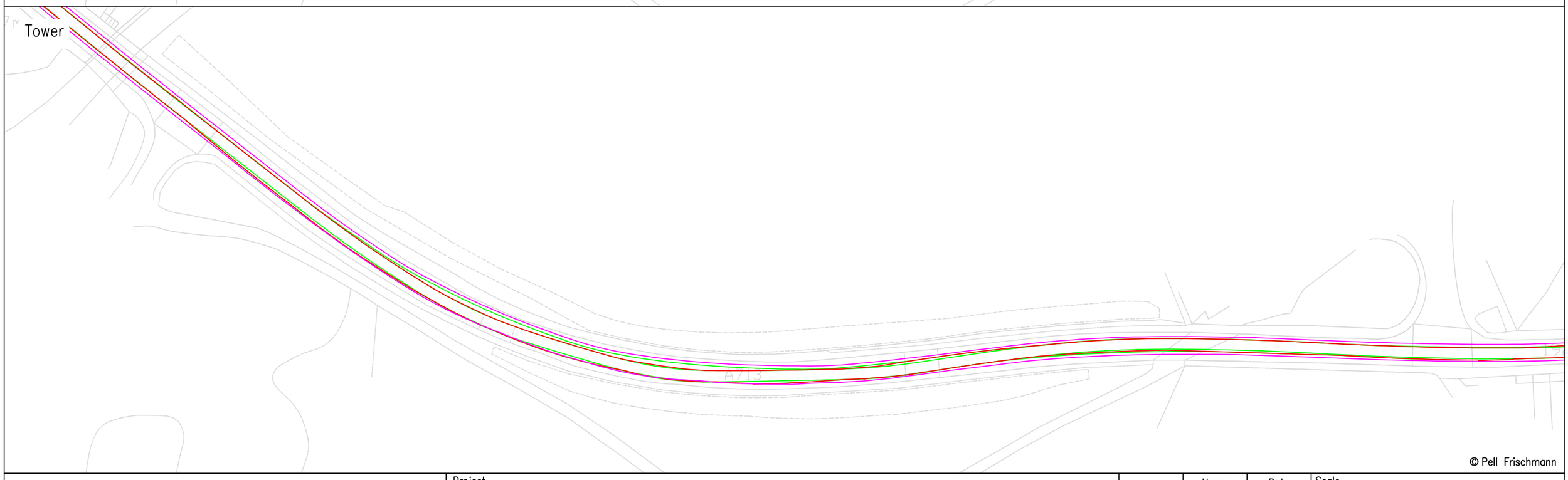
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Dalmellington War Memorial

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		36

Scale: 1:1000 @ A3

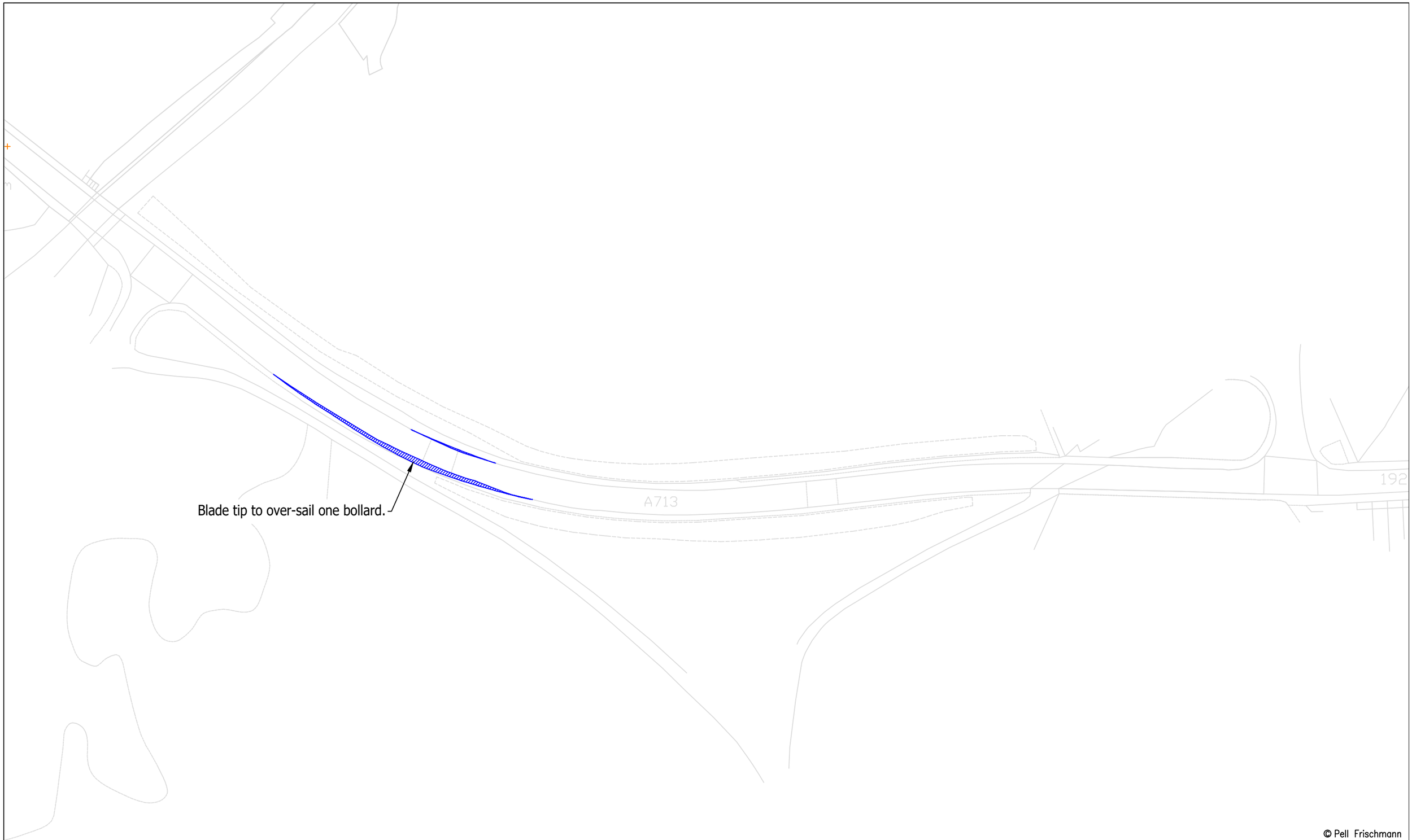
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK27

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Dalmellington War Memorial

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		36

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

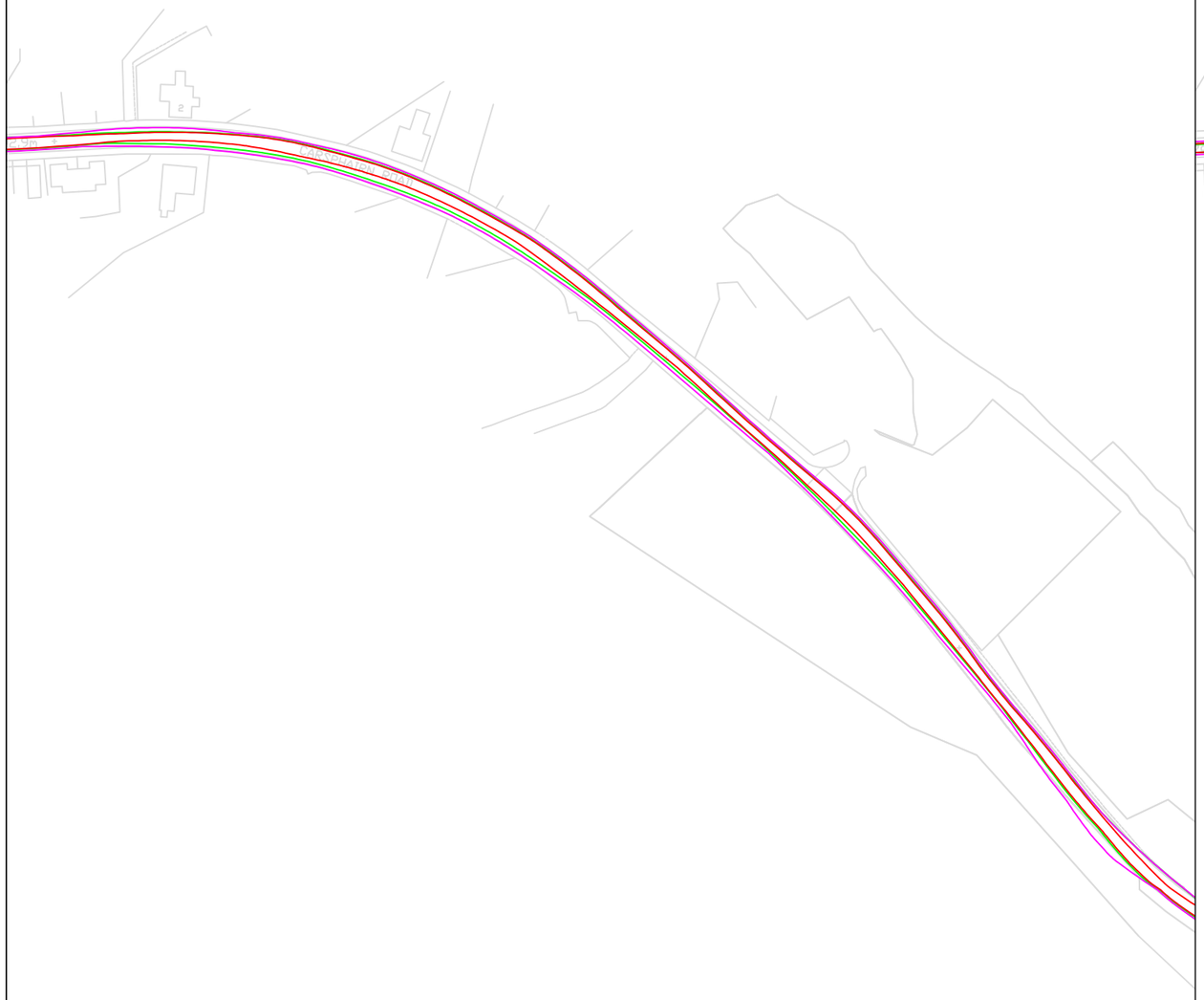
Drawing Status: Draft

Drawing No.: SK27A

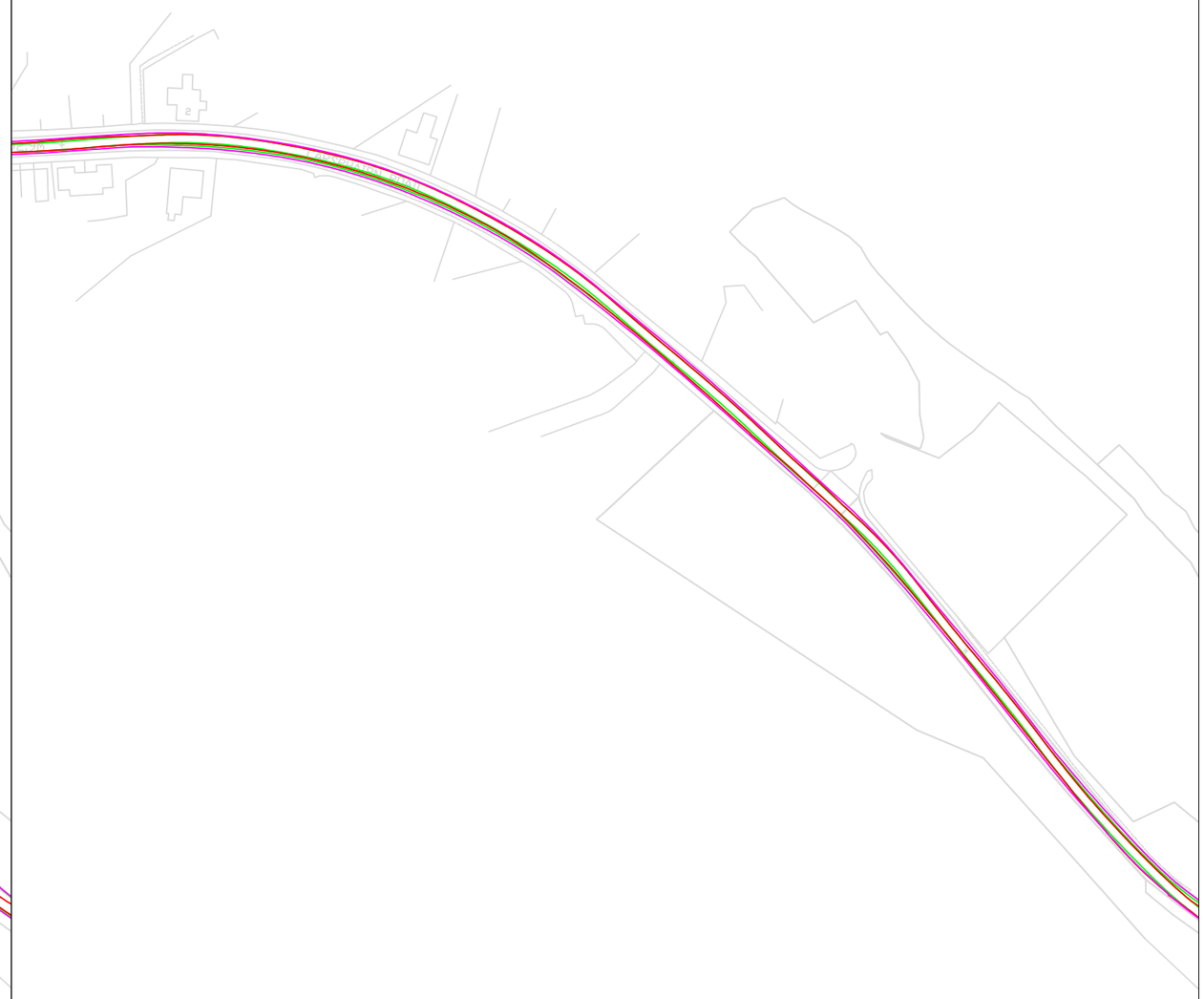
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 north of Bellsbank

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		37

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK28

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 north of Bellsbank

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		37

Scale: 1:1250 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK28A

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Kirn Bridge

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		38

Scale: 1:2000 @ A3

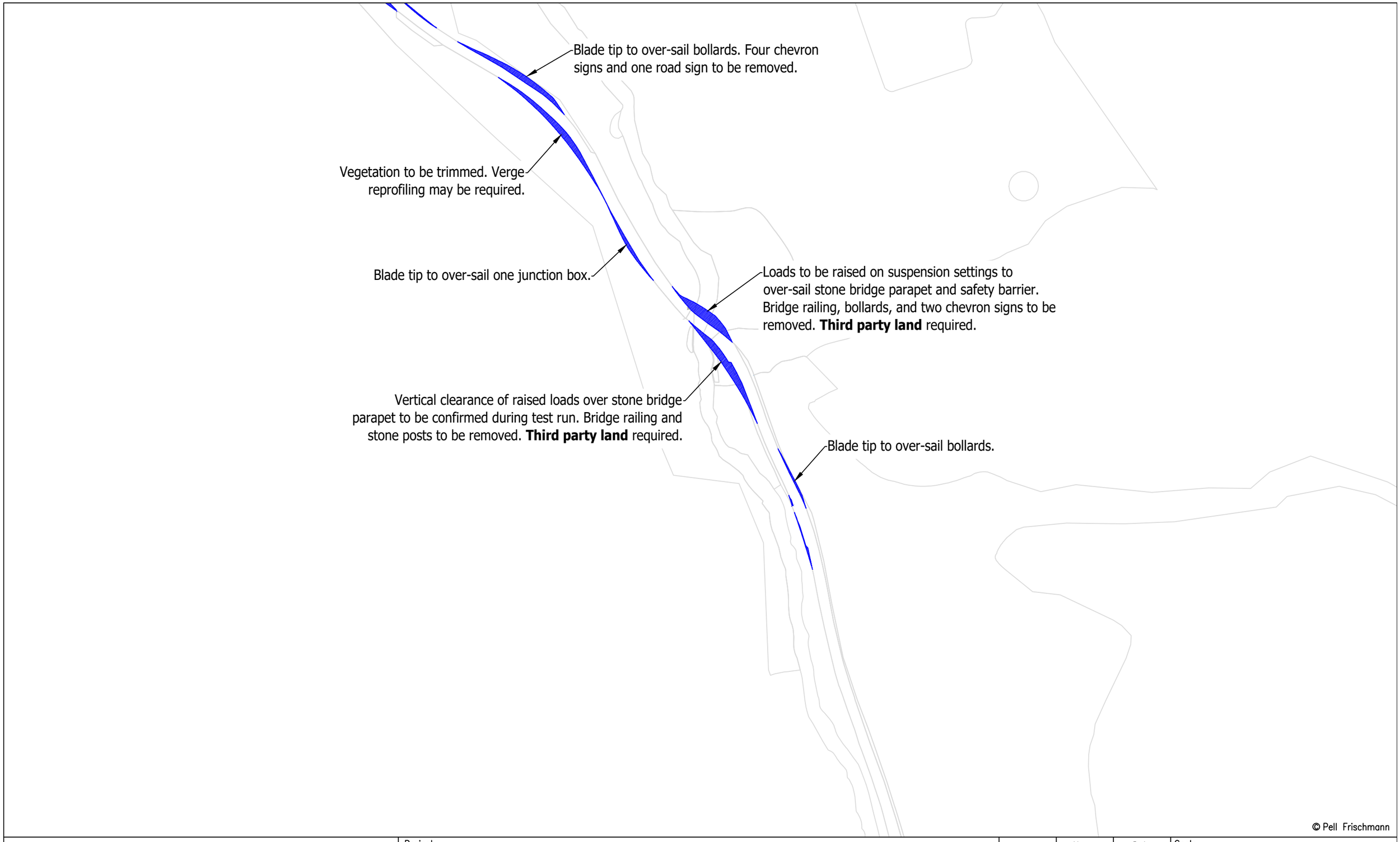
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK29

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Kirn Bridge

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		38

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK29A

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

Pell Frischmann
93 GEORGE STREET, EDINBURGH, EH2 3ES
Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 east of Pennyarthur

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		39

Scale: 1:2000 @ A3

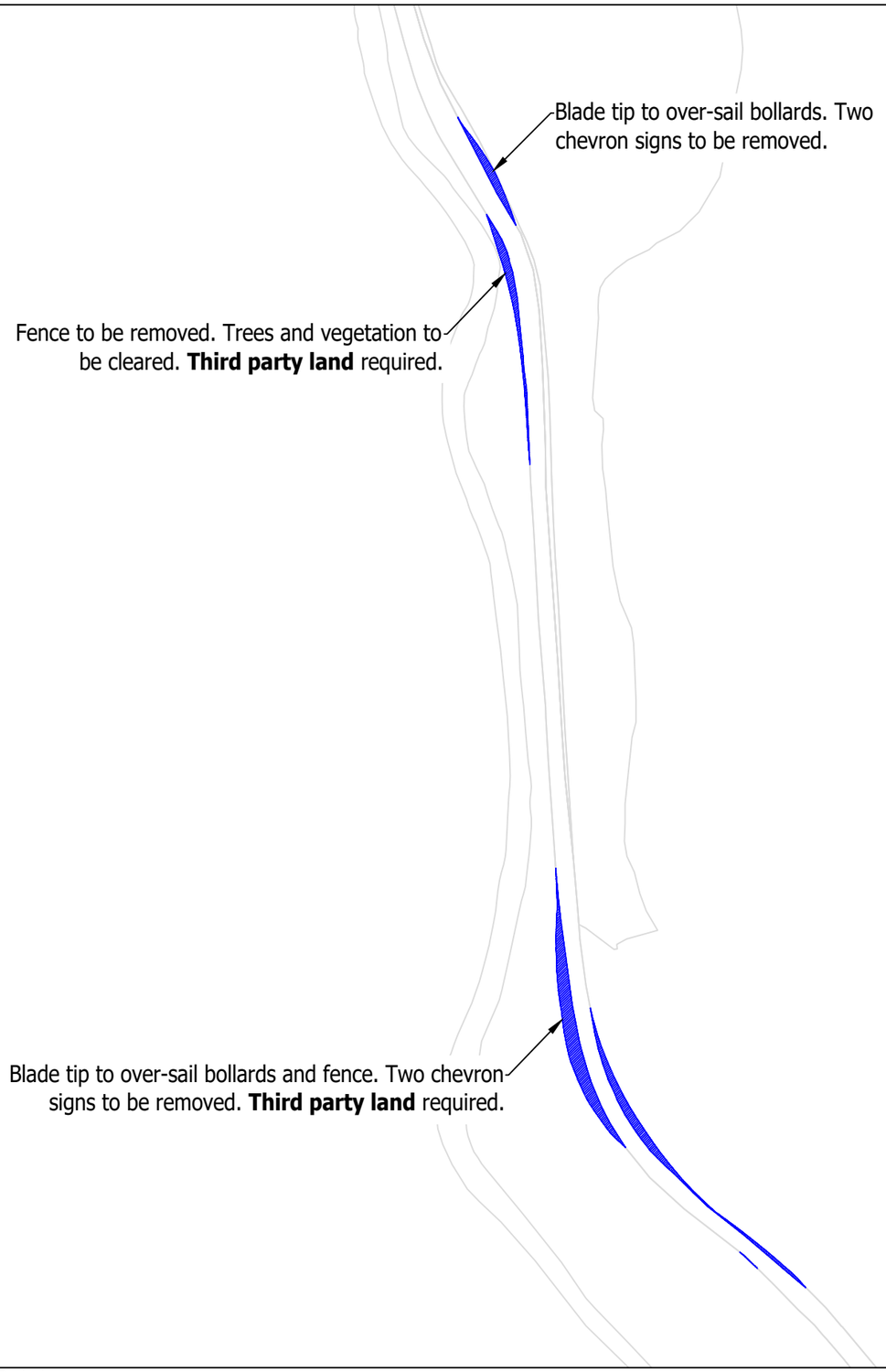
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK30

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 east of Pennyarthur

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		39

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK30A

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

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Mossdale

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		40

Scale: 1:1250 @ A3

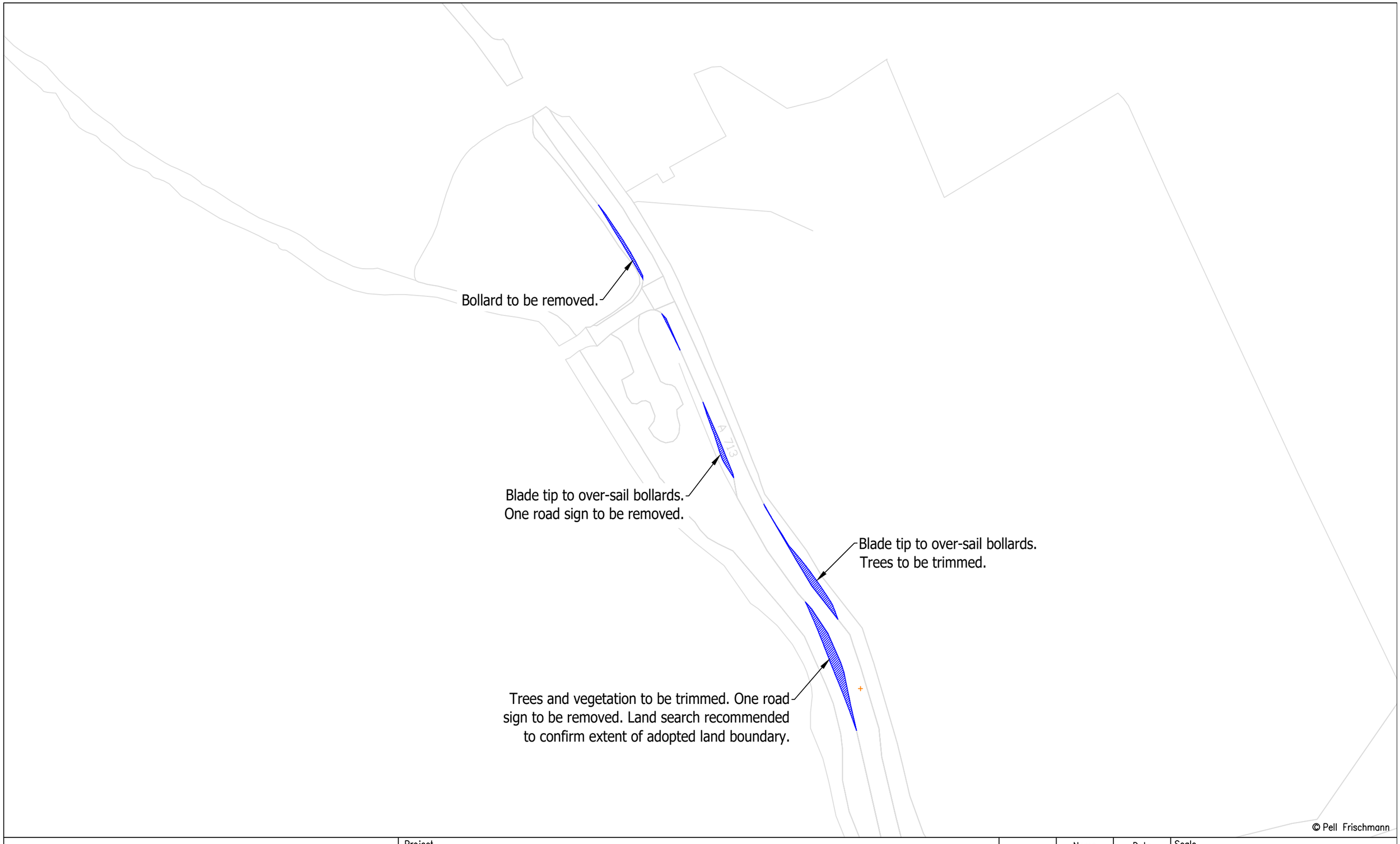
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK31

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Mossdale

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		40

Scale: 1:1250 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK31A

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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www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Mossdale Craig

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		41

Scale: 1:2000 @ A3

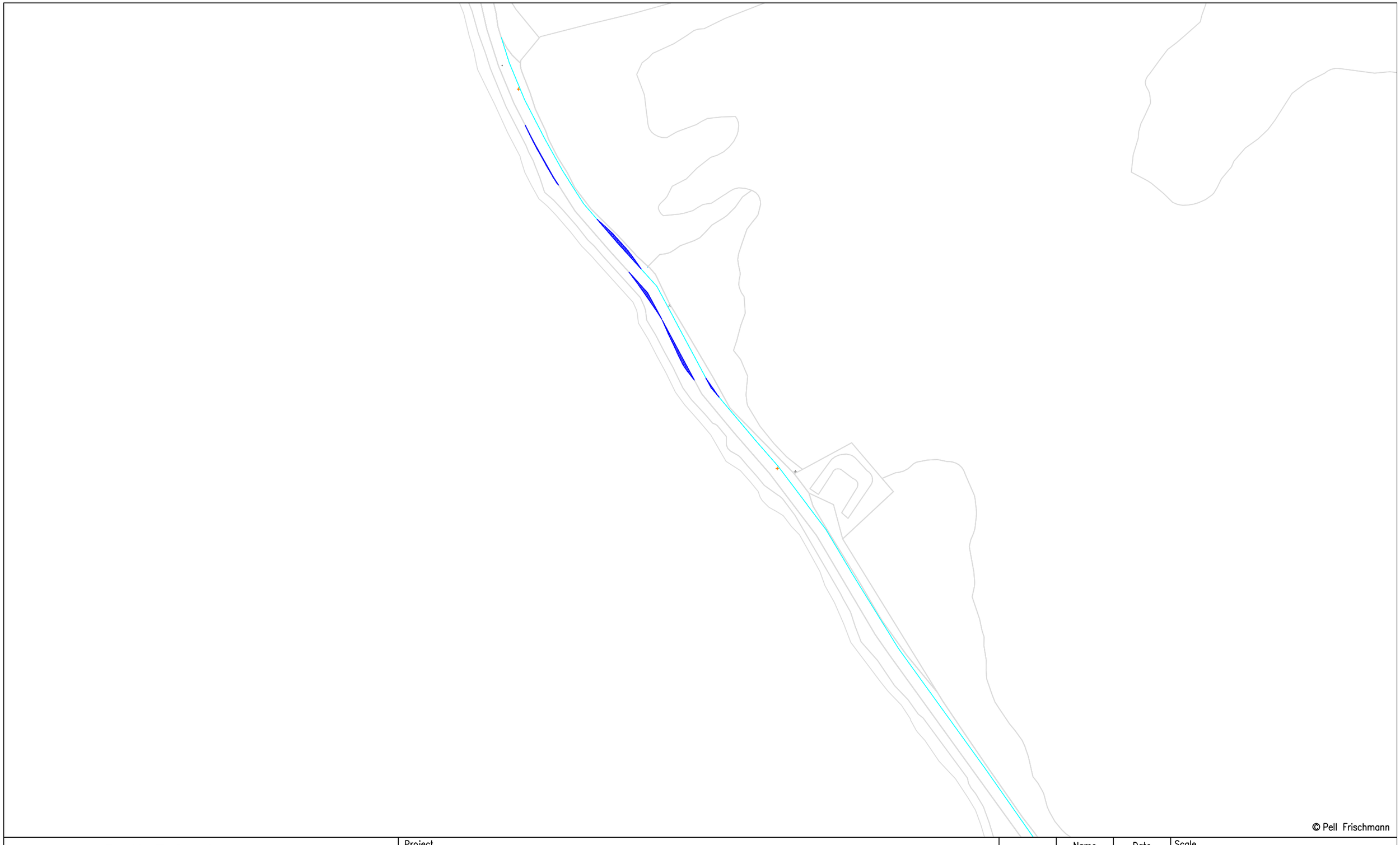
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK32

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Mossdale Craig

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		41

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

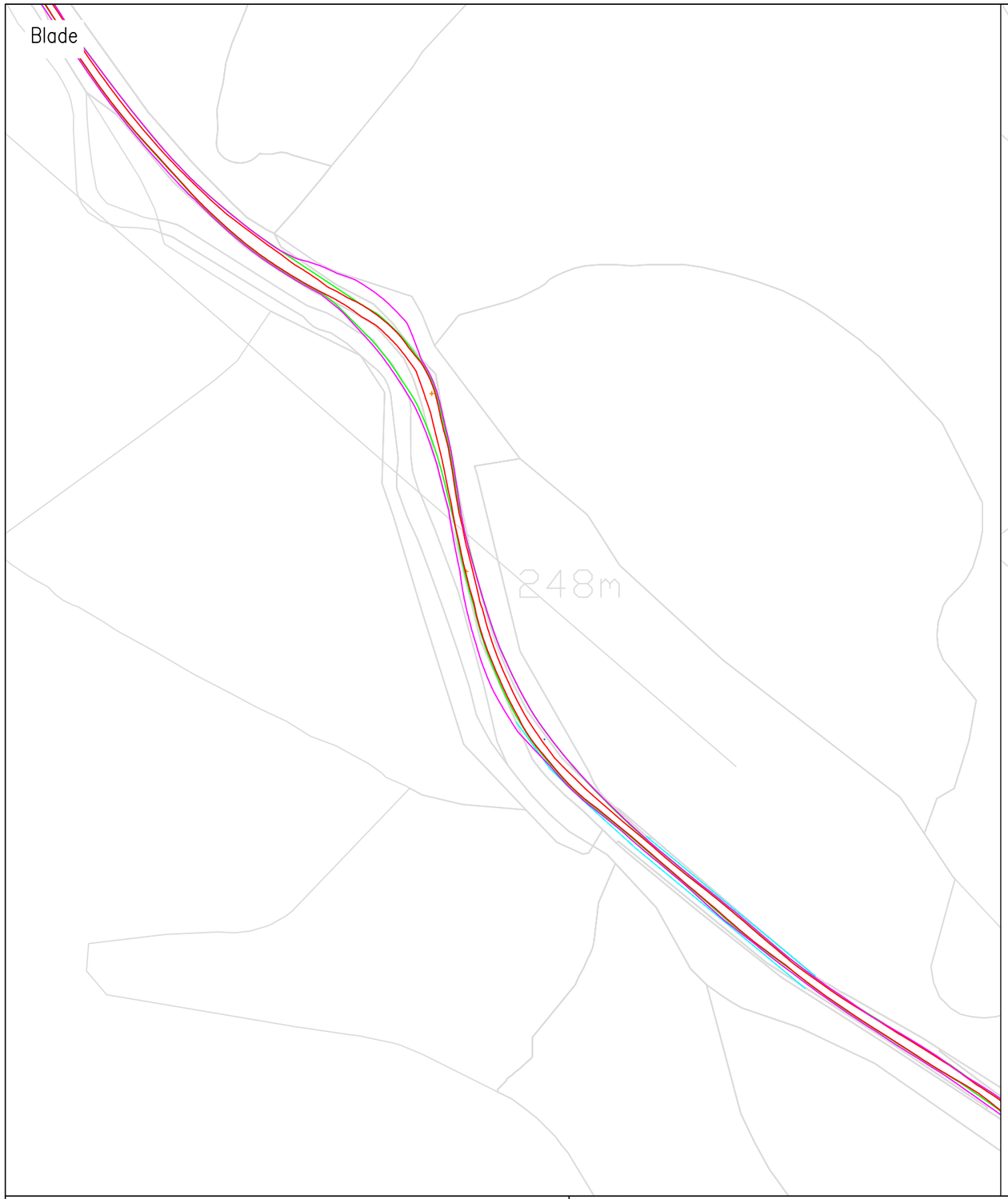
Drawing Status: Draft

Drawing No.: SK32A

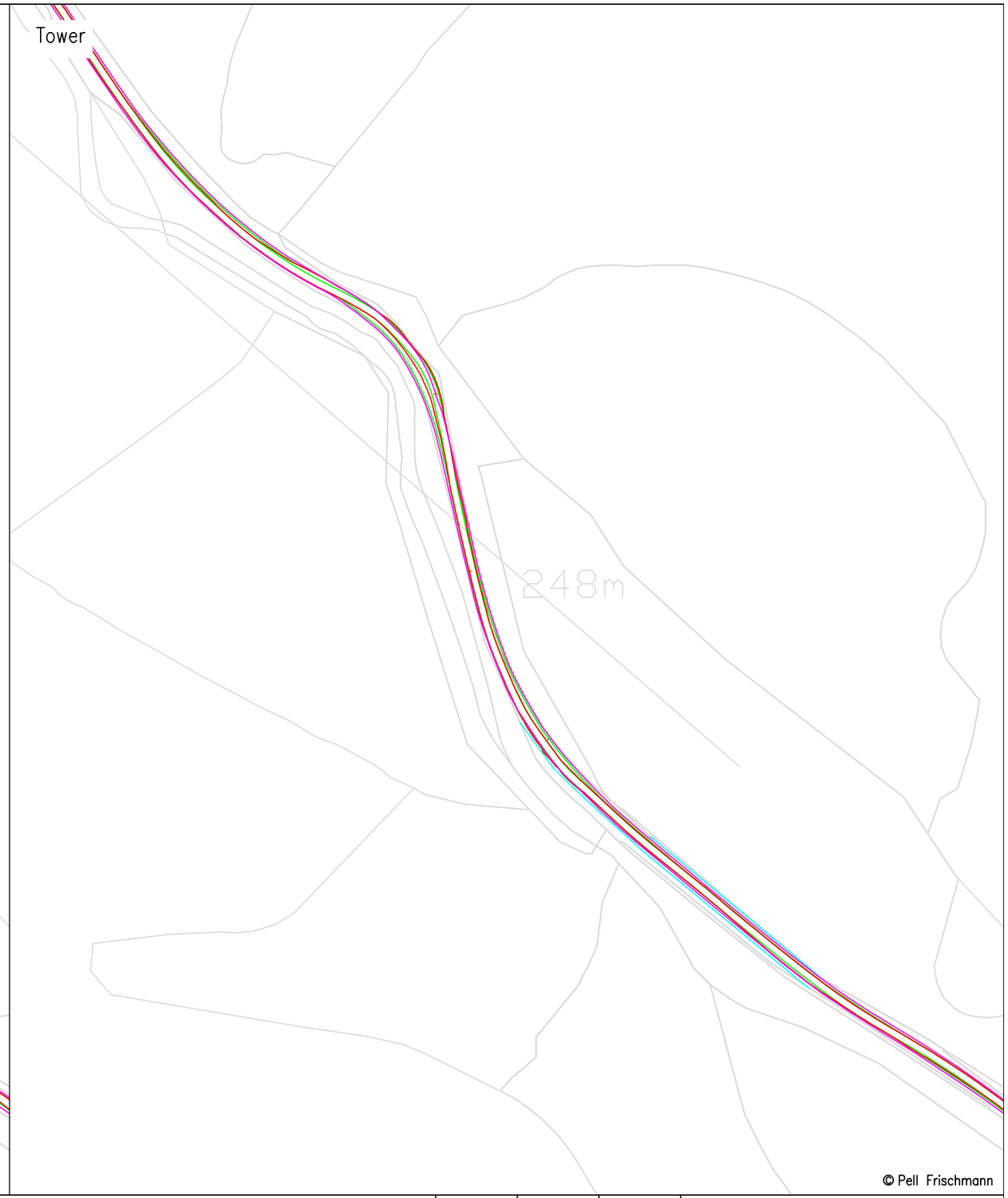
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 north of Bryan's Heights

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		42

Scale: 1:2000 @ A3

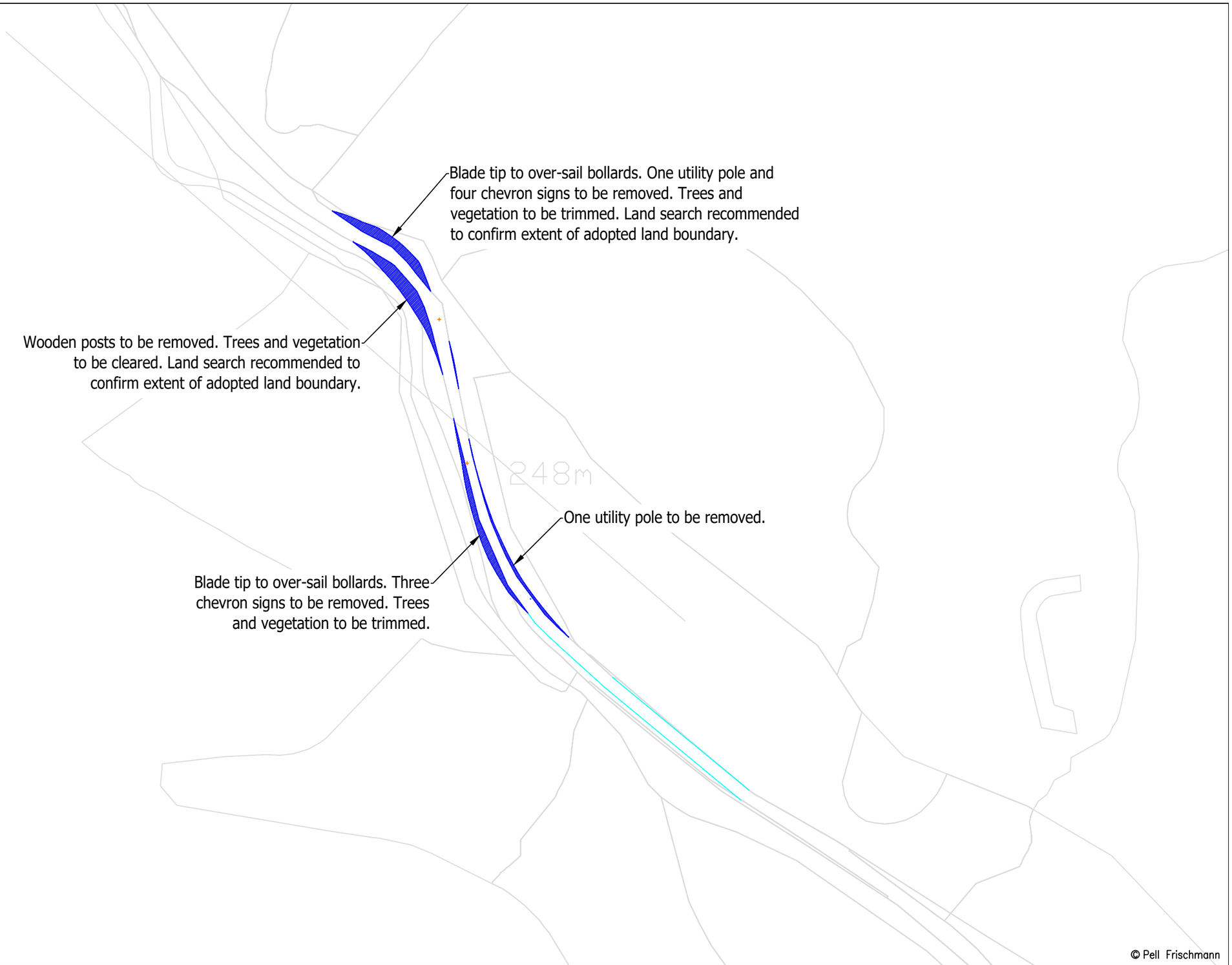
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK33

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 north of Bryan's Heights

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		42

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

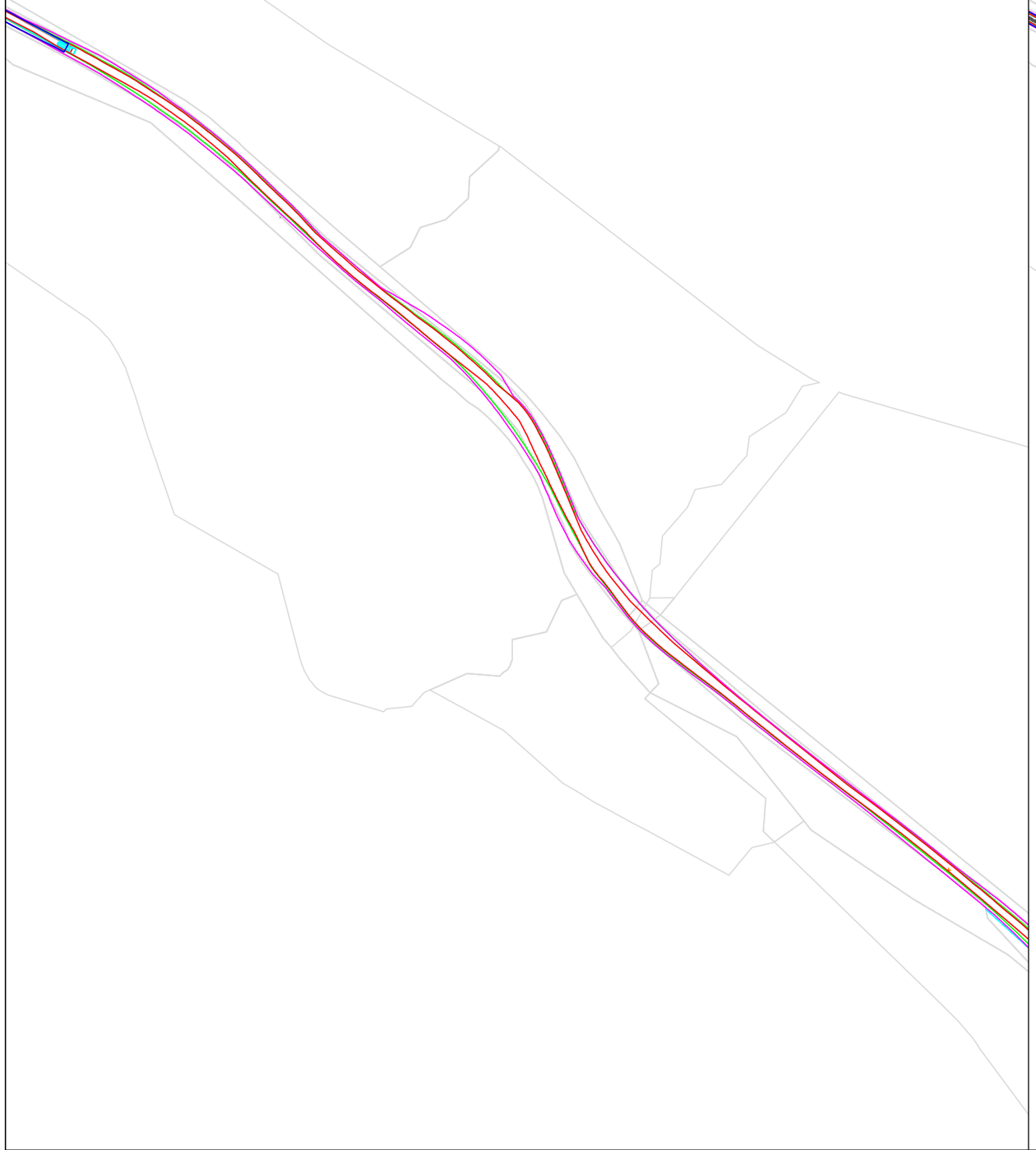
Drawing Status: Draft

Drawing No.: SK33A

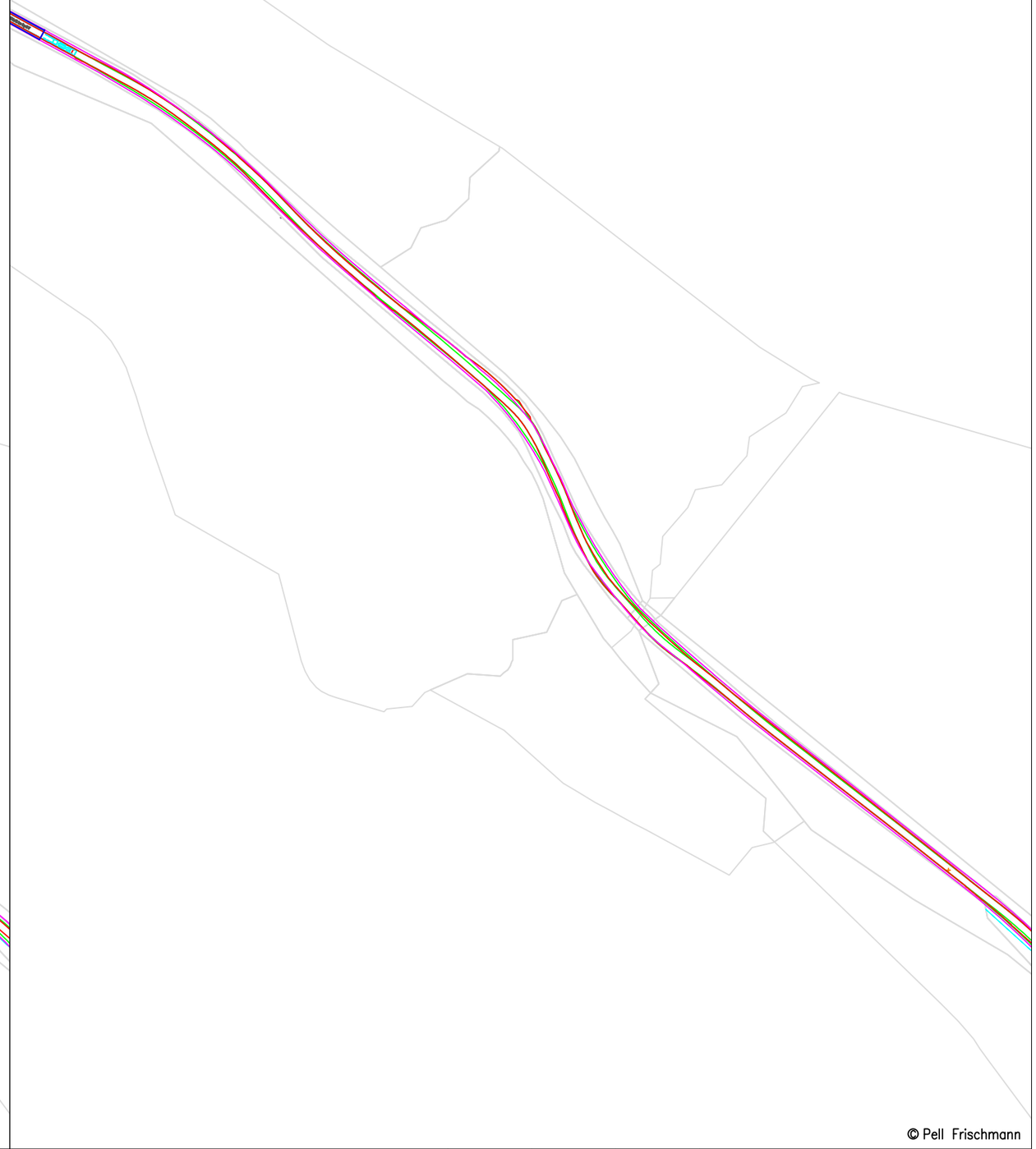
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Craig House

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		43

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK34

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Craig House

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		43

Scale: 1:1750 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

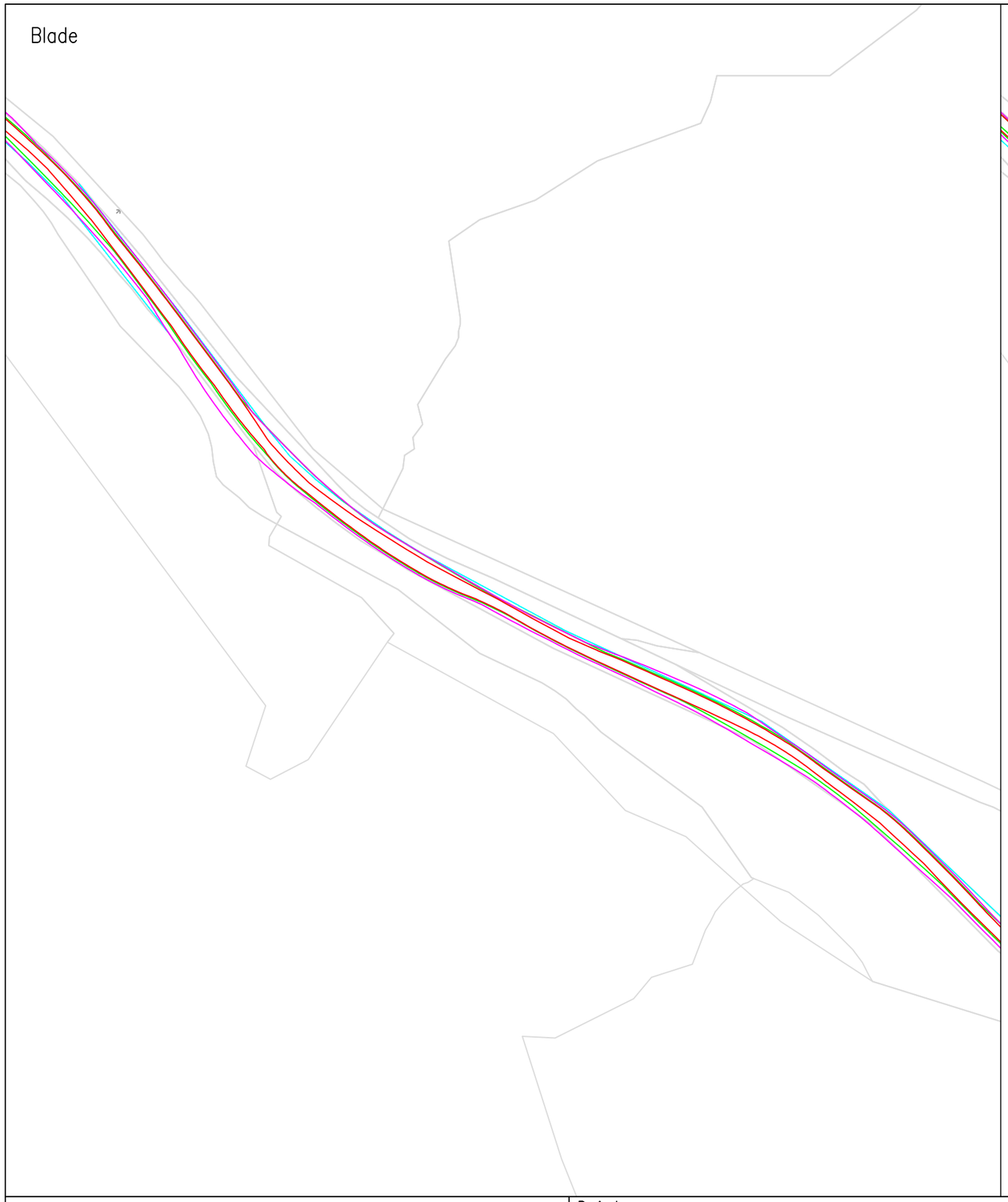
Drawing Status: Draft

Drawing No.: SK34A

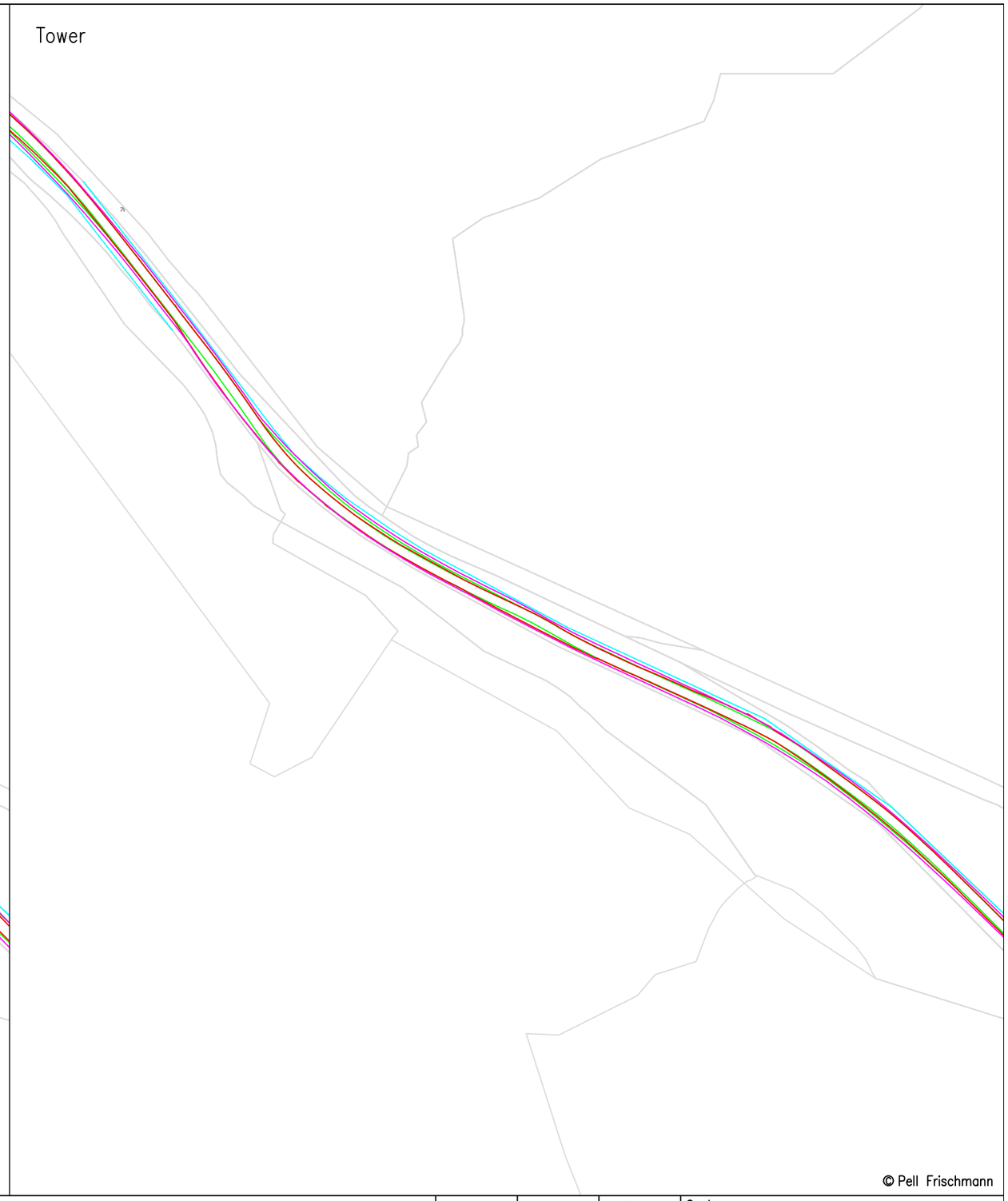
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.

Revision: 1

Blade



Tower



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

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Horse Knowe

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		44

Scale: 1:1500 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK35

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: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Horse Knowe

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		44

Scale: 1:1000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK35A

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

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Troston Knowe

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		45

Scale: 1:2000 @ A3

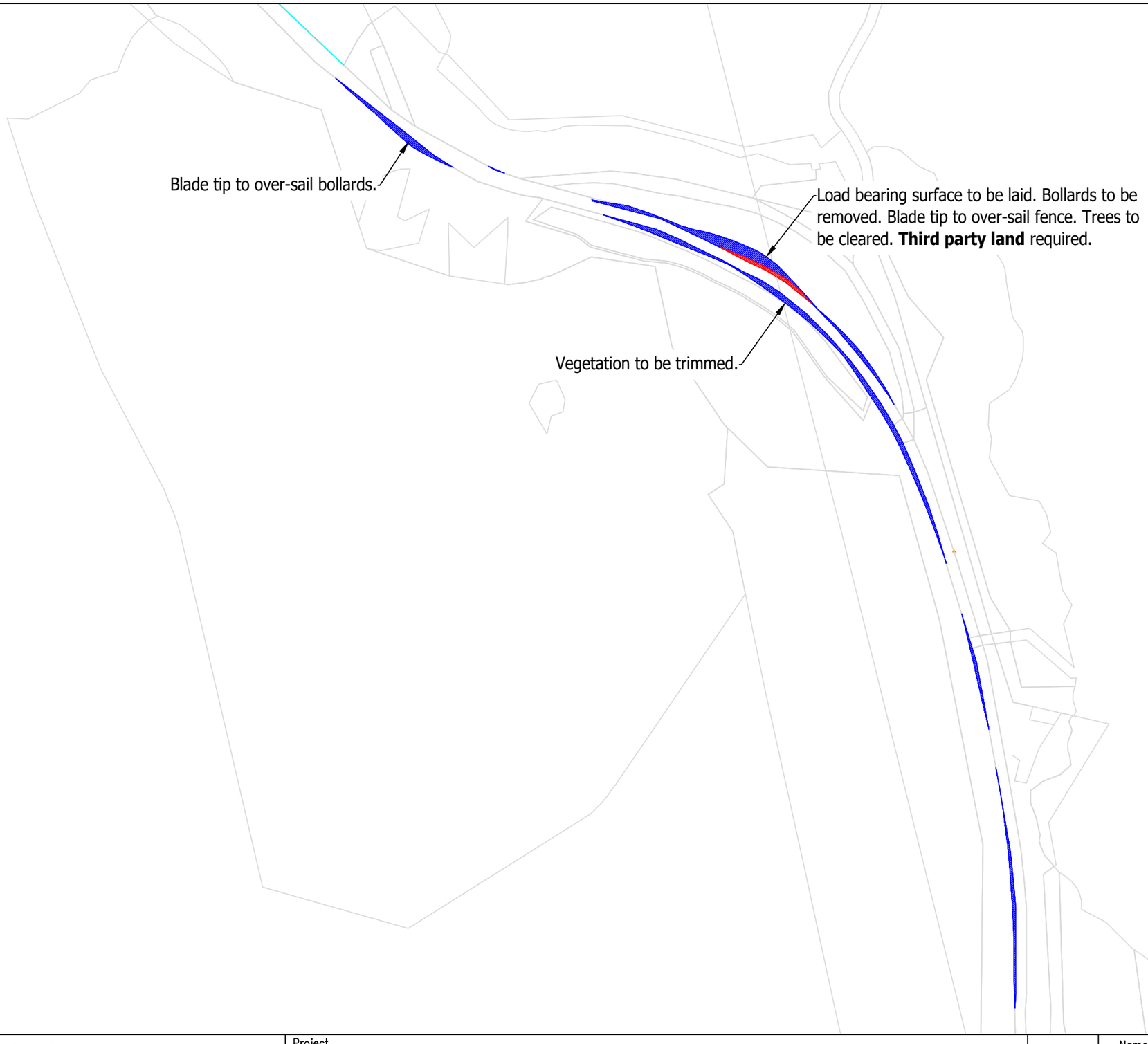
File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK36

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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Tel: +44 (0)131 240 1270
Email: pfedinburgh@pellfrischmann.com
www.pellfrischmann.com

Client: Fred Olsen Renewables Limited

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

Project: Windy Standard 1 Repower Wind Farm

Drawing Title: Vestas V162 Blade & Tower

SPA Location: A713 Troston Knowe

	Name	Date
Drawn	GLJ	18/03/2022
Designed	GLJ	18/03/2022
Checked	GB	18/03/2022
Point of Interest		45

Scale: 1:2000 @ A3

File No.: 220314 Brockloch Rig Tracking.dwg

Drawing Status: Draft

Drawing No.: SK36A

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 Correspondence

From: M8DBFO Abloads
Sent: 06 April 2022 14:24
To: Ginny Ludford-Jones
Cc: M8DBFO Abloads
Subject: RE: Brockloch Wind Farm ESDAL

On behalf of Scottish Roads Partnership

I have no comment to make on this movement as it does not enter our network which is for the purposes of potential routes between KGV and your destination is the M8 from J10 to J6, M73 whole length and M74 J3A to J6

Regards

Iain Franklin CEng MICE MCIHT

Principal Engineer | Structures | Amey Consulting

t: 01698 730 254 | **mob:** 07775 723 631 | **e:** iain.franklin@amey.co.uk

Amey | Precision house | McNeil Drive | Motherwell | ML1 4UR

From: Ierland, Alan
Sent: 06 April 2022 15:05
To: Ginny Ludford-Jones
Cc: ARA.AbnormalLoad ; Smith, Kirsty; Walker, Ciaran ; Nairn, Douglas

Subject: RE: Brockloch Wind Farm ESDAL [OFFICIAL]

CLASSIFICATION: **OFFICIAL**
Ginny,

The proposed abnormal load route is the same route that is currently being promoted for the South Kyle Wind Farm (SKWF).

Various road widenings, bridge strengthenings and bridge assessments have been undertaken by the SKWF developer to prove the A713 routes suitability. This is still being finalised.

Before any decision could be made on the suitability of the A713 route for the movement of the proposed Brockloch WF turbine components the specific abnormal load vehicle configuration will be required in order to confirm that the individual structures are suitable to carry the loads and that the loads can negotiate the route.

Structure capacity information from the structural load assessments that the SKWF developer has funded will assist ARA in this process but depending on the specific abnormal load configurations proposed for Brockloch there may be a requirement for further analysis work to be carried out on structures at the developers cost. If the Brockloch WF components are larger and heavier than the SKWF abnormal load configurations then it is likely that further assessments will be required.

The 81m rigid length mentioned is greater than that assessed for SKWF. Thus, the Brockloch blade vehicles are likely to be heavier and longer. The axle weights may still be OK but the additional length may prove problematic in respect of swept paths at various points along the route. The adopted extents for the road widening's funded and constructed by SKWF have not yet been concluded.

Network Rail will require to advise on the suitability of the two rail bridges on the route that fall within their ownership (A713/50 Rail Bridge No. 212/12 [Holehouse] and A713/70 Rail Bridge No. 212/18 [Downieston, Patna]).

I trust the above is of assistance.

Regards,

Alan Ierland, BSc Hons, CENG, MICE

Design & Environment Team Manager – Ayrshire Roads Alliance

Opera House, 8 John Finnie Street, Kilmarnock, East Ayrshire, KA1 1DD

From: O'Connor, Brian (NRS)
Sent: 08 April 2022 12:41
To: Ginny Ludford-Jones
Cc: Ford, James (NRS); Dempsey, Henry (NRS)
Subject: RE: Brockloch Wind Farm ESDAL (OFFICIAL)

OFFICIAL

Good Afternoon Ginny,

Just a short reply to confirm that the proposed route review from Glasgow to Dumfries is acceptable to Glasgow City Council, with no structural issues present, at this time.

Kind Regards.

Brian O'Connor.

From: rsgbrb
Sent: 07 April 2022 13:16
To: Ginny Ludford-Jones
Subject: RE: Brockloch Wind Farm ESDAL

Dear Ginny,

Thank you for your enquiry.

I have assessed the route, and can confirm that no structures belonging to the Historical Railways Estate will be affected.

I therefore have no objections or any further comment to make.

Regards

Tania

Tania Howell

Abnormal Loads Officer (on behalf of **National Highways Historical Railways Estate**)

Jacobs

From: OSD Abnormal Loads Scotland
Sent: 12 April 2022 09:48
To: Ginny Ludford-Jones
Subject: RE: Brockloch Wind Farm ESDAL [OFFICIAL]

OFFICIAL

Good Morning,

In response to your email enquiry dated 12th April 2022, I can provide the following information on behalf of Police Scotland.

When a haulier has been selected for a particular project and they have been furnished with precise dimensions of the load to be transported by road, thereafter as part of the planning process a detailed route survey is produced by the haulier identifying all potential issues often referred to as “pinch points” along the entire proposed route. The route is then examined and commented upon by Transport Scotland /Transerv and the relevant Local Council amongst other partners.

Police Scotland consider the proposed route primarily from a road safety perspective .If due to the abnormal dimensions it is apparent other road users will be required to be directed to stop along the route by police in order to safely facilitate the movement or encroachment into an opposing undivided carriageway will occur, then police officers will be deployed to warn other road users of the presence of the abnormal load. The timings of the movements are dependent on many factors dependant on the route and Transport Scotland may place restrictions on travel during peak times to ensure journey time reliability along their trunk road network.

In general terms the movement of Abnormal Indivisible Loads (A.I.L) along most if not all routes in more rural areas, from my experience has an impact on the infrastructure of the general area and local community although Police Scotland are not best placed to comment in detail on this subject. Examples of this from previous projects could include, delays to freight traffic travelling to or from ferry ports, delays experienced by bus services including tourist bus tours operated in the area (Invergordon Port being a cruise ship port), delays to teachers and or pupils attending for scheduled school start times and delays to staff and the public attending hospital or medical appointments.

Regards

Frankie Anderson

Business Support Administrator

Vehicle Recovery & Abnormal Loads
Police Scotland

Fife Divisional HQ

Detroit Road

Glenrothes

Fife

KY6 2RJ

From: SC Abnormal Loads
Sent: 06 April 2022 14:27
To: Ginny Ludford-Jones

Subject: RE: Brockloch Wind Farm ESDAL

Good afternoon,

No Scottish Canals structures affected.

Thanks,

Brian.