Galileo 03 Ltd.

Mynydd Ty-talwyn Energy Park - Environmental Statement Volume III

Appendix 12.2: Route Feasibility Study

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SCP GENERAL NOTES

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Author	Marcus Spring	**Reviewer**	Jan Wasilewski
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1 INTRODUCTION

Purpose of the Report

1.1 This report has been prepared by SCP on behalf of Galileo 03 Ltd (a subsidiary of Galileo Empower UK Ltd) (hereinafter referred to as the 'Applicant').

1.2 The Applicant commissioned a review and assessment of potential delivery routes for Wind Turbine Generator (WTG) components associated with the proposed Mynydd Ty-talwyn Energy Park (hereafter, the 'Proposed Development') in June 2024. This report has been subsequently updated in response to comments received during Pre-Application Consultation.

1.3 Initial desk-based study was undertaken by Wood Group as part of their Feasibility Study (May 2020), to establish whether the route from Port of Entry (PoE) (Port of Swansea) to the indicative access points was suitable for abnormal loads. Port of Swansea has been used for renewable infrastructure component deliveries in the past for a large number of wind farms, has sufficient quay and storage space, and is well located for near the strategic road network.

1.4 SLR Consulting also completed a desk-based Abnormal Load Route Assessment (ALRA) (March 2023) of various Points of Interest (POIs) from the PoE to in the vicinity of the Proposed Development Site. SLR's study considered from the PoE to southern Site Access via Pyle off Junction 37 and to the northern Site Access via Tondu off Junction 36 of the M4.

1.5 This report combines work previously carried out by both Wood Group and SLR Consulting, on behalf of the Applicant, and builds on those to further explore potential routing options. This Report has been prepared to inform the Applicant on the likely issues and barriers associated with the delivery of Abnormal Indivisible Loads (AILs) turbine components, as well as provide a summary of the work undertaken to date by various parties/consultants.

1.6 The report identifies key points and issues associated with AIL deliveries and notes where remedial works, either in the form of physical works or as traffic management interventions might be required to accommodate the assumed loads.

1.7 Permission for the pinch points will be sought via S278 of the Highways Act 1980 or Town and Country Planning Act 1990 (TCPA) applications following the granting of consent for the Proposed Development.

Report Structure

1.8 The proceeding sections of this Report are structured as follows:

- **Section 2** provides details of the Proposed Development including candidate turbine components and anticipated transport vehicles;

- **Section 3** describes the delivery route options based on the findings of a Site visit and desk-based survey along with the location of potential significant constraints including perceived / associated level of risk; and
- **Section 4** provides a summary of the assessment and an outline of suggested further works, actions and recommendations for consideration.

1.9 **Appendices** details the location of the Points of Interests (POIs) and swept path analysis (SPA).

2 DEVELOPMENT DETAILS

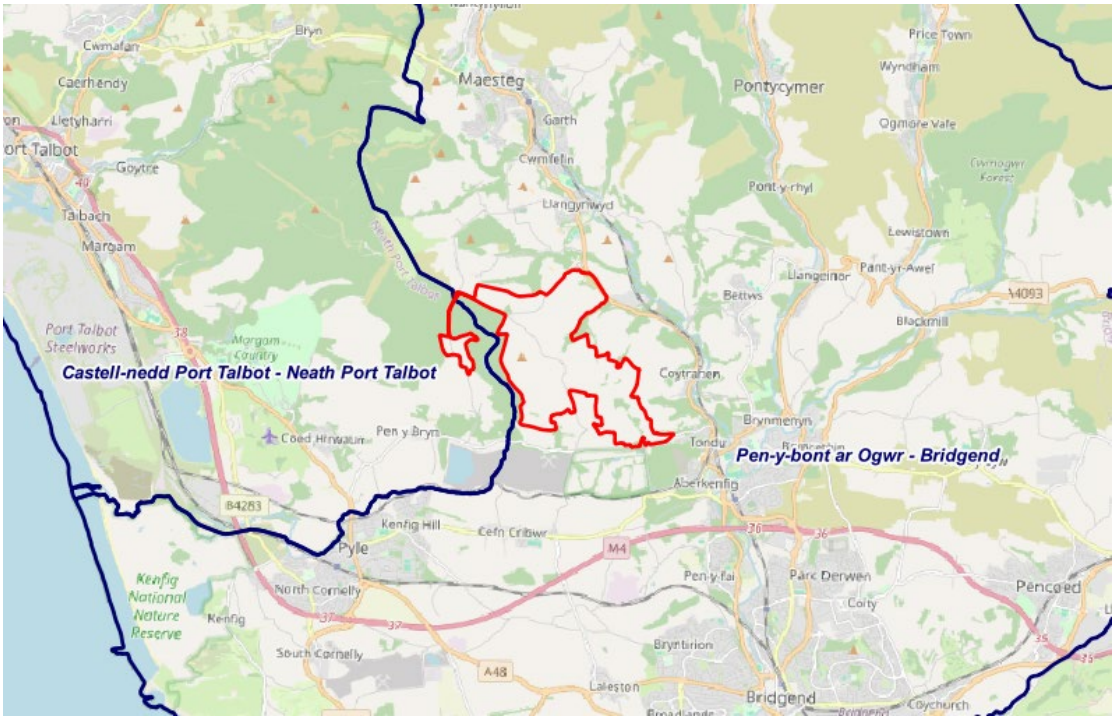
Site Location

2.1 The Site is situated in South Wales. The Site extends within the administrative boundaries of Bridgend County Borough Council (BCBC) and Neath Port Talbot Council (NPTC). The Site location is illustrated in **Figure 2.1** below.

2.2 The Site comprises elevated land approximately 7 km north of the Welsh coast. Lower valley areas south of the Site are well-populated and are comprised of multiple small settlements, connected by a high-quality road network, including A-roads, B-roads and the M4 motorway.

2.3 Access to the Site can be gained from two proposed locations. The southern access is from a C-class road – New Road – which bounds the Site on the south side. The northern access is from the A4063, which bounds the Site on the northeast side. There are several Public Rights of Way (PRoW) within the Site boundary that allow movement across the Site for walkers. Some of these paths are routes that are actively promoted to encourage leisure use, including the Ogwr Ridgeway Walk, which runs in an east to west direction across the Site.

Figure 2.1: Site Location Plan



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Proposed Development

2.4 The Proposed Development comprises the construction, operation, and subsequent decommissioning, of six wind turbines, ground mounted solar photovoltaic (PV) modules, one project substation, and ancillary infrastructure works.

Candidate Turbines

2.5 Initial study carried out by Wood Group was based on a blade length of 81 m and did not take into consideration transport/delivery of the tower sections. No SPA was undertaken.

2.6 Further assessment, carried out by SLR, was based on an 87 m blade and did not take into consideration transport/delivery of the tower sections.

2.7 As the project progressed the Applicant indicated that they had three preferred candidate turbines, the details of which are provided in **Table 2.1** below.

Table 2.1: Candidate Turbine Details

Turbine	Hub Height (m)	Blade Radius (m)
Vestas V162 7.2 MW	119	81
Siemens Gamesa SG155 6.6 MW	122.5	77.5
Nordex N163 6.0 MW	118.5	81.5

2.8 It has been agreed that the Nordex N163 turbine has a slightly longer blade and therefore serves as a worst-case scenario for robustness. Details of the Nordex N163 turbine have been obtained directly from Nordex. Typical Nordex N163 tower section for turbines of this size and allowing to achieve the required blade tip height has been used in this assessment. The details of the components are summarised in **Table 2.2.**

Table 2.2: Nordex N163 Turbine Component Dimensions

Component	Length (m)	Width (m)	Height (m)	Weight (t)
Turbine Blade	79.7	4.4	4.0	26.9
Tower Section	35.0	5.0	5.0	98

Proposed Delivery Equipment

2.9 To provide a robust assessment, based on the known issues along potential access routes, assessments have been based on worst-case AIL vehicle in accordance with candidate turbine components.

2.10 Assessment by SCP has been carried out on a Nordex N163 (79.7m blade) transported by a Superwing Carrier Trailer (**Figure 2.2**) and on a Scheurle K25 Blade Adaptor (Lifter) (**Figure 2.3**), and Tower Section transported by a 3 + 7 clamp adaptor (**Figure 2.4**).

Figure 2.2: Superwing Carrier Trailer

Figure 2.3: Scheuerle K25 Blade Adaptor (Lifter)

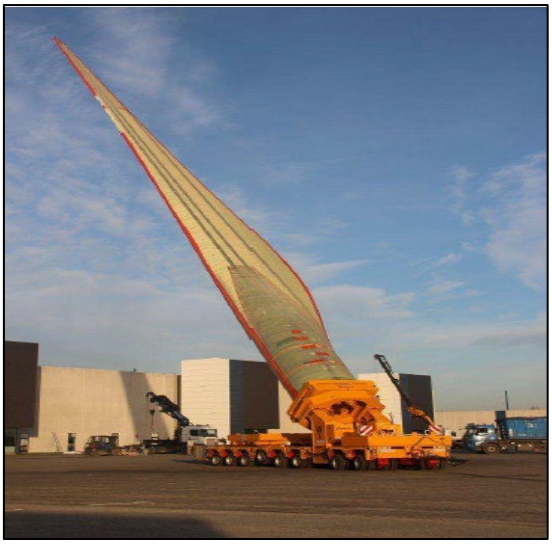


Figure 2.4: Tower Trailer

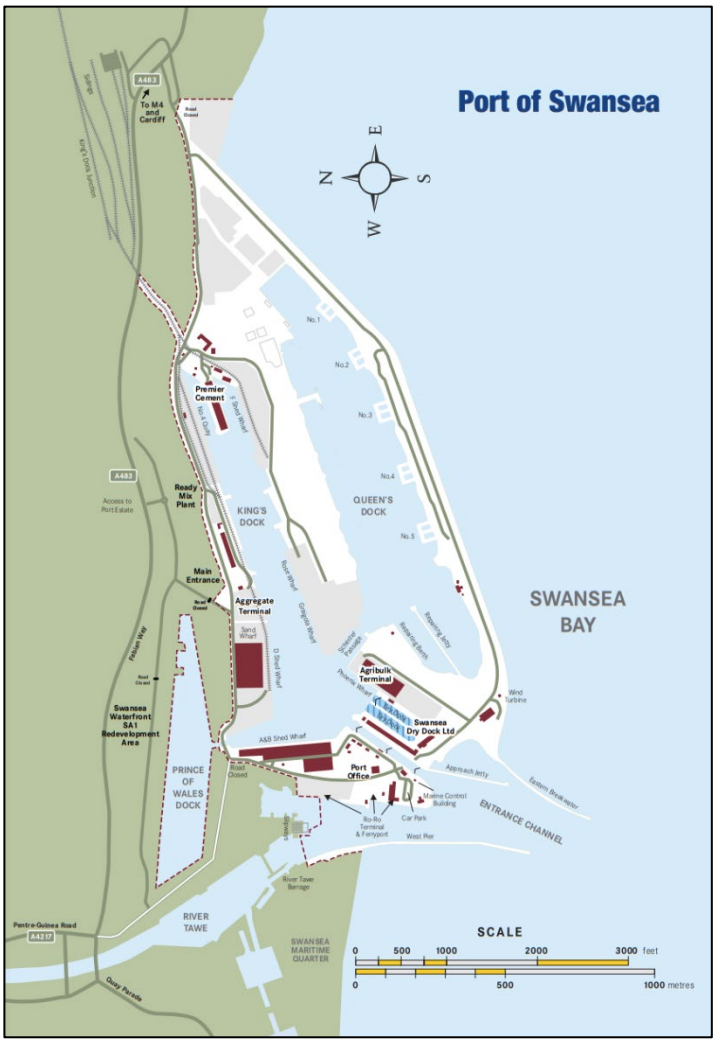
3 ACCESS ROUTE ASSESSMENT

Port of Entry

3.1 The proposed Port of Entry (PoE) for delivery of the WTG components would be the Port of Swansea. Best practice guidelines set by South Wales Trunk Road Agent and National Highways state that, where possible, the nearest port to the Proposed Development should be used when investigating the transportation of AILs.

3.2 The following section details the potential AIL access routes proposed for the delivery of abnormal loads to the Proposed Development Site.

Figure 3.1: Port of Swansea



Source: Associated British Ports. Image retrieved 03/04/2024.

Proposed Access Route

3.3 An extensive desk-based study was undertaken by Wood Group as part of their Feasibility Study (May 2020), in order to establish whether the route from PoE to the proposed access points was suitable for use by abnormal loads.

3.4 SLR Consultancy also completed an extensive desk-based ALRA (March 2023) of various Points of Interest (POIs) from the PoE to the vicinity of the Site. SLR's study provided selected AIL SPAs, including a preliminary vertical clearance assessment of a rail underbridge (A4063/Maesteg Road) in Tondu.

3.5 This Report builds on all work carried out by both Wood Group and SLR to date. The following section details the proposed AIL delivery routes from PoE to the Proposed Site access points.

3.6 This assessment is composed of both a desk-based study and Site visit (complimented by video surveys). Video surveys were recorded between M4 Junction 38 towards the southern Site access via A48, Heol-Y-Glo and New Road, and the M4 Junction 36 to the northern Site access via Tondu.

3.7 Any areas considered to require detailed assessment were marked with a Global Positioning Survey (GPS) waypoint and comments recorded detailing the nature of the concern.

3.8 The proposed access routes are presented on **Figure 3.2** and are as follows:

Common sections for all the routing options:

- Loads would depart from the PoE and access the A483 Fabian Way (Eastbound) using a contraflow manoeuvre;
- Loads would proceed eastbound and would join the M4 at Junction 42; and
- Loads would continue southeast along the M4.

Option 1

- Loads would exit the M4 off Junction 37 and travel along the A4229 and take the second exit at the A4229 / A48 roundabout, joining the A48 northbound;
- Loads would travel along the A48 northbound through Pyle and turn right onto the Heol-Y-Glo road; and
- Loads would continue eastbound along the Heol-Y-Glo road, Crown Road and New Road to reach the southern Site Access.

Option 2

- Loads would exit off the M4 at Junction 36 and join the A4063; and
- Loads would travel via the A4063 Maesteg Road, through Sarn and Tondu towards the Bridgend Paper Mill before turning left into the Site. Further extensive study was undertaken by Collett, which further supports this assessment, at the underbridge POR O 25 on the A4063 in Sarn.

Option 3

- Loads would join the A48 from Junction 38 of the M4 before turning left onto Heol-Y-Glo continuing until reaching the south Site access point.

Option 4

- Loads would exit the M4 at Junction 37 and turn left onto the A4229;
- Loads would travel along the A4229 and turn left to join the A48 Pyle Road, continuing northbound through Pyle, before turning right onto the B4281 Ffald Road;
- Loads then follow along the B4281 Ffald Road through Cefn Cribwr and Cefn Cross, then turn left onto Fountain Road; and
- Loads continue along Fountain Road and turn left onto New Road to reach the south Site Access.

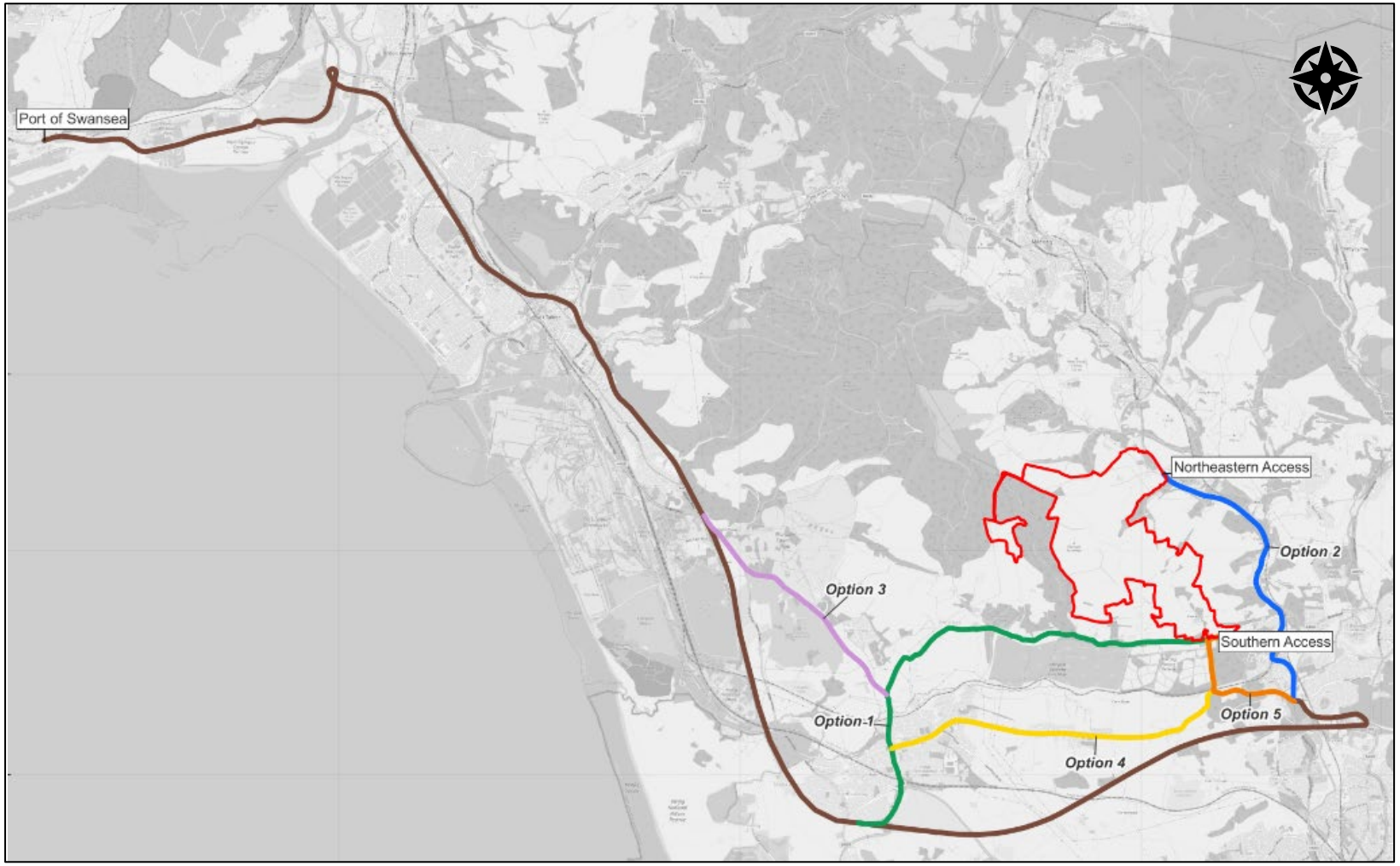
Option 5

- Loads would exit the M4 at Junction 36 and take the first exit to join the A4063 northbound;
- Loads continue along the A4063 and take the second exit at the A4063 / B4281 roundabout, joining the B4281 westbound;
- Loads follow the B4281 and turn right onto the Fountain Road. Further extensive study was undertaken by Collette, which further supports this assessment, at the Fountain Crossing (POR 1M 06C) railway crossing; and
- Loads follow the Fountain Road and turn right onto New Road to reach the south Site Access.

3.9 The proposed access route options are illustrated in **Figure 3.2** below.

3.10 It should be noted that Fountain Crossing (POR 1M 06C) railway crossing is currently not an active line, although could be brought back into use in the future. Dialogue, and a Site meeting, has been held with Network Rail who have confirmed that necessary works would be acceptable in principle.

Figure 3.2: Access Route Options



3.11 As part of this assessment the route options identified on **Figure 3.2** have been summarised to highlight key issues associated with each potential route option.

3.12 To enable the routing options to be appraised and compared consistently, a set of hierarchical criteria was developed and is presented in Table 3.1 below.

Table 3.1: Appraisal Criteria

Option	Details
	Greatest potential to accommodate the vehicle within the context of the identified environment and technical constraints. Constraints identified do not feasibly or practically prohibit the transport/delivery of the equipment.
	Some potential to accommodate the vehicle within the context of the identified environment and technical constraints. Constraints that are of less significance, and which will have little legal, financial, or physical impact on. These areas will benefit from additional information, surveying or consultation but can be potentially mitigated.
	Least potential to accommodate the vehicle within the context of the identified environment and technical constraints. Constraints that should be avoided where possible but may be acceptable to route through or over subject to negotiation, surveying, consultation and provision of further information.

3.13 Note that these colour coding's represent relative weightings. A green colour code does not mean that no issues/obstacles have been identified, nor does a red colour indicate an insurmountable constraint. The coding enables a qualitative analysis to be undertaken, applying professional judgement and experience on an aspect-by-aspect basis for each feature.

3.14 **Table 3.2** to **Table 3.7** provide a summary of the route options appraisal findings.

Table 3.2: Route Appraisal – Common Route (M4)

Common Route (M4)	
R/A/G	**Observations**
	POI C1 – Port Egress – Minor Physical alterations required to oversail safely and join A483.
	POI C2 – Temporary removal of street furniture and cutting back of vegetation required.
	POI C3 – Temporary removal of street furniture and cutting back of vegetation required.

Table 3.3: Route Appraisal – Option 1

Option 1	
R/A/G	**Observations**
	SLR – POI 1.1 – Vehicle / Loads oversail adjoining land at this location.
	SLR – POI 1.1 - Telecom poles and overhead cabling present height clearance restrictions. Street furniture and vegetation removal required to allow Vehicle / Loads to oversail safely.
	SLR – POI 1.2 – Vehicle / Loads oversail / overruns adjoining land at this location.
	SLR – POI 1.2 – Restrictive land uses at this location including a pumping station and pylon.
	SLR – POI 1.3 – Physical modifications to road required to allow loads / vehicles to oversail / overrun safely.
	SLR – POI 1.3 - Vegetation requires cutting back and hardstanding needs removed such as fences to allow loads / vehicles to oversail / overrun safely.
	SLR – POI 1.3 – Overhead cables / poles need to be temporarily removed or rerouted at this location to allow loads to navigate height clearances.
	SLR – Overhead Constraints LP 02 - Height clearance restrictions created by A48 underbridge north of Pyle.
	SLR – Overhead Constraints LP 02 - Oversail / Overrun along the majority of route north of Pyle (Heol-Y-Glo Road)

Table 3.4: Route Appraisal – Option 2

Option 2	
RAG	**Observations**
	POI 2.1 – Signage and street furniture will need to be temporarily removed to allow vehicle / loads to oversail safely. Vegetation will need to be trimmed.

	POI 2.1 – Vehicle oversails adjoining land at this location.
	POI 2.2 – Loads / Vehicle oversail / overrun centre island and access/egress of roundabout.
	POI 2.2 – Street furniture and signage require temporary removal. Vegetation requires cutting back.
	POI 2.2 – Blade / load oversails adjoining land on access to junction.
	Collett POI 2.3 – Load / vehicle oversail / overrun at multiple locations.
	Collett POI 2.3 – Street furniture, traffic bollards/lighting and guard railing required to be temporarily removed at this location to allow loads to oversail / overrun safely.
	Collett POI 2.3 – Potential adjoining land required at this location.
	Collett POI 2.3 – Road widening will be required to accommodate the transporter.
	POI 2.4 – Parking might have to be temporarily suspended to allow safe passage of transport vehicles.
	POI 2.5 – Vegetation trimming and/or removal might be required.
	POI 2.6 – Vegetation trimming and/or removal might be required.
	POI 2.6 – Overhead cables might have to be grounded or temporarily re-routed.
	POI 2.6 – Proximity to an existing brick wall to be confirmed during test run or by undertaking topographical surveys.
	POI 2.7 – Signage requires temporary removal. Vegetation requires cutting back and/or removal.
	POI 2.7 – Proximity to an existing brick wall and building to be confirmed during test run or by undertaking topographical surveys.
	POI 2.7 – Overhead cables might have to be grounded or temporarily re-routed.
	POI 2.8 – Vegetation trimming and/or removal might be required.
	POI 2.9 – (Northern Site Access Junction) – Major physical alterations required in the form of a new access to accommodate the entrance / egress of loads / vehicles.

	POI 2.9 – (Northern Site Access Junction) – Removal of existing vegetation / trees is required.
	POI 2.9 – (Northern Site Access Junction) – adjoining land may be required at this location.

Table 3.5: Route Appraisal – Option 3

Option 3	
RAG	**Observations**
	POI 3.1 – Physical alterations in the form of 2 new temporary accesses will be required to allow loads to navigate safely.
	POI 3.1 – Removal of existing vegetation required to allow construction of accesses.
	POI 3.1 – Load bearing surface will require to be temporarily implemented on temporary accesses.
	POI 3.1 – Adjoining land will be required for construction of temporary accesses.
	POI 3.2 – Physical alterations in the form of new openings will be required at 2 locations to allow loads to safely navigate bend.
	POI 3.2 – Removal of hedgerows / vegetation required for construction of openings.
	POI 3.2 – Load bearing surfaces required at temporary openings.
	POI 3.2 – Adjoining land required to allow loads to oversail / overrun and for construction of openings.
	POI 3.2 – Powerline poles / lattice require temporary removal or diversion to allow loads to oversail safely.
	POI 3.3 – Loads will oversail edge of carriageway.
	POI 3.3 – Adjoining land may be required to allow loads to oversail safely.
	POI 3.4 – Loads will oversail edge of carriageway.

	POI 3.4 – Adjoining land may be required to allow loads to oversail safely.
	POI 3.4 – Trimming / removal of vegetation and trees may be required.
	POI 3.5 – Loads will oversail both edges of carriageway.
	POI 3.5 – Adjoining land may be required for loads to safely oversail.
	POI 3.5 – Trimming / removal of vegetation may be required.
	POI 3.5 – Physical alteration will be required in the form of 2 new openings to accommodate movement of vehicles / loads.
	POI 3.5 – Hedgerow / trees required to be removed for construction of both openings.
	POI 3.5 – Load bearing surfaces will be required to be implemented at both openings to allow loads / vehicles to safely navigate. Load bearing surface will also require implementation at existing bridge structure to overrun safely.
	POI 3.5 – Adjoining land may be required at this location.
	POI 3.6 – Loads will oversail both edges of the carriageway at this location.
	POI 3.6 – Trimming / cutting back of vegetation may be required to allow loads to navigate safely.
	POI 3.6 – Overhead powerlines are present along the route. Vertical clearance assessments must be confirmed and temporary relocation / diverting of cables may be required.
	POI 3.6 – adjoining land may be required at this location.
	POI 3.7 – Loads will oversail both the north / south edges of carriageway at this location.
	POI 3.7 – Loads pass close to stone wall / property on the south edge of the carriageway.
	POI 3.7 – Vegetation may need to be trimmed / cut back at this location to allow loads to navigate safely.
	POI 3.7 – Adjoining land may be required at this location to allow loads to oversail.

	POI 3.7 – Overhead cables require further investigation and may represent vertical height clearance restrictions. Poles / cables may need to be temporarily removed / rerouted to allow loads to navigate safely.
	POI 3.8 – Loads will oversail both southern and northern edges of carriageway at this location.
	POI 3.8 – Vegetation will need to be trimmed / cut back at this location to allow loads to navigate unobstructed.
	POI 3.8 – Overhead cables / poles may need to be temporarily removed / rerouted to allow loads to navigate safely. Further investigation is required to establish height clearances.
	POI 3.9 – Loads will oversail / overrun adjoining land at this location.
	POI 3.9 – Loads will oversail both southern and northern carriageway edges when executing left turn.
	POI 3.9 – Vegetation will need to be cut back / trimmed to allow loads to execute turn safely.
	POI 3.9 – Load bearing surfaces will be required at this location to allow loads to overrun safely while executing left turn.

Table 3.6: Route Appraisal – Option 4

Option 4	
R/A/G	**Observations**
	POI 4.1 – Loads will oversail the western edge of the carriageway.
	POI 4.1 – Street signage, street furniture and fixtures such as railings will be required to be temporarily removed to allow loads to oversail / overrun safely.
	POI 4.1 – Loads potentially pass close to property when turning, further investigation required.
	POI 4.1 – Load bearing surface will be required at this location to allow loads to overrun safely.
	POI 4.1 – Loads will potentially pass close to bus shelter and stone wall, further investigation required.

	POI 4.1 – Adjoining land will be required at this location.
	POI 4.2 – Overhead lines will have to be temporarily removed / rerouted to allow loads to navigate safely at this location.
	POI 4.2 – Loads will oversail the southern edge of the carriageway at this location. Potentially passing close to property and stone wall. Further investigation is required.
	POI 4.2 – Overhead lines present at this location may represent vertical height clearance restrictions. These will be required to be temporarily removed or rerouted to allow loads to navigate safely.
	POI 4.3 – Loads will oversail the southern and northern edge of the carriageway at this location.
	POI 4.3 – Loads pass close to hedgerow and gate at this location. Further investigation is required.
	POI 4.3 – Adjoining land may be required at this location.
	POI 4.4 – Loads will oversail the northern and southern edges of the carriageway at this location.
	POI 4.4 – Vegetation need to be cut back / removed to allow loads to oversail safely.
	POI 4.4 – Adjoining land may be required at this location.
	POI 4.4 – Hedgerow and/or stone wall may need to be temporarily removed to allow loads to oversail safely.
	POI 4.5 – Loads will oversail / overrun the southern, eastern and northern edges of the carriageway at this location.
	POI 4.5 – Load bearing surface will be required at this location to allow loads to overrun safely.
	POI 4.5 – Vegetation will need to be trimmed / cut down at this location to allow loads to oversail safely.
	POI 4.5 – Street furniture, including safety barrier, poles and signage will need to be temporarily removed to allow loads to oversail / overrun safely.
	POI 4.5 – Overhead lines may represent vertical height clearance restrictions and require further investigation. Cables / poles may need to be temporarily removed / rerouted to allow loads to navigate safely.

	POI 4.5 – Adjoining land will be required at this location.
	POI 4.6 – Loads will oversail / overrun both eastern and western edges of carriageway when performing turn.
	POI 4.6 – Vegetation needs to be trimmed / removed to allow loads to oversail safely.
	POI 4.6 – Signage / street furniture will need to be temporarily removed at this location to allow loads to perform turn.
	POI 4.6 – A load bearing surface will be required at this location to allow loads to overrun safely.
	POI 4.6 Overhead cables at this location will need to be temporarily removed or rerouted to allow loads to navigate safely. May represent vertical height clearance restrictions.
	POI 4.6 – Adjoining land will be required at this location.

Table 3.7: Route Appraisal – Option 5

Option 5	
R/A/G	**Observations**
	POI 5.1 – Loads will oversail the central reserve on the approach to roundabout from east.
	POI 5.1 – Passing proximity to street furniture requires further investigation.
	POI 5.1 – Loads will oversail southern edge of carriageway and splitter island on roundabout egress.
	POI 5.1 – Vegetation required to be trimmed / cut back to allow loads to oversail safely.
	POI 5.1 – Traffic bollards, signage and other street furniture will need to be temporarily removed at this location to allow loads to oversail / overrun junction safely.
	POI 5.2 – No physical mitigations required at this location.
	POI 5.3 – Overhead cables at this location may present vertical height clearance restrictions. Blade lifters may need to lower to horizontal

	position to navigate safely or cables / poles will need to be temporarily removed / rerouted.
	POI 5.4 – Loads will oversail the southern edge of the carriageway.
	POI 5.4 - Overhead cables at this location may present vertical height clearance restrictions. Blade lifters may need to lower to horizontal position to navigate safely or cables / poles will need to be temporarily removed / rerouted.
	POI 5.5 – Loads will oversail the southern edge of the carriageway at this location.
	POI 5.5 – Overhead vegetation may need to be trimmed / removed to allow loads to navigate safely.
	POI 5.5 - Overhead cables at this location may present vertical height clearance restrictions. Blade lifters may need to lower to horizontal position to navigate safely or cables / poles will need to be temporarily removed / rerouted.
	Collett – POI 5.6 – Loads will oversail / overrun carriageway edges at multiple locations.
	Collett – POI 5.6 – Vegetation will need to be trimmed / removed at this location to allow loads to oversail safely.
	Collett – POI 5.6 – Street furniture such as safety barriers and signage will need to be temporarily removed to allow loads to oversail / overrun safely.
	Collett – POI 5.6 – Adjoining land will be required at this location.
	POI 5.7 – Loads will oversail / overrun both eastern and western edges of carriageway when performing turn.
	POI 5.7 – Vegetation needs to be trimmed / removed to allow loads to oversail safely.
	POI 5.7 – Signage / street furniture will need to be temporarily removed at this location to allow loads to perform turn.
	POI 5.7 – A load bearing surface will be required at this location to allow loads to overrun safely.
	POI 5.7 Overhead cables at this location will need to be temporarily removed or rerouted to allow loads to navigate safely. May represent vertical height clearance restrictions.

	POI 5.7 – Adjoining land will be required at this location.

Route Constraints

Overhead Lines

3.15 Throughout the study area of this assessment, there is a substantial number of overhead lines routed across multiple potential access routes. Overhead lines may obstruct the safe navigation of AIL vehicles along a route by restricting height clearances. Potential mitigation actions to circumvent obstructions posed by overhead lines include temporarily grounding / taking down poles or re-routing cables / poles to avoid obstructing the access route.

3.16 Number of locations where overhead lines are present and might pose potential issue when delivering WTG components were identified during the initial route assessments.

3.17 There is a substantial number of overhead lines present in Option 1, Option 3 and Option 4 where overhead lines may potentially obstruct loads by restricting the height clearances.

3.18 There are significantly fewer overhead lines present along Option 2 and Option 5 where overhead lines may potentially obstruct loads by restricting the height clearance. As a result, Option 2 and Option 5 are more suitable for AIL vehicles regarding potential height restrictions and mitigation works.

Land Ownership

3.19 The limits of road adoption, where private roads become public and are maintained by the council, can vary depending on several factors, including the specific requirements of the local authority and the nature of the road itself. Typically, it comprises land with a defined boundary including the road carriageway.

3.20 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/hedges lines or a maximum 2 m from the road edge. This can vary between areas and location.

Fountain Crossing – Railway Level Crossing

3.21 It should be noted that loads in both Access Route options 4 and 5 will traverse Fountain Crossing (POR 1M 06C) railway level crossing immediately after turning northbound onto Fountain Road.

3.22 As part of this assessment, the railway operator – Network Rail – was contacted and it was determined that the crossing is currently not in use and facilitates zero trains per day. Dialogue and a Site meeting has been held with Network Rail who have confirmed that the necessary works are acceptable in principle. However, due diligence should be taken in later development stages, and this should be reconfirmed later, prior to deliveries commencing under the Proposed Development.

Summary and Conclusion

3.23 Based on the findings presented in the tables above, a decision has been made to progress Option 2 (now Route 2) and Option 5 (now Route 5) as the AIL routes to site. A detailed route assessment has therefore been undertaken for these routes.

Detailed Route Assessment

3.24 This section provides a detailed assessment of the selected routes.

3.25 The constraints noted in the assessment are detailed in **Table 3.8** and **Table 3.10**, covering all constraints for each access route to the proposed Northern and Southern Access Junctions. This assessment relates only to off-site constraints and does not consider access at the quayside, through the PoE, on-site access tracks or the design of the Site access junctions.

3.26 Locations of all identified POIs are illustrated in **Annex 1.**

Table 3.8: Common Route

POI	Constraint	Details
C1	  	• Loads will oversail the northern edge of the approach road • Vegetation trimming and/or removal might be required. • Loads will oversail the splitter island and central reserve on approach to Fabian Way • Signage and street lighting will need to be temporarily removed to allow vehicle / loads to oversail safely. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK01 • Tower Section – 230435-10-SK02

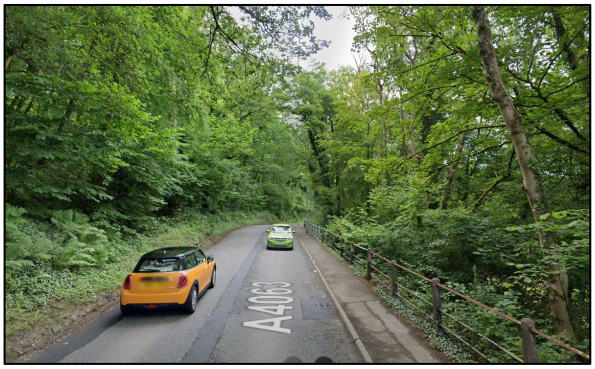
C2	  	• Loads will oversail splitter island and access/egress of roundabout (western approach) as well as central island. • Signage, traffic signals and street lighting temporary removal will be required. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK03 • Tower Section – 230435-10-SK04
C3	 	• Blade will oversail the outside of the bend. • Street furniture, street lighting required to be temporarily removed at this location. • Vegetation to be trimmed and/or removed. • When on Superwing Carrier blade tip comes close to the cliff edge, proximity to be confirmed. • When on Blade Lifter, blade to be put down to horizontal position in order to clear the M4 underpass. Once cleared blade to be put up to 60 deg to avoid street lighting, signage and cliff edge. • Adjoining land might be required.

	  	• Extents of the adopted highway boundary to be confirmed. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK05 • Tower Section – 230435-10-SK06

Table 3.9: Route 2

POI	Constraint	Details
2.1	 	• Signage and street furniture will need to be temporarily removed to allow vehicle / loads to oversail safely. Vegetation will need to be trimmed • Vehicle oversails adjoining land at this location • Street furniture and signage require temporary removal. Vegetation requires cutting back. • Blade / load oversails adjoining land on access to junction. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK07 • Tower Section – 230435-10-SK08
2.2	 	• Loads / Vehicle oversail / overrun centre island and access/egress of roundabout. • Signage and street lighting temporary removal will be required. • Provision of load bearing surfacing and kerb protection will be required. • Vegetation trimming an/or removal might be required. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK09 • Tower Section – 230435-10-SK10

2.3	  	• Load / vehicle oversail / overrun at multiple locations. • Street furniture, traffic bollards/lighting and guard railing required to be temporarily removed at this location to allow loads to oversail / overrun safely. • Potential adjoining land required at this location. • Underbridge POR O 25 represents a potential height clearance obstacle to loads / vehicles. SPA presented on drawings in Annex 2: • Blade – 410942-100B1.1 • Tower Section – 410942-100E1.1
2.4		• Loads will oversail the western edge of the A4063; • This will potentially require a temporary parking suspension. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK11 • Tower Section – 230435-10-SK12

2.5		• Loads will oversail the western edge of the A4063; • This will require trimming and/or removal of vegetation. • Tree canopy above the A4063 will have to be trimmed and/or removed to allow safe blade passage. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK13 • Tower Section – 230435-10-SK14
2.6		• Blade will oversail the western edge of the A4063; • Load (tower) will oversail eastern edge of the A4063 – proximity to the existing brick wall to be confirmed. • Trimming and/or removal of vegetation will be required. • Overhead lines will have to be temporarily grounded and/or re-routed to allow safe passage. • Extension of the adopted highway boundary to be confirmed, adjoining land might be required. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK15 • Tower Section – 230435-10-SK16
2.7		• Transporters (incl. loads) will oversail and over-run the splitter island on the A4063; • Signage will have to be temporarily removed and kerbs to be protected. • Loads will oversail the western edge of the A4063

		• Proximity to the existing brick wall and building will have to be confirmed during test run or through topographical survey • Extension of the adopted highway boundary to be confirmed, adjoining land might be required. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK17 • Tower Section – 230435-10-SK18
2.8		• Blade will oversail the eastern edge (outside bend) of the A4063; • Vegetation to be trimmed and/or removed. • Proximity to lighting columns to be confirmed, potential for temporary removal • Extension of the adopted highway boundary to be confirmed, adjoining land might be required. SPA presented on drawings in Annex 2: • Blade – 230435-10-SK19 • Tower Section – 230435-10-SK20
2.9		• Loads will turn left from the A4063 into the Site; and • This will require the removal of existing vegetation/trees, as well as adjoining land. • Installation of new upgraded access is required. SPA presented on drawing 230435-10-SK21 in Annex 2.

Table 3.10: Route 5

POI	Constraint	Detail
5.1	  	• Loads take the second exit at the A4063 / B4281 roundabout junction and travel northwest bound via the B4281; • Loads will oversail the central reserve on the eastern approach to the roundabout junction. Passing proximity to light fixtures to be confirmed by further investigation; • Loads will oversail the southern edge and splitter island on the carriageway on exit of the roundabout junction (joining B4281). Proximity to vegetation and street lighting fixtures to be confirmed. A traffic bollard and traffic sign will need to be temporarily removed to allow loads to oversail safely; • Loads will oversail the centre island of the roundabout junction. Three chevron signs and two traffic signs will need to be temporarily removed to allow loads to oversail safely; and • A topographical survey will be required at this location. SPA presented on drawing 230435-10-SK22 in Annex 2.

		
5.2		• Loads continue along the B4281 for 1.5 km; and • No constraints are present at this location. SPA presented on drawing 230435-10-SK23 in Annex 2.

5.3	 	• Loads continue along the B4281 for 1.5 km; • Overhead lines are present at this location. Blade Lifter loads may have to be lowered to horizontal position to navigate this obstacle according to the required height clearances. Alternatively, the overhead lines may require to be temporarily taken down; and • A topographical survey is required at this location. SPA presented on drawing 230435-10-SK24 in Annex 2.

5.4	  	• Loads continue along the B4281 for 1.5 km; • Loads will oversail the southern edge of the carriageway; • Overhead lines are present at this location. The Blade Lifter loads might have to be lowered to a horizontal position to navigate with the available height clearance OR overhead lines may need to be temporarily taken down or rerouted to achieve required height clearances; and • A topographical survey is required at this location. SPA presented on drawing 230435-10-SK25 in Annex 2.

5.5	 	• Loads continue along the B4281 for 1.5 km; • Loads will oversail the southern edge of the carriageway. Overhead vegetation will have to be trimmed and/or removed to achieve required height clearances and allow loads to navigate safely; • Overhead lines are present at this location along the southern edge of the carriage. Blade lifter loads may need to lower to horizontal position to safely navigate within available height clearances OR overhead lines need to be temporarily taken down or rerouted; and • A topographical survey is required at this location. SPA presented on drawing 230435-10-SK26 in Annex 2.
5.6		• Loads continue along the B4281 for 1.5 km; and • Loads will oversail/overrun the eastern and southern edges of the carriageway. • Vegetation will need to be trimmed and/or removed, and road signs, safety barriers and crossing signs will need to be temporarily removed to allow loads to navigate right turn safely. • A load bearing surface will be required along the eastern and southern edges of the carriageway, including alterations to the existing culvert, to allow loads to overrun safely. • Junction widening will be required. • Adjoining land will be required.

	 	SPA presented on drawings in Annex 2: • Blade – 410942-200B1.1 • Tower Section – 410942-200F1.1

5.7	Fountain Road / New Road Junction   	• Loads continue via the Fountain Road and turn right onto New Road to Site Access; • Loads will oversail/overrun the eastern and western edges of the carriageway while performing right turn. Vegetation needs to be trimmed and/or removed, road signs and poles will need to be temporarily removed, and a load bearing surface will be required to allow loads to navigate left turn safely; and • Cables may need to be grounded or rerouted to allow loads to navigate within the existing height clearances / achieve required height clearances. SPA presented on drawing 230435-10-SK27 in Annex 2.

Summary

Recommendations

3.27 The Applicant proposes that prior to the delivery of the first abnormal loads, and to ensure load and road user safety, the following tasks will be undertaken:

- That any necessary topographical surveys and ground condition surveys are undertaken, and the swept path results repeated;

- That railway operators are contacted to reconfirm status of Fountain Crossing (POR 1M 06C) railway level crossing prior to delivery of loads;
- A revised review of axle loading on structures along the entire access routes 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 clearance 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 being transported;
- 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 Highway Wear and Tear Agreement or a suitable alternative is entered into with the Highways Authority, for the local adopted roads / routes to be used by construction vehicles, whereby a pre-construction works inspection of the roads would be carried out with both parties in attendance with their condition recorded and a further inspection would be carried out by both parties following completion of construction, with repairs being agreed to return the roads to their pre-construction condition.

4 SUMMARY AND CONCLUSIONS

Summary of Access Review

4.1 SCP has been commissioned by the Applicant to undertake assessment of proposed delivery routes of WTG components associated with the establishment of the Proposed Development.

4.2 This report builds on the work undertaken to date by Wood Group, SLR Consulting and Collett and builds on those studies to identify most suitable delivery options. This report identifies the key points and issues associated with the proposed routes and outlines the issues that will need to be considered for successful delivery of the components.

4.3 The detailed access review has been based upon following WTG components:

- Nordex N163.

4.4 Various road modifications and interventions are required to successfully access the Site. If these are undertaken, access to the energy park Site is considered feasible.

Conclusions

4.5 Routes 2 and 5 were selected as the preferable routes to site for AIL deliveries.

4.6 **Route 2:** Preliminary findings suggest that turbine components could be accommodated through the underbridge on the A4063 subject to highway modification and use of adjoining land.

4.7 **Route 5** : The majority of the route is navigable without the need for significant physical mitigations. Minor works would need to be carried out such as the temporary removal / rerouting of overhead cables, street furniture and cutting back of vegetation. Further investigation is required for overhead clearances and the Fountain Road level crossing to allow loads to manoeuvre, with removal of signal heads and substantial amount of vegetation.

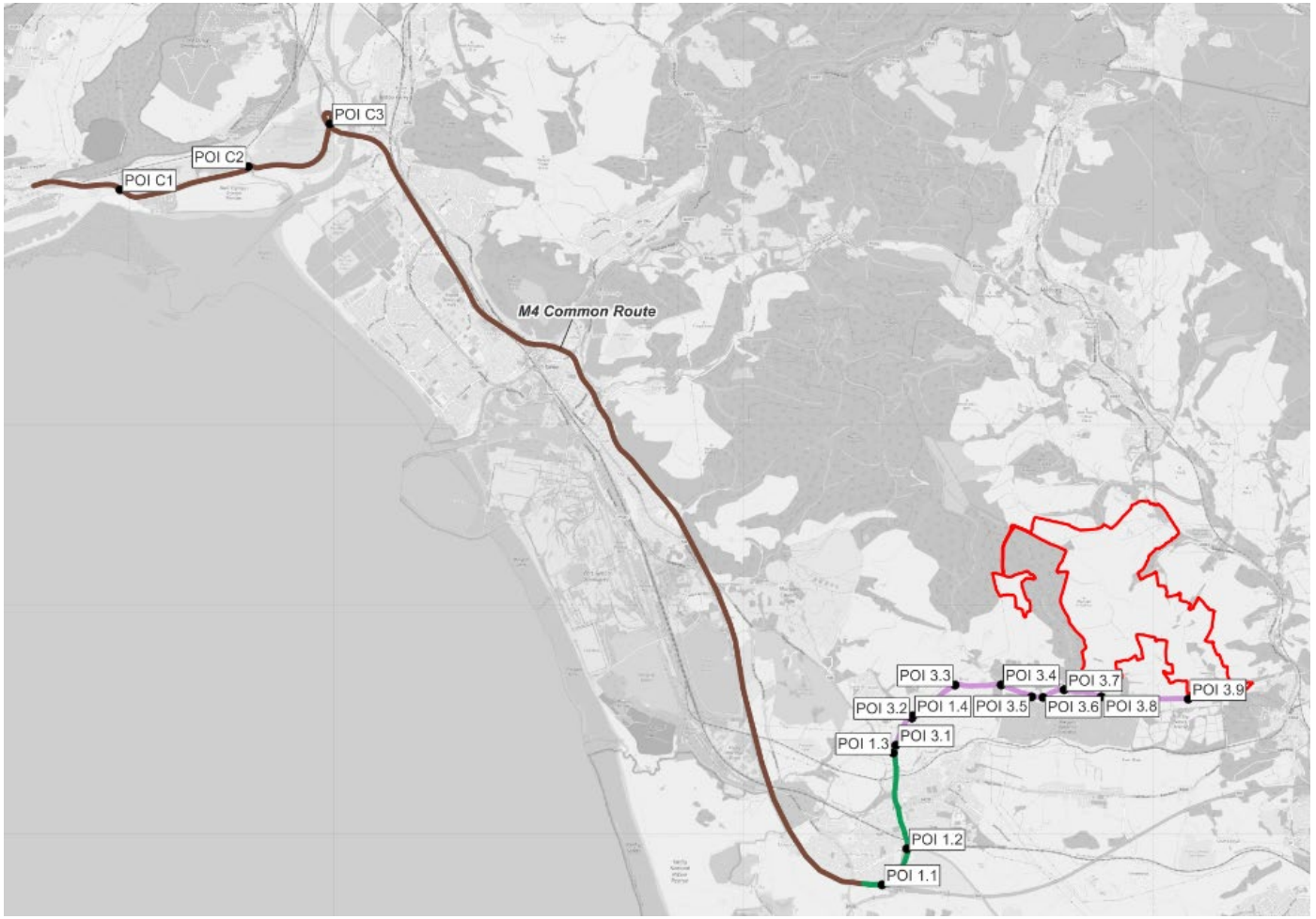
Further Actions

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

- Prepare detailed mitigation design proposals;
- Obtain the necessary land options;
- Undertake discussions with the affected utility providers and road agencies;
- Obtain the necessary statutory licences to enable the mitigation measures; and
- Develop a detailed operational Abnormal Load Management Plan to assist in transporting the proposed loads.

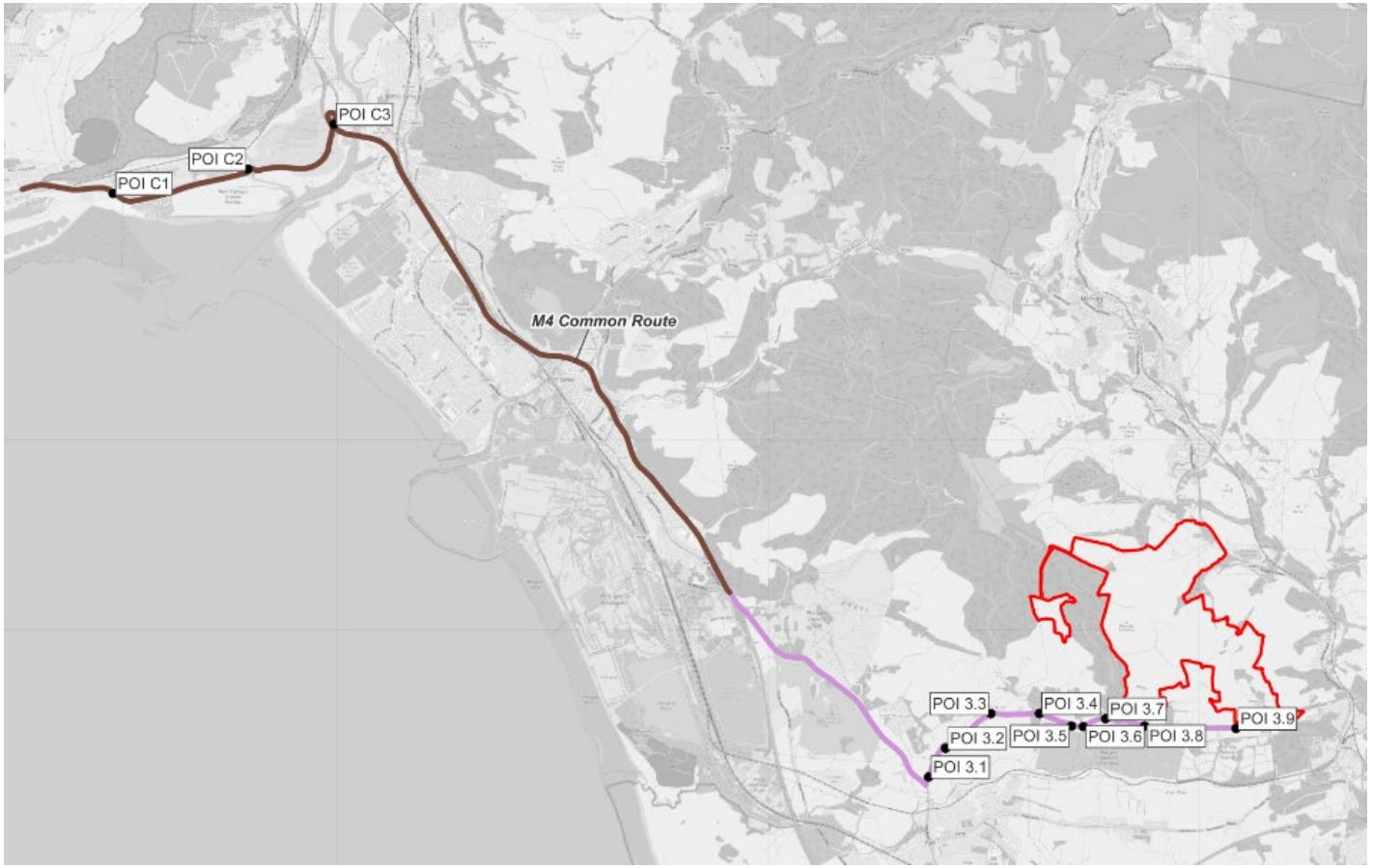
ANNEX 1: POINTS OF INTEREST LOCATIONS

Option 1 – POIs Locations



Option 2 – POIs Locations

Option 3 – POIs Locations



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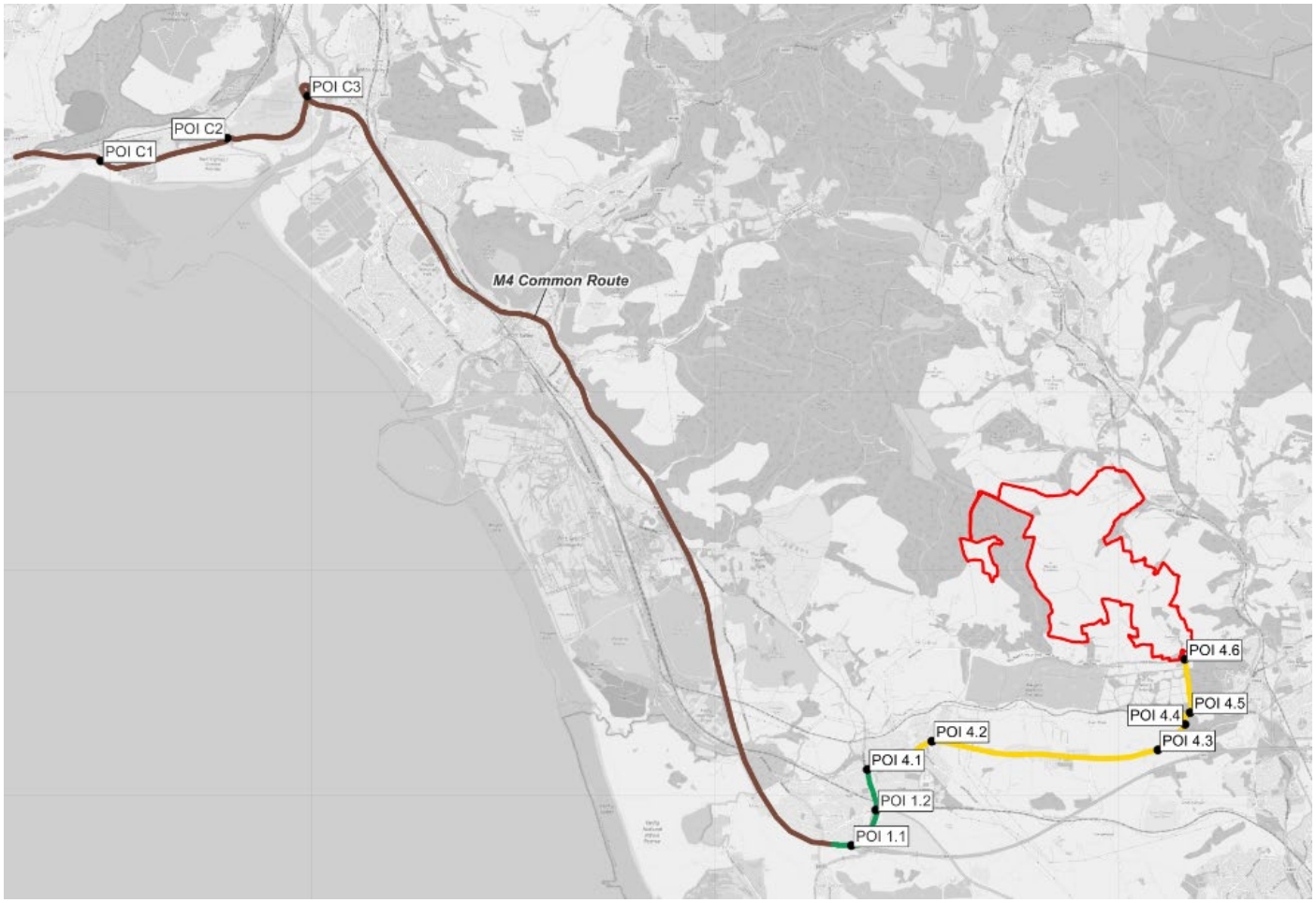
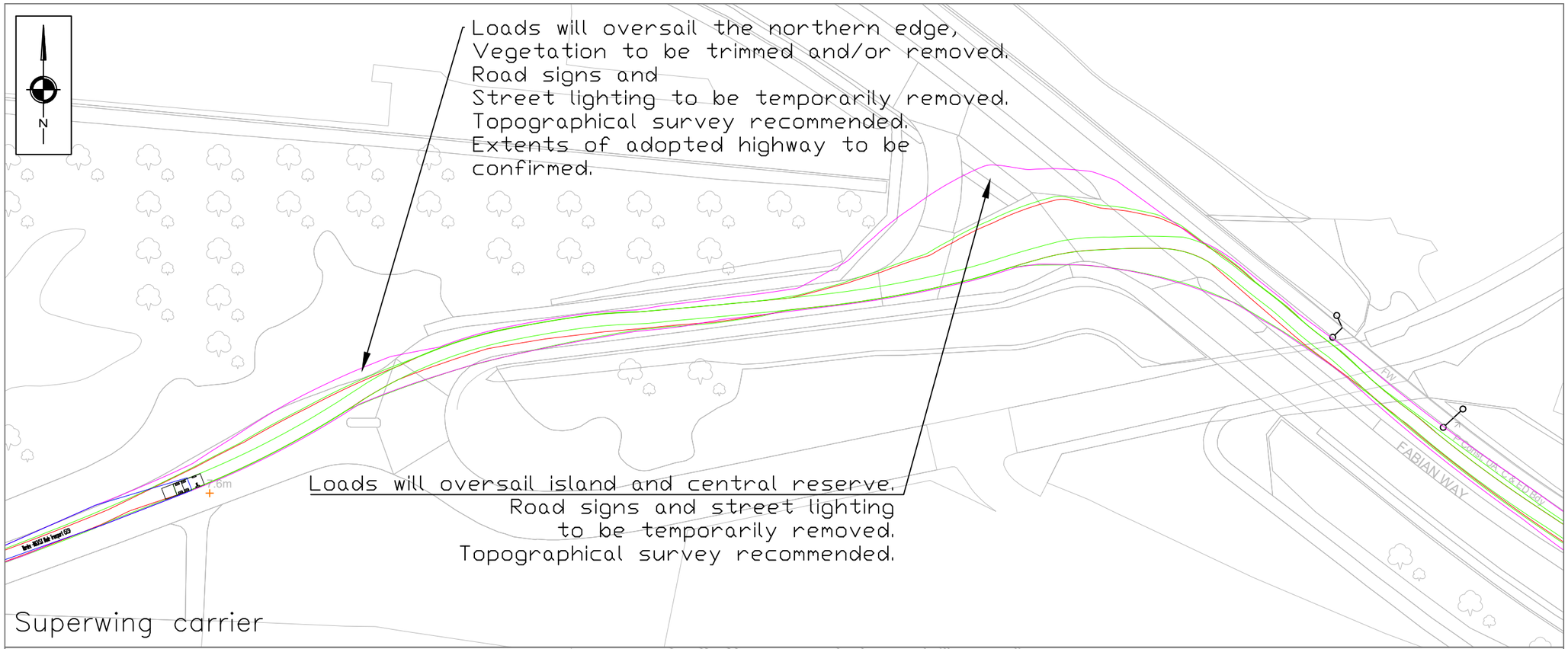
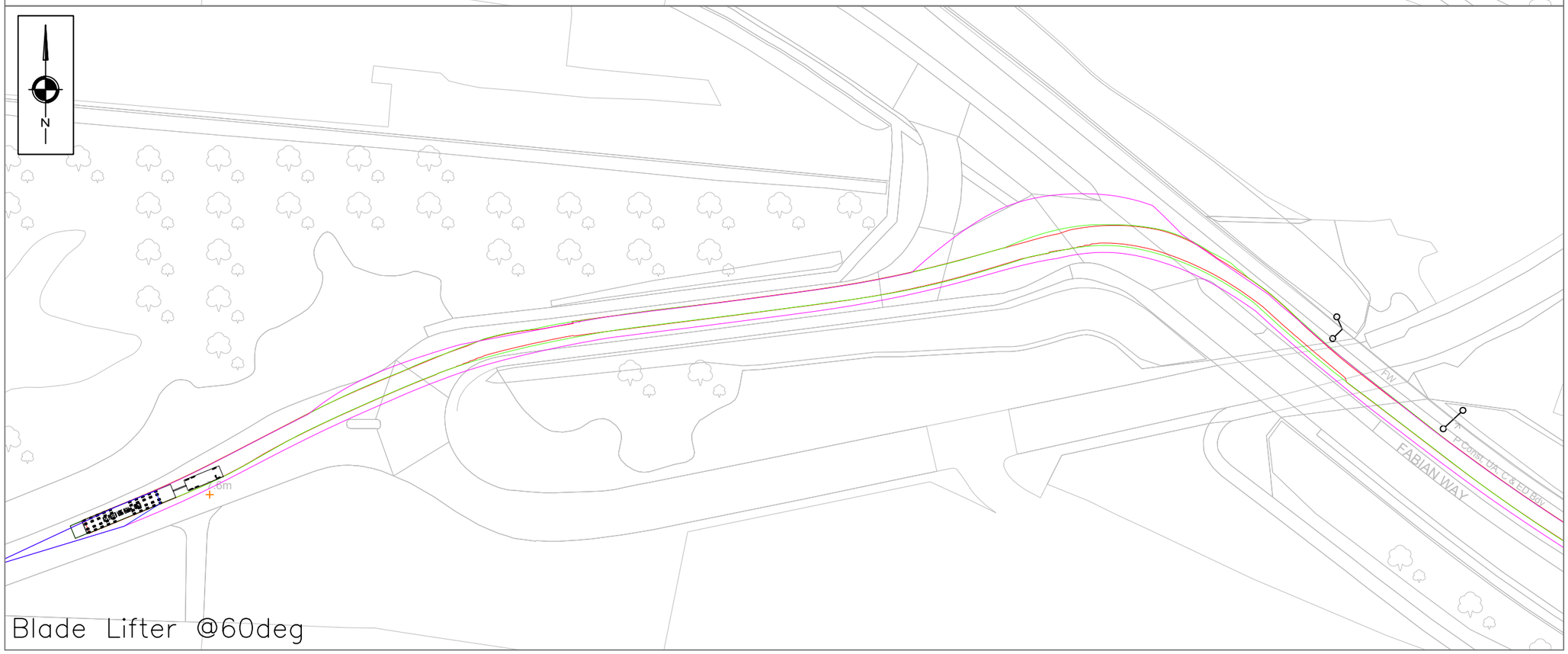


Option 5 – POIs Locations

ANNEX 2: SWEPT PATH ANALYSIS DRAWINGS



Superwing carrier



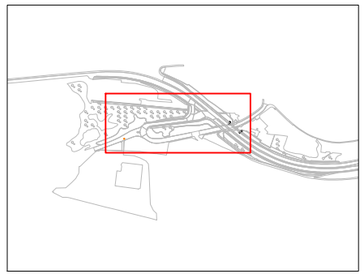
Blade Lifter @60deg

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
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SCP

Transportation Planning : Infrastructure Design

Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI C1
Port Egress
Nordex N163 (79.7m) - Superwing Carrier &
Blade Lifter @60deg

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Checked:	Scale:
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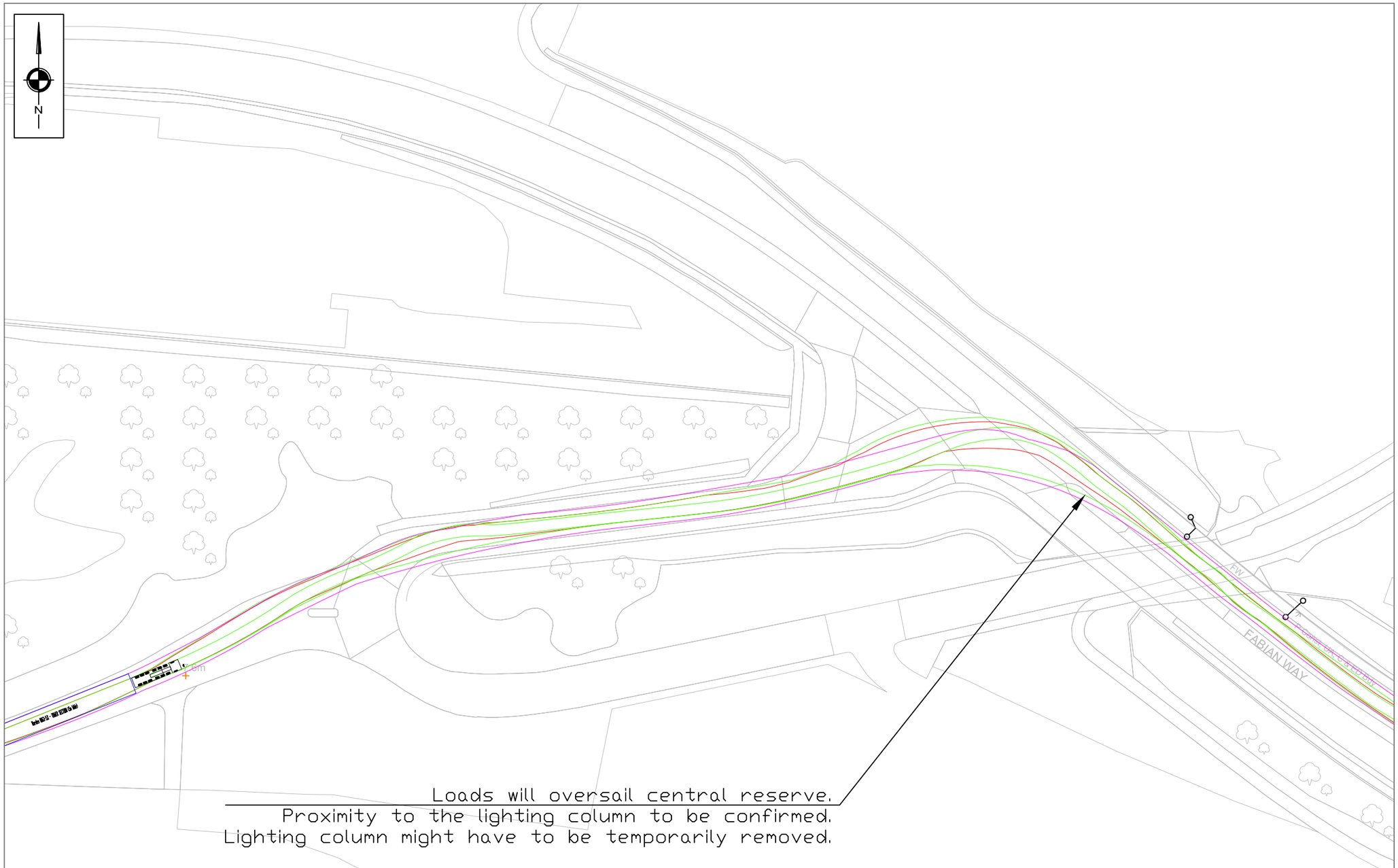
Drawing No.	Rev.
230435-10-SK01	-

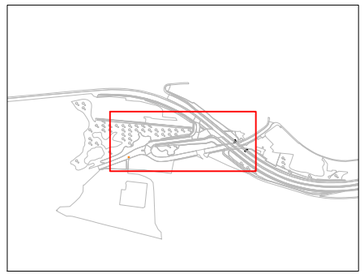


NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



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S|C|P

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI C1
Port Egress
Nordex N163 - Tower Section (35m x 5m)

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Drawing No.	Rev.
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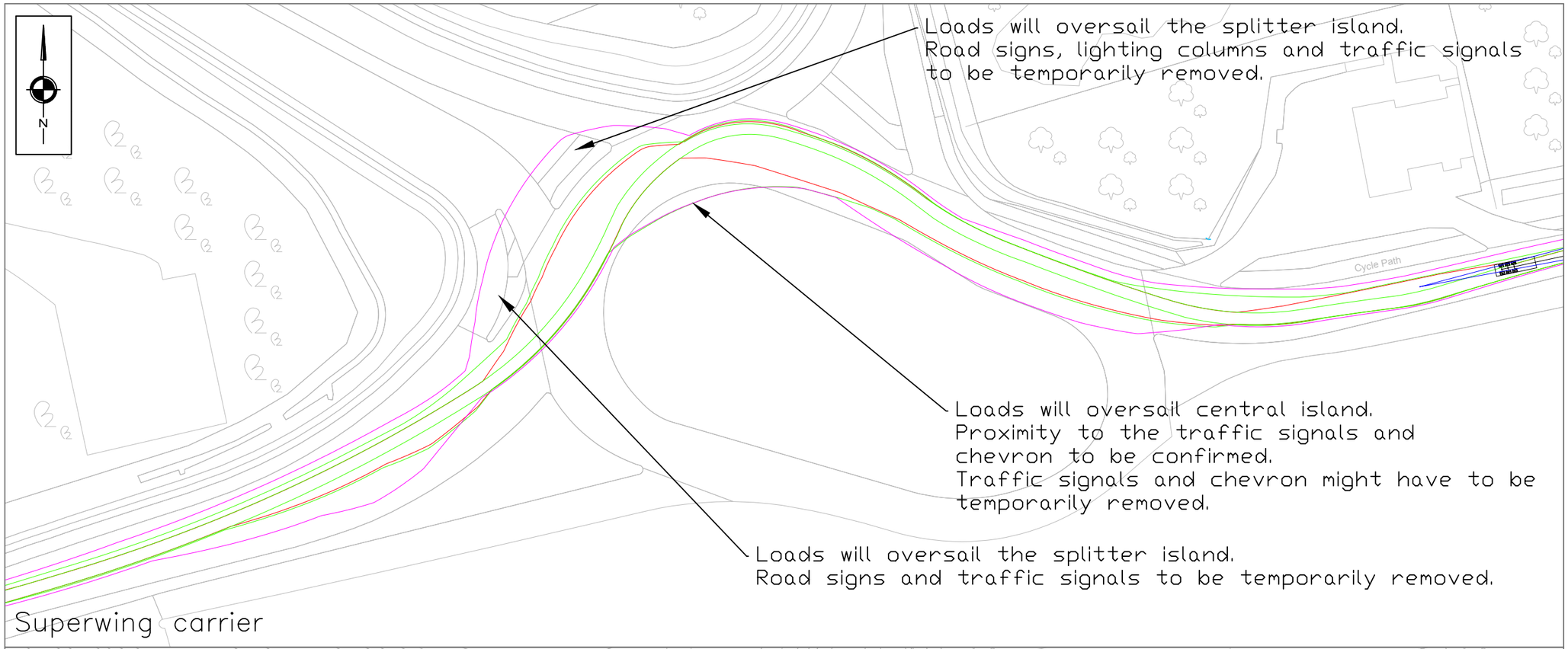
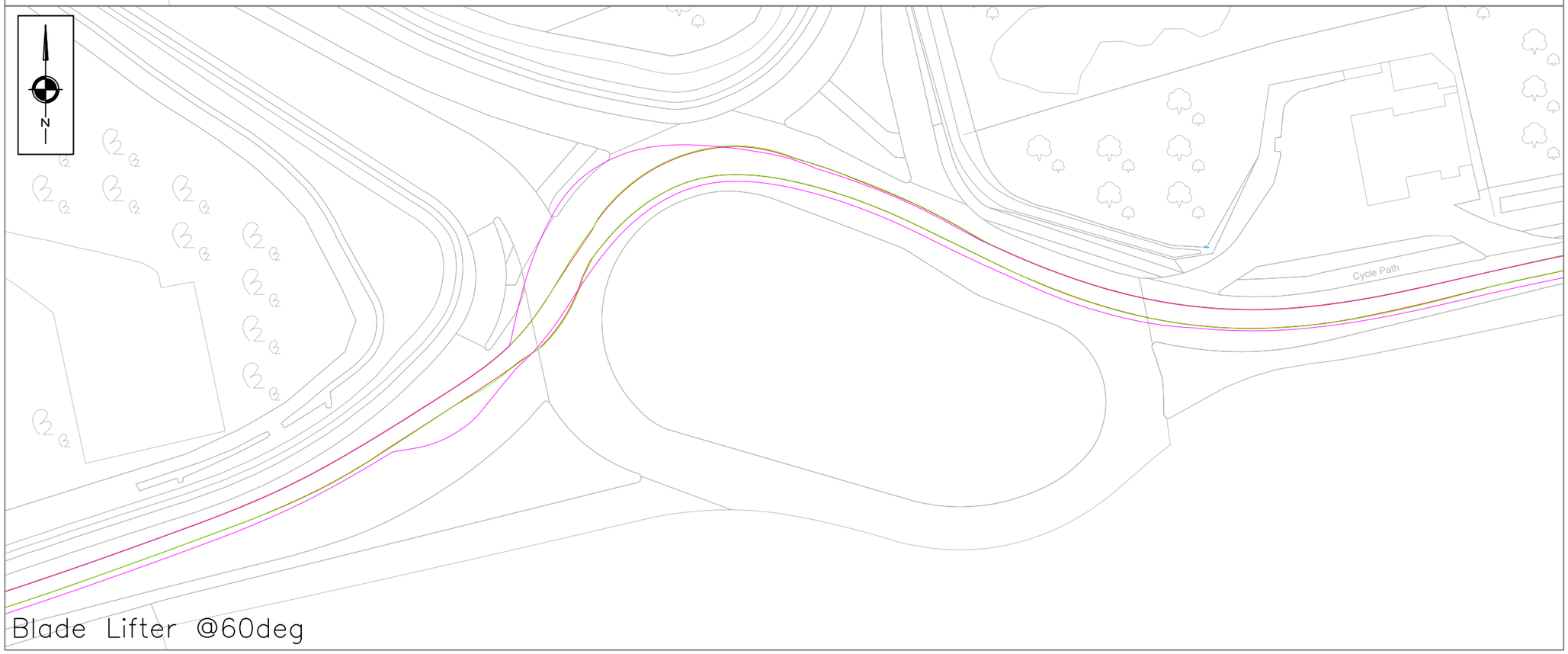


Superwing carrier



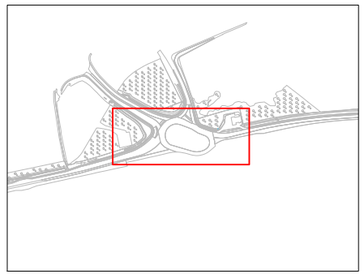
Blade Lifter @60deg

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



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SCP

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI C2
A483 / Fford Amazon Rdbt
Nordex N163 (79.7m) - Superwing Carrier &
Blade Lifter @60deg

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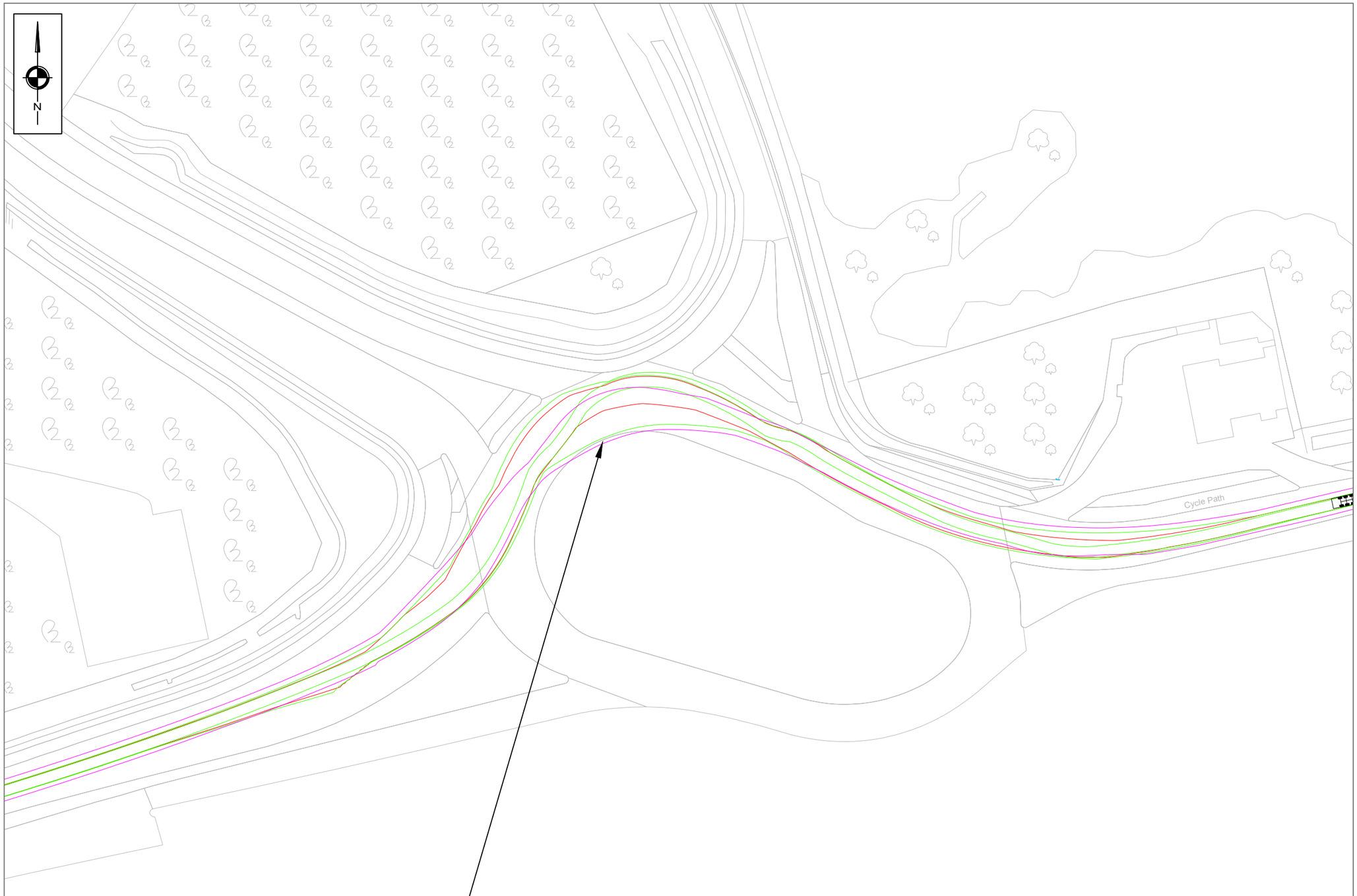


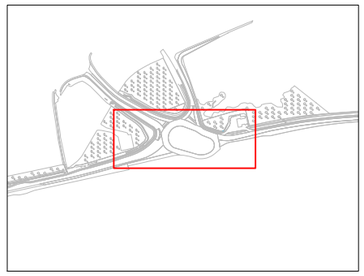
Loads will oversail central island.
Proximity to the traffic signals and chevron to be confirmed.
Traffic signals and chevron might have to be temporarily removed.

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



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SCP

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI C2
A483 / Fford Amazon Rdbt
Nordex N163 - Tower Section (35m x 5m)

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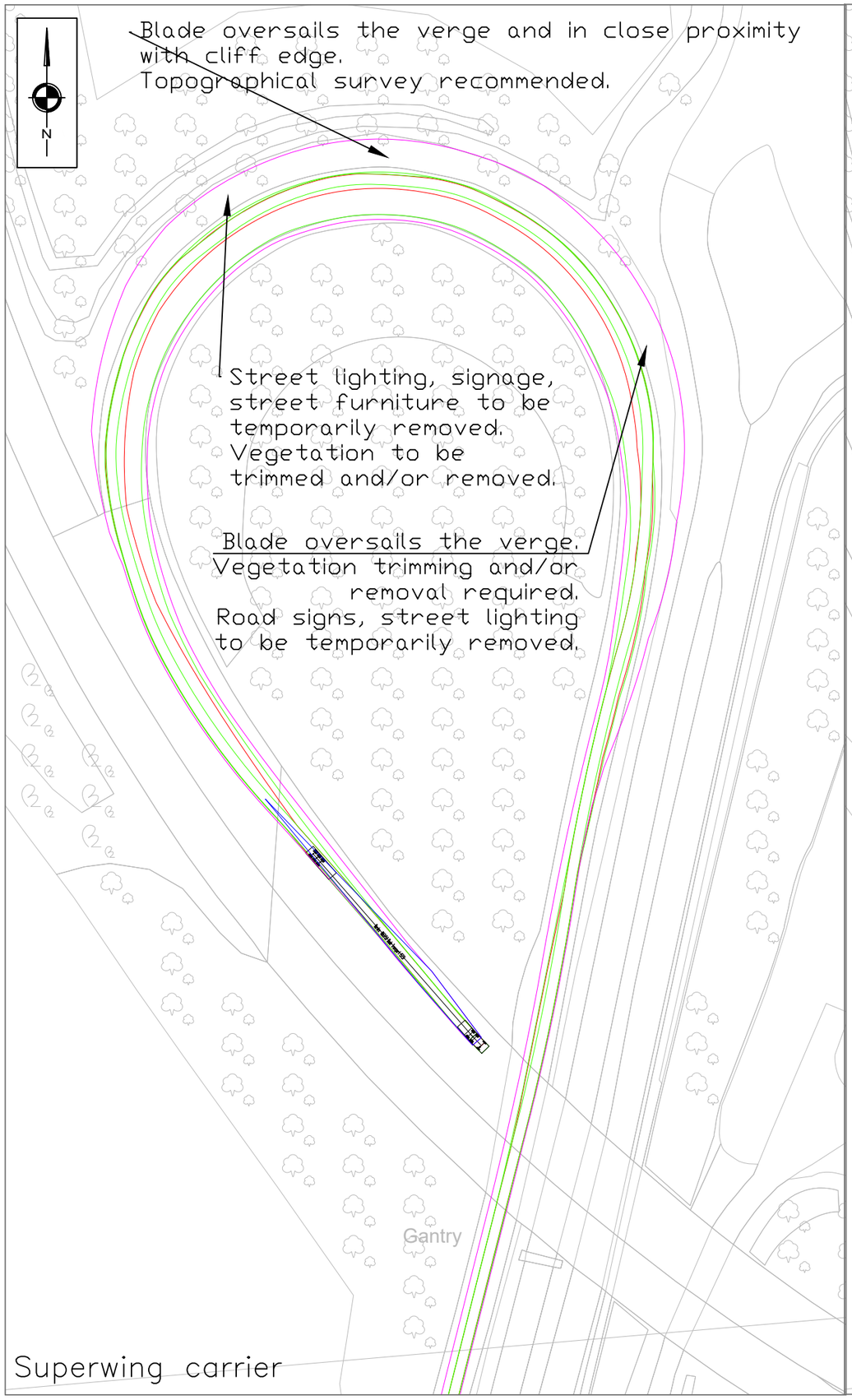
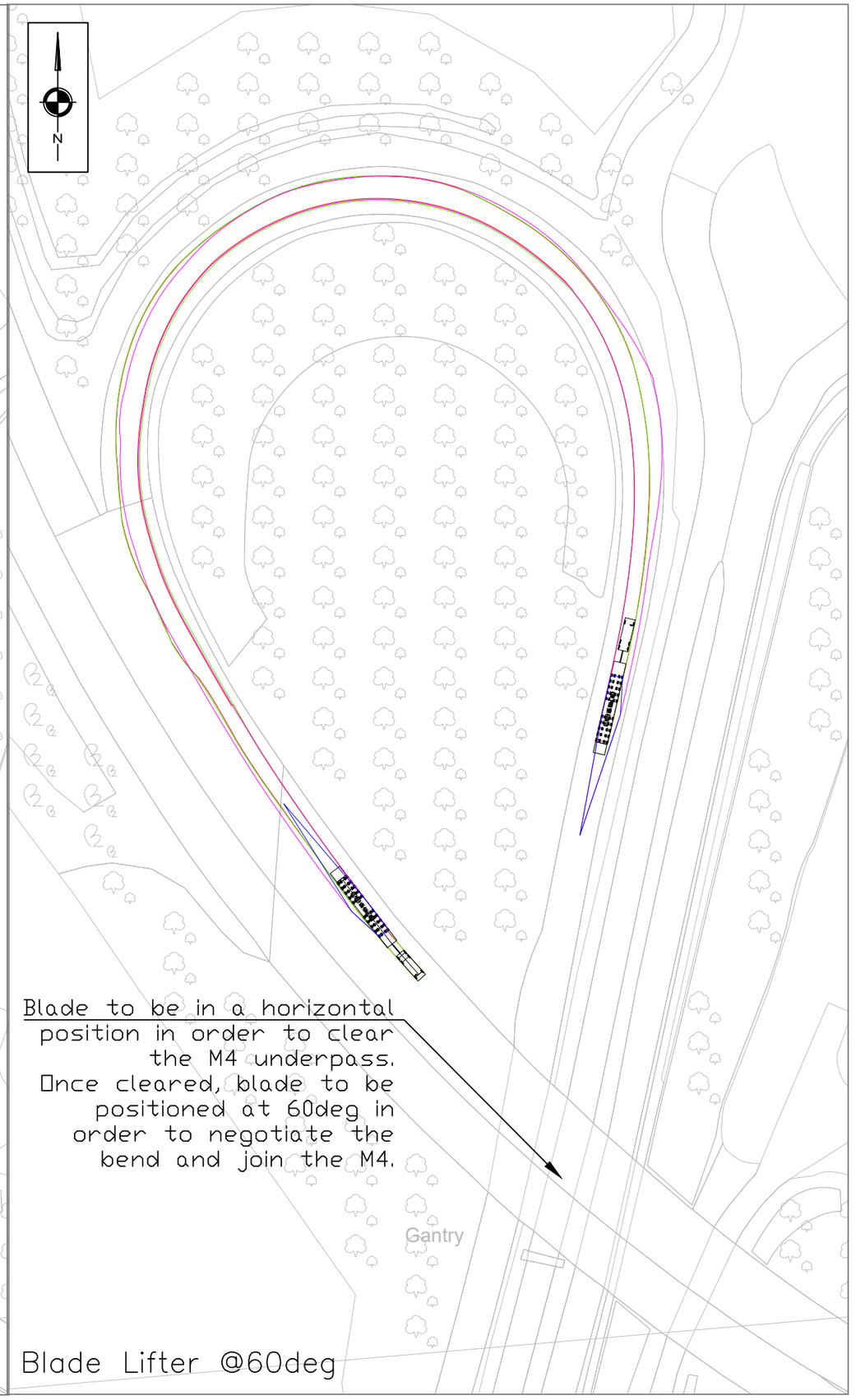


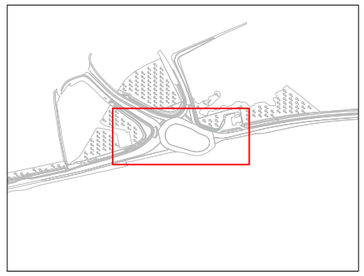


NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



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S|C|P

Transportation Planning : Infrastructure Design

Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI C3
M4 Slip Road
Nordex N163 (79.7m) - Superwing Carrier & Blade Lifter @60deg

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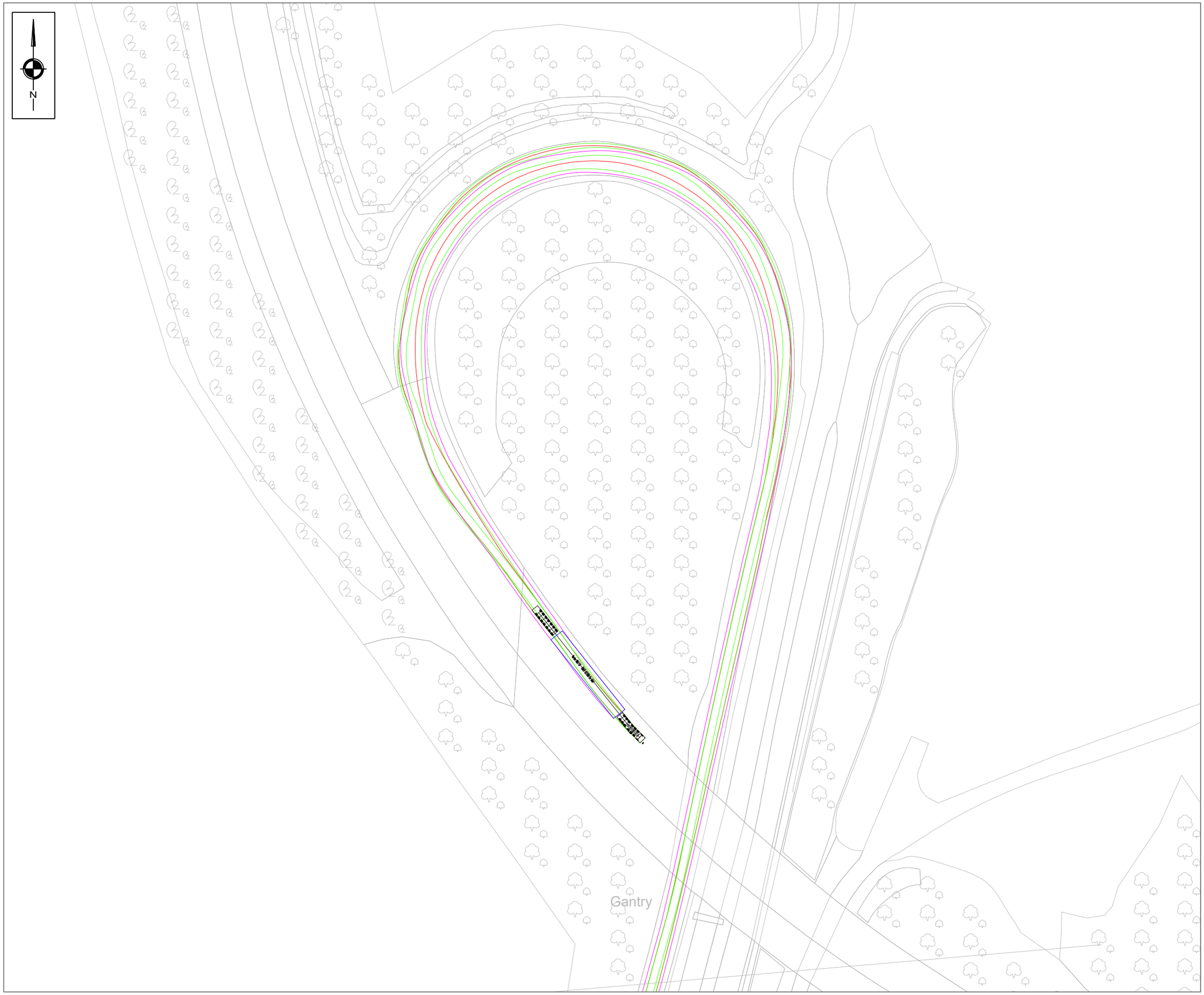
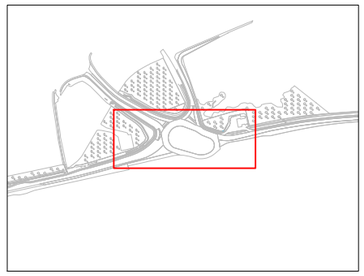


NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

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S|C|P

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI C3
M4 Slip Road
Nordex N163 - Tower Section (35m x 5m)

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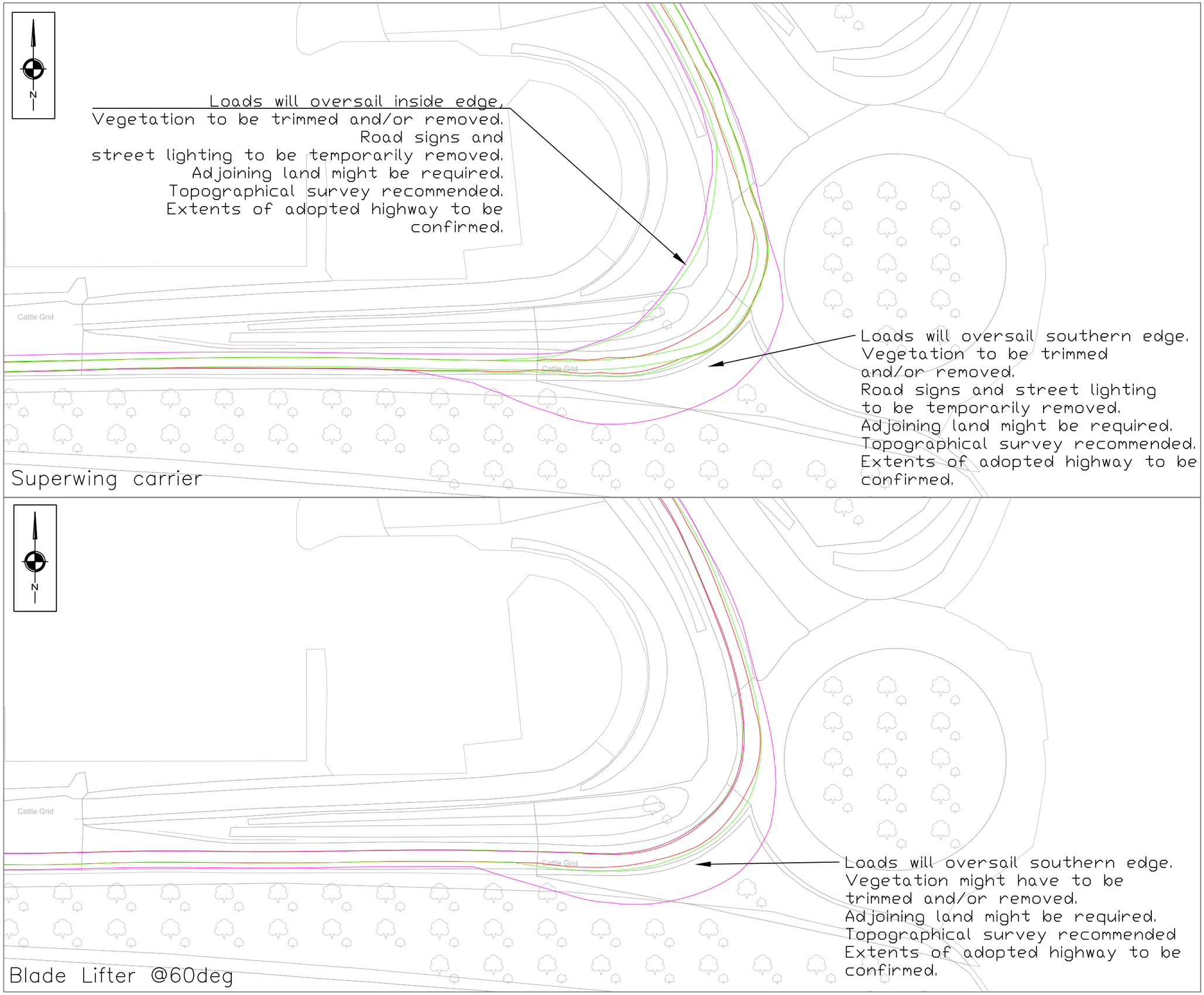
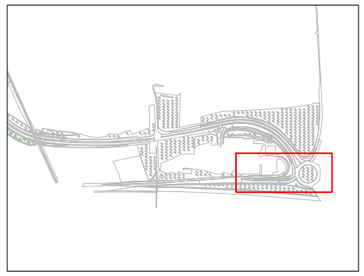


NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



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SCP

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 2.1
M4 Junction 36 Off-slip to A4063/A4061 Rdbt
Nordex N163 (79.7m) - Superwing Carrier &
Blade Lifter @60deg

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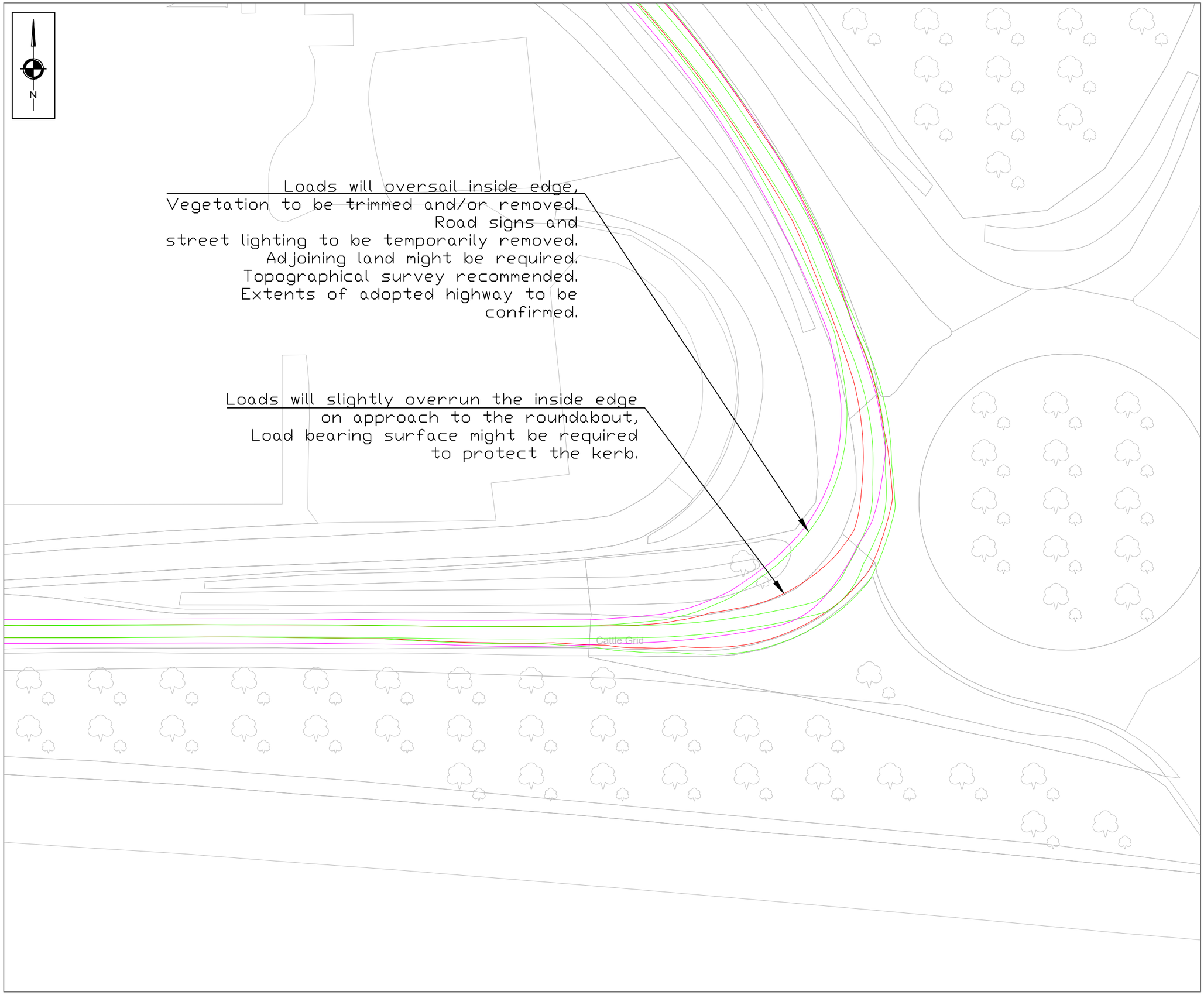
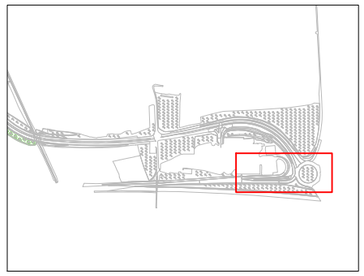


NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

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S|C|P

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI 2.1
M4 Junction 36 Off-slip to A4063/A4061 Rdbt
Nordex N163 - Tower Section (35m x 5m)

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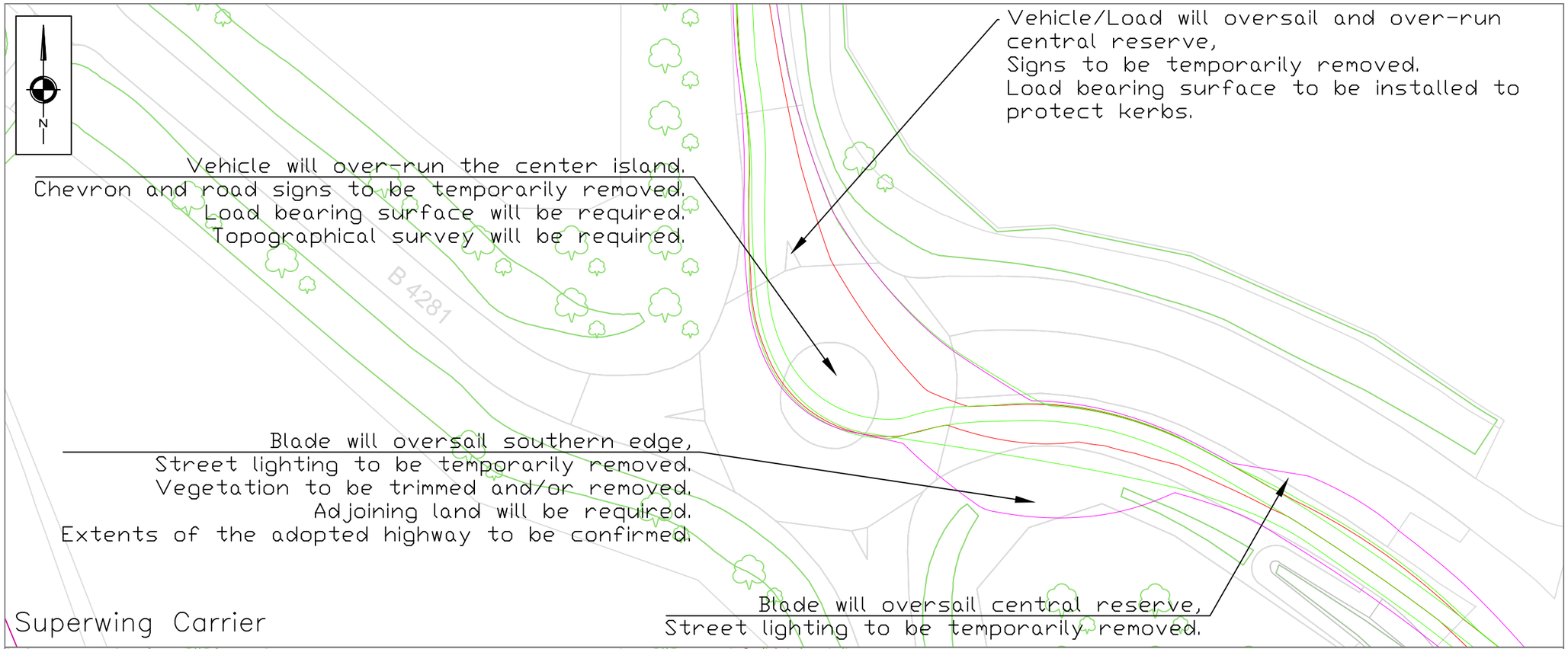
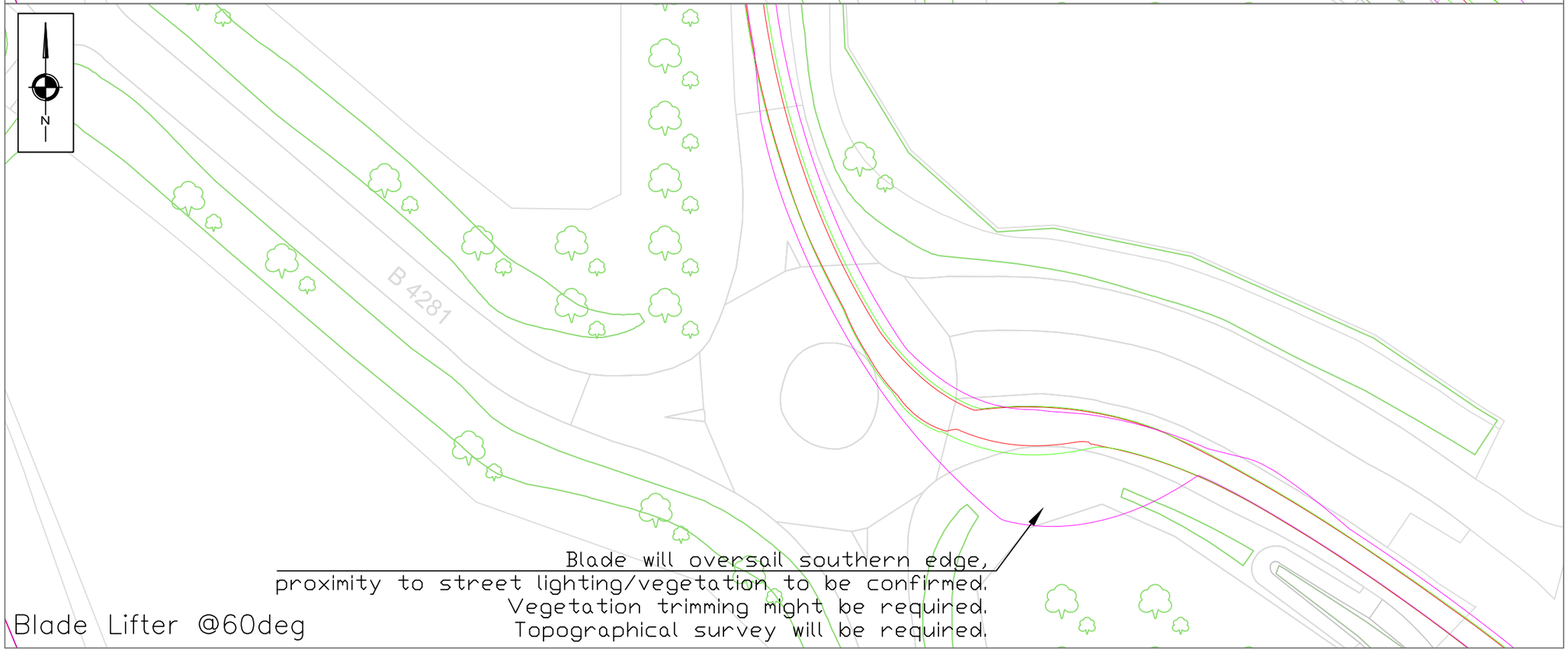


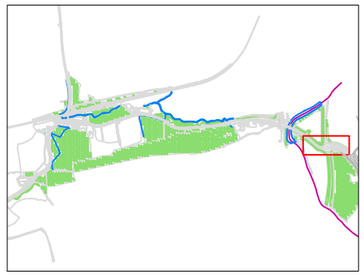


NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

S|C|P

Transportation Planning : Infrastructure Design

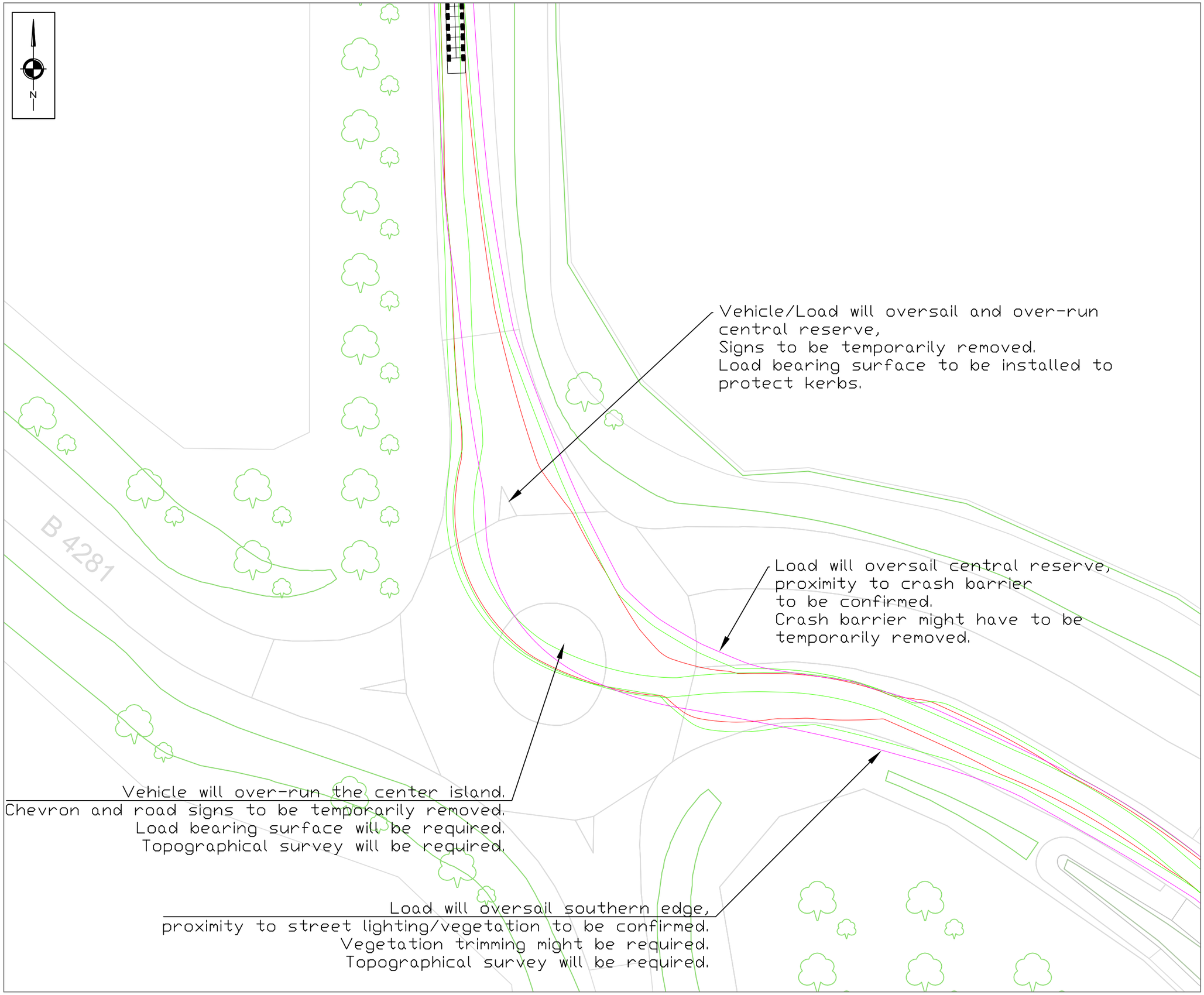
Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 2.2
B4281/ A4063 Rdbt
Nordex N163 (79.7m) -Superwing Carrier &
Blade Lifter @60deg

Drawn By:	Status:
JW	DRAFT
Checked:	Scale:
JH	1:750 @ A3

Drawing No.	Rev.
230435-10-SK09	-

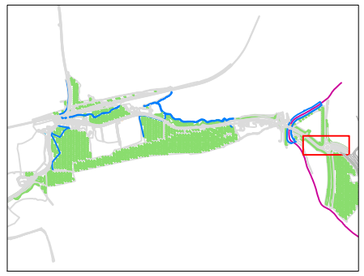


NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

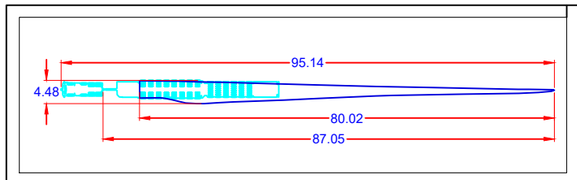
Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI 2.2
B4281/ A4063 Rdbt
Nordex N163 - Tower Section (35m x 5m)

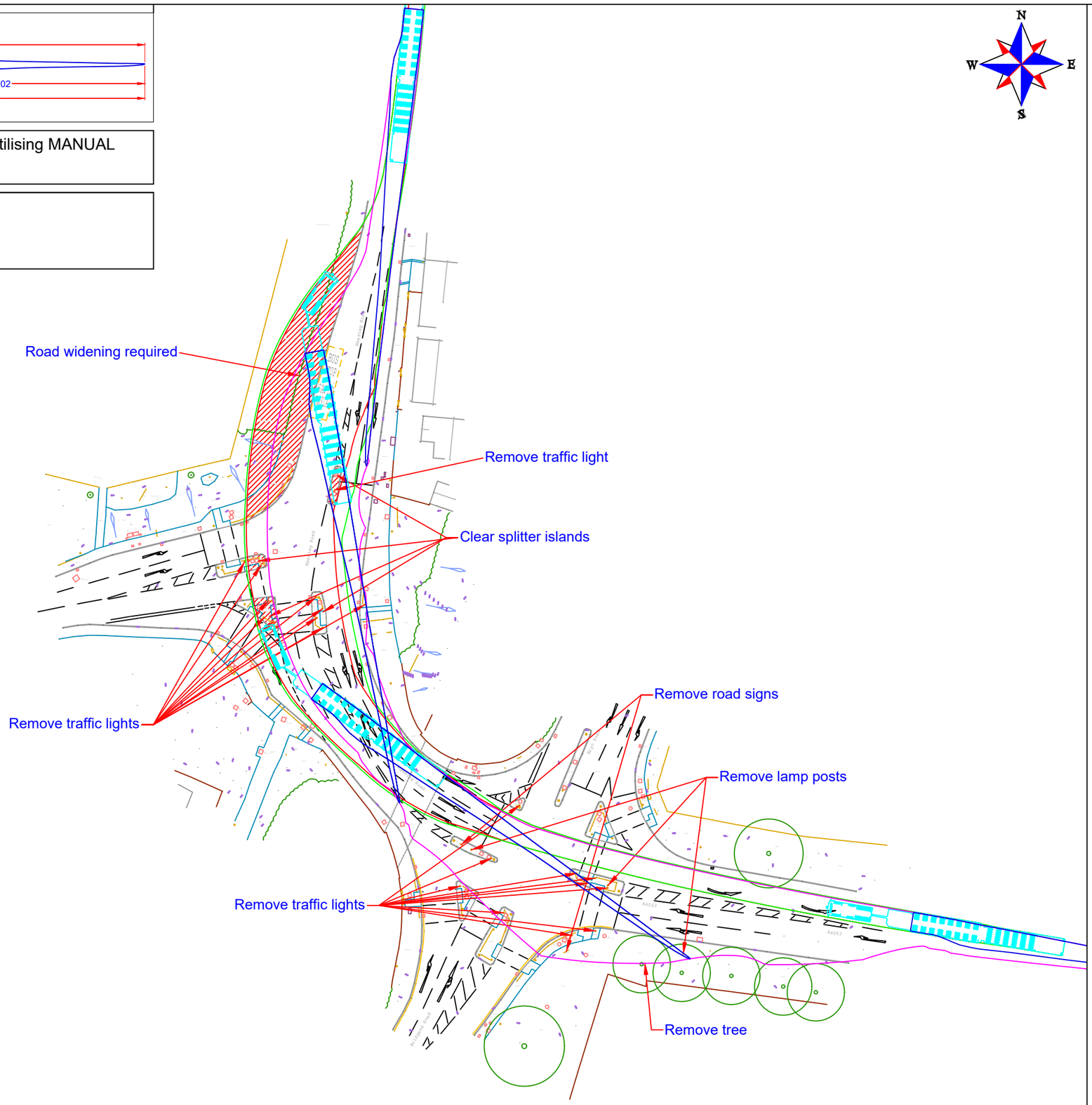
Drawn By:	Status:
JW	DRAFT
Checked:	Scale:
JH	1:500 @ A3

Drawing No.	Rev.
230435-10-SK10	-



Swept Path indicates trailer utilising MANUAL steering

Nordex
N163 Blade Component
Blade lifter at 0°



Continue on A4063 to junction with Bryn Road.
At junction continue underneath the bridge to continue on A4063.

Caution

- Road widening is required as indicated by the red hatching.
- All street furniture to be removed as indicated. (21 Traffic lights, 3 lamp posts, 1 trees, 2 road signs & railings).
- Loaded N163 is to be in the horizontal position at this location to avoid colliding with the bridge.

UK Grid Reference: SS 89301 84015

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Ordnance Survey Data. A site visit has **not** been conducted to verify road widths or the presence of street furniture.
- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
- Turbine delivery vehicles can be both left and right hand drive vehicles, therefore due to drivers perception it must be assumed that every vehicle will not follow the exact same line and so a margin of additional space should be allowed for.
- Land take is usually referred to when land is required from Private Land Owners; road widening is usually referred to when land is required within highways boundaries. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters
-

Area within red outline will be swept by tractor and trailer axles

Hatched area within red outline to be levelled and prepared to accept axle loadings

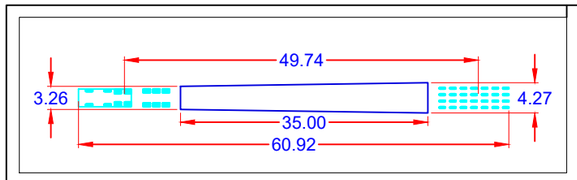
Area within magenta outline will be oversailed by load and projections

Area within green outline will be oversailed by trailer body

COLLETT
EXPERTS IN MOTION

COLLETT & SONS LIMITED
Victoria Terminal TEL: +44(0)8456 255288
Albert Road FAX: +44(0)8456 255244
Halifax, HX2 0DF WEB: www.collett.co.uk

DRAWN J.HALSTEAD	TITLE A4063 / BRYN ROAD JUNCTION		
DATE 31/01/2025	MAPPING TOPOGRAPHICAL SURVEY	CUSTOMER RSK ENVIROMENT	
SCALE 1:750	SIZE A3	PINCH POINT IDENTIFIED BY CLIENT	SITE MYNDD TY TALWYN WINDFARM	DWG. 410942-100B1.1



Swept Path indicates trailer utilising MANUAL steering

Nordex
N163 118.5m HH Top Tower
3 x 7 clamp trailer

Continue on A4063 to junction with Bryn Road.
At junction continue underneath the bridge to continue on A4063.

Caution

- Two splitter islands are to be cleared to allow the tower to oversail. This will include the removal of traffic lights, railings and bollards.

UK Grid Reference: SS 89301 84015

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Ordnance Survey Data. A site visit has **not** been conducted to verify road widths or the presence of street furniture.
- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
- Turbine delivery vehicles can be both left and right hand drive vehicles, therefore due to drivers perception it must be assumed that every vehicle will not follow the exact same line and so a margin of additional space should be allowed for.
- Land take is usually referred to when land is required from Private Land Owners; road widening is usually referred to when land is required within highways boundaries. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters
-

Area within red outline will be swept by tractor and trailer axles

Hatched area within red outline to be levelled and prepared to accept axle loadings

Area within magenta outline will be oversailed by load and projections

Area within green outline will be oversailed by trailer body

COLLETT
EXPERTS IN MOTION

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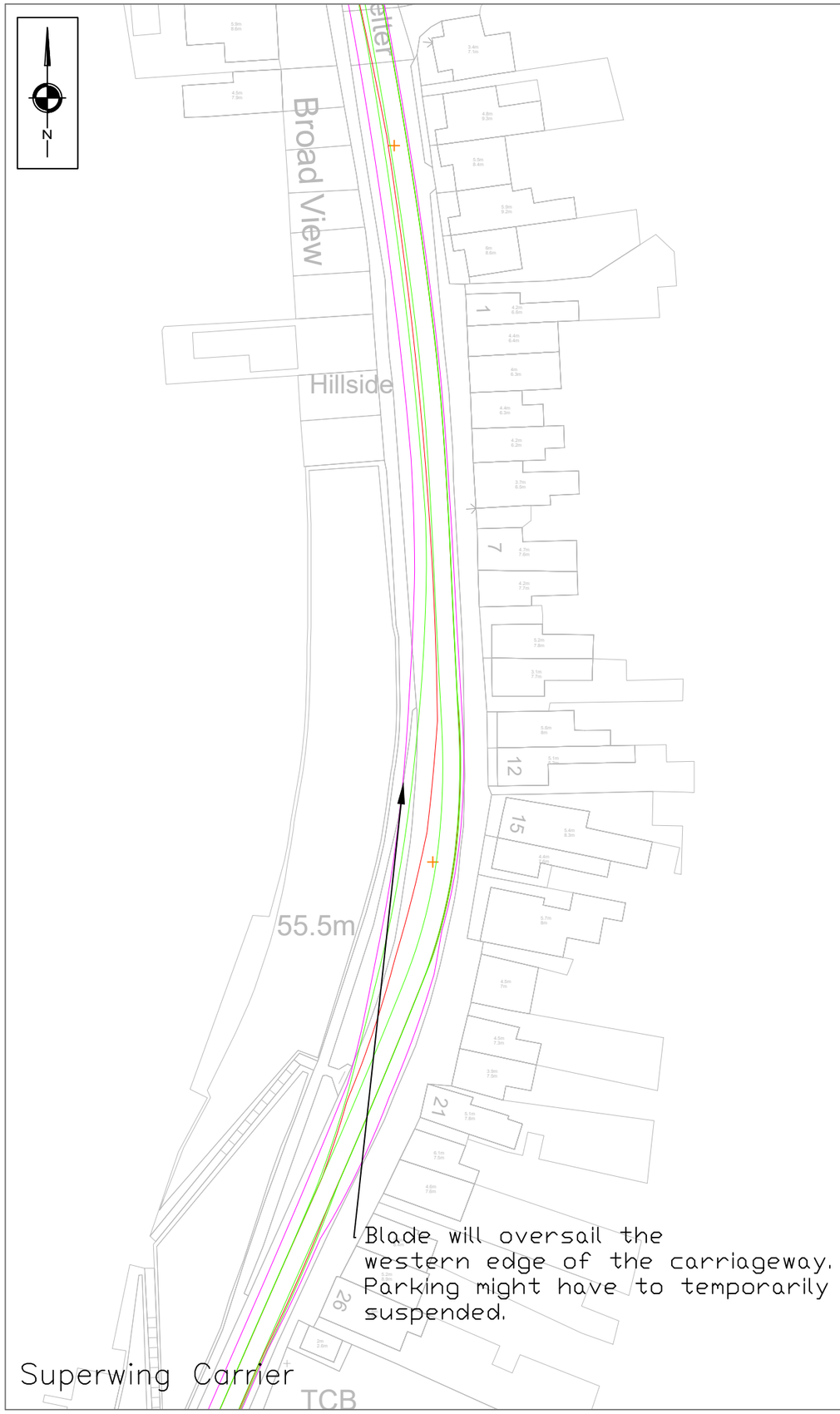
Victoria Terminal TEL: +44(0)8456 255288
Albert Road FAX: +44(0)8456 255244
Halifax, HX2 0DF WEB: www.collett.co.uk

DRAWN J.HALSTEAD	TITLE A4063 / BRYN ROAD JUNCTION		
DATE 31/01/2025	MAPPING TOPOGRAPHICAL SURVEY	CUSTOMER RSK ENVIROMENT	
SCALE 1:750	SIZE A3	PINCH POINT IDENTIFIED BY CLIENT	SITE MYNDD TY TALWYN WINDFARM	DWG. 410942-100E1.1



NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP

Transportation Planning : Infrastructure Design

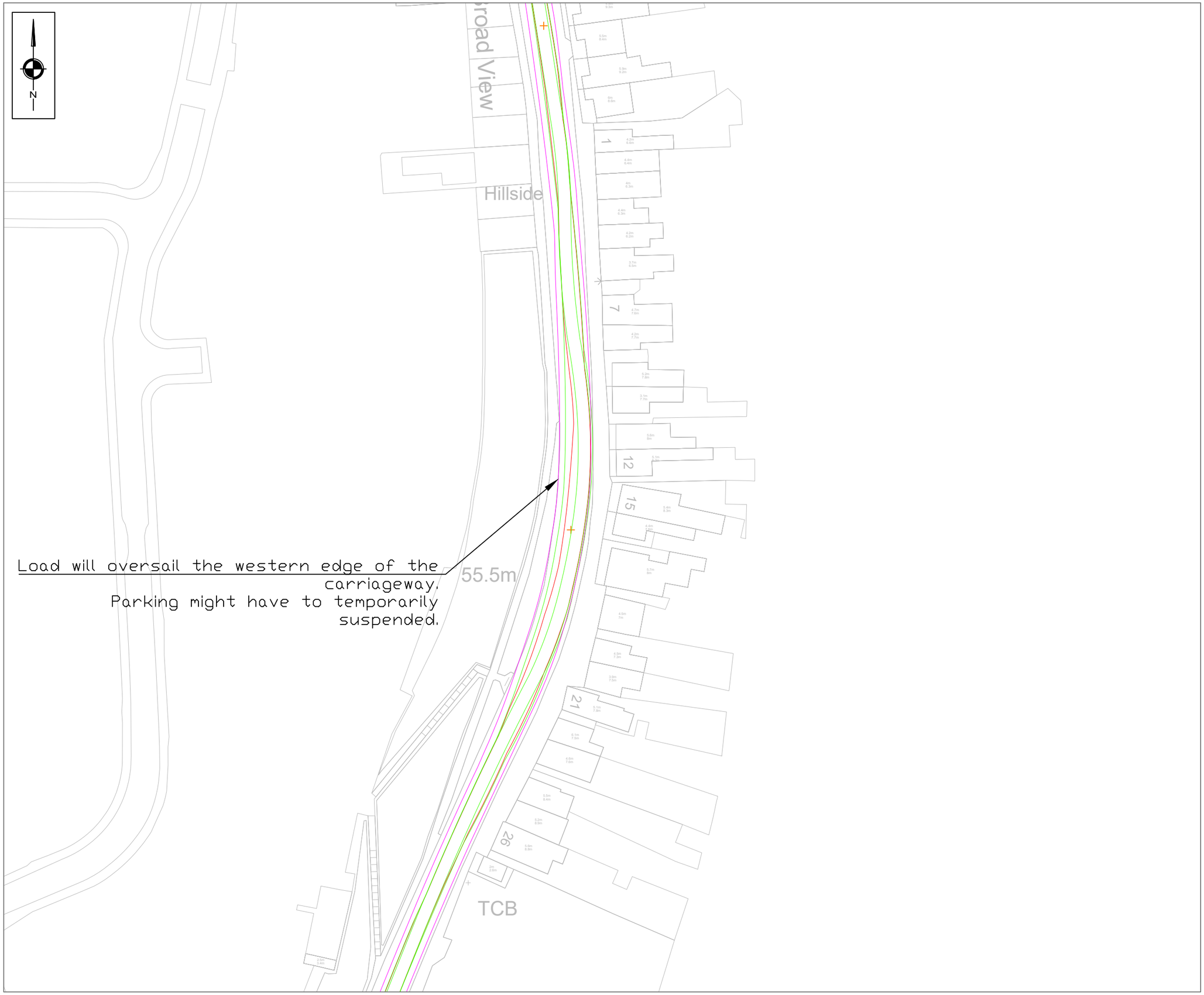
Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 2.4
A4063 Maesteg Rd, Tondu
Nordex N163 (79.7m) - Superwing Carrier & Blade Lifter @60deg

Drawn By:	Status:
JW	DRAFT
Checked:	Scale:
JH	1:750 @ A3

Drawing No.	Rev.
230435-10-SK11	-



NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

S C P

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI 2.4
A4063 Maesteg Road, Tondu
Nordex N163 - Tower Section (35m x 5m)

Drawn By:	Status:
JW	DRAFT
Checked:	**Scale:**
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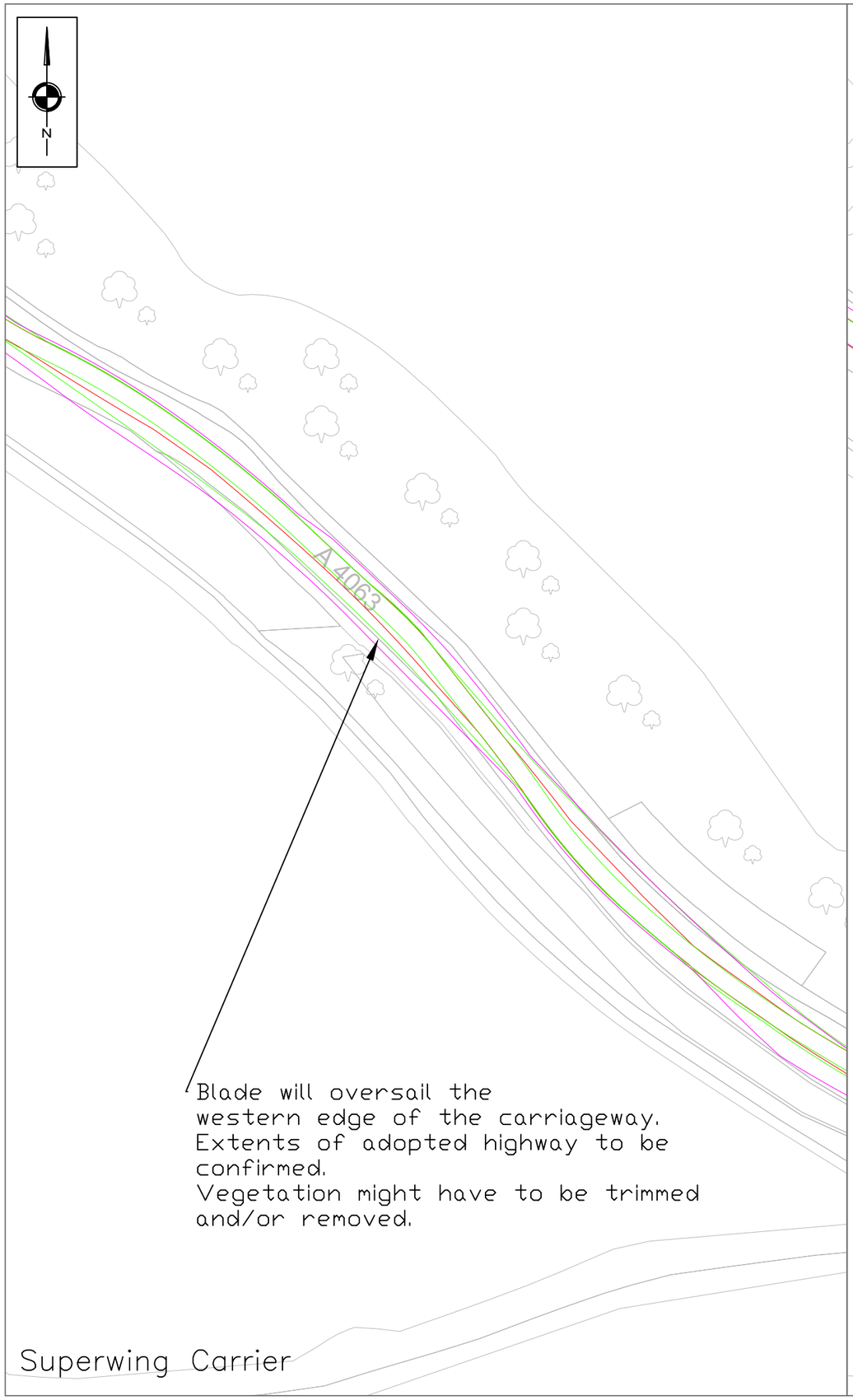
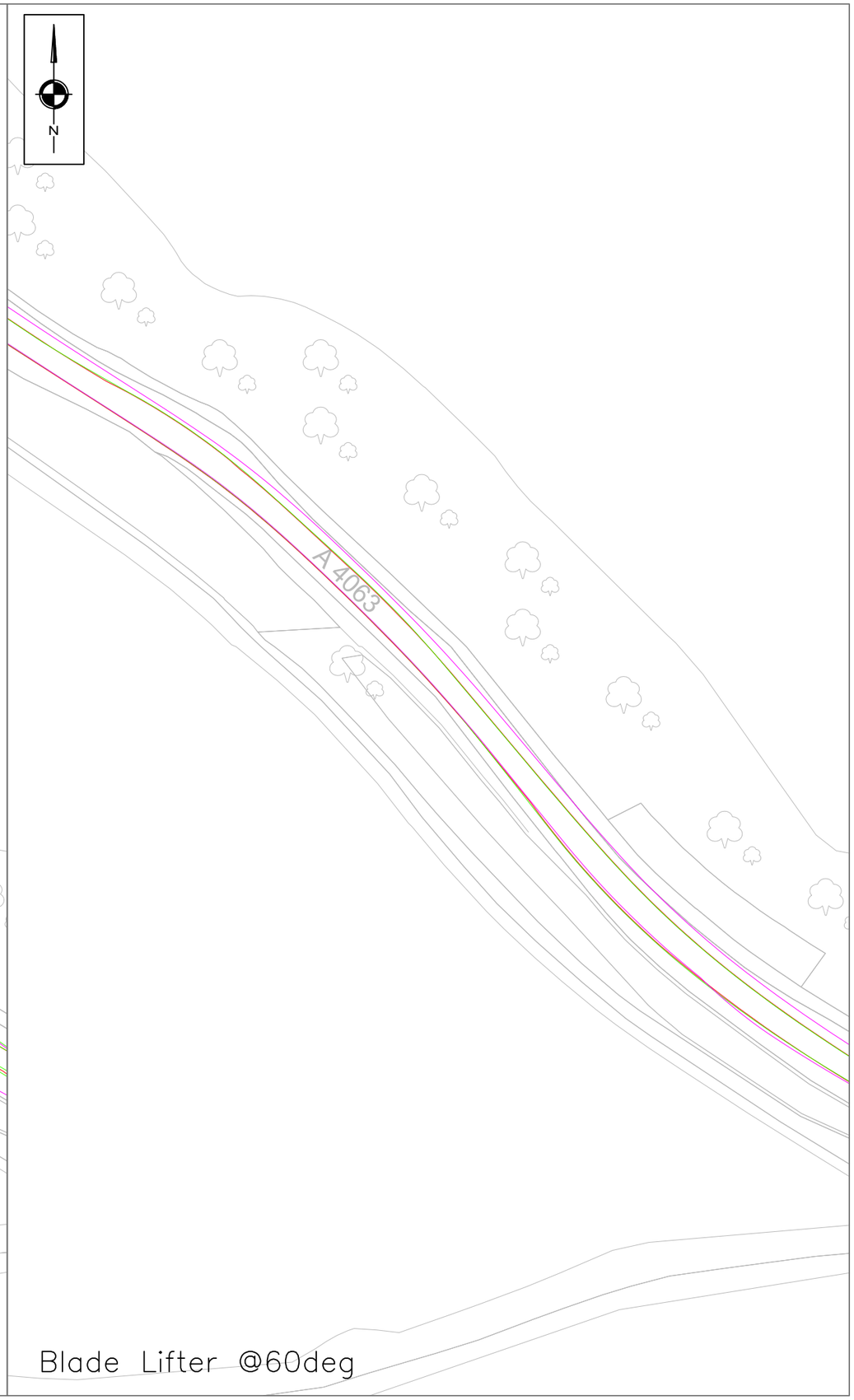
Drawing No.	Rev.
230435-10-SK12	-



Superwing Carrier



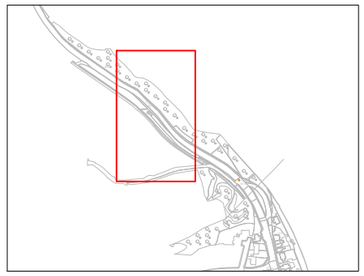
Blade Lifter @60deg

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP

Transportation Planning : Infrastructure Design

Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 2.5
A4063 Maesteg Rd, north of Tondu
Nordex N163 (79.7m) - Superwing Carrier &
Blade Lifter @60deg

Drawn By:	Status:
JW	DRAFT
Checked:	Scale:
JH	1:750 @ A3

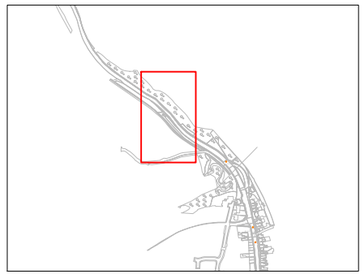
Drawing No.	Rev.
230435-10-SK13	-

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
-	- -	-	-

S|C|P

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI 2.5
A4063 Maesteg Road, north of Tondu
Nordex N163 - Tower Section (35m x 5m)

Drawn By:	Status:
JW	DRAFT
Checked:	Scale:
JH	1:750 @ A3

Drawing No.	Rev.
230435-10-SK14	-

Superwing Carrier

Blade Lifter @60deg

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP

Transportation Planning : Infrastructure Design

Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 2.6
A4063, Coytrahen
Nordex N163 (79.7m) - Superwing Carrier & Blade Lifter @60deg

Drawn By:	Status:
JW	DRAFT
Checked:	Scale:
JH	1:750 @ A3

Drawing No.: 230435-10-SK15

Rev.: -

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

S|C|P

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI 2.6
A4063, Coytrahen
Nordex N163 - Tower Section (35m x 5m)

Drawn By:	Status:
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Checked:	Scale:
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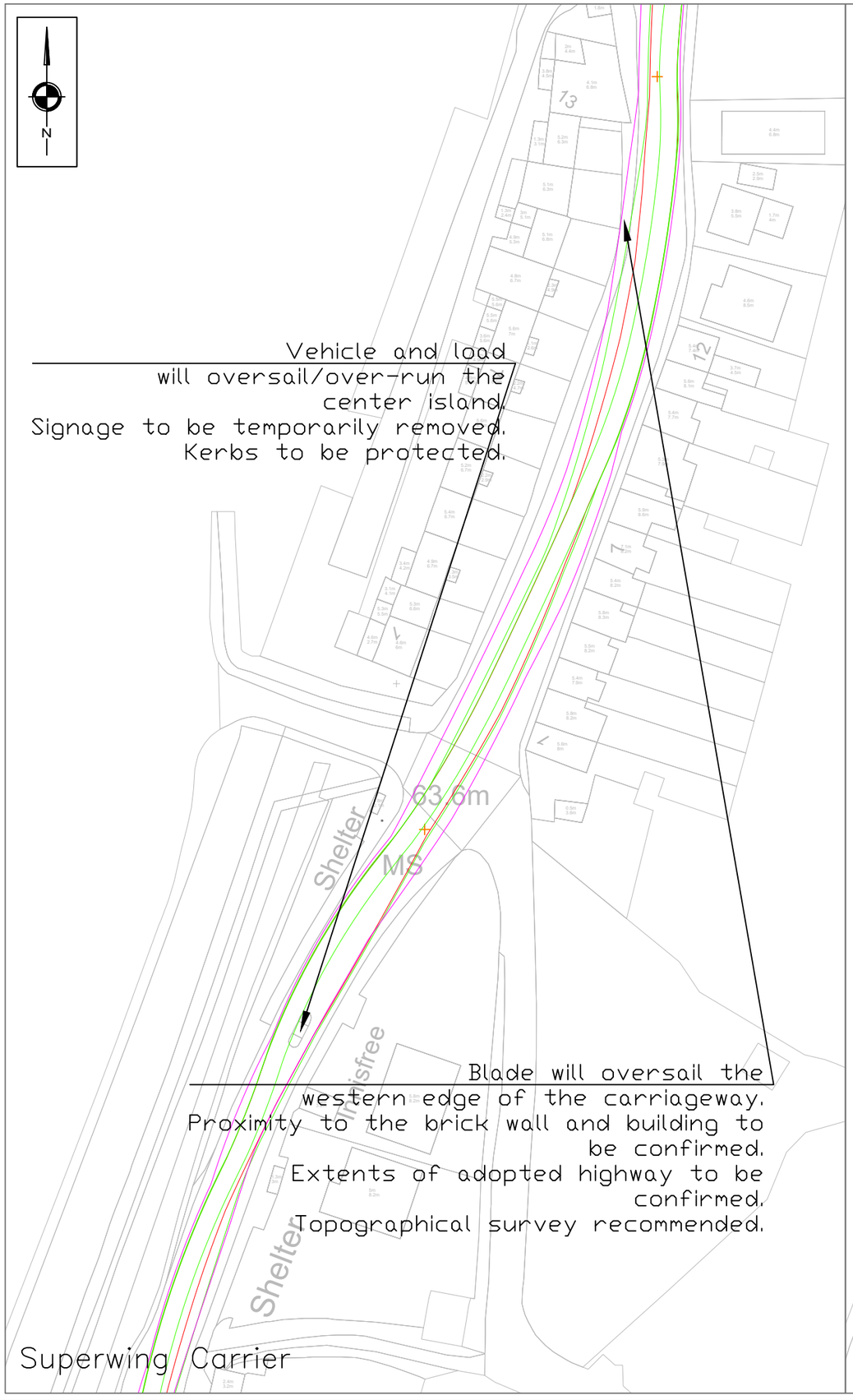
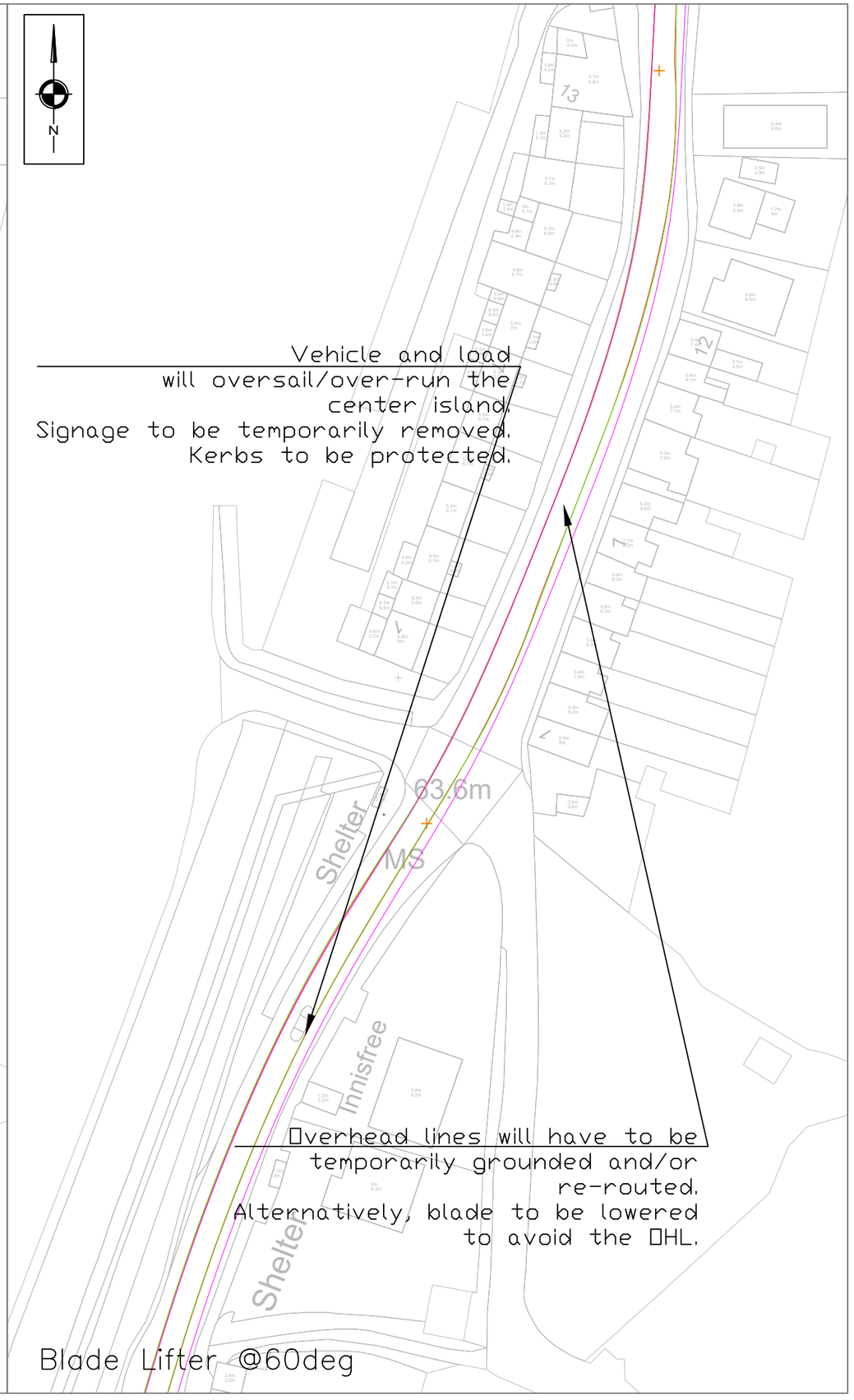
Drawing No.	Rev.
230435-10-SK16	-



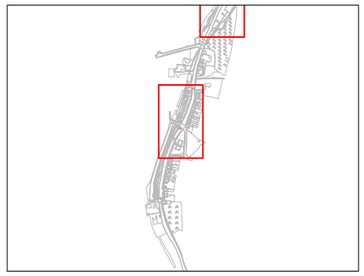


NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

Transportation Planning : Infrastructure Design

Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 2.7
A4063, Coytrahen
Nordex N163 (79.7m) - Superwing Carrier & Blade Lifter @60deg

Drawn By:	Status:
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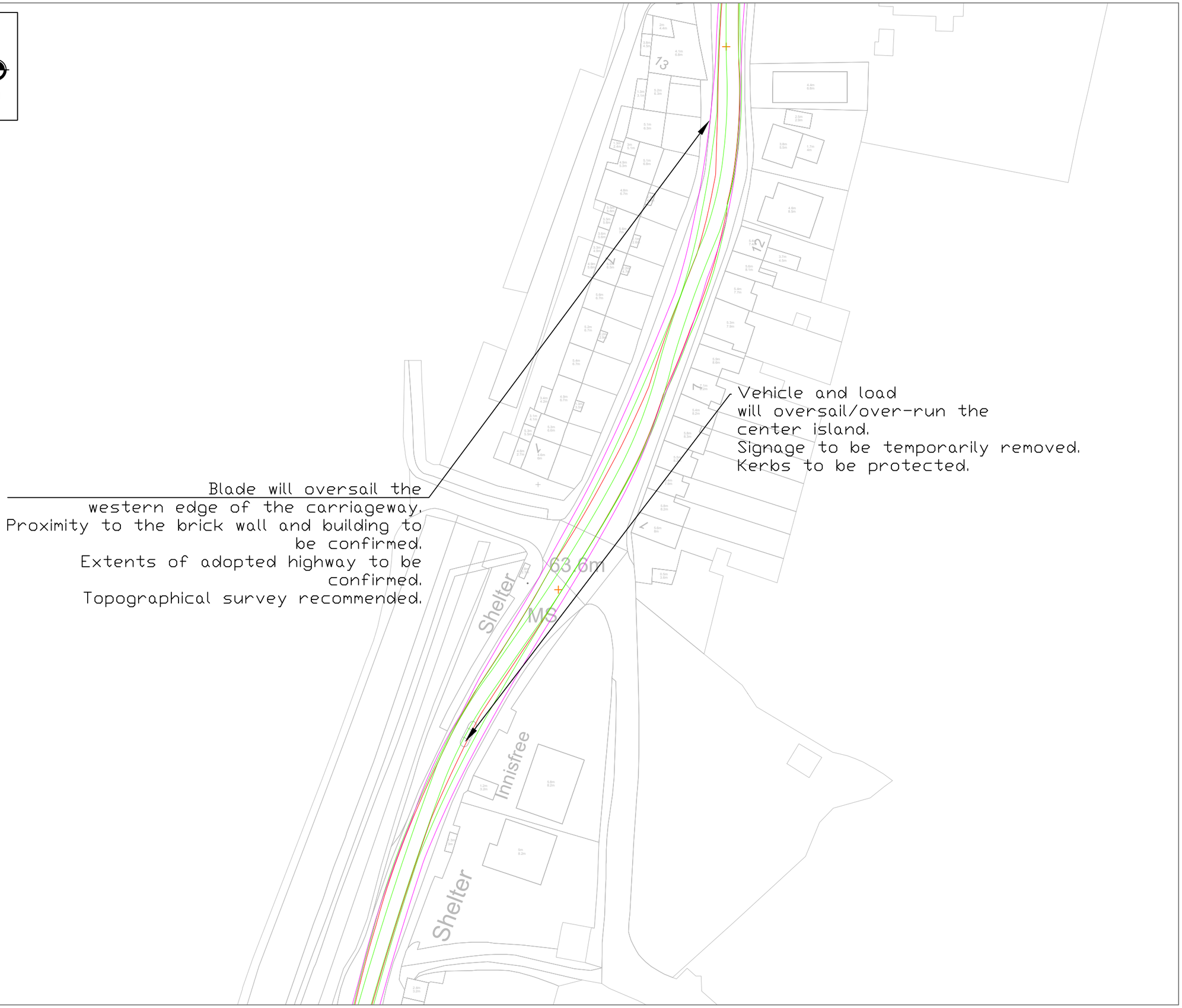
Checked:	Scale:
JH	1:750 @ A3

Drawing No.	Rev.
230435-10-SK17	-

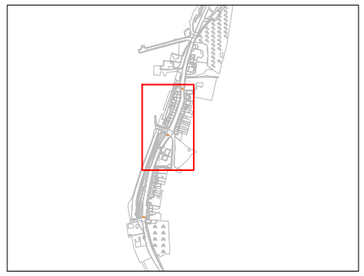


NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI 2.7
A4063, Coytrahen
Nordex N163 - Tower Section (35m x 5m)

Drawn By:	Status:
JW	DRAFT
Checked:	Scale:
JH	1:750 @ A3

Drawing No.	Rev.
230435-10-SK18	-

Superwing Carrier

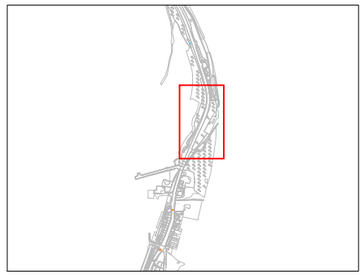
Blade Lifter @60deg

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP

Transportation Planning : Infrastructure Design

Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 2.8
A4063, north of Coytrahen
Nordex N163 (79.7m) - Superwing Carrier & Blade Lifter @60deg

Drawn By:	Status:
JW	DRAFT
Checked:	Scale:
JH	1:750 @ A3

Drawing No.	Rev.
230435-10-SK19	-

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

S C P

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title:

Swept Path Analysis - POI 2.8
A4063, north of Coytrahen
Nordex N163 - Tower Section (35m x 5m)

Drawn By:	Status:
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Checked:	Scale:
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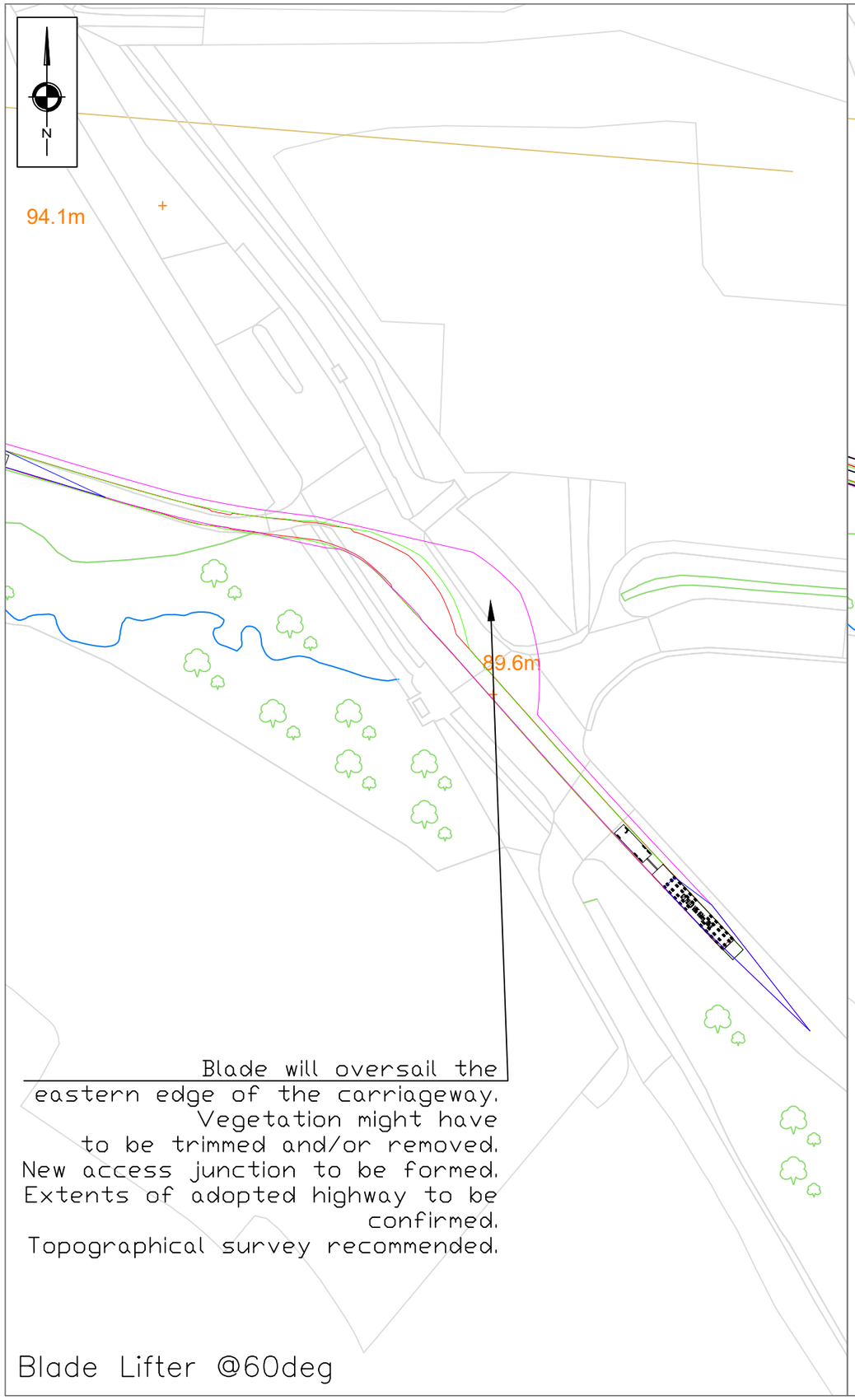
Drawing No.	Rev.
230435-10-SK20	-



Blade will oversail the eastern edge of the carriageway.
Vegetation might have to be trimmed and/or removed.
New access junction to be formed.
Extents of adopted highway to be confirmed.
Topographical survey recommended.

Blade Lifter @60deg

Load will oversail the western edge of the carriageway.
Vegetation will have to be trimmed and/or removed.
New access junction o be formed.
Extents of adopted highway to be confirmed.
Topographical survey recommended.

Tower Section

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP

Transportation Planning : Infrastructure Design

Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 2.9
A4063 - Northern Access
Nordex N163 (79.7m) - Blade Lifter @60deg & Tower Section (35m x 5m)

Drawn By:	Status:
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Checked:	Scale:
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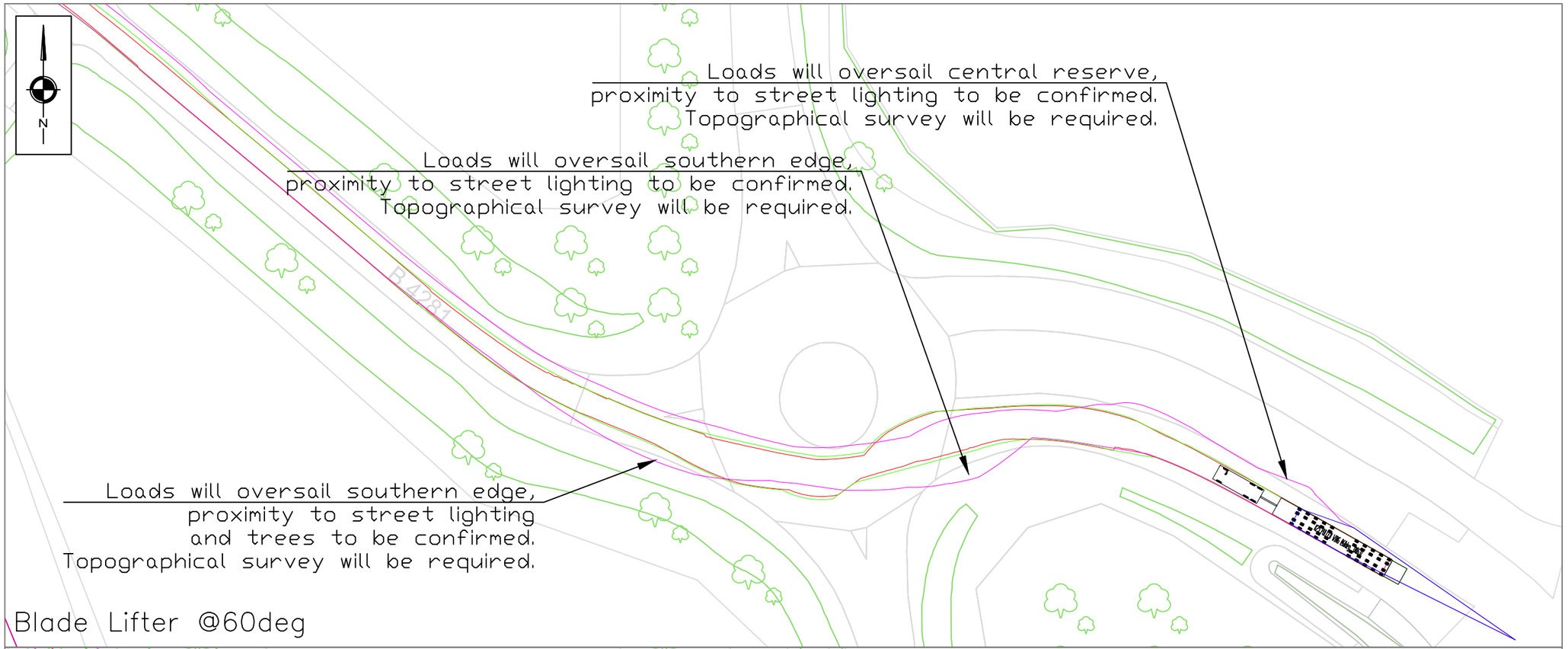
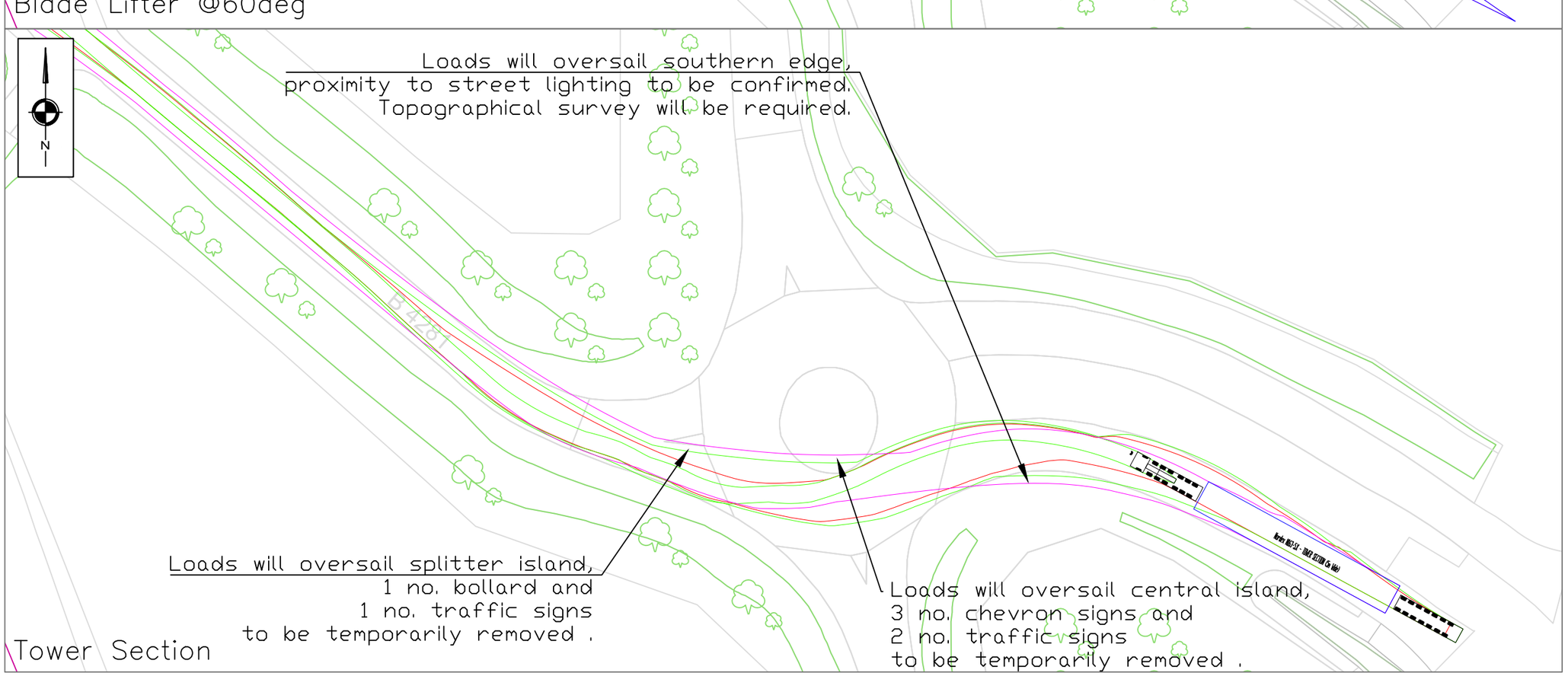
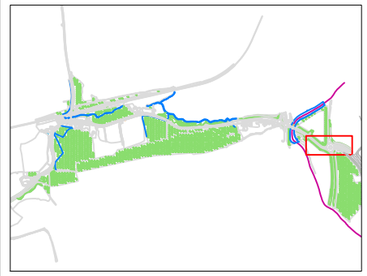
Drawing No.	Rev.
230435-10-SK21	-





NOTES

- Load Oversail
- Vehicle Oversail
- Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP
Transportation Planning : Infrastructure Design

Client Name:
Galileo 03 Ltd

Project Title:
Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 5.1
South Eastern Approach via B4281
Nordex N163 (79.7m) - Blade Lifter @60deg &
Tower Section (35m x 5m)

Drawn By:	Status:
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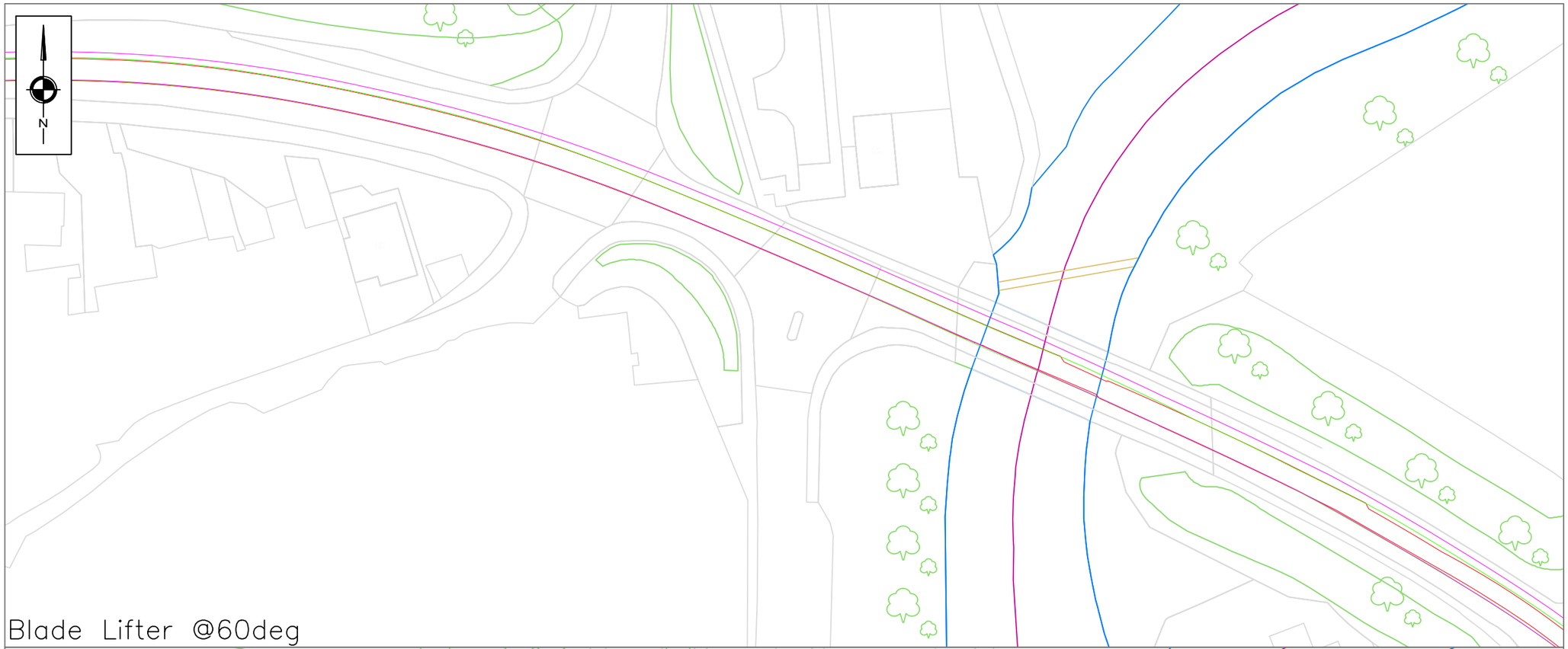
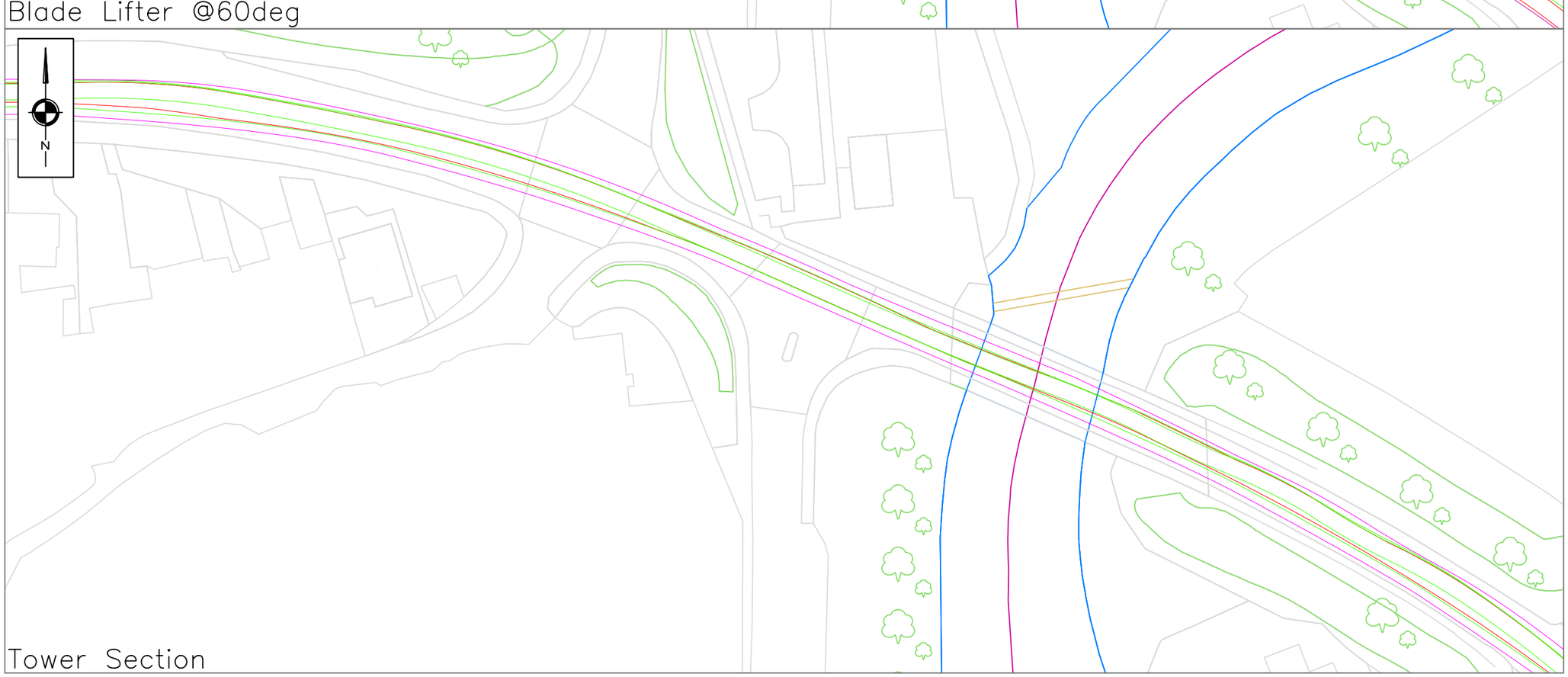
Checked:	Scale:
JH	1:750 @ A3

Drawing No.	Rev.
230435-10-SK22	-



Blade Lifter @60deg



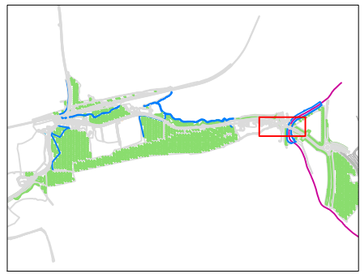
Tower Section

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track



REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

S|C|P

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 5.2
South Eastern Approach via B4281
Nordex N163 (79.7m) - Blade Lifter @60deg &
Tower Section (35m x 5m)

Drawn By:	Status:
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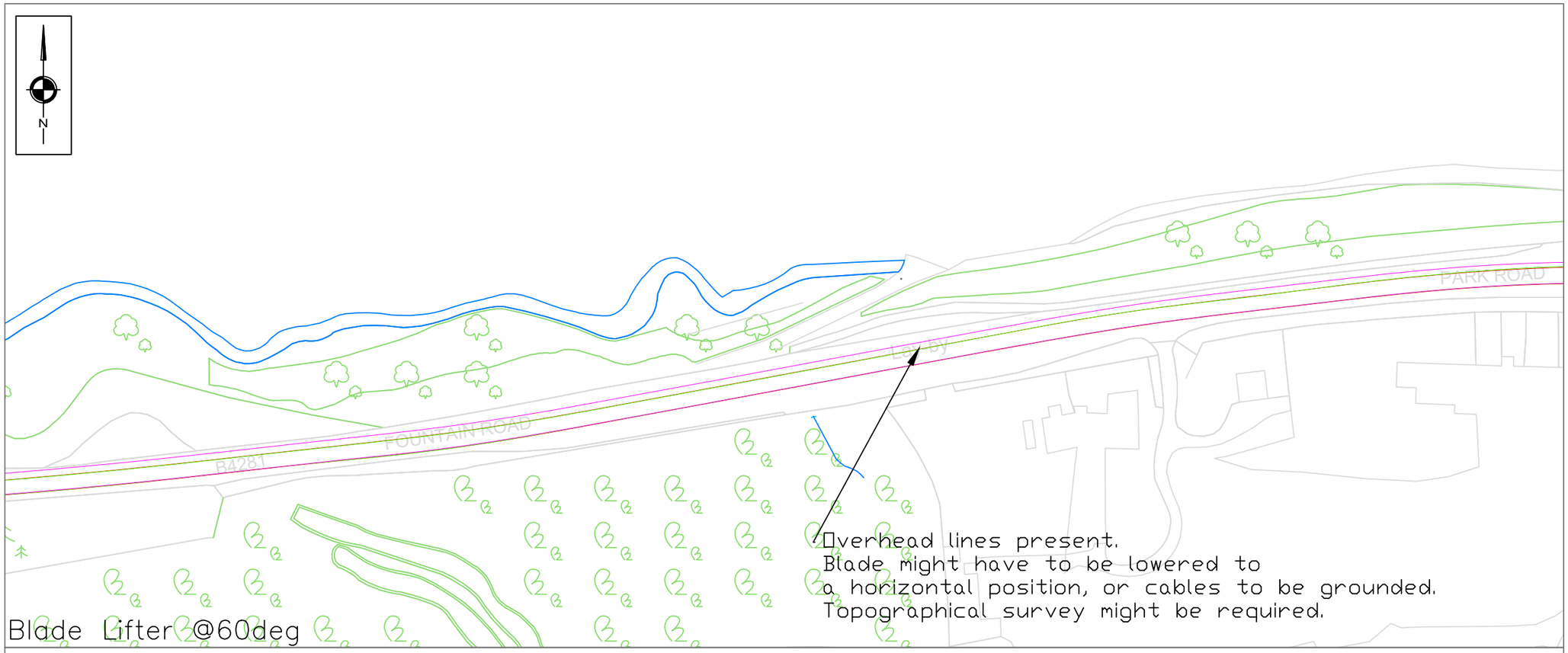
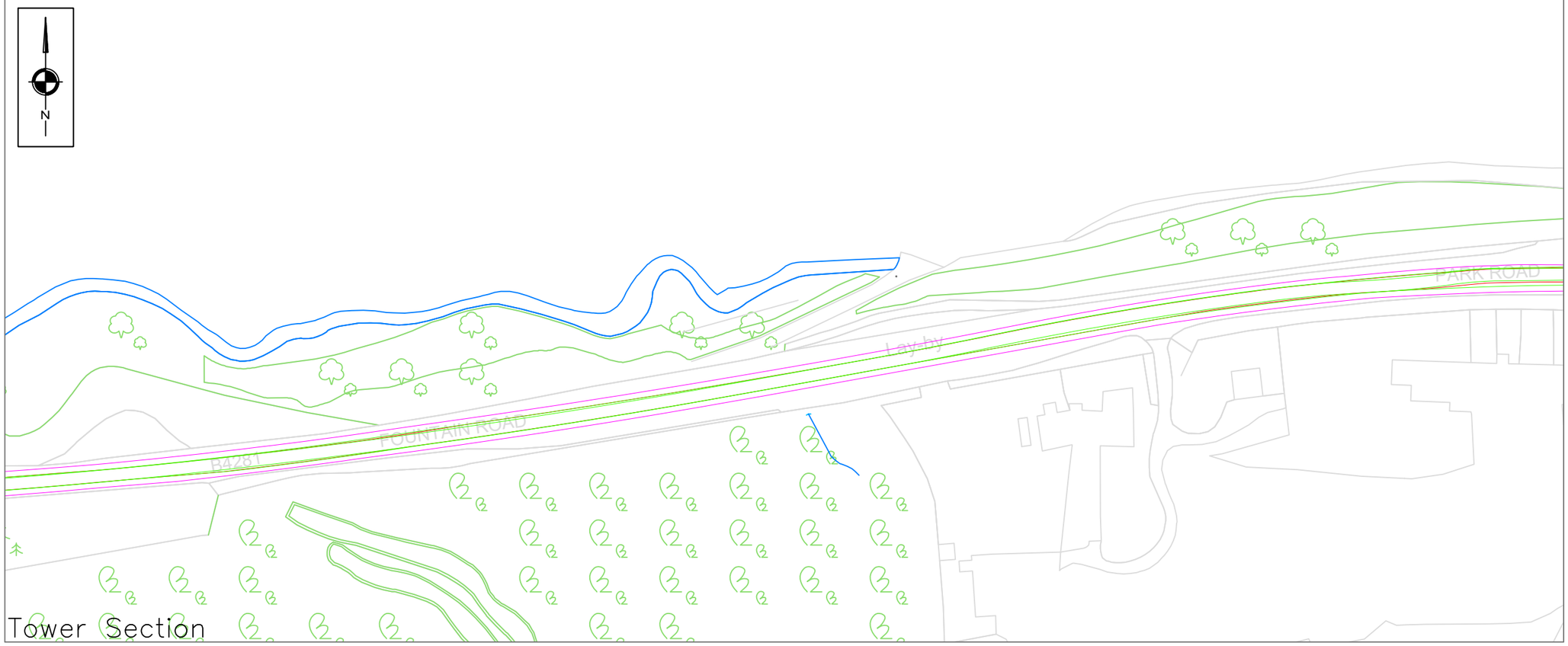
Checked:	Scale:
JH	1:750 @ A3

Drawing No.	Rev.
230435-10-SK23	-



Blade Lifter @60deg



Tower Section

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

S|C|P

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 5.3
South Eastern Approach via B4281
Nordex N163 (79.7m) - Blade Lifter @60deg &
Tower Section (35m x 5m)

Drawn By:	Status:
JW	UNAPPROVED
Checked:	Scale:
JH	1:1000 @ A3

Drawing No.	Rev.
230435-10-SK24	-

Loads will oversail southern edge,
Adjoining land might be required.
Adopted highway boundary to be confirmed.
Topographical survey might be required.

Overhead lines present.
Blade might have to be lowered to
a horizontal position, or cables to be grounded.
Topographical survey might be required.

48.2m

Blade Lifter @60deg

48.2m

Tower Section

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	- -	-	-

SCP

Transportation Planning : Infrastructure Design

Client Name:

Galileo 03 Ltd

Project Title:

Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 5.4
South Eastern Approach via B4281
Nordex N163 (79.7m) - Blade Lifter @60deg &
Tower Section (35m x 5m)

Drawn By:	Status:
JW	UNAPPROVED
Checked:	Scale:
JH	1:1000 @ A3

Drawing No.	Rev.
230435-10-SK25	-

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP

Transportation Planning : Infrastructure Design

Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 5.5
South Eastern Approach via B4281
Nordex N163 (79.7m) - Blade Lifter @60deg &
Tower Section (35m x 5m)

Drawn By:	Status:
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Checked:	Scale:
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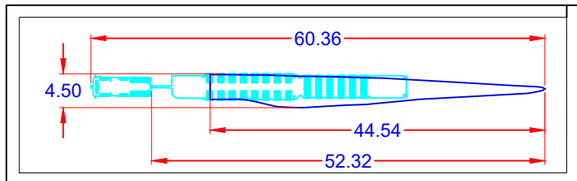
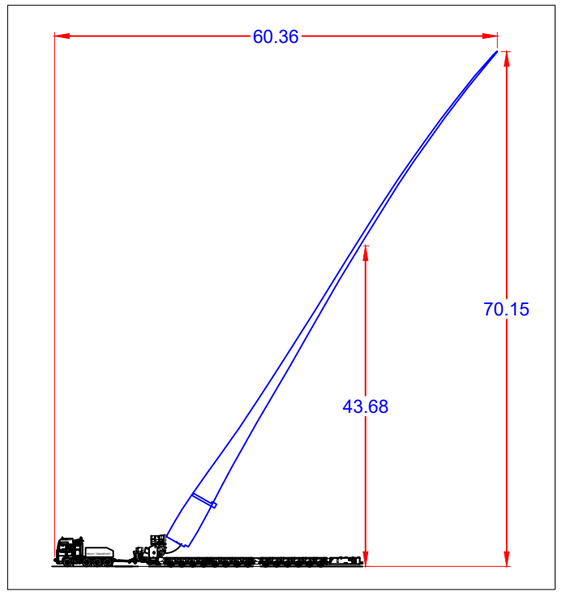
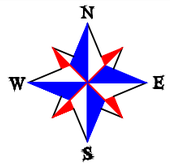
Drawing No.	Rev.
230435-10-SK26	-



Swept Path indicates trailer utilising MANUAL steering

Nordex
N163 Blade Component
Blade lifter at 60°





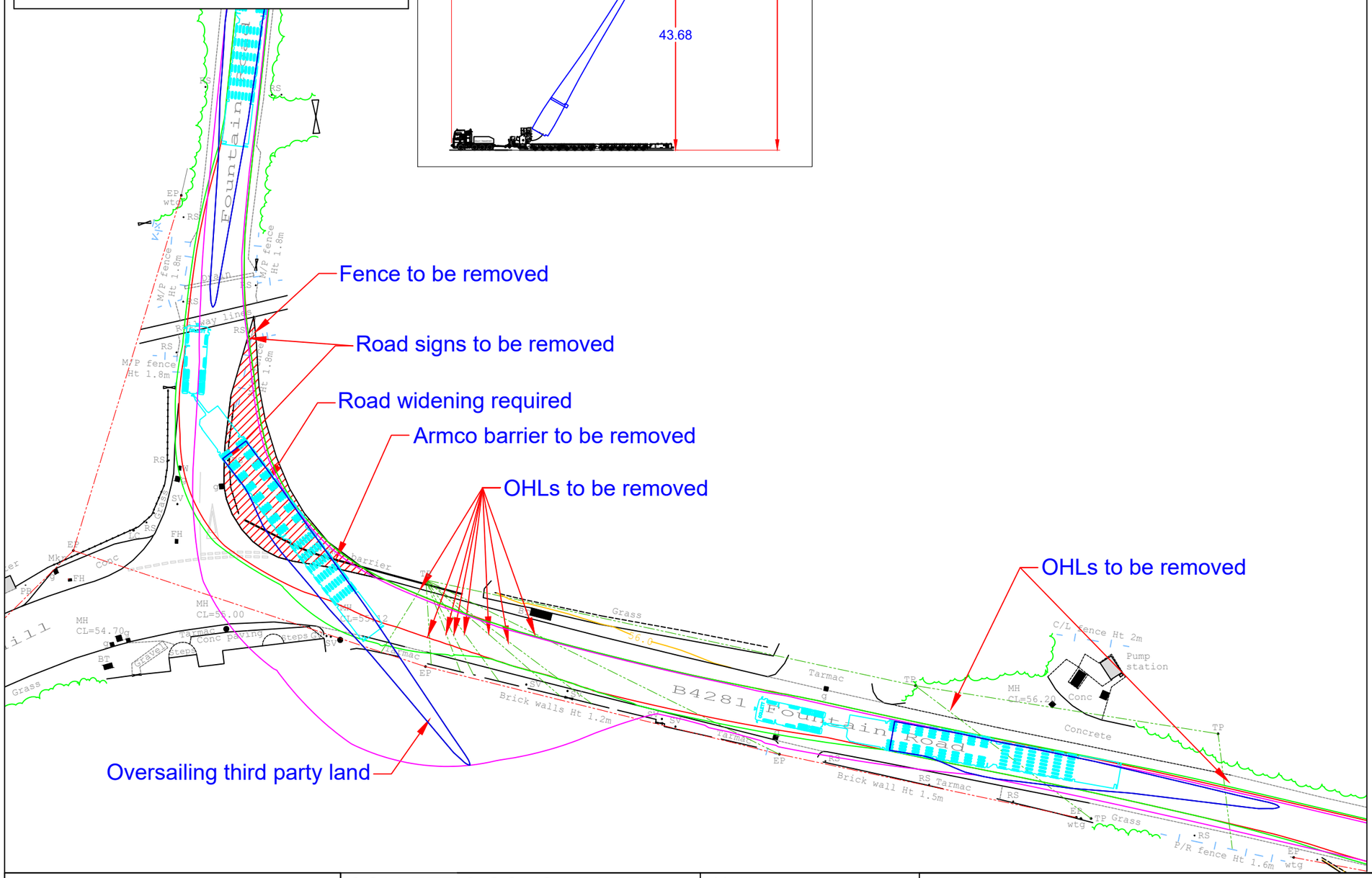
Continue on B4281 to junction with Fountain Road.
At junction turn right onto Fountain Road.

****Caution****

- Rear projection of the blade will oversail third party land on the nearside of the junction. The rear projection of the blade will NOT collide with the building.
- Road widening is required as indicated by the red hatching.
- Overhead lines, road signs, fence and Armco barrier to be removed.

UK Grid Reference: SS 88251 83452

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Ordnance Survey Data. A site visit has **not** been conducted to verify road widths or the presence of street furniture.
- All swept path diagrams and assessments are made and calculated for the road movement of loaded trailer equipment carrying Turbine components. These dimensions are based on the turning circles and specification of Collett & Sons Ltd trailer equipment.
- This SPA is a means of providing evidence of minimum requirements of any one vehicle as a footprint and there is no safety factor or margin included.
- Turbine delivery vehicles can be both left and right hand drive vehicles, therefore due to drivers perception it must be assumed that every vehicle will not follow the exact same line and so a margin of additional space should be allowed for.
- Land take is usually referred to when land is required from Private Land Owners; road widening is usually referred to when land is required within highways boundaries. The boundaries between private land and highways property are assumed by using obvious demarcation such as fence lines/hedges etc. It should be noted that actual boundaries between highways and private land are not substantiated in this report and can only be authenticated by carrying out land searches.
- Police escorts and permits will be required for the movement of all of the components. Form 'BE16' permits will also be required to undertake the movement of the vehicle shown in the swept path analysis. These permits are at the discretion of the Highway Agency (HA). Therefore, approval of these 'permits for movements' by the HA are a major consideration before the physical capability to deliver these components are undertaken.
- In critical areas, where modifications are required, the road construction must be formed to the minimum specification contained in the Turbine Manufactures Transport Guidance Notes.
- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
- The information is privileged and confidential and is for the exclusive use of the nominated client.
- All dimensions in meters
-



Area within red outline will be swept by tractor and trailer axles

Hatched area within red outline to be levelled and prepared to accept axle loadings

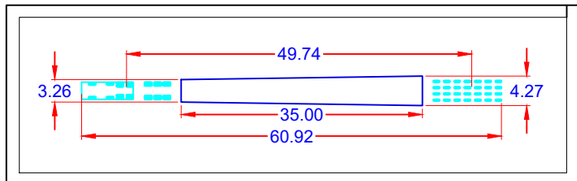
Area within magenta outline will be oversailed by load and projections

Area within green outline will be oversailed by trailer body

COLLETT
EXPERTS IN MOTION

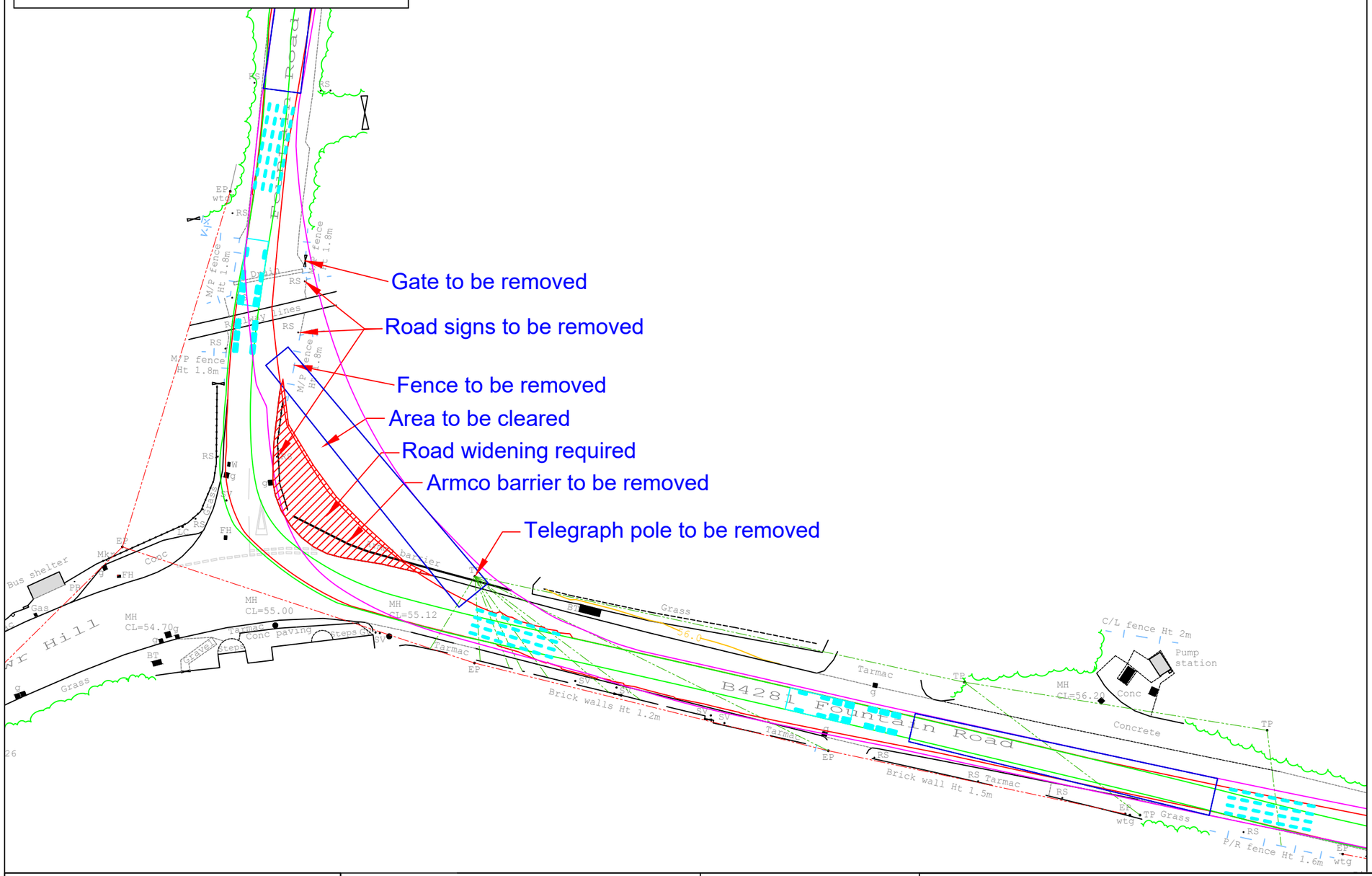
COLLETT & SONS LIMITED
Victoria Terminal TEL: +44(0)8456 255288
Albert Road FAX: +44(0)8456 255244
Halifax, HX2 0DF WEB: www.collett.co.uk

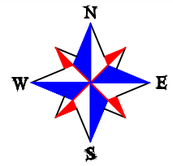
DRAWN	J.HALSTEAD	TITLE	B4281 / FOUNTAIN ROAD JUNCTION
DATE	03/02/2025	MAPPING	TOPOGRAPHICAL SURVEY
SCALE	1:500	SIZE	A3
PINCH POINT IDENTIFIED BY	CLIENT	CUSTOMER	RSK ENVIROMENT
SITE	MYNDD TY TALWYN WINDFARM	DWG.	410942-200B1.1



Swept Path indicates trailer utilising MANUAL steering

Nordex
N163 118.5m HH Top Tower
3 x 7 clamp trailer





Continue on B4281 to junction with Fountain Road.
At junction turn right onto Fountain Road.

****Caution****

- Road widening is required as indicated by the red hatching.
- Area within magenta line is to be cleared of all obstructions to allow the tower to oversail.
- Telegraph pole, Armco barrier, road signs, fence gate to be removed.

UK Grid Reference: SS 88251 83452

- The swept path analysis provided is produced from a purely transport orientated view, and does not consider any political issues in terms of land ownership, or any other precincts raised, that may otherwise be restrictive.
- The drawing has been produced from Ordnance Survey Data. A site visit has **not** been conducted to verify road widths or the presence of street furniture.
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- The Turbine Manufactures Transport Guidance Notes will state the minimum road width required for the transport of components. Any roads below this stated width will require widening to reflect this regardless of any swept path analysis not indicating modifications.
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- All dimensions in meters
-

Area within red outline will be swept by tractor and trailer axles

Hatched area within red outline to be levelled and prepared to accept axle loadings

Area within magenta outline will be oversailed by load and projections

Area within green outline will be oversailed by trailer body

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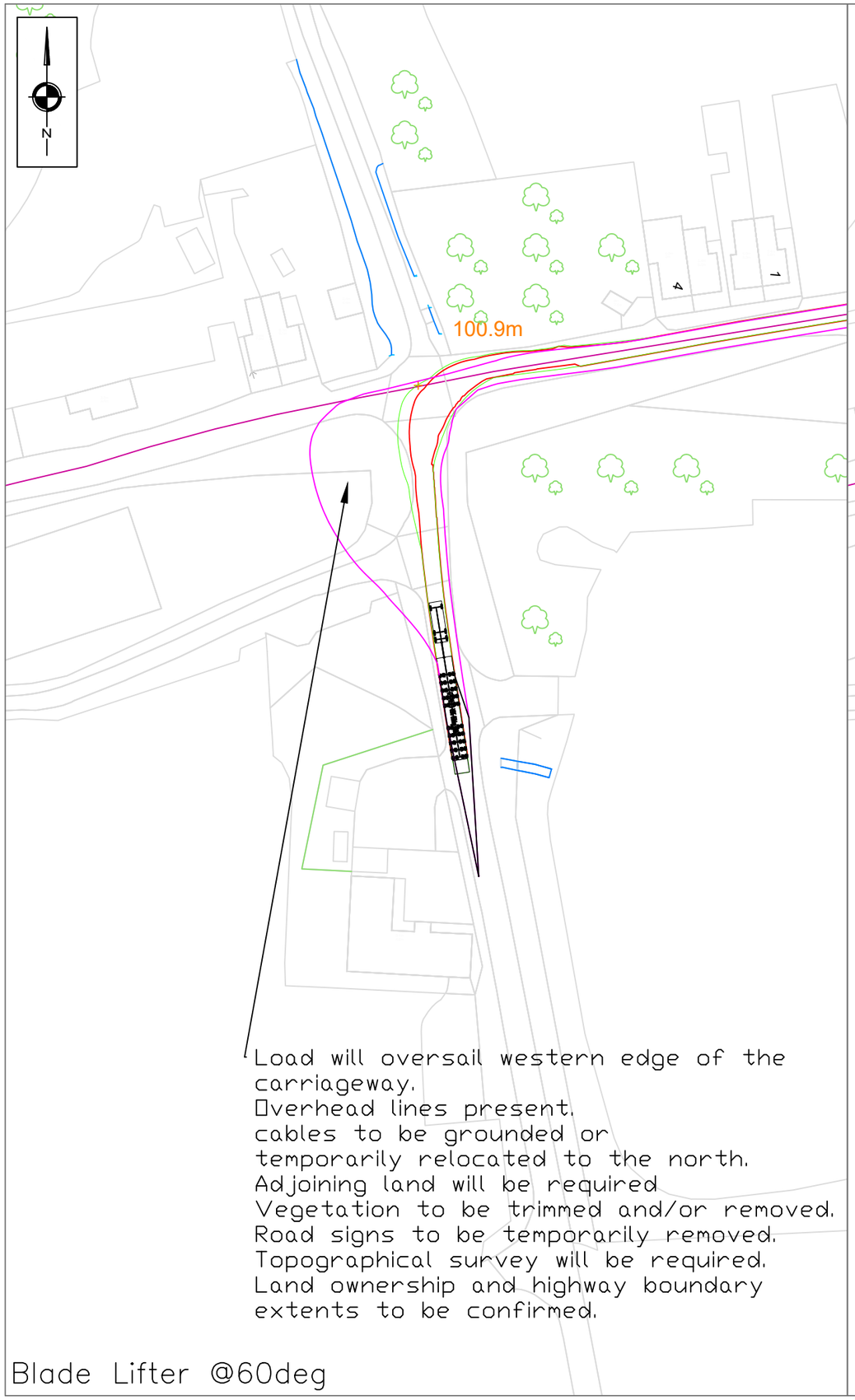
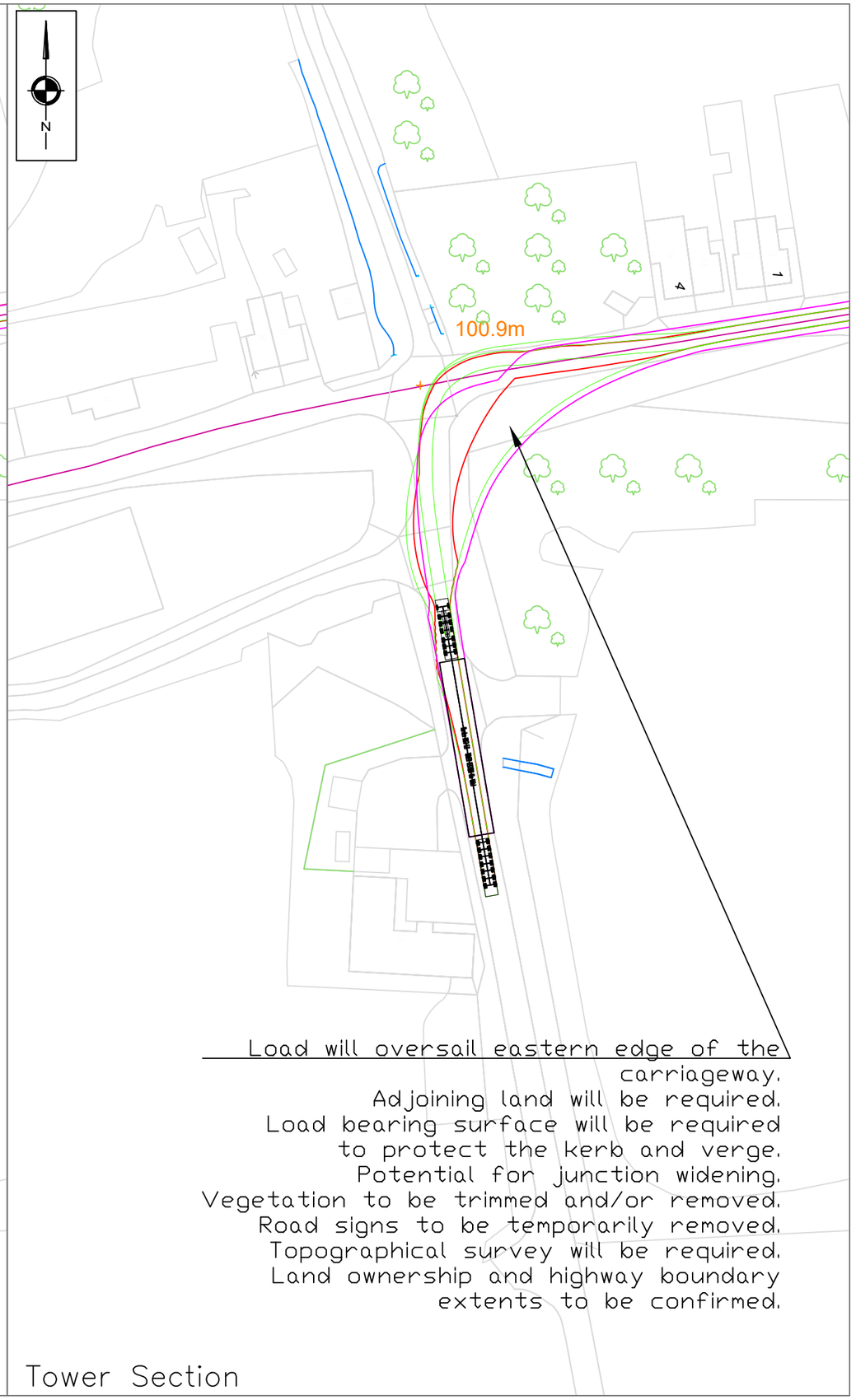
Halifax, HX2 0DF WEB: www.collett.co.uk

DRAWN J.HALSTEAD	TITLE B4281 / FOUNTAIN ROAD JUNCTION		
DATE 03/02/2025	MAPPING TOPOGRAPHICAL SURVEY	CUSTOMER RSK ENVIROMENT	
SCALE 1:500	SIZE A3	PINCH POINT IDENTIFIED BY CLIENT	SITE MYNDD TY TALWYN WINDFARM	DWG. 410942-200F1.1



Load will oversail western edge of the carriageway.
Overhead lines present.
cables to be grounded or temporarily relocated to the north.
Adjoining land will be required
Vegetation to be trimmed and/or removed.
Road signs to be temporarily removed.
Topographical survey will be required.
Land ownership and highway boundary extents to be confirmed.

Blade Lifter @60deg



Load will oversail eastern edge of the carriageway.
Adjoining land will be required.
Load bearing surface will be required to protect the kerb and verge.
Potential for junction widening.
Vegetation to be trimmed and/or removed.
Road signs to be temporarily removed.
Topographical survey will be required.
Land ownership and highway boundary extents to be confirmed.

Tower Section

NOTES

Load Oversail

Vehicle Oversail

Vehicle Wheels Track

REVISIONS

REV	DESCRIPTION	DATE	BY
-	-	-	-

SCP

Transportation Planning : Infrastructure Design

Client Name: Galileo 03 Ltd

Project Title: Mynydd Ty-talwyn Energy Park

Drawing Title: Swept Path Analysis - POI 5.7
Fountain Road / New Road Junction
Nordex N163 (79.7m) - Blade Lifter @60deg &
Tower Section (35m x 5m)

Drawn By:	Status:
JW	UNAPPROVED
Checked:	Scale:
JH	1:1000 @ A3

Drawing No.	Rev.
230435-10-SK27	-