MOANMORE LOWER GREEN ENERGY LIMITED

MOANMORE LOWER WIND FARM

COUNTY CLARE

TURBINE DELIVERY ROUTE ASSESSMENT

April 2025

Moanmore Lower Green Energy Limited,
Station Road,
Adare,
Co. Limerick

Jennings O'Donovan & Partners Limited,
Consulting Engineers,
Finisklin Business Park,
Sligo.
Tel.: 071 9161416
Fax: 071 9161080
email: info@jodireland.com

JENNINGS O'DONOVAN & PARTNERS LIMITED
Project, Civil and Structural Consulting Engineers,
FINISKLIN BUSINESS PARK,
SLIGO,
IRELAND.

Telephone (071) 9161416
Fax (071) 9161080

Email info@jodireland.com
Web Site www.jodireland.com

DOCUMENT APPROVAL

PROJECT	Moanmore Lower Wind Farm	
CLIENT / JOB NO	Moanmore Lower Green Energy Limited	6778
DOCUMENT TITLE	Turbine Delivery Route (TDR)	

	Prepared by	**Reviewed/Approved by**
Document Draft Rev1	Name John Doogan	Name David Kiely
Date April 2025	Signature	Signature

6778/703/JD

MOANMORE LOWER WIND FARM

TURBINE DELIERY ROUTE ASSESSMENT

CONTENTS

1 INTRODUCTION 1
1.1 Brief 1
1.2 Statement of Authority 1
1.3 Design References 1
2 TURBINE DELIVERY ROUTE 1
2.1 Haul Route for Turbine Delivery Traffic 1
2.2 Transportation of Abnormal Load Turbine Components on the Public Road Network 3
2.3 Enabling Works for Turbine Delivery on the Public Road Network 3
3 SWEPT PATH ANALYSIS 5

1 INTRODUCTION

1.1 Brief

Jennings O'Donovan & Partners Limited has been appointed by Moanmore Lower Green Energy Limited to prepare a preliminary haul route assessment of the Turbine Delivery Route (TDR) to the proposed Moanmore Lower Wind Farm (The Development), Co. Clare. The assessment covers the transportation of 3 no. 4-5MW wind turbines with a rotor diameter of 136m and a hub height of 82m. The assessment is carried out on the local road network between the N68 national secondary road and the wind farm site entrance on the L2034 local road.

1.2 Statement of Authority

The Turbine Delivery Route Assessment has been prepared by John Doogan of Jennings O'Donovan & Partners Limited, Finisklin, Sligo. Established in Sligo in 1950, Jennings O'Donovan & Partners Limited is a Clean Tech Company providing consulting engineering services in the areas of road design, renewable energy, civil and structural engineering, water supply, wastewater collection and treatment, environmental resource management and impact assessment and in the area of industrial and commercial development.

1.3 Design References

The TDR assessment has been carried out using AutoTRACK Analysis, Bing mapping in AutoCAD, Google Maps and topographical survey information. The analysis has been carried out using the following vehicles to represent the longest and widest loads,

- Turbine blade loaded on a super-wing trailer
- Turbine blade loaded on a blade lifter
- Top tower loaded on a flatbed trailer
- Bottom tower loaded on tower clamps

2 TURBINE DELIVERY ROUTE

2.1 Haul Route for Turbine Delivery Traffic

The turbine components for The proposed Development will be shipped to Shannon Foynes Port where they will be stored for transportation. The turbine components will be transported on the public road network using abnormal load vehicles between Shannon Foynes Port and the proposed Development. The proposed turbine delivery route between Shannon Foynes Port and the proposed Development site is shown in **Figure 1.** The turbine delivery route in the vicinity of the proposed Development is shown

in **Figure 2.** The turbine components will be delivered to the proposed Development using the following public road network and local authority jurisdiction.

- Exit from Shannon Foynes Port on L6188 – Limerick County Council
- N69 – Limerick County Council / Transport Infrastructure Ireland
- N18 – Limerick County Council / Transport Infrastructure Ireland / Direct Route (Limerick) Ltd
- N18 – Clare County Council / Transport Infrastructure Ireland
- M18 – Clare County Council / Transport Infrastructure Ireland
- N85 – Clare County Council / Transport Infrastructure Ireland
- N68 – Clare County Council / Transport Infrastructure Ireland
- L6132 – Clare County Council
- L2036 – Clare County Council
- L2034 – Clare County Council

Alternative route for high loads to avoid N18 Limerick Tunnel

- R510 (Junction 2 on the N18)– Limerick County Council
- R527 – Limerick County Council
- R445 (Rejoin N18 at junction 4)– Limerick County Council / Clare County Council

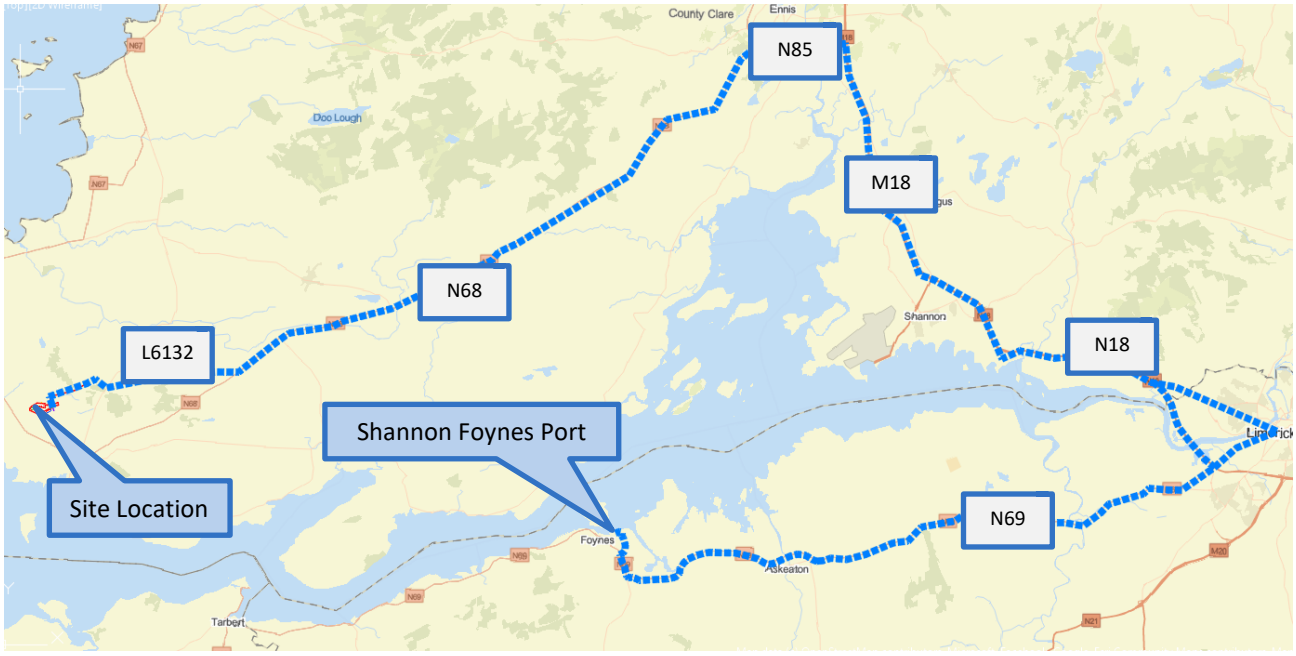


Figure 1 – Turbine Delivery Route

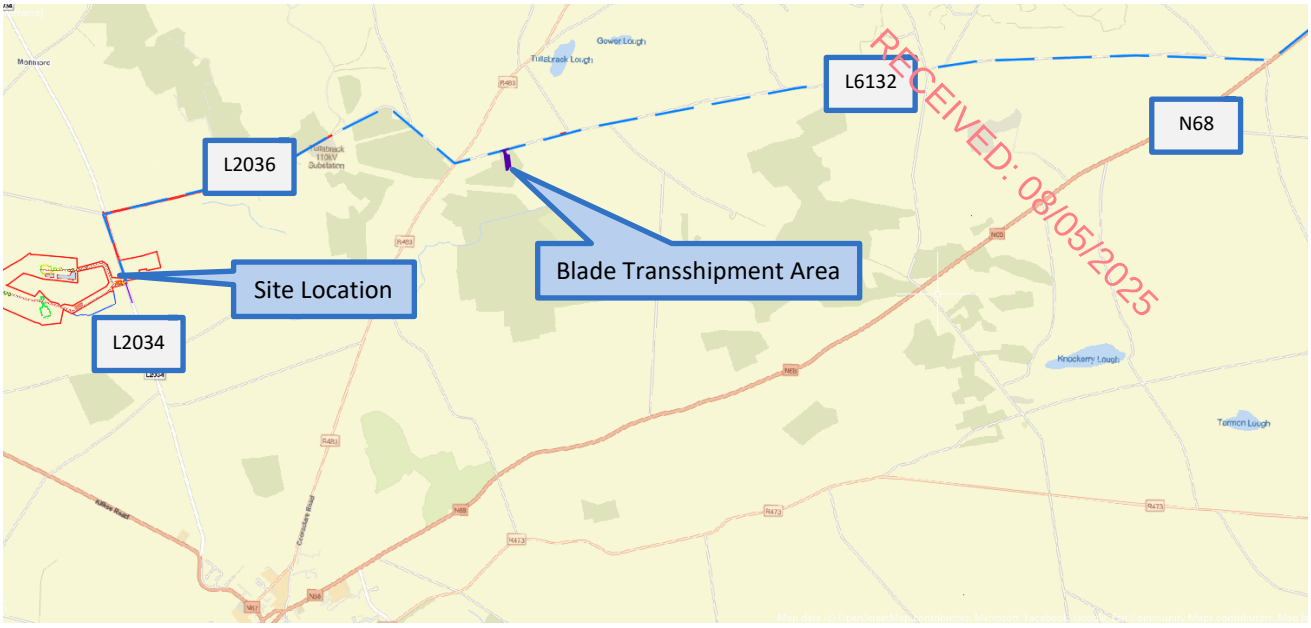


Figure 2 – Turbine Delivery Route – N68 to The Proposed Development

2.2 Transportation of Abnormal Load Turbine Components on the Public Road Network

The transportation of turbine components consisting of abnormal loads will be subject to abnormal load permits obtained by the haulage company who will submit details of the transport vehicle, load to be transported and transport route to An Garda Siochana and to the local authority through which the load will pass. As is best industry practice, delivery vehicles will use a combination of trailers and axle configurations based on the weight and dimensions of the load in order to ensure that the maximum axle weight transmitted to the road surface does not exceed the limits set out in the Road traffic Regulations, 2003.

Prior to the transportation of turbine components between the port and The proposed Development, a trial run will be carried out by a delivery vehicle using a retractable load gauge in order to determine that fully loaded vehicles can access the Site. The trial run will be carried out using appropriate permits in consultation with An Garda Siochana, local authority and all relevant road stakeholders.

Transport Infrastructure Ireland and PPP operators shall be included in all correspondence relating to the transportation of turbine components.

2.3 Enabling Works for Turbine Delivery on the Public Road Network

The section of the haul route for the transportation of turbine components between the N68 and the proposed development has been assessed by Jennings O'Donovan & Partners Limited using AutoTRACK software to determine the swept path of abnormal load vehicles delivering turbine

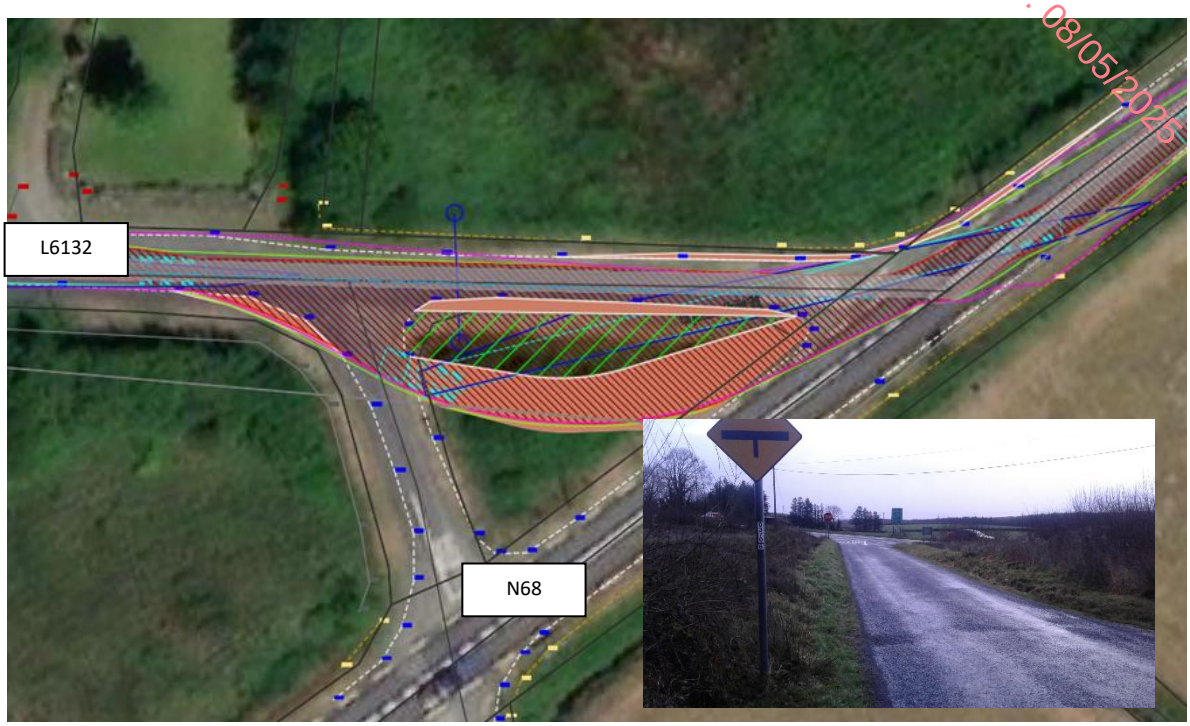
components. The assessment has shown that enabling works such as road widening, alterations to junctions, removal and trimming of vegetation, alterations to signs, lighting, and street furniture will be required along the haul route between the N68 and the proposed development. A summary of the assessment is listed in **Table 1**. Full details of the works locations on the turbine delivery route are shown in **Appendix A**.

Area	Location	Enabling Works
1	L6132 / N68 Junction	Construction of overrun area in the road verge withstand wheel loading from abnormal load vehicles delivering turbine components.
2	L6132	Temporary road widening in road verge to increase the carriageway width to 4.5m for the transportation of turbine components.
3	L6132	Vertical realignment of an existing crest curve to prevent abnormal vehicles grounding.
4	L6132	Construction of a blade transshipment area with access onto the L6132.
5	L6132 / R483 Junction	Trimming of vegetation
5	L2036	Temporary road widening in road verge to increase the carriageway width to 4.5m for the transportation of turbine components.
6	L2036 / L2034 Junction	Construction of overrun area in third party lands to withstand wheel loading from abnormal load vehicles delivering turbine components.

Table 1 – Turbine Delivery Route Enabling Works

3 SWEPT PATH ANALYSIS

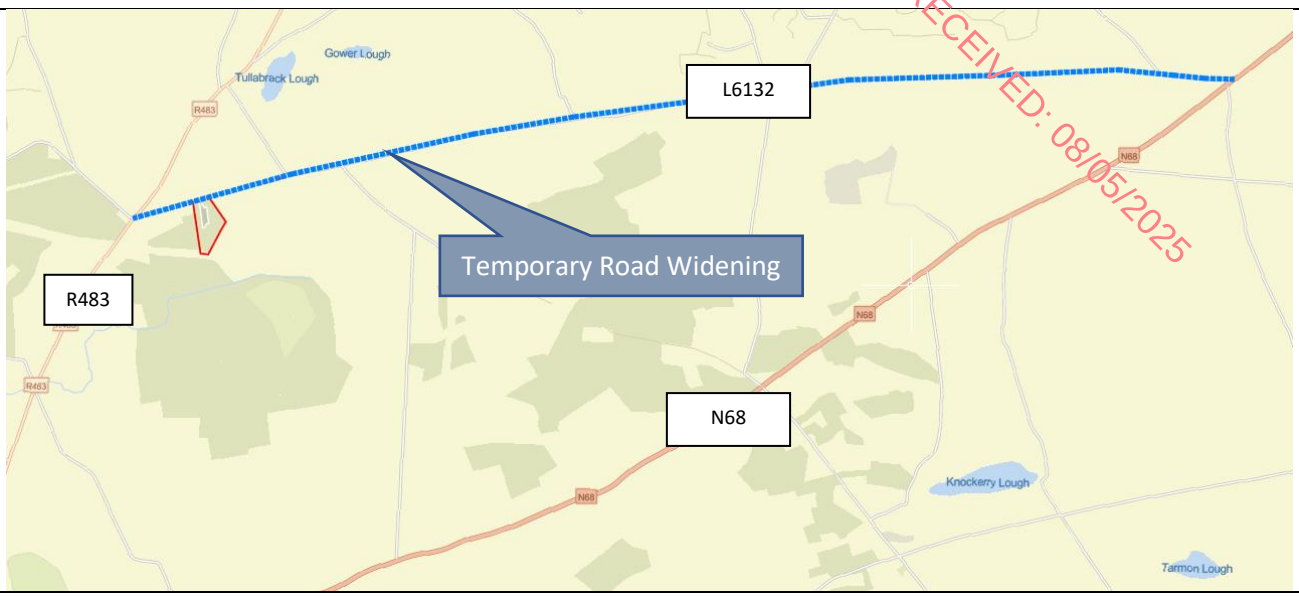
N68 / L6132 Junction



Existing road verge to be strengthened to withstand wheel loading from abnormal load vehicles

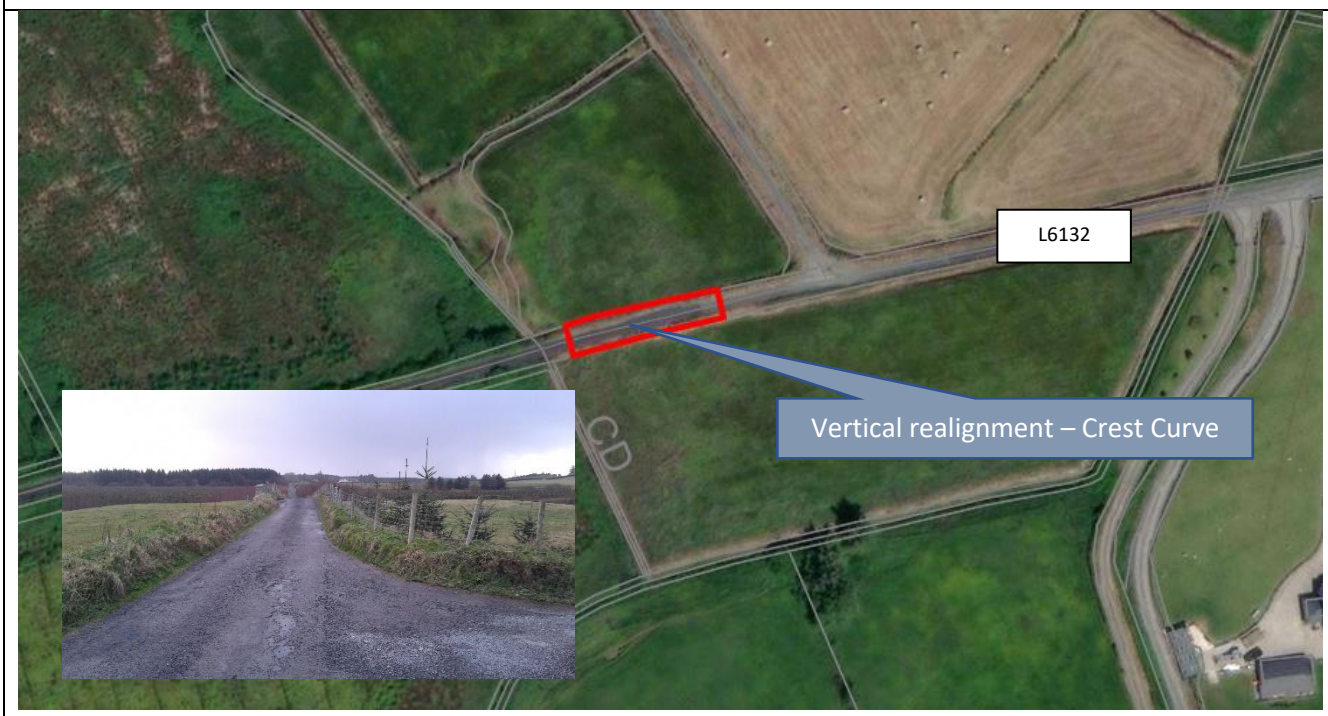
Trimming of vegetation. Relocation of telegraph poles, traffic signs and street furniture.

L6132 Road Widening



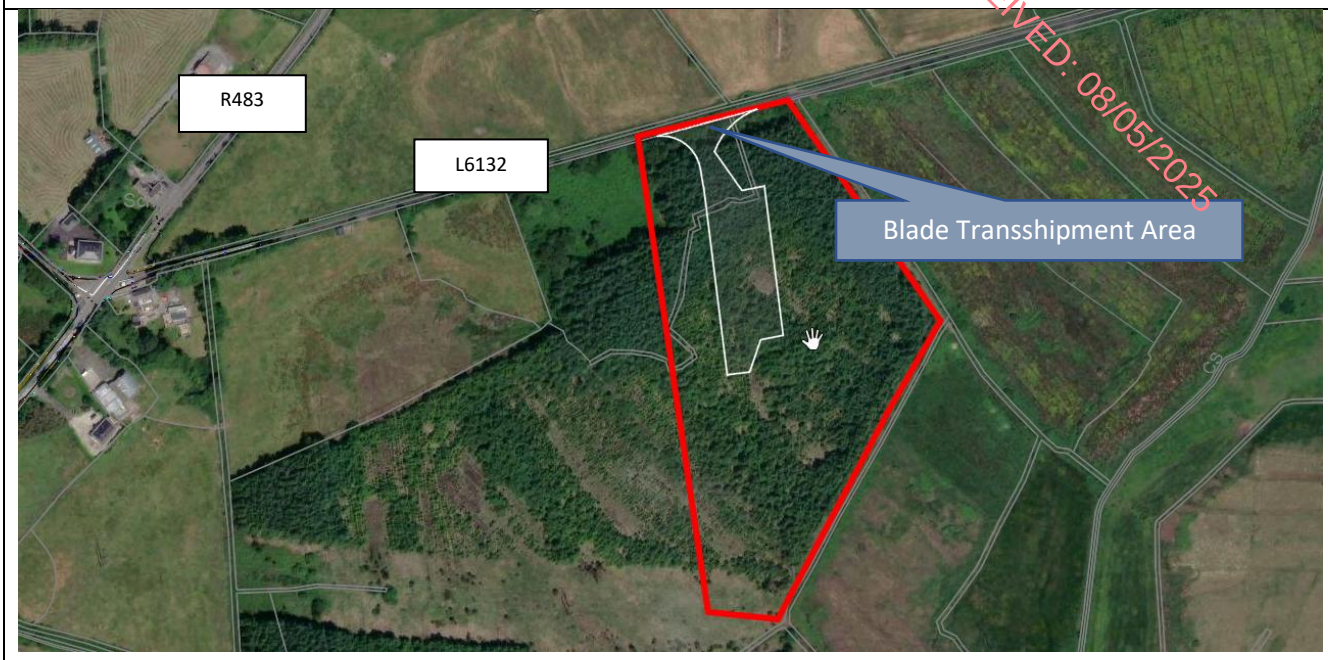
Verge strengthening to withstand wheel loading from abnormal load vehicles and removal of vegetation.

L6132 Vertical Alignment



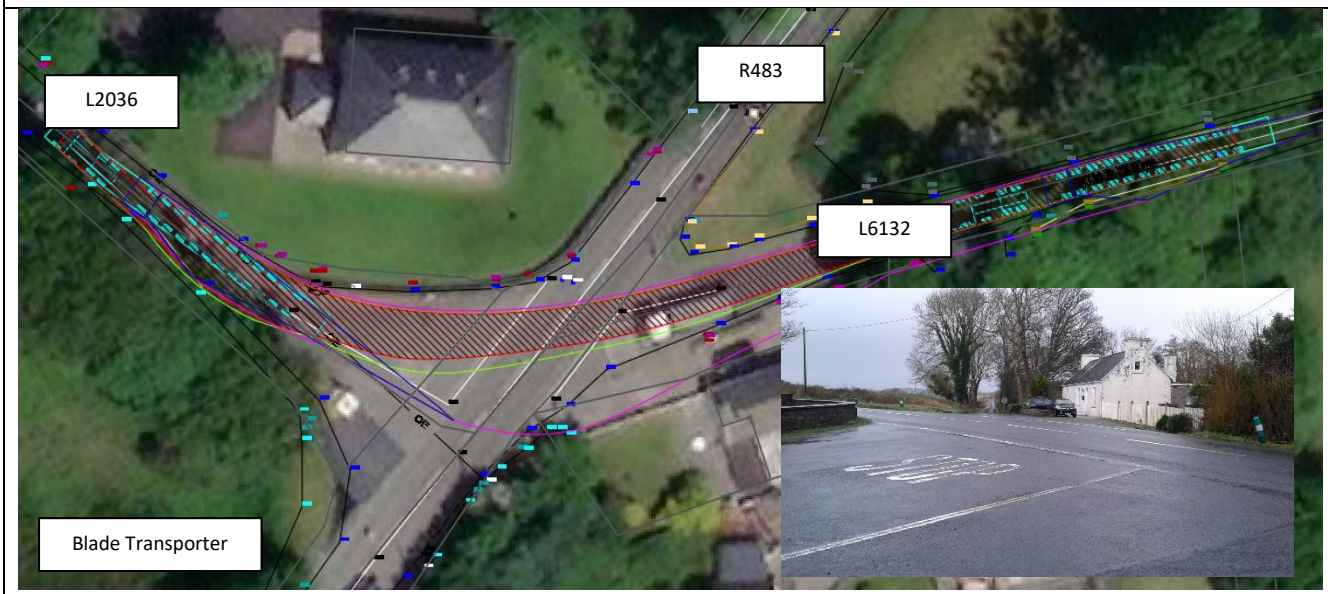
Vertical re-alignment of existing crest curve to prevent vehicles grounding

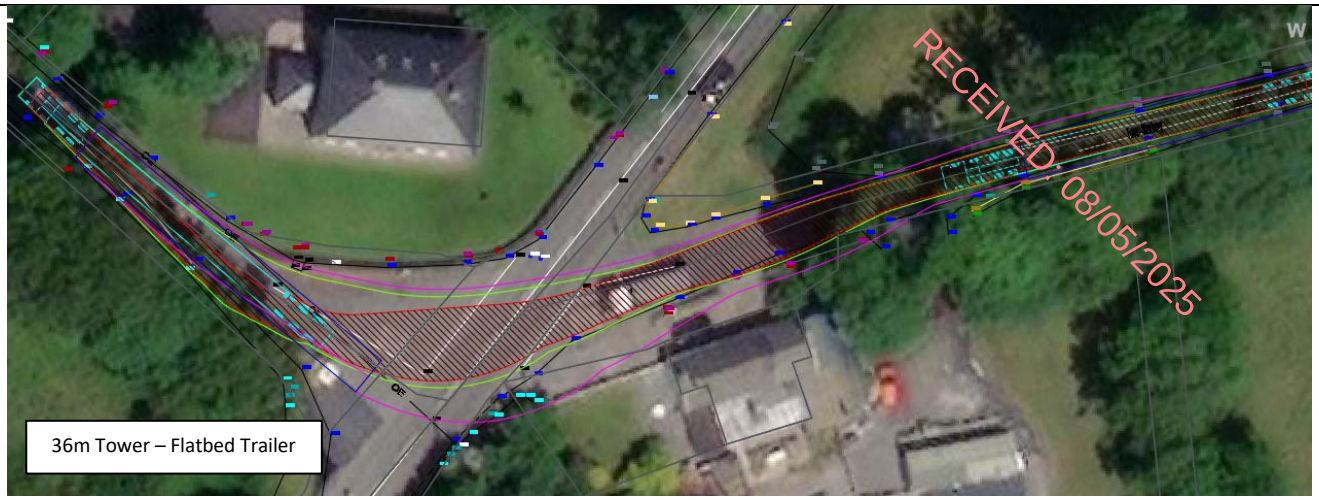
L6132 Blade Transshipment Area

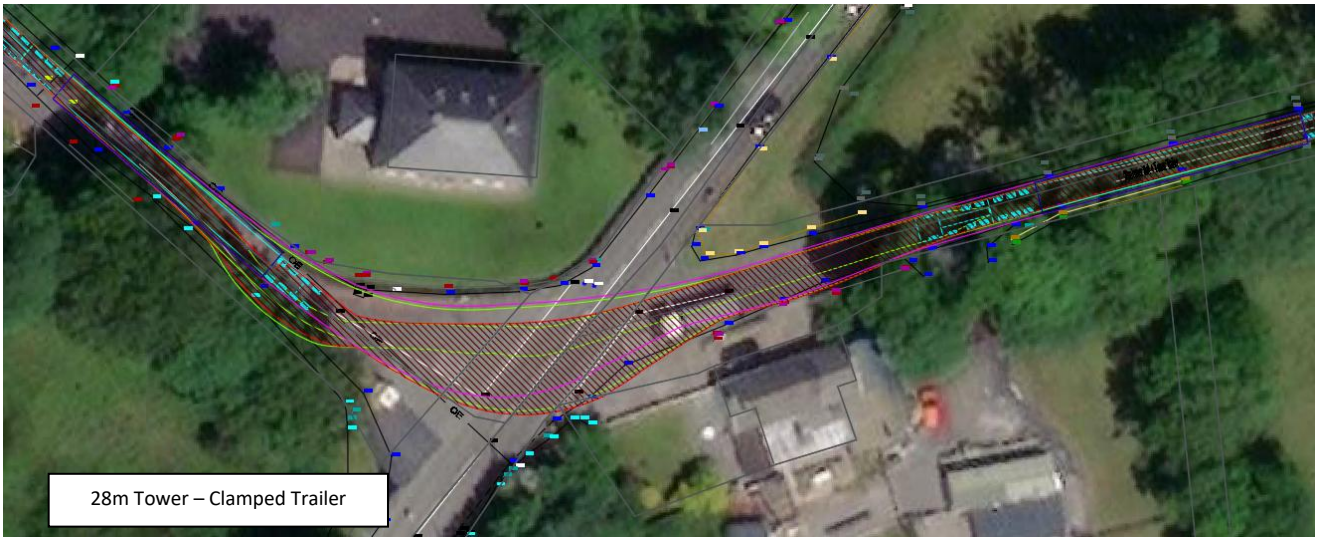


Construction of blade transshipment area with access onto L6132. Area to accommodate the swept path of abnormal load vehicles. Area to withstand wheel loading from abnormal load vehicles.

L6132 / R483 Junction Tullabrack Cross

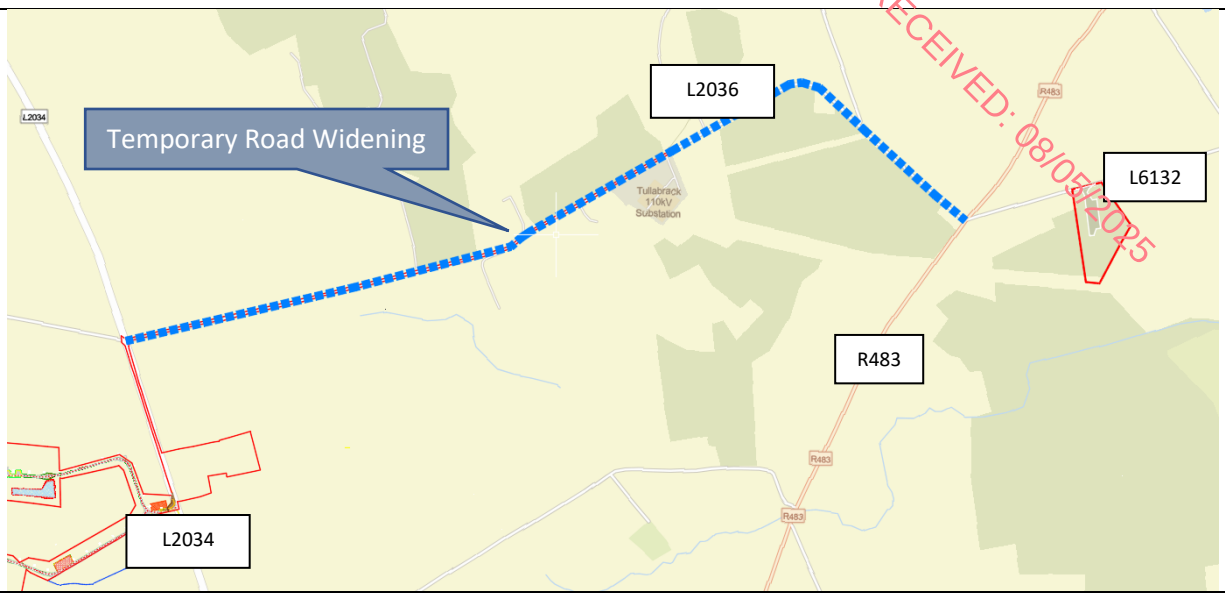






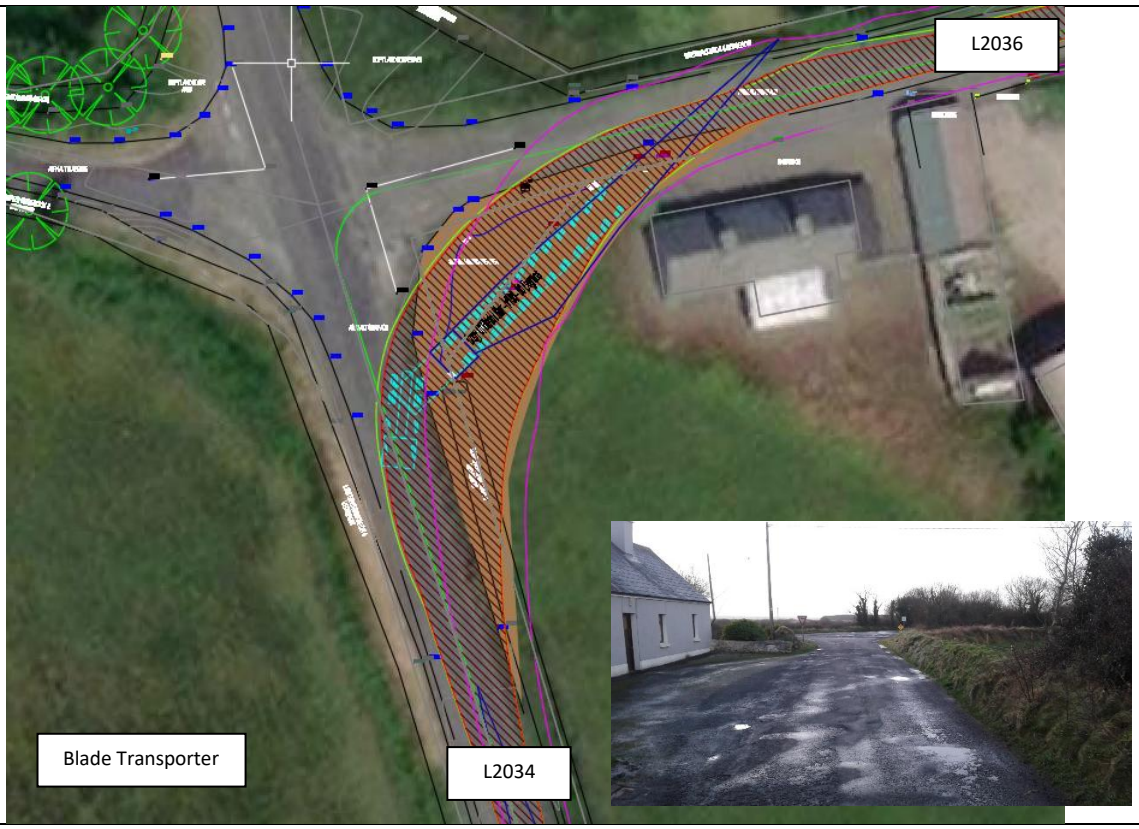
Existing vegetation to be trimmed

L2036 Local Road



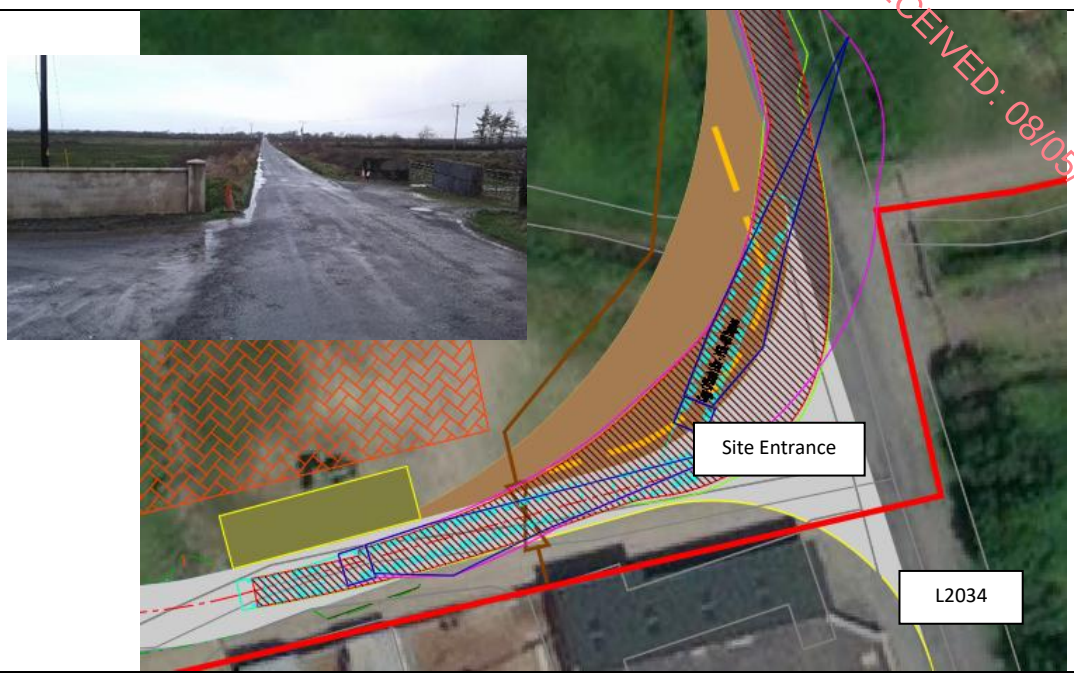
Verge strengthening to withstand wheel loading from abnormal load vehicles and removal of vegetation.

L2034 / L2036 Junction



Verge strengthening to withstand wheel loading from abnormal load vehicles and removal of vegetation in third party lands at the L2034 / L2036 Junction. Relocation of pole and traffic sign. Existing vegetation to be trimmed.

L2034 Site Entrance



Existing farm entrance to be upgraded to accommodate the swept path and withstand wheel loading from abnormal load vehicles.