Stage 1 Road Safety Audit

Lissinagroagh Wind Farm, Manorhamilton, Co. Leitrim

On behalf of **Future Energy Ireland**

Prepared By:
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Chartered Consulting Engineers
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Civil
Structural
Traffic

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DOCUMENT CONTROL

Revision	R0										
Purpose of Issue: P=Preliminary C=Comment F=Final	C										
Date:	22 01 26										
Originator:	SS										
Checked By:	PJG										
Approved By:	SS										

1. INTRODUCTION

1.1. This report describes a Stage 1 Road Safety Audit carried out on behalf of Future Energy Ireland on separate permanent site access junctions for a proposed wind farm at Lissinagroagh, Manorhamilton, Co Leitrim.

1.2. The audit was carried out between 20th – 22nd January 2026.

1.3. The audit team were as follows:

Team Leader:
Stuart Summerfield, HNC (Civil) FCIHT FSoRSA
Certificate of Competency in Road Safety Audits (SoRSA, 2015)
TII Auditor Ref. SS73290

Team Member:
PJ Gallagher, BEng M.Inst.A.E.A. MITAI
TII Auditor Ref. PG3425716

1.4. The audit comprised an examination of the drawings relating to the scheme supplied by the design office. A site visit was carried out by both Audit Team members together on 20th January 2026 between the hours of 13:00 – 15:00. Weather conditions during the inspection were overcast and the road surface was damp. Traffic conditions were considered very light with only occasional cars and tractors. Photographs were taken during the inspection.

1.5. This Stage 1 audit has been carried out in accordance with the relevant sections of the Transport Infrastructure Ireland (TII) Publication (Standard) GE-STY-01024 (May 2025) 'Road Safety Audit'. The audit team has examined only those issues within the design relating to the road safety implications of the scheme and has therefore not examined or verified the compliance of the design to any other criteria.

1.6. **Appendix A** describes the documents examined by the Audit Team.

Appendix B contains the Audit Feed Back Form. The Designer shall consider the Audit Report and prepare a Designer Response to each of the recommendations, using the Feedback Form. The response shall state clearly whether each recommendation is accepted, rejected, or whether an alternative recommendation is proposed. Copies of the Designer Response shall be sent to the Employer and the Audit Team. The Audit Team shall then consider the Designer Response and indicate on the Feedback Form whether the Designer's response to each recommendation is accepted. The completed Report contains the completed Feedback Form with signatures of all three parties involved - Designer, Audit Team Leader and Employer.

1.7. All of the problems described in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and minimise collision occurrence.

2. COLLISION DATA

Collision data has not been supplied with this scheme.

Road Collision Data is not currently available on the Road Safety Authority Database, therefore no collision trends in the immediate vicinity of the proposed site can be analysed.

3. ITEMS RESULTING FROM PREVIOUS AUDIT(S)

No previous audit has been offered for reference.

4. ITEMS RESULTING FROM THIS STAGE 1 AUDIT

4.1 General Problems / Problems at Multiple Locations

4.1.1 Field Boundary Fencing and Gates

Problem: The vehicle over-sail, and in some locations the vehicle over-run, areas cross field fences and / or gates. There is concern the fences will be removed or damaged by delivery vehicles. Removal of the fences may result in livestock entering the public road.

Hazard: Public traffic may impact with livestock.

Recommendation: The Design Team should ensure all fences are in good serviceable condition both during construction and in the subsequent operational phase.

4.1.2 Swept Path Analysis

Problem: No swept path analysis of the turbine delivery vehicle has been provided, however swept paths for a 16.m articulated HGV lorry have been provided. The Audit Team have assumed this HGV will be utilised in the construction of the development. The vehicle swept paths show the wheels of the vehicle cross outside of the existing paved roads in places.

Hazard: The vehicle may become stuck in the narrow local roads, resulting in other public traffic having to divert onto other roads where greater hazards may exit.

Recommendation: The Design Team should widen the road in all locations where the swept path indicates over-running of the verge is required.

4.1.3 Steep Carriageway Gradients

Problem: All of the junctions include a note to state a 16m long dwell area at +/- 2.5% will be provided. The existing road junctions are generally much steeper than this. However, the drawings do not indicate any new road construction or roadside batters are required.

Hazard: There is concern the dwell areas are not viable and the existing steep access roads will continue to be used. Development traffic may fail to yield at the junctions and overshoot into the main line carriageway.

Recommendation: The Design Team should ensure the stated dwell area and gradient are provided at all junctions.

4.1.4 Development Junctions – Width

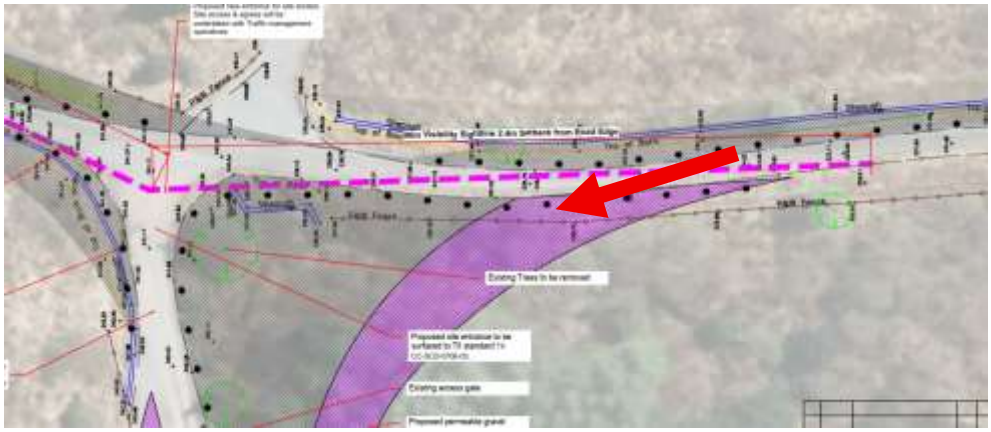
Problem: There are a number of existing junctions that are called up on the drawings as "proposed", however existing tracks / roads exist in the majority of these areas. The existing tracks are quite narrow. It is not clear from the drawings if these tracks are to be replaced with new and wider roads, or if the vehicles are to use the existing.

Hazard: Vehicles may be too wide for the existing tracks and run on the verge. Overturning of construction vehicles may result.

Recommendation: The Design Team should ensure the drawings indicate the existing road width and also ensure road widening is provided where the swept path requires.

4.1.5 Site Access " – Temporary Over-run Area

Problem: The temporary over-run area forms a shallow angle junction with the existing public road. There is concern public vehicles or even contractors may use this temporary road for access to the wind farm.



Hazard: Vehicles may make this turn at high speed and lose vehicle control.

Recommendation: The Design Team should physically close off this temporary access when not in use for turbine deliveries.

4.1.6 Junction Visibility – Maintenance

Problem: There is substantial vegetation shown to be removed in order to provide the required junction visibility splays at most of the site access locations. There is concern vegetation will soon return to these areas and restrict junction visibility for future maintenance traffic.

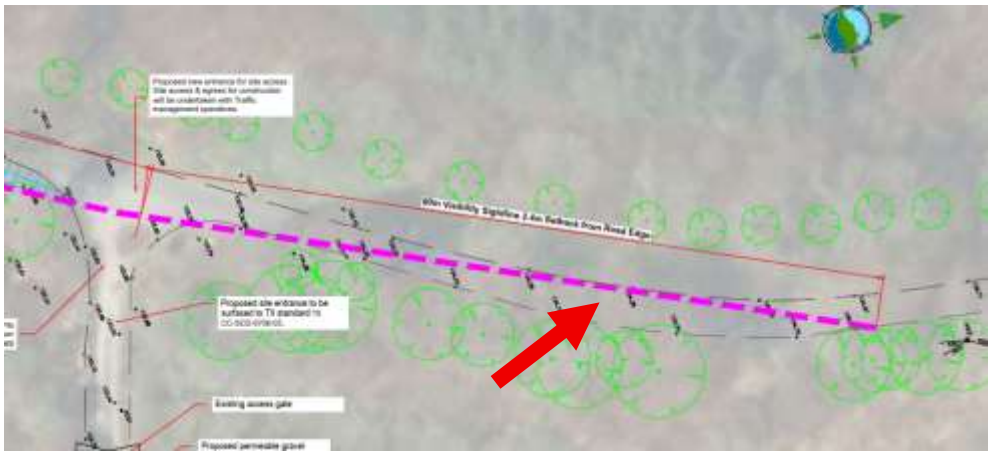
Hazard: Maintenance vehicles may errantly exit the junctions into the path of public road users.

Recommendation: The Design Team should ensure long term maintenance of the visibility splays is achieved. This may require a long-term contract with a suitable maintenance company.

4.2 Problems at Specific Locations

4.2.1 Site Access 1 - Junction Visibility

Problem: The junction visibility line to the right on exit does not include for the full mainline carriageway. There is concern a vehicle, possibly a motorbike, will be travelling towards the development junction behind the visibility line.

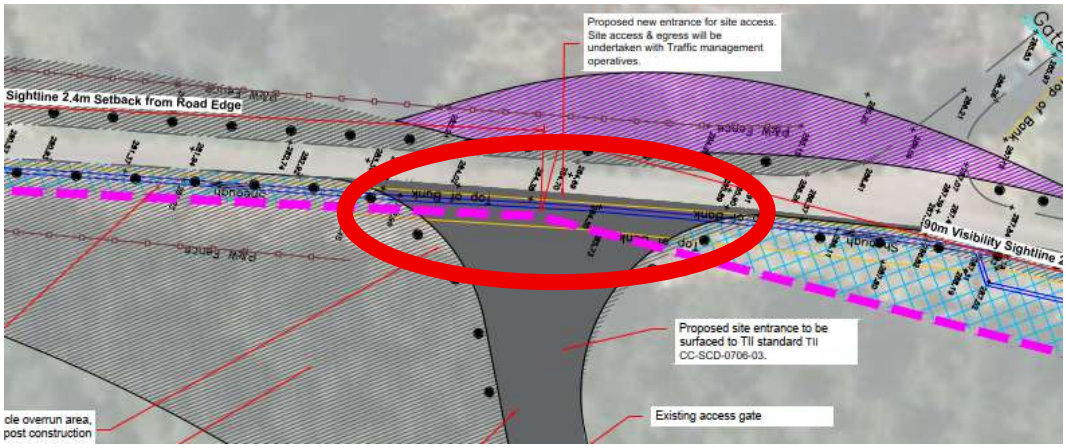


Hazard: Vehicles may exit the development road into the path of oncoming traffic.

Recommendation: The Design Team should ensure the full road to the right is within the junction visibility splay.

4.2.2 Site Access 4 - Drainage

Problem: The new access road crosses an existing roadside open drain. The access road may sever the drain such that flooding of the public road results.

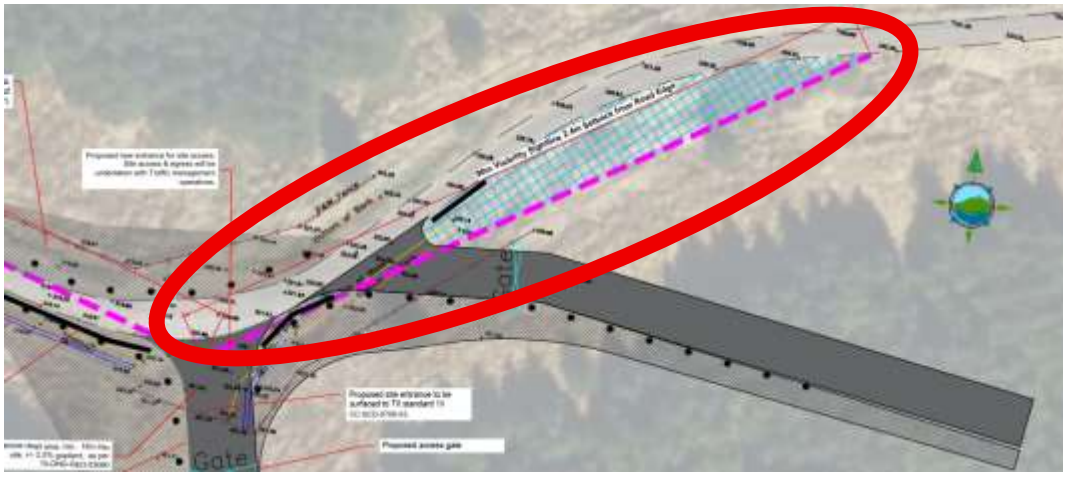


Hazard: Aquaplaning type collisions may result.

Recommendation: The Design Team should provide a suitably sized culvert under the new road and connect the existing open drain to this culvert.

4.2.3 Site Access 5 & 6 – Junction Visibility

Problem: The lands rise in level to the east of the junctions. Although the junction visibility splay is shown on the drawings, there is concern these splay crosses over the brow of the hill to the east. Motorists' visibility to the right when exiting may be restricted due to this hill.

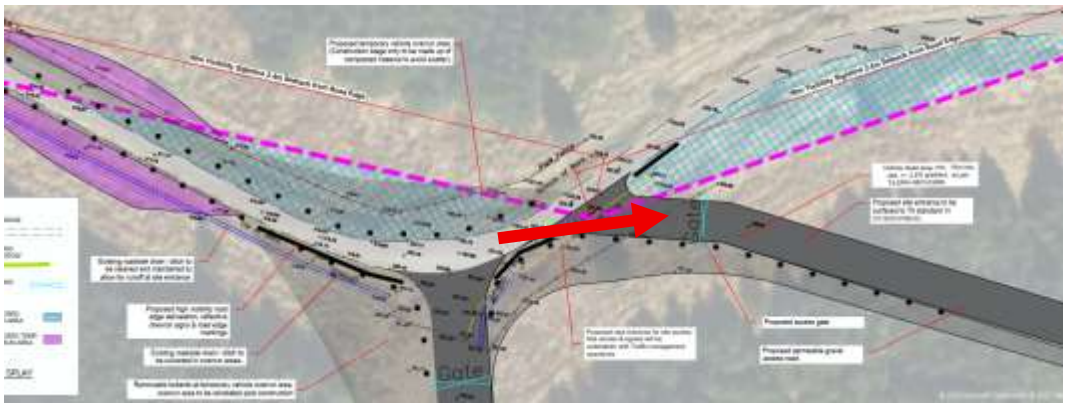


Hazard: Development traffic may exit the junction into the path of oncoming traffic.

Recommendation: The Design Team should ensure vertical visibility is achieved at this location.

4.2.4 Site Access 6 – Junction Angle

Problem: The new access at Entrance 6 is to an acute angle with the existing public road. There is concern eastbound public road users will errantly drive into this access rather than continue around the bend on the existing public road.



Hazard: Public road traffic may impact with the closed gate, especially during the hours of darkness.

Recommendation: The Design Team should realign the junction to be more perpendicular with the existing public road.

4.2.5 Site Access No.7 – Junction Visibility

Problem: Site Access 7 is in the form of a crossroads junction. Junction visibility splays are shown for the northern side of the junction, but not for the southern side. There are high embankments and vegetation to the southern side that currently restrict visibility here.

Hazard: Development traffic may enter the public road into the path of oncoming public vehicles.

Recommendation: The Design Team should provide adequate junction visibility.

5. AUDIT TEAM STATEMENT

We certify that we have examined the drawings and other information listed in Appendix A. This examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified to improve the safety of the scheme. The problems that we have identified have been noted in the report, together with suggestions for improvement which we recommend should be studied for implementation. No one in the Audit Team has been involved with the scheme design as shown in Appendix A.

Signed .....
Stuart Summerfield
Audit Team Leader

Date 22/01/2026

Signed .....
PJ Gallagher
Audit Team Member

Date 22/01/2026

APPENDIX A LIST OF DOCUMENTS EXAMINED

LISSINAGROAGH WIND FARM PLANNING DRAWINGS			
SITE LOCATION DRAWINGS		**DRAINAGE DRAWINGS**	
10955-2000	Regional Site Location Map	10955-2050	Drainage Master Plan
10955-2001	Site Location Map - Sheet 1 of 2	10955-2051	Drainage Layout Plan 1 of 11
10955-2002	Site Location Map - Sheet 2 of 2	10955-2052	Drainage Layout Plan 2 of 11
SITE LAYOUT DRAWINGS		10955-2053	Drainage Layout Plan 3 of 11
10955-2010	Site Master Plan	10955-2054	Drainage Layout Plan 4 of 11
10955-2011	Site Layout Plan - Sheet 1 of 11	10955-2055	Drainage Layout Plan 5 of 11
10955-2012	Site Layout Plan - Sheet 2 of 11	10955-2056	Drainage Layout Plan 6 of 11
10955-2013	Site Layout Plan - Sheet 3 of 11	10955-2057	Drainage Layout Plan 7 of 11
10955-2014	Site Layout Plan - Sheet 4 of 11	10955-2058	Drainage Layout Plan 8 of 11
10955-2015	Site Layout Plan - Sheet 5 of 11	10955-2059	Drainage Layout Plan 9 of 11
10955-2016	Site Layout Plan - Sheet 6 of 11	10955-2060	Drainage Layout Plan 10 of 11
10955-2017	Site Layout Plan - Sheet 7 of 11	10955-2061	Drainage Layout Plan 11 of 11
10955-2018	Site Layout Plan - Sheet 8 of 11	**TRAFFIC DRAWINGS**	
10955-2019	Site Layout Plan - Sheet 9 of 11	10955-2070	Site Access Roads and Entrance Locations
10955-2020	Site Layout Plan - Sheet 10 of 11	10955-2071	Entrance 1 - Permanent Access for Construction & Operation - L61801
10955-2021	Site Layout Plan - Sheet 11 of 11	10955-2072	Entrance 2 - Permanent Access for Construction & Operation - L6184
PROJECT DETAIL DRAWINGS		10955-2073	Entrance 3 - Permanent Access for Construction & Operation - Boleyboy Rd.
10955-2030	Proposed Temporary Site Compound (Type 1) Details	10955-2074	Entrance 4 - Permanent Access for Construction & Operation - Boleyboy Rd.
10955-2031	Turbine Hardstand Layout	10955-2075	Entrance 5 - Permanent Access for Construction & Operation - L6184
10955-2032	Turbine Details	10955-2076	Entrance 6 - Permanent Access for Construction & Operation - Boleyboy Rd.
10955-2033	Road Construction Details	10955-2077	Entrance 7 - Permanent Access for Construction & Operation - Killea Rd.
10955-2034	Surface Water Settlement Pond Plan & Sections		
10955-2035	Culvert Details	**BORROW PIT & DEPOSITION DRAWINGS**	
10955-2036	Met Mast Details	10955-2090	Borrow Pit BP-01 Plan & Sections
10955-2037	Fencing Details	10955-2091	Borrow Pit BP-02 Plan & Sections
10955-2038	Proposed Security Hut Details	10955-2092	Borrow Pit BP-03 Plan & Sections
10955-2039	Proposed Self Contained Temporary Wheelwash System Details	**ELECTRICAL DRAWINGS**	
10955-2040	Turbine Foundation - Gravity	**Printed and submitted separately.**	
10955-2041	Turbine Foundation - Bored		
10955-2042	Turbine Foundation - Piled		

APPENDIX B RSA FEEDBACK FORM

ROAD SAFETY AUDIT FEEDBACK FORM

CST Group Chartered Consulting Engineers
1, O'Connell Street, Sligo, F91 W7YV, Ireland

Scheme: Lissinagroagh Wind Farm, Manorhamilton, Co. Leitrim

Audit Stage: 1 **Date Audit Completed:** 22/01/2026 **Route No.** _____ **Our Ref :**125435|R0

TO BE COMPLETED BY DESIGNER				TO BE COMPLETED BY AUDIT TEAM LEADER
Paragraph No. in Safety Audit Report	Problem accepted (Yes/No)	Recommended measure accepted (Yes/No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. **Only complete if recommended measure is not accepted.**	Alternative measures or reasons accepted by Auditors (Yes/No)
4.1.1	Yes	Yes		
4.1.2	Yes	No	Autotrack assessment has been rerun and no over running occurs at these locations.	Yes
4.1.3	Yes	No	Dwell areas updated and provided at private access. Public Road dwell areas are not in the ownership of the client.	Yes
4.1.4	Yes	No	Existing road widths have been shown on the drawings. As outlined in the traffic Management Plan traffic will be managed during construction stage along the public road network. Adequate road width will be provided to accommodate the vehicle swept paths, without the need for the vehicle to reverse / realign.	Yes
4.1.5	Yes	Yes		
4.1.6	Yes	Yes		
4.2.1	Yes	Yes		
4.2.2	Yes	Yes		
4.2.3	Yes	Yes		
4.2.4	Yes	Yes		
4.2.5	Yes	Yes		

Signed: _____ Design Team Leader Date: 10/02/2026
Michael Nolan
TOBIN

Signed: _____ Audit Team Leader Date: 15/04/2026
Stuart Summerfield
CST Group Chartered Consulting Engineers

ROAD SAFETY AUDIT FEEDBACK FORM

CST Group Chartered Consulting Engineers
1, O'Connell Street, Sligo, F91 W7YV, Ireland

Signed: Kieran O' Malley Employer Date: 19/03/2026

On behalf of Future Energy Ireland