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Transport Impact Assessment

Haga Haga WEF Access Road Upgrades Basic Assessment Application

East London, Eastern Cape

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Client	WKN Windcurrent
Location	East London, Eastern Cape
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This transport impact study was prepared in accordance with the South African Traffic Impact and Site Traffic Assessment Manual (TMH 16, COTO, Aug 2012), by a suitably qualified and registered professional traffic engineer. Details of any of the calculations on which the results in this report are based will be made available on request.

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Abbreviations

HCM – Highway Capacity Manual

LOS – Level of Service

MOE – Measures of Efficiency

MR – Provincial Main Road

MN – Provincial Minor Road

SDP – Site Development Plan

TIA – Traffic Impact Assessment

1.0 INTRODUCTION

The Haga Haga WEF was authorised on 5/07/2019 (DFFE Reference: 14/12/16/3/3/2/1087). The Environmental Authorisation (EA) received an amendment on 03/06/2021 (DFFE Reference: 14/12/16/3/3/2/1087/AM1). The original EIA included a 42-turbine layout and associated access road network, the amendment reduced the number of turbines to 36 and the internal road network was changed to match. The access road layout will be built as per the layout submitted during the amendment, within allowable micro siting limits. The WEF has not yet been constructed.

Several of the site access points will require upgrades on farm portions, which were not included in the previous applications. WKN Windcurrent, is therefore proposing to upgrade the existing roads leading to the access points, which will link up with the approved WEF internal road layout. This is to allow for access to the site in order for the turbine infrastructure, including but not limited to the blades and tower components, to be transported to the site on large trucks. Due to the length of the blades (up to 100m), the trucks require a minimum road width of 8m with the width increasing at the turning arcs to up to 110m in diameter (55m wide intersection radius) to allow for safe passage. ITS conducted a Traffic Impact Assessment (TIA) for the Haga Haga Wind Farm dated September 2020. This report also serves as an addendum to the September 2020 TIA, specifically addressing the transport impact of internal road network upgrades.

2.0 LOCALITY

The Wind Energy Facility is located to the north of the Haga Haga area in the Eastern Cape. The site is approximately 10 kilometres to the west of Kei Mouth and 5 kilometres to the north of Haga Haga. Refer to **Figure 1** in Appendix A for a Locality Plan.

3.0 PROPOSED ROAD UPGRADES

Figure 2 in Appendix A shows the approved turbine layout and the surrounding road network. The proposed upgrades to the internal road network are described in Table 1-1 below. Also refer to **Figure 3** and **Figures 3A** to **2D** in Appendix A for the specific location and the farm portions that will be impacted by the proposed road upgrades.

Table 1: Description of the upgrades.

MAP REF	FARM PORTION	UPGRADE DESCRIPTION
1	RE of Farm 94	Widening of existing intersection
	Portion 2 of Farm 94	Existing road needs to be widened and realigned slightly
2	RE of Farm 111 & Portion 1 of Farm 111	Existing road needs to be widened and realigned slightly
3	Portion 2 of Farm 69	Existing intersection to be widened
4	RE of Farm 225	Existing road needs to be widened and realigned
5		Existing intersection to be widened
6	RE Farm 222 and RE Farm 288	Road widening and/or vegetation trimming and possible clearance

Remainder of Farm 94, Portion 2 of Farm 94, Remainder of Farm 111 and Portion 1 of Farm 111

The Minor Road MN10255 intersection with Main Road (MR695) need to be widened to accommodate the turning movements of the abnormal trucks delivering the turbine blades. MN10255 is a narrow gravel road and the road needs to be widened to at least 8 metres wide and some sections need to be realigned to accommodate the swept path and load width of the abnormal load vehicles delivering the turbine components.

See **Figure 2A** in Appendix A.

Portion 2 of Farm 69

The Minor Road MN10132 intersection with Main Road (MR697) need to be widened to accommodate the turning movements of the abnormal trucks delivering the turbine blades.

See **Figure 2B** in Appendix A.

Remainder of Farm 225

The Minor Road MN10124 intersection with Main Road (MR697) need to be widened to accommodate the turning movements of the abnormal trucks delivering the turbine blades. MN10124 is a narrow gravel road and the road needs to be widened to at least 8 metres wide and some sections need to be realigned to accommodate the swept path and load width of the abnormal load vehicles delivering the turbine components.

See **Figure 2C** in Appendix A.

Remainder of Farm 222 and Remainder of Farm 288

Main Road MR694 needs to be widened and the vegetation in the road verges trimmed and cleared along some sections to accommodate the swept path and load widths of the abnormal trucks delivering the turbine components.

See **Figure 2D** in Appendix A.

4.0 TRANSPORT IMPACT

The road upgrades will be constructed prior to the construction of the towers/turbines. Some of the material excavated for the turbine foundations can be used for road construction purposes. Road construction material can also be sources form commercial sources in the area and the internal road upgrades will result in an increase in construction truck traffic during the construction phase. However, the increase in traffic volumes as a result of the road upgrade construction traffic will be well within the function and the capacity of the surrounding public road network. The road construction activities along the public road network will occur in a controlled environment with traffic accommodation measures to ensure road safety for road users during the construction period. The upgraded access roads will be operational by the time the construction of the WEF starts.

5.0 CONCLUSIONS AND RECOMMENDATIONS

This report was prepared for the proposed Haga Haga Wind Energy Facility Access Road Upgrades.to the north east of East London. This report provides an assessment of the transportation impacts associated with the proposed access road upgrades. This report is an addendum to the September 2020 TIA previously conducted for the Haga Haga WEF.

Several of the site access points will require upgrades on farm portions, which were not included in the previous applications. WKN Windcurrent, is therefore proposing to upgrade the existing roads leading to the access points off the public road network, which will link up with the approved WEF internal road layout. This is to allow for access to the site in order for the turbine infrastructure, including but not limited to the blades and tower components, to be transported to the site on large trucks.

The expected increase in traffic volumes as a result of the road upgrade construction traffic will be well within the function and the capacity of the surrounding public road network. The road construction activities along the public road network will also occur in a controlled environment with traffic accommodation measures to ensure road safety for road users during the construction period.

Based on the evaluation as discussed in this report the existing road network has sufficient spare capacity to accommodate the expected additional construction traffic associated with the proposed Haga Haga Wind Energy Facility Access Road Upgrades. It is recommended that the proposed development be approved from a transport impact perspective.

REFERENCES

Committee of Transport Officials, South African Impact and Site Traffic Assessment Manual, TMH 16 Volume 1, August 2012

Transportation Research Board. *Highway Capacity Manual, Special Report No. 209.* 2000.

Appendix A

Figures

Appendix B

Photographs

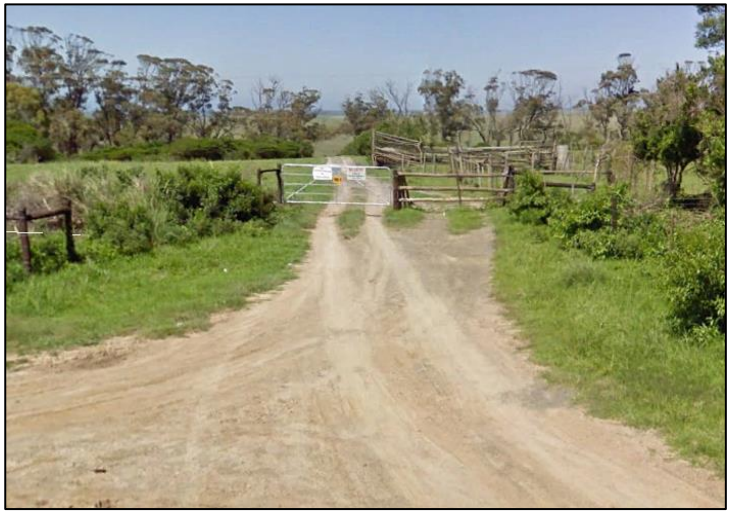

Photo 1 Westbound view along MN10255 from MR696

Photo 2: Southbound view along MN10132 from MR697

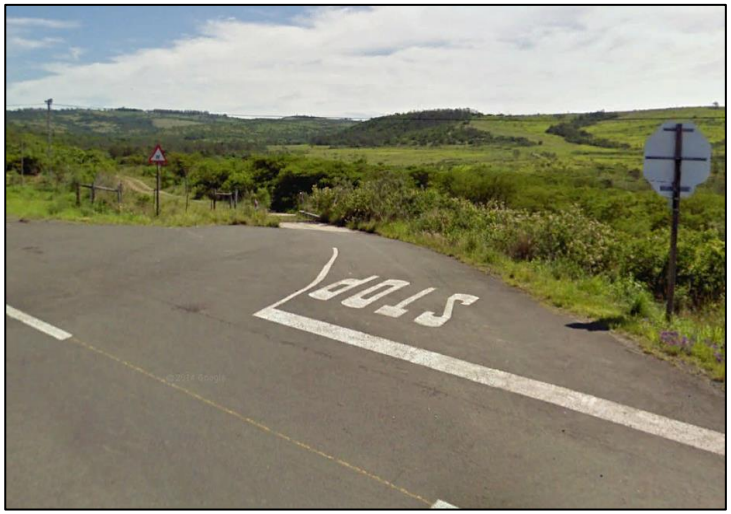

Photo 3: Northbound view along MN10124 from MR697

Photo 3: Eastbound view along MR694 from MR695

Appendix C

Traffic Information