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Attention: Maggie Logan

MEMORANDUM: FRESHWATER SPECIALIST OPINION REGARDING THE UPDATED LAYOUT FOR THE PROPOSED RIETKLOOF WIND ENERGY FACILITY (WEF), BETWEEN SUTHERLAND AND MATJIESFONTEIN IN THE WESTERN CAPE PROVINCE

FEN Consulting undertook a freshwater ecological assessment in July 2021 as part of the Water Use Authorisation (WUA) process for the proposed Rietkloof Wind Energy Facility (WEF) and associated infrastructure between Matjiesfontein and Sutherland in the Western Cape Province (hereafter referred to as the 'proposed development'). Since submission of the freshwater ecological assessment report in July 2021, the developer updated the layout in November 2021, which differs from that presented in the FEN Consulting July 2021 report. The updated layout entails a reduced number of turbines (currently 47 turbines, as opposed to 60 turbines), fewer internal access road crossings, repositioning of the construction camp and laydown area and confirmation of the proposed 33 kV internal collector systems.

This letter serves to inform the WUA process regarding the potential impact of the updated layout on any watercourses in the vicinity of the development.

Watercourse Assessment

Watercourses associated with the Groot River system, Roggeveld River system and Wilgehout River system are traversed by the proposed development. The Groot River are proposed to be traversed several times by access roads. Most of the watercourses to be traversed by the proposed development and those identified within the investigation area can best be described as headwater episodic[1] drainage lines (EDLs) without riparian vegetation which flow into larger ephemeral tributaries with riparian vegetation, which ultimately flow into the larger riverine systems located outside the investigation area. Although these EDLs cannot be classified as riparian resources in the traditional sense, due to the lack of saturated soil and riparian vegetation, they do still function as waterways, through episodic conveyance of water. However, based on the definition of a watercourse water flows

[1] "Highly flashy systems that flow or flood only in response to extreme rainfall events, usually high in their catchments. May not flow in a five-year period or may flow only once in several years." (Uys and O'Keeffe, 1997, in Rossouw *et. al*, 2006).

regularly or intermittently within these EDLs, conveying water from the upgradient catchment area into the downgradient tributaries and eventually into the larger river systems. As such, they can be considered as watercourses due to their importance for hydrological functioning as they do function as waterways and therefore enjoy protection in terms of the National Water Act, 1998 (Act No. 36 of 1998). Ephemeral tributaries with riparian vegetation and associated channelled valley bottom wetlands were also identified to be traversed by the proposed development.

Sheet wash preferential flow paths (PFPs) were also identified in the most southwestern extent of the investigation area (associated with the Groot and Wilgehout River systems). These sheet wash PFPs formed as a result of extensive erosion of the naturally high erodibility of the soil within the surrounding landscape, predominantly due to historical grazing practices and construction activities associated with the development of the existing electrical transmission lines, and in which small earth dams were created that store the concentrated stormwater runoff during rainfall events.

As with the EDLs, these sheet wash PFPs also lack riparian and wetland characteristics and may potentially only convey surface water for a short period of time after rainfall events. These PFPs consist of shallow braided channels with bleached soil and scattered low growing vegetation. From digital satellite imagery, these flow paths present as continuous light coloured corridors in the landscape. Thus, these features are not considered of ecological importance but contribute to the hydrological functioning of the drainage systems on a more regional scale. The PFPs cannot be considered as watercourses (thus no ecological assessment undertaken) and may potentially only enjoy protection in terms of the National Water Act, 1998 (Act No. 36 of 1998) should a floodline be applicable to these features. Please refer to the outcome of the freshwater ecological assessment (FEN Consulting, 2021) for a detailed description of these watercourses.

July 2021 layout comparison to November 2021 layout, from a watercourses impact perspective

The table below provides a concise comparison of the updated layout (November 2021) versus the July 2021 assessed layout relative to watercourses. The layouts are also visually presented in Figure 1 and 2 in Appendix A.

Table 1: Summary of the distance the proposed surface infrastructure components are located relative to the delineated watercourses.

Proposed surface infrastructure component	Layout as per FEN Consulting (July 2021) (Appendix 1, Figure 1)	Updated layout (November 2021) (Appendix 1, Figure 2)
Construction camp	48 m from the Roggelveld River (thus within the 100m GN509 Zone of Regulation)	Located immediately south of a drainage line, however, a section of the construction camp/laydown area will be located within the existing Roggeveld WEF batching plant footprint, thus no additional impacts are expected. Batching plant located approximately 58 m from a watercourse. Overall impact is reduced
Turbines and Crane pads	Total: 60 turbines and associated hardstands • Crane pad associated with Turbine 59, located approximately 79 m from a watercourse. • Crane pad associated with Turbine 63, located approximately 88 m from a watercourse. • Crane pad associated with Turbine 48, located approximately 75 m from a watercourse. • Crane pad associated with Turbine 49, located approximately 99 m from a watercourse.	Total: 47 turbines and associated hardstands • Crane pad associated with Turbine 17, located approximately 79 m from a watercourse. • Crane pad associated with Turbine 28, located approximately 30 m from a watercourse. • Crane pad associated with Turbine 44, located approximately 96 m from a watercourse. • Crane pad associated with Turbine 69, located approximately 50 m from a watercourse.

Proposed surface infrastructure component	Layout as per FEN Consulting (July 2021) (Appendix 1, Figure 1)	Updated layout (November 2021) (Appendix 1, Figure 2)
	• Crane pad associated with Turbine 59, located approximately 79 m from a watercourse. • Crane pad associated with Turbine 28, located approximately 36 m from a watercourse. • Crane pad associated with Turbine 23, located approximately 92 m from a watercourse. • Crane pad associated with Turbine 69, located approximately 26 m from a watercourse.	
Collector system – Option 1, 2 and 2	Several watercourse crossings: (It must be noted that all powerline support structures will be constructed outside of the delineated extent of the watercourses and as far as feasible, at least 32 m from its delineated extent and therefore are not considered to pose a direct negative risk to the delineated watercourses).	Several watercourse crossings, however, less watercourse crossings noted than the July 2021 layout (It must be noted that all powerline support structures will be constructed outside of the delineated extent of the watercourses and as far as feasible, at least 32 m from its delineated extent and therefore are not considered to pose a significant direct negative risk to the delineated watercourses).
Access roads	• Several watercourse crossings (new and existing). • Upgrading of extensive sections of the proposed access roads which are located adjacent to wetlands and the Groot River.	• Several watercourse crossings (new and existing), noted to be less than what was proposed in the July 2021 road layout. • Upgrading of extensive sections of the proposed access roads which are located adjacent to the Groot River, thus reducing impact and risk - no wetlands will be traversed

DWS Risk Assessment

The outcome of the DWS Risk Assessment as per the freshwater ecological assessment (FEN Consulting, July 2021) indicated that the construction and operation of the proposed Rietkloof WEF, were of 'Moderate' risk significance to the assessed watercourses, with the implementation of the recommended mitigation measures. This was predominantly attributed to the construction and upgrading of roads adjacent to and through sensitive wetlands and an extensive section of the Groot River.

It is noted that the updated November 2021 layout will pose a negligible quantum of risk to any wetlands since all infrastructure components are located outside the delineated wetlands and their associated 500 m Zone of Regulation (ZoR) in accordance with Government Notice 509 as published in the Government Gazette 40229 of 2016 as it relates to activities as stipulated in Section 21(c) and (i) of the National Water Act, 1998 (Act No. 36 of 1998) (NWA). Additionally, no extensive sections of roads will be constructed along the major rivers (with specific mention of the Groot River). This has significantly reduced the significance of any potential impacts of the proposed development on the identified watercourses. A such, the risk significance of the updated November 2021 layout is considered 'Low'. Nonetheless, roads will still cross smaller watercourses which will result in direct negative impacts to the watercourses. It is the opinion of the ecologist that formalising watercourse crossings with appropriate through flow structures is considered advantageous over the long-term as existing informal watercourse crossings have resulted in erosion of the watercourses which have caused interruption of hydrological connectivity between the upstream and downstream reaches.

As such, although the outcome of the DWS Risk Assessment as per the freshwater ecological assessment (FEN Consulting, 2021) indicated a 'Moderate' risk significance, the updated November 2021 layout entails less watercourse crossings and avoids any wetlands and their applicable 500 m ZoR, which results in a reduced (Low) overall risk significance. It is recommended that the mitigation measures as provided in the freshwater ecological assessment (FEN Consulting, 2021) be implemented

to mitigate the significance of the expected impacts on the watercourses. The updated November 2021 layout of the proposed Rietkloof WEF is not considered to be fatally flawed.

It can be concluded that the updated November 2021 layout of the proposed Rietkloof WEF does not pose any additional negative impacts to any watercourses, but rather will generate less impacts and pose less of a risk than the originally assessed layout to the watercourses of the region. The FEN Consulting (2021) freshwater ecological assessment is considered applicable, acceptable and appropriately accurate and comprehensive to inform the required legislative processes for the proposed Rietkloof WEF authorisation and subsequent development when read in conjunction with this Memorandum.

We trust we have interpreted your requirements correctly. Please feel free to contact me if you have any queries in this regard.

Yours Faithfully,

Digital Documentation Not Signed for Security Purposes

Stephen van Staden
Pr. Sci. Nat.

APPENDIX A

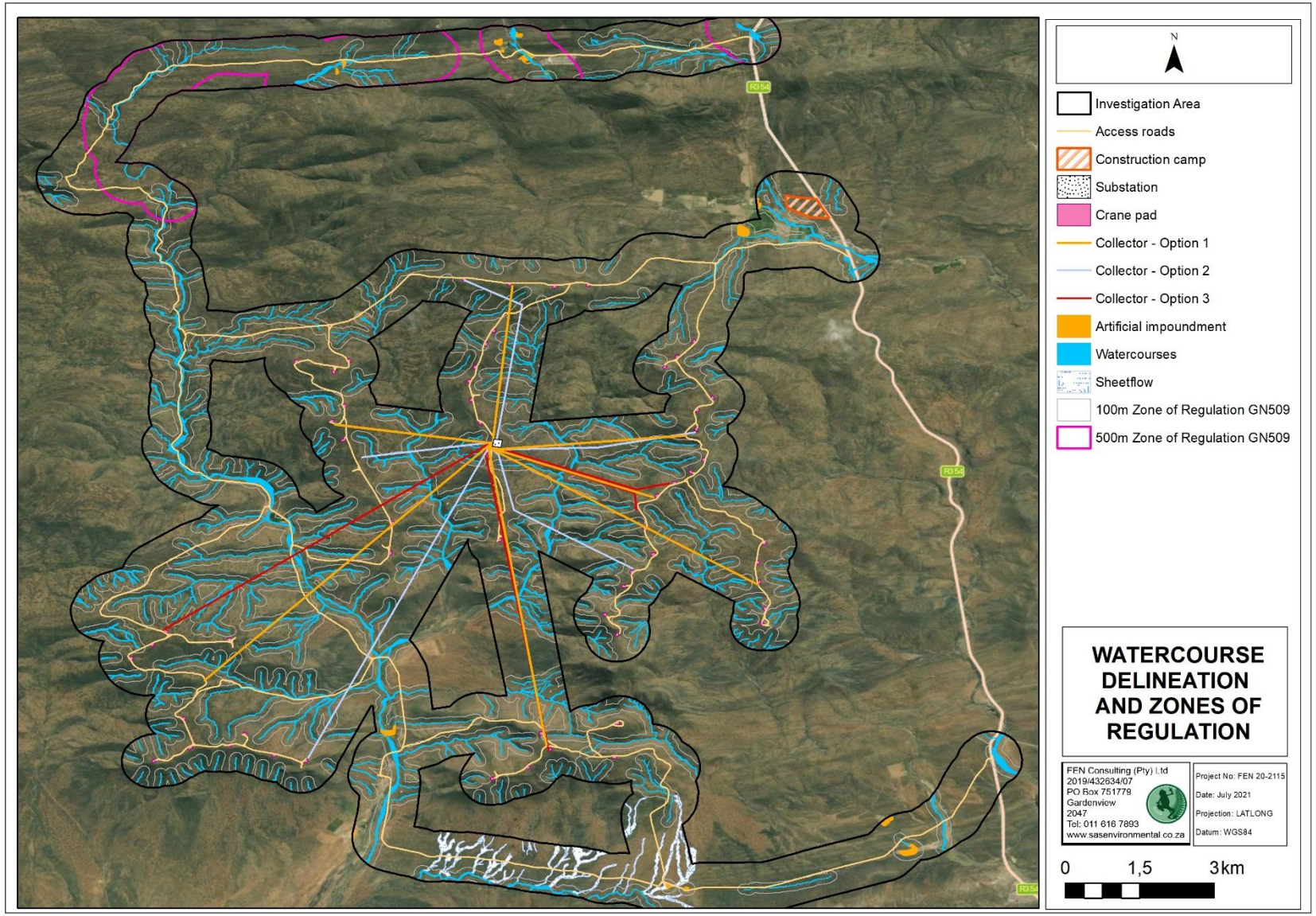

Figure 1: The conceptual presentation of the July 2021 Rietkloof WEF layout relative to the delineated watercourses and the respective legislative Zones of Regulation as it relates to NEMA and NWA.

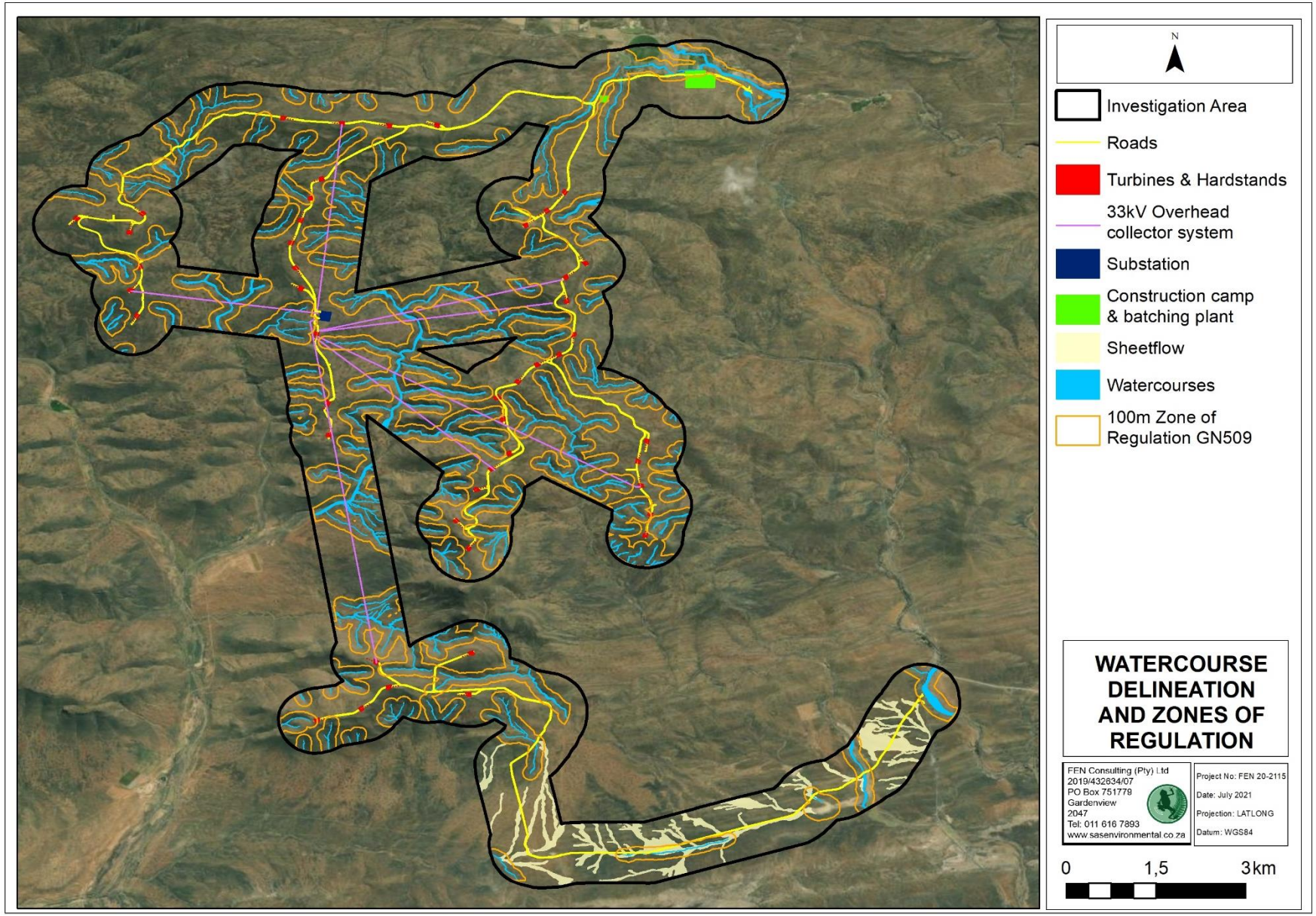

Figure 2: The conceptual presentation of the updated November 2021 Rietkloof WEF layout relative to the delineated watercourses and the respective legislative Zones of Regulation as it relates to NEMA and NWA.