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Attention: Mr John Sharples
Sharples Environmental Services cc

17 January 2020

RE: FRESHWATER STATEMENT ON THE REVISED LAYOUT AND SEWAGE PIPELINE ROUTE FOR THE DEVELOPMENT OF PORTION 3 OF THE FARM KRAAIBOSCH 195, GEORGE

The Freshwater habitat report dated 24 October 2019 assesses the proposed development of Portion 3 of the Farm Kraaibosch 195, George. Layout 1 (dated April 2019) was assessed in this report. A 22m aquatic buffer area was recommended which required that some development infrastructure be set back. Layout 2, dated November 2019, has since been produced and adheres to the buffer. Also, since the compilation of the Freshwater report, the civil engineering designs have been completed. It is proposed to construct a bulk gravity sewer line through identified freshwater habitat. Therefore, the purpose of this statement is to comment on the significance of these changes/additions in terms of the conservation of the identified freshwater habitat.

1. Layout 1 had numerous erven encroaching into the fixed-width buffer area. Due to the habitat above the existing dam being degraded to a lesser degree, the fixed width buffer could be slightly reduced in this area. The changes to the buffer were made after accurate coordinates provided by the engineers could be used in a follow-up site visit to visualize the extent of encroachment of development onto freshwater habitat. Layout 2 shows that freshwater habitat has been considered during the planning phase of the proposed development and that changes were made to reduce impacts.
2. The proposed sewage pipeline route has also been determined. The pipeline will cross freshwater habitat, contrary to the assumption in the Freshwater report. The crossing is necessary in order to have a gravity sewer pipeline. The crossing of the watercourse increases impacts on freshwater habitat especially during construction since disturbance will be within the watercourse as opposed to around it. This will likely cause more erosion and sedimentation within the riparian area and loss and disturbance of aquatic vegetation not previously anticipated. Although it is ideal to keep all infrastructure outside of freshwater habitat, the crossing will not have a detrimental impact since only a small portion of the watercourse will be affected and the duration of disturbance is limited. It is recommended that the affected reach be kept to an absolute minimum and rehabilitation be done immediately after construction.
3. A stormwater management plan has been compiled and is deemed adequate. The plan includes various mitigation measures, such as those in the Freshwater report, considers SUDS guidelines and contains designs of stormwater outlets.

The compliance of the proposed layout with the aquatic buffer decreases the impact of the development on freshwater habitat. However, since the sewage pipeline crosses the watercourse, the development will still have an overall largely similar impact. The development is deemed acceptable from a freshwater perspective since no detrimental impact should occur if the mitigation measures, contained in the Freshwater report and this statement, are adhered to. Please see table below for a summary of the anticipated impacts upon freshwater habitat from the proposal.

Phase	Impact	Mitigation	Significance
Construction Phase	Loss and disturbance of aquatic vegetation & habitat	Without Mitigation	Medium
		With Mitigation	Low
	Erosion & sedimentation	Without Mitigation	Medium
		With Mitigation	Medium
	Water Pollution	Without Mitigation	Medium
		With Mitigation	Low
	Flow modification	Without Mitigation	Medium
		With Mitigation	Low
Operational Phase	Loss and disturbance of aquatic vegetation & habitat	Without Mitigation	Low
		With Mitigation	Low
	Erosion & sedimentation	Without Mitigation	Medium
		With Mitigation	Low
	Water Pollution	Without Mitigation	Medium
		With Mitigation	Low
	Flow modification	Without Mitigation	Medium
		With Mitigation	Medium

Kind regards



Marita Burger

**Reviewed by: Debbie Fordham
Freshwater Ecologist**