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The Heritage Officer
AMAFA
South African Heritage Resources Agency

Dear Sir/Madam

RE: Request for Exemption of any Palaeontological Impact Assessment for the proposed construction of a stormwater culvert between Prospecton and Isipingo Beach, KwaZulu Natal

In my capacity as a professional palaeontologist, I am requesting exemption for palaeontological impact assessment in terms of the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998) which requires that the proposed development must be preceded by the relevant impact assessment, in this case for palaeontology.

The eThekweni Municipality-Coastal, Stormwater and Catchment Department is proposing to construct a new stormwater culvert to outfall in the Prospecton area near the old airport in order to reduce the risk of flooding on the industrial area and in the Isipingo area, as well as flooding of the car manufacturer, Toyota, during storm events. The proposed culvert will be 751m in length, with a height of 1.5m by 2m width (Fig. 1).

According to the geology (Fig 2), part of the project falls into a low fossil sensitivity and part of the culvert falls into an area of moderate sensitivity (green; Fig 3) corresponding to Qs alluvium (Fig 2) which is similar to the beach sand (blue; Fig 3) and possibly related to the Holocene aged Sibayi Formation, Maputaland Group (Botha, 2018). The route of the culvert is very disturbed with factory buildings in the north. The central section falls into a moderate fossil sensitivity going through an industrial area and an informal settlement between Ernest Clokie Road and the beach / Clark Road. The route, however, is already disturbed by degraded modern vegetation and urban development. Any fossils would be dune or marine shells like the modern fauna, and probably only fragments. Nonetheless, a Fossil Chance Find Protocol should be added to the EMPr (see

Appendix) for the construction phase. It is requested that no further palaeontological assessment be required and that the project may proceed.



Figure 1: Google Earth map to show the route of the proposed stormwater culvert shown by the red line.



Figure 2: Geological map of the area around Isipingo and Umbogintwini. The proposed culvert is indicated by the blue line. Abbreviations of the rock types are: Qs = alluvium or beach sand (dotted); Qb = Umkwelane Formation. Top map enlarged from the Geological Survey 1: 250 000 map 2930 Durban, and bottom map 3030 Port Shepstone.



Figure 3: SAHRIS palaeosensitivity map for the site for the proposed Stormwater culvert shown by the yellow line. Background colours indicate the following degrees of sensitivity: red = very highly sensitive; orange/yellow = high; green = moderate; blue = low; grey = insignificant/zero.

Yours faithfully

Prof Marion Bamford
Palaeobotanist; PhD (Wits 1990)

Reference Cited

Botha, G.A., 2018. Lithostratigraphy of the late Cenozoic Maputaland Group. South African Journal of Geology 121, 95-108.

Palaeosensitivity map:

<https://sahrissahra.org.za/map/palaeo>

Appendix: Fossil Chance Find Protocol

The following procedure is only required if fossils are seen on the surface and when drilling/excavations/mining commence.

1. When excavations begin the rocks and must be given a cursory inspection by the environmental officer or designated person.
2. Any fossiliferous material (plants, insects, bone, coal) should be put aside in a suitably protected place. This way the project activities will not be interrupted.
3. Lists of possible fossils can be provided to the developer to assist in recognizing them.
4. Photographs of the putative fossils can be sent to the palaeontologist for a preliminary assessment.
5. If there is any possible fossil material found by the developer/environmental officer then the qualified palaeontologist sub-contracted for this project, should visit the site to inspect the selected material and check the dumps where feasible.
6. Fossil shells, plants or vertebrates that are considered to be of good quality or scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site an AMAFA or SAHRA permit must be obtained. Annual reports must be submitted to AMAFA or SAHRA as required by the relevant permits.
7. If no good fossil material is recovered then no site inspections by the palaeontologist will be necessary. A final report by the palaeontologist must be sent to AMAFA and SAHRA once the project has been completed and only if there are fossils.
8. If no fossils are found and the excavations have finished then no further monitoring is required.

Declaration of Independence

This letter has been compiled by Professor Marion Bamford, of the University of the Witwatersrand, sub-contracted by JLB Consulting, Durban, South Africa. The views expressed in this report are entirely those of the author and no other interest was displayed during the decision making process for the Project.

Specialist: Prof Marion Bamford

Signature:

