



Bergwind Botanical Surveys & Tours CC.

14A Thomson Road

Claremont

Cape Town

7708

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Mr Pieter Badenhorst
PO Box 1058
Wellington
7654

Dear Pieter

**Botanical Scan for the Proposed Housing Development on Erf 8378 Paarl (Viakkeland),
Drakenstein Municipality**

This brief report records my observations at Erf 8378 Paarl, Drakenstein Municipality during a visit to the property on 20 May 2010.

Erf 8378 Paarl is found in the rural district known as Dalvale south-east of Wellington and east of the Jan van Riebeeck Road (R301) that joins Paarl and Wellington. The eastern boundary is parallel to Dal Loop Road and the western boundary is along a minor road parallel to the R 301. To the north is a residential suburb of Wellington and to the south is Farm 1341 Paarl. The site is roughly rectangular in shape with the long-axis running NE – SW. Its long axis is 1.3 km and it is 754 m wide, covering an area of 89.24 ha. The site is shallowly sloping from NE to SW and located in the central part is a series of shallow dams or impoundments stretching almost the width of the site. The historical use of these impoundments is not known to the author and did not form an important element of this rapid survey.

The substrate consists of fine-grained alluvial or colluvial soils with no visible exposure of rock anywhere on the site. The site is exposed in all directions but with a slight aspect emphasis towards the west.

According to the national vegetation classification (VEGMAP) the original vegetation that would have occurred on the site is Swartland Alluvium Fynbos, a **CRITICALLY ENDANGERED** vegetation type according to the National Spatial Biodiversity Assessment (Rouget *et al.* 2004) which has now been superseded by the Draft National List of Threatened Ecosystems in which it is classified as **CRITICALLY ENDANGERED - A1**. This means that the ecosystem where this vegetation is found has suffered irreversible loss of habitat.

tel +27 21 671-4056 mobile 082-876-4051 e-mail clave@bergwind.co.za
web www.bergwind.co.za

The objective of the site visit was to conduct a rapid scan to establish whether there is any remaining and if a full environmental impact assessment (EIA) would be required given that according to the Draft National List of Threatened Ecosystems any area with Critically Endangered habitat > 20 h would require a full scoping and EIA.

A foot-survey was conducted from the south-east corner of the site. The gravel road along the south boundary was followed, and notes and photographs compiled of mainly the five dams or impoundments that had shallow water in them and varying amounts of aquatic vegetation. A row of exotic stone pines (*Pinus pinea*) runs along the southern boundary. At the lower end of the dams a drainage channel was followed to waypoint Vla 3 (Figure 1) which is close to the south boundary of the property. This area is a wetland as shown by the presence of the grass *Pennisetum macrourum* in particular by also *Zantedeschia aethiopica* (arum lilies). This area should be more thoroughly investigated by an aquatic ecologist and the exact area of the wetland should be delimited.

From waypoint Vla 3 a route was followed northwards across a low-lying flat area crossed by agricultural drains. This area has a low sward of grass and other herbaceous species, notably *Oxalis* spp. *Oxalis purpurea* is common in places. The main grass species is *Cynodon dactylon* (kweekgras). In the past this area was infested by a medium-dense stand of *Acacia saligna* (Port Jackson Willow) as can be seen in Figure 1. However, most of the trees have been cut and removed for firewood. A few mature trees remain. The area has also been burnt in the recent past which has removed any shrubs that may have been present. It is also regularly grazed by cattle, sheep and goats from the informal settlement at the western end of the property. This has ensured that the vegetation has remained strongly suppressed. No vegetation of any importance was found in the western area of the property and it appears that it has been subject to agriculture for many years. A stand of *Eucalyptus* sp. trees is found near the south-western corner of the site and in the far west is an informal settlement and the area around this is highly disturbed.

To the north of the dams, from waypoint Vla 5 to waypoint Vla 8 (Figure 1) there is a strip of land between the dams and the residential suburb. This area is also grazed and highly disturbed; it is short-cropped grass, dominated by *Cynodon dactylon* (kweekgras). At waypoint Vla 8 a shallow seepage of free-flowing water was found and in this is a population of *Spiloxene alba* (Figure 2 & 3), a geophyte favouring damp soils and flowering in early winter. To the south-east of waypoint Vla 8 and waypoint Vla 9 is a small area of natural vegetation (Figures 4). It is dominated by low shrubs of *Aspalathus* sp. but there are also numerous annuals in the early growth stage and herbaceous species such as *Bobartia* cf. *Indica*, *Diospyros glabra*, *Micranthus alopecuroides*, *Otholobium* sp., *Oxalis* sp. – white flower,

Pelargonium sp., *Ruschia* sp., *Salvia africana-caerulea*, *Searsia angustifolia*, *Searsia laevigata* and *Spiloxene flaccida*. This is the only area of botanical interest although it appears to have been mechanically disturbed in the past and is currently grazed by cattle. No significant species were found in this area during the survey but there could be important geophytes that may make an appearance later in the winter. This area of approximately 1 ha should therefore be approached with caution despite the fact that it is invaded by scattered alien *Acacia saligna* trees.

Most of the area east of the dams i.e. between the dams and the Dal Loop Road (gravel) is disturbed. The field stratum is dominated by kweekgras and there are scattered clumps of *Acacia saligna* (Port Jackson Willow) and one notable clump of alien golden wattle (*Acacia pycnantha*). Stone pine trees (*Pinus pinea*) are found along the east boundary of the property, along Dal Loop Road.

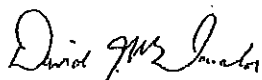
No threatened plant species (Red Data) were found in the survey and my observations indicate that Erf 8378 Paarl (Vlakkeland) has been largely transformed from the original vegetation that would have occurred there. No Critically Endangered Swartland Alluvium Fynbos was found and botanically the condition of the site is **very poor**. The only area of interest is around waypoint Vla 9 (Figure 4). It could be significant and requires further consideration.

The current condition of the site, complete absence of the original vegetation type and lack of 'red flags' from a terrestrial botanical viewpoint indicate that it would not be necessary to conduct a full EIA. However, it is suggested that the area around waypoint Vla 9 be investigated further later in the season to ensure that there are no significant Red Data species in this area. If there are a strategy to ensure their survival would be necessary. In general, however, it is recommended that no constraints should be placed on the proposed housing development.

Reference should be made to the accompanying annotated aerial photograph (Figure 1) for waypoint positions. Co-ordinates can be supplied if required.

Should more detail be required a set of photographs taken during the survey and more detailed survey information can be supplied.

Yours sincerely



Dr D.J. McDonald Pr. Sci. Nat.

Specialist Botanist

Figure 1. Aerial photograph of Erf 8378 Paarl, Drakenstein Municipality (© Google Earth). The red line shows the boundary of the property with the blue line representing the survey track in this investigation. The waypoints are denoted Via#.

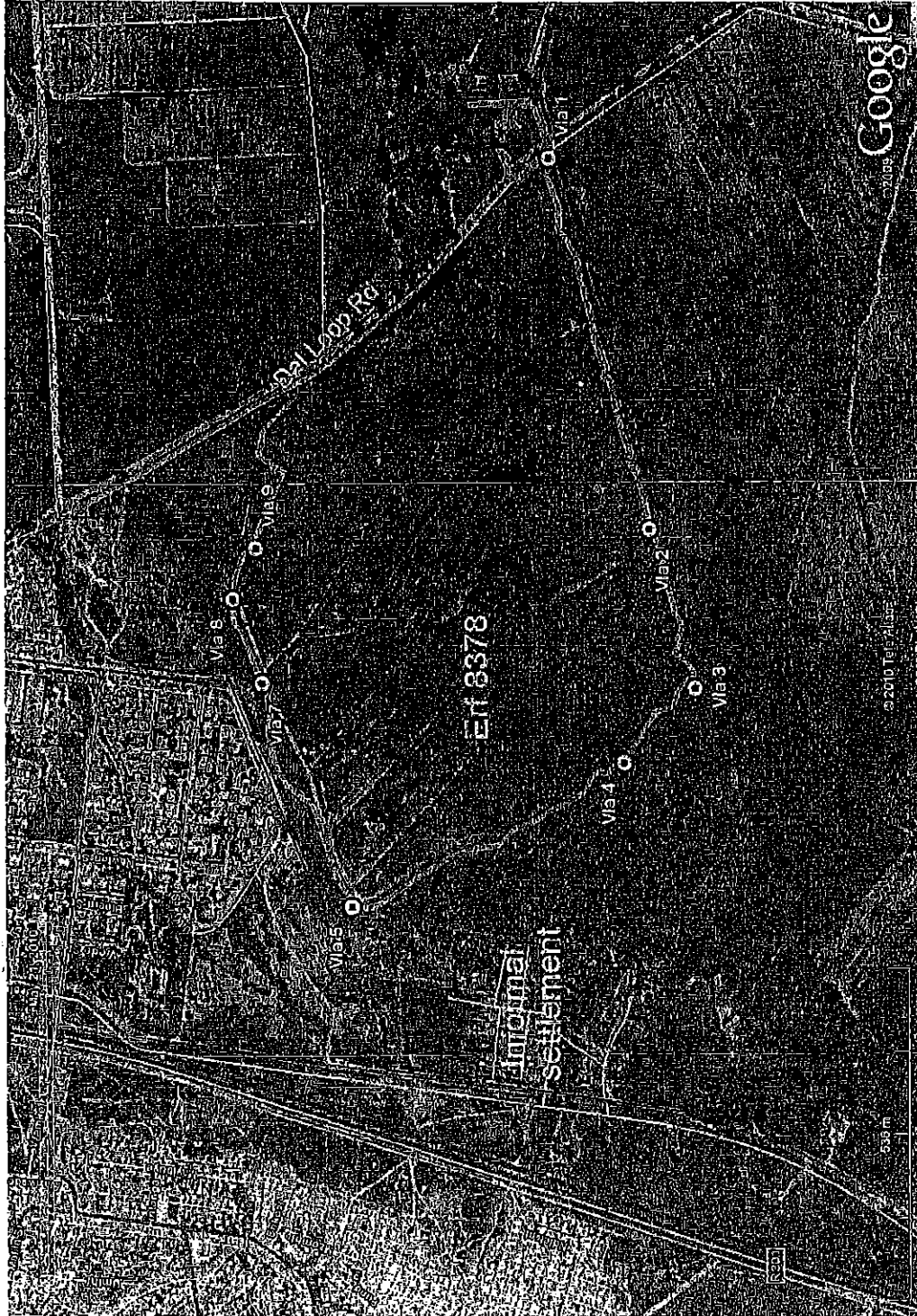




Figure 2. *Spiloxene alba*, an early-winter-flowering geophyte that favours wet places.

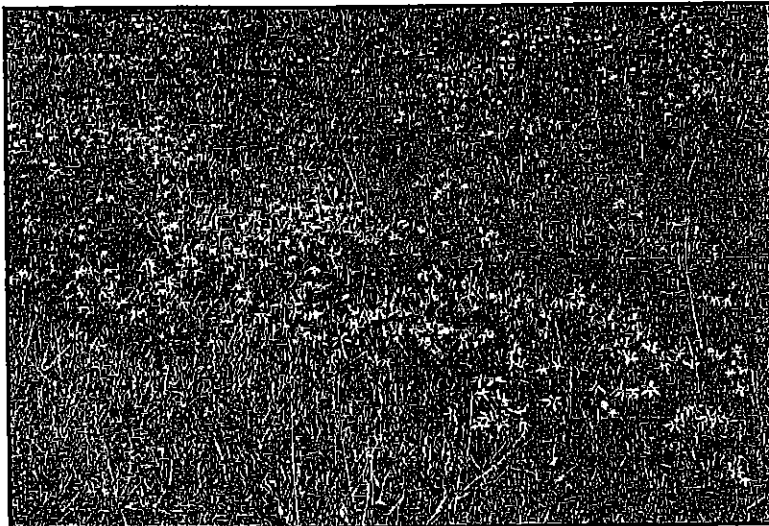


Figure 3. Mass flowering of *Spiloxene alba* at waypoint Via 8.

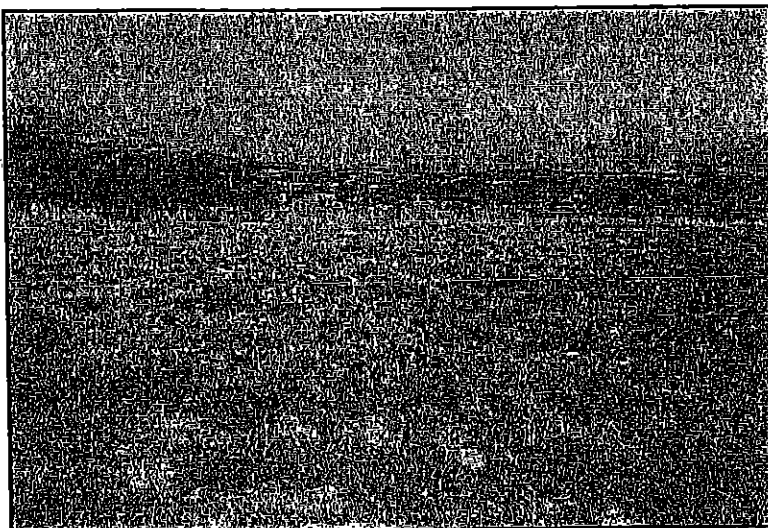


Figure 4. Area of natural vegetation dominated by *Aspalathus* sp. shrubs. This area should be investigated further later in the winter / spring season to determine if there are any significant geophyte species present.

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