25 November 2024

TO WHOM IT MAY CONCERN

RE: TREE ASSESSMENT FOR EUCALYPTUS FOREST STIKLAND SOUTH NOVEMBER 2024

Viridian Consulting Landscape Architects were requested to assess the existing Eucalyptus forest located on Stikland South, east of De La Haye road in terms of the possible development opportunities and constraints should development occur within this forest area. Viridian Consulting Landscape Architects conducted a site visit on Wednesday 13 November 2024 to inspect the forest and condition of the trees. René Maria Brett, Landscape Architect and Daan Loock, Consulting Arborist conducted the site visit mid-morning in light wind conditions.

1. Summary of Findings

- The Eucalyptus forest is generally in good health and portions are in excellent health.
- A portion (indicated as A on the diagram overlay of the aerial photo below Figure 1) of the forest was clearly a managed woodlot but it is evident that no recent harvesting of timber has taken place or active management of the wood lot.
- Many trees were removed along De La Haye road at some point probably due to Eskom servitude. Stumps are still visible in the ground.
- Tree spacings (and trunk and branch structures) on the eastern and southern portion are more natural and a ground cover layer is present (indicated as B on the diagram overlay of the aerial photo below, Figure 1) Refer to Figures
- Where a clearing was made in the middle of the forest other trees have blown over / been uprooted, indicating the sensitivity of this forest to partial clearing and exposure to higher wind speeds for trees that have matured within the protection of the forest surroundings. Refer to Figure 2.
- The forest creates a very significant windbreak within this exposed landscape and other trees located downwind of the forest (to east and north east) have developed in reduced wind speeds. Removal of this forest in part or in whole will have a very significant and likely detrimental impact on the health and longevity of those trees. (indicated as C on the diagram overlay of the aerial photo below, Figure 1). Leaf density at lower elevations is significantly higher than on branches exposed to higher wind speeds at higher elevations on the trees.
- Trees within the densely spaced wood lot portion of the forest show unnatural lean that require ongoing monitoring and management programme.
- Please refer to the Figure 11 below for recommendations on trees to be retained and required management and development setbacks.

Tel: 021 8581582 Email: rene@viridian.co.za www.viridian.co.za
72 Tredonne Estate, Old Sir Lowry's Road, Sir Lowry's Pass Village
Viridian Consulting (Pty) Ltd 2006/026753/07 Director: Rene Maria Brett: BL Arch MCPUD (SACLAP20122)

- A more detailed Tree Management Plan will be required as part of the planning approval process for implementation.

- A qualified and experienced Arborist must be involved in the implementation/execution of the Tree Management Plan.

2. Guidelines for integration of existing trees into new developments: Tree Management Specifications

2.1 Tree Protection Specifications

These measures are required for trees that will remain. They must be protected from any construction disturbance by demarcating no-go areas and fencing them off from construction activity.

2.1.1 Fencing:

Highly visible barricades/hoarding (diamond mesh or square weld mesh fence) must be erected around every tree required to be protected. Fencing must extend to the edge of the tree protection zone (TPZ) identified for each tree.

- Fencing must run no closer than the dripline plus 1m of each individual tree. The dripline is the area directly below the endpoints of the branches/crown of the tree. Preferably the fencing should be positioned along the edge of the construction zone to provide maximum protection.
- The ideal size and height of the fencing varies depending on the size, species and construction activity at any given point, but should not be less than 1,8m in height.

- The final position of the fence lines must be confirmed by the contracted specialist arborist on site, in the presence of the Main contractor.

- Furthermore, signs must be put up to inform the purpose of the fencing.

- Fence inspection to be carried out once a week during construction.

2.1.2 Tree canopies:

Fenced off tree areas must be avoided at all times by any construction plant or vehicles, including pedestrian traffic. No materials storage or resting places for staff to take place within fenced-off areas to prevent damage to limbs (broken or torn branches as well as compaction of the root zone and root damage).

2.1.3 Tree Protection Zone (TPZ):

Fenced-off tree areas do not necessarily define the exact extent of the root systems. Approximately 90-95 percent of the tree's root system is at the top 90-100 cm of the soil and generally, the balance falls within the top 30-50 cm of soil. Therefore, it is instructed to strictly only use hand excavation methods, as safe and sensitive measures, for construction excavation along the extent of the fence line.

2.2 Tree Pruning Specifications

These measures are required for trees that have their main trunk outside the extent of construction disturbance but will have their root zone and canopy protruding into the extent of construction disturbance and require pruning of limbs and roots and protection during construction.

2.2.1 Pruning of above-ground limbs and branches

All tree pruning equipment must be sharpened and cleaned to ensure clean cuts. The correct pruning equipment must be used to ensure clean cuts without tearing. No sterilization of equipment will be required between trees.

The use of tree sealant is to be avoided.

All cuts are to be vertical or angled to ensure no accumulation of moisture or organic matter that may hinder the recovery of the wound.
All pruning to be executed by a trained arborist.
All material that has been pruned must be carted to an approved location indicated by the main contractor to be chipped and reused. All chipped material will be used for mulch in the rehabilitation.

2.2.2 Pruning of below-ground roots exposed during construction activity

All excavation of soil for construction in the proximity of the identified trees must take place by hand in order to expose roots that have to be cut to allow for layer works and road construction, installation of underground services or building foundations. Should excavation plant be used the operator must do so under the direct guidance of the arborist.

Roots that are exposed must be cut with a saw or suitable cutting tool to avoid any tearing or damage that may take place beyond the limit of excavation. All root pruning must be executed by a trained arborist under the supervision of a qualified and experienced specialist arborist.

2.3 Mulch

All new and existing trees must be supplied with an 80mm layer of sufficiently decomposed mulch consisting of wood and bark chips. This mulch layer is an essential layer of protection against drying out of the root zone during and post-construction. Site development significantly alters the natural flow of groundwater and tends to dry out the soil.

2.4. Maintenance and aftercare

All maintenance and aftercare instructions provided by the arborist and supplier are to be implemented by the responsible parties. This must be agreed upon as part of this Tree Management Plan and all parties identified and recorded. The timeframes and terms of aftercare must be documented and made available to all compliance staff for the duration of the contract and the agreed aftercare period.

Parties responsible for irrigation must supply a watering schedule under the advisement of the arborist and this must be monitored along with the environmental control programme for the project. The replacement trees will require care beyond the duration of the construction contract and the responsible role players must be identified and maintenance responsibilities must be continued for the 12-month period identified.

3. References

Personal communication: Daan Loock. ISA certified arborist. November, 2024.

Urban, James. 2008. Up by Roots. Healthy Soils and Trees in the Built Environment. International Society of Aboriculture.

City of Cape Town. Tree Management Policy (Policy number 34933). Approved by Council: 25 March 2015 C31/03/15.

4. Conclusion

We trust that the above and attached provide sufficient information to inform and support the land use planning and environmental and heritage studies.

Please do not hesitate to contact the writer should you have any queries or require additional information.

Yours faithfully

René Maria Brett Pr LArch SACLAP 20122
Director: Viridian Consulting (Pty) Ltd

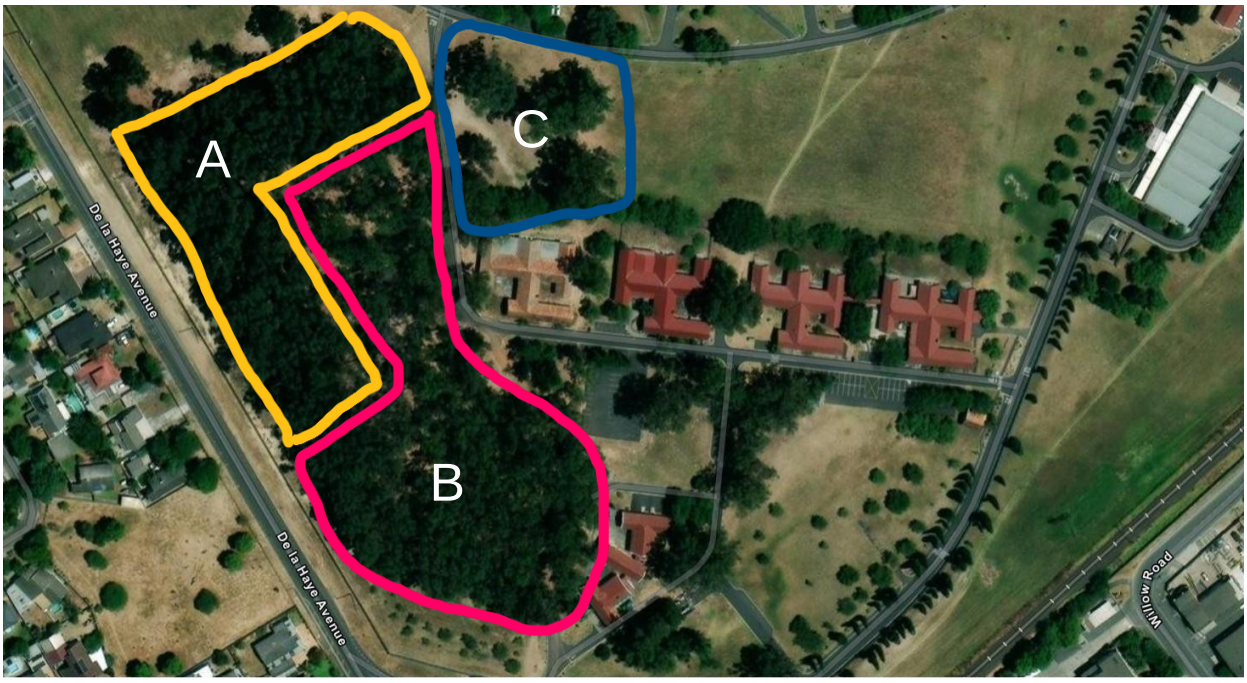

Figure 1: Reference diagram identifying areas within the Eucalyptus Forest

A: Densely spaced (historically) managed woodlot contains Eucalyptus

B: *Eucalyptus gomphocephala* forest (wider, more natural spacing of trees with ground cover layer)

C: Free-standing individual Eucalyptus specimens of very significant age and stature

Figure 2: A clearing in the forest where further trees are blowing over and being uprooted. The clearing increases the wind velocity within the forest and this leaves trees on the edge of the clearing vulnerable to blowing over.

Figure 3: Eastern edge of the forest with significant free-standing specimens on the leeward side of the forest that will be impacted by increased wind velocities if the forest is removed.

Figure 4: Northern edge of forest showing dense spacing of planted woodlot.

Figure 5: Northern edge of forest (densely planted woodlot section. Trees show significant lean due to dense spacing. It will require a minimum development/management setback of 15m from the canopy dripine.

Figure 6: Southern portion of the forest with a more natural spacing of *Eucalyptus gomphocephala* / hybrids.

Figure 7: Another view of the southern portion of the forest showing wider spacing and groundcover layer.

Figure 8: Mature specimens in the southern portion of the forest.

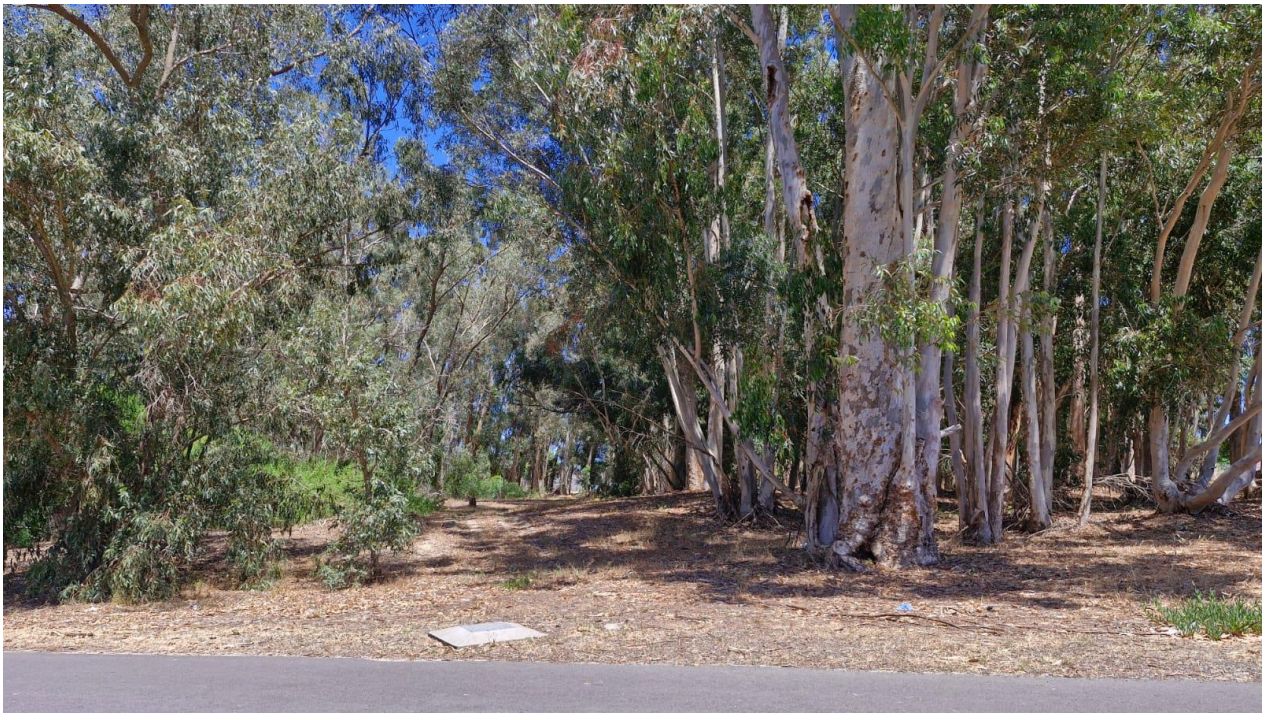

Figure 9: View into the management track on the southern side of the dense northern woodlot that would form part of the management and development setback (minimum 15m from the canopy dripline).

Figure 10: Free-standing Eucalyptus specimen located leeward of the forest. Original trunk formation. No coppiced regrowth. Magnificent specimen. Strongly recommended to be retained within the development footprint with development setbacks. Must be retained in combination with the woodlot portion of the forest for continued wind protection. Minimum development setback = canopy dripline plus 10m.

Figure 11: Recommended dimensions for the Eucalyptus forest and trees to be retained and development and management setback lines

a = 45m
b = 20m
c = 45m
d = 60m
e = 70m
f = 15m
g = Canopy dripline
h = 10m