NICK HELME BOTANICAL SURVEYS
PO Box 22652 Scarborough 7975
Ph: 021 780 1420 cell: 082 82 38350 email: botaneek@iafrica.com
Pri.Sci.Nat # 400045/08

BOTANICAL ASSESSMENT OF STIKLAND HOSPITAL GROUNDS DEVELOPMENT PLAN, BELLVILLE, WESTERN CAPE.

Compiled for: Infinity Environmental, Cape Town

Applicant: Western Cape Government: Department of Infrastructure

2 April 2025

DECLARATION OF INDEPENDENCE

In terms of Chapter 5 of the National Environmental Management Act of 1998 specialists involved in Impact Assessment processes must declare their independence and include an abbreviated Curriculum Vitae.

I, N.A. Helme, do hereby declare that I am financially and otherwise independent of the client and their consultants, and that all opinions expressed in this document are substantially my own.

NA Helme

ABRIDGED CV:

Contact details as per letterhead.
Surname : HELME
First names : NICHOLAS ALEXANDER
Date of birth : 29 January 1969
University of Cape Town, South Africa. BSc (Honours) – Botany (Ecology & Systematics), 1990.

Since 1997 I have been based in Cape Town, and have been working as a specialist botanical consultant, specialising in the diverse flora of the south-western Cape. Since the end of 2001 I have been the Sole Proprietor of Nick Helme Botanical Surveys, and have undertaken over 2000 site assessments in this period.

A selection of relevant previous botanical work is as follows:

- Botanical assessment erf 666, Hout Bay (Monique Sham Consultants 2024)
- Botanical assessment of Ptns 31 & 33 Hazendal (Monique Sham Consultants 2024)
- Botanical constraints on Kransduinen 791, Mamre (UrbanEye 2024)
- Cape Winelands Airport Vegetation Scoping report (PHS Consulting 2023)
- Botanical assessment of Zeekoevlei weir upgrades (Infinity Environmental 2022)
- Botanical assessment of proposed development on Ptn 29 of Farm 410 Caledon (PHS Consulting 2022)

- Botanical assessment of Ptns 3 & 6 of Farm 563 Kleinmond (Lornay Environmental 2021)
- Botanical assessment of Ptn 9 of Farm 429 Gabrielskloof, Caledon (Infinity Environmental 2021)
- Baseline ecological assessment of Karwyderskraal 584, Caledon (Terramanzi 2021)
- Botanical impact assessment of proposed development of Ptn 29 of Farm 410, Caledon (PHS Consulting 2021)
- Botanical assessment of proposed new cultivation on Welbedacht farm, Tra Tra Mountains (Footprint Environmental 2020)
- Biodiversity Compliance Statement - Philippi erf 1/1460 (Infinity Environmental 2020)
- Botanical assessment of Kleinmond WWTW expansion (Aurecon 2020)
- Botanical assessment of Mooreesburg WWTW expansion (Aurecon 2020)
- Botanical assessment of Struisbaai cemetery sites (Infinity Environmental 2020)
- Botanical assessment of MoPama development site, Swellendam (Landscape Dynamics 2020)
- Botanical assessment of Ptn of Rem of Erf 1 Caledon (Theewaterskloof Municipality 2019)
- Botanical assessment of proposed new cultivation on Portion of Wittewater 148, Piketberg (Cornerstone Environmental 2019)
- Botanical assessment of Droogerivier farm Leipoldtville (Footprint Environmental 2018)
- Botanical assessment of Sebulon farm, Redelinghuys (Natura Libra Environmental Services 2018)
- Botanical assessment of proposed new cultivation on Ptn 2 of farm Groenevalley 155, Piketberg (Cederberg Environmental Assessment Practise 2017)
- Botanical assessment of proposed new cultivation on farm Rosendal, Koue Bokkeveld (Cederberg Environmental Assessment Practise 2016)
- Botanical assessment of proposed cultivation on farm Kransvlei, Clanwilliam (Cederberg Environmental Assessment Practise 2016)
- Botanical assessment of proposed cultivation on farm Erfdeel, Bo-Swaarmoed, Ceres (Cederberg Environmental Assessment Practise 2016)

CONDITIONS RELATING TO THIS REPORT:

The methodology, findings, results, conclusions and recommendations in this report are based on the author's best scientific and professional knowledge, and on referenced material and available knowledge. Nick Helme Botanical Surveys and its staff reserve the right to modify aspects of the report, including the recommendations and conclusions, if and when additional relevant information becomes available.

This report may not be altered or added to without the prior written consent of the author, and this also applies to electronic copies of this report, which are supplied for purposes of inclusion in other reports, including in the report of EAPs. Any recommendations, statements or conclusions drawn from or based on this report must cite this report, and should not be taken out of context, and may not change, alter or distort the intended meaning of the original in any way. If these extracts or summaries form part of a main report relating to this study or investigation this report must be included in its entirety as an appendix or separate section to the main report.

TABLE OF CONTENTS

1. INTRODUCTION

This botanical assessment was requested to inform the environmental planning and authorisation process being followed for the potential redevelopment of the Stikland Hospital precinct (Remainder Erf 6300), in the Bellville area of the Western Cape (see Figure 1). The high security central area (shown in blue in Figure 1) was excluded from this study for access reasons, and because there is no significant natural vegetation remaining in this area. The proposed development layout was modified subsequent to the initial constraints study of Helme (2024), and is shown in Figure 1b.

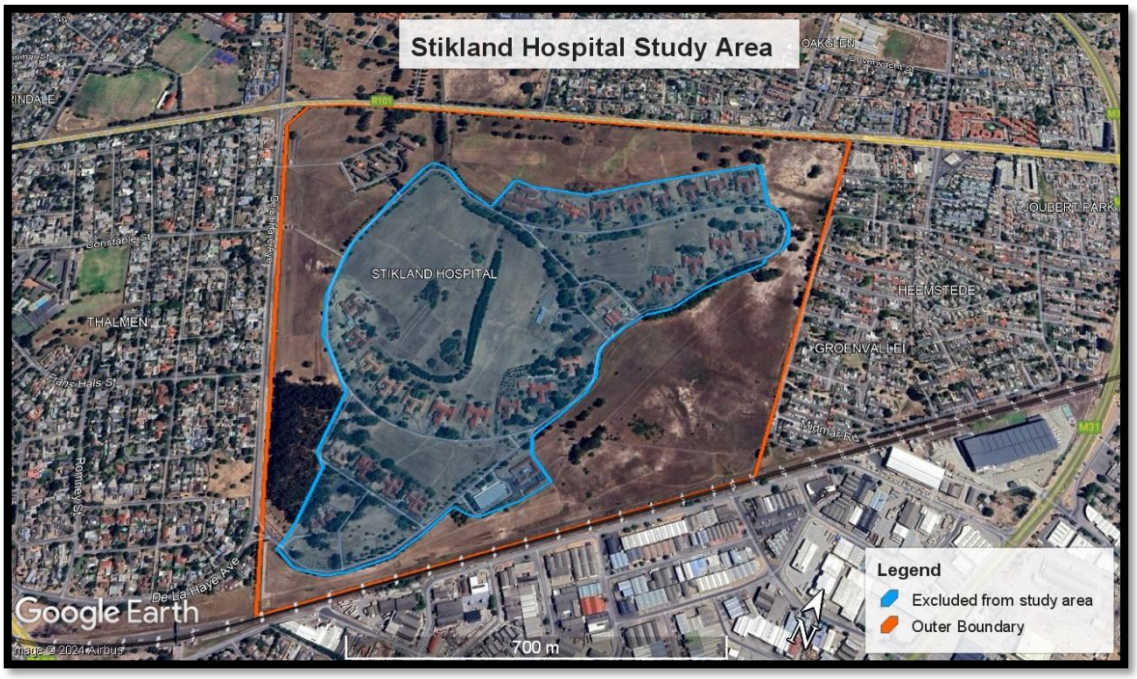
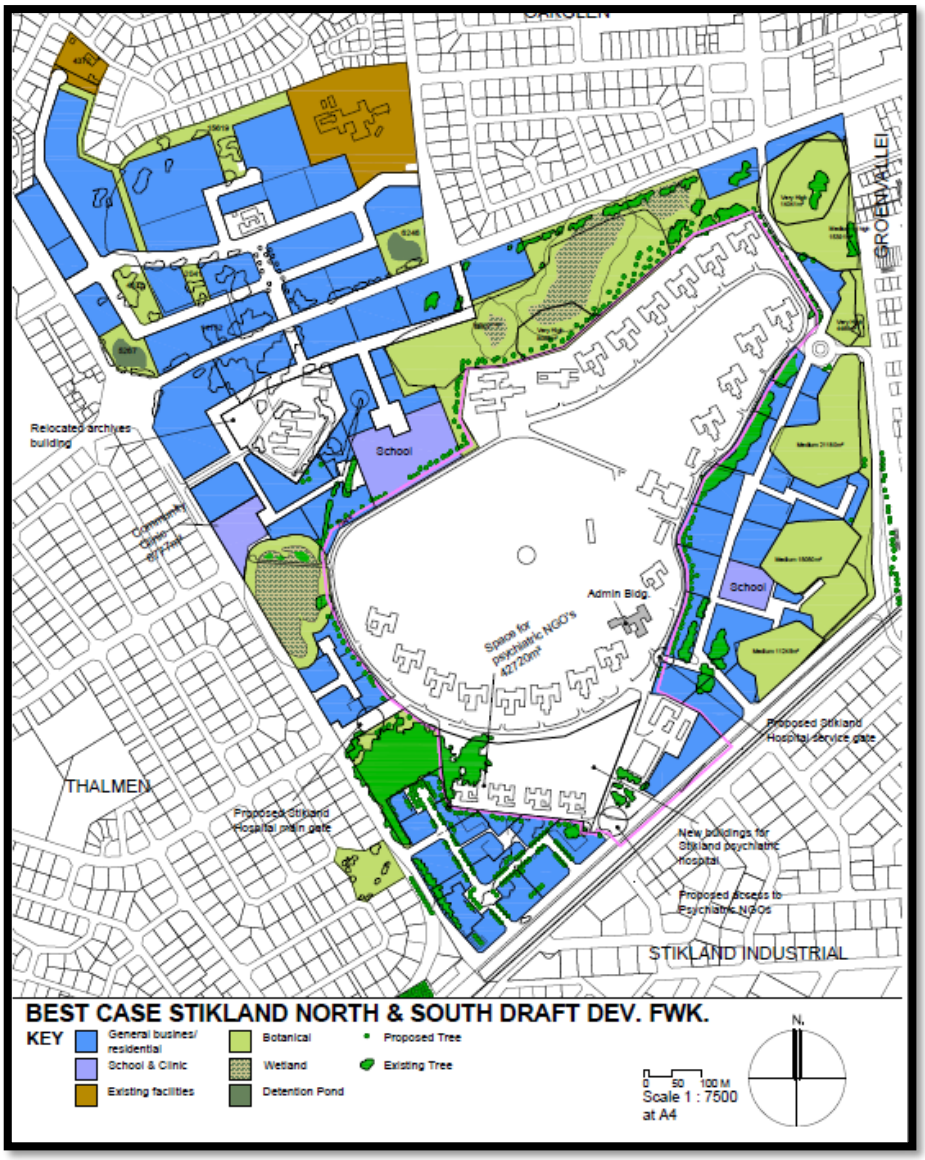


Figure 1: Satellite image showing the location of the study area – being the area between the excluded central area (blue shading) and the outer perimeter. Satellite image dated February 2024.



Figue1b: Copy of proposed development framework, as assessed (January 2025).

2. TERMS OF REFERENCE

The ToR were as follows:

- Undertake a site visit to assess the vegetation on site
- Identify and describe the vegetation in the area
- Provide an overview and map of the botanical and ecological conservation significance (sensitivity) of the site (High, Medium and Low); this will essentially be an ecological opportunities and constraints map and should be provided as Google Earth kmz files
- Indicate if more than 300m^2 of indigenous vegetation is present
- Indicate the acceptability of the development of this area from an ecological perspective

- Discuss the environmental constraints, including City of Cape Town BioNet, etc.
- Indicate how and whether the sensitivity of the vegetation on site differs from any Screening Tool assessment.
- Assess the likely botanical impact of the proposed development layout, using standard methodology
- Recommend any possible mitigation measures to avoid and/or minimise impacts.

3. LIMITATIONS, ASSUMPTIONS AND METHODOLOGY

The site was visited on 10 September, which was within the optimal winter – spring flowering season in this winter rainfall area, and most of the likely geophytes and annuals were thus evident and identifiable, whilst all perennial plants were identifiable. There were thus few seasonal constraints on the accuracy of the botanical findings, and the confidence in the accuracy of the botanical findings is high in terms of data collection, although interpretation of this data is a more subjective matter. The author has undertaken extensive work within the region, which facilitates the making of local and regional comparisons and inferences of habitat quality and conservation value.

The study area was driven and walked (in areas of interest), and all plants on site were noted. Photographs of the site were made using a Fuji mirrorless slr camera and a Xiaomi gps enabled cellphone, and photos uploaded to the biodiversity website inaturalist.org. Mapping was done directly onto satellite imagery using the app Field Area Measure. Data from this app was then exported to Google Earth, for final mapping. Satellite imagery dated February 2024 (and earlier) was used to inform this assessment, and for mapping. It is assumed that there is no significant natural vegetation remaining within the central, excluded area. It is assumed that development of any hard surfaces (roads, driveways, houses, etc.) would result in the permanent loss of all natural or partly natural vegetation in that area. The proposed development layout as assessed is shown in Figure 1b.

The botanical sensitivity of a site is a product of plant species diversity, plant community composition, rarity of habitat, degree of habitat degradation, rarity of species, ecological viability and connectivity, restorability of habitat, vulnerability to impacts, and reversibility of threats.

4. REGIONAL CONTEXT OF THE VEGETATION

The study area is part of the Southwest Fynbos bioregion (Mucina & Rutherford 2006), and is part of the Fynbos biome, located within what is now known as the Core Region of the Greater Cape Floristic Region (GCFR; Manning & Goldblatt 2012). The GCFR is one of only six Floristic Regions in the world, and is the only one largely confined to a single country (the Succulent Karoo component extends into southern Namibia). It is also by far the smallest floristic region, occupying only 0.2% of the world's land surface, and supporting about 11500 plant species, over half of all the plant species in South Africa (on 12% of the land area). At least 70% of all the species in the Cape region do not occur elsewhere, and many have very small home ranges (these are known as narrow endemics). Many of the lowland habitats are under pressure from agriculture, urbanisation and alien plants, and thus many of the range restricted species are also under severe threat of extinction, as habitat is reduced to extremely small fragments. Data from the nationwide plant Red Listing project indicate that 67% of the threatened plant species in the country occur only in the southwestern Cape, and these total over 1800 species (Raimondo *et al* 2009). It should thus be clear that the southwestern Cape is a major national and global conservation priority, and is quite unlike anywhere else in the country in terms of the number of threatened plant species.

The Southwest Fynbos bioregion is characterised by relatively high winter rainfall, strong rainfall gradients, poor, sandy soils, high topographic diversity, and large urban areas and high levels of alien invasive vegetation. Due to this combination of factors the loss of natural vegetation in this bioregion has been severe (>60% of original extent lost within the region), and the bioregion has a very high number of threatened plant species (Raimondo *et al* 2009).

The City of Cape Town Biodiversity Network (as of 2018) had not mapped any remaining natural habitat in this area (hence no copy of the map was provided in Helme 2024), which was clearly an oversight, perhaps related to the site access constraints. The study area is something of an open space island in an otherwise densely developed and populated area.

5. THE VEGETATION AND ITS SENSITIVITY

According to the SA Vegetation Map the original natural vegetation in the study area is mostly **Cape Flats Sand Fynbos**, with a tongue of **Swartland Shale Renosterveld** in the northern area (Mucina & Rutherford 2018; see Figure 2). Based on my ground-truthing I agree with this mapping.

Cape Flats Sand Fynbos is gazetted as **Critically Endangered** on a national basis (Government of South Africa 2022), with only 19% of its total original extent remaining intact, less than 1% conserved, and a national conservation target is 30% (Rouget *et al* 2004). The unit is thus threatened in terms of habitat loss and low percentage conserved, as well as the very high number of threatened and endemic plant species found in the vegetation unit. This unit occurs on nutrient poor, acid sandy soils on the Cape Flats, and the vegetation type needs fire for optimal ecological functioning (Helme *et al* 2016).

Swartland Shale Renosterveld is also gazetted as **Critically Endangered** on a national basis (Government of South Africa 2022), with less than 9% of its total original extent remaining intact, less than 1% conserved, and a national conservation target of 26% (Rouget *et al* 2004). The unit is thus threatened in terms of habitat loss and low percentage conserved, as well as the very high number of threatened and endemic plant species found in the vegetation unit. This unit occurs on nutrient rich, loamy soils from Piketberg to Somerset West, and the vegetation type needs fire for optimal ecological functioning (Helme *et al* 2016).

The fire history of the vegetation on site is not known, but most of it does get mown every year, and mowing was in fact taking place during the site visit.

There is very clearly much more than 300m^2 of natural vegetation in the study area, as probably close to 25% of the study area vegetation could be considered indigenous, making up an area of at least 8ha.

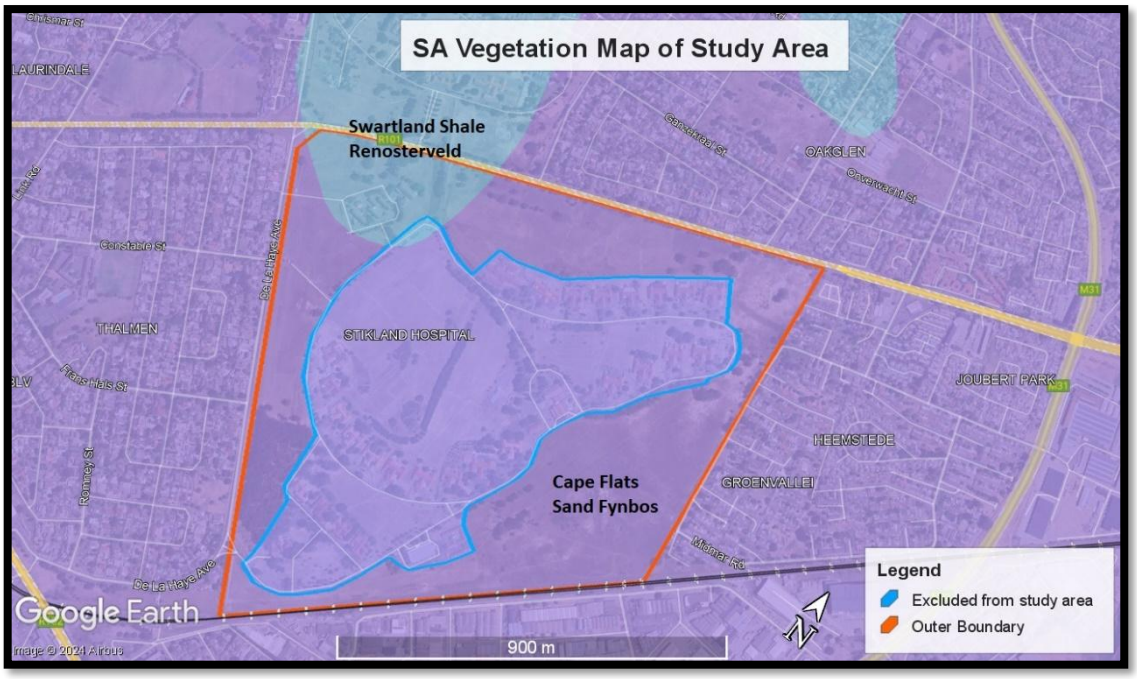


Figure 2: Extract of SA Vegetation Map for the study area, showing the distribution of the two vegetation types in the area.

Plate 1: *Paurida aquatica* (sterretjies) growing in an as yet unmowed seasonal wetland in southwestern corner of the site.

Plate 2: Recently mowed area in southwestern corner, with the seasonal wetland shown in Plate 1 visible at left. Assigning habitat sensitivity to a recently mowed area is not easy, but this area is provisionally deemed to be of Low or Medium sensitivity.

Plate 3: Bokbaai vygies (*Cleretum bellidiforme*) and reengousblomme (*Dimorphotheca pluvialis*) annuals, with alien invasive Port Jackson seedlings (*Acacia saligna).*

Plate 4: Very High sensitivity patch of Sand Fynbos in the northeastern corner, with the restio *Willdenowia teres* prominent.

Plate 5: High diversity damp meadow in the northern area, with *Oxalis purpurea* (suuring) prominent. Although mown regularly this large area still supports many millions of bulbs and is of High sensitivity.

Plate 6: The highly fragrant *Babiana nana* is an Endangered bulb found in a small part of the northern area, in a rocky area not so regularly mown. This is a Very High sensitivity area.

Indigenous plant species diversity ranges from low to fairly high, this being related mainly to the level of soil disturbance, as well as soil type, with the drier sands being more degraded than the seasonally wet loams in the north. It is not known whether the site was ever cultivated, and certainly since the development of the Hospital the primary disturbance has clearly been the regular mowing, typically undertaken by tractors with mower attachments. Additional important sources of degradation include sewer leaks, with at least one currently active.

Alien invasive herbs, grasses and shrubs are certainly present, but do not dominate all of the study area. Common alien invasive species include *Cenchrus clandestinum* (kikuyu), *Echium plantagineum* (Patterson's curse), *Brassica tourneforti, Plantago lanceolata, Briza* spp., *Bromus pectinatus* (brome), *Lolium* spp. (ryegrass), *Avena* spp. (wild oats), *Cerastium* sp., *Lactuca* spp., and *Hypochaeri*s sp., plus shrubs such as *Acacia saligna* (Port Jackson).

Indigenous species observed include *Cynodon dactylon*, *Osteospermum moniliferum, Ursinia anthemoides, Arctotheca calendula, Cleretum bellidiforme, Pelargonium triste, Hermannia pinnata, Hesperantha falcata, Ornithogalum thyrsoides, Willdenowia teres, Aspalathus ternata, Cliffortia polygonifolia, Gladiolus carinatus, Oxalis glabra, O. purpurea, O. tenuifolia, O. pes-caprae, Babiana nana, Ferraria crispa, Lampranthus emarginatus, Pauridia aquatica, Lampranthus explanatus, Wachendorfia multiflora, Trachyandra divaricata, Trachyandra sp., Haemanthus pubescens ssp. pubescens, Lachenalia variegata, Sparaxis bulbifera, Triglochin striata, Babiana tubiflora, Cissampelos capensis, Putterlickia pyracantha, Senecio elegans, Wiborgia obcordata, Crassula natans, C. lanceolata, C. umbellata, Conicosia pugioniformis, Carpobrotus edulis, Ehrharta calycina, E. villosa, Ornithoglossum viride, Zantedeschia aethiopica, Salvia lanceolata* and *Phyllopodium capillare.*

The sheer number of bulb and annuals in parts of the study area is astonishing, with literally millions of plants present (see Plates 3 & 5).

Five plant Species of Conservation Concern (SoCC) were recorded on site (see Table 1), and there is a moderate likelihood of at least one or two others being present.

Species	Redlist Status	Notes
Aspalathus ternata	Near Threatened	Northeastern areas; about 60 plants in a small patch
Babiana nana ssp. *nana*	Endangered	Northern areas; about 100 plants in a small patch
Lampranthus explanatus	Near Threatened	Northeastern areas; about 50 plants
Phyllopodium capillare	Near Threatened	Eastern and southern areas; hundreds of plants; annual, widely scattered
Trachyandra sp.	Unknown, pending id.	Northern areas; <20 plants, in a small patch

Table 1: List of the five plant Species of Conservation Concern (SoCC) recorded on site.

5.1 Botanical Sensitivity

The majority of the study area is of Low botanical sensitivity (see Figure 3), and these areas do not support any of the recorded Species of Conservation Concern (SoCC).

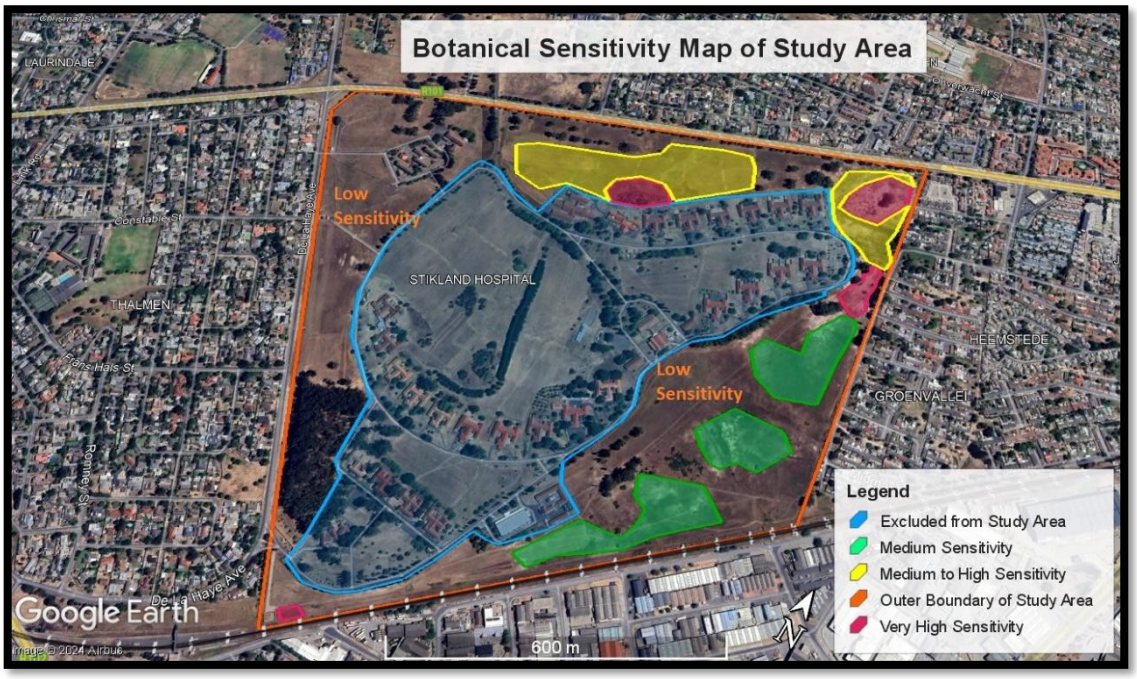


Figure 3: Botanical Constraints map of the study area. Unshaded areas within the study area are deemed to be of Low botanical sensitivity.

There are also significant patches of higher sensitivity. Four patches of Very High sensitivity have been mapped, one of which is a seasonal wetland (Plate 1), and the other three all support the five recorded plant Species of Conservation Concern (see Table 1). Surrounding and linking these are two patches of Medium

to High sensitivity. In the southeast are three patches of Medium sensitivity that support none of the SoCC except the annual *Phyllopodium capillare*. The 0.25ha portion of the Medium sensitivity section that will be lost in the revised development plan does not support *Phyllopodium capillare*.

6. IMPACT ASSESSMENT

6.1 Construction Phase Impacts

The main likely construction phase botanical impact of the proposed development is loss and degradation of the partly natural vegetation in the proposed development footprints on site. It would appear that no loss of Very High or Medium – High sensitivity areas will occur (assuming no disturbance of the mapped areas of Medium to High and Very High sensitivity), but there will be loss of an estimated 0.25ha of Medium sensitivity vegetation (regularlyDiring mown and degraded Cape Flats Sand Fynbos).

This is likely to have a **Low negative impact** at a regional scale, as the area involved is very small, and ecologically rather isolated. Loss of the Low sensitivity areas (making up the vast bulk of the development area) is likely to have a Very Low negative botanical impact.

No plant Species of Conservation Concern are likely to be lost within the revised development footprint. The 0.25ha portion of the Medium sensitivity section that will be lost does not support *Phyllopodium capillare*.

The No Go alternative would presumably have a lower indirect (construction phase) botanical impact than the proposed development.

Development Alternative	Extent of impact	Duration of impact	Intensity	Probability of impact	Irreplaceable loss of biodiversity	Significance before mitigation	Significance after mitigation
Proposed infrastructure	Local	Permanent and temporary	High to Low	Definite	Very Low	Low -ve	Low -ve
No Go	Local	Unknown and variable	Neutral to very low negative	Likely	None	Neutral	Neutral

Table A: Summary table for construction phase botanical impacts associated with the proposed development. The primary construction phase impacts would be long term loss of partly natural vegetation in about 0.25ha of Medium sensitivity habitat.

6.2 Operational phase botanical impacts

Operational phase impacts will take effect as soon as the partly natural vegetation on the site is lost or disturbed, and will persist in perpetuity, or as long as the area is not rehabilitated (to approximately the current state). Operational phase impacts include fairly minor reduction of the current low - moderate levels of ecological connectivity across the study area, and associated habitat fragmentation. The planners have deliberately tried to connect the green spaces so that ecological connectivity of the remnants will not be too badly degraded.

If the remnant natural areas are brushcut regularly this could have a negative botanical impact over time, and is hence not recommended.

No fire related changes are likely, as the vegetation on site does not burn currently. Although Sand Fynbos is technically a fire driven system there is in fact not enough perennial (shrubby) vegetation on site to justify or require fire for ecological purposes.

Whether or not the development will impact the soil moisture status of the remnant areas is not known, but if it does it will have an impact on the vegetation, but this change could be both positive and negative. *i.e*. less moisture will benefit dry area plants, and more moisture will benefit wet area plants.

Alien invasive plants (herbs, grasses and shrubs) could become more common in the remnant natural areas unless this is actively managed, and this would obviously be negative, but if well managed this could be positive.

A key positive operational phase impact may come about if there is active rehabilitation of the remnant open spaces, in the form of careful reintroduction of suitably locally indigenous Shale Renosterveld and Sand Fynbos plant species. This would only be positive if the appropriate species are used, and in the right soil types, and without creating unnecessary habitat disturbance.

Overall the operational phase botanical impacts of the proposed development could be **Neutral to Low positive** at a local scale (after mitigation), driven mostly by the possible rehabilitation and better ecological management of the

remnant natural areas, but this is very much management dependant. Prior to mitigation this is likely to be Low negative.

The No Go alternative would possibly have a slightly greater indirect (operational phase) ecological impact than the proposed development, with this difference driven by the lack of rehabilitation and the ongoing brushcutting and regular mowing in the sensitive areas.

Development Alternative	Extent of impact	Duration of impact	Intensity	Probability of impact	Irreplaceable loss of biodiversity	Significance before mitigation	Significance after mitigation
Proposed development	Local	Permanent	Low	Possible	Low	Low -ve	Low positive
No Go	Local	Unknown and variable	Neutral	Likely	Very Low	Neutral	Neutral

Table B: Summary table for operational phase botanical impacts associated with the proposed development.

6.3 The No Go Alternative

The No Go alternative (continuation of the *status quo)* on site would have clearly lower construction phase botanical impacts (Neutral) than the proposed development, and would thus technically probably be the slightly preferred alternative from an ecological perspective at this stage. However, the positive ecological impacts that could be realised at the operational phase will not come about in the absence of better ecological management, and thus the No Go on balance may have a less positive outcome at the operational phase than the proposed development.

6.4 Cumulative Impacts

The cumulative botanical impacts are in many ways equivalent to the regional ecological impacts, in that the vegetation type/s likely to be impacted by the proposed development have been, and will continue to be, impacted by numerous developments and other factors (the cumulative impacts) within the region. The primary cumulative impacts in the region are loss of natural vegetation and threatened plant species to ongoing agriculture, urban development and alien plant invasion (Mucina & Rutherford 2012; Helme & Rebelo 2016).

The overall cumulative ecological impacts of the proposed development at the local scale are likely to be Very Low negative, given the small area of Medium sensitivity vegetation to be impacted (<0.25ha).

6.5 Positive Impacts

The operational phase botanical impacts of the proposed development could be **Neutral to Low positive** at a local scale (after mitigation), driven mostly by the possible rehabilitation and better ecological management of the remnant natural areas, but this is very much management dependant. Formal conservation status for these remnant natural areas would also be a notable positive ecological impact.

7. MITIGATION REQUIREMENTS

The following mitigation is deemed reasonable, feasible and essential and has been factored into the assessment:

- All conservation areas (Botanical & Wetland areas as shown in Figure 1b) must be surveyed and fenced off prior to any site development to prevent inadvertent or deliberate damage during the site redevelopment phase. The fencing should be durable and permanent (such as Clearvue fencing), and should allow for controlled access by the approved ecological managers. The road layout suggests that four discrete conservation areas may be the best approach.
- During the construction and redevelopment phase there must not be any disturbance within the conservation areas, and this included no dumping, no spilling of fill across the fenceline, etc.
- To keep soil moisture regimes similar it is recommended that soil surface levels be essentially the same as they area now – *i.e*. the development areas should not be above or below the adjacent conservation area surface levels, and stormwater should not be channeled into these areas.
- The conservation areas will need to be intensively managed in perpetuity, due to their relatively small size, large edge effects, and partly degraded state. The City of Cape Town Biodiversity Management Branch is unable to take this on (email from Cliff Dorse dated 7 March 2025), so the suggested management authority is Nature Connect (who has the necessary expertise), and the applicant must thus enter into a partnership with them to manage this area in the ecologically appropriate manner. This partnership must be signed and implemented within six months of any authorisation.

- The applicant must ensure that adequate funding is made available to the chosen ecological management partner (such as Nature Connect) for all ongoing ecological management requirements on this site, including Search and Rescue prior to development.
- Search and Rescue of all translocatable indigenous seeds, bulbs and whole plants in the development areas must be undertaken over a full year prior to any site development, to allow for the seasonal requirements of this type of project. The work should be undertaken by either the Biodiversity Management Branch or their approved contractor. The rescued material should ideally be used within the conservation areas on site.
- Within 6 months of taking over management of the site the Biodiversity Management Branch must draw up an ecological management plan for the conservation areas.
- Key ongoing tasks to address in the conservation areas will alien invasive plant management (including herbs and grasses) and selective reintroduction of suitable nursery grown or rescued plant species that are both locally indigenous (found within 10km of the site) and which should do well in the available habitats.

8. CONCLUSIONS AND RECOMMENDATIONS

- The study area supports notable remnants of two Critically Endangered vegetation types, with at least five plant Species of Conservation Concern. At least 8ha of mostly indigenous vegetation remains in the area. The absence of any mapped areas of importance in the City of Cape Town's Biodiversity Network for this site is clearly an error/oversight, presumably originating from lack of site access.
- The majority of the study area is of Low botanical sensitivity, and these areas do not support any of the recorded Species of Conservation Concern (SoCC).
- There are four patches of Very High sensitivity (see Figure 3), one of which is a seasonal wetland, and the other three all support the five recorded plant Species of Conservation Concern.
- Surrounding and linking these are two patches of Medium to High sensitivity. In the southeast are three patches of Medium sensitivity that support none of the SoCC except the annual *Phyllopodium capillare*. However, this species

does not occur in the 0.25ha of the Medium sensitivity area due to be developed.

- If the entire study area were to be developed the significance of the loss of the vegetation on this site would be Very High negative.
- In line with the mitigation hierarchy (avoid, minimise, mitigate) the Very High, Medium to High and Medium sensitivity patches should not be disturbed or developed at all, and should ideally be managed for long term conservation. This appears to have been largely achieved with the updated proposed development layout, shown in Figure 1b, although the appropriate conservation oriented management of these areas is of course mostly an operational phase issue.
- In the short term the requirement of minimising disturbance in the conservation areas means no mowing in the flowering period of June – mid October, along with proper invasive alien plant removal (methodology as per Martens *et al* 2021).
- Only the Low sensitivity areas could be developed without significant botanical impact, and even in these areas a large scale Search and Rescue program is needed as mitigation, in the appropriate seasons, as these areas still support notable biodiversity, which could be used to rehabilitate the conservation areas.
- Construction phase botanical impacts of the proposed development layout are likely to have a **Low negative impact** at a regional scale.
- Overall the operational phase botanical impacts of the proposed development could be **Neutral to Low positive** (after mitigation).

9. REFERENCES

Government of South Africa. 2022. South African Red List of Terrestrial Ecosystems: assessment details and ecosystem descriptions. Government Notice 2747, Gazette 4526. Technical Report #7664, SANBI Pretoria, South Africa.

Helme, N. 2024. Botanical assessment of Stikland Hospital Grounds. Unpublished report for Infinity Environmental and W Cape Government. Nick Helme Botanical Surveys, Scarborough.

Helme, N., P. Holmes & A. Rebelo. 2016. Lowland Fynbos Ecosystems. In: Cadman, A (ed.). *Ecosystem Guidelines for Environmental Assessment in the Western Cape, Ed*.2. Fynbos Forum, Fish Hoek, South Africa.

Holmes, P., J. Wood and C. Dorse. 2008. Updated (Dec 2024) and groundtruthed CoCT Biodiversity Network, together with City of Cape Town – Biodiversity Report. Environmental Management Branch, City of Cape Town. Available from: www.bgis.sanbi.org

Manning, J. and P. Goldblatt. 2012. Plants of the Greater Cape Floristic Region 1: The Core Cape flora. *Strelitzia 29*. South African National Biodiversity Institute, Pretoria.

Martens, C., Deacon, G., Ferreira, D., Auret, W., Dorse, C., Stuart, H., Impson, F., Barnes, G. and C. Molteno. 2021. *A practical guide to managing invasive alien plants: A concise handbook for land users in the Cape Floral Region.* WWF South Africa, Cape Town, South Africa.

Mucina, L. and M. Rutherford. *Eds.* 2023 online update. Vegetation map of South Africa, Lesotho, and Swaziland. *Strelitzia 19*. South African National Biodiversity Institute, Pretoria.

Pence, G. 2017. Western Cape Biodiversity Spatial Plan. CapeNature, Cape Town, South Africa.

Raimondo, D., Von Staden, L., Foden, W., Victor, J.E., Helme, N.A., Turner, R.C., Kamundi, D.A., and Manyama, P.A. (eds.) 2009 and online updates at sanbi.redlist.org. Red List of South African Plants 2009. *Strelitzia 25*. South African National Biodiversity Institute, Pretoria.

Rouget, M., Reyers, B., Jonas, Z., Desmet, P., Driver, A., Maze, K., Egoh, B. & Cowling, R.M. 2004. *South African National Spatial Biodiversity Assessment 2004: Technical Report. Volume 1: Terrestrial Component.* Pretoria: South African National Biodiversity Institute.

NICK HELME BOTANICAL SURVEYS

PO Box 22652 Scarborough 7975

Ph: 021 780 1420 cell: 082 82 38350 email: botaneek@iafrica.com

Pri.Sci.Nat # 400045/08

19 Aug 2025

Infinity Environmental

Observatory

ATT: Kaylyn Heinrich

Dear Kaylyn

Specialist Botanical comment - Impact Assessment – Stikland South Precinct

The latest development framework is shown in Figure 1, developed subsequent to my Impact Assessment (dated 2 April 2025). Key differences that need to be assessed include no development inside the red line, meaning no development (white shading) and no roads between the various Very High, Medium to High and Medium sensitivity vegetation patches shown in Figure 1, except for approximately 0.4 ha of Medium to High sensitivity vegetation near the northern boundary, which will be cleared to allow for internal access roads.

Figure 1: Latest development framework for the site.

For the original proposed layout the following assessment was provided (Helme April 2025): "Construction phase botanical impacts of the proposed development layout are likely to have a **Low negative impact** at a regional scale. Overall the operational phase botanical impacts of the proposed development could be **Neutral to Low positive** (after mitigation).

The **current (revised) layout** has a slightly lower botanical impact overall than the originally assessed alternative, and is thus **preferred**: **Low negative** at a regional scale for the construction phase, and **Low positive** (after mitigation) for the operational phase.

The following mitigation is deemed reasonable, feasible and **essential** and has been factored into the assessment:

- The conservation areas (all Very High, Medium to High and Medium sensitivity areas, plus associated buffers and linkages) will need to be intensively managed in perpetuity, due to their relatively small size, large edge effects, and partly degraded state. The City of Cape Town Biodiversity Management Branch is unable to take this on (email from Cliff Dorse dated 7 March 2025), so the suggested management authority is Nature Connect (who has the necessary expertise), and the applicant must thus enter into a partnership with them to manage this area in the ecologically appropriate manner, as the applicant is not the appropriate person to manage

ecologically sensitive areas such as these. This partnership must be signed and implemented within six months of any authorisation.

- The applicant must ensure that adequate funding is made available to the chosen ecological management partner (such as Nature Connect) for all ongoing ecological management requirements on this site, including any Search and Rescue prior to development.
- Search and Rescue of all translocatable indigenous seeds, bulbs and whole plants in the development areas (even though these are of lower sensitivity) must be undertaken over a full year prior to any site development, to allow for the seasonal requirements of this type of project. The work should be undertaken by Nature Connect. The rescued material should ideally be used within the conservation areas on site.
- Within 6 months of taking over management of the site Nature Connect must draw up an ecological management plan for the conservation areas.
- Key ongoing tasks to address in the conservation areas will alien invasive planot management (including herbs and grasses) and selective reintroduction of suitable nursery grown or rescued plant species that are both locally indigenous (found within 10km of the site) and which should do well in the available habitats, and these rehabilitate areas should be designed to link the priority habitat remnants with rehabilitated ecological corridors.

Yours sincerely

Nick Helme