

Botanical Impact Assessment

Proposed flood damage repairs to the Langenhoven Substation, George

25 July 2025



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Citation of report

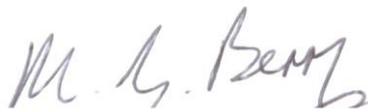
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Declaration of Independence

I Mark Gerald Berry, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
 - **other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity;** or
 - ~~am not independent, but another specialist (the “Review Specialist”) that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);~~
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:



Name of Company:

MB Botanical Surveys

Date:

25 July 2025

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1. Introduction

Proposed development and area assessed

This report investigates the botanical impacts of proposed flood damage repairs to the Langenhoven substation in George. The site, which is situated next to the Camfersdrift River between George Central and Heatherlands, is located on Remainder of Erf 464 and Erf 20781 (**Figure 1-1**). It is covered by grasses/weeds, riverine habitat and an electrical substation. The aim of the study, which was requested by SES (EAP) on behalf of applicant (George Municipality), is to determine the botanical value of the affected area, the anticipated impact imposed by the project, and to recommend mitigation measures.

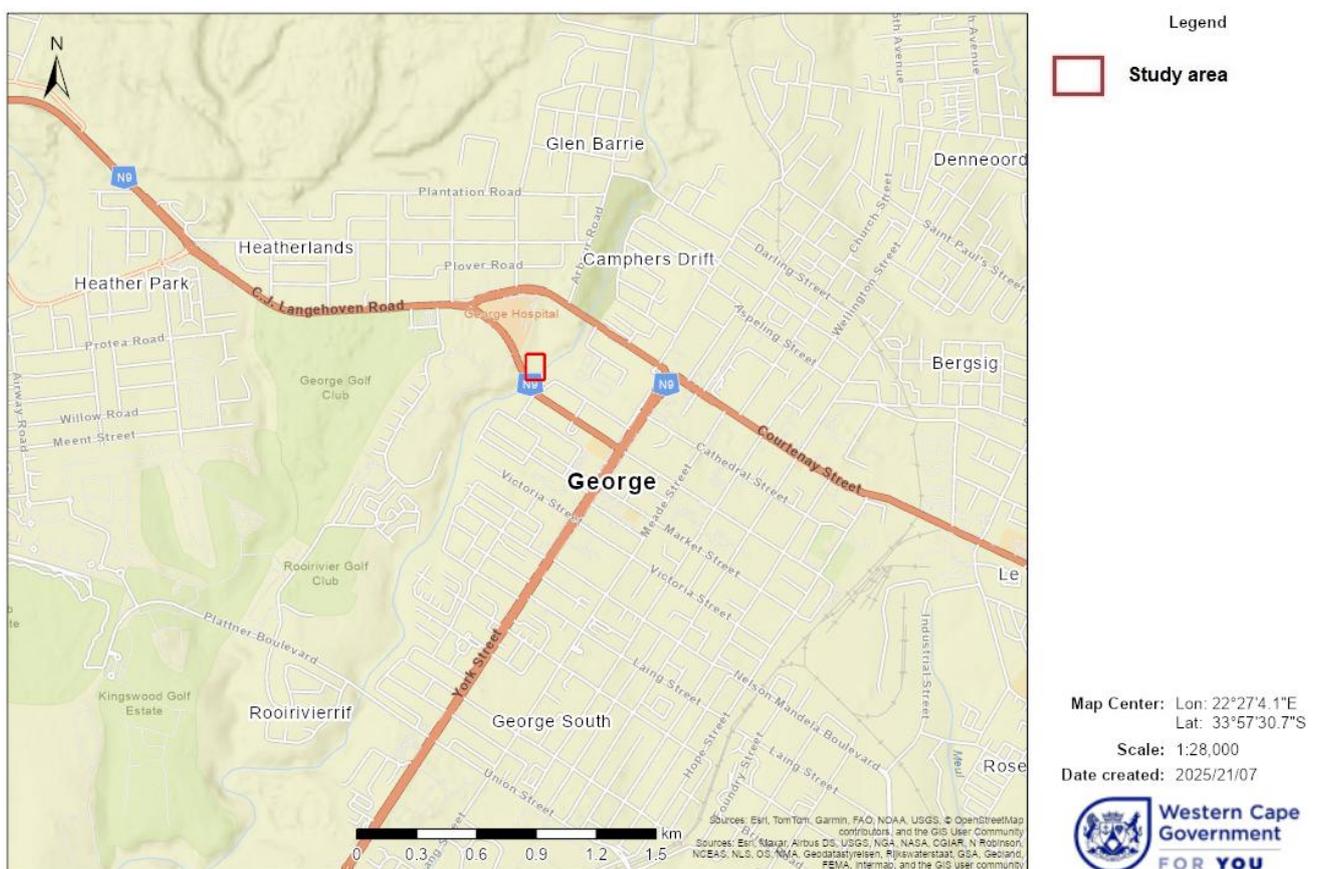


Figure 1-1: Location of the site (outlined in red) inside George.

The extent and scope of the proposed repair work include (**Figure 1-2**):

- Construct a gabion retaining structure (consisting of 2×1×1 m gabion baskets) on the northern side of the substation;
- Construct an earth V-drain along the southern edge of the substation; and
- Construct a trapezoidal grass swale with an outlet as close to the river as possible with energy dissipators to protect against erosion. Alternatively, construct a trapezoidal grass swale with a flared swale to spread the water out on the edge of the riverine scrub.

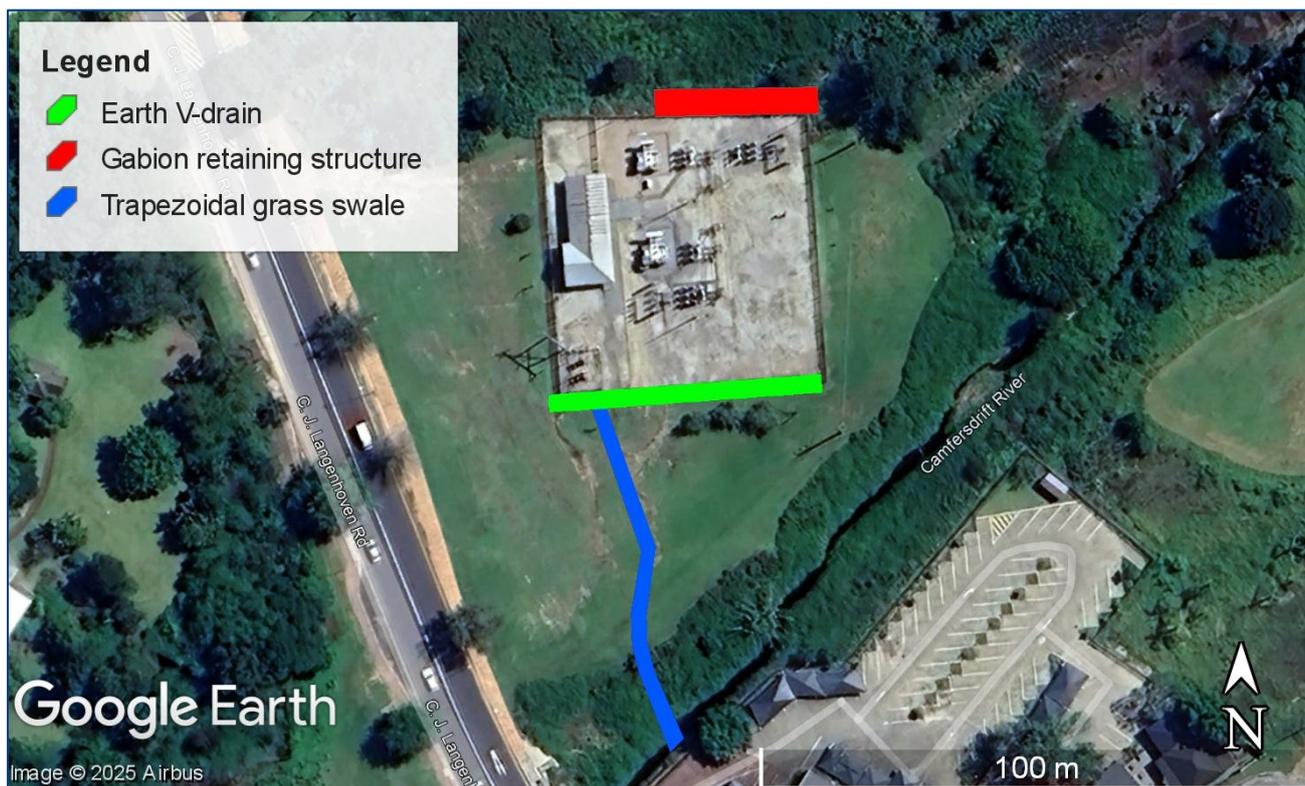


Figure 1-2: Proposed project layout.

According to the Screening Report, generated by the EAP (SES) on 27 March 2025 for the project, the site has been mapped as Low sensitive in the plant species theme, and Very High sensitive in the terrestrial biodiversity theme. The Very High sensitivity is ascribed to the possible presence of a threatened vegetation type and the encroachment of the site on the biodiversity network. As a result, MB Botanical Surveys was contracted to undertake a botanical assessment of the project area.

Terms of Reference

The terms of reference agreed upon for this botanical study include:

- Adhere to the EAP's terms of reference for the study, including a *status quo* assessment, followed by either a Compliance Statement or a Botanical Impact Assessment Report, depending on the outcome of the *status quo* assessment;
- Identify and describe biodiversity patterns at a community and ecosystem level (main vegetation type, plant communities & threatened/vulnerable ecosystems), at species level (Species of Conservation Concern & protected species) and in terms of significant landscape features;
- Describe the sensitivity of the site and its immediate surroundings;
- Map or describe the presence of invasive alien plants;
- Review the relevant biodiversity plans compiled in terms of the National Environmental Management Biodiversity Act (Act 10 of 2004);

- Make recommendations with regards to the protection/management of biodiversity; and
- Adhere to the NEMA and CapeNature guidelines for biodiversity assessments.

Limitations & Assumptions

The following limitations and assumptions apply to the study:

- Since fieldwork was carried out in winter, flowering plants that only flower at other times of the year (e.g. spring to summer), such as certain bulb species (notably from the Iridaceae & Orchidaceae families), may have been missed. However, the overall confidence in the completeness and accuracy of the botanical findings is considered to be good.

Notwithstanding the above limitation and the fact that the site is highly degraded or transformed, the specialist is of the opinion that the survey and findings are adequate to aid decision making. A follow-up botanical survey during spring or early summer is not considered necessary.

Disclaimer & Use of this report

Any person using or referring to this report, do so at their own risk. The author will not accept liability for any loss or damage arising from this report or its content. This report reflects the professional judgment of its author. The information and recommendations presented are specific to the project and site at hand and do not extend to future developments or neighbouring sites. Use of this report is therefore restricted.

2. Site Sensitivity Verification

The Department of Environmental Affairs online Environmental Screening Tool indicates that the plant species theme is of Low sensitivity for the site (see the Screening Report, generated by the EAP on 27 March 2025). The Screening Report further indicates that the terrestrial biodiversity theme is of Very High sensitivity. This rating is ascribed to the possible presence of a terrestrial critical biodiversity area (CBA1), degraded terrestrial critical biodiversity area (CBA2), a degraded ecological support area (ESA2), SWSA (SW) Outeniqua and an endangered ecosystem (i.e. Garden Route Shale Fynbos).

In circumstances where the *status quo* assessment proves the contrary to the above (i.e. where the site is deemed to be of Low sensitivity in respect of both themes, the GN320 of 2020 requires that a Terrestrial Biodiversity Compliance Statement is submitted as set out by the National Environmental Management Act (NEMA) (Act No. 107 of 1998) Regulations of 2020. If the above is confirmed, then a biodiversity assessment will be required.

3. Methodology

The methodology used in this terrestrial biodiversity compliance assessment, including a desktop background assessment and one site visit, is outlined in the subsections below.

Desktop assessment

A brief review of online (e.g. Google Earth, iNaturalist.org & CapeFarmMapper) and desktop resources (available literature & reports) was undertaken to determine the nature of the site, the expected vegetation type(s), the presence of natural vegetation remnants and species of conservation concern (SCC), hydrological features, and the significance of the site in terms of biodiversity planning.

Site survey

A botanical survey of the site was undertaken on 18 July 2025 by the author. A qualitative assessment of the type and condition of affected vegetation on site, disturbances and presence of alien species, SCC and protected tree species was carried out. The path walked during the survey is shown in **Figure 3-1**. Plant species not identified in the field, were collected and/or photographed and identified at the office and Compton (Kirstenbosch) Herbarium. The 2018 South African Vegetation Map and the latest floristic taxonomic literature and reference books were used for the purpose of this specialist study. Any plants classified as rare or endangered in the Red List of South African Plants online database¹ are highlighted. The assessment follows the relevant national guidelines/protocols for biodiversity assessments as listed in the Government Gazette No. 43110 on 20 March 2020.

The following information was recorded during the site visit:

1. The condition of the vegetation. Is the vegetation either disturbed or degraded? A disturbed or degraded area could range from agricultural fields (fallow land), or areas previously disturbed by mining activities, to an area that has been severely eroded or degraded as a result of bad land management or alien infestation.
2. Species diversity (alpha diversity). This refers to the numbers of different indigenous plant species occurring on site.
3. Species of Conservation Concern (SCC), endemics, as well as protected tree species occurring on site. This would include near threatened, rare, vulnerable, endangered or critically endangered species. SCC and protected tree species were mapped using Easy GPS v2.5 software on an iPhone. Accuracy is given as ± 4 m.
4. Identification of the vegetation type(s) and communities (if discernible) on the site.

¹ [Threatened Species Programme | SANBI Red List of South African Plants](#)

This would include trying to establish the known range of a vegetation type and whether or not it is vulnerable, endangered or critically endangered.

5. Connectivity with (or isolation from) nearby natural vegetation.

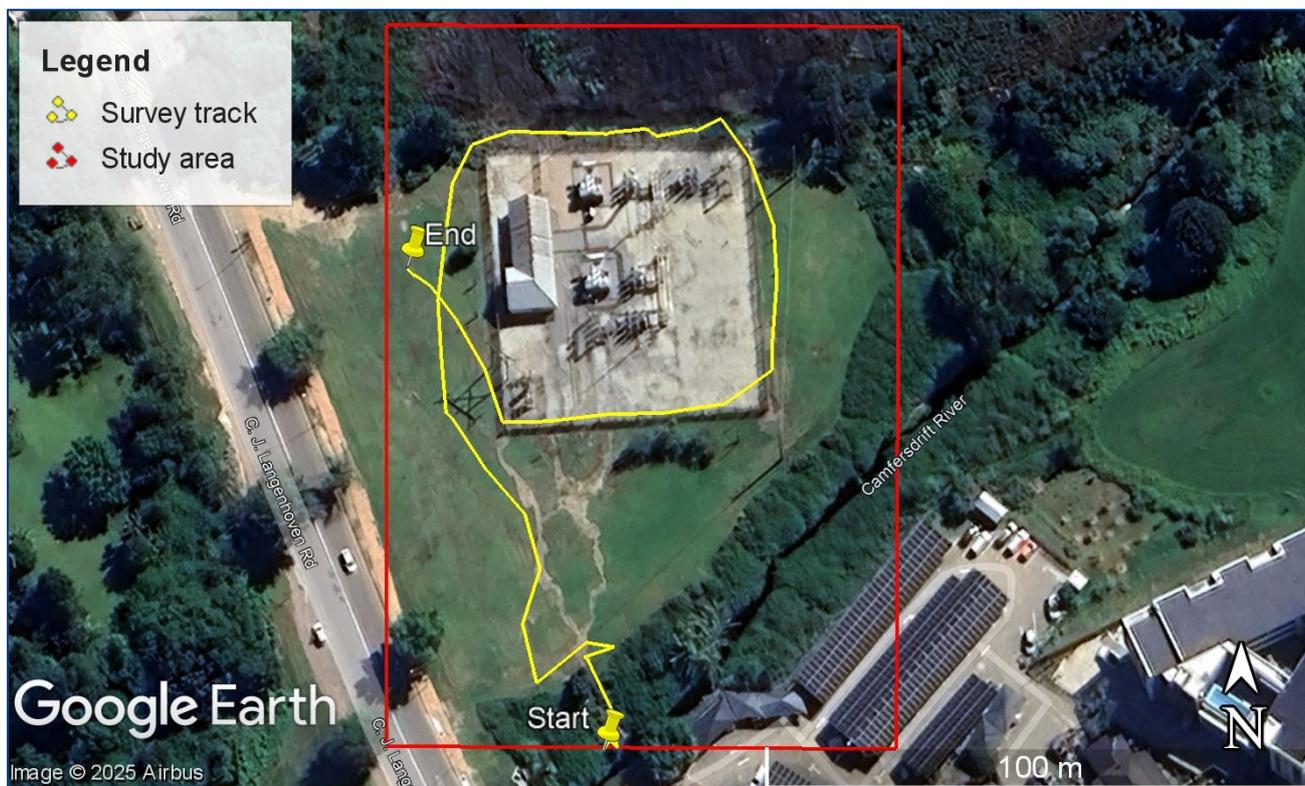


Figure 3-1: Satellite photo showing the survey track on site.

Data analysis

Site ecological importance (SEI) of the affected (receptor) area has been determined by applying the criteria described in the Species Environmental Assessment Guideline (SANBI, 2020). See **Annexure 1** for a description of the SEI methodology. The impact assessment methodology is described in **Annexure 2**.

4. Literature Study

A desktop literature review was undertaken during the biodiversity assessment using both online resources and existing maps and reports. A summary of the most relevant information to this assessment is presented below. Some of the information was ground-truthed during the site survey.

Location, topography & land use

The study site (± 220 masl) is located next to the Camfersdrift River inside George. Apart from the deeply incised river channel, the terrain is relatively flat (**Figure 4-1**). The northern edge of the substation is located on top of an embankment. The site is surrounded by

open spaces, a residential area, a provincial hospital, commercial/business area and a school. Access to the site is gained from the bypassing C.J. Langenhoven Road. The Outeniqua Mountains form a dramatic backdrop 5 km away to the north. The site itself is covered by grasses/weeds, riverine habitat, an electrical substation and a few planted trees (**Figure 4-2**).

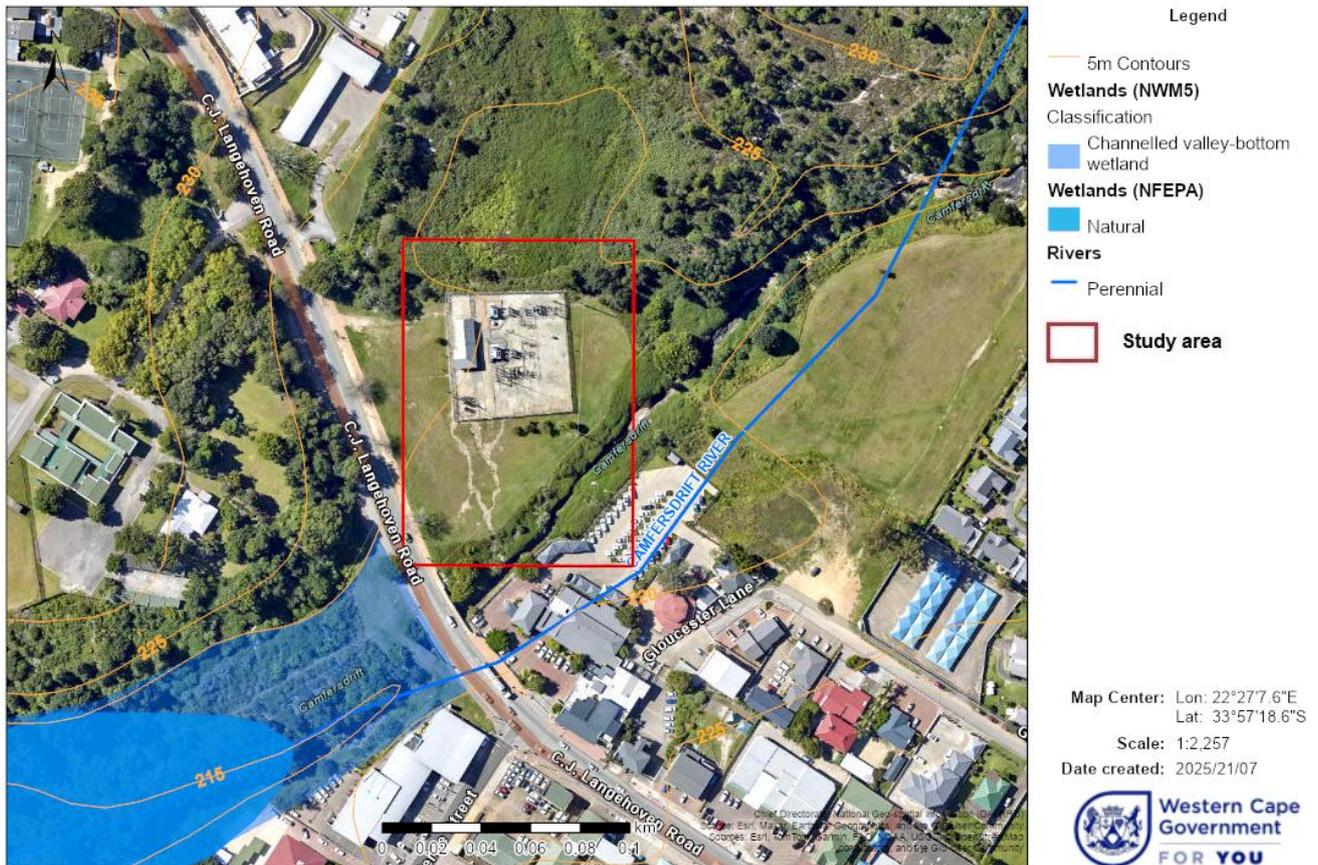


Figure 4-1: Combined topography and hydrology map.

Hydrology

According to CapeFarmMapper, the only watercourse present on the site is the Camfersdrift River, which cuts across the south-eastern corner (**Figures 4-1 & 4-3**). The site survey also revealed a large impoundment on the northern side of the substation (**Figure 4-4**). Both the river and impoundment are highly modified. The riverine corridor downstream from C.J. Langenhoven Road has been mapped as a NWM5 channelled valley-bottom wetland, as well as a National Freshwater Ecosystem Priority Areas (NFEPA) wetland. The NFEPA project provides strategic spatial priorities for conserving South Africa's freshwater ecosystems and supports sustainable use of water resources. The above riverine corridor and impoundment (artificial) have been included in the Western Cape biodiversity network as aquatic (river) and terrestrial critical biodiversity areas (CBA's).



Figure 4-2: View across the southern part of site towards commercial area east of the Camfersdrift River.



Figure 4-3: Camfersdrift River.



Figure 4-4: Impoundment on northern side of substation.

Climate

The mean annual rainfall for the site is 797 mm (as per Cape Farm Mapper climatic data for 1950 to 2000). The peak rainfall periods are the months of March (autumn) and October (spring), while the driest period is the winter months, i.e. bimodal rainfall regime. The study area lies in the transition zone between the winter and summer rainfall regions. Mean monthly maximum and minimum temperatures are 24.4°C and 6.6°C for January/February and July, respectively (as per Cape Farm Mapper data). The Köppen-Geiger climate classification for most of the George area is Cfb (temperate, no dry season, warm summer).

Geology

According to the 3322 Oudtshoorn 1:250 000 geological map, the site is underlain by Kaaimans Group sediments (Saasveld Member), comprising andalusite schist, mica schist and hornfels. The Saasveld Member is about 600 m thick (Toerien, 1979). It is of Namibian age and are of the oldest sediments found in the region. It typically supports shale fynbos in these parts.

Biodiversity Planning Context

Being located inside a highly transformed urban area, there is a notable presence of

purposes. Unfortunately, landscape fragmentation is disrupting this ‘maintenance’ requirement, often leading to localised species loss and bush encroachment or alien infestation (pers. obs.). The high rates of habitat loss place the unit at risk of collapse.

The site falls inside the George biodiversity network (**Figure 4-6**). Being located next to the Camfersdrift River, it includes aquatic and terrestrial critical biodiversity areas (CBA's), as well as a degraded critical biodiversity area (CBA2). These are all aligned with the Camfersdrift River and adjacent tracts of parkland, which act as an ecological corridor linking the Outeniqua Mountains with the coastline. Reasons for the importance of the mapped CBA's include the presence of ecological processes (FEPA river corridor) and water resource protection (Gwaing & South Eastern Coastal Belt). The closest protected area is the Van Kervel Local Authority Nature Reserve, located 1.4 km away to the northeast of the site. The Witfontein Nature Reserve is located ± 3 km away to the north.

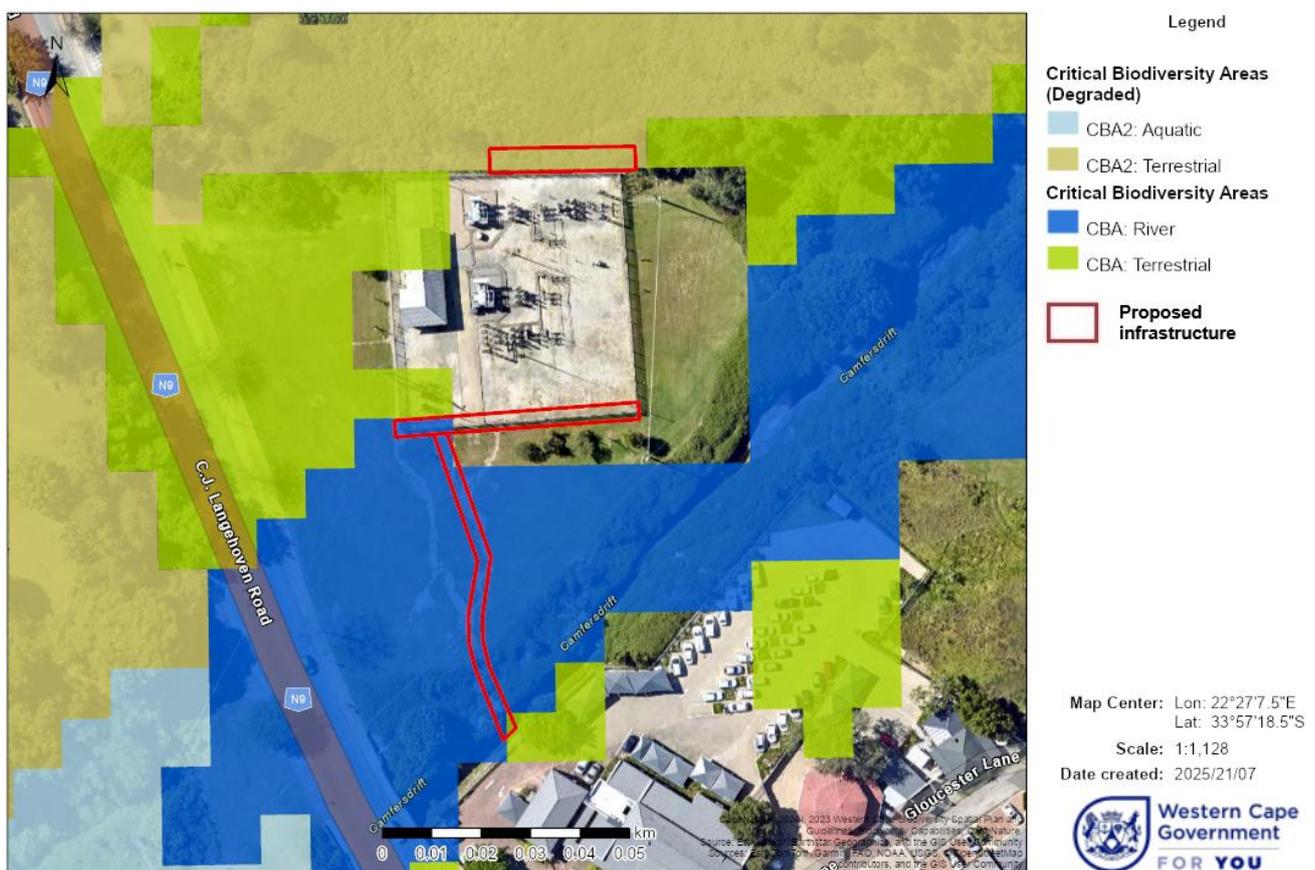


Figure 4-6: Extract of the Western Cape biodiversity network map.

CBA's are defined as areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure (Pool-Stanvliet, 2017). These sites are selected for meeting national targets for species, habitats and ecological processes (Pool-Stanvliet, 2017). Many of these areas support known occurrences of threatened plant species, and/or may be essential elements of designated ecological corridors. Loss of designated CBA's is therefore not recommended. ESA's, on the other hand, are supporting zones required to prevent the degradation of CBA's and Protected Areas. ESA's must be managed to minimize impact on ecological

processes and ecological infrastructure functioning, especially soil and water-related services, and to allow for faunal movement.

5. Results

In order to fulfil in the requirements of the terrestrial biodiversity and plant species protocols, this section describes the vegetation (terrestrial biodiversity) and plant species encountered in two subsections. In the plant species subsection specific reference is made to species of conservation concern (SCC) and protected tree species.

Terrestrial biodiversity (vegetation)

The area around the substation is highly transformed/modified, comprising a flat grassy area leading to the Camfersdrift River, and an embankment/impoundment on the northern side of substation (**Figures 5-1 to 5-3**). Most of the indigenous species recorded are associated with the riparian habitat next to the Camfersdrift River. However, the latter is also modified by past development activities. No proper fynbos was encountered, only some riparian scrub associated with the river. The quality of the latter is also poor due to a high presence of pioneers and invasive species. The rest of the site, including the embankment, is covered by grasses and weeds. The botanical attributes of the site are presented in **Figure 5-4**.



Figure 5-1: Grassy area south of the substation and approximate route for the trapezoidal grass swale.



Figure 5-2: Riparian scrub next to the Camfersdrift River. The dominant shrub is *Cliffortia odorata*.



Figure 5-3: Embankment and impoundment on northern side of substation.

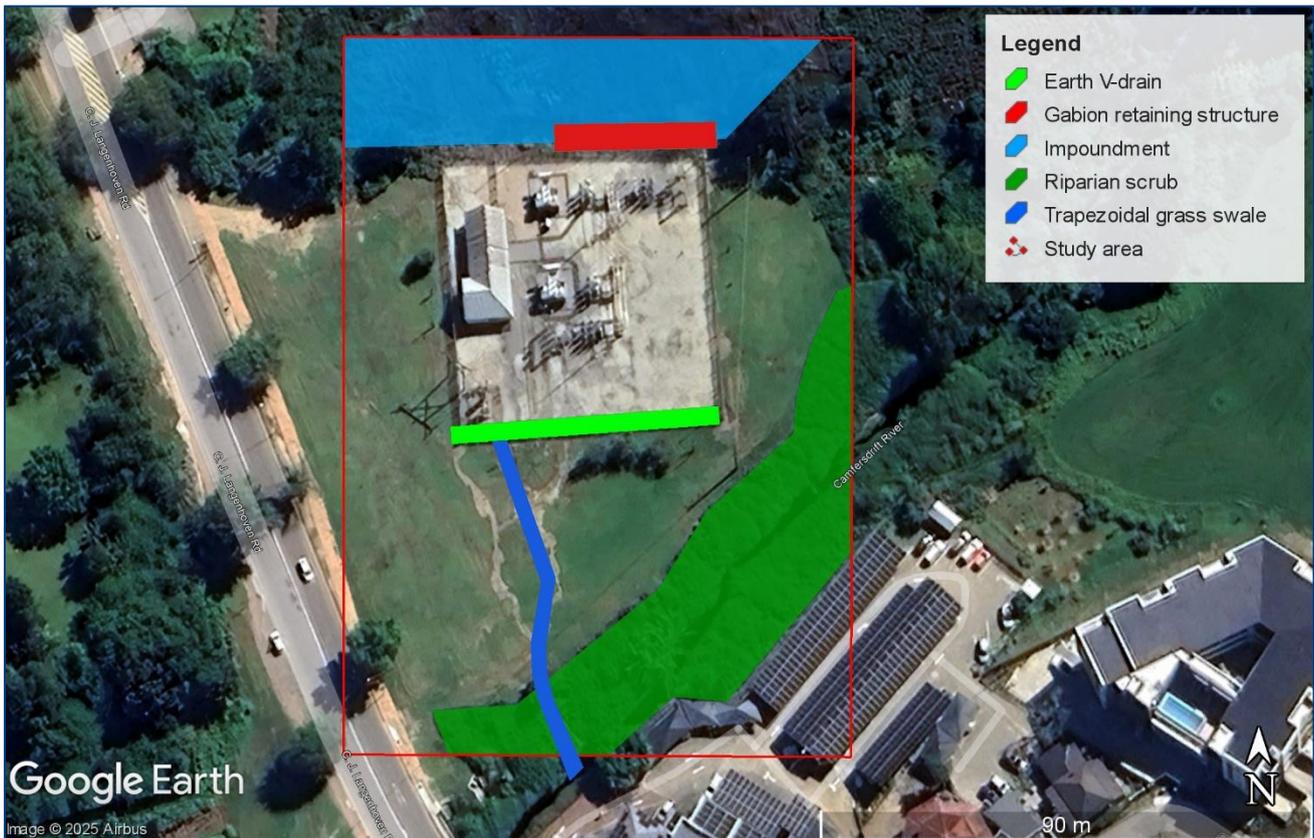


Figure 5-4: Botanical attributes of the site. The untoned areas are highly transformed.

Plant species

The following indigenous shrub species were recorded on site, namely *Helichrysum petiolare*, *H. cymosum*, *H. foetidum*, *Pseudognaphalium undulatum*, *Senecio rigidus*, *Delairea odorata*, *Nidorella ivifolia*, *Crassula sarmentosa* (introduced), *Cliffortia odorata* (dominant) and *Gomphocarpus physocarpus*. Hemicryptophytes and geophytes recorded include *Cheilanthes viridis*, *Pteridium aquilinum*, *Isolepis prolifera*, *Cynodon dactylon*, *Commelina* sp, *Zantedeschia aethiopica* and *Wachendorfia thyrsiflora*. Nearly all of them are associated with the riparian scrub next to the Camfersdrift River. Floristic association with Garden Route Shale Fynbos is poor. Only *Helichrysum cymosum* and *Pteridium aquilinum* are considered to be important taxa in the latter, which is indicative of the transformed state of the site. Also, no Species of Conservation Concern (SCC) or protected tree species, such as kasuur or milkwood, were recorded. All the recorded species are widespread and common in the region.

Alien species recorded on site include *Acacia mearnsii* (black wattle, category 2), *A. melanoxylon* (blackwood, 2), *Phytolacca octandra* (inkberry, 1b), *Solanum mauritianum* (bugweed, 1b), *Cirsium vulgare* (spear thistle, 1b), *Erigeron cf sumatrensis* (fleabane), *Datura stramonium* (olieboom, 1b), *Physalis peruviana* (gooseberry), *Verbena bonariensis* (purple top, 1b), *Arundo donax* (Spanish reed, 1b) and *Paspalum urvillei* (giant paspalum).

Figure 5-5 shows a few of the alien species. As indicated above, the majority are Category 1b and 2 invaders. In terms of the National Environmental Management: Biodiversity Act

(NEMBA) (Act 10 of 2004) Alien and Invasive Species List (2016), category 1b invasive species require compulsory control as part of an invasive species control programme. Also, the harbouring of category 2 species, such as black wattle and blackwood, is prohibited without a permit. Black wattle, which is indicative of past disturbances, is considered a serious threat to the environment and very difficult to control.



Figure 5-5: Alien species recorded on site, with *Acacia melanoxylon* (top left), *A. mearnsii* (top right), *Cirsium vulgare* (bottom left) and *Solanum mauritianum* (bottom right).

Site Ecological Importance

Due to the transformed/modified state of the site, a site ecological importance (SEI) map was not prepared. Even the riparian habitat will score a low SEI value as it should recover quickly following construction work. Please note that this assessment only considered the terrestrial biodiversity value of the affected habitats, not the aquatic or hydrological value.

6. Potential Impacts

Terrestrial biodiversity (vegetation)

The site is highly transformed or degraded by past construction activities. There is also a

notable presence of invasive species. However, the Camfersdrift River and adjacent riparian zone on the southern side is worth protecting as a water resource. Two options are presented for the proposed outlet of the grass swale, namely an outlet inside the riparian zone or a flared swale to spread the water out on the edge of the riverine scrub. Due to the modified state of the riverbank, both options are acceptable, provided that neither will result in erosion or further degradation of the riverine habitat. The author cannot comment on which option is best suited in this regard. The affected vegetation is not of botanical interest but protects the riverbank from erosion. It may also have value as an ecological corridor for certain biota to move upstream or downstream, at least theoretically. The rest of the site, including the impoundment on northern side of substation, does not present any botanical constraints.

The project encroaches on the biodiversity (CBA) network. However, no permanent impact is expected on the network due to the nature of the project. One can expect a temporary impact on its functionality. The only mitigation measures for impacts in this regard would be to rehabilitate the affected area of the Camfersdrift River after construction, encourage the re-establishment of indigenous vegetation, and implement alien control. As an indirect impact, earthworks during the construction phase will provide ideal conditions for the establishment of invasive alien species. A high presence of aliens, such as black wattle, blackwood and bugweed, will exacerbate this impact. **Table 6-1** summarises the impact on terrestrial biodiversity.

Table 6-1: Impact on terrestrial biodiversity.

Phase	Construction Phase	Operational Phase
Nature of impact(s)	<ul style="list-style-type: none"> - Minor clearing (damage) of riverine scrub. - Temporary impact on the functionality of biodiversity network. - Increased opportunity for alien infestation. - Pollution of watercourse. 	<ul style="list-style-type: none"> - Increased alien infestation. - Erosion due to poor rehabilitation efforts or stormwater control.
Extent of impact	Development footprint & immediate surroundings	Development footprint & immediate surroundings
Duration	Short to medium term	Long term
Intensity	Low	Low
Probability of occurrence	Medium	Medium
Degree of reversibility	Medium-high	High
Irreplaceability of resource	Medium	Medium-low
Mitigatory potential	High	High
Significance before mitigation	Low	Low
Significance after mitigation	Very low	Low

Plant species

The impact on plant species, including potential SCC, is also expected to be of low significance. The species recorded are widespread and common in the region. No SCC were recorded, and none are expected to occur on site. Also, no protected tree species were detected. **Table 6-2** summarises the impact on plant species.

Table 6-2: Impact of the project on flora & potential SCC.

Phase	Construction Phase	Operational Phase
Nature of impact(s)	- Loss of indigenous flora & potential SCC	- Alien infestation & resulting displacement of indigenous flora
Extent of impact	Development footprint & immediate surroundings	Development footprint & immediate surroundings
Duration	Short to medium term	Long term
Intensity	Low	Low
Probability of occurrence	Medium	Medium
Degree of reversibility	Medium-high	High
Irreplaceability of resource	Medium	Medium-low
Mitigatory potential	High	High
Significance before mitigation	Low	Low
Significance after mitigation	Very low	Low

The **cumulative botanical impact** of the project is expected to be equivalent to the impact on terrestrial biodiversity and plant species described above, i.e. the continued erosion of Garden Route Shale Fynbos, the biodiversity network, as well as the loss of plant species. In this instance, the slight loss of biodiversity and resultant cumulative impact will be acceptable, due to the transformed or degraded state of the site. The affected riverine area on the southern side of site can be rehabilitated.

7. Recommended Mitigation Measures

The following mitigation measures are recommended to ensure that the impact on terrestrial biodiversity and plant species is minimised during the **construction phase**:

- Fence off the construction area where it encroaches on the Camfersdrift River. The watercourse and adjacent riparian zone outside the works area must not be disturbed in any way.
- Rehabilitate the watercourse and riparian zone by removing all the invasive aliens within 30 m of the construction area. Planting of a few locally indigenous species

suitable for the habitat may also be required. Remove all construction waste from the area once construction is completed.

- Allow at least 24 months for the monitoring of rehabilitation success and alien infestation on the site post construction.

Mitigation measures recommended for the **operational phase**:

- Monitor the area bordering on the new infrastructure for rehabilitation success and erosion. Where needed, rehabilitate/revegetate disturbed surfaces expediently. Erosion prevention measures may be needed on steep slopes, such as logs or netting, to slow down runoff and potential erosion. Mulching and seeding with indigenous fynbos seed may also be needed.
- As a long-term maintenance requirement, keep the site and immediate surrounding area clear of invasive aliens, focussing on species such as black wattle, blackwood, inkberry, bugweed, spear thistle and Spanish reed. These species are category 1b and 2 invaders that require compulsory control as part of an invasive species control programme. Please note that it is a legal requirement for landowners to clear alien vegetation on their land.

8. Conclusion & Recommendations

This report sets out the results from a desktop study, as well as a field survey conducted on 18 July 2025, to ascertain the terrestrial biodiversity and plant species constraints and possible impacts associated with proposed flood damage repairs to the Langenhoven substation in George. The site is situated next to the Camfersdrift River on Remainder of Erf 464 and Erf 20781.

The site is highly transformed or degraded by past construction activities. There is also a notable presence of invasive species. However, the Camfersdrift River and adjacent riparian zone on the southern side is worth protecting as a water resource. Two options are presented for the proposed outlet of the grass swale, namely an outlet inside the riparian zone or a flared swale on the edge of the riverine scrub. Due to the modified state of the riverbank, both options are acceptable, provided that neither will result in erosion or further degradation of the riverine habitat. No SCC were recorded, and none are expected to occur on site. Given the transformed or degraded state of the site, the impact on terrestrial biodiversity and plant species is of low significance.

It is therefore recommended that the proposed project be considered for approval, but subject to the proposed mitigation measures listed above.

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Annexure 1: Impact Assessment Methodology

Each issue that is identified consists of components that on their own or in combination with each other give rise to potential impacts, either positive or negative, from the project onto the environment or from the environment onto the project. In the EIA the significance of the potential impacts is considered before and after identified mitigation is implemented, for direct, indirect, and cumulative impacts, in the short and long term.

A description of the nature of the impact, any specific legal requirements and the stage (construction/decommissioning or operation) were given. The following criteria will be used to evaluate the significance of each issue that was identified:

Nature: This is an appraisal of the type of effect the activity is likely to have on the affected environment. The description includes what is being affected and how. The nature of the impact will be classified as positive or negative, and direct or indirect.

❖ **Extent and location:** This indicates the spatial area that may be affected (**Table 1**).

Table 1: Geographical extent of impact

Rating	Extent	Description
1	Site	Impacted area is only at the site – the actual extent of the activity.
2	Local	Impacted area is limited to the site and its immediate surrounding area
3	Regional	Impacted area extends to the surrounding area, the immediate and the neighbouring properties.
4	Provincial	Impact considered of provincial importance
5	National	Impact considered of national importance – will affect entire country.

❖ **Duration:** This measures the lifetime of the impact (**Table 2**).

Table 2: Duration of Impact

Rating	Duration	Description
1	Short term	0–3 years, or length of construction period
2	Medium term	3–10 years
3	Long term	>10 years, or entire operational life of project.
4	Permanent – mitigated	Mitigation measures of natural process will reduce impact – impact will remain after operational life of project.
5	Permanent – No mitigation	No mitigation measures of natural process will reduce the impact after implementation – impact will remain after operational life of project.

❖ **Intensity/severity:** This is the degree to which the project affects or changes the environment; it includes a measure of the reversibility of impacts (**Table 3**).

Table 3: Intensity of Impact

Rating	Intensity	Description
1	Negligible	Change is slight, often not noticeable, natural functioning of environment not affected.
2	Low	Natural functioning of environment is minimally affected. Natural processes can be reversed to their original state.
3	Medium	Environment remarkably altered, still functions, if in modified way. Negative impacts cannot be fully reversed.
4	High	Natural functions and processes disturbed – potentially ceasing to function temporarily.
5	Very high	Natural functions and processes permanently cease, and valued, important, sensitive or vulnerable systems or communities are substantially affected. Negative impacts cannot be reversed.

- ❖ **Potential for irreplaceable loss of resources:** This is the degree to which the project will cause loss of resources that are irreplaceable (**Table 4**).

Table 4: Potential for irreplaceable loss of resources.

Rating	Potential for irreplaceable loss	Description
1	Low	No irreplaceable natural resources will be impacted.
3	Medium	Natural resources can be replaced, with effort.
5	High	There is no potential for replacing a particular vulnerable resource that will be impacted.

- ❖ **Probability:** This is the likelihood or the chances that the impact will occur (**Table 5**).

Table 5: Probability of Impact

Rating	Probability	Description
1	Improbable	Under normal conditions, no impacts expected.
2	Low	The probability of the impact to occur is low due to its design or historic experience.
3	Medium	There is a distinct probability of the impact occurring.
4	High	It is most likely that the impact will occur.
5	Definite	The impact will occur regardless of any prevention measures.

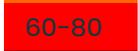
- ❖ **Confidence:** This is the level of knowledge or information available, the specialist had in his/her judgement (**Table 6**).

Table 6: Confidence in level of knowledge or information

Rating	Confidence	Description
	Low	Judgement based on intuition, not knowledge/information.
	Medium	Common sense and general knowledge inform decision.
	High	Scientific/proven information informs decision.

- ❖ **Consequence:** This is calculated as extent + duration + intensity + potential impact on irreplaceable resources.
- ❖ **Significance:** The significance will be rated by combining the consequence of the impact and the probability of occurrence (i.e. consequence x probability = significance). The maximum value which can be obtained is 100 significance points (**Table 7**).

Table 7: Significance of issues (based on parameters)

Rating	Significance	Description
 1-14	Very low	No action required.
 15-29	Low	Impacts are within the acceptable range.
 30-44	Medium-low	Impacts are within the acceptable range but should be mitigated to lower significance levels wherever possible.
 45-59	Medium-high	Impacts are important and require attention; mitigation is required to reduce the negative impacts to acceptable levels.
 60-80	High	Impacts are of great importance, mitigation is crucial.
 81-100	Very high	Impacts are unacceptable.

- ❖ **Cumulative Impacts:** This refers to the combined, incremental effects of the impact. The possible cumulative impacts will also be considered.