

**WEST END OFFICE BUILDING
GREEN STAR SA – OFFICE V1
Eco-Conditional Requirement**

SEF Reference No. 505449

Prepared for:

Abland (Pty) Ltd

Abcon House
Fairway Office Park
52 Grosvenor Road
Bryanston
2021

Prepared by:

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S · E · F

S T R A T E G I C E N V I R O N M E N T A L F O C U S

February 2014

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Declaration of Independence by Ecologist

I, **BYRON GRANT**, in my capacity as a specialist consultant, hereby declare that I -

- Act as an independent consultant;
- Do not have any financial interest in the undertaking of the activity, other than remuneration for the work performed in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- Have and will not have vested interest in the proposed activity proceeding;
- Have no, and will not engage in, conflicting interests in the undertaking of the activity;
- Undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- Will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not;
- As a registered member of the South African Council for Natural Scientific Professions, will undertake my profession in accordance with the Code of Conduct of the Council, as well as any other societies to which I am a member;
- Based on information provided to me by the project proponent and in addition to information obtained during the course of this study, have presented the results and conclusion within the associated document to the best of my professional ability; and
- Undertake to have my work peer reviewed on a regular basis by a competent specialist in the field of study for which I am registered.



Byron Grant Pr. Sci. Nat.
Senior Natural Scientist
SACNASP Reg. No. 400275/08

20/02/2014

Date

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1. PROJECT DESCRIPTION

Strategic Environmental Focus (Pty) Ltd, as independent environmental practitioners and ecological specialists, was appointed by Abland (Pty) Ltd to verify the eligibility of a proposed development of the West End Office Building for the Conditional Requirement for Green Star SA Credits Office v1 in terms of Land Use and Ecology.

1.1 Terms of Reference

The following were determined to be the Terms of Reference for the present assessment:

1. Review the existing information pertaining to the site and the proposed project;
2. Compile a short report for the purpose of the Eco-00 Conditional Requirement, providing an assessment on the following:
 - a description of the actual site as it presently stands
 - a description of the bioregion and vegetation type located on the site.
 - is the site located on prime agricultural land
 - is the site located on or within 100m buffer of vegetation of high ecological value
 - does the site have a confirmed presence or high probability of threatened red listed species or within a defined buffer relevant to the specific threatened or listed species or habitat.
 - Is the site located within a 100 year floodplain
 - Is the site located within 100m of a water course – if yes define whether the watercourse is of high or low ecological value.

This report presents the findings and opinion following an assessment of the area of proposed development and relevant literature and data. The site visit was conducted on the 30th of January 2014.

1.2 Assumptions and Limitations

The assessment provided herewith is based on a cursory site inspection conducted prior to the commencement of construction activities and is not based on a comprehensive ecological assessment of the surrounding areas. Strong reliance was therefore placed on data from Geographic Information Systems (GIS). Nevertheless, results obtained during the cursory site visit are deemed acceptable for the purposes of the Green Star Rating system. The Green Building Council of South Africa (GBCSA), however, reserves the right to provide the final ruling on a project's compliance with the Conditional Requirement.

Further, several data sources list the watercourse associated with the proposed West End Office Park as either the Hennops River or the Sesmylspruit. For the purposes of maintaining consistency within the report, the associated watercourse is referred to as the Sesmylspruit in accordance with the spatial data used during the course of the present investigation.



Figure 1: Location of proposed West End Office Building associated with the present study

2. SITE DESCRIPTION

The proposed West End Office Building study site is located south of Von Willich Avenue off Hall Street in Centurion, Gauteng (Figure 1). At the time of the cursory site visit conducted as part of this assessment, construction activities were already present on site

3. COMPLIANCE TO CONDITIONAL REQUIREMENT

The information gathered was weighed against the Eco-Conditional Requirement. Each fulfilment of the Requirement is discussed below. The Conditional Requirements (**R**) are met where the project development footprint:

R Is not located on prime agricultural land. Refurbishments/redevelopments that remain within the existing development footprint are exempt from this criterion;

Response:

A topsoil assessment was conducted by SEF (2014), which indicated that the soil was recorded as being shallow with the majority of profiles falling within the range of 20mm – 30mm depth and the original soil horizon sequence being lost. This is as a result of the reshaping of the original topography of the area, the removal of soil for past building purposes as well as the dumping of outside soil on top of the original soil profile.

Soils were classified as one soil type, Hutton, however soil profiles were recorded as being mixed as a result of the spreading of the soil heap present on site in order to facilitate development, and the original sequence of soil horizons was not identified. Topsoil, when identified, was mixed with the sub-horizon and showed a marked loss of organic matter as well as silicate clay. The soil is not considered productive without the addition of appropriate fertilisers, organic material, or nutrient supplements.

It is understood that, prior to the initiation of construction activities, the site was occupied by a derelict house and vagrants, and was used by contractors from adjacent developments as a dumping ground for removed earth (Figure 2) and an informal dumping ground (Figure 3), with the result that a large soil heap as well as significant solid refuse and rubble was present on the proposed site prior to the initiation of construction activities. Following the obtaining of the necessary environmental approvals, the soil heap (along with the associated solid refuse and rubble that was also previously dumped on the site) was spread across the site in order to prepare the site for development.

However, according to the Gauteng Agricultural Potential Atlas (Version 3; GDARD 2011), the site of the proposed West End Office development is considered as having low agricultural potential.

As such, the proposed West End Office Building meets this requirement/criterion

- R** Is not located on vegetation of high ecological value or within a 100 metre buffer of vegetation of high ecological value. Refurbishments/redevelopments that remain within the existing development footprint are exempt from this criterion;

Response: *It is understood that, prior to the initiation of construction activities, the site was occupied by a derelict house and vagrants, and was used by contractors from adjacent developments as a dumping ground for removed earth (Figure 2) and an informal dumping ground (Figure 3), with the result that a large soil heap as well as significant rubble was present on the proposed site prior to the initiation of construction activities. Following the obtaining of the necessary environmental approvals, the soil heap (along with the associated solid refuse and rubble that was also previously dumped on the site) was spread across the site in order to prepare the site for development (Figure 4).*

During the site visit conducted as part of the present study, it was determined that the soil heap and rubble that was present on site prior to the initiation of construction activities had been spread over the larger area, encroaching into the riparian area (Figure 5; Figure 6). As a result, much of the original vegetation present on site prior to the initiation of construction activities has been buried. The vegetation identified to still remain within the boundaries of the proposed West End Office Building comprised primarily of alien floral species as a result of the degree of disturbances that have occurred (i.e. as a result of infilling), with only limited indigenous vegetation present (Appendix A).

Further, the southern portion of the proposed West End Office Building site is located within the boundary of a Critical Biodiversity Area, as identified by the Gauteng C-Plan (Version 3.3; GDARD, 2011) (Figure 7). Further interrogation indicated that this was designated as a Critical Biodiversity Area due to the presence of Orange-listed plant habitat, Red-listed mammal habitat, Red-listed bird habitat, as well as the presence of primary vegetation (GDARD, 2011). The spreading of the soil heap and rubble across the area has therefore had significant impact on the extent of the Critical Biodiversity Area identified to be associated with the proposed West End Office Building, in that the spreading of the soil heap and rubble prior to construction has already resulted in a degree of loss of attributes for which the Critical Biodiversity Area was identified (i.e. loss of Orange-listed plant habitat, Red-listed mammal habitat, Red-listed bird habitat, as well as the loss of presence of primary vegetation).

As such, the proposed West End Office Building does not meet this requirement/criterion due to the fact that the spreading of the soil heap and rubble within the site has resulted in the destruction of vegetation and the decrease in the extent of the Critical Biodiversity Area previously associated with the southern portion of the site.



Figure 2: Soil heap present within the study area prior to the initiation of construction activities (photo dated 25/09/2012)



Figure 3: Evidence of dumping of solid refuse and rubble within the study area (photo dated 25/09/2012)



Figure 4: Activities associated with the spreading of the soil heap within the study area (photo taken on the 25/10/2012)



Figure 5: Condition of site at the time of the present assessment, with soil heap spread across the site



Figure 6: Encroachment of infilling into the riparian zone of the Sesmyslspruit and confinement of the 1:100-year floodline

- R** Is not located on land with confirmed presence or high probability of threatened red listed species, or within a defined buffer relevant to the specific threatened red listed species or habitat found. Refurbishments/redevelopments that remain within the existing development footprint are exempt from this criterion;

Response: *As indicated previously, it was determined that much of the natural vegetation had already been lost from the site as a result of the spreading of the soil heap and rubble, thus not allowing for the determination of whether the site is located on land with a confirmed presence of threatened red-listed species. Further, the association of the southern portion of the proposed site with a Critical Biodiversity Area designated as such due to the present of red-listed mammal habitat and red-listed bird habitat.*

According to GDARD (2012), all suitable habitat for red-listed mammal species associated with wet habitats observed or potentially occurring on the site must be mapped and designated as sensitive, including the appropriate buffers for wetlands and rivers, which is the case of Gauteng is 30m from the edge of the wetland or 32m from the edge of the riparian zone within the urban edge, whichever is greater. The buffer designation for Red-listed birds is considered to be species-specific, and the species for which the Critical Biodiversity Area was designated was not available at the time of writing. Further, the southern portion of the site is located within a wetland buffer (Figure 8), which largely corresponds with the designation of the south-east corner as a Critical Biodiversity Area (GDARD, 2011).

The spreading of the soil heap and rubble across the area has therefore had significant impact on the extent of the Critical Biodiversity Area identified to be associated with the proposed West End Office Building, in that the spreading of the soil heap and rubble prior to construction has already resulted in a degree of loss of attributes for which the Critical Biodiversity Area was identified (i.e. loss of Orange-listed plant habitat, Red-listed mammal habitat, Red-listed bird habitat, as well as the loss of presence of primary vegetation).

Accordingly, the proposed West End Office Building does not meet this requirement/criterion based on the proximity of the proposed development to identified red-listed mammal habitat and red-listed bird habitat. This is further supported due to the fact that much of the vegetation present on site prior to the commencement of construction activities has been buried during the spreading of the soil heap and rubble, thus not allowing for the confirmation that the site is not located on land with a confirmed presence or high probability of threatened Red-listed species.

- R** Is not located within the required buffer zones of watercourses including:
- The project development footprint must not fall within the 100 year floodplain.
 - Watercourses of 'high ecological value': A project's development footprint can be located on land within 100 meters of a watercourse of 'high ecological value' only if the building is a refurbishment that remains within the existing development footprint and the watercourse Protection Measures have been completed; or
 - Watercourses NOT of 'high ecological value': A project's development footprint can be located on land within 100 meters of a watercourse that is NOT of 'high ecological value' only if the Watercourse Protection Measures have been completed.

Response: *According to MWLF Architect (2011; Appendix B), the proposed site of the West End Office Building is not located within the 1:100 floodline. However, based on the degree of infilling observed on site and the proximity of the proposed site of the West End Office Building, it is unlikely that the flood lines provided in Appendix B are reflective of the natural flood lines. Further interrogation of information associated with the proposed West End development indicates that the original 1:100-year floodline prior to infilling passed within the boundaries of the proposed development footprint, although the office building itself remains marginally outside the 1:100-year floodline (Appendix C). This discrepancy relating to the 1:100-year floodline data provided was determined to be as a result of the spreading of the soil heap and rubble, which has resulted in the confinement of the 1:100-year floodline.*

It is further noted that the stormwater which drains from the site is discharged directly within the original 1:100-year floodline without any attenuation features present. Although a gabion mattress was noted to be installed at the discharge point, the gabion is likely to collapse in due course as a result of erosion processes and undercutting due to improper gabion installation.

According to the Green Building Council of South Africa, the development footprint is defined as the extent of all disturbance to the site, including the building footprint, parking areas, roads, landscaping and water detention and treatment areas. Also, according to Technical Clarification No. ECO0-T-OB1-0077 (GBCSA, 2010), “the development footprint includes all temporary work or structures erected by the contractor. The intent of restricting the extent of the development footprint is to minimise the disturbance to ecologically valuable land”. Based on the above, the spreading of the soil heap can be considered a landscaping activity, and thus the extent of the soil heap spreading is considered to constitute the extent of the development footprint. As such, the project’s development footprint falls within the 1:100-year floodline.

Further, based on aerial imagery, the proposed site of the West End Office Building is located within 100m of the Sesmyspruit, which, as a riverine ecosystem, is not considered to be of high ecological value as the river is currently in a highly modified state as a result of the large loss of natural habitat, biota and basic ecosystems has occurred. However, according to GDARD (2011), the southern portion of the site is located within a wetland buffer (Figure 8), which largely corresponds with the designation of the southern portion as a Critical Biodiversity Area, therefore indicating that wetland habitat associated with the Sesmyspruit is considered of high ecological value due to the support provided to Orange-listed plants, Red-listed mammals, Red-listed birds, as well as the presence of primary vegetation. However, confinement of the 1:100-year floodline as a result of the spreading of the soil heap and rubble within the larger West End Office Park has already resulted in a degree of loss of attributes for which the Critical Biodiversity Area was identified (i.e. loss of Orange-listed plant habitat, Red-listed mammal habitat, Red-listed bird habitat, as well as the loss of presence of primary vegetation). Further, the stormwater which drains from the site is discharged directly into this wetland buffer, and not attenuated prior to release.

In addition, the proposed West End Office Building is not considered a refurbishment due to the expansion of the pre-existing footprint, and as such, the development of Watercourse Protection Measures as a result of the development’s location within 100m of a watercourse does not apply.

Accordingly, the proposed West End Office Building does not meet this requirement/criterion

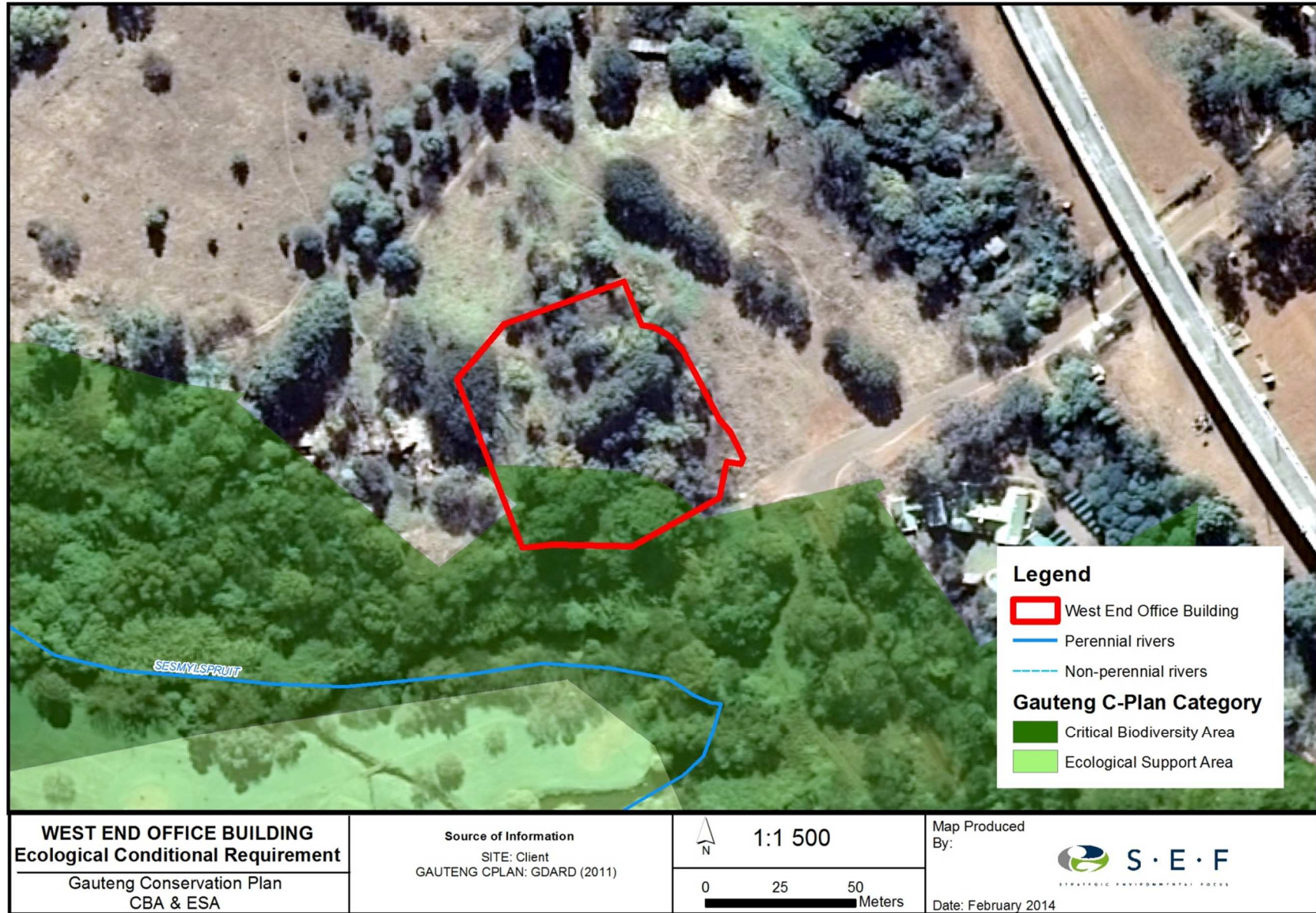


Figure 7: Location of study area in relation to conservation features

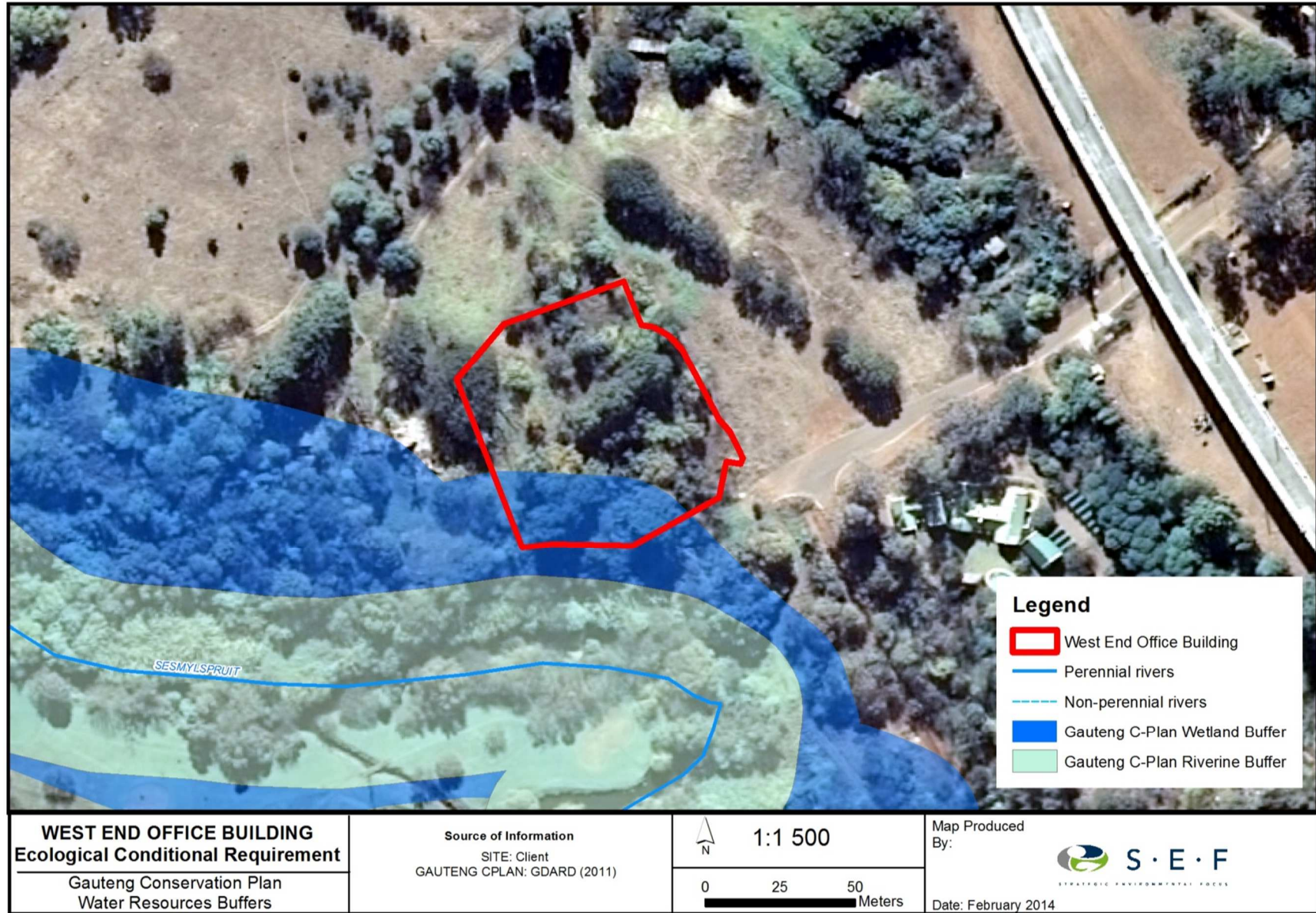


Figure 8: Water resources buffers according to GDARD (2011)

4. CONCLUSION

Based on the information obtained during assessment of the proposed West End Office Building for the purposes of Green Star Application, it was determined that the proposed West End Office Building does not meet the requirements/criteria of the GBCSA Ecological Conditional Requirement (Eco-00).

5. REFERENCES

Gauteng Department of Agriculture and Rural Development (2011). Gauteng C-Plan, Version 3.3.

Gauteng Department of Agriculture and Rural Development (2012). Sensitivity Mapping Rules for Biodiversity Assessments. In: *GDARD Requirements for Biodiversity Assessments, Version 2*.

South African National Biodiversity Institute (2014). Biodiversity Geographic Information System <http://bgis.sanbi.org> Accessed 19/02/2014.

Strategic Environmental Focus (2014). West End Office Park Topsoil Survey: Eco-1. SEF Reference No. 505449.

6. APPENDICES

Appendix A:	List of vegetation species observed within the proposed West End Office Building site
Appendix B:	West End Office Park erf 805 De Hoewes X286 (was ptn 269 of erf 267, Lyttelton Farm): Site Plan – GH & Building 1 (MWLF Architects)
Appendix C:	West End Office Park erf 805 De Hoewes X286 (was ptn 269 of erf 267, Lyttelton Farm): Site Plan – Overall Site Plan (MWLF Architects)
Appendix D:	Byron Grant <i>Pr. Sci. Nat. - Curriculum Vitae</i>
Appendix E:	Karin van der Walt <i>Cert. Sci. Nat. - Curriculum Vitae</i>

APPENDIX A: LIST OF VEGETATION SPECIES OBSERVED WITHIN THE PROPOSED WEST END OFFICE BUILDING SITE

Alien plant species

Datura stramonium

Datura ferox

Melia azedarach

Solanum mauritianum

Bidens sp.

Pinus patula

Eriobotrya japonica

Mirabilis jalapa

Cotoneaster freanchetii

Lantana camara

Amaranthus sp.

Chenopodium ambrosioides

Argemone achroleuca

Verbena bonariensis

Verbena aristigera

Araujia sericifera

Ipomoea purpurea

Opuntia ficus-indica

Morus alba

Eucalyptus sp.

Indigenous plant species

Celtis africanus

Acacia karroo

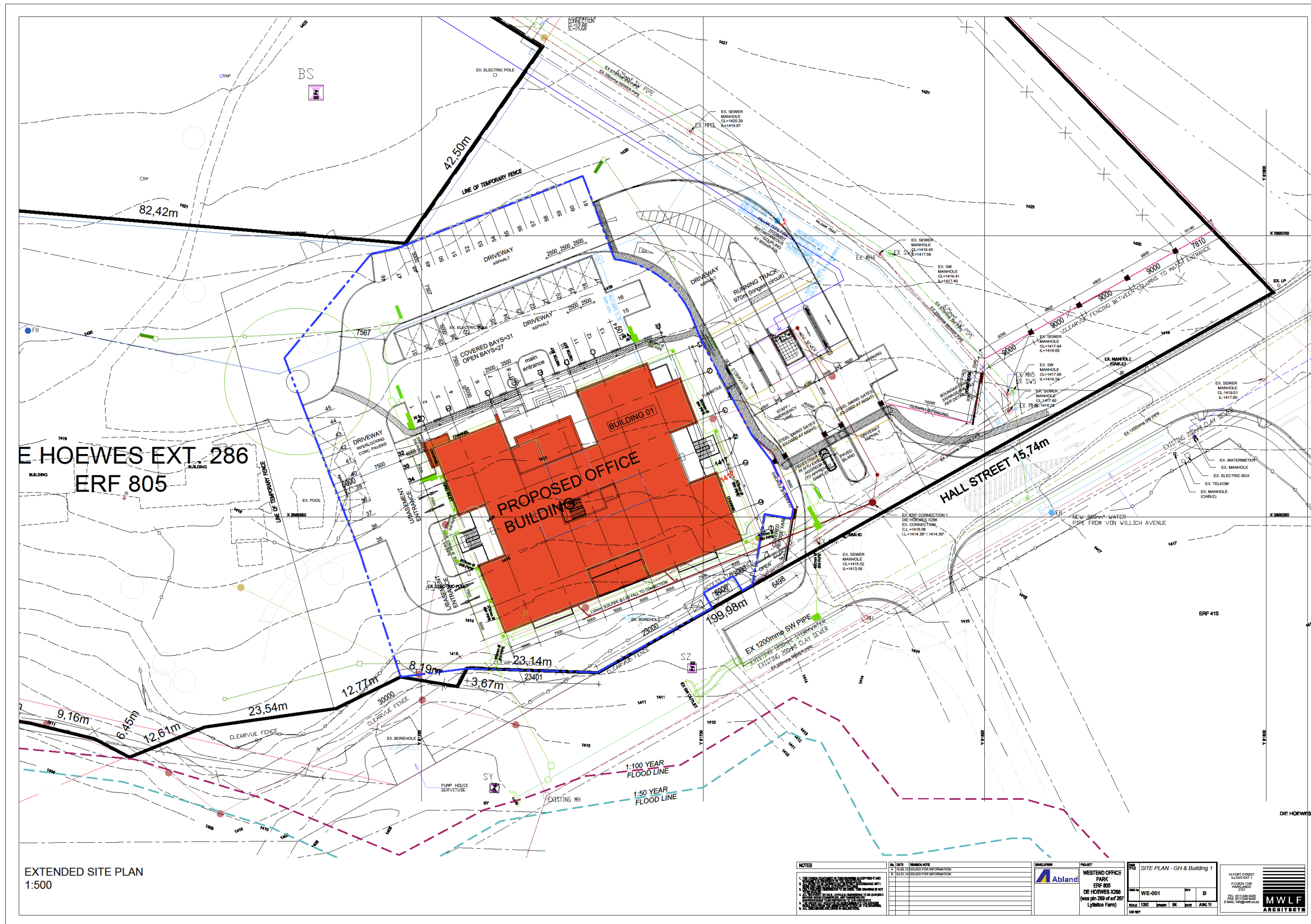
Searsia lancea

Tribulus terrestris

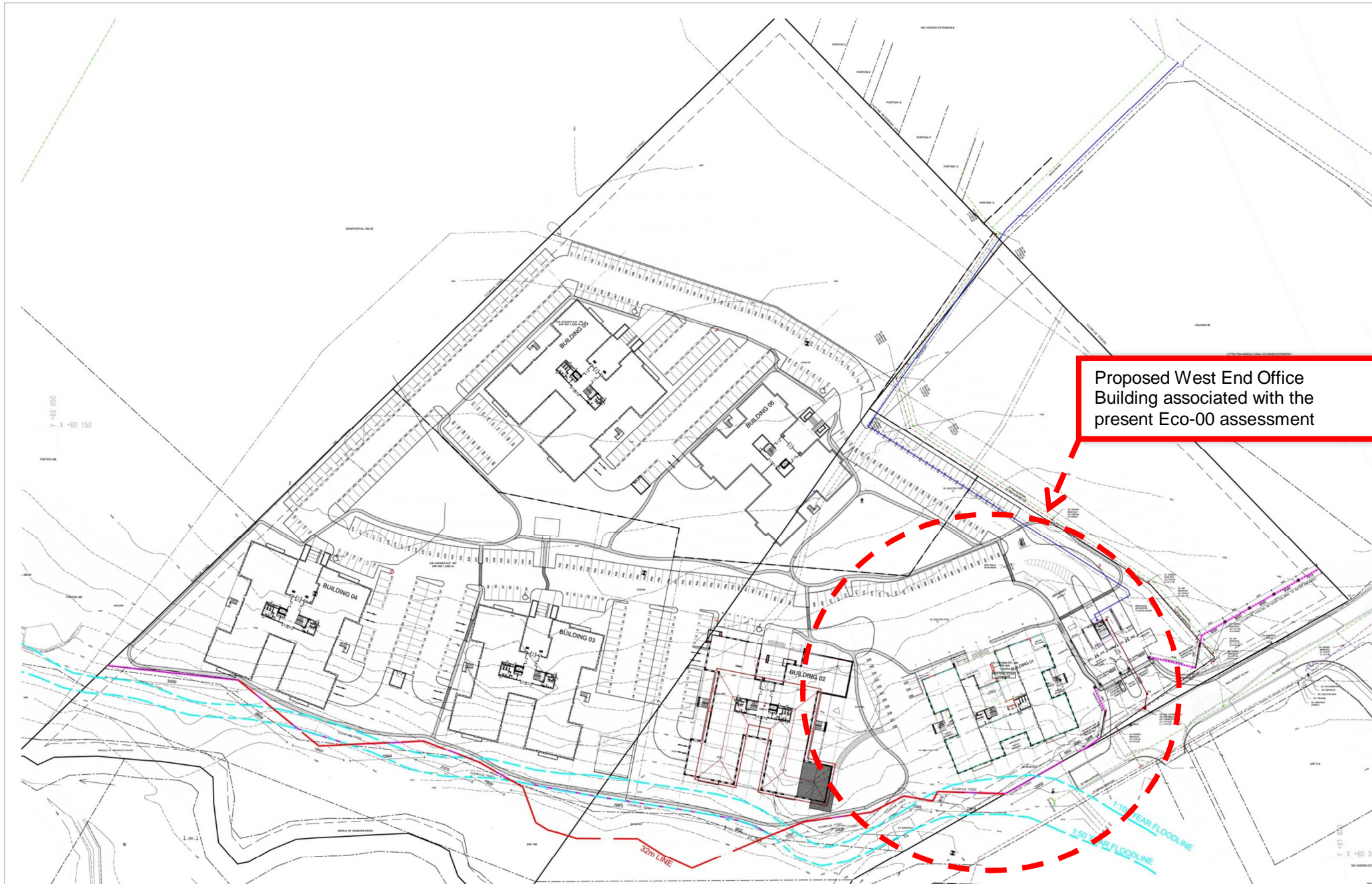
Melinis repens

Cussonia spicata

APPENDIX B: WEST END OFFICE PARK ERF 805 DE HOEWES X286 (WAS PTN 269 OF ERF 267, LYTTTELTON FARM): SITE PLAN – GH & BUILDING 1 (MWLF ARCHITECTS)



APPENDIX C: WEST END OFFICE PARK ERF 805 DE HOEWES X286 (WAS PTN 269 OF ERF 267, LYTTTELTON FARM): SITE PLAN – OVERALL SITE P



APPENDIX D: BYRON GRANT – Curriculum Vitae**CURRICULUM VITAE**

Name: **Byron Grant**

Name of Firm: Strategic Environmental Focus (Pty) Ltd

Position: Project Manager / Senior Natural Scientist

Nationality: South African

Languages: English (mother tongue), Afrikaans

SACNASP Status: Professional Natural Scientist

EDUCATIONAL QUALIFICATIONS

- B. Sc. (Botany & Zoology), Rand Afrikaans University (1997 - 1999)
 - B. Sc. (Honours) Zoology, Rand Afrikaans University (2000)
 - M. Sc. (Aquatic Health) *cum laude*, Rand Afrikaans University (2001 – 2004)
 - Introduction to quantitative research using sample surveys, Rand Afrikaans University (2004)
 - SASS5 Field Assessment Accreditation in terms of the River Health Programme, Department of Water Affairs (2005 – present)
 - Monitoring Contaminant Levels: Freshwater Fish (*Best Practice*), University of Johannesburg (2005)
 - EcoStatus Determination training workshop, Department of Water Affairs and Forestry (2006)
 - Multi-disciplinary roles in defining Ecstatus and setting flow requirements during an ecological reserve study, Department of Water Affairs (2008)
 - Water Use Licence Applications: Section 21 (c) and (i) training workshop, Department of Water Affairs (2009)
 - Advanced Wetland Course, University of Pretoria (2010)
 - Determination of the present ecological state within the Ecoclassification process – Short Course, University of the Free State (2011)
-

KEY QUALIFICATIONS**► Project Management:**

Project management and co-ordination of specialist-related projects, including:

- Water Research Commission projects;
 - Aquatic assessments;
-

- Floral and Faunal assessments:
 - Design and implementation of monitoring programmes;
 - Baseline ecological assessments
 - Ecological impact and mitigation assessments;
 - Rescue and relocation assessments;
 - Alien and invasive vegetation management plans;
- Wetland assessments:
 - Design and implementation of wetland monitoring programmes;
 - Wetland delineation studies;
 - Wetland Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS) determination assessments;
 - Wetland management plans;
 - Wetland impact and mitigation assessments;
 - Wetland offset strategies and assessments;
 - Wetland Reserve Determinations;
- Water quality studies;
- Dust monitoring studies;
- Ecological Risk Assessments;
- Biodiversity Action Plans (BAP);
- Biodiversity Management Strategies;

► **Specialist Assessments:**

Extensive experience in conducting specialist assessments and providing specialist ecological input, including:

- Eco-00 Conditional Requirement assessments for Green Star Accreditation;
- Watercourse Protection Plans for Green Star Accreditation;
- Design, management and implementation of biological monitoring programmes for the aquatic environment;
- Baseline aquatic biodiversity assessments, including the determination of the Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS) according to latest methodology;
- Aquatic impact and mitigation assessments;
- Protocol development;
- Fish kill investigations;
- Ecological Flow Requirements;
- Reserve Determinations;
- Aquatic toxicity assessments;
- Bioaccumulation studies;
- Human health risk assessments for the consumption of freshwater fish;

- Surface water quality studies;
 - Application of various monitoring indices, including the South African Scoring System version 5 (SASS5), the Macro-Invertebrate Response Assessment Index (MIRAI), the Invertebrate Habitat Assessment System (IHAS), the Index for Habitat Integrity (IHI), the Rapid Habitat Assessment Method (RHAM), the Fish Assemblage Integrity Index (FAII), the Fish Response Assessment Index (FRAI), the Physico-chemical Assessment Index (PAI), determination of EcoStatus, etc.;
- ▶ **Specialist Review:**
- Specialist and independent review of impact assessment and management reports for all sectors of government, civil society and the scientific and legal fraternity:
- Member of Technical Advisory Group for the Green Building Council of South Africa;
 - Member of Reference Groups for Water Research Commission;
 - Quality control and peer review of specialist reports (including aquatic, wetland, flora, fauna, etc.);
 - Quality control and peer review of scientific literature;

MEMBERSHIPS TO PROFESSIONAL SOCIETY

- South African Council for Natural Scientific Professions (SACNASP) – Professional Natural Scientist (Aquatic Science, Ecological Science, Zoological Science) Reg. No. 400275/08

Other Society Memberships

- South African Society of Aquatic Scientists
- South African Wetland Society
- Zoological Society of Southern Africa

Other Memberships

- Aquatox Forum
- Gauteng Wetland Forum
- Klipriviersberg Sustainability Association – Development Integration Team
- Yellowfish Working Group

COUNTRIES OF EXPERIENCE

- South Africa
- Lesotho

- Swaziland
 - Mozambique
 - Ghana
 - Namibia
-

SPECIALIST WORKSHOP PARTICIPATION

- Wetland and Watercourse Buffers Determination workshop. Project for the Department of Water Affairs, Sub-directorate: Water Abstraction and Instream Use
 - NEMBA category 2 alien fish species mapping for Gauteng, Limpopo and Northwest Provinces and a national review workshop, South African Institute for Aquatic Biodiversity (SAIAB)
 - National Freshwater Ecosystem Priority Areas project – Specialist Input Workshop, South African National Biodiversity Institute (SANBI)
 - Biodiversity Offsets Strategy workshop, Gauteng Department of Agriculture, Conservation and Environment (GDACE)
 - Minimum Requirements for Biodiversity Assessments (Version 2) workshop, Gauteng Department of Agriculture, Conservation and Environment (GDACE)
 - Gauteng Nature Conservation Bill, Gauteng Department of Agriculture and Rural Development (GDARD)
 - Mainstreaming Biodiversity in Mining Training Workshop, SANBI's Grasslands Programme (in partnership with the South African Mining and Biodiversity Forum and the Departments of Environmental Affairs and Mineral Resources)
 - National Biodiversity Offset Workshop, Department of Environmental Affairs (DEA), Endangered Wildlife Trust (EWT)
 - Accreditation/certification of Wetland Practitioners Workshop, South African Wetland Society
-

PRESENTATIONS AND PUBLICATIONS

Grant, B., Hohls, B., & Huchzermeyer, D. (in prep). *A Manual for Fish Kill Investigations in South Africa*. WRC Project Number K8/1003. Water Research Commission, Pretoria.

Grant, B., van Vuren, J.H.J. & Cronjé, M.J. (2004). HSP 70 response of *Oreochromis mossambicus* to Cu²⁺ exposure in two different types of exposure media. Poster presentation, SASAqS Conference, 2004.

Mlambo, S.S., van Vuren, J.H.J., Basson, R. & Grant, B. (2010). Accumulation of hepatic HSP70 and plasma cortisol in *Oreochromis mossambicus* following sub-lethal metal and DDT exposure. *African Journal of Aquatic Science* 35(1): 47-53.

EMPLOYMENT EXPERIENCE

Project Manager / Senior Natural Scientist: SEF (August 2009 – present). Tasks include:

- Project management on various scales for specialist-related services.
- Management and co-ordination of staff members and specialists.
- Co-ordinating, implementing and conducting studies for various types of projects, including:
 - Monitoring programmes.
 - Environmental Impact Assessments
 - Strategic-level assessments (e.g. Strategic Environmental Assessments, Environmental Management Frameworks, State of the Environment Reports, etc.).
 - Biodiversity Management Plans, Biodiversity Action Plans, etc.
- Acting as an information source concerning environmental legislation.
- Development of terms of reference and project proposals.
- Quality control of specialist reports
- Interfacing with clients in the consulting, mining, and government industries.

Senior Natural Scientist: SEF (March 2009 – July 2009). Tasks include:

- Project management for water, aquatic and monitoring-related projects.
- Management and co-ordination of specialists.
- Co-ordinating, implementing and conducting studies for various water and monitoring-related projects, including:
 - Acting as an information source concerning environmental legislation.
 - Development of terms of reference and project proposals.
 - Quality control of specialist reports
 - Interfacing with clients in the consulting, mining, and government industries.

Ecologist: SEF (July 2006 – February 2009). Tasks included:

- Conducting specialist assessments in the field of aquatic ecology and water science.
- Acting as an information source concerning environmental legislation.

Aquatic Scientist: ECOSUN cc. (January 2005 – June 2006). Tasks included:

- Conducting specialist assessments in the field of aquatic ecology and water science.
- Acting as an information source concerning environmental legislation.

▶ **Mentor / Research assistant: Rand Afrikaans University** (January 2003 – December 2005). Projects include:

- Validation of Antibodies for HSP70 Detection in the Freshwater Snail *Melanooides tuberculata* - B.Sc. (Honours) Student (January 2003 – December 2003)
- The use of genotoxic and stress proteins in the active biomonitoring of the Rietvlei system, South Africa – M.Sc. Student (January 2003 – December 2003)
- A comparison between whole effluent toxicity testing (wet) and active biomonitoring (ABM) as indicators of in stream aquatic health – M.Sc. Student (January 2003 – December 2003)
- The use of HSP70 and cortisol as biomarkers for heavy metal exposure - M.Sc. Student (January 2004 – December 2005)

Practical Demonstrator: Rand Afrikaans University (January 2000 – December 2004). Courses included:

- Ecology and Conservation, for Vista University
- Human Physiology
- Aquatic Ecology
- Field supervisor for B.Sc. Honours (Zoology)

APPENDIX E: KARIN VAN DER WALT – Curriculum Vitae**CURRICULUM VITAE**

Name: **KARIN VAN DER WALT**

Name of Firm: Strategic Environmental Focus (Pty) Ltd

Position: Floral Specialist / Terrestrial Ecologist

Nationality: South African

Languages: Afrikaans (mother tongue), Afrikaans

SACNASP Status: Certificated Natural Scientist

EDUCATIONAL QUALIFICATIONS

- National Diploma in Nature Conservation – Tshwane University of Technology (2001-2004)
 - B.tech Degree in Nature Conservation – Tshwane University of Technology (2005-2006)
 - Junior Management Development Programme – University of Stellenbosch (2008)
 - International Union for the Conservation of Nature Red Listing Short Course (2009)
 - Biodiversity GIS (BGIS) short course – SANBI Information Services (2008)
 - Diploma in Microsoft Office – Computer training centre (2000)
 - M.Sc. in Ecology (Current). University of Witwatersrand.
-

KEY QUALIFICATIONS**➤ Terrestrial Ecologist**

Conducting floral and faunal assessments including identifying threatened species, ecological sensitivity mapping, impacts and mitigations, plant relocation plans, vegetation monitoring plans, biodiversity assessments and monitoring plans, report writing and tenders.

➤ Project Management

Local, national and international conservation and projects. Project experience includes project proposals, financial management, logframes, milestones, staff management and reports against international standards.

- In-country project co-ordinator: International project M.G.U through Kew's Millennium Seed Bank Partnership. 2007-2010.
 - Project manager: Threatened plants project, Lowveld National Botanical Garden, South African National Biodiversity Institute. 2006-2011.
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➤ **Conservation:**

Extensive experience in various aspects of Nature Conservation and includes protected area management, resource management, plant assessments, threat assessments according to IUCN categories, total plant counts, reintroduction and enhancement of plant populations.

Compilation of biodiversity management plans for plant species protected by TOPS legislation. Assist in the Non-Detriment Findings (NDF) for South African *Encephalartos* species.

Part of the task team for Africa's response to the Global Strategy for Plant conservation 2011 to 2020.

➤ **Research:**

- 2 Year B.Tech research project – *The influence of the Crocodile River in KNP on the spread of the alien invasive plant, Lantana camara.*
- Two year MSc dissertation – *The ecology and population biology of the critically endangered succulent – Adenium swazicum*
- Prioritizing 120 medicinally used species in the Lowveld of Mpumalanga through literature reviews, traditional healer interviews and monitoring of muthi markets
- Propagation protocols for 120 medicinal plants in the Lowveld of Mpumalanga
- Monitoring and development of a species action plan and conservation plan for the critically endangered *Encephalartos middelburgensis*

➤ **Publications:**

- Van der Walt, K. The critically endangered succulent, *Adenium swazicum*. Aloe 47:2:2010.
- Van der Walt, K. The difference between extinction and survival: *ex situ* conservation of *Encephalartos* species in the Lowveld National Botanical Garden, South Africa. Proceedings of the 4th Global Botanic Gardens Congress, June 2010.
- Van der Walt, K. The ecology and population biology of the critically endangered succulent, *Adenium swazicum*. Proceedings of the 4th Global Botanic Gardens Congress, June 2010.
- Van der Walt, K. Lukhele, V., Van Wyk, E and Froneman W. **Developing propagation protocols for conservation and education, Project M.G.U.** Proceedings of the 7th International congress on education in Botanic Gardens. November 2009.
- Van der Walt, K. The 4th Botanic Gardens Conservation International Symposium. *Encephalartos*. December, volume 3.
- Hankey, A. and van der Walt, K. **A biodiversity expedition to Angola.** Veld and Flora, July 2011.

➤ **Regional (Mpumalanga)**

- Plant Specialist Group – A biodiversity expedition to Angola
- Botanical Society and Bird Life – Threatened species in Mpumalanga

➤ **National**

- Indigenous Plant Use Forum, Graaff Reinet, South Africa – Propagating medicinal plants for conservation in Mpumalanga
- KZN Wildlife symposium, Pietermaritzburg, South Africa – *Ex situ* conservation. The critical difference between extinction and survival of *Encephalartos* species in SA
- Savanna Research Symposium, KNP-Skukuza, South Africa – The ecology and conservation biology of the critically endangered succulent – *Adenium swazicum*

➤ **International**

- Botanical Gardens Conservation International Symposium on Education – Durban, South Africa. *Developing propagation protocols of 120 medicinal plants for conservation and education.*
- BGCI 4th International congress on conservation – Dublin, Ireland. *The critical difference between extinction and survival. Ex situ conservation of Encephalartos in the Lowveld National Botanical Garden, Nelspruit, South Africa*
- BGCI 4th International congress on Conservation – Dublin, Ireland. *The ecology and conservation biology of the critically endangered succulent, Adenium swazicum*
- Useful Plants Project – Report back from South Africa – Bamako, Mali – *Project MGU-UPP/SA*
- Succulenta International congress – Laingsburg, South Africa. *The critically endangered succulent, Adenium swazicum*

MEMBERSHIPS IN PROFESSIONAL SOCIETY

- South African Council for Natural Science Professions (Certificated Natural Scientist: 300028/12)
- Botanical Society of South Africa (Botsoc) (2006 – 2011)
- Field Guides Association of South Africa (FGASA) (2000 – 2007)

EMPLOYMENT EXPERIENCE

➤ **Specialist Ecologist: Strategic Environmental Focus (SEF)**

(November 2011 – Current)

- Faunal and floral assessments
- Vegetation monitoring plans
- Alien plant management plans
- Biodiversity Action plans
- Environmental impacts and mitigations

- Proposals and Tenders
- Report writing

- **Threatened plants project manager: South African National Biodiversity Institute (December 2006 – July 2011) Tasks include:**
 - Project management of various scales.
 - Management and co-ordination of staff members.
 - Conservation and plant collections
 - Financial management.
 - Customer services.
 - Project proposals and grant applications.

- **Wilderness trails ranger: KNP Wilderness Company (April 2004 - November 2006) Tasks include:**
 - Assist section ranger with conservation functions.
 - Conduct 3 day walking trails in wilderness areas.
 - Camp and infrastructure management.
 - Staff management.

- **Field Guide: South African National Parks (September 2000 - March 2004) Tasks involved the following:**
 - Plan and conduct morning and afternoon walks.
 - Vehicle and rifle maintenance.
 - Information desk management.
 - Assist section ranger with various conservation activities.