REPORT

BASIC ASSESSMENT REPORT

In terms of ***Section 24 and 24(D) of NEMA (Act No. 107 of 1998)***

for:

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR THE PROPOSED CLOSING OF SIX (6) PARK ERVEN, LOCATED ON ERF 1251 LA HOFF; ERF 762 MEIRINGSPARK; ERF 213 AND ERF 212 SONGLOED; ERF 944 BOETRAND AND ERF 6142 JOUBERTON EXT 10, CITY OF MATLOSANA, NORTH WEST PROVINCE.

Report Date: April 2023

Compiled by:

AB ENVIRO-CONSULT CC

7 Louis Leipoldt Street

Potchefstroom

2531

Tel: + 27 (83) 5488 105

Fax: + 27 (18) 293 0671

E-mail: JP@abenviro.co.za

Compiled for:

City of Matlosana

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Report Status	**Draft Basic Assessment Report**		
Project Title	***Environmental Impact Assessment process for the proposed closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6149 Jouberton Ext 10, City of Matlosana, North West Province.***		
Competent Authority:	**North West Department of Economic Development, Environment, Conservation and Tourism**		
Reference Number:	**Not Available yet**		
Assigned Officer	**Not Available yet**		
Project applicant:	**City of Matlosana Local Municipality**		
Contact person:	**Ms L. Seamets**		
Postal address:	**PO Box 99, KLERKSDORP**		
Postal code:	2570	**Cell:**	N/A
Telephone:	018 487 8009	**Fax:**	018 487 1652
E-mail:	dnkosi@klerksdorp.org		
Environmental Assessment Practitioner (EAP):	**Mr. Jean Pierre de Villiers of AB Enviro consult cc**		
Contact person:	**Mr. JP de Villiers**		
Postal address:	**7 Louis Leipoldt Street**		
Postal code:	**2531**	**Cell:**	**083 5488 105**
Telephone:	**071 202 4027**	**Fax:**	**018 293 0671**
E-mail:	**jp@abenviro.co.za** **hannieduplooy@abenviro.co.za**		
Professional affiliation(s) (if any)	**EAP-EAPASA (2019-808)**		

Report compiled by: Mr J. P. de Villiers
Signature: 
Report reviewed by: Mrs Hannie du Plooy
Signature: *JE du Plooy*

EXECUTIVE SUMMARY

City of Matlosana Local Municipality has appointed ***AB Enviro Consult CC***, an independent environmental consultancy, to undertake an Environmental Impact Assessment process for the proposed closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6149 Jouberton Ext 10, City of Matlosana, North West Province.

Planning practices of the past has dictated that a certain percentage of new residential development be allocated as Park erven. The purpose of these Park erven was to provide a safe space where children can play and adults can socialise and come together as a community. These Park erven were often provided with playground apparatus such as "swings", "slides", "jungle gyms" etc. and were maintained by the Local Municipality. For various Political and Social reasons, especially on the Platteland, these Park erven has become derelict, unused and for most parts un-maintained, resulting in these erven becoming a haven for the homeless and criminals to sleep and gather, illegal dumping and littering. Most of these erven has become a safety and security risk for the Residents of the area.

As a result of the above mentioned, the City of Matlosana has decided to close and sub-divide these Park erven and to provide well-designed erven that can be sold off with the correct zoning to complement the surrounding neighbourhoods. The intention is to propose erven that are more or less the same size as the ones currently available in the area. It was also decided to refurbish and relocate all remaining playground apparatus to one central park, being the remaining extent of erf 103 Wilkoppies (located opposite of Wesvalia High School) as this erf is centrally located and is also one of the few Park erven that is still relatively well maintained. (although it be mostly privately/community based maintenance) The site is home to the Klerksdorp Park Run, a Bird Park and a Tennis Club.

The following Table provides a summary of the Proposed development:

Number	Erf	Size	Area to be developed	Residential 1 erven	Residential 2 erven	Municipal	Other
1	**Erf 1251 La Hoff**	0.9479 ha	0.9479 ha		2	1	
2	**Erf 762 Meiringspark**	0.7869 ha	0.7869 ha		2	1	
3	**Erf 212 Songloed**	1.2153 ha	0.1497 ha		1		1 (Public Open Space)
4	**Erf 213 Songloed**	0.1631 ha	0.1631 ha		1		
5	**Erf 944 Boetrand**	0.2886 ha	0.2886 ha		2		
6	**Erf 6149 Jouberton Ext 10**	4.3200 ha	2.4894 ha	44			3 Public Roads 1 Institutional 1 Public Open Space
	Total	**7,7218 ha**	**4,8256 ha**	**44**	**8**	**2**	**6**

The activity is listed in terms of the Regulations (in force since 4 December 2014) in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (NEMA) 1998 (Act 107 of 1998) as amended and published in Government Notice No. R 326 of 2017. The proposed development triggers the following regulations and listed activities:

Indicate the number and date of the relevant notice:	Activity No (s) and Activity Description (in terms of the relevant notice)	Describe each listed activity as per project description	Anticipated years to complete construction (From date of commencement)
GN.R. 324, 7 April 2017	12 (h)(vi)	*"The clearance of an area of 1 497 sq.m of indigenous vegetation in order to establish 1 Residential 2 located on erf Erf 212 Songloed*	10 Years

		h) North West *vi) within 100 meters from the edge of the Schoonspruit.*	
GN.R. 324, 7 April 2017	15 (e)(i)	*"The transformation of 4,8256 ha of land that was zoned open space in order to establish 44 Residential 1 erven, 8 Residential 2 erven, 2 Municipal erven and 6 other erven, located on:* ➢ *Erf 1251 La Hoff* ➢ *Erf 762 Meiringspark* ➢ *Erf 213 Songloed* ➢ *Erf 212 Songloed* ➢ *Erf 944 Boetrand* ➢ *Erf 6149 Jouberton Ext 10* *e) North West* *i) Within the urban area of the City of Matlosana*	10 Years

The detailed environmental assessment for the proposed development, has not found any environmental impacts that *cannot* be mitigated to acceptable and manageable levels.

In the National Framework for Sustainable Development (NFSD) it is stated that *"the achievement of sustainable development is not a once-off occurrence and its objectives cannot be achieved by a single action* or *decision. It is an ongoing* process *that requires* a *particular set of values and attitudes in which economic, social and environmental assets that society has at its disposal, are managed in* a *manner that sustains human well-being without compromising the ability of future generations to meet their own need.* The NFSD further continues to emphasize that South Africa's current development path in certain instances reflects signs of being unsustainable in the long-term. It highlights that a large percentage of growth in economic activity (measured in terms of its contribution to the GDP) is achieved by *"consuming' natural resources and degrading our habitat at accelerating rates with the inevitable consequence that future economic growth and development objectives will be prejudiced."*

Consistent with national priorities, environmental authorities must support *"increased economic growth and promote social inclusion",* whilst ensuring that such growth is *"ecologically sustainable".* In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably.

The local municipality intends to promote a more compact city in order to prevent the expansive provision of social and engineering services, as well as to prevent the economic decline of the traditional city centre. The Spatial Development Framework (SDF) addresses the scale or urban growth through planned extensions, infill and redevelopment strategies. It also addresses measures to promote compact and connected growth opportunities, such as the identification of revitalisation zones, densification and mixed land use zones.

The planning practices of the past has resulted in sprawling urban areas that are un-economical. Today, planning policies are transformed to mainly encourage infill development on vacant land within the urban environment, in order to combat urban sprawl. The proposed development falls in line with these principals, as it is infill development within the urban area.

During the construction phase, temporary employment will be created. The increased employment in the area during the construction phase will also result in increased expenditure, which, in addition, will mean that more than just the proposed jobs required for the construction on the site will be created due to economic spin-offs that will result. Due to the nature of the proposed development it will lead to an increase in employment opportunities in the operational phase and will contribute to the broadening of the income base and alleviation of poverty within the Local Municipality.

Alternatives were considered, and the following three erven were also included into the initial assessment.

- Erf 410 Freemanville
- Remaining extent of Erf 96 Roosheuvel
- Erf 17 299 Jouberton Ext 16

After further investigation it was found that the sensitivity of these 3 sites were too high. Erf 410 Freemanville is located at a sensitive koppie, Remaining Extent of Erf 96 Roosheuvel is too steep for development purposes while Erf 17 299 Jouberton Ext 16 is located in an area that is saturated with water.

An Alternative Layout Plan that was considered for Erf 6149 Jouberton Ext 10, the Fauna and Flora Habitat Specialist has found that the site is influenced by a koppie and after delineation of the sensitive areas, an area of 1,8306 ha was deemed undevelopable.

The only other alternative that exists for the proposed development is the "no-go" option which will imply that the status quo will prevail, and the areas will remain a health and safety risk for the inhabitants of the area. Therefore this option was discarded. It is therefore proposed that Alternative 1 be the preferred alternative.

Specialist studies were conducted and a full Public Participation Process is being followed. This information was used to generate a sensitivity map that was used to assess the sustainability of the design and layout plans for the proposed development.

The **Heritage Impact Assessment** revealed that it is evident that that there is a low likelihood of any significant cultural heritage (archaeological and/or historical) sites or features being present in the areas. If any did exist here in the past it would have been extensively disturbed or destroyed.

The **Fauna and Flora Habitat** study conducted addressed these ecological sensitivities as follows.

Animal species theme sensitivity
Relative animal species theme sensitivity is medium. The possible presence of Hydrictus maculicollis (Spotted-necked Otter) that should be investigated is indicated by the screening tool. During the surveys this status quo has been confirmed or could be low instead of medium. The watercourse at Erf 212 Songloed, the Skoonspruit non-perennial river and the artificial waterbody largely surrounded by dense residential areas at Erf 17299 Jouberton, are not ideal habitats for Hydrictus maculicollis (Spotted-necked Otter), which favours more open permanent and quiet waters. No distinct possibility that the site could be used as specific habitat or foraging area by Hydrictus maculicollis could be observed.

Aquatic biodiversity theme sensitivity
Relative aquatic biodiversity theme sensitivity at the site is low and for parts of the study area very high owing to the presence of an aquatic Critical Biodiversity Area. The sites are not part of a Freshwater Ecosystem Priority Area. There is an active channel and riparian zone of the Skoonspruit non-perennial river at Erf 212 Songloed. This Skoonspruit non-perennial river, its riparian zone and its buffer zone of 32 m are excluded from the proposed developments. There is no distinct impact that the proposed development will have on the river of which the outer edge of the riparian zone. The artificial waterbody at Erf 17299 Jouberton is part of a stepping stone corridor of particular conservation concern in the larger area and is also set aside. The artificial waterbody at Erf 12799 Jouberton at least in part exists because of excavations of the past and its ecological integrity visibly poor.

Plant species theme sensitivity
Relative plant species theme sensitivity is low and medium, the latter owing to the possible occurrence of a sensitive species which is not threatened but which could be prone to harvesting. Possible sensitive plant species of which the likely presence or absence have been investigated are listed in Tables 4.2 – 4.9 and include plant species on a local and provincial scale which could be prone to harvesting. No Threatened or Near Threatened plant species or any of the plant sensitive species that are not threatened but which are prone to harvesting, appear to be present at the site with the exception of a few individuals of the widespread but nationally Declining plant species Boophone disticha that occurs at Erf 2379 Flamwood and Erf 1251 La Hoff. If the development is approved these individual plant species will be translocated to a suitable site.

Terrestrial biodiversity theme sensitivity
Relative terrestrial biodiversity at the site is very high. This high sensitivity that is ascribed to the site area, is because of the presence of Critical Biodiversity Area 2, the presence of an Endangered ecosystem, the Vaal-Vet Sandy Grassland that is mapped for the site and the possibility of including the site in a Protected Area Expansion strategy. During surveys at the site, it was found that the original vegetation type has been transformed or modified at the sites. The sites are also isolated. The scope for the sites to distinctly contribute to the conservation of Vaal-Vet Sandy Grassland, is small.

Ecological sensitivity at Erf 2379 Flamwood and Erf 1251 La Hoff is medium. Ecological sensitivity at Erf 762 Meiringspark and Erf 616 Ellaton is low at some parts and medium in other parts. Ecological sensitivity at Erf 213 Songloed and Erf 944 Boetrand, is low.

The ecological sensitivity at the watercourse and its buffer zone at Erf 212 Songloed is high whereas the ecological sensitivity at the remaining, extensively degraded, terrestrial area at Erf 212 Songloed is low. Erf 6149 Jouberton therefore contains the rocky ridge as an area of high ecological sensitivity, whereas the remainder of the site is of medium and low sensitivity. The artificial waterbody at Erf 17299 Jouberton is an area of high ecological sensitivity, despite the artificial dam being a highly modified and disturbed system. The ecological sensitivity at the remainder of the site, the terrestrial zone, is low.

The non-perennial Skoonspruit river, the associated riparian zone and buffer zone at Erf 212 Songloed, the artificial waterbody at Erf 17299 Jouberton and the rocky ridge at Erf 6149 Jouberton are excluded from developments and demarcated with appropriate material during the construction phase, if the developments are approved.

A full Public Participation Process is being conducted and any objections or comments that will be received in relation to the proposed development will be incorporated into the Final BAR.

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1. INTRODUCTION

City of Matlosana Local Municipality has appointed ***AB Enviro Consult CC***, an independent environmental consultancy, to undertake an Environmental Impact Assessment process for the proposed closing of closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6149 Jouberton Ext 10, City of Matlosana, North West Province.

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1.1 THE BASIC ASSESSMENT PROCESS

The purpose of this document is to adhere to the requirements for compilation of Basic Assessment Reports as amended and published in Government Notice R. 326 of 7 April 2017, Appendix 1, and the National Environmental Management Act (Act 107 of 1998) (NEMA).

1.2 DESCRIPTION OF THE PROCESS FOLLOWED

In order to assess a proposed development it is important to take into consideration the principles of NEMA. These principles are outlined in Chapter 1 and read as follows:

1) *"The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and—*

   a. *shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination;*

   b. *serve as the general framework within which environmental management and implementation plans must be formulated:*

   c. *serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment;*

   d. *serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and*

   e. *guide the interpretation administration and implementation of this Act, and any other law concerned with the protection or management of the environment.*

2) *Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.*

3) Development must be socially, environmentally and economically sustainable.

4) (a) Sustainable development requires the consideration of all relevant factors including the following:

(i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied:

(ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

(iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;

(iv) that waste is avoided. or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;

(v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;

(vi) that the development use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;

(vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and

(viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.

(c) Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.

(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.

(e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.

(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation and participation by vulnerable and disadvantaged persons must be ensured.

(g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognizing all forms of knowledge, including traditional and ordinary knowledge.

(h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.

(i) The social, economic and environmental impacts of activities, including disadvantages and benefits must be considered, assessed and evaluated and decisions must be appropriate in the light of such consideration and assessment.

(j) The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.

(k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.

(l) There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.

(m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.

(n) Global and international responsibilities relating to the environment must be discharged in the national interest.

(o) The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

(p) The costs of remedying pollution, environmental degradation consequent adverse health effects and of preventing, controlling or minimizing further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.

(q) The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.

(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure."

The above mentioned principals and the applicable legislation, Policies and Guidelines as described in Paragraph 5 of this Report were taken into account in the assessment of the Environmental Impacts for the proposed development. The process followed can be described as follows:

1) The EAP was contracted by City of Matlosana as their Independent Environmental Assessment Practitioner.
2) A Town and Regional Planner designed the proposed development in such a way that the layout of the proposed development satisfies the needs of future occupiers of the site.
3) A SAHRA Specialist has been appointed to determine the possible impact of the development on Archaeological and Cultural features.
4) An Ecological specialist has been appointed to determine the impact of the proposed development on the Fauna and Flora of the area.
5) An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration.
6) Desk top studies were conducted and alternatives assessed.

7) Site inspections were carried out to verify the outcomes of the desktop studies, and the preferred alternative defined.

8) A full Public Participation Process is being followed to obtain inputs from interested and affected parties.

9) All the information obtained from the above mentioned processes is being used to assess the Environmental Impact that the proposed development may have on the Environment and vice versa.

10) The inputs from Specialists, interested and affected parties, together with the knowledge of the EAP is being used to determine measures to avoid, mitigate and manage potential impacts. These measures are described in the Environmental Management Programme.

1.3 ASSESSMENT PHASE

The assessment phase included the necessary investigations to assess the suitability of the identified site and its surrounding environment, for the development proposal. The assessment phase described the "status quo" of the bio-physical, social, economic and cultural environment, and identifies the anticipated environmental aspects associated with the proposed development. The assessment phase included the identification of *key interest groups*, (both government and non-government), and strived to establish efficient and effective communication. Identifying and informing Interested and affected parties of the proposed development may have an impact on the focus of the EIA. (*S. Cliff, 2015*).

This phase also determines the *significance of the impact* of the proposed activity on the surrounding Environment. During this phase, a Basic assessment Report (BAR) is compiled, and, following public review, is submitted to the approving authority – the DEDECT.

The purpose of the Basic Assessment Report is to document the outcome of the Assessment Phase of the project. The report fulfilled the requirements of the EIA Regulations (2014) for the documentation of the Basic Assessment Process. The Report was compiled in accordance with Section 21(3) of NEMA's 2014 EIA Regulation (GN R. 982) as amended and published in Government Notice R. 326 of 7 April 2017.

The Basic Assessment Report will be submitted to DEDECT on the 01/04/2022

1.3.1 Objective of the basic assessment process

The objective of the basic assessment process is to, through a consultative process-

(a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;

(b) identify the alternatives considered, including the activity, location, and technology alternatives;

(c) describe the need and desirability of the proposed alternatives;

(d) through the undertaking of an impact and risk assessment process, inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine–

(i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

(ii) the degree to which these impacts–

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated;

(cc) can be avoided, managed or mitigated; and

(e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to−

(i) identify and motivate a preferred site, activity and technology alternative;

(ii) identify suitable measures to avoid, manage or mitigate identified impacts; and

(iii) identify residual risks that need to be managed and monitored.

1.3.2 Scope of assessment and content of basic assessment reports

The BAR assesses those identified potential environmental impacts and benefits (direct, indirect and cumulative impacts) associated with the project design, construction, and operation phases, and recommends appropriate mitigation measures for potentially significant environmental impacts. The Environmental impacts are assessed both before and after mitigation to determine:

- The significance of the impact despite mitigation; and
- The effectiveness of the proposed mitigation measures.

The BAR addresses potential environmental impacts and benefits associated with all phases of the project, including design, construction and operation, and aims to provide the environmental authorities with sufficient information to make an informed decision regarding the proposed project.

Table 1 below provides a summary of the legislative requirements in terms of a Basic Assessment Report as stipulated in Section 23 of the 2014 EIA Regulation (GN R. 982) as amended. Cross-references are provided in terms of the relevant section within this BA Report where the NEMA and BA Report requirements have been addressed.

Table 1: Basic Assessment Report content as per Section 23 of NEMA's 2014 EIA Regulation (GN R. 982) as amended Appendix 1.

3. (1) A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include:

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports	Location in this report
Appendix 1, section 3 (a)	Details of the EAP who prepared the report; and the expertise of the EAP;	Paragraph 2
Appendix 1, section 3 (b)	The location of the development footprint of the activity on the approved site as contemplated in the accepted scoping report, including – (i) The 21 digit Surveyor General code of each cadastral land parcel; (ii) Where available, the physical address and farm name; (iii) Where the required information in items (i) and (ii) is not available, coordinates of the boundary of the property or properties	Paragraph 4 Paragraph 4 Paragraph 4
Appendix 1, section 3 (c)	A plan which locates the proposed activity or activities applied for, at an appropriate scale, or, if it is – (i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Appendix A1 and Appendix A2 Paragraph 4
Appendix 1, section 3 (d)	A description of the scope of the proposed activity, including – (i) all listed and specified activities triggered and being applied for; and (ii) a description of the activities to be undertaken including associated structures and infrastructure;	Paragraph 3 Paragraph 3
Appendix 1, section 3 (e)	A description of the policy and legislative context within which the development is proposed including	Paragraph 5.1

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports	Location in this report
	(i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and	Paragraph 5.2
	(ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments explanation of how the proposed development complies with and responds to the legislation and policy context	Paragraph 5.2
Appendix 1, section 3 (f)	A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.	Paragraph 6
Appendix 1, section 3 (g)	a motivation for the preferred site, activity and technology alternative	Paragraph 4
Appendix 1, section 3 (h)	A full description of the process followed to reach the proposed preferred alternative within the site, including-	
	(i) Details of all alternatives considered;	Paragraph 8
	(ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	Paragraph 10
	(iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;	Paragraph 10
	(iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Paragraph 8
	(v) The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which the impacts-	Paragraph 9
	(aa) can be reversed;	Paragraph 9
	(bb) may cause irreplaceable loss of resources; and	Paragraph 9
	(cc) can be avoided, managed, or mitigated.	Paragraph 9
	(vi) The methodology used in deterring and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;	Paragraph 9
	(vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographic, physical, biological, social, economic, heritage and cultural aspects;	Paragraph 9
	(viii) The possible mitigation measures that could be applied and level of residual risk;	Paragraph 9
	(ix) the outcome of the site selection matrix	Not Applicable
	(x) If no alternatives, including alternative footprints for the activity were investigated, the motivation for not considering such and;	
	(xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity.	Paragraph 12
Appendix 1, section 3 (i)	A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including-	Paragraph 9
	(i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and	Paragraph 8
		Paragraph 9

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports	Location in this report
	(ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;	
Appendix 1, section 3 (j)	An assessment of each identified potentially significant impact and risk, including- (i) cumulative impacts; (ii) the nature, significance and consequences of the impact and risk; (iii) the extent and duration of the impact and risk; (iv) the probability of the impact and risk occurring; (v) the degree to which the impact and risk can be reversed; (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and (vii) the degree to which the impact and risk can be mitigated;	 Paragraph 9 Paragraph 9 Paragraph 9 Paragraph 9 Paragraph 9 Paragraph 9 Paragraph 9
Appendix 1, section 3 (k)	Where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;	Paragraph 11
Appendix 1, section 3 (l)	An environmental impact statement which contains- (i) a summary of the key findings of the environmental impact assessment: (ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and (iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;	 Paragraph 12.2 and 12.2 Figure 2 Paragraph 12
Appendix 1, section 3 (m)	Based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management outcomes for the development for inclusion in the EMPr	Paragraph 11 and 12
Appendix 1, section 3 (n)	Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation	Paragraph 3.1.2.1
Appendix 1, section 3 (o)	A description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed	Paragraph 1.4.3
Appendix 1, section 3 (p)	A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation	Paragraph 12.4
Appendix 1, section 3 (q)	Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised	Not Applicable
Appendix 1, section 3 (r)	An undertaking under oath or affirmation by the EAP in relation to- (i) The correctness of the information provided in the report; (ii) The inclusion of the comments and inputs from stakeholders and interested and affected parties; and (iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and (iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.	 Paragraph 13 Paragraph 13 Paragraph 13 Paragraph 13
Appendix 1, section 3 (s)	Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts.	Not Applicable
Appendix 1, section 3 (t)	Any specific information that may be required by the competent authority.	Not Applicable
Appendix 1, section 3 (u)	Any other matters required in terms of section 24(4)(a) and (b) of the Act	Not Applicable

1.3.3 Assumptions, uncertainties, limitations and gaps in knowledge:

This report is based on current available information and, as a result, the following limitations and assumptions are implicit –

The report is based on the *project description* provided by the Applicant as a result of reports that was compiled by the following Specialists:

- A Town planner has been appointed to determine the availability of services and the layout of the development
- A SAHRA Specialist has been appointed to determine the possible impact of the development on Archaeological and Cultural features.
- An Ecological specialist has been appointed to determine the impact of the proposed development on the Fauna and Flora of the area.
- An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration.
- Desktop studies were conducted and alternatives assessed.

Descriptions of the biophysical and social environments are based on specialist fieldwork, investigations, and the Public Participation Process.

2. DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

AB Enviro Consult (CC) is a registered consultancy, owned and operated as an independent unit by the registered owner and consultant**: Prof. A.B. de Villiers. Mr J.P. De Villiers** joined the consultancy during 2004 and **Mrs J.E. du Plooy** is a consultant since 2001.

Over a period of 27 years (1996-2023) this consultancy has successfully applied for, and obtained positive ROD's and EA's for more than 380 projects. Environmental Control Officer's duties are also performed on various projects.

ACADEMIC AND PROFESSIONAL QUALIFICATIONS OF PROF DE VILLIERS

Post–Matric Qualifications

YEAR	Qualification	Institution	Field of Study
1968	B.Sc.	PU FOR CHE	Geography, Geology
1970	HONNS. B.Sc.	PU FOR CHE	Soil Science
1974	M.Sc.	PU FOR CHE	Geography
1981	Ph.D.	UOFS	Geography

ACADEMIC AND PROFESSIONAL QUALIFICATIONS MR J.P. DE VILLIERS

YEAR	Qualification	Institution	Field of Study
1993	BA	PU FOR CHE	Geography, Economics
1994	HED	PU FOR CHE	Geography Economics
2006	B.Sc.(Honns) Cum Laude	North-West University	Environmental Management
2007	M.Sc.	North-West University	Geography

PROFESSIONAL QUALIFICATIONS AND REGISTRATIONS

YEAR	Qualification/ Registration	Institution	Field of Study

2008	Basic Principles of Ecological Rehabilitation and Mine Closure	Centre for Environmental Management (North West University)	Ecological Rehabilitation
2019	Registered Environmental Assessment Practitioner 2019/808	Environmental Assessment Practitioners of South Africa	

CV: Mr JP de Villiers

JP de Villiers holds a M.Sc. in Geography from the North West University's Department of Geography and Environmental Management. He started as a junior EAP in 2004 with AB Enviro Consult and was promoted in 2007 to senior EAP. During 2011 he was appointed as the Manager of the North West University, EIA Pro-Bono Office. This office is an initiative of, and funded by, the DEA. (This was a three year contract between DEA and NWU that was extended by one year) As Manager of this office, Mr. de Villiers had the following responsibilities:

- Conduct Environmental Impact Assessments for municipalities on a pro-bono basis.
- Provide environmental management training to North West Municipalities.
- Provide environmental assistance to North West Municipalities.
- Undertake research related to Environmental Impact Management within the North West Municipal Context.
- Marketing for stakeholder 'pro-bono' expert donations.
- Marketing for corporate 'pro-bono' funding.

As EAP, Mr. de Villiers has been directly involved in obtaining **309 Environmental Authorizations** and has performed the duties of **Environmental Control Officer (ECO) for 42 developments**. His responsibilities as Senior EAP includes the following:

Duties pertaining to Basic Assessments, EIA and Scoping and Section 24 G Applications:

- Marketing and communication with clients
- Communication with authorities, source and analyse relevant baseline information and undertake site inspections
- Compile Environmental Application Form for the project and submit to the authorities
- Compile an *information requirements list* that is distributed to the project team. The Information required would assist with completion of the Report.
- Identify key interested and affected parties (I&APs)
- Compilation of terms of reference for specialist studies
- Commission specialist studies
- Compile and publish media notices in relevant newspapers
- Compile and place poster/s along the boundary of the site
- Hold a public meeting / Open House / focus meeting with I&APs

- Receive and address comments from public
- Undertake assessment phase by assessing and evaluating potential impacts identified.
- Review and manage specialist studies.
- Compile and distribute Draft Reports (Including Environmental Management Programmes)
- Should the Reports require substantial changes, these changes are incorporated into the final reports and distributed
- Address comments received on the final Report, finalise Report and submit to authorities
- Once the decision is issued, all I&Ps are formally informed of the decision

Duties pertaining to Environmental Control Officer

- Preparation (Compilation) and submission of Environmental Control Document.
- Training of and leasing with the Engineers Representative.
- Communicate with the Contractor.
- A monthly visit to the site during the construction period. Should any Environmental incident occur, an immediate site visit is undertaken.
- Monitoring and auditing according to the approved EMP and EA.
- Compilation of a written audit report for each site visits during the construction phase
- Liaising with the Compliance section of the Competent Authority

ACADEMIC AND PROFESSIONAL QUALIFICATIONS MRS J.E. DU PLOOY

YEAR	Qualification	Institution	Field of Study
1999	BA	PU FOR CHE	Geography, Tourism
2000	BA (Honns) Cum Laude	PU FOR CHE	Geography
2003	Masters degree in Environmental Management	PU FOR CHE	Environmental Management
2001	Aquabase Intro	AQUABASE	Hydrology
2001	Geomedia Professional	INTERTECH	GIS
2001	Map Info	SPATIAL TECHNOLOGY	GIS

PROFESSIONAL QUALIFICATIONS AND REGISTRATIONS

YEAR	Qualification/ Registration	Institution
2020	Registered Environmental Assessment Practitioner 2019/1573	Environmental Assessment Practitioners of South Africa

3. DESCRIPTION OF THE ACTIVITY

The City of Matlosana Local Municipality intends to close 6 of their Public Parks by Rezoning and subdividing them. These Park Erven are located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6149 Jouberton Ext 10, City of Matlosana, North West Province. Please see Figure 1 for a Locality Map. The intention is to propose erven that are more or less the same size as the ones currently available in the area. Planning practices of the past has dictated that a certain percentage of new residential development be allocated as Park erven. The purpose of these Park erven was to provide a safe space where children can play and adults can socialise and come together as a community. These Park erven were often provided with playground apparatus such as "swings", "slides", "jungle gyms" etc. and were maintained by the Local Municipality. For various Political and Social reasons, especially on the Platteland, these Park erven has become derelict, unused and for most parts un-maintained, resulting in these erven becoming a haven for the homeless and criminals to sleep and gather, illegal dumping and littering. Most of these erven have become a safety and security risk for the Residents of the area.

As a result of the above mentioned, the City of Matlosana has decided to close and sub-divide these Park erven and to provide well-designed erven that can be sold off with the correct zoning to complement the surrounding neighbourhoods. The intention is to propose erven that are more or less the same size as the ones currently available in the area. It was also decided to refurbish and relocate all remaining playground apparatus to one central park, being the remaining extent of erf 103 Wilkoppies (located opposite of Wesvalia High School) as this erf is centrally located and is also one of the few Park erven that is still relatively well maintained. (although it be privately/community based maintenance) The site is home to the Klerksdorp Park Run, a Bird Park and a Tennis Club.

The following Table provides a summary of the Proposed development:

Number	Erf	Size	Area to be developed	Residential 1 erven	Residential 2 erven	Municipal	Other
1	**Erf 1251 La Hoff**	0.9479 ha	0.9479 ha		2	1	
2	**Erf 762 Meiringspark**	0.7869 ha	0.7869 ha		2	1	
3	**Erf 212 Songloed**	1.2153 ha	0.1497 ha		1		1 (Public Open Space)
4	**Erf 213 Songloed**	0.1631 ha	0.1631 ha		1		
5	**Erf 944 Boetrand**	0.2886 ha	0.2886 ha		2		
6	**Erf 6149 Jouberton Ext 10**	4.3200 ha	2.4894 ha	44			3 Public Roads 1 Institutional 1 Public Open Space
	Total	**7,7218 ha**	**4,8256 ha**	**44**	**8**	**2**	**6**

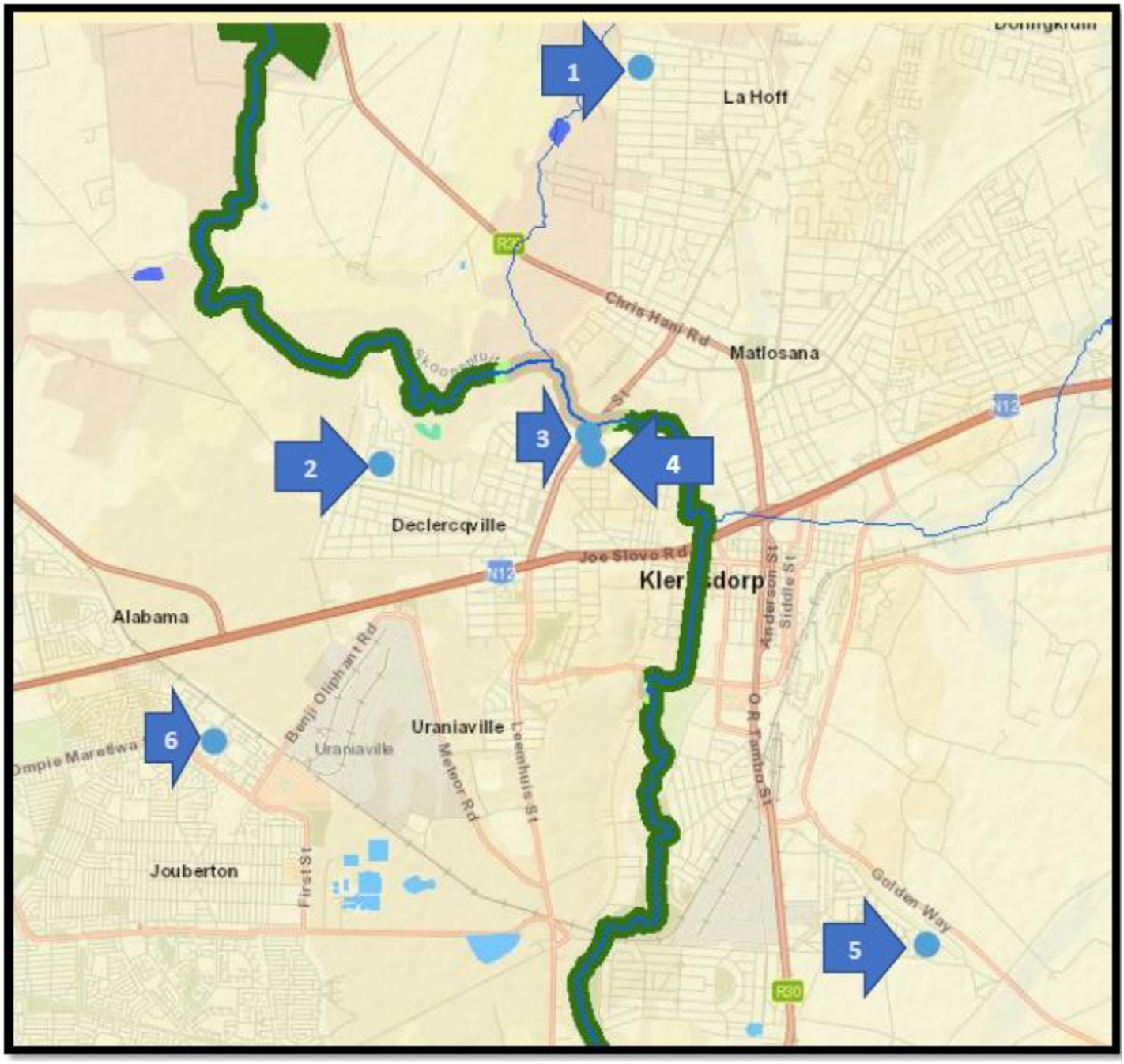


Figure 1: Locality Map

The following Paragraphs describes each individual proposed rezoning and subdivision.

1. Erf 1251 La Hoff

This erf is 0.9479 ha in extent and it is proposed to be subdivided into 2 Residential 2 erven and 1 Municipal erf. The erf sizes of the Residential 2 erven will be 4 527m^2 and 4 739 m^2 respectively. See Figure 2 for a copy of the proposed layout plan.

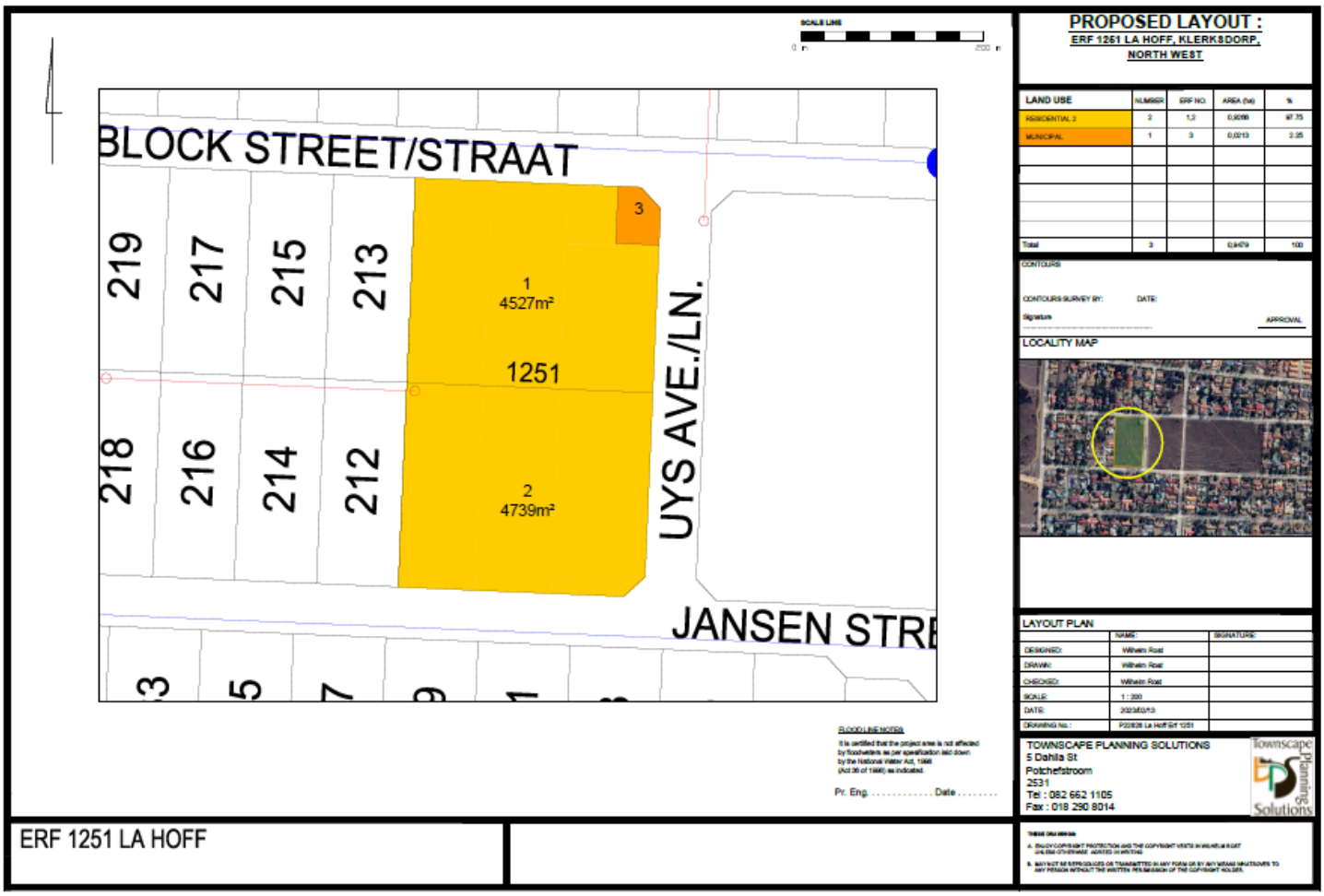


Figure 2: Proposed layout plan Erf 1251 La Hoff

2. Erf 762 Meiringspark

This erf is 0.7869 ha in extent and it is proposed to be subdivided into 2 Residential 2 erven and 1 Municipal erf. The erf sizes of the Residential 2 erven will be 3 582 m^2 and 4 006 m^2 respectively. See Figure 3 for a copy of the proposed layout plan.

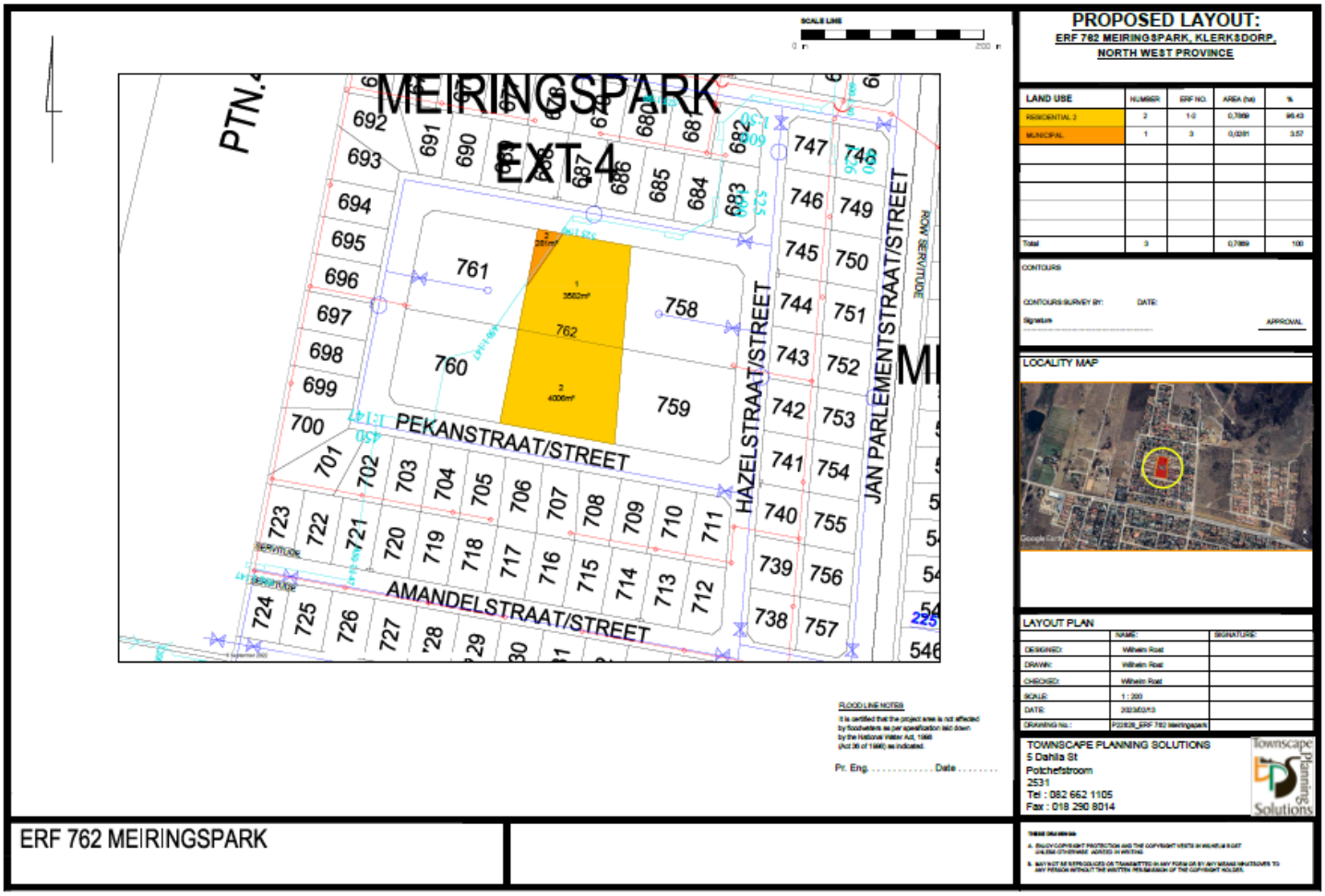


Figure 3: Proposed layout plan Erf 762 Meiringspark

3. Erf 212 Songloed

This erf is 1.2153 ha in extent and it is proposed to be subdivided into 1 Residential 2 erf and 1 Public Open Space, to accommodate the flood line of the Schoonspruit that affects the site. The Residential 2 erf will be 1 497 m^2 in size. See Figure 4 for a copy of the proposed layout plan.

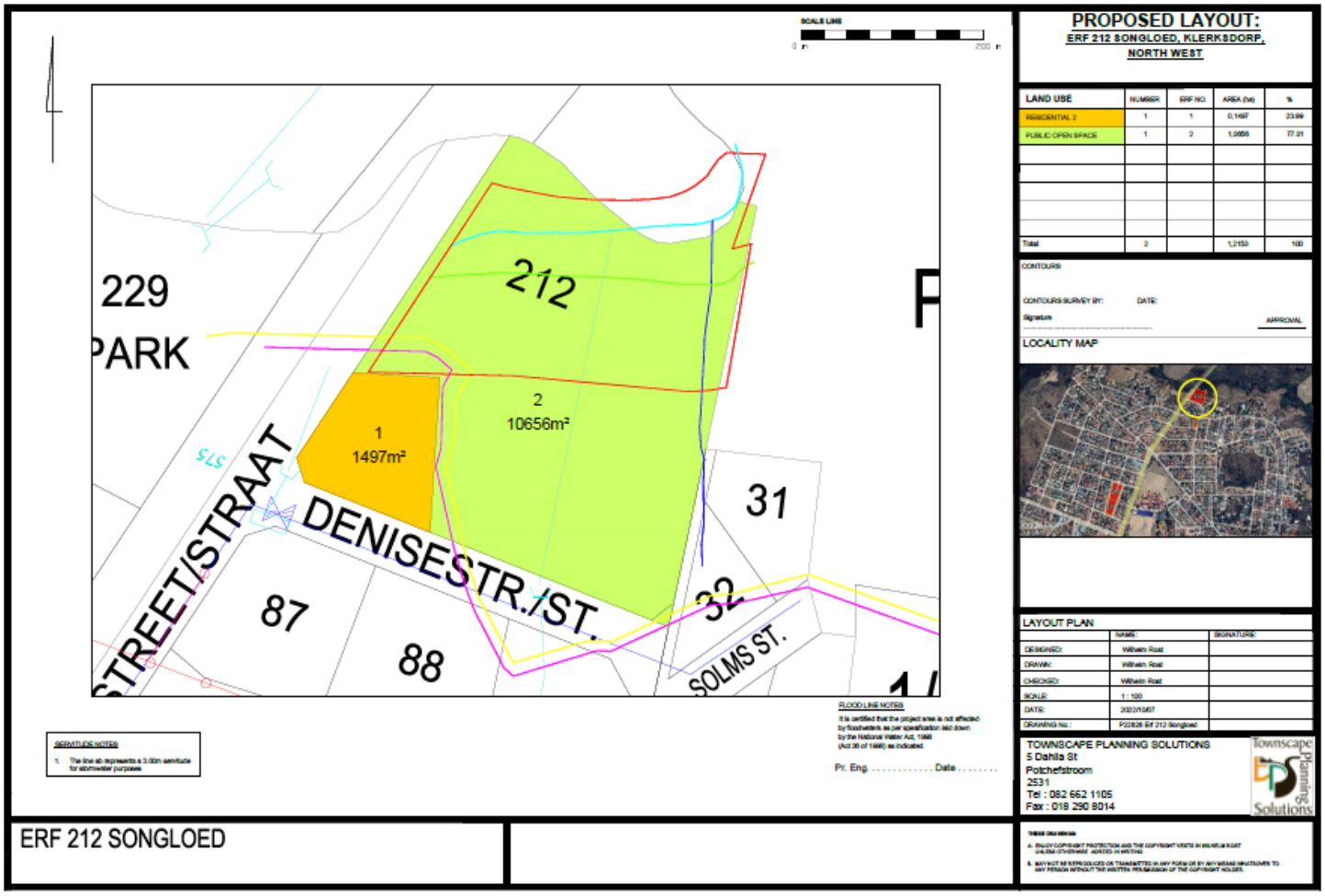


Figure 4: Proposed layout plan Erf 212 Songloed

4. Erf 213 Songloed

This erf is 0.1631 ha in extent and it is proposed to be rezoned to 1 Residential 2 erf. See Figure 5 for a copy of the proposed layout plan

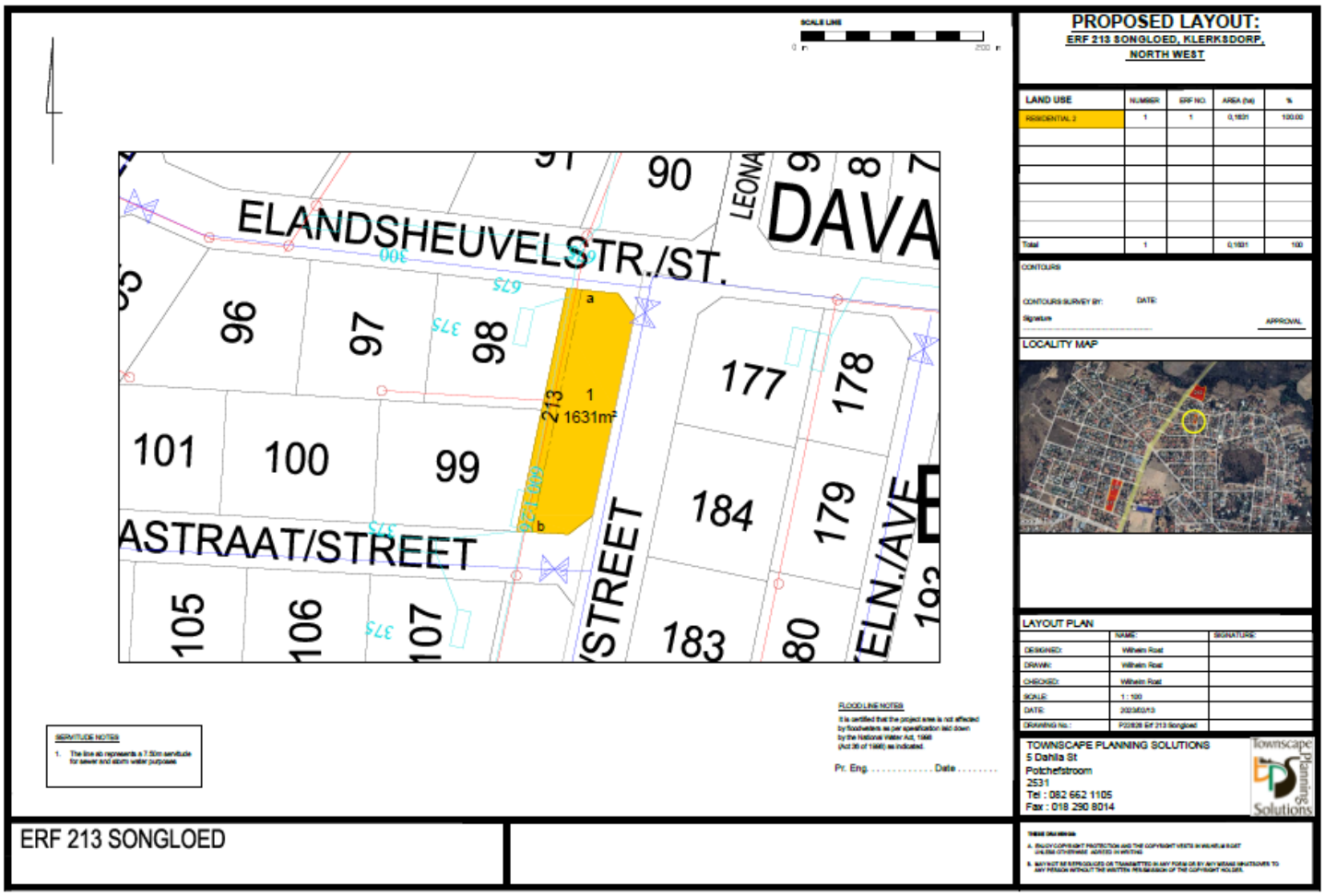


Figure 5: Proposed layout plan Erf 213 Songloed

5. Erf 944 Boetrand

This erf is 0.2886 ha in extent and it is proposed to be subdivided into 2 Residential 2 erven. The erf sizes of the Residential 2 erven will be 1 500m^2 and 1 386 m^2 respectively. See Figure 6 for a copy of the proposed layout plan

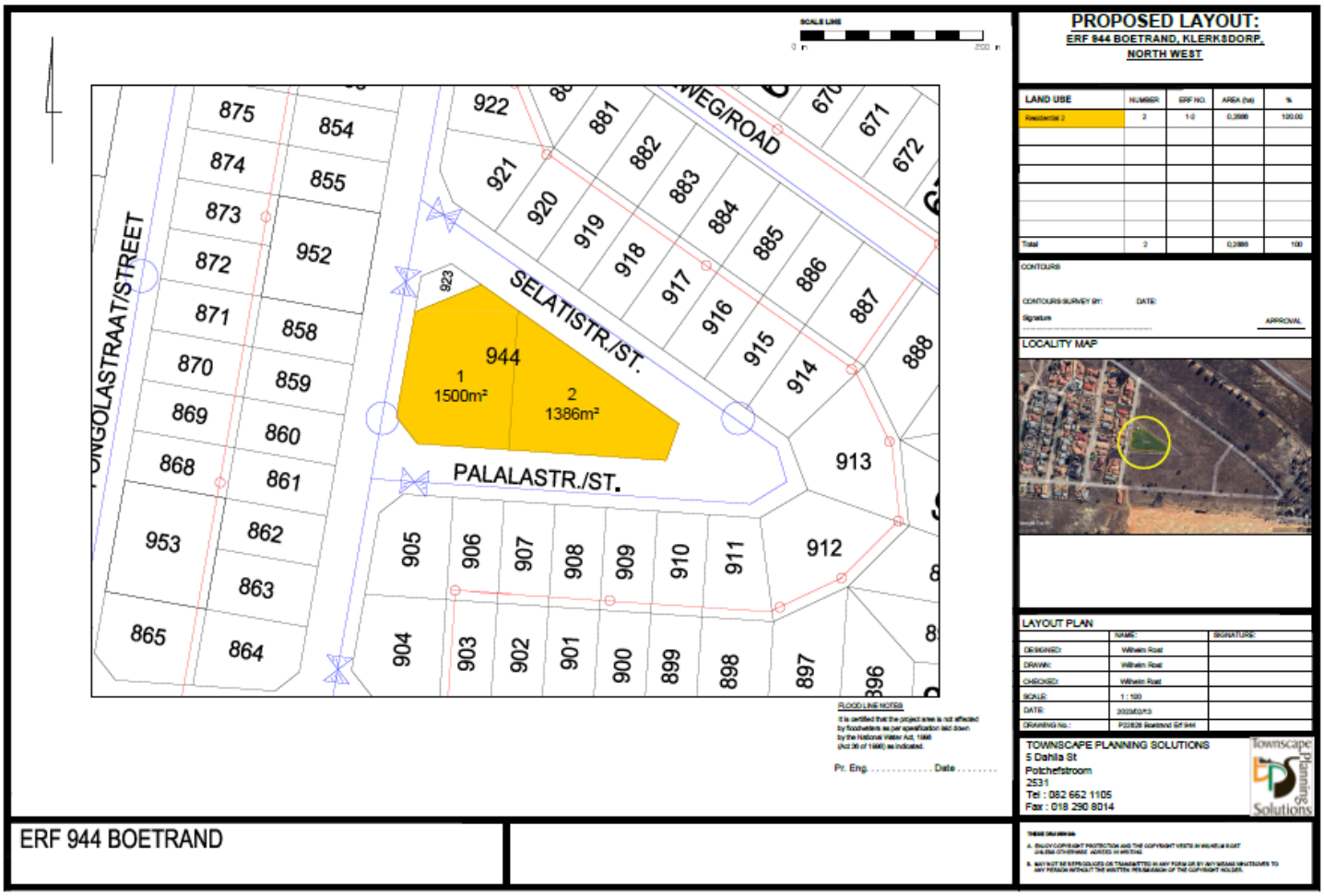


Figure 6: Proposed layout plan Erf 944 Boetrand

6. Erf 6142 Jouberton Ext 10

This erf is 4,3200 ha in extent. This erf is influenced by a koppie and after assessment, it is proposed that only 2.4894 ha of the site will be developed and that a Public Open Space of 1,8306 ha be established in order to preserve the sensitive areas. It is proposed that 44 Residential erven, 3 Public Roads and 1 Institutional erf be established. See Figure 7 for a copy of the proposed layout plan.

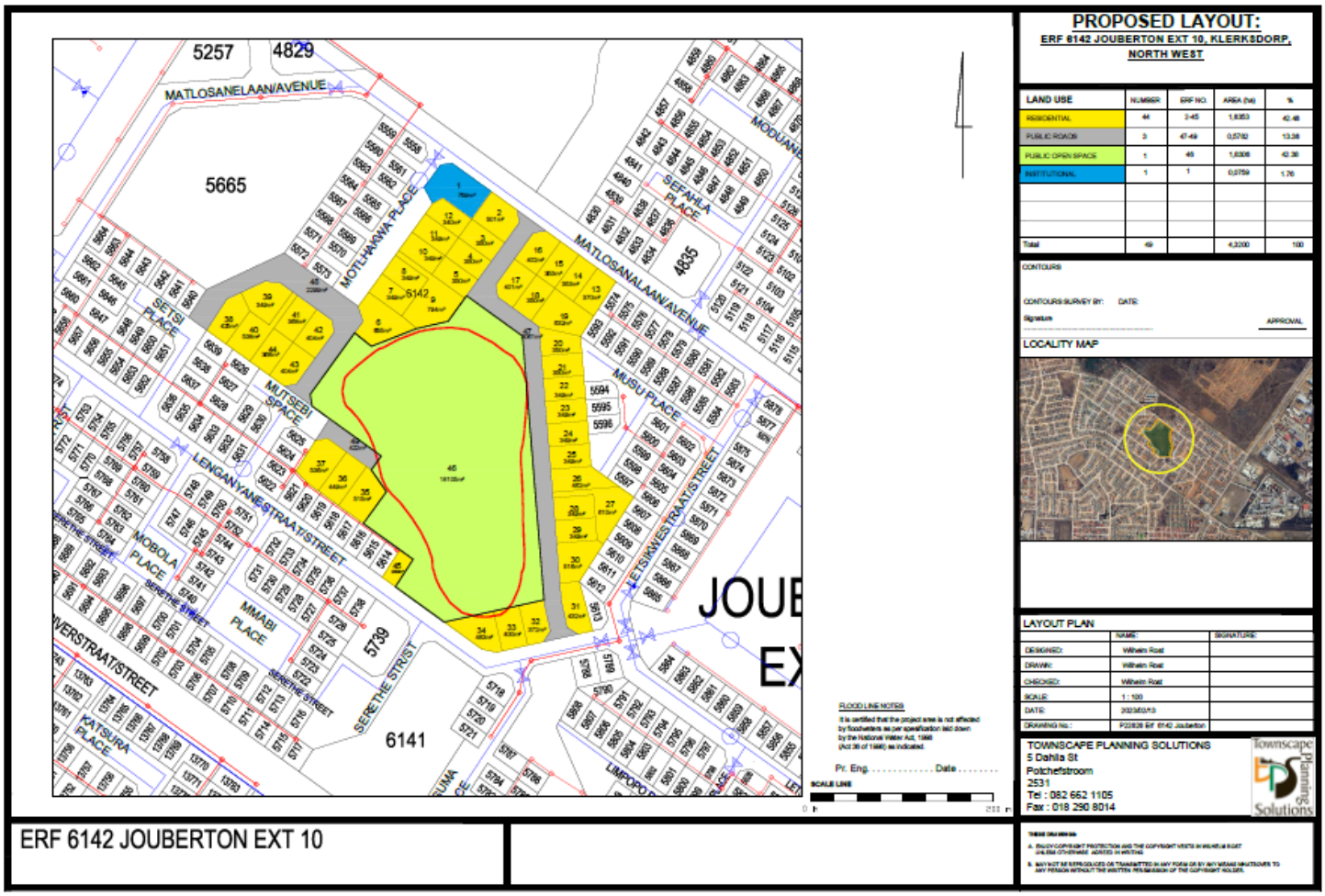


Figure 7: Proposed layout plan Erf 6142 Jouberton Ext 10

Services will connect to Municipal infrastructure that is available in the area.

4. DESCRIPTION OF THE PROPERTIES

The 2015 North West Biodiversity Plan as displayed on the SANBI website indicates that 5 of the development sites falls outside of Critical Biodiversity Areas (CBA). Erf 212 Songloed (Site 3) is located within a Critical Biodiversity area and an Ecological Support Area. The development of the Residential 2 will however fall outside of the CBA and only falls partially within the ESA. Please see Figure 8 for a Map of the Proposed developments in relation to the CBA's.

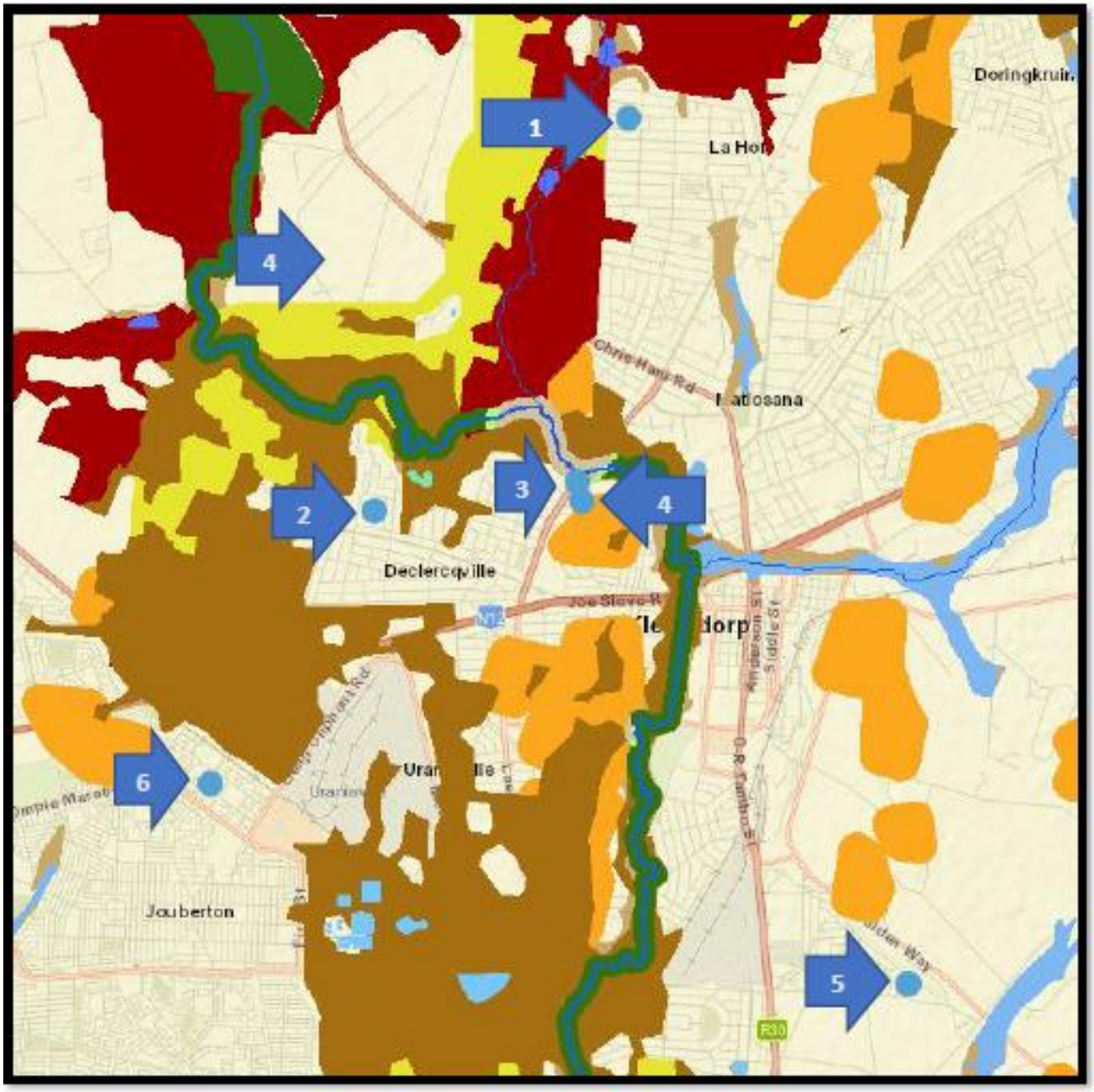


Figure 8: 2015 North West Biodiversity Plan as displayed on the SANBI website

In this section, the various Park erven will be described individually.

1. Erf 1251 La Hoff

This erf is 0.9479 ha in extent and it is proposed to be subdivided into 2 Residential 2 erven and 1 Municipal erf. The erf sizes of the Residential 2 erven will be 4 527m^2 and 4 739 m^2 respectively. The site is located on the corners of Kielblock Street,

Uys Street and Jansen Street, La Hoff. See Figure 9 a and b for locality Maps. There is one Electrical Substation on site and some sort of small excavation, where some dumping of garden waste takes place. The rest of the site is vacant. The Ecological sensitivity of the site was found to be low. See Figure 10 for a sensitivity Map. The site is located on a Gentle slope and is relatively flat. No rocky ridges, wetlands or riparian areas are present on or near the site. The site is covered by terrestrial disturbed grassland. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. A few individuals of a plant species which is not threatened (Least Concern) and listed nationally as a Declining species, *Boophone disticha*, occur at the area. If the development is approved these individual *Boophone disticha* plants should be relocated by a qualified specialist to a suitable site nearby. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at the site is medium. See Photographs 1 and 2.

Photograph 1: Electrical Substation on site and some sort of small excavation, where some dumping of garden waste takes place.

Photograph 2: A few individuals of a plant species which is not threatened (Least Concern) and listed nationally as a Declining species. The rest of the site is vacant and is covered by terrestrial disturbed grassland.

Figure 9 a: Locality Map Erf 1251 La Hoff
Surveyor General 21 Digit Number: T0IP00250000125100000

Figure 9 b: Locality Map Erf 1251 La Hoff in relation to sensitive areas according to the 2015 North West Biodiversity Plan as displayed on the SANBI website.

Figure 10: Sensitivity Map Erf 1251 La Hoff

	Red outline		Boundaries of the site
	Orange outline and shading		Medium sensitivity

Site Co-ordinates

	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only site alternative)	26º	49'	09.75"	26º	39'	09.02"

2. Erf 762 Meiringspark

This erf is 0.7869 ha in extent and it is proposed to be subdivided into 2 Residential 2 erven and 1 Municipal erf. The erf sizes of the Residential 2 erven will be 3 582 m^2 and 4 006 m^2 respectively. The site is located in the middle of a block that is bordered on both sides by Pecan Street, Meiringspark. See Figure 11a and b for a locality Maps. There is an electrical substation and a water pipeline servitude on site. There is also a pile of rocks dumped on site. The remainder of the site lies vacant with signs of dumping garden waste. See Photographs 3, 4 and 5. The Ecological sensitivity of the site was found to be low at some parts and medium at other parts. See Figure 12 for a sensitivity Map. The Topography of the site can be described as gentle slopes on a relatively flat area. No rocky ridges, wetlands or riparian areas are present on or near the site. Vegetation is not natural and can be described as a modified urban grassland with approaching lawn-type of vegetation.

A mixture of planted exotic and indigenous trees are present of which some perhaps germinated naturally. A conspicuous high infestation of alien invasive weeds is present. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small

Photograph 3: There is an electrical substation on site

Photograph 4: There is a pile of rocks dumped on site

Photograph 5: The remainder of the site lies vacant

Figure 11 a: Locality Map Erf 762 Meiringspark
Surveyor General 21 Digit Number: T0IP00320000076200000

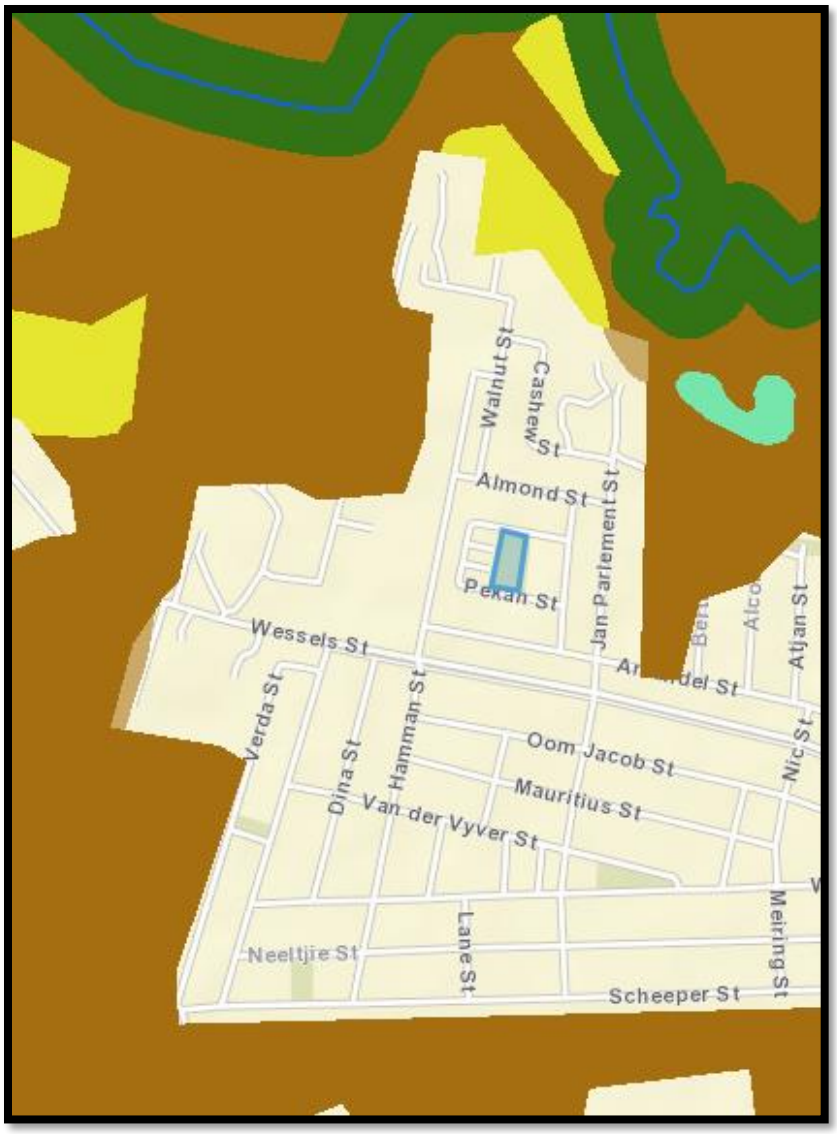


Figure 11 b: Locality Map Erf 762 Meiringspark in relation to sensitive areas according to the 2015 North West Biodiversity Plan as displayed on the SANBI website

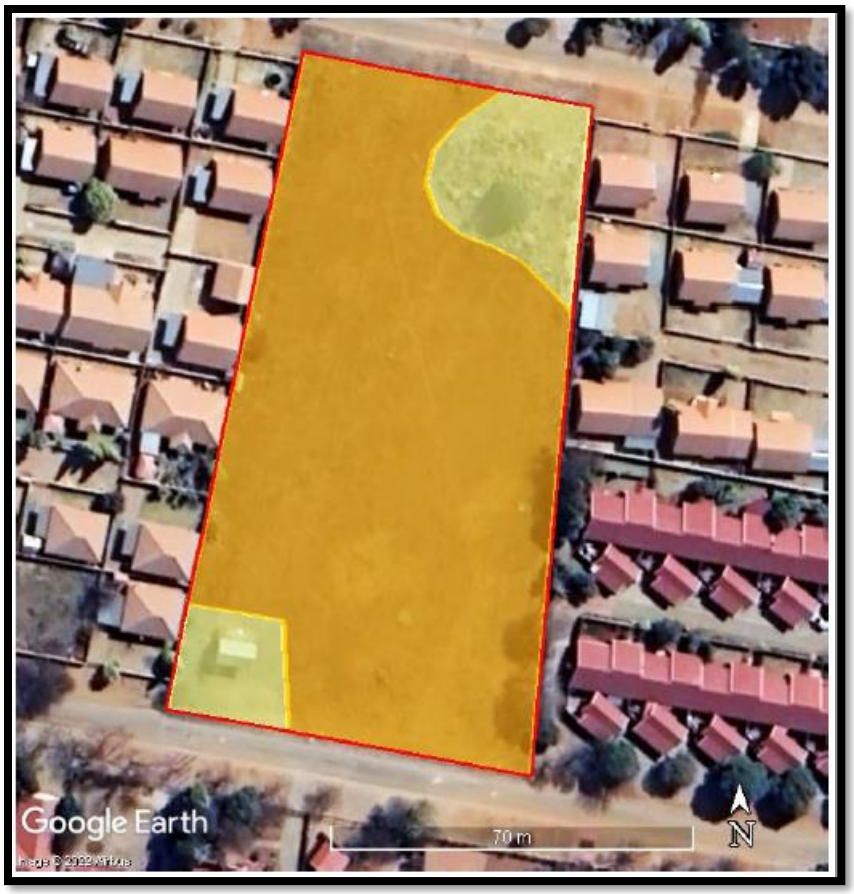


Figure 12: Sensitivity Map Erf 762 Meiringspark

	Red outline	Boundaries of the site
	Orange outline and shading	Medium Sensitivity
	Light yellow outline and Shading	Low Sensitivity

Site Co-ordinates

	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only site alternative)	26º	51'	22.37"	26º	37'	31.35"

3. Erf 212 Songloed

This erf is 1.2153 ha in extent and it is proposed to be subdivided into 1 Residential 2 erf and 1 Public Open Space, to accommodate the flood line of the Schoonspruit that affects the site. The Residential 2 erf will be 1 497 m^2 in size**.** The site is located on the corners of Leemhuis Street and Denise Street, Songloed. See Figure 13 a and b for a locality Maps. The site lies vacant with signs of illegal dumping and solid waste pollution. See Photographs 6 and 7. The ecological sensitivity at the watercourse and its buffer zone is high. The ecological sensitivity at the remaining, extensively degraded, terrestrial area is low. See Figure 14 for a sensitivity Map. The topography consists of gentle slopes on a flat area sloping down to

streambed (active channel). No rocky ridges are present on or near the site. A non-perennial river, which contains an active channel and riparian zone, is present. A terrestrial zone which is extensively degraded occurs at the area. Informal dumping is conspicuous, also along the riparian zone. No Threatened- or Near Threatened animal of plant species appear to be resident at the site. The active channel, riparian zone and buffer zone are a corridor of particular conservation concern in the larger area. The site is located within a Critical Biodiversity area and an Ecological Support Area. The development of the Residential 2 erf will however fall outside of the CBA and only falls partially within the ESA.

Photograph 6: The topography consists of gentle slopes on a flat area sloping down to streambed (active channel)

Photograph 7: The remainder of the site lies vacant with signs of illegal dumping and solid waste pollution

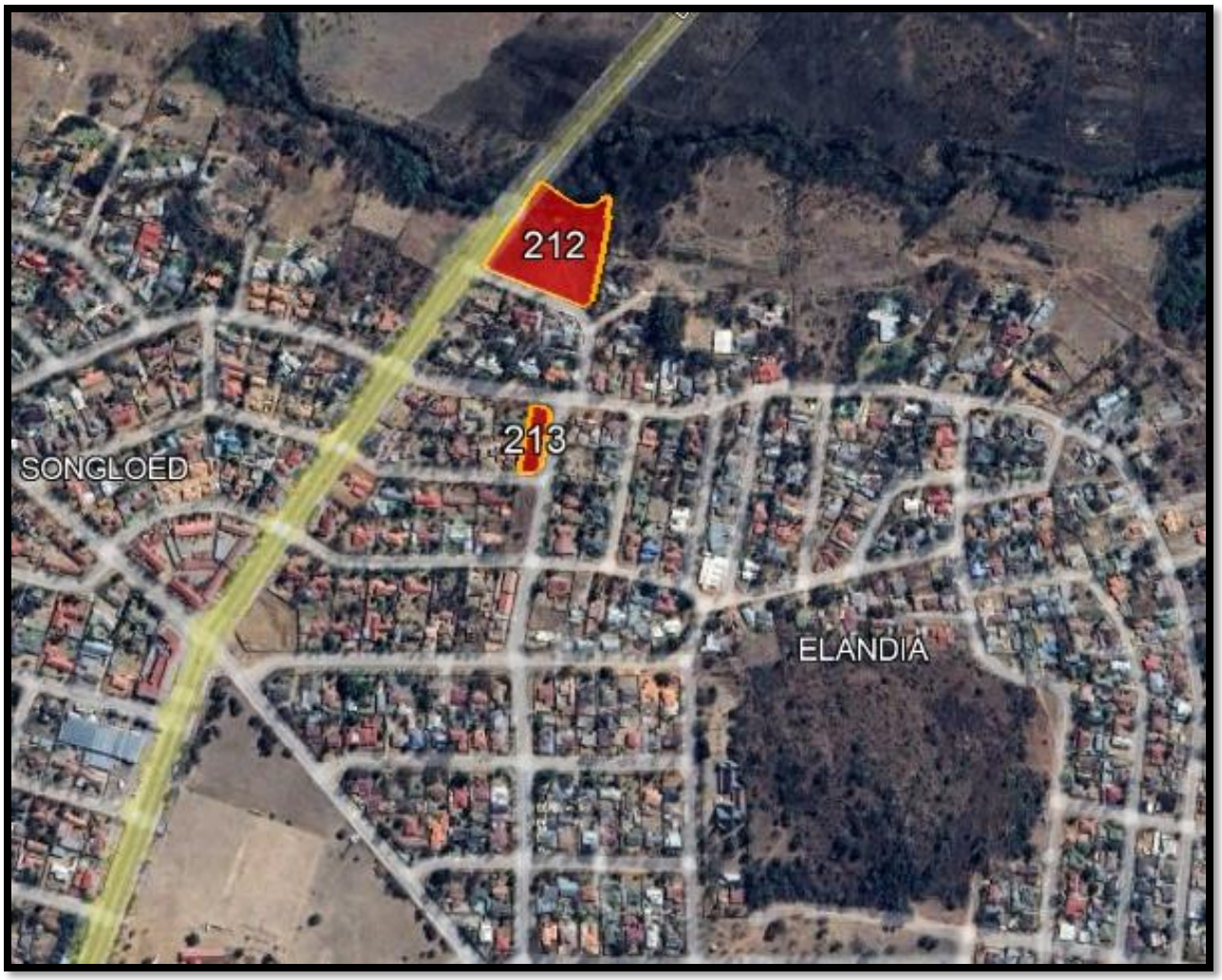


Figure 13a: Locality Map Erf 212 Songloed
Surveyor General 21 Digit Number: T0IP00420000021200000

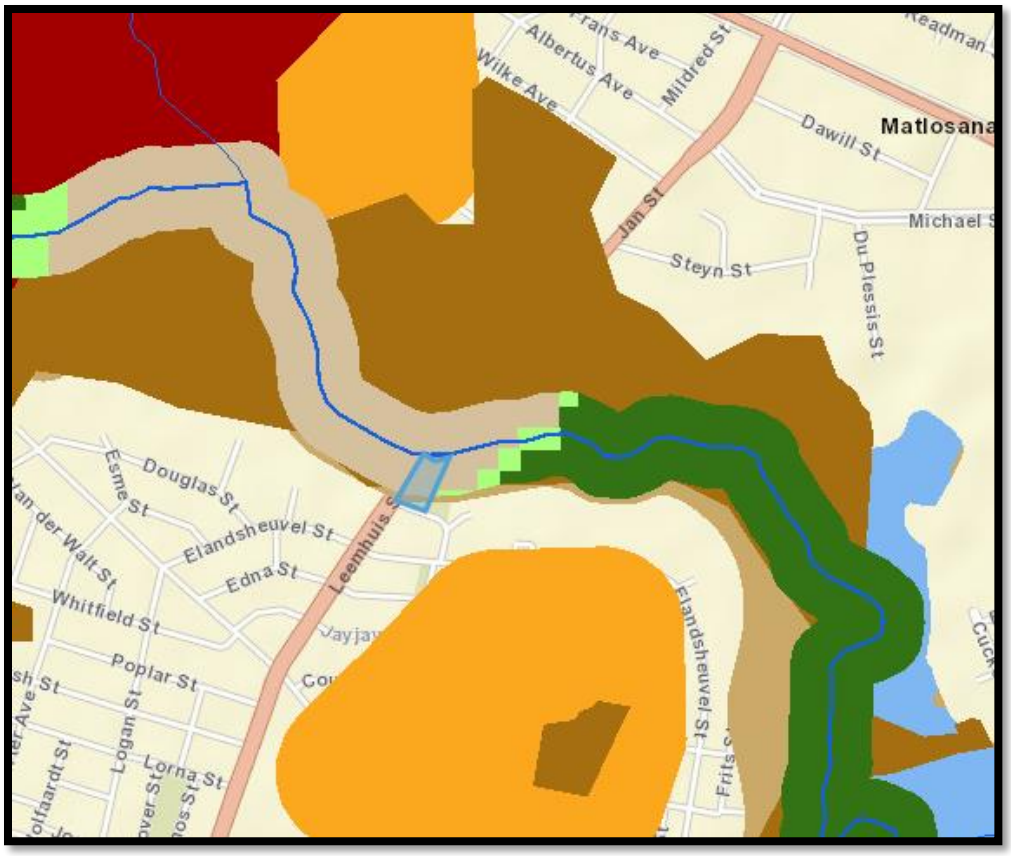


Figure 13 b: Locality Map Erf 212 Songloed in relation to sensitive areas according to the 2015 North West Biodiversity Plan as displayed on the SANBI website. The site is located within a Critical Biodiversity area and an Ecological Support Area. The development of the Residential 2 erf will however fall outside of the CBA and only falls partially within the ESA.

Figure 14: Sensitivity Map Erf 212 Songloed

Red outline	Boundaries of the site
Green outline and shading	High sensitivity
Light yellow outline and shading	Low sensitivity

Site Co-ordinates

	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only site alternative)	26º	51'	12.38"	26º	38'	50.51"

4. Erf 213 Songloed

This erf is 0.1631 ha in extent and it is proposed to be rezoned to 1 Residential 2 erf**.** The site is located between Elandsheuvel Street Edna Street and Donald Street, Songloed. See Figure 15 a and b for a locality Map. The site lies vacant with Informal dumping of garden waste and building rubble. See Photographs 8 and 9. The Ecological sensitivity of the site was found to be low. See Figure 16 for a sensitivity Map. The site is located on gentle slopes and can be described as a relatively flat area. No rocky ridges, wetlands or riparian areas are present on or near the site. Vegetation is not natural and can be described as

an urban lawn area. A mixture of planted exotic and indigenous trees are present of which some perhaps germinated naturally. A conspicuous high infestation of alien invasive weeds is present. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small.

Photograph 6: The site lies vacant.

Photograph 7: Informal dumping of garden waste and building rubble occurs on site

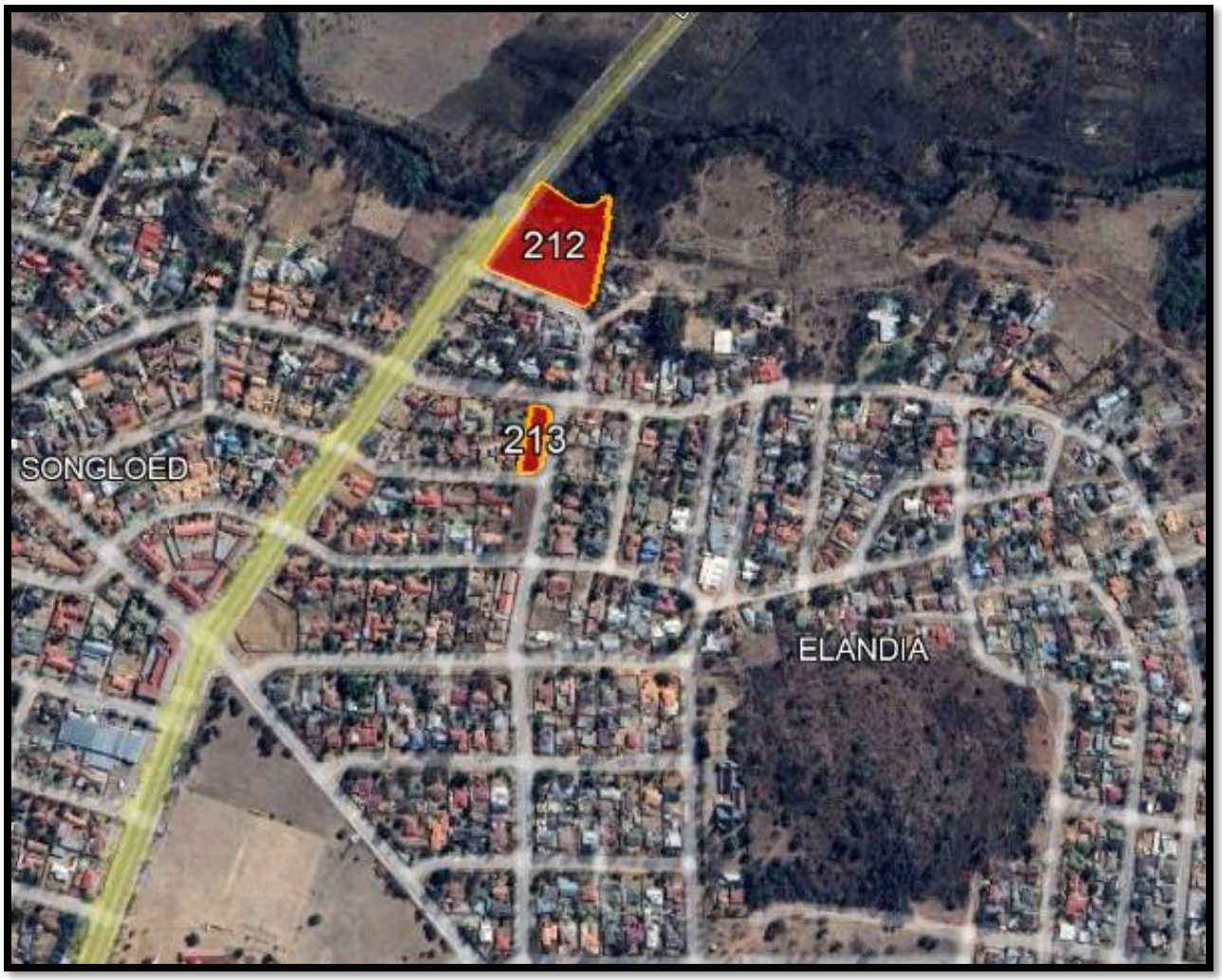


Figure 15a: Locality Map Erf 213 Songloed
Surveyor General 21 Digit Number: T0IP00420000021300000

Figure 15 b: Locality Map Erf 213 Songloed in relation to sensitive areas according to the 2015 North West Biodiversity Plan as displayed on the SANBI website

Figure 16: Sensitivity Map Erf 213 Songloed

	Red outline	Boundaries of the site
	Orange outline and shading	Low Sensitivity

Site Co-ordinates

	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only site alternative)	26°	51'	18.96"	26°	38'	50.94"

5. Erf 944 Boetrand

This erf is 0.2886 ha in extent and it is proposed to be subdivided into 2 Residential 2 erven. The erf sizes of the Residential 2 erven will be 1 500m^2 and 1 386 m^2 respectively. The site is located between Selati Street, Pala Street and Nwanedzi Street, Boetrand. See Figure 17 a and b for locality Maps. The site lies vacant. See Photographs 8 and 9. The Ecological sensitivity of the site was found to be low. See Figure 18 for a sensitivity Map. The Topography consists of gentle slopes on a flat area. No rocky ridges, wetlands or riparian areas are present on or near the site. Vegetation is not natural and can be described as a modified urban grassland; approaching lawn-type vegetation. A mixture of planted exotic and indigenous trees are present of which some perhaps germinated naturally. A conspicuous high infestation of alien invasive weeds is present. Informal dumping of garden waste and building rubble is visible at the area. No Threatened- or Near Threatened animal or

plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small

Photograph 8: The site lies vacant

Photograph 9: Informal dumping of garden waste and building rubble occurs on site.

Figure 17 a: Locality Map Erf 944 Boetrand
Surveyor General 21 Digit Number: T0IP00690000094400000

Figure 17 b: Locality Map Erf 944 Boetrand in relation to sensitive areas according to the 2015 North West Biodiversity Plan as displayed on the SANBI website

Figure 18: Sensitivity Map Erf 944 Boetrand

Red outline	Boundaries of the site		
Orange outline and shading	Medium Sensitivity		

Site Co-ordinates

	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only site alternative)	26º	54'	04.71"	26º	40'	56.96"

6. Erf 6149 Jouberton Ext 10

This erf is 4,3200 ha in extent. This erf is influenced by a koppie and after assessment, it is proposed that only 2.4894 ha of the site will be developed and that a Public Open Space of 1,8306 ha be established in order to preserve the sensitive areas. It is proposed that 44 Residential erven, 3 Public Roads and 1 Institutional erf be established. The site is located adjacent to Matlosana Drive and Limpopo Street, Jouberton, Extension 10. See Figure 19a and b for locality Maps. The site lies vacant. See Photographs 10 and 11. The rocky ridge is isolated and visibly impacted by negative urban edge effects. The entire site is overall visibly disturbed and degraded. Wetlands or riparian areas are absent. No Threatened or Near Threatened animal- or plant species are anticipated to be present at the site. Despite being conspicuously disturbed, the rocky ridge at the site is part of a stepping stone corridor of particular conservation concern in the larger area. It is unlikely that a buffer zone has any practical application in the case of this rocky ridge. The site therefore contains the rocky ridge as an area of high ecological sensitivity, whereas the remainder of the site is of medium and low sensitivity. The functionality of the rocky ridge as a stepping

stone in a biodiversity corridor appears to be compromised, though further assessment to its future falls beyond the scope of this report. See Figure 20 for a sensitivity Map.

Photograph 10: The rocky ridge is isolated and visibly impacted by negative urban edge effects

Photograph 11: The entire site is overall visibly disturbed and degraded.

Figure 19 a: Locality Map Erf 6149 Jouberton Ext 10
Surveyor General 21 Digit Number: T0IP00610000614200000

Figure 19 b: Locality Map Erf 6149 Jouberton Ext 10 in relation to sensitive areas according to the 2015 North West Biodiversity Plan as displayed on the SANBI website.

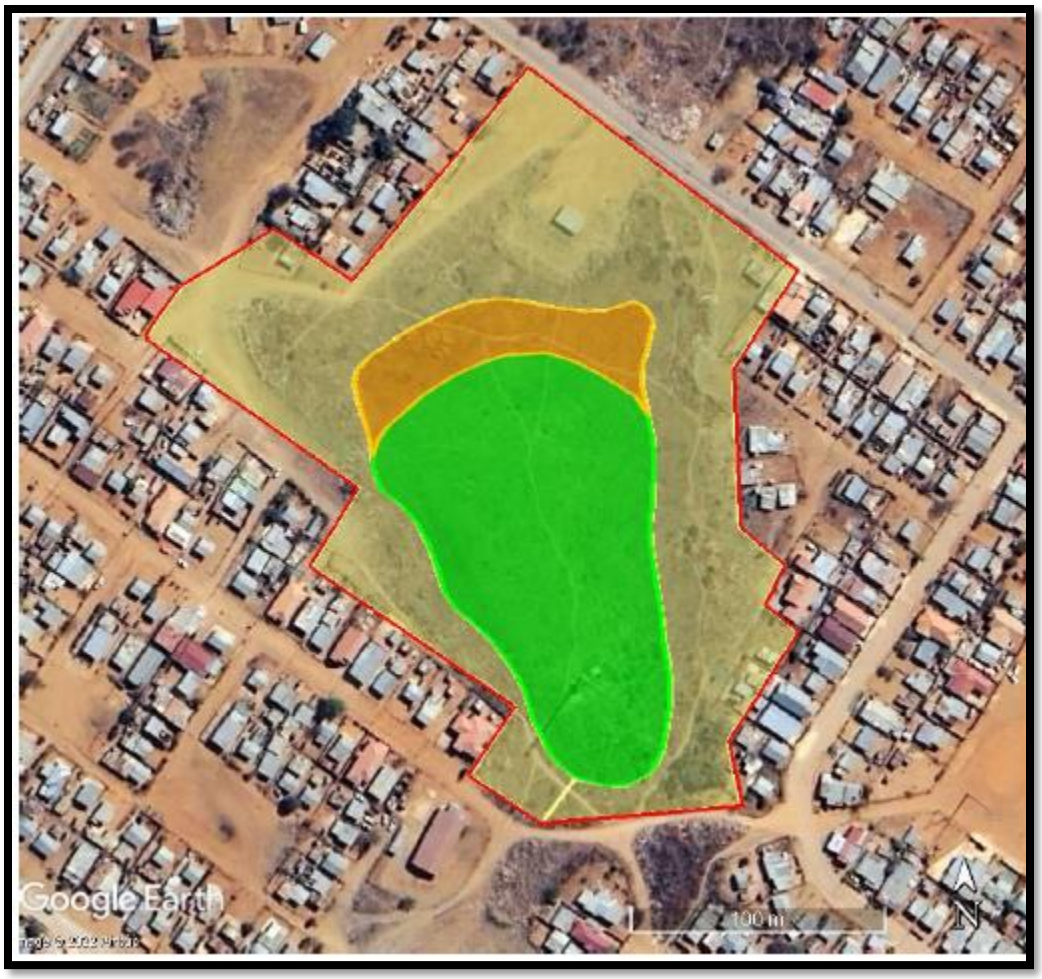


Figure 20: Sensitivity Map Erf 6149 Jouberton Ext 10

Red outline	Boundaries of the site
Green outline and shading	High sensitivity
Orange outline and shading	Medium sensitivity
Light yellow outline and shading	Low sensitivity

Site Co-ordinates

	Latitude (S):			Longitude (E):		
Alternative S1 (preferred or only site alternative)	26°	52'	54.76"	26°	36’	28.36"

5. LEGAL AND OTHER REQUIREMENTS

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act No. 107 of 1998 as amended.	NEMA is the guiding legislation that has been considered during the Environmental Impact Assessment process and the compilation of this Scoping Report.	NW:DEDECT	27 November 1998
The Bill of Rights, Constitution of South Africa, Section 27 (1)(b)	The Constitution of the Republic of South Africa is the legal source of all law, including environmental law, in South Africa. The Bill of Rights is fundamental to the Constitution of South Africa and in, section 24 of the Act, it is stated that: Everyone has the right (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. Given that environmental management is founded partly on the principles of public participation, Section 195 of the Constitution is of primary relevance: (1) Public administration must be governed by the democratic values and principles enshrined in the constitution, including the following principles: (a) (b) (c) (d) (e) Peoples needs must be responded to, and the public must be encouraged to participate in policymaking. (f) Public administration must be accountable. (g) Transparency must be fostered by providing the public with timely, accessible and accurate information (Government Gazette, 1996).	National Government	1994
New Regulations 2014 in terms of NEMA	Legislation consulted during the environmental impact assessment process to determine whether any listed activities would be triggered. The Regulations were also consulted to determine inter alia the requirements regarding the contents of Scoping reports and the public participation process that should be followed.	NW: DEDECT	7 April 2017
National Water Act (36 OF 1998)	National Water Act (NWA), 1998 (Act 36 of 1998) is the primary statute providing the legal basis for water management in South Africa and has to ensure ecological integrity, economic growth and social equity when managing and using water.	Department of water and sanitation	1998

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	The major objectives of the National Water Act are to: •Aid in providing basic human needs; •Meet the growing demand of water in a sustainable manner; •Ensure equal access to water and use of water resources; •Protect the quality of water of natural resources; •Ensure integrated management of water resources; •Foster social and economic development; and •Conserve aquatic and related ecosystems. Section 19 of the National Water Act states that the person responsible for land upon which any activity is or was performed which causes, has caused or is likely to cause, pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.		
National Environmental Management: Biodiversity Act (NEMBA) (ACT NO. 10 OF 2004)	The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004), provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith. In terms of Chapter 4 of the Above Act: 52. (1) (a) The Minister may, by notice in the Gazette, publish a national list of ecosystems that are threatened and in need of protection. (b) An MEC for environmental affairs in a province may, by notice in the Gazette, publish a provincial list of ecosystems in the province that are threatened and in need of protection. (2) The following categories of ecosystems may be listed in terms of subsection: (a) critically endangered ecosystems, being ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation;	NW: DEDECT	2004

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	(b) endangered ecosystems, being ecosystems that have undergone degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems; (c) vulnerable ecosystems, being ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems; and (d) protected ecosystems, being ecosystems that are of high conservation value or of high national or provincial importance, although they are not listed in terms of paragraphs (a), (b) or (c). (3) A list referred to in subsection (1) must describe in sufficient detail the location of each ecosystem on the list. 53 (1) The Minister may, by notice in the Gazette, identify any process or activity in a listed ecosystem as a threatening process. (2) A threatening process, identified in terms of subsection (1) must be regarded as a specified activity contemplated in section 24(2)(b) of the National Environmental Management Act (1998) and a listed ecosystem must be regarded as an area identified for the purpose of that section.		
National Environmental Management: Protected Areas Act (ACT NO. 57 OF 2003)	This Act aims to provide for a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity. The Protected Areas Act tries to ensure the protection of the entire range of biodiversity, referring to natural landscapes and seascapes. The Act makes express reference to the need to move towards Community Based natural Resource Management (CBNRM) as its objectives include promoting the participation of local communities in the management of protected areas. The purpose of the Act is: •To protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes and their ecological integrity. •To conserve biodiversity in those areas; •To protect South Africa's rare species; •To protect vulnerable or ecologically sensitive areas; •To assist in ensuring the sustained supply of environmental goods and services; •To provide for the sustainable use of natural and biological resources;	National Department of Environmental Affairs	2003

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	•To create or augment destinations for nature-based tourism; •To manage the interrelationship between natural environmental biodiversity, human settlement and economic development; •To contribute to human, social, cultural, spiritual and economic development; •To rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species. This Act further stipulates various criteria which must be met before an area can be declared as a special nature reserve, national park, nature reserve and protected environment. It also prescribes a range of procedures, including consultation and public participation procedures which must be followed before any of the kinds of protected areas are declared.		
National Heritage Resources Act, Act No. 25 of 1999	Legislation consulted during the impact assessment process, to determine the legal requirements relating to the management of heritage resources that are present in and around the site.	SAHRA	1999
National Environmental Management: Waste Act, Act No. 59 of 2008, DEDECT together with the List of Waste Activities that Have, or are Likely to Have, a Detrimental Effect on the Environment, GN No. 921 of 29 November 2013	Legislation consulted to determine whether a waste licence will have to be obtained for the development.	NW:DEDECT Waste Section	2008
National Environmental Management: Air Quality Act (Act 39 of 2004)	To protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social Development. Construction activities may cause some air pollution.	Department of Environmental Affairs: Directorate Air quality management	2004
The Conservation of Agricultural Resources Act (Act 43 of 1983)	This Act regulates the flow pattern of runoff water, control of weeds and invader plants.	NW: Department of Agriculture	1983
National Veldt and Forest Fire Act (Act 101 of 1998)	Chapter 4 places a duty on owners to prepare and maintain firebreaks.	Department of Agriculture, Forestry and Fisheries	1998
National Forests Act, Act 84 of 1998 (NFA) DEDECT with GN1602 of December 2016.	During the construction phase of the development certain protected trees may be affected. Licences will have to be obtained from the Minister before the affected trees may be cut, disturbed, damaged or destroyed. GN1602 of December 2016 contains the list of protected trees.	Department of Agriculture, Forestry and Fisheries	1998
Occupational Health and Safety Act (Act 85 of 1993)	To provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery and the protection of persons other than persons at work against hazards to health.	Department of Employment and labour	1993

5.2 (i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and

(ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments explanation of how the proposed development complies with and responds to the legislation and policy context

5.2.1 Existing Land use Rights:

The current zoning of all 6 of the sites are Public Open Space.

5.2.2 Provincial Spatial Development Framework (PSDF)

In terms of the Provincial Growth and Development Strategy **(**PGDS) the following key programmes of the Economic enhancement initiative were identified:

- The provincial economy needs to become more productive, more competitive and more diversified.
- Promote labour absorbing activities through Small Enterprises to support and promote private stimulation of rural economies.
- To promote skills development and training in economic practices to enhance economic growth.

5.2.3 Urban Edge/ Edge of built environment

The sites are located within the urban edge of the City of Matlosana Local Municipality

5.2.4 Spatial Development Framework (SDF) of the Local Municipality.

The Integrated Development Plan consists mainly of broad strategies and projects guiding and integrating capital investment, focussed development in the areas of inter alia planning, environmental programmes, economic development, transport, waste management, and services, etc. The purpose of an Integrated Development Plan is to increase the municipal performance in terms of the pre-determined vision.

5.2.5 Spatial Planning and Land Use Management Act, Act 16 of 2013, (SPLUMA).

The Spatial Planning and Land Use Management Act, Act 16 of 2013, (SPLUMA) came into operation on the 1st of July 2015 and has changed the Planning profession to such an extent that Planning can no longer be used as a tool to separate people and communities. The objectives are:

- *provide for a uniform, effective and comprehensive system of spatial planning and land use management for the Republic;*
- *ensure that the system of spatial planning and land use management* ***promotes social and economic inclusion****;*
- *provide for* ***development principles and norms and standards****;*
- *provide for the* ***sustainable and efficient use of land****;*
- *provide for cooperative government and intergovernmental relations amongst the national, provincial and local spheres of government; and*
- *Redress the imbalances of the past and to ensure that there is equity in the application of spatial development planning and land use management systems.*

SPLUMA's desired outcomes:

- Coherent regulatory framework;

- Constitutional synergy (clear delineation, distribution & allocation of powers among spheres);
- Predictable and transparent regulatory system; and
- Clear, rational and efficient inter-linkages of sectoral and intersphere planning tools and policies.

The following guidelines are given for Land Use Management:

- Land resources are used for a variety of purposes which interact and may compete with one another; therefore, it is desirable to plan and manage all uses in an integrated manner.
- Land use management examines all uses of land in an integrated manner, it makes it possible to minimize conflicts, to make the most efficient trade-offs and to link social and economic development with environmental protection and enhancement, thus helping to achieve the objectives of sustainable development.
- The essence of the integrated approach finds expression in the coordination of the sectoral planning and management activities concerned with the various aspects of land use and land resources.
- Integration should consider all environmental, social and economic factors.
- Integrated consideration facilitates appropriate choices and trade-offs, thus maximizing sustainable productivity and use. The broad objective is to facilitate allocation of land to the uses that provide the greatest sustainable benefits and to promote the transition to a sustainable and integrated management of land resources.

Provincial Priority 4 states the following:

- Address the apartheid geography and create the conditions for more humane – and environmentally sustainable – living and working environments.
- It is important to address the entrenched spatial patterns that exacerbate social inequality and economic inefficiency, cognisant of the unique needs and potentials of different rural and urban areas in line with emerging development corridors.
- Active citizenship in spatial development should be supported through properly funded interventions that encompass citizen-led neighbourhood vision and planning processes; and the introduction of social compacts.
- Settlement planning should ensure the creation of spaces that are liveable, equitable, sustainable, resilient and efficient, and that support economic opportunities and social cohesion.

  The proposed development complies with the principles as set out above in the sense that the proposed development will be contribute to economic growth in the area

The study is conducted in such a way as to comply with the instructions regarding such studies and reports (as contained within the above-mentioned documents).

5.2.6 Integrated Environmental Management as set out in Section 23 of NEMA as amended.

The IEM guidelines encourage a pro-active approach to sourcing, collating and presenting information in a manner that can be interpreted at all levels. The basic principles underpinning IEM are that there be: informed decision-making;

- accountability for information on which decisions are taken;
- accountability for decisions taken;
- a broad meaning given to the term environment (i.e. one that includes physical, biological, social, economic, cultural, historical and political components);
- an open, participatory approach in the planning of proposals;
- consultation with interested and affected parties;
- due consideration of alternative options;

- an attempt to mitigate negative impacts and enhance positive aspects of proposals;
- an attempt to ensure that the 'social costs' of development proposals (those borne by society, rather than the developers) be outweighed by the 'social benefits' (benefits to society as a results of the actions of the developers);
- democratic regard for individual rights and obligations;
- compliance with these principles during all stages of the planning, implementation and decommissioning of the proposals (i.e. from 'cradle to grave'); and
- the opportunity for public and specialist input in the decision-making process.

The general objectives of Integrated Environmental Management have been taken into account in this Basic Assessment report by means of identifying, predicting and evaluating the actual and potential impacts on the environment, socio-economic conditions and cultural considerations and cultural heritage component. The risks, consequences, alternatives as well as options for mitigation of activities have also been considered with a view to minimise negative impacts, enhance benefits and promote compliance within the principles of environmental management.
Additionally the Basic Assessment process will be undertaken to ensure I&APs have been afforded the opportunity to comment on the proposed activity and that their comments/inputs/concerns will be taken into consideration during the assessment process.

5.2.7 The principles of environmental management as set out in Section 2 of NEMA

The principles of NEMA have been considered in this assessment through compliance with the requirements of the relevant legislation in undertaking the assessment of potential impacts, as well as through the implementation of the principle of sustainable development.
This process will be undertaken in a transparent manner and all efforts will be made to involve interested and affected parties, stakeholders and relevant Organs of State such that an informed decision can be made by the Regulating Authority.

The following aspects have been dealt with:

SCHEDULE

Actions	Timeframe
1 Communication with authorities and source and analyse relevant baseline information and undertake site inspections	3 days
2 Compile Environmental Application Form for the project	2 days
3 Compile an *information requirements list* to be distributed to the project team. The Information required would assist with completion of the BAR.	2 days
4 Identify key interested and affected parties (I&APs)	1 day
5 Compilation of terms of reference for specialist studies	2 days
6 Commission specialist studies	1 day
7 Compile draft BAR and make available to the public for a 30 day commenting period and submit the application form to the competent authority. **<u>NB:</u> According to the new Regulations a BAR must be submitted 90 days after the application has been submitted. The implication is that all information must be available within 80 days after submitting the Application.**	3 days for compilation and 30 days for commenting period (The competent authority has 90 days to request additional information or to refuse the application, from the date of submission)
8 Prepare an Information Sheet (summary of the draft BAR) and distribute to I&APs	1 day
9 Compile and publish media notices (for the BAR) in relevant newspapers	7 – 10 days depending on the day the newspaper is published
10 Compile and place poster/s along the boundary of the site	1 day
11 Hold a public meeting / Open House / focus meeting with I&APs	1 day
12 Receive and address first round of comments from public	3 days

13 Should the draft BAR require substantial changes, these changes will be incorporated into the draft BAR and distributed	Included above (allow an additional 50 days to include #14 below)
14 Allow the identified public to provide comment within a 30 day period on above report.	3 days for compilation and 30 days for commenting period (Competent authority has an additional 50 days)
15 Address comments received on the draft BAR, Finalise BAR and update comments and response table; finalise Basic Assessment Report and submit to authorities	5 days
16 Submit final BAR to authorities for a final decision	1 day, The department has 107 days from the date of receipt to review and come to a final decision.
17 Once the decision is issued, all I&Ps must be formally informed of the decision	20 days
TOTAL AMOUNT OF DAYS:	**197 days**

6. NEED AND DESIRIBILITY

Planning practices of the past has dictated that a certain percentage of new residential development be allocated as Park erven. The purpose of these Park erven was to provide a safe space where children can play and adults can socialise and come together as a community. These Park erven were often provided with playground apparatus such as “swings”, “slides”, “jungle gyms” etc. and were maintained by the Local Municipality. For various Political and Social reasons, especially on the Platteland, these Park erven have become derelict, unused and for most parts un-maintained, resulting in these erven becoming a haven for the homeless and criminals to sleep and gather, illegal dumping and littering. Most of these erven have become a safety and security risk for the Residents of the area.

As a result of the above mentioned, the City of Matlosana has decided to close and sub-divide these Park erven and to provide well-designed erven that can be sold off with the correct zoning to complement the surrounding neighbourhoods. The intention is to propose erven that are more or less the same size as the ones currently available in the area. It was also decided to refurbish and relocate all remaining playground apparatus to one central park, being the remaining extent of erf 103 Wilkoppies (located opposite of Wesvalia High School) as this erf is centrally located and is also one of the few Park erven that is still relatively well maintained, (albeit mostly privately/community based maintenance) The site is home to the Klerksdorp Park Run, a Bird Park and a Tennis Club.

In the National Framework for Sustainable Development (NFSD) it is stated that *"the achievement of sustainable development is not a once-off occurrence and its objectives cannot be achieved by a single action* or *decision. It is an ongoing* process *that requires* a *particular set of values and attitudes in which economic, social and environmental assets that society has at its disposal, are managed in* a *manner that sustains human well-being without compromising the ability of future generations to meet their own need.* The NFSD further continues to emphasize that South Africa's current development path in certain instances reflects signs of being unsustainable in the long-term. It highlights that a large percentage of growth in economic activity (measured in terms of its contribution to the GDP) is achieved by *"consuming' natural resources and degrading our habitat at accelerating rates with the inevitable consequence that future economic growth and development objectives will be prejudiced."*

Consistent with national priorities, environmental authorities must support *"increased economic growth and promote social inclusion",* whilst ensuring that such growth is *"ecologically sustainable".* In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably.

The local municipality intends to promote a more compact city in order to prevent the expansive provision of social and engineering services, as well as to prevent the economic decline of the traditional city centre. The Spatial Development Framework (SDF) addresses the scale or urban growth through planned extensions, infill and redevelopment strategies. It also addresses measures to promote compact and connected growth opportunities, such as the identification of revitalisation zones, densification and mixed land use zones.

The planning practices of the past has resulted in sprawling urban areas that are un-economical. Today, planning policies are transformed to mainly encourage infill development on vacant land within the urban environment, in order to combat urban sprawl. The proposed development falls in line with these principals, as it is infill development within the urban area.

During the construction phase, temporary employment will be created. The increased employment in the area during the construction phase will also result in increased expenditure, which, in addition, will mean that more than just the proposed jobs required for the construction on the site will be created due to economic spin-offs that will result. Due to the nature of the proposed development it will lead to an increase in employment opportunities in the operational phase and will contribute to the broadening of the income base and alleviation of poverty within the Local Municipality.

7. ALTERNATIVES

One of the objectives of the Basic Assessment process is to investigate alternatives to the proposed project. The IEM procedure stipulates that the environmental investigation needs to consider feasible alternatives for any proposed development. Therefore, a number of possible proposals or alternatives for accomplishing the same objectives should be identified and investigated. In order to ensure that the proposed development enables sustainable development, feasible alternatives must be explored (S. Cliff, 2015).

The identification, description, evaluation and comparison of alternatives are important for ensuring a sound environmental scoping process. Alternatives should be considered as a norm within the Environmental Process (S. Cliff, 2015).

The alternatives considered for the proposed development includes alternative development sites (including the No-go option). The various alternatives that will be assessed is in terms of environmental, social and technical feasibility.

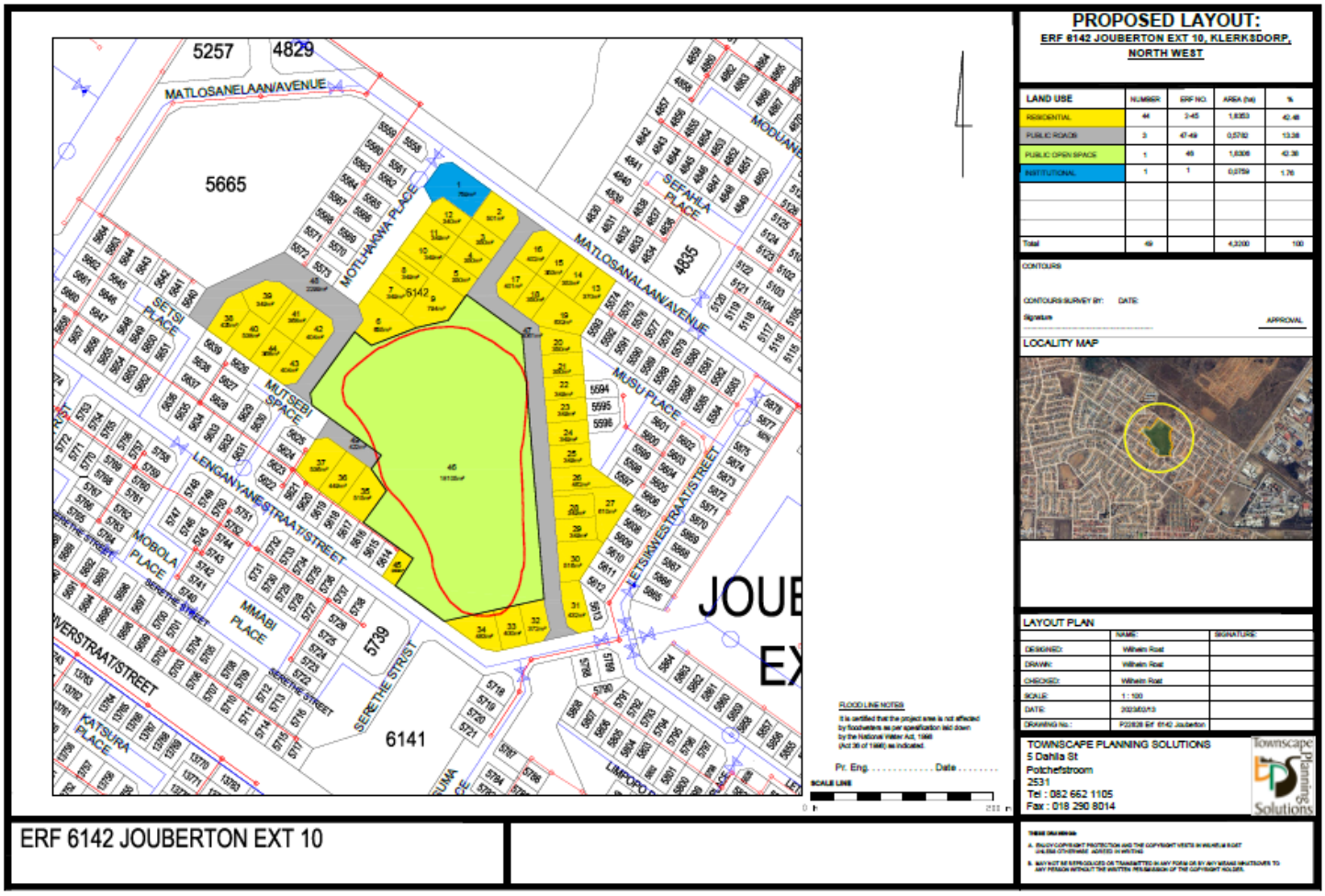
7.1 Alternative development sites and Alternative Layout Plan

7.1.1 "Closing of eleven (11)" Park Erven (Alternative 1 – Preferred alternative)

The following Park Erven has been identified as erven that will be Rezoned and subdivided:

- Erf 1251 La Hoff
- Erf 762 Meiringspark
- Erf 213 Songloed
- Erf 212 Songloed
- Erf 944 Boetrand
- Erf 6149 Jouberton Ext 10

An alternative Layout Plan has also been developed for Remainder of Erf 103 Wilkoppies. The preferred alternative is for the Establishment of 1 Business erf, 1 Special erf and 1 Recreational erf. Please see preferred layout plan below.



7.1.2 "Closing of fourteen (14)" Park Erven (Alternative 2)

- Erf 1251 La Hoff
- Erf 762 Meiringspark
- Erf 213 Songloed
- Erf 212 Songloed
- Erf 944 Boetrand
- Erf 6149 Jouberton Ext 10
- **Erf 410 Freemanville**
- **Remaining extent of Erf 96 Roosheuvel**
- **Erf 17 299 Jouberton Ext 16**

The last 3 erven were considered to be rezoned and subdivided, but after further investigation it was found that the sensitivity of these 3 sites were too high. Erf 410 Freemanville is located at a sensitive koppie, Remaining Extent of Erf 96 Roosheuvel is too steep for development purposes while Erf 17 299 Jouberton Ext 16 is located in an area saturated with water.

In terms of the Alternative Layout Plan that was considered Erf 6149 Jouberton Ext 10, the Fauna and Flora Habitat Specialist has found that the site is influenced by a koppie and after delineation of the sensitive areas, an area of 1,8306 ha was deemed undevelopable.

7.1.3 No-go Alternative

The only other alternative that exists for the proposed development is the “no-go” option which will imply that the status quo will prevail. Planning practices of the past has dictated that a certain percentage of new residential development be allocated as Park erven. The purpose of these Park erven was to provide a safe space where children can play and adults can socialise and come together as a community. These Park erven were often provided with playground apparatus such as “swings”, “slides”, “jungle gyms” etc. and were maintained by the Local Municipality. For various Political and Social reasons, especially on the Platteland, these Park erven has become derelict, unused and for most parts un-maintained, resulting in these erven becoming a haven for the homeless and criminals to sleep and gather, illegal dumping and littering. Most of these erven has become a safety and security risk for the Residents of the area.

Should this option be implemented, the status quo will remain, and the areas will remain a health and safety risk for the inhabitants of the area. Therefore this option was discarded.

8. DESCRIPTION OF THE ENVIRONMENT THAT MAY BE AFFECTED BY THE PROJECT

8.1 BIO-PHYSICAL ASPECTS

8.1.1 TOPOGRAPHY

The Topography of 5 of the sites can be described as gentle slopes on a relatively flat area. No rocky ridges are present on or near any of these sites. In relation to Erf 6149 Jouberton Extension 10 a low rocky ridge is present. The Layout plans address issues regarding storm water. As the proposed developments will be in close proximity to residential areas, safety of children and people need to be taken into consideration.

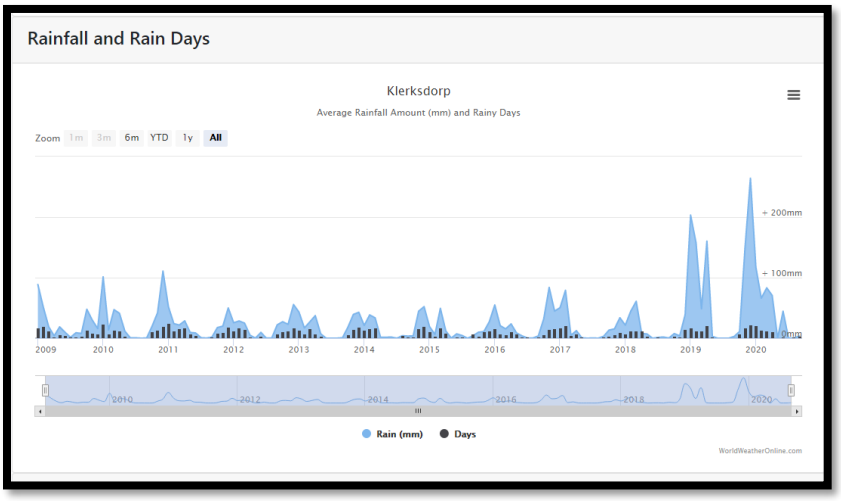
8.1.2 CLIMATE

The climate of the area is typical of the South African interior. In the discussion of this variable, certain aspects of rainfall, temperature and wind that can influence the project will be highlighted.

It must be noted that the climatic data are recorded in the Department of Environmental Affairs (1988) climatic data records. Data for Klerksdorp weather station (0436/292) is available. This records were only taken between 1903-1952.

8.1.2.1. Rainfall

The average annual rainfall for the area is 625mm per annum. The highest annual rainfall recorded during the period for which the record is available is 980 mm (1976), while a yearly low of 365mm was recorded in 1903. Of note is the maximum-recorded daily rainfall of 140mm that was recorded during December 1943. Of importance is the fact that monthly minima of zero rainfall have been recorded for 6 months of the year. More recent data (last 10 years' average rainfall) is indicated below for Klerksdorp:



Source: www.worldweatheronline.com/klersdorp-weather-averages/north-west/za.aspx
(Visited: 14/10/2020)

The variability of rainfall as well as the high intensity events will definitely influence the project. On average however, the impact of rainfall can be considered as positive, as sufficient water is generally available for sustaining vegetation. Extreme dry conditions during dry spells will negatively affect the project due to the secondary effects on vegetation as well as the possibility of fire hazards. Extreme maximum events can also have a negative effect on the project during all its phases.

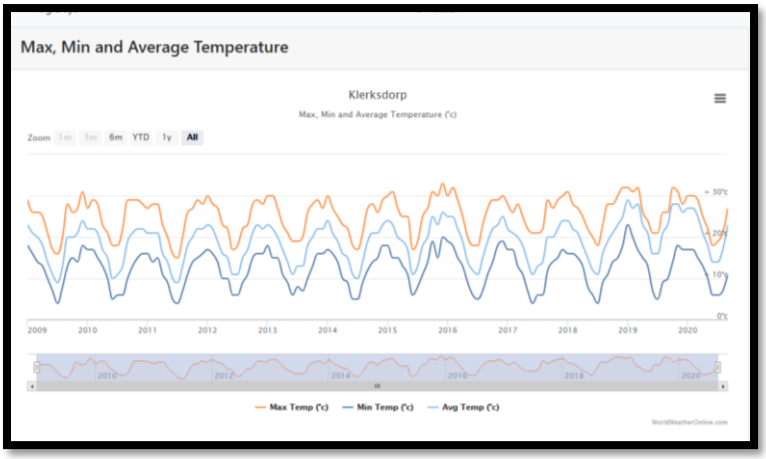
The overall impact can therefore be considered to be "variable" during the construction and operational phases (local in extent and long term in duration). The likelihood that these impacts may occur is probable, medium in intensity and significance. Steps to mitigate negative effects will be described in various sections of the Management Plan.

Due to the scale of the operation, the rainfall of the area cannot be affected by the project and is therefore "Not Applicable".

8.1.2.2. Temperature

The average daily maximum temperature for the winter months for the area is approximately 20º C. The average daily minimum for that time of the year is in the order of 2,0º C.

During the summer months, the average daily maximum is in the order of 28º C and the daily average minimum approximately 14ºC. The highest daily maximum recorded was 39,2ºC while the lowest recorded temperature was -10,2ºC.



Source: www.worldweatheronline.com/klersdorp-weather-averages/north-west/za.aspx
(Visited: 14/10/2020)

In combination with a dry spell, such hot temperatures may be favourable for the spreading of veldfires.

The general impact of this variable on the project can be considered as positive during the construction and operational phases. The impacts can however be considered as having low intensity impacts of low significance. The extent is local and short term in duration.

Due to the scale of the project, it is clear that it will have no impact on the environment".

8.1.2.3. Wind

The average wind direction for the area during the summer months is from the north-to-north easterly quadrant, while during the early spring the direction is more north westerly. Southerly winds generally occur during the winter, but are not frequent. Normally very little wind is experienced during the winter due to the presence of the high-pressure cell situated over the country during that time of the year.

The wind speeds are normally fairly low, but high wind speeds may occur during early spring and during of thundershowers.

Wind can be considered as having a low intensity, and a low significance negative impact on the construction and operational phases of the project. The probability is probable and the impacts are local but short in duration. The project can have no influence on the wind and is therefore "not applicable.

Climate Change

Climate change is a natural phenomenon that takes place over geological time. However, over the past few decades the rate of climate change has been more rapid and the magnitude of global warming has increased dramatically (Warburton, M.L and Schulze, R 2006; Warburton, M.L 2012). This change has been attributed to increased anthropogenic greenhouse gas emissions (Koske, J and Ochieng, M.A 2013). For example, the burning of coal to generate electricity, the burning of petrol in cars, some chemical processes in industries, and many farming activities all contribute to the increased concentration of greenhouse gasses in the atmosphere.

Climate change is not just an increase in average global temperatures but changes in regional climate characteristics such as rainfall, relative humidity and severe weather extremes (Davis, C.L 2011). Climate change can manifest as a shock or a stress (Ziervogel, G and Calder, R 2003). Shocks are defined as discrete, extreme events (rapid onset) such as floods, while gradual change (slow onset) such as long-term climate variability is classified as a stress (Ziervogel, G and Calder, R 2003).

The negative impacts of climate change "are already felt in many areas, including in relation to, inter alia, agriculture, and food security; biodiversity and ecosystems; water resources; human health; human settlements and migration patterns; and energy, transport and industry" (United Nations WomenWatch 2009, 1).

Measures should be implemented to reduce or eliminate carbon emissions or enhance greenhouse gas sinks (mitigation) (Böckmann, M 2015). However, due to lag times in the climate and biophysical systems, the positive impacts of past and current mitigation will only be noticeable in the next 25 years (Jiri, O 2016). In the meanwhile, adaptation is regarded as inevitable and a necessary response to the changes that are projected to take place.

A summary of the key vulnerability indicators is provided in the table below.

No	Sector	Indicator Title	Exposure Answer	Sensitivity Answer	Adaptive Capacity Answer
7	Agriculture	Change in other crop production areas (e.g. vegetables, nuts, etc.)	Yes	High	Low
10	Agriculture	Increased risks to livestock	Yes	High	Low
12	Biodiversity and Environment	Loss of High Priority Biomes	Yes	High	Low
15	Biodiversity and Environment	Loss of Priority Wetlands and River ecosystems	Yes	High	Low
25	Human Health	Increased malnutrition and hunger as a result of food insecurity	Yes	High	Low
32	Human Settlements, Infrastructure and Disaster Management	Increased migration to urban and peri-urban areas	Yes	High	Low
33	Human Settlements, Infrastructure and Disaster Management	Increased risk of wildfires	Yes	High	Low
37	Water	Less water available for irrigation and drinking	Yes	High	Low
38	Water	Increased impacts of flooding from litter blocking storm water and sewer systems	Yes	High	Low

Key Vulnerability indicators

Based on the key indicators identified in the table above, the following objectives and projects are prioritised as a response to each of the indicators.

Agriculture

The agricultural sector will be adversely affected by climate change. Increased temperatures, drought, and the increase in frequency and severity of storm events will impact on the crops that can be grown and potentially result in a loss of livestock.

Biodiversity and Environment

Climate change predictions include the shifting of biomes across South Africa. It is projected that, with the changes in climate under a high-risk scenario, the Savanna biome will replace large areas of the Grassland biome. Terrestrial, wetland, and river ecosystems and their associated species will be negatively impacted. Furthermore, development and changes in land use will impact negatively on the environment.

Biodiversity is crucial to ecosystem health, and healthy ecosystems are central to human well-being. Healthy ecosystems interlinked with working landscapes and other open spaces form the ecological infrastructure of the country and are the foundation for clean air and water, fertile soil and food. All South Africans depend on healthy ecosystems for economic and livelihood activities, including agriculture, tourism and a number of income generating and subsistence level activities. These natural ecosystems are under pressure from land use change and related processes causing degradation, as well as invasive alien species. Accelerated climate change (resulting in increasing temperature, rising atmospheric CO2 and changing rainfall patterns) is exacerbating these existing pressures.

Well-functioning ecosystems provide natural solutions that build resilience and help society adapt to the adverse impacts of climate change. This includes, for example, buffering communities from extreme weather events such as floods and droughts, reducing erosion and trapping sediment, increasing natural resources for diversifying local livelihoods, providing food and fibre, and providing habitats for animals and plants which provide safety nets for communities during times of hardship. Sustainably managed and/or restored ecosystems help in adapting to climate change at local or landscape level.

Objectives

The following objectives have been identified

- Manage Loss of High Priority Biomes
- Manage Loss of Priority Wetlands and River ecosystems

Human Health

Climate change impacts affect the social and environmental determinants of health and will therefore affect human health in several ways. Projected temperature increases due to climate change will negatively affect the young and elderly population of the district. People working in the informal sector usually work outdoors and are therefore exposed to all weather elements and are particularly vulnerable to temperature increases.

South Africa faces complex and pressing public health challenges exacerbated by adverse socio-economic conditions including dense informal settlements which constrain effective service delivery. These health challenges include a disease complex with the highest global prevalence of Human Immunodeficiency Virus (HIV) and tuberculosis (TB), complicated by water-borne and chronic respiratory disease.

Under-nutrition and socio-economic stress are important contributors to poor human resilience and contribute to conditions that facilitate the emergence and propagation of disease. Malnutrition and disease interact strongly, and there is a key relationship between environmental quality, food security, and the disease burden of communities. Adaptation to the potential effects of climate change on human health is viewed in this context. However, significant knowledge and information gaps are preventing well supported quantitative projections of human health impacts in South Africa.

Objectives

The following objectives have been identified.

- Manage increased malnutrition and hunger as a result of food insecurity

Disaster Management, Infrastructure and Human Settlements

Climate change impacts will affect Disaster Management, Infrastructure and Human Settlements in several ways. Increases in the severity of storm events and increase in flooding will damage infrastructure which may result in a loss of industrial productivity and service delivery disruptions. The impacts of storm events will particularly affect communities located in informal settlements, on flood plains and where there is poor drainage infrastructure. In addition, communities in rural areas that depend on subsistence farming may be unable to grow crops that they have grown in the past due to the changing climate. It is predicted that there will therefore be an increase in rates of rural-urban migration. Rural communities may also become more physically isolated due to extreme events impacting on key infrastructure.

South Africa is a diverse country, not just in terms of populations and biodiversity, but also in terms of its human settlements. These settlements face severe challenges, even before climate change is taken into account. The implications of the compounding impacts of climate change will be profound, and human settlements therefore represent a crucial part of national adaptation strategies. The overarching strategic framework for the development of human settlements is described in the National Development Plan (NDP) and, more specifically in relation to the implications for climate change, in the National Climate Change Response White Paper (NCCRWP).

However, to develop appropriate adaptation responses a more nuanced understanding of the challenges and options for human settlements is required, building on the insights of the NCCRWP. This understanding needs to take into account the unusually diverse urban forms of human settlement in the South African context, and the importance of ecological infrastructure in supporting service delivery and building resilient communities.

Objectives

The following objectives have been identified

- Manage potential increase migration to urban and peri-urban areas.

Manage potential increased risk of wildfires

Water

Water resources are the primary medium through which climate change impacts will be felt by South Africans (Schulze et al., 2014). Climate change will affect water accessibility, quantity, and quality (Parikh, J 2007). Drought, reduced runoff, increased evaporation, and an increase in flood events will impact on both water quality and quantity.

South Africa's climate is generally arid to semi-arid, with less than 9% of annual rainfall ending up in rivers, and only about 5% recharges groundwater in aquifers. In addition, rainfall and river flow are unpredictable in time and unevenly distributed in space, with only 12% of the land area generating 50% of stream flows. Decadal rainfall variability also results in extended dry and wet periods across the country. The main users of surface water resources are agricultural irrigation, domestic, industrial, mining and power generation, while plantation forestry intercepts and reduces runoff before it reaches the rivers and groundwater.

Surface water resources were already over-allocated by the year 2000 in five of nineteen water management areas historically used for water planning and management purposes. The potential demand for water is expected to increase with economic growth, increased urbanisation, higher standards of living, and population growth. Because of the critical importance of water in the South African economy the country has a sophisticated water resources planning capacity, founded on a good understanding of the country's variable rainfall. This planning capacity will be a key capability for adaptation planning under ongoing and future climate change.

Objectives
The following objectives have been identified

- Manage the quantity of water available for irrigation and drinking
- Manage the increased impacts of floods due to litter blocking the sewer system

Cross-Cutting
The projected impacts of climate change could ultimately negatively impact the economy. Since the Agricultural sector is an important contributor to the economy and the projected impacts of climate change on agriculture could negatively impact on the economy.

The projected impacts of climate changecould ultimately negatively impact the economy of district. Since the Agricultural sector is an important contributor to the district economy and the projected impacts of climate change on agriculture could negatively impact on the district economy as a whole. It should also be noted that the project impacts of climate change could also negatively impact on the finances of the municipality. For instance, water shortages will require the implementation of demand management measures by the district resulting in lower water sales.

Climate change is a relatively new field in South Africa and research on economic impact of climate change is required for the field to get the attention that is needed.

Objectives
The following objectives have been identified

Generate knowledge and disseminate information on climate change

8.1.3 SURFACE DRAINAGE, WETLANDS AND RIPARIAN ZONES

Wetlands such as floodplain wetlands, channelled valley-bottom wetlands, un-channelled valley-bottom wetlands, depressions, seeps and wetland flats appear to be absent at 5 of the sites. At Erf 212 Songloed A non-perennial river, which contains an active channel and riparian zone, is present. A terrestrial zone which is extensively degraded occurs at the area. Informal dumping is conspicuous, also along the riparian zone. No Threatened- or Near Threatened animal of plant species appear to be resident at the site. The active channel, riparian zone and buffer zone are a corridor of particular conservation concern in the larger area. The ecological sensitivity at the watercourse and its buffer zone at Erf 212 Songloed is high. The ecological sensitivity at the remaining, extensively degraded, terrestrial area at Erf 212 Songloed is low. See Figure 22 below for a delineation map.

Figure 22: Active channels, riparian zones and buffer zones at the Remainder of Erf 103, Wilkoppies.

Red outline	Boundaries of the site
Blue outline	Route of active channel of non-perennial streambed
Green outline	Outer edge of riparian zone
Orange outline	Outer edge of buffer zone (32 m)
Dark blue outline and shading	Artificial waterbody

8.1.4 FLORA AND FAUNA

Grassland at the sites is represented by the Vaal-Vet Sandy Grassland (Gh 10) vegetation type (Mucina & Rutherford, 2006).

Gh 10 Vaal-Vet Sandy Grassland

Distribution: In South Africa the Vaal-Vet Sandy Grassland is present in the North-West Province and Free State Province. Vaal-Vet Sandy Grassland ranges from south of Lichtenburgand Ventersdorp to Klerksdorp, Leeudoringstad, Bothaville and to the Brandfort areas north of Bloemfontein. Altitude ranges from 1 220 – 1560 m for the entire vegetation type (Mucina & Rutherford 2006).

Vegetation and landscape features: Plains-dominated landscape with some scattered, slightly undulating plains and hills. Mainly low-tussock grasslands with an abundant karroid element are present. Dominance of *Themeda triandra* is an important feature of this vegetation unit. Locally low cover of *Themeda triandra* and the associated increase in *Elionurus muticus*, *Cymbopogon pospischilii* and *Aristida congesta* is attributed to heavy grazing and/or erratic rainfall. Geology and soils: Aeolian and colluvial sand overlying sandstone, mudstone, and shale of the Karoo Supergroup (mostly the Ecca group) as well as older Ventersdorp Supergroup and basement gneiss in the north (Mucina & Rutherford 2006).

Climate: Warm-temperate, summer-rainfall climate, with overall mean annual precipitation of 530 mm. High summer temperatures. Severe frost (37 days per year on average) occurs in winter (Mucina & Rutherford 2006).

Important taxa of the Vaal-Vet Sandy Grassland listed by Mucina & Rutherford (2006): Graminoids: *Anthephora pubescens, Aristida congesta, Chloris virgata, Cymbopogon caesius, Cynodon dactylon, Digitaria argyrograpta, Elionurus muticus, Eragrostis chloromelas, Eragrostis lehmanniana, Eragrostis plana, Eragrostis trichophora, Heteropogon contortus, Panicum gilvum, Setaria sphacelata, Themeda triandra, Tragus berteronianus, Brachiaria serrata, Cymbopogon pospischilii, Digitaria eriantha, Eragrostis curvula, Eragrostis obtusa, Eragrostis superba, Panicum coloratum, Pogonarthria squarrosa, Trichoneura grandiglumis, Triraphis andropogonoides.* Herbs: *Stachys spathulata, Barleria macrostegia, Berkheya onopordifolia* var. *onopordifolia, Chamaesyce inaequilatera, Geigeria aspera* var. *aspera, Helichrysum caespititium, Hermannia depressa, Hibiscus pusillus, Monsonia burkeana, Rhynchosia adenodes, Selago densiflora, Vernonia oligocephala.* Geophytic Herbs: *Bulbine narcissifolia*, *Ledebouria marginata*. Succulent Herb: *Tripteris aghillana* var. *integrifolia.* Low shrubs: *Felicia muricata, Pentzia globosa, Anthospermum rigidum subsp. pumilum, Helichrysum dregeanum, Helichrysum paronychioides, Ziziphus zeyheriana*.

Note: Not all of the above listed plant species for the vegetation types occur at the site in the study area.

Vegetation at the terrestrial zones of the sites ranges from disturbed more natural grassland to urban lawn vegetation where grassland has been extensively modified. At tne grassland, with more natural elements, vegetation consists of a grass layer that contains some forbs and a few exotic or indigenous trees. Conspicuous covers of the shrub *Asparagus laricinus* at Erf 616 Ellaton approaches bush encroachment. Clumps of the alien invasive *Eucallyptus camaldulensis* are present at large parts of Erf 616 Ellaton. Indigenous grass species at the sites with more natural grassland include *Cynodon dactylon, Aristida congesta*, *Eragrostis lehmanniana, Eragrostis curvula, Eragrostis superba, Melinis repens, Setaria sphacelata*, *Sporobolus africanus* and *Chloris virgata*. Indigenous forb species include *Hilliardiella oligocephala, Gazania krebsiana, Senecio consanguineus*, *Bulbine narcissifolia, Conyza podocephala* and *Monsonia angustifolia*. At most of the sites the grassland is not natural and can be described as an urban lawn area with some trees. A mixture of planted exotic and indigenous trees are present at these lawns of which a few probably germinated naturally. A conspicuous high infestation of alien invasive weeds is present at these lawns. Alien invasive herbaceous weed species are conspicuous at the sites and include include *Physalis viscosa, Argemone ochroleuca, Plantago lanceolata, Tagetes minuta*, *Bidens bipinnata*, *Bidens pilosa*, *Gomphrena celosioides*, *Schkuhria pinnata*, *Conyza bonariensis*, *Guileminea densa*, *Verbena bonariensis*, *Alternanthera pungens, Verbena aristigera* and *Chenopodium album*.

Vegetation at the riparian zone at Erf 212 Songloed consists of a visibly dense tree layer that abruptly ends at the intersection with the terrestrial zone. Exotic tree species are conspicuously frequent at the riparian zone and include *Melia azedarach*, *Salix babylonica, Gleditsia triacanthos, Eucalyptus camaldulensis* and *Morus alba*.

No Threatened or Near Threatened plant or animal species appear to be resident at the sites. No other plant species of particular conservation concern appears to be present at the site with the exception of Erf 410 Freemanville where a few individuals of the Protected tree species *Boscia albitrunca* (Shepherd's Tree), is present. Protected Tree species are listed under the National Forests Act No. 84 of 1998. In terms of a part of section 15(1) of Act No. 84 of 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export,

purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister. A permit will be needed to remove any of these individual *Boscia albitrunca* trees, in cases where removal of individual trees cannot be avoided.

An Endangered ecosystem, the Vaal-Vet Sandy Grassland vegetation type, is mapped for the site. During surveys at the site, it was found that the original vegetation type has been modified or transformed or exists as degraded grassland at the remaining patches. A high degree of isolation is also present at all the sites, with many negative urban ecological edge effects visible. The scope for the sites to distinctly contribute to the conservation of Vaal-Vet Sandy Grassland, is small.

Grassland at most of the sites has been extensively modified. Many areas appear trampled. A few buildings are found at the study area, normally one or two per site. Informal dumping is present and extenstive at some sites. Exotic trees are planted at many of the sites. invasive herbaceous weeds are conspicuous at many areas at the site and conspicuously dense infestation of alien invasive weeds is present at some sites.

The non-perennial Skoonspruit river, the associated riparian zone and buffer zone at Erf 212 Songloed is a corridor of particular conservation importance. The artificial waterbody at Erf 17299 Jouberton is part of a stepping stone corridor of particular conservation concern in the larger area. Despite being conspicuously disturbed, the rocky ridge at the site is part of a stepping stone corridor of particular conservation importance in the larger area. There is little scope for the remainder of the sites to be part of a corridor of particular conservation importance.

Summaries of the sites at the study area:

Erf 1251 La Hoff. Gentle slopes, relatively flat area. No rocky ridges are present at Erf 1251 La Hoff. No wetlands or riparian areas are present. The site is covered by terrestrial disturbed grassland. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. A few individuals of a plant species which is not threatened (Least Concern) and listed nationally as a Declining species, *Boophone disticha*, occur at the area. If the development is approved these individual *Boophone disticha* plants should be relocated by a qualified specialist to a suitable site nearby. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at Erf 1251 La Hoff is medium.

Erf 762 Meiringspark. Gentle slopes, relatively flat area. No rocky ridges are present at Erf 762 Meiringspark. No wetlands or riparian areas are present. Vegetation is not natural and can be described as a modified urban grassland w approaching lawn-type of vegetation. A mixture of planted exotic and indigenous trees are present of which some perhaps germinated naturally. A conspicuous high infestation of alien invasive weeds is present. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at Erf 762 Meiringspark is low.

Erf 213 Songloed. The topography at Erf 213 Songloed consists of gentle slopes, relatively flat area. No rocky ridges are present. No wetlands or riparian areas are present. Vegetation is not natural and can be described as an urban lawn area. A mixture of planted exotic and indigenous trees are present of which some perhaps germinated naturally. A conspicuous high infestation of alien invasive weeds is present. Informal dumping of garden waste and building rubble is visible at the area. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at Erf 213 Songloed is low.

Erf 212 Songloed. Gentle slopes, relatively flat area, sloping down to streambed (active channel). No rocky ridges are present. A non-perennial river, which contains an active channel and riparian zone, is present. A terrestrial zone which is extensively degraded occurs at the area. Informal dumping is conspicuous, also along the riparian zone. No Threatened- or Near Threatened animal of plant species appear to be resident at the site. The active channel, riparian zone and buffer zone are a corridor of particular conservation concern in the larger area. The ecological sensitivity at

the watercourse and its buffer zone at Erf 212 Songloed is high. The ecological sensitivity at the remaining, extensively degraded, terrestrial area at Erf 212 Songloed is low.

Erf 616 Ellaton. Gentle slopes, relatively flat area. No rocky ridges are present. No wetlands or riparian areas are present. The area is covered by terrestrial disturbed grassland which is modified and very degraded at an area where clumps of alien invasive *Eucalyptus* trees are present. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at the area where clumps of alien invasive Eucalyptus trees are found is low. Ecological sensitivity at the disturbed grassland west of the clumps of alien invasive *Eucalyptus* trees, are medium at Erf 616 Ellaton.

Erf 944 Boetrand. Gentle slopes, relatively flat area. No rocky ridges are present. No wetlands or riparian areas are present. Vegetation is not natural and can be described as a modified urban grassland w approaching lawn-type of vegetation. A mixture of planted exotic and indigenous trees are present of which some perhaps germinated naturally. A conspicuous high infestation of alien invasive weeds is present. Informal dumping of garden waste and building rubble is visible at the area. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at Erf 944 Boetrand is low.

Erf 6149 Jouberton. A low rocky ridge is present at the site. The rocky ridge is isolated and visibly impacted by negative urban edge effects. The entire site is overall visibly disturbed and degraded. Wetlands or riparian areas are absent. No Threatened or Near Threatened animal- or plant species are anticipated to be present at the site. Despite being conspicuously disturbed, the rocky ridge at the site is part of a stepping stone corridor of particular conservation concern in the larger area. It is unlikely that a buffer zone has any practical application in the case of this rocky ridge. Erf 6149 Jouberton therefore contains the rocky ridge as an area of high ecological sensitivity, whereas the remainder of the site is of medium and low sensitivity. The functionality of the rocky ridge as a stepping stone in a biodiversity corridor appears to be compromised, though further assessment to its future falls beyond the scope of this report.

Possible ecological sensitivities at the site were indicated by a report generated from the screening tool of DEFFE. These ecological sensitivities that could possibly/ are present at the site, follow.

Animal species theme sensitivity
Relative animal species theme sensitivity is medium. The possible presence of *Hydrictus maculicollis* (Spotted-necked Otter) that should be investigated is indicated by the screening tool. During the surveys this status quo has been confirmed or could be low in stead of medium. The watercourse at Erf 212 Songloed, the Skoonspruit non-perennial river and the artificial waterbody largely surrounded by dense residential areas at Erf 17299 Jouberton, are not ideal habitats for *Hydrictus maculicollis* (Spotted-necked Otter), which favours more open permanent and quiet waters. No distinct possibility that the site could be used as specific habitat or foraging area by *Hydrictus maculicollis* could be observed.

Aquatic biodiversity theme sensitivity
Relative aquatic biodiversity theme sensitivity at the site is low and for parts of the study area very high owing to the presence of an aquatic Critical Biodiversity Area. The sites are not part of a Freshwater Ecosystem Priority Area. There is an active channel and riparian zone of the Skoonspruit non-perennial river at Erf 212 Songloed. This Skoonspruit non-perennial river, its riparian zone and its buffer zone of 32 m are excluded from the proposed developments. There is no distinct impact that the proposed development will have on the river of which the outer edge of the riparian zone. The artificial waterbody at Erf 17299 Jouberton is part of a stepping stone corridor of particular conservation concern in the larger area and is also set aside. The artificial waterbody at Erf 12799 Jouberton at least in part exists because of excavations of the past and its ecological integrity visibly poor.

Plant species theme sensitivity

Relative plant species theme sensitivity is low and medium, the latter owing to the possible occurrence of a sensitive species which is not threatened but which could be prone to harvesting. Possible sensitive plant species of which the likely presence or absence have been investigated are listed in Tables 4.2 – 4.9 and include plant species on a local and provincial scale which could be prone to harvesting. No Threatened or Near Threatened plant species or any of the plant sensitive species that are not threatened but which are prone to harvesting, appear to be present at the site with the exception of a few individuals of the widespread but nationally Declining plant species *Boophone disticha* that occurs at Erf 2379 Flamwood and Erf 1251 La Hoff. If the development is approved these individual plant species will be translocated to a suitable site.

Terrestrial biodiversity theme sensitivity
Relative terrestrial biodiversity at the site is very high. This high sensitivity that is ascribed to the site area, is because of the presence of Critical Biodiversity Area 2, the presence of an Endangered ecosystem, the Vaal-Vet Sandy Grassland that is mapped for the site and the possibility of including the site in a Protected Area Expansion strategy. During surveys at the site, it was found that the original vegetation type has been transformed or modified at the sites. The sites are also isolated. The scope for the sites to distinctly contribute to the conservation of Vaal-Vet Sandy Grassland, is small.

Ecological sensitivity at Erf 2379 Flamwood and Erf 1251 La Hoff is medium. Ecological sensitivity at Erf 762 Meiringspark and Erf 616 Ellaton is low at some parts and medium in other parts. Ecological sensitivity at Erf 213 Songloed and Erf 944 Boetrand, is low.

The ecological sensitivity at the watercourse and its buffer zone at Erf 212 Songloed is high whereas the ecological sensitivity at the remaining, extensively degraded, terrestrial area at Erf 212 Songloed is low. Erf 6149 Jouberton therefore contains the rocky ridge as an area of high ecological sensitivity, whereas the remainder of the site is of medium and low sensitivity. The artificial waterbody at Erf 17299 Jouberton is an area of high ecological sensitivity, despite the artificial dam being a highly modified and disturbed system. The ecological sensitivity at the remainder of the site, the terrestrial zone, is low.

The non-perennial Skoonspruit river, the associated riparian zone and buffer zone at Erf 212 Songloed, the artificial waterbody at Erf 17299 Jouberton and the rocky ridge at Erf 6149 Jouberton are excluded from developments and demarcated with appropriate material during the construction phase, if the developments are approved

8.2 SOCIO ECONOMIC FACTORS

8.2.1 SOCIAL AMENITIES

Planning practices of the past has dictated that a certain percentage of new residential development be allocated as Park erven. The purpose of these Park erven was to provide a safe space where children can play and adults can socialise and come together as a community. These Park erven were often provided with playground apparatus such as “swings”, “slides”, “jungle gyms” etc. and were maintained by the Local Municipality. For various Political and Social reasons, especially on the Platteland, these Park erven has become derelict, unused and for most parts un-maintained, resulting in these erven becoming a haven for the homeless and criminals to sleep and gather, illegal dumping and littering. Most of these erven has become a safety and security risk for the Residents of the area.

As a result of the above mentioned, the City of Matlosana has decided to close and sub-divide these Park erven and to provide well-designed erven that can be sold off with the correct zoning to complement the surrounding neighbourhoods. The intention is to propose erven that are more or less the same size as the ones currently available in the area. It was also decided to refurbish and relocate all remaining playground apparatus to one central park, being the remaining extent of erf 103 Wilkoppies (located opposite of Wesvalia High School) as this erf is centrally located and is also one of the few Park erven that is still

relatively well maintained, (albeit mostly privately/community based maintenance) The site is home to the Klerksdorp Park Run, a Bird Park and a Tennis Club.

In the National Framework for Sustainable Development (NFSD) it is stated that *"the achievement of sustainable development is not a once-off occurrence and its objectives cannot be achieved by a single action* or *decision. It is an ongoing* process *that requires* a *particular set of values and attitudes in which economic, social and environmental assets that society has at its disposal, are managed in* a *manner that sustains human well-being without compromising the ability of future generations to meet their own need.* The NFSD further continues to emphasize that South Africa's current development path in certain instances reflects signs of being unsustainable in the long-term. It highlights that a large percentage of growth in economic activity (measured in terms of its contribution to the GDP) is achieved by *"consuming' natural resources and degrading our habitat at accelerating rates with the inevitable consequence that future economic growth and development objectives will be prejudiced."*

Consistent with national priorities, environmental authorities must support *"increased economic growth and promote social inclusion",* whilst ensuring that such growth is *"ecologically sustainable".* In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably.
The local municipality intends to promote a more compact city in order to prevent the expansive provision of social and engineering services, as well as to prevent the economic decline of the traditional city centre. The Spatial Development Framework (SDF) addresses the scale or urban growth through planned extensions, infill and redevelopment strategies. It also addresses measures to promote compact and connected growth opportunities, such as the identification of revitalisation zones, densification and mixed land use zones.

The planning practices of the past has resulted in sprawling urban areas that are un-economical. Today, planning policies are transformed to mainly encourage infill development on vacant land within the urban environment, in order to combat urban sprawl. The proposed development falls in line with these principals, as it is infill development within the urban area.

During the construction phase, temporary employment will be created. The increased employment in the area during the construction phase will also result in increased expenditure, which, in addition, will mean that more than just the proposed jobs required for the construction on the site will be created due to economic spin-offs that will result. Due to the nature of the proposed development it will lead to an increase in employment opportunities in the operational phase and will contribute to the broadening of the income base and alleviation of poverty within the Local Municipality.

8.2.2. AIR QUALITY

"The extent and toxicity of emissions is not necessarily a concise indicator of contributions to ground-level air pollution concentrations or of risks to health and the environment. Such contributions are also a function of the height of emission, temporal variations in the release of pollutants, and the proximity of the source to the people or the environment affected by exposure to the pollutant (such as, for instance, children, or the elderly, or people who are ill, or others who may be particularly sensitive receptors to a specific pollutant above a certain concentration). If an industry is operating close to a school or hospital or centre for the elderly, the potential exposure (in combination with the other contributing factors) is high.

Three factors govern the significance of household fuel-burning emissions:

(i) the low level of emissions (that is, their height above the ground is generally about 3 m, within people's breathing zone);
(ii) the simultaneous occurrence of peak emissions (during the coldest months of winter and in the early mornings and throughout the evenings) and poor atmospheric dispersion (stable atmosphere with low wind speeds, with the possible development of temperature inversions); and

(iii) the release of such emissions within high human exposure areas, given that such emissions generally occur in dense, low-income settlements where population density is high (in addition, the pollution is not only outdoors, but frequently indoors as well, due to poor ventilation, so it affects the whole family).

The significance of vehicle emissions as contributors to air-pollutant concentrations and health risks is similarly increased by the low level (close to the ground) of the emissions, and their proximity to highly populated areas – on highways, for example, with emissions being particularly high when traffic is congested. Vehicle emissions tend to peak early in the morning and in the evenings, when the potential for atmospheric dispersion is reduced (for example, wind speeds are generally low in the early mornings and evenings, reducing their potential for dispersing pollution).

Given the high volumes of pollutants emitted from fuel-burning within the industrial and power-generation sectors, their contribution to ambient concentrations and public health risks is often lower than might be expected. This is because these sources are generally characterized by constant releases, relatively high above ground level, and further away from residential settlements than are household fuel-burning and vehicle emissions.

Ranking the significance of different sources of pollution on the basis of the total emissions for which each source is responsible would, for example, place industrial emissions above household fuel-burning. If the aim is to reduce impacts on human health, however, then household fuel-burning would need to be targeted as a top priority (Scorgie et al., 2004d).

Historically, air pollution control in South Africa has primarily emphasized the implementation of 'command and control' measures in the industrial sector. The shift from source-based control, to the management of the air that people breathe, emphasizes the importance of targeting a wider range of sources and using more flexible and varied approaches. It means paying greater attention to ambient air quality, as it is more important (and more cost-effective, in many cases) to make sure that the ambient air complies with air quality standards. This approach ensures that human and environmental health is protected and that the cumulative impact of pollution from a number of sources is addressed.

Approaches adopted or considered for future implementation have included: regulation (for example, the use of Atmospheric Emission Licences for Listed Activities); market instruments (such as atmospheric user-charges and pollution taxes); the potential for voluntary agreements, education and awareness raising; and emissions trading. International experience shows that adopting a mix of instruments and interventions is more effective than using a single instrument to improve air quality across various types of source. Although direct regulation remains important in controlling industrial sources, there is evidence that specifying emission limits is more effective than specifying the use of particular technologies, so as to give companies flexibility in selecting the method of achieving success that suits them best. This approach is advocated as being more cost-effective and more likely to stimulate technological advances in pollution control methods and production processes.

For large point sources (that is, sources of pollution that are concentrated on one site, but that have large, constant volumes of many types of pollution) that are few in number, instruments such as emissions trading have been advocated as an effective way to manage pollutant emissions and reduce the costs of compliance.

Implementing an efficient social protection system to alleviate poverty is central to maintaining conditions that facilitate not only economic growth but also environmental sustainability. Many South African households – including those with access to electricity – use coal, wood, and paraffin, due to the relative cost-effectiveness of such fuels for heating (that is, space heating) and cooking purposes.

Many low-cost housing developments and informal settlements are located close to industrial and mining operations, as such land is both available and inexpensive. Poorer communities are more likely to suffer from poor service delivery, including inadequate waste removal that sometimes results in refuse being set alight illegally. These examples show that poverty alleviation could help to improve air quality by enabling people to choose practices that are friendlier to the environment."
https://www.environment.gov.za/sites/default/files/docs/stateofair_airqualityand_sustainable_development.pdf Date visited: 17/03/2020.

The proposed development is planned and will eventually be developed with the above mentioned in mind. The alleviation of poverty (Jobs that will be created).

In addition to the above, it should be noted that the project will however create a certain amount of dust during the construction phase. If proper dust suppression measures are implemented this variable will have very little impact (low in intensity and significance during the construction phase).

8.2.3 NOISE

It is a fact that a certain amount of noise will be generated during the construction phase of the project. Noise levels should however rarely exceed the allowable limits. It is unlikely that the project will create any more noise during the operational phase than that already experienced on site.

8.2.4 ARCHAEOLOGY AND CULTURAL SITES

Based on the aerial images of the area, site photographs provided by the client and the heritage desktop study, it is therefore deemed unlikely that any significant sites, features or material of cultural heritage (archaeological and/or historical) origin and/or significance will exist in the study areas (the various Erven/City of Matlosana Public Parks). Recent historical activities (mainly urban and related development activities) would have impacted on any if they did exist here in the past and would have disturbed or destroyed these to a large degree. Known archaeological and historical sites, features and material have been identified in the larger geographical area and this needs to be taken into consideration during actions related to any possible future development related to the proposed rezoning and subdivision of the various Erven. It is recommended that a Chance Find Protocol be drafted and implemented for this in order to ensure that if any previously unknown and invisible (subterranean) sites, features or material are uncovered that those could be investigated by a Heritage Specialist, who will then make recommendations on the way forward in terms of required mitigation measures.

It is therefore recommended that Motivation for Exemption from a full Phase I Heritage Impact Assessment as part of the Environmental Authorization Process related to the City of Matlosana Local Municipalities Public Parks in the Northwest Province, be granted to the applicants taking into consideration the recommendations provided above, as well as:

The subterranean nature of cultural heritage (archaeological and/or historical) resources must always be kept in mind. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward. This could include previously unknown and unmarked graves and/or cemeteries.

8.2.5 AESTHETICS

Planning practices of the past has dictated that a certain percentage of new residential development be allocated as Park erven. The purpose of these Park erven was to provide a safe space where children can play and adults can socialise and come together as a community. These Park erven were often provided with playground apparatus such as “swings”, “slides”, “jungle gyms” etc. and were maintained by the Local Municipality. For various Political and Social reasons, especially on the Platteland, these Park erven has become derelict, unused and for most parts un-maintained, resulting in these erven becoming a haven for the homeless and criminals to sleep and gather, illegal dumping and littering. Most of these erven has become a safety and security risk for the Residents of the area.

As a result of the above mentioned, the City of Matlosana has decided to close and sub-divide these Park erven and to provide well-designed erven that can be sold off with the correct zoning to complement the surrounding neighbourhoods. The intention is to propose erven that are more or less the same size as the ones currently available in the area. It was also decided to refurbish and relocate all remaining playground apparatus to one central park, being the remaining extent of erf 103 Wilkoppies (located opposite of Wesvalia High School) as this erf is centrally located and is also one of the few Park erven that is still

relatively well maintained, (albeit mostly privately/community based maintenance) The site is home to the Klerksdorp Park Run, a Bird Park and a Tennis Club.

Any Visual Impacts on the stream should be avoided therefore and the sense of place should be preserved. Visual Intrusion is defined as the level of compatibility or congruence of the project with the particular qualities of the area, or its 'sense of place'. This is related to the idea of context and maintaining the integrity of the landscape or townscape.

High visual intrusion – results in a noticeable change or is discordant with the surroundings;

Moderate visual intrusion – partially fits into the surroundings, but clearly noticeable;

Low visual intrusion – minimal change or blends in well with the surroundings.

The proposed development will not change the scenic resources of the local area as it will blend in with the existing surrounding residential areas. At the Remainder of erf 103 Wilkoppies, the proposed Recreational erf will also blend in with the current, recreational character of the site. The visual intrusion is considered to be low.

9. ENVIRONMENTAL IMPACT ASSESSMENT

9.1 ASSESSMENT CRITERIA

Impacts were rated using the following methodology:

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
Duration (time scale)	Short term	Up to 5 years
	Medium term	6 – 15 years
	Long term	More than 15 years
Extent (area)	Local	Confined to study area and its immediate surroundings
	Regional	Region (cadastral, catchment, topographic)
	National	Nationally (The country)
	International	Neighboring countries and the rest of the world.
Magnitude (Intensity)	Low	Site-specific and wider natural and/or social functions and processes are negligibly altered. ((A low intensity impact will not affect the natural, cultural, or social functions of the environment).
	Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way. (Medium scale impact will alter the different functions slightly).
	High	Site-specific and wider natural and/or social functions and processes are severely altered. (A High intensity impact will influence these functions to such an extent that it will temporarily or permanently cease to exist).
Probability	Improbable	Possibility of occurrence is very low. (Such an impact will have a very slight possibility to materialise, because of design or experience).
	Possible	There is a possibility that the impact will occur
	Probable	It is most likely that the impact will occur
	Definite	The impact will definitely occur
Significance	Insignificant	Impact is negligible and will not have an influence on the decision regarding the proposed activity (No mitigation is necessary)
	Very Low	Impact is very small and should not have any meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)
	Low	The impact may not have a meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)
	Medium	The impact should influence the decision regarding the proposed activity (The project can only be carried through if certain mitigatory steps are taken)
	High	The impact will influence the decision regarding the proposed activity
	Very High	The proposed activity should only be approved under special circumstances
Reversibility	Low	There is little chance of correcting the adverse impact
	Medium	There is a moderate chance of correcting the adverse impact

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
	High	There is a high chance in correcting the adverse impact
Risk	Low	Assessing a risk involves an analysis of the consequences and likelihood of a hazard being realized. In decision-making, low-consequence / low-probability risks (green) are typically perceived as acceptable and therefore only require monitoring.
	Medium	Other risks (amber) may require structured risk assessment to better understand the features that contribute most to the risk. These features may be candidates for management
	High	High-consequence / high-probability risks (red) are perceived as unacceptable and a strategy is required to manage the risk.

Attributes associated with the alternatives were assessed and is outlined below:

Geographical attributes

The Geographical attributes of an area relates to the characteristics of a particular region, area or place. It influences the determination of site alternatives as it relates to the location of a site in relation to relevant features in the area.

Physical attributes

Physical attributes of an area relates to the processes and patterns in the natural environment. For the purpose of this assessment, the following processes and patterns have been investigated. Geology, soil, topography and landforms, climate and meteorology, surface water and ground water.

Biological attributes

Biological attributes for the purpose of this study includes the distribution of species and ecosystems in geographic space and through geological time. Organisms and biological communities often vary in a regular fashion along geographic gradients of latitude, elevation, isolation and habitat area. The two main branches assessed will be:

Phytogeography is the branch of biogeography that studies the distribution of plants.

Zoogeography is the branch that studies distribution of animals.

Social attributes

Social attributes is closely related to social theory in general and sociology in particular, dealing with the relation of social phenomena and its spatial components.

Economic attributes

Economic attributes includes the location, distribution and spatial organization of economic activities and also takes into account social, cultural, and institutional factors in the spatial economy of the development.

Heritage attributes

The broad generic term Cultural Heritage Resources refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of paleontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

Cultural attributes

Cultural attributes relates to the specific characteristics such as language, religion, ethnic and racial identity, and cultural history & traditions of people. These attributes influences family life, education, economic and political structures, and, of course, business practices.

It should be noted that the above mentioned attributes do not occur in isolation and it is not uncommon for an identified impact to overlap with two or more of these attributes. Also note, not all risks require comprehensive and detailed assessment. Solid problem formulation should allow decision-makers to evaluate the extent of subsequent analysis required. The level of effort put into assessing each risk should be proportionate to its significance and priority in relation to other risks, as well as its

complexity, by reference to the likely impacts. Consideration should be given to stakeholders' perceptions of the nature of the risk.

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
"Closing of six (6)" Park Erven (Alternative 1 – Preferred alternative)					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
DIRECT IMPACTS:					
Geographical Physical Social Economic	4,8256 ha of land that was zoned open space will be transformed in order to establish 44 Residential 1 erven, 8 Residential 2 erven, 2 Municipal erven and 6 other erven. The health and safety risks associated with the vacant land will be addressed.	Duration	Long term	Obtain the necessary environmental authorization for the development. Implement the mitigation measures as described in the Environmental Management Programme. Appoint a Fauna and Flora Habitat Specialist to determine the sensitivity of the sites and to propose mitigation measures where applicable. Ensure that the development fits in with the residential character of the neighbourhood.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Low		High
	1 497 sq.m of indigenous vegetation within 100 meters from the edge of the Schoonspruit will be eradicated in order to establish 1 Residential 2 located on erf Erf 212 Songloed.	Duration	Long term	Obtain the necessary environmental authorization for the development. Implement the mitigation measures as described in the Environmental Management Programme. Appoint a Wetland Specialist to determine the riparian zones and buffer zones to propose mitigation measures where applicable.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Low		High
		Probability	Definite		Definite
		Significance	Low		Medium
		Reversibility	High		Low
		Risk	Low		High
	Disturbed surfaces which can lead to erosion and dust pollution. Prepare method statements to this effect.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Foreign and invader plant species are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Vegetation (which will lead to the destruction of faunal and floral habitats) will be removed during the construction phase.	Duration	Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants. The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible. No snares may be set.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Open trenches poses a danger of collapse on people or on equipment and people-	Duration	Short term	Ensure that the trenches stay open for as short a time as possible.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
"Closing of six (6)" Park Erven (Alternative 1 – Preferred alternative)					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
	especially small children who may fall into it.	Probability	Definite	Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
Indirect impacts:					
Geographical Physical Social Economic	Dust will be generated from the proposed project which could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction. Start the rehabilitation of disturbed surfaces as soon as possible	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Spills of lubricants / oils can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. Ensure that all construction vehicles are in good working order and not leaking oil and or fuel. No vehicles may be serviced on site.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Waste materials such as glass, plastic, metal or paper which may present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that: All construction rubble is disposed of in a safe and environmentally acceptable manner. NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Possible social and environmental problems that may be experienced as a result of non- compliance to the relevant legislation.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act. Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	New employment opportunities will be created. Plan to use local labour to ensure local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
Cumulative impacts:					

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
"Closing of six (6)" Park Erven (Alternative 1 – Preferred alternative)					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
DIRECT IMPACTS:					
Geographical Physical Social Economic	4,8256 ha of land that was zoned open space will be transformed in order to establish 44 Residential 1 erven, 8 Residential 2 erven, 2 Municipal erven and 6 other erven. The health and safety risks associated with the vacant land will be addressed. 1 497 sq.m of indigenous vegetation within 100 meters from the edge of the Schoonspruit will be eradicated in order to establish 1 Residential 2 located on erf Erf 212 Songloed.	Duration	Long term	Obtain the necessary environmental authorization for the development. Implement the mitigation measures as described in the Environmental Management Programme. Appoint a Fauna and Flora Habitat Specialist to determine the sensitivity of the sites and to propose mitigation measures where applicable. Ensure that the development fits in with the residential character of the neighbourhood.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Low		High
	Un-rehabilitated, disturbed surfaces can lead to erosion and dust pollution.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Foreign plant species are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Poorly planned ablution facilities for construction workers may cause pollution of surface and underground water.	Duration	Short term	Provide portable ablution facilities that will not cause pollution during the construction phase.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	The proposed project can impact on the soil and geology.	Duration	Long term	Prevent spills of lubricants/oils that can take place on bare soil. This will	Long term
		Extent	Local		Local

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
"Closing of six (6)" Park Erven (Alternative 1 – Preferred alternative)					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
		Magnitude (Intensity)	Low	include the use of drip trays for vehicles that are standing for more than 24 hours.	Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	The vegetation of the area will be removed during the construction phase, which will destroy floral and faunal habitats.	Duration	Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants. The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible. No snares may be set.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Open trenches can be dangerous as they can either collapse on people or on equipment and people- especially small children, can fall into it.	Duration	Short term	Ensure that the trenches are dug according to specifications. Ensure that the trenches stay open for as short a time as possible. Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
Indirect impacts:					
Geographical Physical Social Economic	Dust generation from the proposed project could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction. Start the rehabilitation of disturbed surfaces as soon as possible	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Spills of lubricants / oils can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. Ensure that all construction vehicles are in good working order and not leaking oil and or fuel. No vehicles may be serviced on site.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Waste materials such as glass, plastic, metal or paper present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that: All construction rubble is disposed of in a safe and environmentally acceptable manner. NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
"Closing of six (6)" Park Erven (Alternative 1 – Preferred alternative)					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
	Non-compliance to the relevant legislation may cause social and environmental problems.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act. Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	New employment opportunities will be created. Local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
	Cumulative impacts:				
Geographical Physical Social Economic	Enhancement of the social well-being of the local communities as new employment opportunities will be provided by the development	Extent	Local	Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
	<u>Solid waste</u>: The proposed development will add additional solid waste into the existing waste stream of the Local Municipality. <u>Sewage</u>: The proposed development will add additional sewage into the existing sewage stream of the Local Municipality. <u>Water supply</u>: The proposed development will add pressure to the water supply of Local Municipality's Water.	Extent	Local	Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Low		Medium
	<u>Traffic:</u> The proposed development will result in an increase in traffic in the immediate surroundings of the proposed development.	Extent	Local	Ensure that the development is constructed as planned by the Town and Regional Planner	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		High
		Reversibility	Low		Low
		Risk	Medium		Medium
	A Portion of the development will be in close proximity to the Schoonspruit..	Extent	Local	Ensure that the buffer zones are demarcated as no-go zones. All involved must be informed of this aspect.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
"Closing of six (6)" Park Erven (Alternative 1 – Preferred alternative)					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
		Extent	Local		Local

ENVIRONMENTAL IMPACT ASSESSMENT (Operational Phase)					
"Closing of six (6)" Park Erven (Alternative 1 – Preferred alternative)					
Environmental Attribute	**Potential impacts and risks**	**Assessment criteria**	**Assessment rating (With mitigation)**	**Proposed mitigation**	**Assessment rating (Without mitigation)**
DIRECT IMPACTS:					
Geographical Physical Social Economic Cultural	Poorly maintained and serviced infrastructure may cause environmental problems.	Extent	Local	It will be the responsibility of the developer to maintain the infrastructure on site.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium- high		High
		Reversibility	High		Medium
		Risk	High		High
Indirect impacts:					
Geographical Physical Social Economic Cultural	Lack of rehabilitation may cause problems	Extent	Local	It will be the responsibility of the developer to ensure that the rehabilitation plan is implemented	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium- high		High
		Reversibility	High		Medium
		Risk	High		High
Cumulative impacts:					
Geographical Physical Social Economic Cultural	Enhancement of the social well-being of the local communities as new employment opportunities will be available	Extent	Local	No mitigation measures required.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium
Geographical Physical Social Economic Cultural	The proposed development will generate additional income for the Local Municipality.	Extent	Local	No mitigation measures required.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium

10. PUBLIC PARTICIPATION

10.1 ADVERTISEMENT AND NOTICE

Publication name	Klerksdorp Record	
Date published	06/04/2023	
	Latitude	Longitude
Site notice 1 position	26°50'47.51"S	26°39'11.82"E
Site notice 2 position		
Site notice 3 position		
Site notice 4 position		
Site notice 5 position		
Site notice 6 position		
Date placed	06/04/2023	

PROOF OF SITE NOTICE

PROOF OF NEWSPAPER ADVERTISEMENT (TO FOLLOW)

10.2. DETERMINATION OF APPROPRIATE MEASURES

Details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN R.982.

Key stakeholders (other than organs of state) identified in terms of Regulation 40(2)(d) of GN R.982:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
NA	Neighbours	See photographic evidence of letter drop

10.3 AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders. Key stakeholders identified in terms of Regulation 7(1) and (2) and Regulation 40(2) (a)-(c) of GN R.982:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Department of Water and Sanitation	**Mr TP Ntili**	(018) 387 9547	NA		**Chief Director: North West Dept. of Water and Sanitation Private Bag X5 MMABATHO 2735**
Head of Department: North-West Department of Agriculture and Rural Development	**Dr. P. Mokaila**	018-3895723	018-389 5090	pmokaila@nwpg.gov.za	**Private Bag X2039 Mmabatho 2735**
North West Department of Biodiversity	**B. Doile**	018 389 5719/ 5431/ 5688	018 392 4377	dseshabela@nwpg.gov.za	**Private Bag X2039 Mmabatho 2735**
Dr Kenneth Kaunda District Municipality	**The District Municipal Manager**	018 473 8000	018 473 2523		**Private Bag X5017, Klerksdorp, 2570**
City of Matlosana	**The Municipal Manager**	018 487 8009	018 487 1652	dnkosi@klerksdorp.org	**PO Box 99 Klerksdorp 2570**
Ward 05, City of Matlosana	**SL JONAS**	018 487 8000	018 464 1780		**PO Box 99 Klerksdorp 2570**
Ward 15, City of Matlosana	MR JOHANN COETZEE	018 487 8000	018 464 1780		**PO Box 99 Klerksdorp 2570**
Ward 16, City of Matlosana	ANSOFIE COMBRINCK	018 487 8000	018 464 1780		**PO Box 99 Klerksdorp 2570**
Ward 29, City of Matlosana	JOHANNES GEYSBERTUS ROOS BORNMAN	018 487 8000	018 464 1780		**PO Box 99 Klerksdorp 2570**
SAHRA				SAHRIS	
Eskom	Mr M. Dala			dalaME@eskom.co.za	

PLEASE SEE PROOF BELOW

AB ENVIRO

AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

06/04/2023

Dr. P. Mokaila
Head of Department: North-West Department of Agriculture and Rural Development
Private Bag X2039
Mmabatho
2735

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment process for the proposed closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6142 Jouberton Ext 10, City of Matlosana, North West Province.

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Please do not hesitate to contact us should any further information or clarification be required.

Yours sincerely,

Mr JP de Villiers
EAP-EAPASA: 2019/808

PROF A B DE VILLIERS (M Sc, Ph D, SACNASP)
MR.J.P. DE VILLIERS (M Sc, EAP-EAPASA, IAIA); MRS.J.E. DU PLOOY (M.E.M; EAP-EAPASA, IAIA)

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7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

06/04/2023

The Manager
Directorate: Biodiversity Management and Conservation
North West Department: North West Department Economic Development, Environment, Conservation and Tourism
DSeshabela@nwpg.gov.za

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment process for the proposed closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6142 Jouberton Ext 10, City of Matlosana, North West Province.

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7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

06/04/2023

Mr. TP NTili
Department of Water and Sanitation
Cnr Dr. James Moroka Drive and Sekame Road
Mega City Complex
Unit 99 Sekame Street
MMABATHO
2735

Tel: (018) 387 9500

Dear Sir/Madam

PROJECT NAME:
Environmental Impact Assessment process for the proposed closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6142 Jouberton Ext 10, City of Matlosana, North West Province.

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EAP-EAPASA: 2019/808

AB ENVIRO

7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

06/04/2023

Eskom
Mr. M Dala
DalaME@eskom.co.za

Dear Sir/Madam

PROJECT NAME:
Environmental Impact Assessment process for the proposed closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6142 Jouberton Ext 10, City of Matlosana, North West Province.

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7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

06/04/2023

The Municipal Manager
Dr. Kenneth Kaunda District Municipality
Private Bag X5017
Klerksdorp
2570

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment process for the proposed closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6142 Jouberton Ext 10, City of Matlosana, North West Province.

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AB ENVIRO

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Potchefstroom, 2531
Tel: + 27 (83) 5488 105
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06/04/2023

City of Matlosana Local Municipality
The Municipal Manager
P.O Box 99
Klerksdorp
2570

Dear Sir/Madam

PROJECT NAME:

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Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

06/04/2023

City of Matlosana Local Municipality
Cllr. SL JONAS, Ward 5
P.O Box 99
Klerksdorp
2570

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment process for the proposed closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6142 Jouberton Ext 10, City of Matlosana, North West Province.

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EAP-EAPASA: 2019/808

AB ENVIRO

7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

06/04/2023

City of Matlosana Local Municipality
Cllr. Johann Coetzee, Ward 15
P.O Box 99
Klerksdorp
2570

Dear Sir/Madam

PROJECT NAME:

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06/04/2023

City of Matlosana Local Municipality
Cllr. Combrinck, Ward 16
P.O Box 99
Klerksdorp
2570

Dear Sir/Madam

PROJECT NAME:

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EAP-EAPASA: 2019/808

AB ENVIRO

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Potchefstroom, 2531
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E-mail: jp@abenviro.co.za

AB ENVIRO–CONSULT CC

Reg no. 2000/016653/23

06/04/2023

City of Matlosana Local Municipality
Cllr. JGR Bornman, Ward 29
P.O Box 99
Klerksdorp
2570

Dear Sir/Madam

PROJECT NAME:

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Mr JP de Villiers
EAP-EAPASA: 2019/808

10.4 ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
To follow as part of Final BAR	NA

1. 10.5 COMMENTS AND RESPONSE REPORT

I&AP registered:	Comment received:	Response by the EAP:
To follow as part of Final BAR		

11. SUMMARY OF THE FINDINGS AND RECOMMENDATIONS OF SPECIALISTS

11.1.1 ECOLOGICAL IMPACT ASSESSMENT (See Appendix A for a copy of this report)

11.1.1 Objectives of the habitat study

- Surveys to investigate key elements of habitats on the site, relevant to the conservation of fauna and flora.
- Recording of any sightings and/or evidence of existing fauna and flora.
- The selective and careful collecting of voucher specimens of invertebrates where deemed necessary.
- An evaluation of the conservation importance and significance of the site with special emphasis on the current status of threatened species.
- Recording of possible host plants or foodplants of fauna such as butterflies.
- Literature investigation of possible species that might occur on site.
- Integration of the literature investigation and field observations to identify potential ecological impacts that could occur as a result of the development.
- Integration of literature investigation and field observations to make recommendations to reduce or minimise impacts, should the development be approved

11.1.2 Methods:

A desktop study comprised not only an initial phase, but also it was used throughout the study to accommodate and integrate all the data that become available during the field observations.

Surveys by R.F. Terblanche during November 2022 were conducted to note key elements of habitats on the site, relevant to the conservation of fauna and flora. The main purpose of the site visits was ultimately to serve as a habitat survey that concentrated on the possible presence or not of threatened species and other species of high conservation priority.

11.1.3 Conclusion:

Vegetation at the terrestrial zones of the sites ranges from disturbed more natural grassland to urban lawn vegetation where grassland has been extensively modified. At tne grassland, with more natural elements, vegetation consists of a grass layer that contains some forbs and a few exotic or indigenous trees. Conspicuous covers of the shrub *Asparagus laricinus* at Erf 616 Ellaton approaches bush encroachment. Clumps of the alien invasive *Eucallyptus camaldulensis* are present at large parts of Erf 616 Ellaton. Indigenous grass species at the sites with more natural grassland include *Cynodon dactylon, Aristida congesta*, *Eragrostis lehmanniana, Eragrostis curvula, Eragrostis superba, Melinis repens, Setaria sphacelata*, *Sporobolus africanus* and *Chloris virgata*. Indigenous forb species include *Hilliardiella oligocephala, Gazania krebsiana, Senecio consanguineus*, *Bulbine narcissifolia, Conyza podocephala* and *Monsonia angustifolia*. At most of the sites the grassland is not natural and can be described as an urban lawn area with some trees. A mixture of planted exotic and indigenous trees are present at these lawns of which a few probably germinated naturally. A conspicuous high infestation of alien invasive weeds is present at these lawns.
Alien invasive herbaceous weed species are conspicuous at the sites and include include *Physalis viscosa, Argemone ochroleuca, Plantago lanceolata, Tagetes minuta*, *Bidens bipinnata*, *Bidens pilosa*, *Gomphrena celosioides*, *Schkuhria pinnata*, *Conyza bonariensis*, *Guileminea densa*, *Verbena bonariensis*, *Alternanthera pungens, Verbena aristigera* and *Chenopodium album*.

Vegetation at the riparian zone at Erf 212 Songloed consists of a visibly dense tree layer that abruptly ends at the intersection with the terrestrial zone. Exotic tree species are conspicuously frequent at the riparian zone and include *Melia azedarach*, *Salix babylonica, Gleditsia triacanthos, Eucalyptus camaldulensis* and *Morus alba*.

No Threatened or Near Threatened plant or animal species appear to be resident at the sites. No other plant species of particular conservation concern appears to be present at the site with the exception of Erf 410 Freemanville where a few individuals of the Protected tree species *Boscia albitrunca* (Shepherd's Tree), is present.

Protected Tree species are listed under the National Forests Act No. 84 of 1998. In terms of a part of section 15(1) of Act No. 84 of 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister. A permit will be needed to remove any of these individual *Boscia albitrunca* trees, in cases where removal of individual trees cannot be avoided.

An Endangered ecosystem, the Vaal-Vet Sandy Grassland vegetation type, is mapped for the site. During surveys at the site, it was found that the original vegetation type has been modified or transformed or exists as degraded grassland at the remaining patches. A high degree of isolation is also present at all the sites, with many negative urban ecological edge effects visible. The scope for the sites to distinctly contribute to the conservation of Vaal-Vet Sandy Grassland, is small.

Grassland at most of the sites has been extensively modified. Many areas appear trampled. A few buildings are found at the study area, normally one or two per site. Informal dumping is present and extenstive at some sites. Exotic trees are planted at many of the sites. invasive herbaceous weeds are conspicuous at many areas at the site and conspicuously dense infestation of alien invasive weeds is present at some sites.

The non-perennial Skoonspruit river, the associated riparian zone and buffer zone at Erf 212 Songloed is a corridor of particular conservation importance. The artificial waterbody at Erf 17299 Jouberton is part of a stepping stone corridor of particular conservation concern in the larger area. Despite being conspicuously disturbed, the rocky ridge at the site is part of a stepping stone corridor of particular conservation importance in the larger area. There is little scope for the remainder of the sites to be part of a corridor of particular conservation importance.

Summaries of the sites at the study area:

Erf 1251 La Hoff. Gentle slopes, relatively flat area. No rocky ridges are present at Erf 1251 La Hoff. No wetlands or riparian areas are present. The site is covered by terrestrial disturbed grassland. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. A few individuals of a plant species which is not threatened (Least Concern) and listed nationally as a Declining species, *Boophone disticha*, occur at the area. If the development is approved these individual *Boophone disticha* plants should be relocated by a qualified specialist to a suitable site nearby. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at Erf 1251 La Hoff is medium.

Erf 762 Meiringspark. Gentle slopes, relatively flat area. No rocky ridges are present at Erf 762 Meiringspark. No wetlands or riparian areas are present. Vegetation is not natural and can be described as a modified urban grassland w approaching lawn-type of vegetation. A mixture of planted exotic and indigenous trees are present of which some perhaps germinated naturally. A conspicuous high infestation of alien invasive weeds is present. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at Erf 762 Meiringspark is low.

Erf 213 Songloed. The topography at Erf 213 Songloed consists of gentle slopes, relatively flat area. No rocky ridges are present. No wetlands or riparian areas are present. Vegetation is not natural and can be described as an urban lawn area. A mixture of planted exotic and indigenous trees are present of which some perhaps germinated naturally. A conspicuous high infestation of alien invasive weeds is present. Informal dumping of garden waste and building rubble is visible at the area. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at Erf 213 Songloed is low.

Erf 212 Songloed. Gentle slopes, relatively flat area, sloping down to streambed (active channel). No rocky ridges are present. A non-perennial river, which contains an active channel and riparian zone, is present. A terrestrial zone which is extensively degraded occurs at the area. Informal dumping is conspicuous, also along the riparian zone. No Threatened- or Near Threatened animal of plant species appear to be resident at the site. The active channel, riparian zone and buffer zone are a corridor of particular conservation concern in the larger area. The

ecological sensitivity at the watercourse and its buffer zone at Erf 212 Songloed is high. The ecological sensitivity at the remaining, extensively degraded, terrestrial area at Erf 212 Songloed is low.

Erf 616 Ellaton. Gentle slopes, relatively flat area. No rocky ridges are present. No wetlands or riparian areas are present. The area is covered by terrestrial disturbed grassland which is modified and very degraded at an area where clumps of alien invasive *Eucalyptus* trees are present. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at the area where clumps of alien invasive Eucalyptus trees are found is low. Ecological sensitivity at the disturbed grassland west of the clumps of alien invasive *Eucalyptus* trees, are medium at Erf 616 Ellaton.

Erf 944 Boetrand. Gentle slopes, relatively flat area. No rocky ridges are present. No wetlands or riparian areas are present. Vegetation is not natural and can be described as a modified urban grassland w approaching lawn-type of vegetation. A mixture of planted exotic and indigenous trees are present of which some perhaps germinated naturally. A conspicuous high infestation of alien invasive weeds is present. Informal dumping of garden waste and building rubble is visible at the area. No Threatened- or Near Threatened animal or plant species appear to be resident at the site. The scope for the site to be a corridor of particular conservation importance is small. Ecological sensitivity at Erf 944 Boetrand is low.

Erf 6149 Jouberton. A low rocky ridge is present at the site. The rocky ridge is isolated and visibly impacted by negative urban edge effects. The entire site is overall visibly disturbed and degraded. Wetlands or riparian areas are absent. No Threatened or Near Threatened animal- or plant species are anticipated to be present at the site. Despite being conspicuously disturbed, the rocky ridge at the site is part of a stepping stone corridor of particular conservation concern in the larger area. It is unlikely that a buffer zone has any practical application in the case of this rocky ridge. Erf 6149 Jouberton therefore contains the rocky ridge as an area of high ecological sensitivity, whereas the remainder of the site is of medium and low sensitivity. The functionality of the rocky ridge as a stepping stone in a biodiversity corridor appears to be compromised, though further assessment to its future falls beyond the scope of this report.

Possible ecological sensitivities at the site were indicated by a report generated from the screening tool of DEFFE. These ecological sensitivities that could possibly/ are present at the site, follow.

Animal species theme sensitivity
Relative animal species theme sensitivity is medium. The possible presence of *Hydrictus maculicollis* (Spotted-necked Otter) that should be investigated is indicated by the screening tool. During the surveys this status quo has been confirmed or could be low in stead of medium. The watercourse at Erf 212 Songloed, the Skoonspruit non-perennial river and the artificial waterbody largely surrounded by dense residential areas at Erf 17299 Jouberton, are not ideal habitats for *Hydrictus maculicollis* (Spotted-necked Otter), which favours more open permanent and quiet waters. No distinct possibility that the site could be used as specific habitat or foraging area by *Hydrictus maculicollis* could be observed.

Aquatic biodiversity theme sensitivity
Relative aquatic biodiversity theme sensitivity at the site is low and for parts of the study area very high owing to the presence of an aquatic Critical Biodiversity Area. The sites are not part of a Freshwater Ecosystem Priority Area. There is an active channel and riparian zone of the Skoonspruit non-perennial river at Erf 212 Songloed. This Skoonspruit non-perennial river, its riparian zone and its buffer zone of 32 m are excluded from the proposed developments. There is no distinct impact that the proposed development will have on the river of which the outer edge of the riparian zone. The artificial waterbody at Erf 17299 Jouberton is part of a stepping stone corridor of particular conservation concern in the larger area and is also set aside. The artificial waterbody at Erf 12799 Jouberton at least in part exists because of excavations of the past and its ecological integrity visibly poor.

Plant species theme sensitivity

Relative plant species theme sensitivity is low and medium, the latter owing to the possible occurrence of a sensitive species which is not threatened but which could be prone to harvesting. Possible sensitive plant species of which the likely presence or absence have been investigated are listed in Tables 4.2 – 4.9 and include plant species on a local and provincial scale which could be prone to harvesting. No Threatened or Near Threatened plant species or any of the plant sensitive species that are not threatened but which are prone to harvesting, appear to be present at the site with the exception of a few individuals of the widespread but nationally Declining plant species *Boophone disticha* that occurs at Erf 2379 Flamwood and Erf 1251 La Hoff. If the development is approved these individual plant species will be translocated to a suitable site.

Terrestrial biodiversity theme sensitivity
Relative terrestrial biodiversity at the site is very high. This high sensitivity that is ascribed to the site area, is because of the presence of Critical Biodiversity Area 2, the presence of an Endangered ecosystem, the Vaal-Vet Sandy Grassland that is mapped for the site and the possibility of including the site in a Protected Area Expansion strategy. During surveys at the site, it was found that the original vegetation type has been transformed or modified at the sites. The sites are also isolated. The scope for the sites to distinctly contribute to the conservation of Vaal-Vet Sandy Grassland, is small.

Ecological sensitivity at Erf 2379 Flamwood and Erf 1251 La Hoff is medium. Ecological sensitivity at Erf 762 Meiringspark and Erf 616 Ellaton is low at some parts and medium in other parts. Ecological sensitivity at Erf 213 Songloed and Erf 944 Boetrand, is low.

The ecological sensitivity at the watercourse and its buffer zone at Erf 212 Songloed is high whereas the ecological sensitivity at the remaining, extensively degraded, terrestrial area at Erf 212 Songloed is low. Erf 6149 Jouberton therefore contains the rocky ridge as an area of high ecological sensitivity, whereas the remainder of the site is of medium and low sensitivity. The artificial waterbody at Erf 17299 Jouberton is an area of high ecological sensitivity, despite the artificial dam being a highly modified and disturbed system. The ecological sensitivity at the remainder of the site, the terrestrial zone, is low.

The non-perennial Skoonspruit river, the associated riparian zone and buffer zone at Erf 212 Songloed, the artificial waterbody at Erf 17299 Jouberton and the rocky ridge at Erf 6149 Jouberton are excluded from developments and demarcated with appropriate material during the construction phase, if the developments are approved.

11.2 HERITAGE IMPACT ASSESSMENT (HIA) (See Appendix B for a copy of this report)

11.2.1 Terms of Reference for Heritage Impact Assessment

The Terms of Reference for the study was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;

2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;

3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;

4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;

5. Review applicable legislative requirements;

6. Provide Motivation for Exemption from a Full Phase 1 HIA;

Legislative requirements of National Heritage Resources Act (NHRA), Act 25 of 1999

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

a. Archaeological artifacts, structures and sites older than 100 years
b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
c. Objects of decorative and visual arts
d. Military objects, structures and sites older than 75 years
e. Historical objects, structures and sites older than 60 years
f. Proclaimed heritage sites
g. Grave yards and graves older than 60 years
h. Meteorites and fossils
i. Objects, structures and sites of scientific or technological value.

The National Estate includes the following:

a. Places, buildings, structures and equipment of cultural significance
b. Places to which oral traditions are attached or which are associated with living heritage
c. Historical settlements and townscapes
d. Landscapes and features of cultural significance
e. Geological sites of scientific or cultural importance
f. Sites of Archaeological and palaeontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
b. The construction of a bridge or similar structure exceeding 50m in length
c. Any development or other activity that will change the character of a site and exceed 5 000m^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000 m^2
e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

11.2.2 Methodology

Survey of literature

A survey of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

Field survey

No field-based study was undertaken for this Project.

Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

Documentation

All sites, objects, features and structures identified are documented according to a general set of minimum standards. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality

11.2.3 Recommendations and Conclusions

Based on the aerial images of the area, site photographs provided by the client and the heritage desktop study, it is therefore deemed unlikely that any significant sites, features or material of cultural heritage (archaeological and/or historical) origin and/or significance will exist in the study areas (the various Erven/City of Matlosana Public Parks). Recent historical activities (mainly urban and related development activities) would have impacted on any if they did exist here in the past and would have disturbed or destroyed these to a large degree. Known archaeological and historical sites, features and material have been identified in the larger geographical area and this needs to be taken into consideration during actions related to any possible future development related to the proposed rezoning and subdivision of the various Erven. It is recommended that a Chance Find Protocol be drafted and implemented for this in order to ensure that if any previously unknown and invisible (subterranean) sites, features or material are uncovered that those could be investigated by a Heritage Specialist, who will then make recommendations on the way forward in terms of required mitigation measures.

It is therefore recommended that Motivation for Exemption from a full Phase I Heritage Impact Assessment as part of the Environmental Authorization Process related to the City of Matlosana Local Municipalities Public Parks in the Northwest Province, be granted to the applicants taking into consideration the recommendations provided above, as well as:

The subterranean nature of cultural heritage (archaeological and/or historical) resources must always be kept in mind. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward. This could include previously unknown and unmarked graves and/or cemeteries.

12. CONCLUSIONS AND RECOMMENDATIONS

City of Matlosana Local Municipality has appointed ***AB Enviro Consult CC***, an independent environmental consultancy, to undertake an Environmental Impact Assessment process for the proposed closing of six (6) Park Erven, located on Erf 1251 La Hoff; Erf 762 Meiringspark; Erf 213 and Erf 212 Songloed; Erf 944 Boetrand and Erf 6149 Jouberton Ext 10, City of Matlosana, North West Province.

Planning practices of the past has dictated that a certain percentage of new residential development be allocated as Park erven. The purpose of these Park erven was to provide a safe space where children can play and adults can socialise and come together as a community. These Park erven were often provided with playground apparatus such as “swings”, “slides”, “jungle gyms” etc. and were maintained by the Local Municipality. For various Political and Social reasons, especially on the Platteland, these Park erven has become derelict, unused and for most parts un-maintained, resulting

in these erven becoming a haven for the homeless and criminals to sleep and gather, illegal dumping and littering. Most of these erven has become a safety and security risk for the Residents of the area.

As a result of the above mentioned, the City of Matlosana has decided to close and sub-divide these Park erven and to provide well-designed erven that can be sold off with the correct zoning to complement the surrounding neighbourhoods. The intention is to propose erven that are more or less the same size as the ones currently available in the area. It was also decided to refurbish and relocate all remaining playground apparatus to one central park, being the remaining extent of erf 103 Wilkoppies (located opposite of Wesvalia High School) as this erf is centrally located and is also one of the few Park erven that is still relatively well maintained. (although it be mostly privately/community based maintenance) The site is home to the Klerksdorp Park Run, a Bird Bark and a Tennis Club.

This Chapter of the BAR provides a summary of the findings of the impact assessment process, including the EAP's opinion as to whether the activity should or should not be authorised.

12.1 ENVIRONMENTAL IMPACT STATEMENT

The detailed environmental assessment for the proposed development, has not found any environmental impacts that *cannot* be mitigated to acceptable and manageable levels.

In the National Framework for Sustainable Development (NFSD) it is stated that *"the achievement of sustainable development is not a once-off occurrence and its objectives cannot be achieved by a single action* or *decision. It is an ongoing* process *that requires* a *particular set of values and attitudes in which economic, social and environmental assets that society has at its disposal, are managed in* a *manner that sustains human well-being without compromising the ability of future generations to meet their own need.* The NFSD further continues to emphasize that South Africa's current development path in certain instances reflects signs of being unsustainable in the long-term. It highlights that a large percentage of growth in economic activity (measured in terms of its contribution to the GDP) is achieved by *"consuming' natural resources and degrading our habitat at accelerating rates with the inevitable consequence that future economic growth and development objectives will be prejudiced."*

Consistent with national priorities, environmental authorities must support *"increased economic growth and promote social inclusion",* whilst ensuring that such growth is *"ecologically sustainable".* In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably.

The local municipality intends to promote a more compact city in order to prevent the expansive provision of social and engineering services, as well as to prevent the economic decline of the traditional city centre. The Spatial Development Framework (SDF) addresses the scale or urban growth through planned extensions, infill and redevelopment strategies. It also addresses measures to promote compact and connected growth opportunities, such as the identification of revitalisation zones, densification and mixed land use zones.

The planning practices of the past has resulted in sprawling urban areas that are un-economical. Today, planning policies are transformed to mainly encourage infill development on vacant land within the urban environment, in order to combat urban sprawl. The proposed development falls in line with these principals, as it is infill development within the urban area.

During the construction phase, temporary employment will be created. The increased employment in the area during the construction phase will also result in increased expenditure, which, in addition, will mean that more than just the proposed jobs required for the construction on the site will be created due to economic spin-offs that will result. Due to the nature of the proposed development it will lead to an increase in employment opportunities in the operational phase and will contribute to the broadening of the income base and alleviation of poverty within the Local Municipality.

Alternatives were considered, and the following three erven were also included into the initial assessment.

- Erf 410 Freemanville
- Remaining extent of Erf 96 Roosheuvel
- Erf 17 299 Jouberton Ext 16

After further investigation it was found that the sensitivity of these 3 sites were too high. Erf 410 Freemanville is located at a sensitive koppie, Remaining Extent of Erf 96 Roosheuvel is too steep for development purposes while Erf 17 299 Jouberton Ext 16 is located at an area that is saturated with water.

An Alternative Layout Plan that was considered for Erf 6149 Jouberton Ext 10, the Fauna and Flora Habitat Specialist has found that the site is influenced by a koppie and after delineation of the sensitive areas, an area of 1,8306 ha was deemed undevelopable.

The only other alternative that exists for the proposed development is the "no-go" option which will imply that the status quo will prevail. Should this option be implemented, the status quo will remain, and the areas will remain a health and safety risk for the inhabitants of the area. Therefore this option was discarded. It is therefore proposed that Alternative 1 be the preferred alternative.

Specialist studies were conducted and a full Public Participation Process is being followed. This information was used to generate a sensitivity map that was used to assess the sustainability of the design and layout plans for the proposed development.

The **Heritage Impact Assessment** revealed that it is evident that that there is a low likelihood of any significant cultural heritage (archaeological and/or historical) sites or features being present in the areas. If any did exist here in the past it would have been extensively disturbed or destroyed.

The **Fauna and Flora Habitat** study conducted addressed these ecological sensitivities as follows.

Animal species theme sensitivity
Relative animal species theme sensitivity is medium. The possible presence of *Hydrictus maculicollis* (Spotted-necked Otter) that should be investigated is indicated by the screening tool. During the surveys this status quo has been confirmed or could be low in stead of medium. The watercourse at Erf 212 Songloed, the Skoonspruit non-perennial river and the artificial waterbody largely surrounded by dense residential areas at Erf 17299 Jouberton, are not ideal habitats for *Hydrictus maculicollis* (Spotted-necked Otter), which favours more open permanent and quiet waters. No distinct possibility that the site could be used as specific habitat or foraging area by *Hydrictus maculicollis* could be observed.

Aquatic biodiversity theme sensitivity
Relative aquatic biodiversity theme sensitivity at the site is low and for parts of the study area very high owing to the presence of an aquatic Critical Biodiversity Area. The sites are not part of a Freshwater Ecosystem Priority Area. There is an active channel and riparian zone of the Skoonspruit non-perennial river at Erf 212 Songloed. This Skoonspruit non-perennial river, its riparian zone and its buffer zone of 32 m are excluded from the proposed developments. There is no distinct impact that the proposed development will have on the river of which the outer edge of the riparian zone. The artificial waterbody at Erf 17299 Jouberton is part of a stepping stone corridor of particular conservation concern in the larger area and is also set aside. The artificial waterbody at Erf 12799 Jouberton at least in part exists because of excavations of the past and its ecological integrity visibly poor.

Plant species theme sensitivity
Relative plant species theme sensitivity is low and medium, the latter owing to the possible occurrence of a sensitive species which is not threatened but which could be prone to harvesting. Possible sensitive plant species of which the likely presence or absence have been investigated are listed in Tables 4.2 – 4.9 and include plant species on a local and provincial scale which could be prone to harvesting. No Threatened or Near Threatened plant species or any of the plant sensitive species that are not threatened but which are prone to harvesting, appear to be present at the site with the exception of a few individuals of the widespread but nationally Declining

plant species *Boophone disticha* that occurs at Erf 2379 Flamwood and Erf 1251 La Hoff. If the development is approved these individual plant species will be translocated to a suitable site.

Terrestrial biodiversity theme sensitivity
Relative terrestrial biodiversity at the site is very high. This high sensitivity that is ascribed to the site area, is because of the presence of Critical Biodiversity Area 2, the presence of an Endangered ecosystem, the Vaal-Vet Sandy Grassland that is mapped for the site and the possibility of including the site in a Protected Area Expansion strategy. During surveys at the site, it was found that the original vegetation type has been transformed or modified at the sites. The sites are also isolated. The scope for the sites to distinctly contribute to the conservation of Vaal-Vet Sandy Grassland, is small.

Ecological sensitivity at Erf 2379 Flamwood and Erf 1251 La Hoff is medium. Ecological sensitivity at Erf 762 Meiringspark and Erf 616 Ellaton is low at some parts and medium in other parts. Ecological sensitivity at Erf 213 Songloed and Erf 944 Boetrand, is low.

The ecological sensitivity at the watercourse and its buffer zone at Erf 212 Songloed is high whereas the ecological sensitivity at the remaining, extensively degraded, terrestrial area at Erf 212 Songloed is low. Erf 6149 Jouberton therefore contains the rocky ridge as an area of high ecological sensitivity, whereas the remainder of the site is of medium and low sensitivity. The artificial waterbody at Erf 17299 Jouberton is an area of high ecological sensitivity, despite the artificial dam being a highly modified and disturbed system. The ecological sensitivity at the remainder of the site, the terrestrial zone, is low.

The non-perennial Skoonspruit river, the associated riparian zone and buffer zone at Erf 212 Songloed, the artificial waterbody at Erf 17299 Jouberton and the rocky ridge at Erf 6149 Jouberton are excluded from developments and demarcated with appropriate material during the construction phase, if the developments are approved.

A full Public Participation Process is being conducted and any objections or comments that will be received in relation to the proposed development will be incorporated into the Final BAR.

12.2 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

EMPR's aim to identify and minimise the potential impacts that the proposed construction and operational phases of the project may have on the receiving environment. An EMPR has been developed which is contained in Appendix D and includes detailed mitigatory measures for the construction phase.

As a general guideline, the EMPR should be based on a comprehensive set of environmental aspects (elements of the facility that can interact with the environment), and hence, the EMPR compiled for this application includes the following key components:

- Mechanisms for the on-going identification and assessment of environmental aspects and impacts;
- Environmental management programmes; objectives and targets;
- Environmental monitoring and reporting framework;
- Environmental management procedures; and,
- Mechanisms for the recording of environmental incidents and implementing corrective and preventative actions.

12.3 EAP OPINION

The information contained in this BAR and Specialist Studies, provides a detailed and comprehensive description of the proposed project, baseline environment and potential environmental impacts associated with the proposed development. As no significant impacts that cannot be mitigated were identified, AB Enviro Consult is of the opinion that the project should proceed, provided that the necessary mitigation and management measures are implemented.

Under South African environmental legislation, the Applicant is accountable for the potential impacts of the activities that are undertaken and is responsible for managing these impacts. The Applicant therefore has overall and total environmental responsibility to ensure that the implementation of the construction phase of the EMPR complies with the relevant legislation and the conditions of the environmental authorisation. The applicant will thus be responsible for the implementation of the EMPR.

The environmental management programme (EMPR) should form part of the contract between the construction company and the applicant. This will help ensure that the EMPR is adhered to. It is suggested that a suitably qualified Environmental Control Officer (ECO) be appointed for the construction phase.

12.4 CONDITIONS RECOMMENDED TO BE INCLUDED IN ANY AUTHORISATION THAT MAY BE GRANTED BY THE COMPETENT AUTHORITY IN RESPECT OF THE APPLICATION

The following recommendations has been identified for the pre-construction and construction phases of the proposed development

1. A full copy of the signed EA from DEDECT in terms of NEMA, granting approval for the development must be available on site
2. A copy of the EMPr as well as any amendments thereof must be available on site
3. A suitably qualified ECO must be appointed.
4. Impacts on the environment must be minimised during site establishment and the development footprint must be kept to the approved development area.
5. Vegetation clearing may not commence until such time as the development footprint has been clearly defined.
6. No clearance of vegetation outside of the development footprint may occur.
7. No construction workers or machinery will be allowed within the no-go area that is defined as the non-perennial river, including its riparian and buffer zone.
8. At the end of the construction phase the site and its surrounding area must be free from any pollution that originated as a result of the construction activities.
9. No disturbance of topsoil & subsoil may commence until such time as the development footprint has been clearly defined.
10. No disturbance of topsoil & subsoil outside of the development footprint may occur.
11. At the end of the construction phase the site and its surrounding area (Including the non-perennial stream) must be free from any chemical, fuel, oil and cement spills that originated as a result of the construction activities.
12. At the end of the construction phase the site and its surrounding area (Including the non-perennial stream) must be free from any sewage that originated as a result of the construction activities.
13. At the end of the construction phase the site and its surrounding area (Including the non-perennial stream) must be free from any hazardous or general waste pollution that originated as a result of the construction activities.
14. Dust prevention measures must be applied to minimise the generation of dust.
15. Noise prevention measures must be applied to minimise the generation of unnecessary noise pollution as a result of construction activities on site.
16. Absolutely no burning of waste is permitted.
17. Fires will only be allowed in facilities especially constructed for this purpose.
18. No hunting of animals will be allowed.
19. No intentional destruction of any sites, features or material of cultural heritage (archaeological and/or historical) origin or significance may occur.
20. All Contractors and sub-contractors must abide to the rules and regulations of the Occupational Health and Safety Act, 85 of 1993.

13. AFFIRMATION BY EAP

I **Mr. Jean Pierre De Villliers** declare under oath that I:

a. act as the independent environmental practitioner in this application ;
b. do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed;
c. do not have and will not have a vested interest in the proposed activity proceeding;
d. have no, and will not engage in, conflicting interests in the undertaking of the activity;
e. 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;
f. will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
g. will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
h. will keep a register of all interested and affected parties that participated in a public participation process; and
i. 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.

_____

Signature of the Environmental Assessment Practitioner:

Name of company: AB Enviro Consult CC

Date:

_____

Signature of the Commissioner of Oaths:

Date

Designation

Official stamp:

14. LIST OF REFERENCES

Department of Environmental Affairs and Tourism. 1992. Integrated Environmental Management. Pretoria, DEAT.
Department of Environmental Affairs and Tourism. 1998. *Guideline Document - EIA Regulations*. Pretoria, DEAT.
Department of Environmental Affairs. 1988. *Climate of South Africa, climate statistics up to 1984*. Weather Bureau (WB40). Pretoria, Government Printer.
Department of Transport, 19--. *Climate of South Africa Part 1 Climate statistics.* Weather Bureau (WB20). Pretoria Government Printer.
S. Cliff. 2015. Environmental Scoping report for the proposed high density residential township "Tanganani extension 7", to be located on a part of Portion 119 of the farm Diepsloot 388 JR, City of Johannesburg Municipality, Gauteng

APPENDIX A:
ECOLOGICAL FAUNA AND FLORA HABITAT SPECIALIST REPORT

APPENDIX B:

SAHRA SPECIALIST REPORT

APPENDIX C:
ENVIRONMENTAL MANAGEMENT PROGRAMME

APPENDIX D:
SPECIALIST DECLARATION OF INDEPENDENCE (TO FOLLOW)

APPENDIX E:
PROOF OF BAR SENT TO DW&S