Afzelia ENVIRONMENTAL CONSULTANTS

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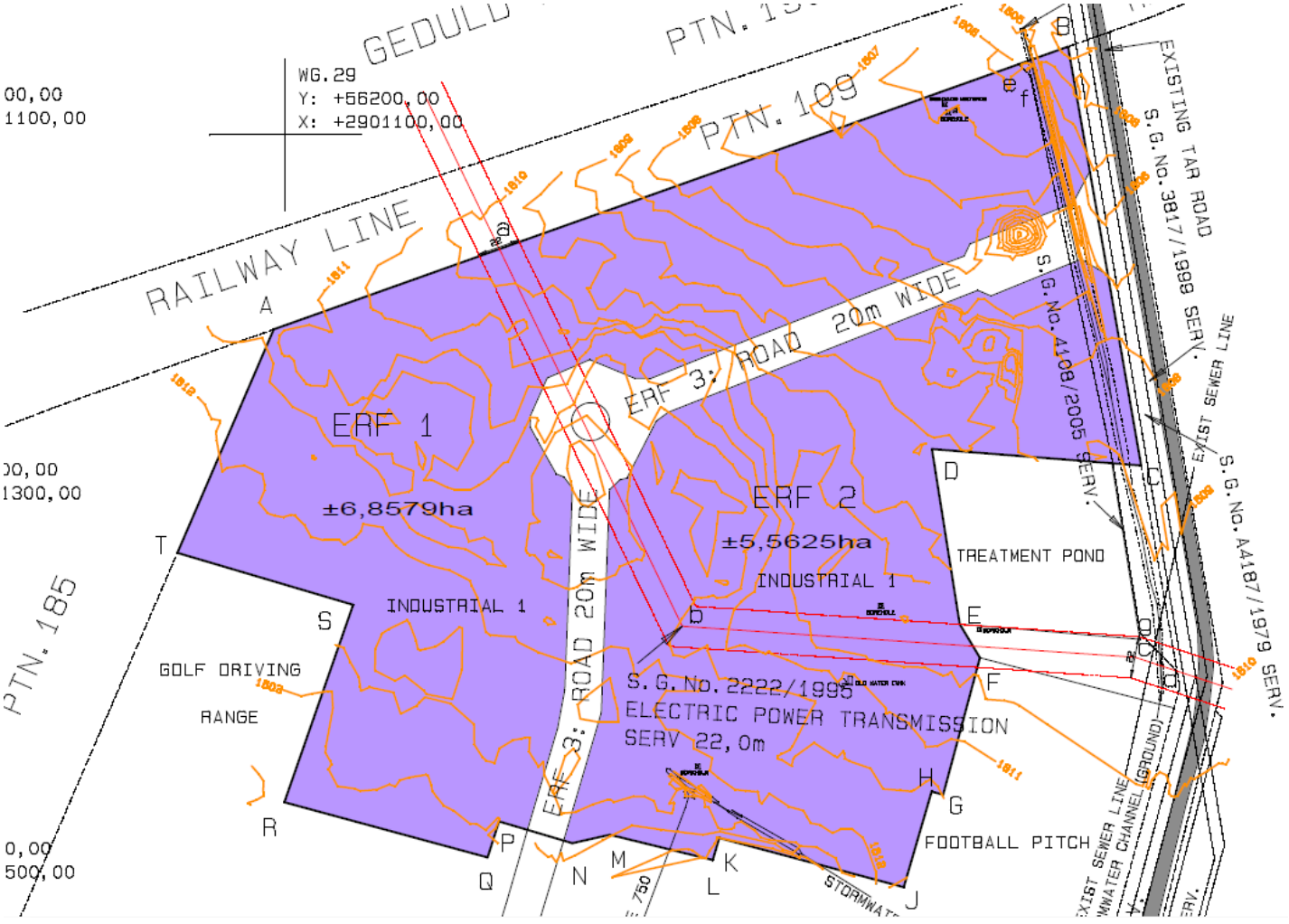
THE PROPOSED SPRINGS SPECIAL ECONOMIC ZONE (SEZ) DEVELOPMENT, REGION D OF THE CITY OF EKURHULENI, GAUTENG

EIA /SCOPING REPORT

Submitted for commenting by stakeholders in terms of the 2017 Environmental Impact Assessment Regulations promulgated in accordance with the National Environmental Management Act 107 of 1998 (Act No. 107 of 1998), as amended.



Environmental Authorisation Reference: TO BE CONFIRMED

NEAS Reference: TO BE CONFIRMED

Name of Applicant and submitted on behalf of: Gauteng Industrial Development Zone (GIDZ)

MARCH 2021

DOCUMENT INFORMATION

Title	Proposed Springs Special Economic Zone (SEZ) Development
Author	Mrs Joleen Wilson
Reviewer	Deshni Naicker
Client	Gauteng Industrial Development Zone (GIDZ)
Project Reference Number	2020-12-0014
Initial Scoping Report and Plan of Study Issue Date	03/03/21
EIA Report Issue Date	To be confirmed

REVIEW OF THE DRAFT BASIC ASSESSMENT REPORT

The Scoping Report and Plan of Study is available for commenting for a period of 30 days (excluding public holidays) from 3rd March 2021 to 5th April 2021. A copy of the Scoping Report and Plan of Study is available online by following the following dropbox link: https://www.dropbox.com/sh/ttnpy1f7qvrmnd2/AAAPigxg060vhvs2WQ1FxJ6ka?dl=0 and upon request from Afzelia Environmental Consultants (Pty) Ltd. Please send your comments and queries before 5th April 2021 to:

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Address	PO Box 37069, Overport, 4067
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INDEMNITY

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EXECUTIVE SUMMARY

Afzelia Environmental Consultants (Pty) Ltd have been appointed by ETL Consulting on behalf of Gauteng Industrial Development Zone (GIDZ) to identify and assess the potential environmental impacts associated with the proposed Special Economic Zone (SEZ) development through an Environmental Impact Assessment (EIA) process.

The Draft Scoping Report is for the proposed Special Economic Zone and associated infrastructure situated on part of Portion 133 of the Farm Geduld located in Region D of the City of Ekurhuleni. The property size is 29.1882 hectares (ha), however the extent of the proposed development footprint is approximately 13.6ha. The GPS Co-ordinates for the approximate centre of the site is: 26°13'10.20" S | 28°26'23.28" E. Region D of the City of Ekurhuleni forms part of the "East Rand" industrial development corridor of Gauteng.

The proposed development forms part of the Gauteng Growth and Development Agency's strategy to establish a Platinum Group Metals (PGM) Special Economic Zone (SEZ) in Springs. The Special Economic Zone is proposed as a mixed industrial development with fuel cells at the core, broadening to other PGM value-add, related suppliers and advanced manufacturing. This focus will complement the focus of other Gauteng Industrial Development Zone (GIDZ) precincts.

Although the tenants for the proposed development are not in place at this early stage of development, it is planned to include Mining equipment, material handling, backup power, related component manufacturers (e.g. metal work), advanced manufacturing (e.g. metal manufacturing, membrane technologies, hybrid power systems/ storage technologies) and other sectors where Ekurhuleni has an advantage (e.g. transport, equipment, mining supplies).

Project Process

A meeting request application was submitted to Department of Forestry and Fisheries as the Competent Authority, email correspondence was agreed on by both the Environmental Consultant and the assessing officer to discuss any items or issues regarding the project. Due to the lack of specific and technical information available, triggered activities could not be confirmed. It was agreed that further communication would occur once pertinent information was available.

Public participation process was followed to inform Interested and Affected Parties above the proposed development through the circulation of a Background Information Document (BID). Further public participation would occur once the draft Scoping Report is available for I&AP's to comment on. The Draft Scoping Report will be made available to I&AP's, Government Department and Ekurhuleni Municipality for commenting. All issues and concerns will be addressed and included in the Final Scoping Report.

Specialist Studies:

The potential social and biophysical impacts associated with the proposed development will be assessed through the following specialist studies:

- Socio-Economic Impact Assessment
- Traffic Impact Assessment
- Wetland and Riparian Impact Assessment

- Ecological Impact Assessment
- Heritage Level 1 Impact Assessment; and
- Visual Impact Assessment

Details regarding these studies have been provide in the Plan of Study section of this report.

Conclusion

During the Scoping Phase alternatives to the proposed development were investigated and issues and concerns determined through the public consultation. Through the impact assessment and significant scoring, potential environmental impacts were identified, assessed and mitigation measures proposed to ensure the minimisation of environmental damage. It was determined that Special Economic Zone, Mixed Use Industrial development on the site is a viable alternative.
Specialist studies will be undertaken during the EIA phase in order to determine the potential impacts on the social and biophysical environment.

It is therefore, the opinion of the EAP that the Scoping Report has been undertaken in an objective manner with specific reference to the Scoping Report requirements as per Appendix 2 of GNR 326 of the National Environmental Management Act, 1998. The purpose of this Scoping Report is to provide the relevant authorities and stakeholders with extenstive preliminary information pertaining to the proposed development activities and selected site, incorporate a plan for the upcoming EIA phase of the project as well as to initiate active engagement with all parties to ensure that informed decisions can be made during both the Scoping and EIA phase. Input received from government and stakeholders from the initial Scoping Report will be obtained by the EAP and incorporated into the following EIA report.

Contents

ACRONYMS AND ABBREVIATIONS

DEFF	Department of Forestry and Fisheries
EBOSS	Ekurhuleni Biodiversity and Open Space Strategy
EMM	Ekurhuleni Metropolitan Municipality
EMSDF	Ekurhuleni Metropolitan Spatial Development Framework
GDARD	Gauteng Department of Agriculture and Rural Development
GPDA	Gauteng Planning and Development Act
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
ESO	Environmental Site Officer
EIA	Environmental impact Assessment
EMPr	Environmental Management Programme
GIS	Geographic information System
GG	Government Gazette
GIS	Geographic Information System
GN	Government Notice
I&AP	Interested and Affected Parties
IDP	Integrated Development Plan
SDF	Spatial Development Framework
WULA	Water Use License Application
NEMA	National Environmental Management Act (107 of 1998)
PPP	Public Participation Process
SMP	Stormwater Management Plan
KM	Kilometre

1. DETAILS OF THE APPLICANT AND PROJECT TEAM

Contact details of the Applicant

Proponent	Gauteng Industrial Development Zone (GIDZ)
Contact Person	Pat Sibiya
Physical Address	14th Floor, 124 Main Street, Johannesburg, 2002
Postal Address	
Email	pats@gidz.co.za
Cell Number	083 380 3554
Telephone Number	010 001 9122

Contact details of the EAP'S Organisation

Contact details of the EAP's organisation	
Business Name	Afzelia Environmental Consultants (Pty) Ltd
Physical Address	Office A101, 163-77 Lilian Ngoyi Road, Windermere, Durban, 4001
Postal Address	PO Box 37069, Overport, Durban, 4067
Telephone	033 303 2835
Email	joleen@afzelia.co.za

Names and details of expertise of the EAP involved in the preparation of the report

Name of the EAP	**Education Qualifications**	**Professional Registration**	**Experience at Environmental Assessments (yrs.)**
Mrs Joleen Wilson	BSc (Hon) Environmental Management	EAPASA – 2020/1067	5yrs
Name of Reviewer	**Education Qualifications**	**Professional Registration**	**Experience at Environmental Assessments (yrs.)**
Mrs Deshni Naicker	MA Geography and Environmental Management	EAPASA – 2019/1078	9.5 years

2. SCOPING REPORT REQUIREMENTS AS PER APPENDIX 2 OF GNR 326 OF NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 108 OF 1998)

APPENDIX 2
2(1)(a) details of— (i) the EAP who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae;
2(1)(b) the location of the activity, 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, the coordinates of the boundary of the property or properties;
2(1)(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;
2(1)(d) a description of the scope of the proposed activity, including— (i) all listed and specified activities triggered; (ii) a description of the activities to be undertaken, including associated structures and infrastructure;
2(1)(e) a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;
2(1)(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;

2(1)(g) a full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including— (i) details of all the alternatives considered; (ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; (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; (iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (v) the impacts and risks which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified impacts, including 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; (vi) the methodology used in identifying and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives; (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 geographical, physical, biological, social, economic, heritage and cultural aspects; (viii) the possible mitigation measures that could be applied and level of residual risk; (ix) the outcome of the site selection matrix; (x) if no alternatives, including alternative locations 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;
2(1)(h) a plan of study for undertaking the environmental impact assessment process to be undertaken, including— (i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity; (ii) a description of the aspects to be assessed as part of the environmental impact assessment process; (iii) aspects to be assessed by specialists; (iv) a description of the proposed method of assessing the environmental aspects, including aspects to be assessed by specialists; (v) a description of the proposed method of assessing duration and significance; (vi) an indication of the stages at which the competent authority will be consulted; (vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and (viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process; (ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.
2(1)(i) 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 comments and inputs from stakeholders and interested and affected parties; and (iii) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;
2(1)(j) an undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment;
2(1)(k) where applicable, any specific information required by the competent authority; and
2(1)(l) any other matter required in terms of section 24(4)(a) and (b) of the Act.
2(2) Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a scoping report, the requirements as indicated in such notice will apply.

3. PROJECT INTRODUCTION AND BACKGROUD

Afzelia Environmental Consultants (Pty) Ltd (Afzelia) have been appointed by ETL Consulting (Pty) Ltd (ETL) on behalf of Gauteng Industrial Development Zone (GIDZ) to identify and assess the potential environmental impacts associated with the proposed Special Economic Zone (SEZ), Mixed Use Development proposed on Portion 133 of the Farm Geduld in Region D of the City of Ekurhuleni, through an Environmental Impact Assessment (EIA) process.

The EIA process is prescribed by Chapter 5 of the Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations as amended in 2017, published as Government Notice R. 327, 325 and 324. A Scoping and Environmental Impact Assessment Process must be undertaken for activities as listed in Regulation No. R. 324 that may have a significant impact on the environment. A full public participation process forms part of the EIA and is discussed in detail in Section 12 of this report. The Public Participation Plan has been approved by DEFF.

The proposed development forms part of the Gauteng Growth and Development Agency's strategy to establish a Platinum Group Metals (PGM) Special Economic Zone (SEZ) in Springs. The SEZ is proposed as a mixed industrial development with fuel cells at the core, broadening to other PGM value-add, related suppliers and advanced manufacturing. This focus will complement the focus of other GIDZ precincts.

Although the tenants for the proposed development are not in place at this early stage of development, it is planned to include Mining equipment, material handling, backup power, related component manufacturers (e.g., metal work), advanced manufacturing (e.g. metal manufacturing, membrane technologies, hybrid power systems/ storage technologies) and other sectors where Ekurhuleni has an advantage (e.g. transport, equipment, mining supplies).

4. PROJECT LOCATION

The Draft Scoping Report is for the proposed SEZ, Mixed Used Industrial Development and associated infrastructure situated on part of Portion 133 of the Farm Geduld located in Region D of the City of Ekurhuleni. The address is 41 East Geduld Road. The property size is 29.1882 hectares (ha); however, the extent of the proposed development footprint is approximately 13.6ha. The area proposed for the development is an undeveloped land portion of the site, located north of the existing administration services area of Impala Platinum. The existing developed section of the property includes Impala Platinum's main offices, technical and services offices, a clinic and medical services, storm-water retention dam and recreational facilities, including a soccer field and gold driving range.

At a regional level, the site's location is approximately 30km from OR Tambo International Airport, measured via the N12 highway and existing road network. The drive time for this distance is approximately 25 to 40 minutes depending on traffic volumes and flow. The site is approximately 3.5km north of the CBD of Springs and 40km away from the Germiston CBD. The site is surrounded by major road networks such as the N12, situated 16km north of the site. The N17 is situated 8km south of the site and the R29 is situated 2.5km west of the site. The R59 is also situated 5km south of the site. At a local level, the property is situated directly south of a railway station and west of East Geduld Road, directly north of Cowles Street and Impala Refineries. Nuffield Industrial node is located 10km north and Enstra Industrial are located 1.5km from

the site. Refer to figure 2 for the Locality Map.

The land is registered under the Transfer Title Deed 67314/1993 in favour of Impala Platinum Limited. However, it has since been handed over to the GIDZ (this does not reflect in the Deeds registry at present). The GPS Co-ordinates for the approximate centre of the site is: 26°13'10.20" S | 28°26'23.28" E. Region D of the City of Ekurhuleni forms part of the "East Rand" industrial development corridor of Gauteng. The Surveyor General Code (SG) for the property is: T0IR00000000012300133.

5. PROJECT DESCRIPTION

There is a need for the revitalisation of the industrial sector in Ekurhuleni, the Gauteng Growth and Development Agency (GGDA) has strategized the expansion programme for the GIDZ Implementation. The focus of the strategy is on the mineral beneficiation sector, broader light manufacturing and high value low mass manufacturing. The aim of the strategy is to enhance beneficiation of products for export, resulting in increased contribution to the GIDZ to Gauteng's economy and the GDP of South Africa. The proposed SEZ, Mixed Use Industrial Development (Fuel Cell Plant) forms part of the GGDA's GIDZ strategy as it is included in the proposed PGM Value-Add SEZ in Springs.

It is therefore proposed to develop a Fuel Cell Plant on Portion 133 Geduld 123 IR, which forms part of the GGDA's Strategy to establish a Platinum Group Metals (PGM) SEZ in Springs.

The agreed SEZ concept in terms of tenant focus is summarised in Figure 1 below. The concept has been widened beyond fuel cells and PGMs to consider the emerging nature of fuel cell industry and improve the viability / responsiveness of the SEZ to changing market and value chain conditions. Although tenants are not confirmed at this stage for the development, types of activities which are likely and planned to occur in the mixed-use development includes manufacturing, assembly, export, training, testing and quality control. Refer to figure 3 below for the proposed layout plan.

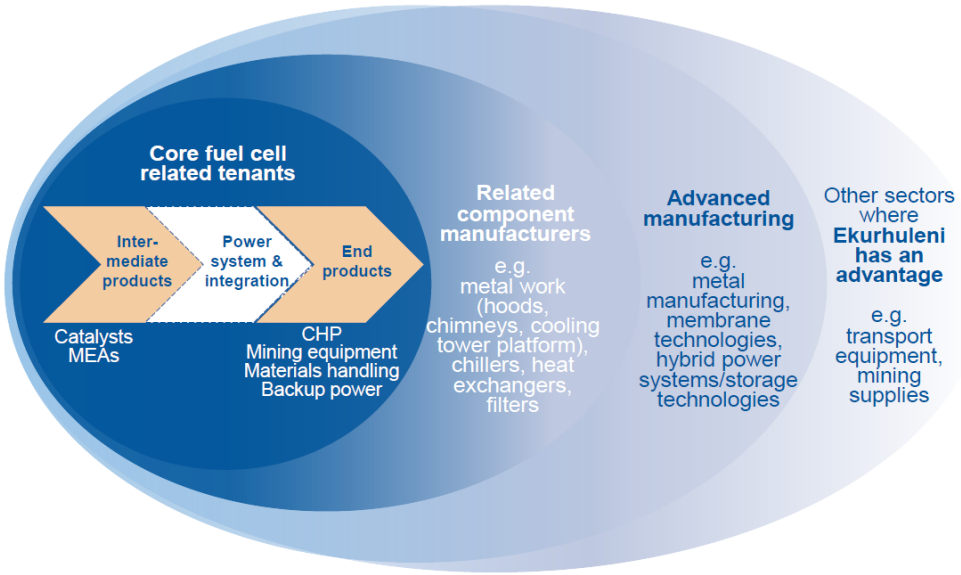

Figure 1 – SEZ Concept: Tenant Focus

(GGDA Springs PGM SEZ Market Assessment and Feasibility, Kaiser EDP (2017))

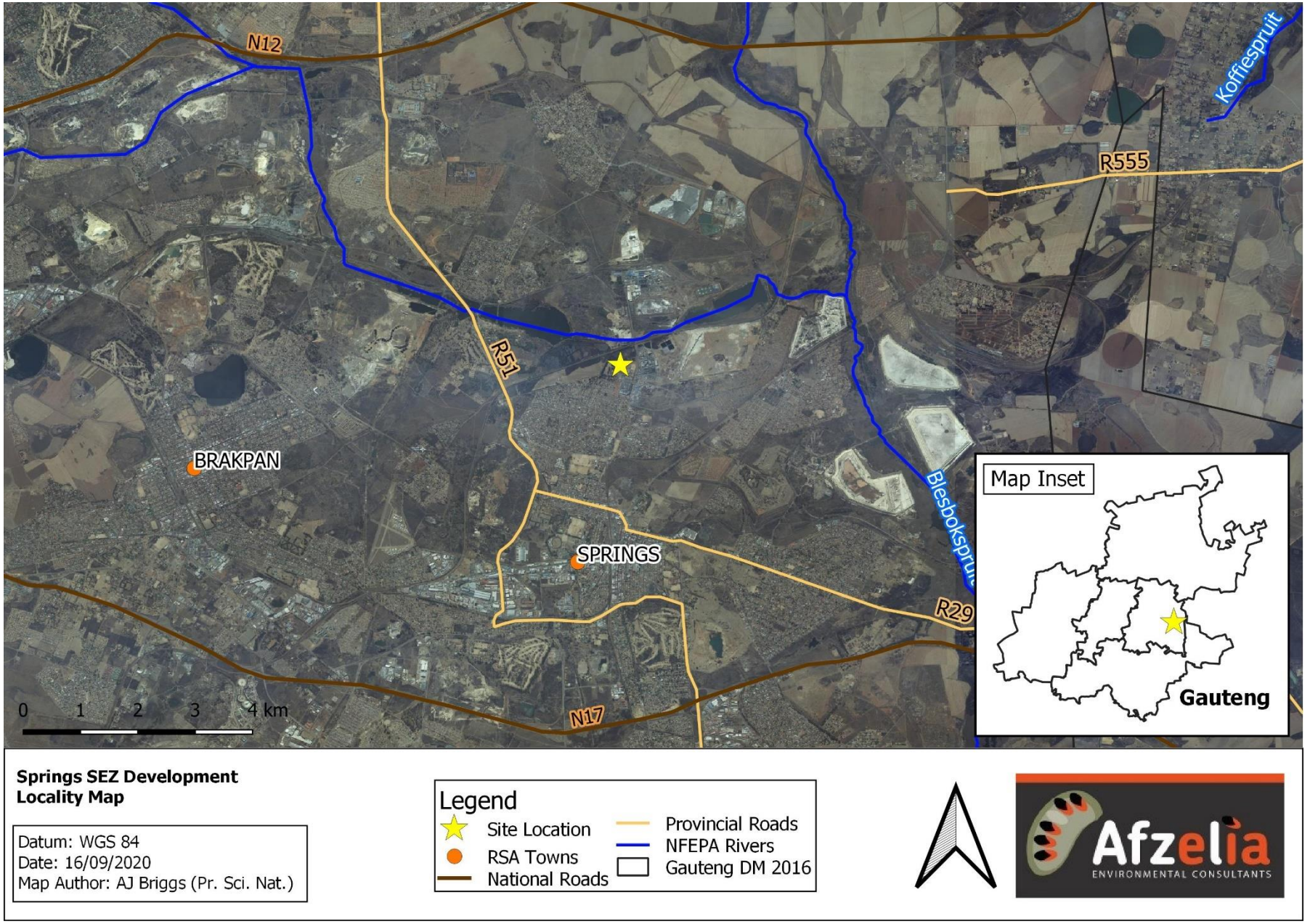

Figure 2 – Locality Map

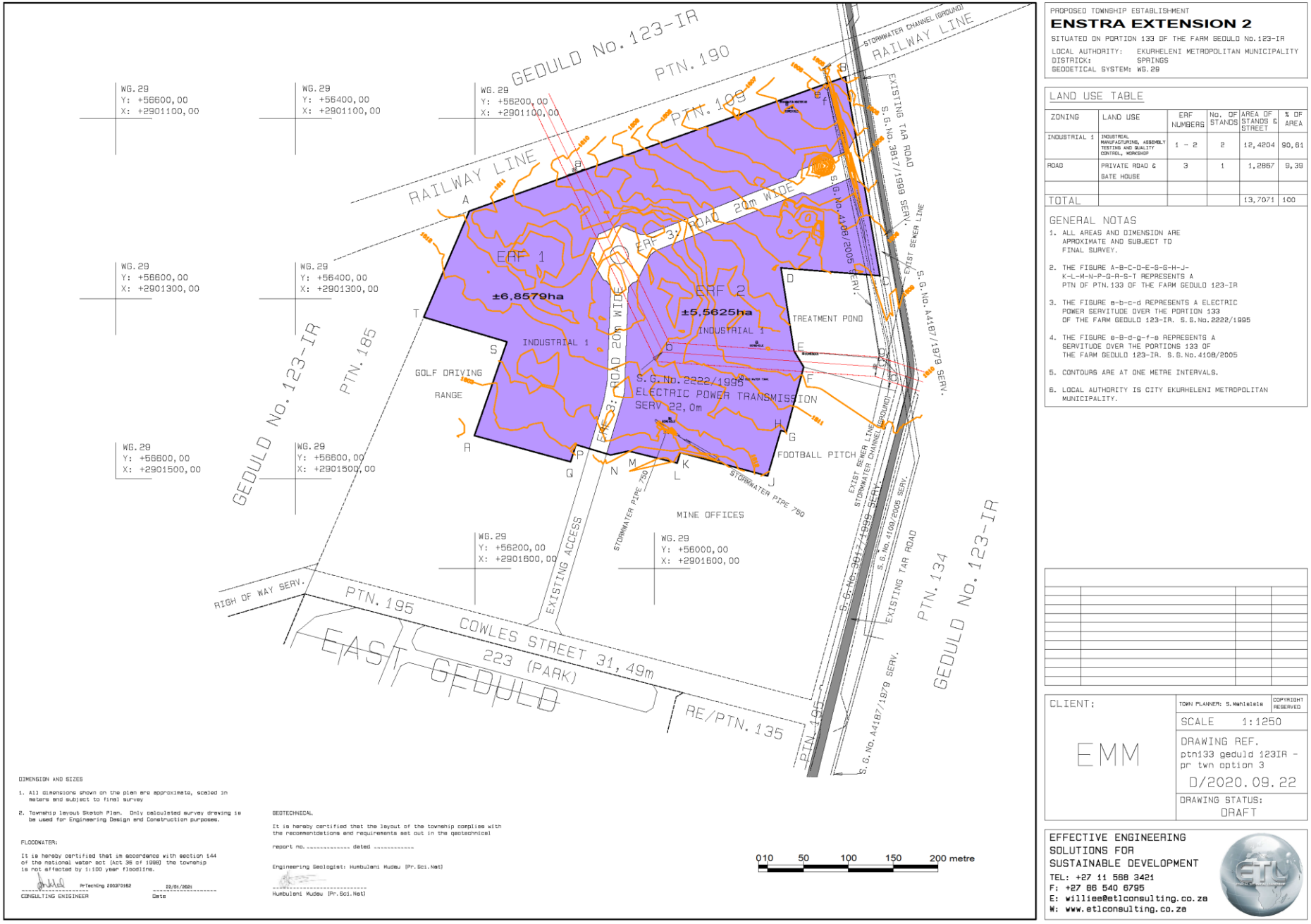

Figure 3 – Layout Plan

5.1 EXISTING SITUATION AND BULK SERVICES

Electricity

The site is located within an existing industrial setting which has industrial development support. Bulk Services in the area include, through Impala Platinum, spare electricity available through the on-site substation, hydrogen and natural gas pipelines, storm water runoff that could be shared.

During the Feasibility Assessment, it was noted that the Ekurhuleni Region D RSDF advised that there is spare capacity for electricity in the Springs area. Furthermore, Impala Platinum is in the process of developing on-site fuel cell energy generation to enable it to go off the grid. This will increase the capacity of spare electricity. Eskom is Impala's current electricity supplier, and the option exists to connect to their existing sub-station on the site.

The engineering study has determined that a distributor substation will need to be established on the site boundary, with the power coming from the substation to the west of the present Administration Building. A two-cable supply, each approximately 300 metres long will be needed to ensure continuity of supply.

Water

The detailed engineering study will determine the exact water requirements for the development, which is informed by the activities proposed for the development. The high-level engineering study has determined that a single 150mm diameter pipe connection is needed from the municipality supply and the fire rising main, supplied with boosting facilities. This boosting, in the case of a fire, could be provided by either the Springs Municipality or by the IP fire-fighting unit. Should water capacity be a constraint, a direct supply line could be negotiated on the economic importance of the Springs SEZ Mixed Use Industrial Development, therefore it is likely that a workable solution can be found.

Water and sanitation connections will also be available due to the setting and industrial nature of the area. The Feasibility Report states that there may be limitations to some bulk infrastructure, e.g., Bulk Water. This will be assessed and discussed during the EIR process.

Road Access to site is available through an existing road, however the development will require an additional road to support the proposed development. This will be investigated through the Traffic Impact Assessment during the EIR stage of the project.

Sewer

The Region D RSDF assesses that the Welgedacht WWTP, which serves the greater Springs area, currently has capacity issues. However, projects are being implemented to effect upgrading to accommodate future developments.

The engineering study identified that a municipal sewer line is located in East Geduld road. This sewer main can serve as the recipient of sewage from the Springs SEZ Mixed Used Industrial Development, subject to municipal approval.

It is proposed through the Feasibility Report, that the uncertainty on this connection/capacity could potentially be mitigated by linking with the Impala Platinum system.

Storm Water

The Sustainable Urban Drainage System method provides a flexible approach to drainage, with a wide range of components from soak aways to large-scale basis or ponds. In this regard, there is the opportunity to utilise Impala Platinum's storm water / rainwater soakaway or infiltration basin adjacent to the proposed site. Such linkage is subject to the system meeting Impala Platinum requirements as not to affect its operations.

The engineering study recommends that the developer provide each of the 16 sites with their own on-site attenuation to meet the permitted discharge rate (usually in the form of an underground reinforced concrete tank, for example under roadways). This will form part of a compliant storm water management plan that will be prepared as part of the township application process.

Solid Waste

The Region D RSDF assesses that there is spare capacity to dispose of waste from new developments. The proposed Springs SEZ, Mixed Use Industrial Development may require a specialist solid waste management programme, given the types of materials (platinum and chemicals amongst others) that will be utilised. It is assumed that this service will be provided by a specialist service provider.

ICT / Telecommunications

This will be provided on a need's basis by the relevant service provider. PVC ducts and manholes will have to be provided within the development to provide the physical space for the layout of these services. The requirements will be specified by the service provider.

Traffic and Transportation

A Traffic Impact Assessment will be undertaken and included in the EIR. depending on the anticipated traffic volumes and vehicle movement, certain road upgrades may be required. However, the relatively small size of the site relative to activity levels in the surrounding area means it should not have a significant impact on traffic volumes.

The high-level engineering study has determined that the entrance to the road is in a suitable location. Depending on the volume of vehicular traffic turning into the development from either the north or south side, it may be necessary to provide a refuge lane or deceleration lane to ensure a heavy vehicle required to enter the development does not create back up problems for normal traffic passing the entrance area on East Geduld Road.

6. LEGISLATION AND REGULATORY REQUIREMENTS

6.1 CONSTITUATION OF SOUTHERN AFRICA, 1996 (ACT NO. 108 of 1996)

The Constitution of South Africa provides the legal foundation for the republic and sets out the rights and duties of its citizens and defines the structure of the government. In terms of Section 24 of the Constitution, every person has the right to an environment that is not harmful to their health or well-being and to have the environment protected through reasonable legislative measures.

6.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NEMA), 1998 (ACT NO.107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014, AS AMENDED

NEMA aims to provide for co-operative environmental governance by establishing principles for decision-making on matter affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state and to provide for matters connected therewith.

The purpose of the Environmental Impact Assessment Regulations is to determine possible negative and positive impacts of the proposed development on the surrounding environment and to provide measures for the mitigation of negative impacts and to maximise positive impacts.

The regulations list activities that indicate the process to be followed. The Activities listed in Notice No. 327 and 324 requires that a Basic Assessment process be followed, and the Activities listed in Notice No. 325 requires that the Scoping and EIA process be followed. However, the guidelines document supplied by Department of Environmental Affairs (DEA) states that if any activity being applied for is made up of more than one listed activity and the Scoping and EIA process is required for one or more of these activities, the full EIA process must be followed for the whole application.

The proposed Springs SEZ Mixed Used Development includes a number of listed activities and therefore it will be necessary to follow a full EIA process in terms of NEMA. Refer to table 1 below for the triggered activities.

Table 1 – Triggered Listed Activities

Regulation No:	Activity No:	Description of the Activity
Listing Notice 1: GNR 327	11	The development of facilities or infrastructure for the transmission and distribution of electricity – (i) Outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or (ii) Inside urban areas or industrial complexes with a capacity of 275 kilovolts or more. Excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is – (a) Temporarily required to allow for maintenance of existing infrastructure. (b) 2 kilometres or shorter in length. (c) Within an existing transmission line servitude; and (d) Will be removed within 18 months of the commencement of development
Listing Notice 1: GNR 327	14	The development and related operation of facilities, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more not exceeding 500 cubic metres
Listing Notice 1: GNR 327	26	Residential, retail, recreational, tourism, commercial or institutional developments of 1 000 square metres or more, on land previously used for mining or heavy industrial purposes: - Excluding where – (i) Where such land has been remediated in terms of part 8 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or

Regulation No:	Activity No:	Description of the Activity
		(ii) Where an environmental authorisation has been obtained for the decommissioning of such a mine or industry in terms of this Notice or any previous NEMA notice; or (iii) Where a closure certificate has been issued in terms of section 43 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) for such land.
Listing Notice 1: GNR 327	27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation for – (i) The undertaking of a linear activity; or (ii) Maintenance purposes undertaken in accordance with a maintenance management plan
Listing Notice 2: GNR 325	4	The development and related operation of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with combined capacity of more than 500 cubic metres
	7	The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods – (i) In gas form, outside an industrial complex, using pipelines exceeding 1 000 metres in length, with a throughput capacity of more than 700 tons per day; (ii) In liquid form, outside an industrial complex, using pipelines, exceeding 1 000 metres in length, with a throughput capacity of more than 50 cubic metres per day; or In solid form, outside an industrial complex, using funiculars or conveyors with a throughput capacity of more than 50 tons per day.

The applicant is required to undertake a Scoping and Environmental Impact Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended; the Environmental Impact Assessment Regulations (2014) as published in the Government Gazette 3822, Notice No. GNR 327 and Listing Notice 1 and GNR 325 and Listing Notice 2. The Scoping and Environmental Impact Report serves to satisfy these requirements.

6.3 WATER USE LICENSE

The applicant is required to apply for a Water Use License (WUL) in terms of Section 21 of the National Water Act, (Act No. 36 of 1998). The activities of the proposed development triggers section 21 (c) and (i) water use license. During the Scoping Phase, it was identified that the development has a potential to trigger section 21 (f), (g) and (h), however if mitigations recommended by the specialists are implemented these applications can be avoided.

Water uses in terms of the National Water Act, 1998 (Act No. 36 of 1998) includes –

(a) Taking water from a water resource
(b) Storing water
(c) Impeding or diverting flow of water in a watercourse
(d) Engaging in a stream flow reduction activity contemplated in section 36.
(e) Engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1)
(f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.
(g) Disposing of waste in a manner which may detrimentally impact on a water resource.
(h) Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power

generation process.

(i) Altering the bed, banks, course or characteristics of a watercourse

(j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and

(k) Using water for recreational purposes.

6.4 OTHER LEGISLATIVE REQUIREMENTS

Other legislative procedures that have been considered or will be taken into account for the proposed project are:

- National Environmental Management Biodiversity Act, (Act No. 10 of 2004)
- Gauteng Planning and Development Act, (Act No. 3 of 2003)
- The Gauteng Provincial Environmental Management Framework Standard and exclusion of associated activities (Regulation No. 164 of 2018)
- GDARD Conservation Plan, Version 3.3
- Ekurhuleni Metropolitan Municipality Spatial Development Framework (MSDF) and Integrated Development Plan (IDP)
- EMM Bioregional Plan (2011)
- EMM Biodiversity and Open Space Strategy (EBOSS), May 2009
- Section 108 of the Town Planning and Townships Ordinance, 1986 (Ord.15 of 1986)
- The South African Heritage Resources Act (SAHRA), 1998 (Act No. 25 of 1999)
- The Municipal Systems Act, 2000 (Act No. 32 of 2000) an the Integrated Development Plans (IDP) regulates the planning processes of the local municipality.
- National Waste Management Act, 2008 (Act No. 59 of 2008)

7. PROJECT PROCESS

The Pre-Application Meeting Request form was sent to the Competent Authority, in this case the Department of Environment, Forestry and Fisheries (DEFF) on the 8th December 2020. The screening report developed using the National Environmental Screening Tool (Online) accompanied the Pre-Application Meeting Request Form. An assessing officer was allocated to the project on the 14th December 2020. Through email communication it was discussed, and a decision made to communicate over email at this point due to the early stage of the project and the lack of detailed information required in order to confirm the listed triggered activities.

A Public Participation process was and will continue to be followed to inform Interested and Affected parties (I&AP's) about the proposed development and to gather concerns, comments and issues to be investigated during the EIA process. The Public Participation Process will be discussed further in section 12 of this report.

The Environmental Authorisation Application Form will be submitted to the DEFF on the 22nd February 2020. The draft Scoping Report will be made available to registered I&AP's, State Departments and the Ekurhuleni Metropolitan Municipality for comment from the 23rd February 2021. The draft Scoping Report will also be available on the following website: www.afzelia.co.za and by following dropbox link: https://www.dropbox.com/sh/ttnpy1f7qvrmnd2/AAAPigxg060vhvs2WQ1FxJ6ka?dl=0.

Public participation began during the Socio-Economic Impact Assessment on the 18th November 2020, however the Background Information Document compiled by the Environmental Assessment Practitioner for the purpose of the Environmental Impact Assessment was sent out to potential Interested and Affected Parties beginning on the 28th

January 2021. English and Afrikaans Newspaper advertisements were published in the Citizen and Beeld Newspapers respectively on the 12th February 2021.

Refer below to figure 4 for the overall Scoping and EIR process, also illustrating where the project is currently.

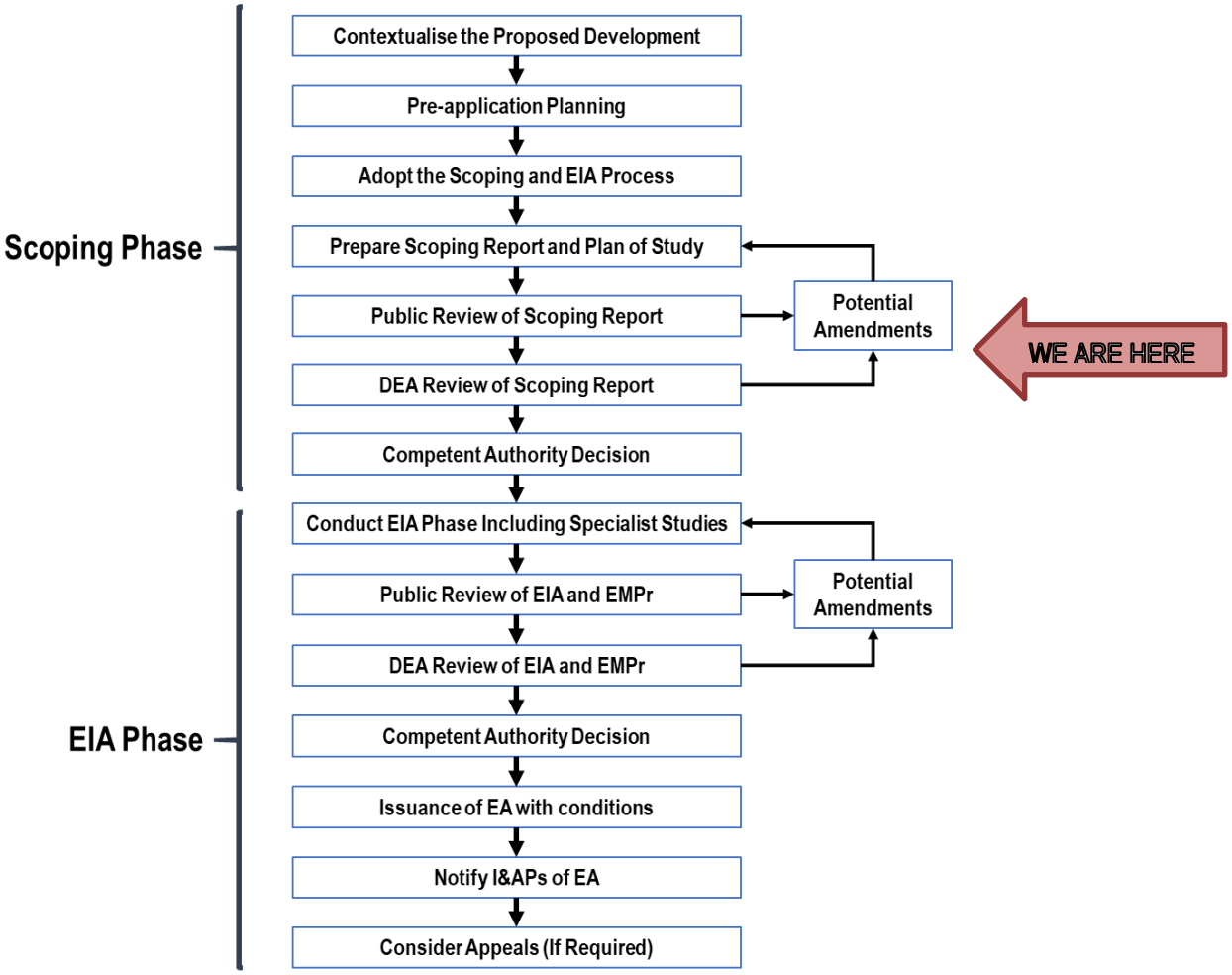

Figure 4 – Scoping and EIR Process

8. NEED AND DESIRABILITY

Need

The Ekurhuleni Metropolitan Councils Integrated Development Plans (IDP's) stated that a spatially efficient capital city must be sustainable, competitive and resilient. In this light, the proposed Fuel Cell Plant promotes resilience by being innovative and adaptable, whilst maximizing spatial opportunities and in turn maximising economic growth and employment opportunities through strategic investment decision making, wherein through a mixed industrial development for the purpose of PGM value add and other manufacturing related activities, forming a part of the greater Springs PGM SEZ strategy by the Gauteng Growth and Development Agency will create both skills transfers and employment opportunities in the sub-region.

There is a need for the proposed mixed-use industrial development because it is a part of a broader economic development strategy of the Gauteng Province, which is to grow the economy and create jobs. It will also further strengthen the industrial component of the East Rand and enable the creation of economic and employment opportunities in proximity to residential areas, such as East Geduld, Rowhill and Petersfield, all of which are located within the vicinity of the proposed

development site. Care has been taken to ensure that the proposed mixed-use industrial development sensibly integrates with the surrounding urban development pattern.

As mentioned, the need of which contributes to the development of the local economy. Local economies reap distinct benefits from the activities of local businesses. Businesses in turn, can have competitive advantages by employing locally. Some of the major benefits of industrial development to the local economy includes a boost in employment rates and income in the community, tax income increases for governments and loyal customers are created for businesses. The standard of living improves for the local area as well. Industrial development brings wider range of services and amenities to the local area. Industrial land uses such as the proposed development play and integral role on the development of the local economy which has a ripple effect that impacts the community positively. Increased employment in the local area directly translates to a reduction in the unemployment rate in the region and in the country as a whole.

Additionally, the success of industries is directly proportional to the rate of economic growth. As the economy grows, they are more benefitted than any other industry. Therefore, many people with little or no skills can be employed and learn the skills they need to be able to support their families and be empowered.

Furthermore, establishment of industrial capacity in this area will assist SMME's expand and provide an opportunity for other to join this sector of the market.

Looking at another direction of the need, one of the major benefits of industrial development such as the proposed is that the residential properties increase in value. Residential properties located in proximity to such land uses have the convenience of having access to places of employment. This convenience increases the value of the surrounding properties.

Desirability

Industrial development has historically led to periods of economic growth. New technologies make jobs easier, faster and better, which can lead to an increase in a business output and an increase in profits. Industrialisation in the workforce has many benefits that are more far-reaching as well. Below, many of the benefits of industrial development and its positive impacts on the economy are discussed. These benefits are seen to be desirable in any area and therefore form the desirability of the project.

- **Industrialisation Improves Profits** – Adding industrial development to a business can increase the scale of production, reduce the cost of production, make improvements on the products being developed and widen the market for products and services being sold. These improvements have a great impact on the profit margin of goods and services that a business sells. It is also easier to expand or cut down on the product development or output as the market dictates.

- **Industrial Development = Modernisation** – Adding technology or improving on industrial methods increases output and productivity.

- **Industrial Development Leads to Urbanisation** – Urbanisation tends to follow an increase in industrialisation.

Industrialising a region will inspire growth in communication, transport and services which leads to more people occupying a smaller space, increasing and improving the workforce. Many other establishments set up near industrial bases, include educational institutions and schools, banking and health facilities, restaurants and entertainment complexes. These establishments thrive due to the added population from an industrialised area, which leads to more business occurring overall.

- **Industrial Development of One Industry Leads to Growth in Others** – Businesses need to invest in order to operate, so the increase in industrialisation will lead to investments which support other industries. Additionally, an industrialised business can put out products or services which will lead to other businesses improving their own output.

- **Employment Opportunities** – An increase in industrialisation can lead to lower rates of unemployment and poverty in a region. Industrial developments lead to more jobs in both large- and small-scale businesses, which allows for more opportunity for those who may be unemployed otherwise. It also brings in employment from people near the industrialised regions, such as the suburbs and outskirts. Many Ekurhuleni residents in Kwatsadusa complex face isolation from economic opportunity - and apartheid legacy of placing townships on the periphery of a weakened urban spine with deteriorated public transport. The municipality faces high levels of poverty and homelessness, ageing infrastructure and too few jobs. The proposed mixed industrial development will offer various employment opportunities in close proximity to residential neighbourhoods. It can be interpreted that the proposed development will assist in realising the version of the National Development Plan by creating a development that is compact and that offers employment opportunities.

- **Increased Standard of Living** – industrialisation leads to the development of skilled workforce, one that includes specialised laborers that are skilled in specific trades and tasks. This specialisation attributes to greater output, which will increase the incomes of the workforce. The increase incomes lead to a higher standard of living for the workers and their families.

- **Investment Opportunities** – In terms of the South African Special Economic Zone Programme, focus of any investor engagements is on domestic or foreign based companies who want to set up manufacturing facilities for the purpose of enhancing export or products manufactured in South Africa. This is one of the most important benefits from attracting international investment given that the concept is fairly new in the South African industry. Knowledge created by the international enterprise is used by a local firm, which does not fully compensate the international enterprise. Typically, this happens through two channels:
    1. Demonstration effect: local firms obtain knowledge about new products, technologies, marketing and management strategies or business opportunities in local and foreign markets by observing actions of foreign affiliates.
    2. Knowledge spill-overs: local firms hire workers trained by multinationals who bring knowledge across and tend to be more productive, who found that for a sample of manufacturing firms in local sphere, domestic entrepreneurs with previous work experience in a multinational firm in the same industry run more productive firms than entrepreneurs without such experience.

Overall, the knowledge spill over effect may be large for international investments into fuel cells in the Springs Special Economic Zone, Mixed Use Industrial Development. The market is relatively underdeveloped – investors are taking some

first mover risks in entering the fuel cell chain in South Africa.

- **Economic Upliftment** – The proposed project will create positive spin-offs in terms of job creation for the construction period of the project and the industrial activities thereafter. The economic opportunity is likely to establish long-term sustainable economic growth both in terms of skilled and unskilled labour and further in terms of the establishment of permanent business and economic growth opportunities in the Geduld, Springs area.

  General land use applications in Springs for both infill and densification are limited. The highest residential densities applied for are 75 dwelling units per hectare in Pollack Park. This indicates that there is not a high demand for residential stock in these areas and this could be attributed to the great distances from opportunities in terms of services and employment. This area is not well serviced in terms of public transport and the area is also characterised by large informal settlements, such as KwaThema.

- **Localisation Economies** – Ekurhuleni has many advantages, one being the location of OR Tambo International Airport. This airport is the busiest airport in Africa. The airport links producers with the region and the world, brings in tourists, and employs a substantial number of people. While the airport already generates large benefits for Ekurhuleni, the metro is attempting to leverage this for greater benefit.

  The site is located directly adjacent to Impala Refineries Industrial area, as well as in close proximity to the Nuffield Industrial Node (10km) and 1.5km of the Enstra Industrial area. The site will therefore stand to benefit from having the same type of industries (especially the Impala Platinum Refinery) within its vicinity in terms of infrastructure, labour pooling and knowledge spill overs. Localisation of economises is also beneficial for security in the area.

(Schedule 19 - Town Establishment Application Form, 07 December 2020, ETL Consulting (Pty) Ltd.)

9. ENVIRONMENTAL BASELINE DESCRIPTIONS

The following section provides a description of the existing baseline, or status quo assessment of the environment and socio-economic parameters of the site. From this information, specific and important issues to be addressed by the Impact Assessment will be identified, together with concerns raised by interested and affected parties and the authorities.

9.1 BIOPHYSICAL

9.1.1 Climate and Rainfall

The climate of the site is typical of the Highveld region. Precipitation is usually in the form of thundershowers, often accompanied by hail in the summer months, followed by dry winters. Mean annual precipitation (MAP) is 697.6mm and is strongly summer dominant (October to March) while annual potential evaporation is 2091.2mm (Schulze, 1997). Maximum temperatures vary between 22-28°C in summer to 12-18°C in winter (April to September), whilst minimum temperatures are between 10-15°C in summer and -2-1°C in winter (DWAF, 2005b).

9.1.2 Historical and Current use of the Property

The site forms part of Portion 133/123-IR Geduld of the Impala Refinery landholding. The site has been included in GGDA's

request to DTI for re-gazetting of land parcels to include in the Gauteng IDZ. A town planning application for this portion of the property is currently in progress. The proposed township situated on Portion 133 of the Farm Geduld is to be known as ENSTRA EXTENSION 2.

The overall site currently accommodates the Impala Platinum Mine Offices Recreational Facilities, Mining Infrastructure including a water purification plant, a football pitch and a gold driving range. Although the entire Portion 133 of the Farm Geduld measures approximately 29.1 hectares, the proposed site for the Springs SEZ, Mixed Use Industrial Development measures an area of approximately 13.7 hectares and will comprise of three stands. The proposed site is considerably transformed.

According to Ekurhuleni records, the site currently has dual zoning, namely industrial and mining. Mining rights exist on the site proposed; however, a sterilisation application has been made and submitted by Impala Platinum (done in 2016). This technical anomaly will be resolved during the Township establishment process.

A cultural heritage study will be conducted and will be used to inform the Environmental Impact Assessment process, to determine the architectural and historic significance.

9.1.3 Wetlands and Watercourses

The proposed site falls within quaternary catchment C21D which forms part of the greater Vaal Water Management Area (WMA). The proposed development is located within the sub-quaternary reach (SQR) C21D-01334. This sub-quaternary reach comprises 14.50km extent of an unknown river which terminates at the confluence of the unknown river and the Blesbokspruit, approximately 4km downstream of the site. The proposed development site drains in a general northerly direction towards the unknown river, which is located approximately 100m downslope.

The sub-quaternary reach of the unknown river is considered to be in a critically modified or Class F state, whilst the ecological integrity (EI) and ecological sensitivity (ES) are both rated as low (DWS, 2014). The primary impacts to the sub-quaternary catchment include nearby open-cast gold mining, recycled mine dumps, multiple road crossings, urbanisation within the catchment and the presence of large dams, namely the Alexander and Cowles Dams (DWS, 2014).

A wetland and riparian habitat impact assessment will be undertaken and used to inform the Environmental Impact Assessment process, however, during the Scoping phase it was found that a single riparian habitat was identified and there is an absence of wetland habitats within 500m (regulated area) of the proposed development. Refer to figure 5 below for the Watercourse Map.

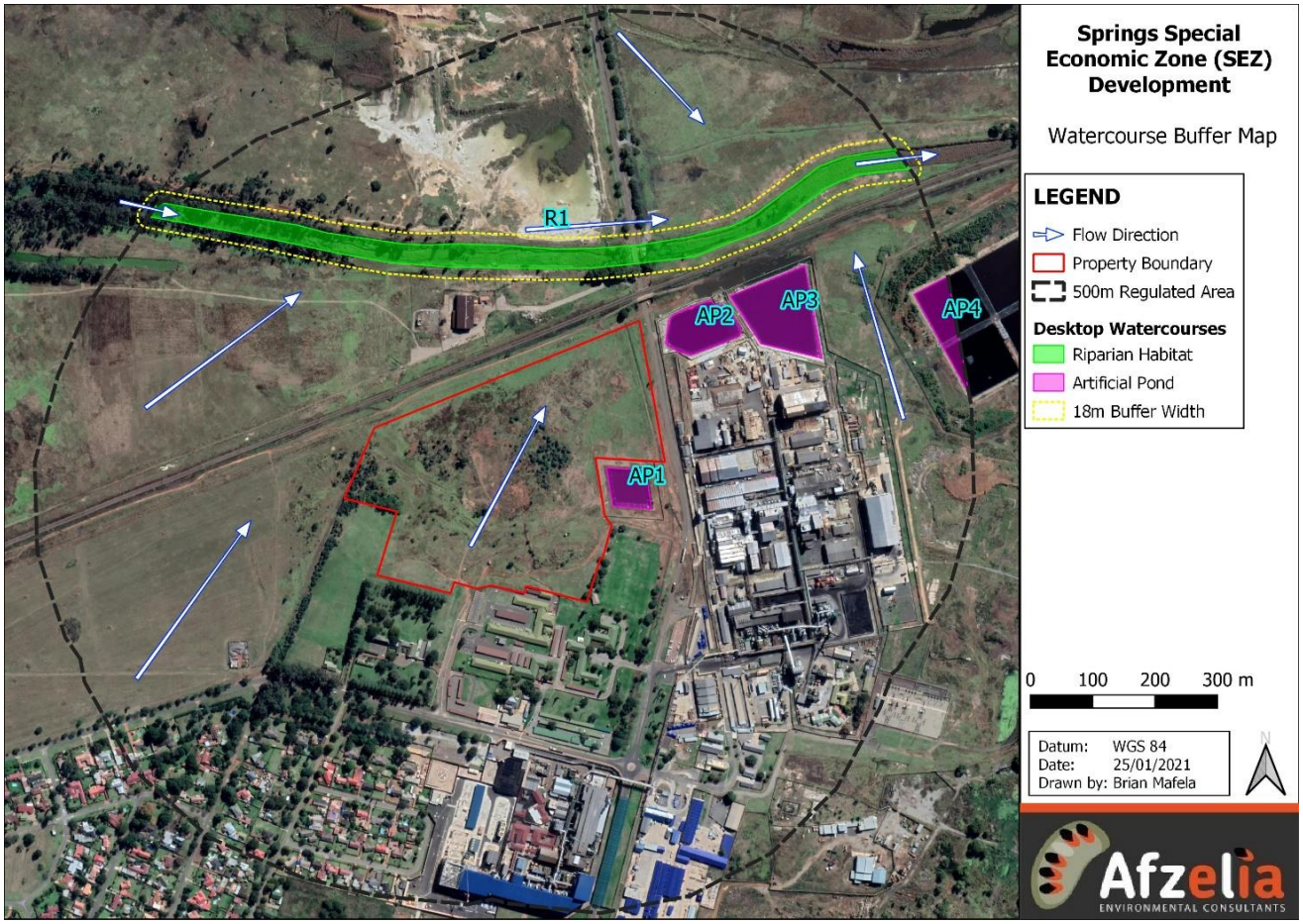

Figure 5 – Watercourse and buffer map

9.1.4 Geology and Soils

The site is located on dolomitic land. A geotechnical investigation will be undertaken to inform the Environmental Impact Assessment Process. The purpose of the geotechnical assessment is to define the subsurface geology in order to provide appropriate recommendations regarding land use, foundation types, layout, density, services, foundation types and precautionary measures to reduce risks.

Impala Platinum has however confirmed that the site is not contaminated in terms of any previous mining operation or other industrial land use activity and that there are no pre-existing rehabilitation obligations. Impala Platinum is currently using the site to store topsoil from other areas of the facility where it is undertaking development and doing earthworks.

9.1.5 Vegetation

Vegetation of the study site is described by Mucina and Rutherford (2011) as Soweto Highveld Grassland. However, the proposed site comprises completely transformed land, dominated almost entirely by alien invasive plant species and very few indigenous species. An ecological assessment will form part of the Environmental Impact Assessment and therefore detailed information regarding the vegetation on site will be investigated. Refer to figure 6 below for Vegetation Map.

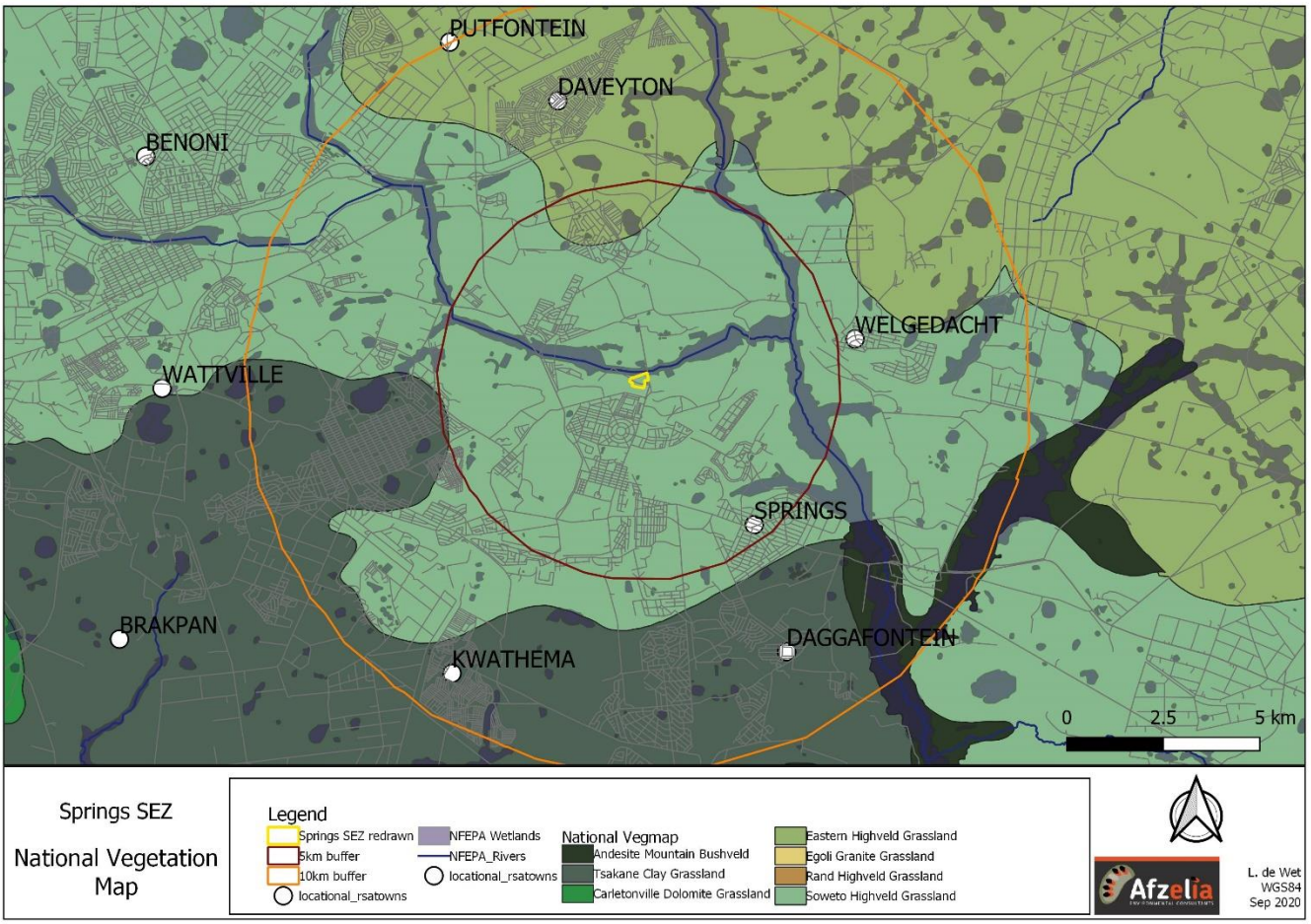

Figure 6 – National Vegetation Map

9.1.6 Biodiversity

The National Vegetation Map represents the original extent of each of the 458 vegetation types that it describes, prior to any anthropogenic influences (Skowno et el. 2019). The NBA takes into account the extent of the vegetation and its condition, as well as land use to determine the remaining extent of the vegetation types. The dataset is based on 2014 data, and so is somewhat out-dated, but can still be used to infer the majority of the remaining extent of each of the vegetation types. Biodiversity will be assessed as part of the Ecological Assessment which will be used to inform the Environmental Impact Assessment.

According to the National Vegetation Map, it shows the proposed site as remaining natural area within a Vulnerable ecosystem, however, the reality on the ground is that the full site is completely transformed and bears little resemblance to the Vulnerable Soweto Highveld Grassland to which it once belonged. Refer to figure 7 for the Threatened Ecosystems of the site.

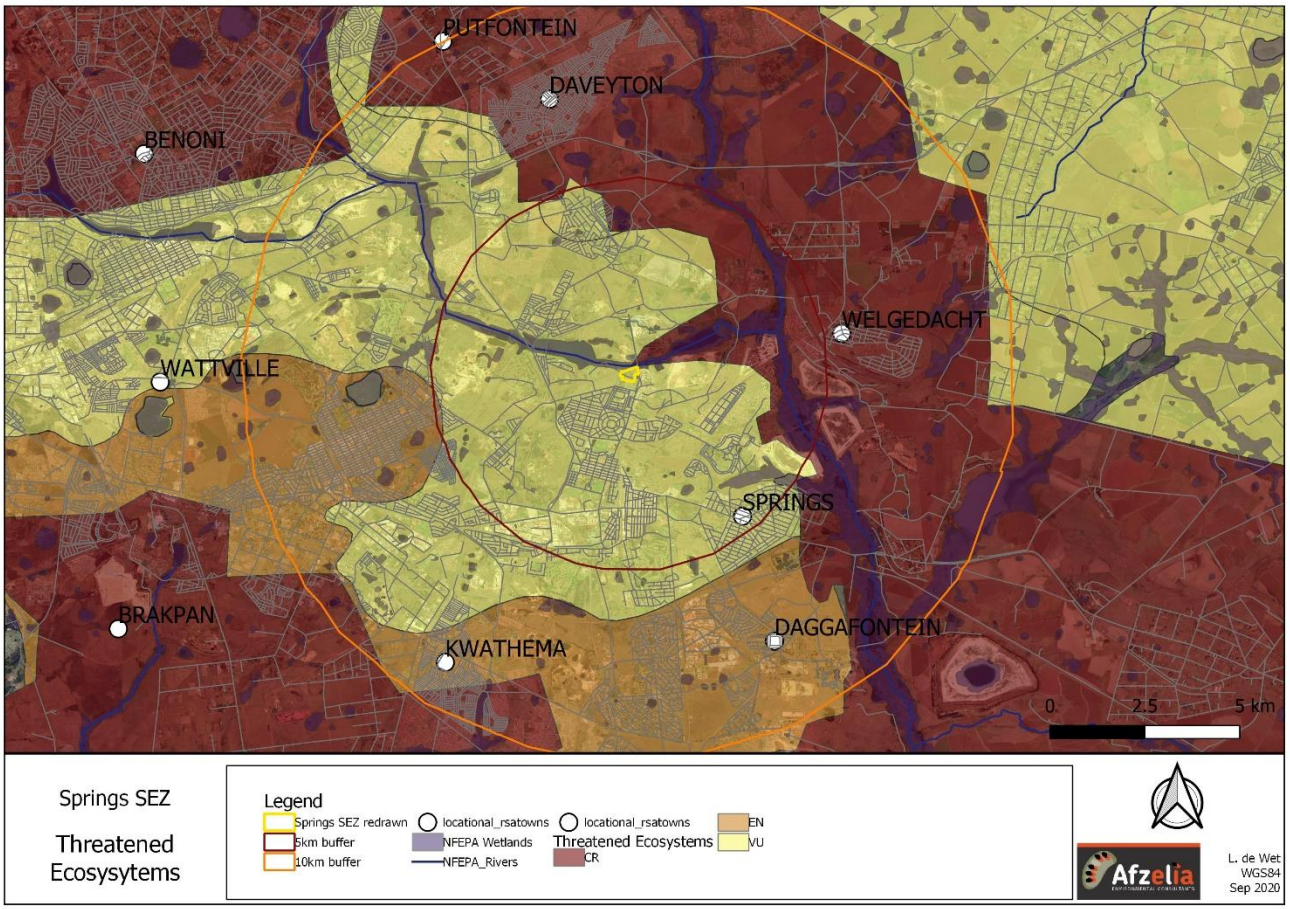

Figure 7 – Threatened Ecosystems Map

9.1.7 Gauteng Conservation Biodiversity Plan (C-Plan)

The Gauteng Conservation Plan includes several datasets for the province, and it defines Critical Biodiversity Areas, and Ecological Support Areas. There are two main biodiversity areas within the province (GDARD 2014).

Critical Biodiversity Areas (CBAs): CBAs were selected based on biodiversity characteristics, spatial configuration and requirement for meeting biodiversity patter and process targets. These areas include irreplaceable sites where no other options exist for meeting conservation targets as well as sites that form the best option for meeting conservation targets. Some CBAs may be degraded but are still required to meet targets (GDARD 2014).

Ecological Support Areas (ESAs): ESAs include natural, near-natural degraded or even heavily modified areas that are required to be maintained in a functioning state to support CBAs and Protected Areas. These areas maintain ecological processes on which Protected Areas and CBAs depend (GDARD, 2014).

The proposed site does not fall within either a CBA or ESA, refer to figure 8 below.

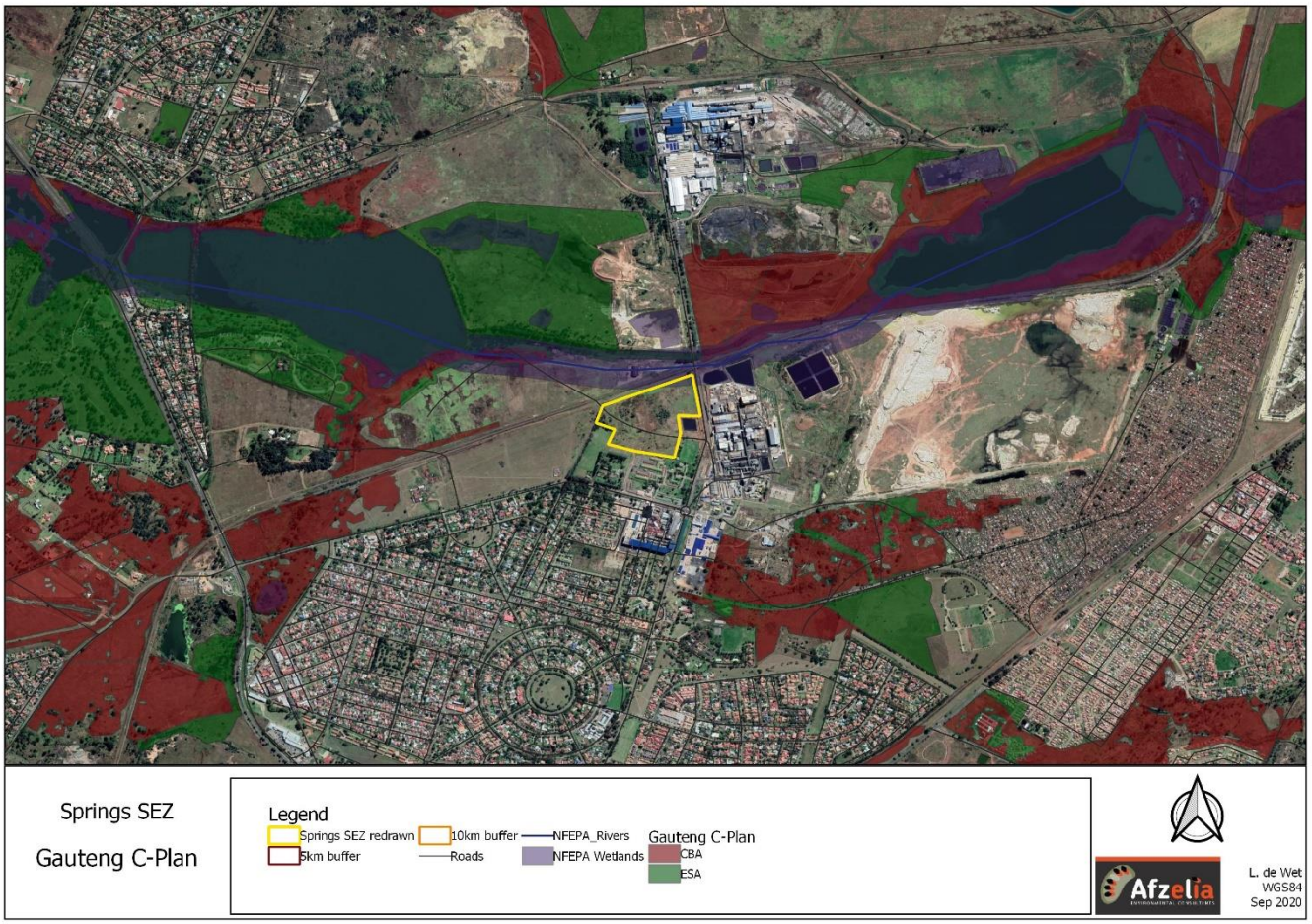

Figure 8 – C-Plan Map

9.1.8 Geotechnical Conditions

The 1:250 000 scale Geological Map, Sheet 2626 West Rand, indicates that the proposed area is located on colluvial soils of the quaternary stage, which overlie dolomite and chert of the Malmani Subgroup of the Chuniespoort Group, Transvaal Sequence. These lithologies are overlain by their weathered soil derivatives, which are in turn mantled by variable thicknesses of transported soils, i.e., hill wash, aeolian, alluvium and/or colluvial materials.

A Geotechnical Investigation will be done and used to inform the Environmental Impact Assessment Report.

9.1.9 Boreholes

Currently there are four (4) boreholes located within the boundaries of the proposed development site. These boreholes are monitored and maintained by The Impala Platinum Refineries. Investigations into the role of these boreholes along with maintenance and monitoring requirements will be investigated during the Environmental Impact stage and discussed in the Environmental Impact Report.

Refer to Figure 9 below showing the location of the existing boreholes within the proposed development site.

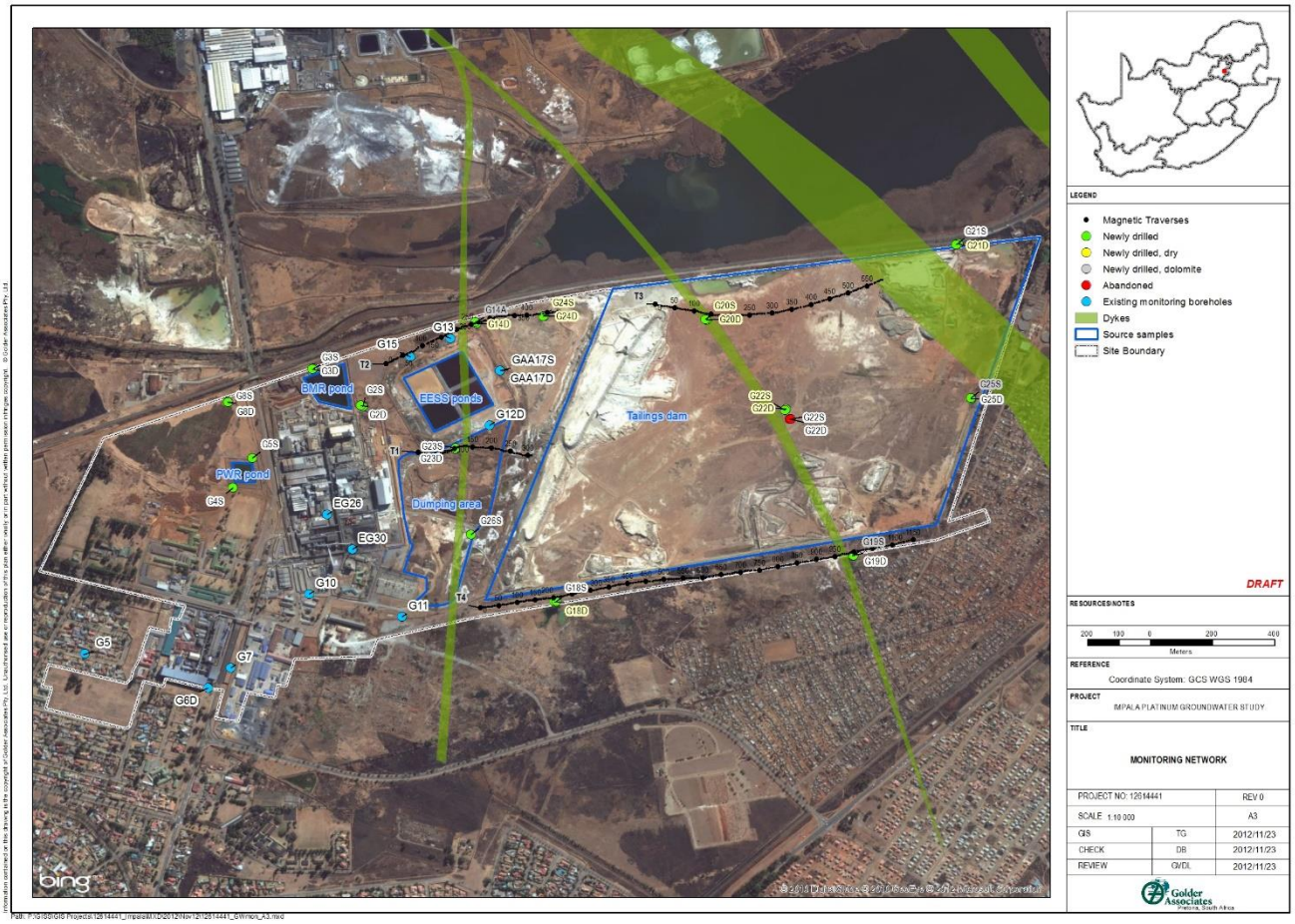

Figure 9 – Borehole Location Map

9.1.10 Air Quality

The information available at present is insufficient to allow a decision on whether an air quality assessment is required for the proposed development. The requirement of an Air Quality Assessment will be investigated through the Environmental Impact Assessment and if required, the Assessment will be done and used to inform the Environmental Impact Report.

10. DESCRIPTION OF ALTERNATIVES

The National Department of Environmental Affairs stresses that the no-go option be considered as a base against which to measure the relative performance of the other alternatives. The impacts of other alternatives are expressed as changes to the base case or status quo. If the no-go option is considered to be viable, the decision not to act may be considered in the evaluation and assessment process against other alternatives. The following table (Table 2) describes the different alternatives that can be investigated in more detail during the EIA phase and comments on potential.

Table 2 – The different alternatives that can be investigated in more detail during the EIA phase and comments on potential.

Alternatives	Description	Comments on Project Implementation
Activity alternatives	Alternatives to consider other activities which will provide the same outcome of the proposed development	The proposed site has previously earmarked for mining and currently has a mining rights permit applicable; therefore, it does not have a high agricultural potential,

		neither would it be suitable for residential development as it is found within a designated mining belt and directly adjacent to Impala Platinum. Due to the existing surrounding land uses and activities, the Special Economic Zone, Mixed Use Industrial Development is ideal.
Location or site alternatives	The property on which the activity is proposed and possible location for certain activities within the property. This may include other sites to commission the project.	Site alternatives will not be investigated further since the applicant has been given this portion of land to develop and does not have any other land available for development of a light industrial complex as proposed.
Layout / Design alternatives	Placement of land uses and infrastructure within an area available for development to optimize the site and provide environmental protection to sensitive features identified. Design alternatives may also include architectural, engineering, infrastructure and road options.	These alternatives will be investigated during the EIA phase and after the finalisation of all specialist studies. The layout will attempt to avoid environmentally sensitive areas.
Scale alternatives	Refers to the actual size of the proposed development.	Scale alternatives will be investigated during the EIA phase and after the finalisation of all specialist studies.
Technology alternatives	The use of renewable energy and alternative energy sources to reduce the demand of the municipal electricity supply.	Technology alternatives will be investigated during the EIA phase and after the finalisation of all specialist studies.
Land use alternatives	Consideration of alternative land uses on the development site aside from light industry.	Land use / activity alternatives were investigated during the Draft Scoping phase of the project and site will not be investigated further since the idea of the Special Economic Zone, Mixed Use Industrial Development has been designed around this proposed located due to the advantages of being in close proximity to mining industry, having good links to main transportation systems and within close proximity to O.R Tambo International Airport, therefore there are no alternatives for the activities as proposed for this development.
No-go option	The status quo remains and no development takes place.	The no-go option will be investigated during the environmental impact assessment. This option will be assessed and determined whether it is a positive alternative to investigate or whether the development and surrounding area has more to gain from the proposed development and less to lose when development occurs.
Preferred option	Special Economic Zone, Mixed Use Industrial Development.	The preferred option is to develop the site into a Special Economic Zone and Mixed-Use Industrial Development. This option will be investigated in more detail during the EIA phase to incorporate design, scale, technology alternatives, after the specialist's studies are finalised. The preliminary layout design as shown below referred to as Figure 10 Layout Rev 05 recommends the following: • The proposed site is divided into three

		Erf's. • Erf 1 includes the north-west and south-west parts of the site. Erf 1 measures approximately 6.86 ha. • Erf 2 includes the east and south-east part of the site. Erf 2 measures approximately 5.56 ha. • Erf 3 runs between Erf 1 & Erf 2 from north to south in the form of a 20m wide road to include a turning circle in the approximate centre of the site. • Erf 1 will be divided into 7 sites and Erf 2 will be divided into 5 sites. • Two accesses are proposed for this development: 1) Cowles Street / Existing Access to Impala Platinum Mine. It forms a T-Junction intersection with Cowles Street, and it will be stop controlled with priority to Cowles Street. 2) East Geduld Road / Development Access. This will be a new access off East Geduld Road on the western side. It will be priority stop controlled with priority to East Geduld Road. This access will have 3 entry lanes and 2 exit lanes with a stacking distance of 39m from the intersection to the access-controlled gate. Lane widths will be 3.5 metres, with a horizontal clearance between obstructions of at least 4.5 metres to accommodate the fire engine and other large vehicles. The vertical height clearance must be at least 4.5 metres. The option of the preferred alternative will be investigated along with the no-go and other alternatives as mentioned above during the Environmental Impact Assessment and be included in the Environmental Impact Report.

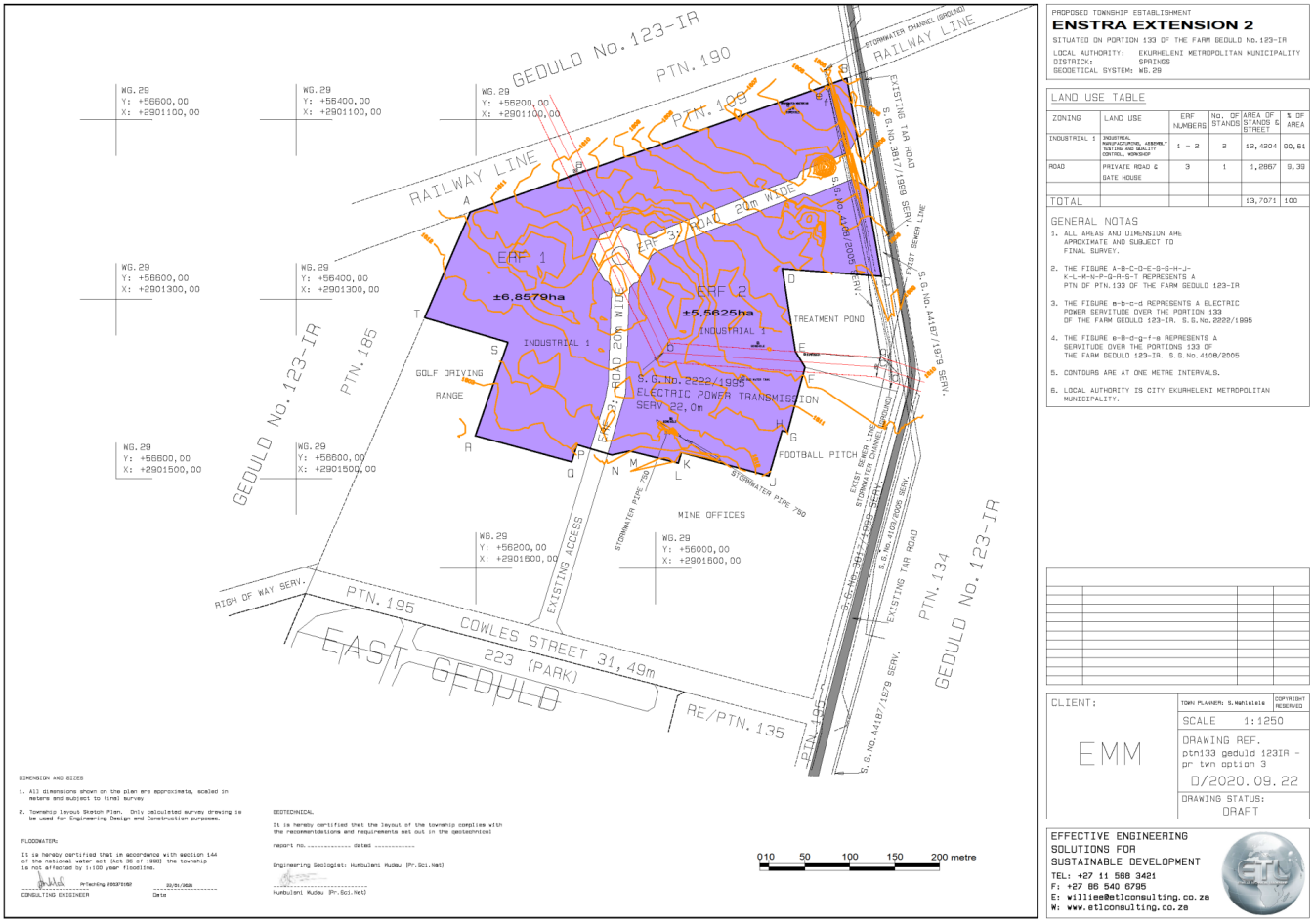

Figure 10 – Preferred proposed layout

11. IMPACT PREDICTION

The potential environmental impacts that are associated with the proposed project were identified during the Scoping Phase through an appraisal of the following:

- Activities associated with the project life cycle (i.e., construction, operation and maintenance);
- Profile of the receiving environment and the potential sensitive environmental features and attributes.
- Input received during the public participation from authorities and I&AP's; and
- Legal and Policy context.

The Scoping exercise aimed to identify and quantitatively predict significant environmental issues for further consideration and prioritisation during the EIA stage. Note that "significance" relates to whether the effect (i.e., change in environment feature / attribute) is of sufficient importance that it ought to be considered and have an influence on decision-making.

Table 3 –: Summary of Issues related to the Springs Special Economic Zone, Mixed Use Industrial Development

Activity	Impact Summary	Further Investigations / EIA Provisions
Construction and Operation of the Special Economic Zone, Mixed Use Industrial Development in its entirety	Wetland and Riparian Impact – • Loss of Freshwater habitat and biota • Degradation of freshwater habitat • Water and Soil Pollution Impact	The full Wetland and Riparian Impact Assessment will be discussed in the Environmental Impact Assessment Report.
	Loss of ecosystem function and process –	A full Ecological Assessment will for part of the Environmental Impact Assessment and

Activity	Impact Summary	Further Investigations / EIA Provisions
	• Fragmentation and edge effects • Invasion of alien species	discussed in the EIR.
Construction activities	Disturbance of surfaces and /or sub-surfaces may destroy, damage, alter or remove from its original position archaeological material or objects.	A Level 1 Heritage Impact Assessment will be conducted and included in the findings of the Environmental Impact Assessment Report.
Construction Phase	• Increased traffic flow relating to construction vehicles, arriving materials and equipment during the construction phase. • Increased pressure on the surrounding road system.	The proposed development is supported from a traffic engineering perspective and the Traffic Impact Study for the proposed development has been approved from a traffic engineering point of view by the Roads and Stormwater Department of the City of Ekurhuleni. The Traffic Impact Study will for part of the Environmental Impact Assessment and will be discussed in the EIR.
Operational Phase	• Increase in traffic flow during the operational phase due to trucks and vehicles being accommodated at the various site on the proposed development. • Increased pressure on the road system.	
Construction Phase	Reduction in air quality • Dust dispersion due to construction activities	The issue of air quality during the construction phase will be investigated and discussed in the environmental assessment process and included in the EIR.
Operation of Fuel Cell manufacturing	Reduction in air quality	Information available leads the EAP to understand and believe that there will be no emissions released through the Fuel Cell manufacturing process, however this will be investigated through the environmental impact assessment process and be included in the EIR.
Operation of PGM value add and other manufacturing related activities.	Noise, odour and reduction in air quality	There is not enough available information at this point of the project to comment on the potential noise, odour and potential negative air quality as a result of the operation of the PGM value add and other manufacturing related activities as proposed, however this will be investigated during the environmental impact assessment and included in the EIR.
Construction of the proposed development on a site which is underlain by dolomite.	Instability of land required for building the proposed development	The geotechnical assessment identified that the soils on the site are anticipated to exhibit low to medium potential expansiveness with localised highly expansive conditions. According to various classifications of the site, part of the site is characterised as developable with areas that may need precautionary or certain remedial measures. The geotechnical assessment and further recommended studies will be assessed and included in the Environmental Impact Report as well as mitigation measures on site specific conditions for construction.

During the EIA stage a detailed quantitative impact assessment will be conducted via contributions from the project team and requisite specialist studies, and through the application of the impact assessment methodology contained in Section 10. Suitable mitigation measures will be identified to manage (i.e., prevent, reduce, rehabilitation and/or compensate) the environmental impacts, and will be included in the EMPr.

11.1 CUMULATIVE IMPACTS

With the SEZ, Mixed Use Industrial Development proposed with and existing industrial area influenced heavily by the mining industry, it is not likely for this proposed development to have a significant cumulative effect on the area. The topic of cumulative impacts will however be investigated during the environmental impact assessment phase and included in the environmental impact report.

12. METHODOLOGY AND APPROACH FOR IMPACT ASSESSMENT

12.1 INTRODUCTION

An impact can be defined as any change in the physical-chemical, biological, cultural, and / or socio-economic environmental system that can be attributed to human activities relative to alternatives under study for meeting a project need.

There are numerous assessment methodologies and approaches within the international sphere of assessing the potential impact of development activities on the environment.

When a particular method of environmental impact analysis is selected, certain general principles must be kept in mind to preventing shadowing of planning procedures. In general terms an environmental assessment evaluation comprises four main tasks:

1. Collection of data
2. Analysis and interpretation of the data
3. Identification of significant environmental impacts
4. Communication of the findings

Further to the above, the proposed mitigation and management options for the identified impacts must be provided. The selected impact evaluation method must enable these four tasks. Impact methodologies provide an organised approach for predicting and assessing these impacts. Any one methodology and approach will have opportunities and constraints, as well as resource and skill demand, and no one method is appropriate for all circumstances. The selected methodologies proposed by this document are appropriate for most situations, taking the above criteria into account.

12.2 METHODOLOGY USED FOR THE RISK ASSESSMENT

Significance scoring assesses and predicts the significance of environmental impacts through the evaluation of the following factors: probability of the impact; duration of the impact; extent of the impact; and magnitude of the impact. The significance of environmental impacts is then assessed taking into account any proposed mitigations. The significance of

the impact "without mitigation" is the prime determinant of the nature and degree of mitigation required[1]. Each of the above impact factors will be used to assess each potential impact using ranking scales (from 0 to 5), which will then be calculated into Significance Scoring Ratings (rated from 0 to 150, 0 being the lowest and 150 being extremely high).

Unknown parameters are given the highest score (5) as significance scoring follows the Precautionary Principle. The Precautionary Principle is based on the following statement: *When the information available to an evaluator is uncertain as to whether or not the impact of a proposed development on the environment will be adverse, the evaluator must accept as a matter of precaution, that the impact will be detrimental. It is a test to determine the acceptability of a proposed development. It enables the evaluator to determine whether enough information is available to ensure that a reliable decision can be made.*

Table 4 –: Significance Scoring

Formula for Significance Scoring SS = (Magnitude + Duration + Scale +Irreplaceable + Reversibility) x Probability			
Duration	**Magnitude**		
Permanent	5	Very High / Don't Know	10
Long Term (Ceases with operation life)	4	High	8
Medium Term (5-15 years)	3	Moderate	6
Short Term (0-5 years)	2	Low	4
Immediate	1	Minor	2
Scale / Extent	**Probability**		
International	5	Definite	5
National	4	Highly Probable	4
Regional	3	Probable	3
Local Area	2	Improbable	2
Site Only	1	Very Improbable	1
Irreplaceable	**Reversibility**		
Definite	5	Impact cannot be reversed	5
High	4	Low (that impact can be reversed)	4
Moderate	3	Moderate (that impact might be reversed)	3
Low	2	High (that impact might be reversed)	2
Very Low	1	Will be reversed	1
None	0	No impact	0
Cumulative Impact			
High	The activity is one of several similar pasts, present or future activities in the same geographical area, and might contribute to a very significant combined impact on the natural, cultural and/or socio-economic resources of local, regional or national concern.		
Medium	The activity is one of a few similar, past, present or future activities in the same geographical area, and might have a combined impact of moderate significance on the natural, cultural, and/or socio-economic resources of local, regional or national concern.		
Low	The activity is localised and might have a negligible cumulative impact.		
None	No cumulative impact on the environment.		

Term	**Definition**
Duration	The period during which something continues
Magnitude	The large importance of something
Scale / Extent	The physical size of something
Probability	The extent to which something is likely to happen
Irreplaceable	Loss of resources
Reversibility	Capable of returning to an original condition.

[1] Impact scores given "with mitigation" are based on the assumption that the mitigation measures recommended in this assessment are implemented correctly and rehabilitation of the site is undertaken. Failure to implement mitigation measures during and after construction will keep the impact at an unacceptably high level

Table 5 –: Significance Scoring Ratings (Negative Impact Results)

Significance Score	Environmental Significance	Description
125 – 150	Very High	An impact of very high significance will mean that the project cannot proceed, and that impacts are irreversible, regardless of available mitigation options
100 – 124	High	An impact of high significance which could influence a decision about whether or not to proceed with the proposed project, regardless of available mitigation options
75 – 99	Medium-High	If left unmanaged, an impact of medium-high significance could influence a decision about whether or not to proceed with a proposed project. Mitigation options should be re-evaluated.
41 – 74	Medium	If left unmanaged, an impact of moderate significance could influence a decision about whether or not to proceed with a proposed development.
0 – 40	Low	An impact of low is likely to contribute to a positive decision about whether or not to proceed with the project. It will have little real effect and is unlikely to have an influence on project design or alternative motivation.
+	Positive Impact	A positive impact is likely to result in a positive consequence / effect and is likely to contribute to positive decisions about whether or not to proceed with the project.

Impact significance scores given "with mitigation" are based on the assumption that the mitigation measures recommended in this assessment are implemented correctly and at all times and that rehabilitation of the site is fully and correctly undertaken. Failure to implement mitigation measures during construction, rehabilitation and operation will keep the impacts at an unacceptably high level.

13 EIA PLAN OF STUDY

13.1 GENERAL

This EIA Plan of Study explains the approach to undertaken during the EIA phase for the proposed Springs Special Economic Zone (SEZ), Mixed Use Industrial Development, was prepared in accordance with Appendix 2 of National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended (GN No. 326 07 April 2017).

13.2 KEY ENVIRONMENTAL ASPECTS AND ISSUES IDENTIFIED DURING THE SCOPING PHASE

The Scoping exercise has been undertaken to identify and predict significant environmental issues for further consideration and investigation. During the EIA stage, a detailed quantitative impact assessment will be conducted via contributions from the project team and necessary specialist studies, and through the application of the impact assessment methodology as discussed in Section 10. Suitable mitigation measures will be identified to manage (i.e., prevent, reduce, rehabilitate and / or compensate) the environmental impacts that will be associated with the proposed development, and will be incorporated into an EMPr.

Predicted environmental impacts identified and discussed during the Scoping Phase are indicated in Table 3.

13.3 FEASIBLE ALTERNATIVES TO BE ASSESSED DURING THE EIA PHASE

The EIA Phase will include a detailed comparative analysis of the projects feasible alternatives that emanate from the Scoping exercise, which will include environmental and technical evaluations (included specialist input).

The feasible alternatives to be assess in the EIA phase include the technological alternative of using renewable energy to power various parts of the development as opposed to using coal powered electricity.

13.4 SPECIALIST STUDIES

13.4.1 Overview

According to Münster (2005), a 'trigger' is a particular characteristic of either the receiving environment or the proposed project which indicates that there is likely to be an issue and/or potentially significant impact associated with that proposed development that may require specialist input'. The required specialist studies that are triggered by the findings of the Scoping process, aimed at addressing the key issues and compliance with legal obligations, include:

- Socio-Economic Impact Assessment.
- Traffic Impact Assessment.
- Wetland and Riparian Impact Assessment.
- Ecological Impact Assessment.
- Heritage Level 1 Impact Assessment; and
- Visual Impact Assessment.

For the inclusion of the findings of the specialist studies into the EIA Report, key considerations will include:

- Ensuring that the specialist have adequately addressed issues raised by I&AP's and specific requirements that are prescribed by environmental authorities.
- Ensuring that the specialist input is relevant, appropriate and unambiguous; and
- Verifying that the information regarding the receiving ecological, social and economic environment has been accurately reflected and considered.

13.4.2 Terms of Reference for Specialist Studies

13.4.2.1 Socio-Economic Impact Assessment

Specialist Appointed: Jan Anton Hough – Social Consultant

Purpose of the study: The Socio-Economic Impact Assessment was undertaken for the project. The purpose of the assessment was to identify and describe the potential socio-economic issues associated with the proposed project and to provide an indication of the suggested approach for assessing the potentially significant issues to be address during the Socio-Economic Impact Assessment.

Terms of Reference:

- Briefly describe the local socio-economic environment.
- Describe landownership/land-users and property rights.
- Examine the impacts of the project, contextualise these impacts and then assess them.
- Provide recommendations for mitigating the assessed impacts; and
- Review the comments made by Interested and Affected Parties (I&APs) to ensure that all issues and concerns raised by them have been addressed and, if some issues cannot be addressed at this stage, indicate these in the report and discuss the implications or when can they be addressed.

Methodology

Approach to the Socio-Economic Impact Assessment

A SEIA can be seen as a document which analyses, monitors, and manages the social consequences of a particular development (Vanclay, 2003). The outcome of a SEIA is to develop strategies for on-going monitoring and evaluation of the socio-economic impacts which a particular project might have. The SEIA therefore is a platform from which to manage

identified socio-economic impacts.

There are several types of social impacts, such as direct, or indirect, social impacts. Direct social impacts could refer to project-induced impacts on a person or his/her household who lives very close to a proposed project and who therefore experiences a direct negative or positive impact. This could range from pollution, traffic disturbance, health, and safety, or altering the person's sense of place. An indirect impact is typically one which results from the trickling (or downstream) effects of the development itself, such as employment provision, the stimulation of the economy, or tourism creation. Furthermore, social impacts can also either be subjective, or objective. The former usually involves something which is felt my someone emotionally, such as a negative feeling or attitude. The latter is often more an independent, observable impact, such as living standards, health and safety, or population dynamics.

The approach adopted for this SEIA included a sustainable livelihood approach, whereby the livelihoods of those affected were assessed through key social impacts and issues that focused on various forms of assets or capital (Barbour, 2007). Five categories of capital are generally considered under this approach:

- **Natural Capital:** Natural resources and services that they render for sustainable livelihoods.
- **Human Capital:** Skills, knowledge, and health, etc.
- **Social Capital:** Resources that people utilise to sustain their livelihood, such as community and family networks, membership, etc.
- **Physical Capital:** Basic infrastructure and equipment required to sustain livelihoods (buildings, shelter, roads, etc.); and
- **Financial Capital:** Financial resources.

The livelihood analysis approach sees people's surrounding environment and livelihood strategies as an important shaping mechanism in their lives, as are their culture and practices. The assessment considers that people are connected across different social and economic strata, and that different motivators and barriers brought along by a development intervention influence livelihood response (i.e., how people will adapt or cope to a changing socio-environment). The latter, in return, incorporates aspects such as behavioural intention and context, which means that a particular livelihood response or coping mechanism is influenced by factors such as assets, social norms, networks, gender, class, ethnic groups and perceptions.

The way in which people change or adapt their livelihoods in response to socio-environmental changes is often ill-considered in development projects. In social terms, concepts such as 'social adaption' or 'coping mechanisms' are often useful frameworks through which to conceptualise or predict changes in people's livelihoods amidst development (Osbahr *et al.*, 2008). Any particular shock to someone's environment, either a short- or long-term shock, accrues specific coping or adaption responses. Seeking to facilitate coping (often short-term) and/or adaption (normally long-term) responses, this SEIA provides recommendation measures for the development project, aimed at ensuring that the affected villagers have alternative livelihood diversification options. Extreme shocks can trigger adverse and unsustainable coping behaviours, which can push households into lower or negative growth paths (Giesbert and Schindler, 2012). It is therefore the role of a SEIA to ensure that, should a project affect rural livelihoods, the proponent considers alternative livelihood strategies by any means of intervention, such as training, agricultural extension services, employment, or the provision of social basic services.

Of pivotal importance in any SEIA is to ensure sustainable and equitable development. Such development can be ensured by considering affected communities' economic, but also socio-cultural development. In so doing, the SEIA needs to take a proactive stance to development by improving its outcomes and identifying and ameliorating negative and/or unintended consequences.

Through the SEIA process, communities and stakeholders are also assisted to identify their own development needs, ensuring that positive outcomes are maximised, and possible harm inflicted upon such communities are minimised. What is also important to note is that a SEIA should also analyse impacts that occur as a result of past activities, in other words, taking a holistic and cumulative stance.

Primary Data Collection

On the 7th and 8th of December 2020, the specialist visited the study area in order to assess the project's possible socio-economic impacts. The methodology employed was informed by the need to comply with the ToR, but also health and safety protocols of the Covid Pandemic; the latter which largely prohibited social gatherings at the time. The data gathering tools used therefore included Key Informant Interviews (KIIs) and engagements with key stakeholders during scheduled face-to-face meeting and by means of email correspondences. A stakeholder is herewith defined as any member either from the public of government entity who is directly or indirectly affected by, or who has an interest in, the project.

Prior to the site visit, the specialist contacted relevant stakeholders from the Stakeholder Engagement Database in an attempt to arrange face-to-face interviews in and around the project area. The Stakeholder Engagement Database is provided in Annexure A. Email correspondences were sent out to all the listed stakeholders who provided email addresses, informing them of the proposed project by means of an attached Background Information Document (BID) (refer to Annexure B for this document). In the emails, the specialist also informed stakeholders of the social study and site assessment. Unfortunately, most stakeholders could not avail themselves for any meetings.

Secondary Data Analysis

As part of the quantitative data analysis, secondary data sources were reviewed to report upon the area's demographics, employment sectors and economy in general. Where necessary, the data was supplemented with data from the South African Census 2011 and the South Africa Community Surveys of 2016. Data from the open-ended and more qualitative interviews held, have also been analysed.

The most important secondary data which has been reviewed by the specialist include the following:

- Google Earth imagery.
- Town Planning Report (2018).
- Gauteng Vision 2055.
- GSDF (2011).
- Gauteng Growth Management Perspective 2014.
- Eastern Corridor Vision for the Gauteng City Region (2019-2030).
- The Ekurhuleni Municipal SDF (2015).
- City o Ekurhuleni IDP for 2018-2021; and
- Ekurhuleni GDS 2055.

Impact Assessment Methodology

Chapter 4 provides an impact assessment. The impacts are listed for the construction, operation, and decommissioning

phases. Each impact has been aggregated into an issue. Each issue (as a heading) has a common theme and management strategy at its core. It should be noted that the assessment of socio-economic impacts differs from identifying environmental impacts in the following key ways:

- The social impacts of a project are not always measurable, and their assessment often involves a subjective dimension. Considering whether such an impact is positive or negative is also a value judgement in itself. Consequently, such impacts need to be informed by a clear understanding of the social processes and knowledge of the villages and communities under study.
- Social impacts are often cumulative and synergistic, i.e., often clustered, and interdependent.
- Social impacts can change as community dynamics and social processes change. Consequently, the project at hand is one of a number of possible contributing factors to such on-going change, and hence cannot be viewed in isolation from the broader social and economic dynamics of the area. The specialist believes that a SEIA should account for such cumulative factors, which in itself alludes to the fact that the project cannot be viewed in isolation. It is therefore often very difficult to attribute a particular impact entirely to the project itself. For example, potential health risks already exist, but it is possible for a project to compound (or indeed even reduce) these impacts; and
- It should be noted that social impacts are often unintended and unavoidable, making them extremely difficult to mitigate. Therefore, in this study, mitigation strategies need to be conceptualised as strategies aimed at managing change, as opposed to a means to avoid such impacts entirely. It can also be the case that successful management of potentially negative impacts may even change the impacts from negative to positive.

13.4.2.3 Traffic Impact Assessment

Appointed Specialist: Paruk Consulting Traffic and Transportation Engineers

Purpose of the study: To undertake a Traffic Impact Assessment (TIA) for the proposed Springs SEZ, Mixed Use Industrial Development. To ensure comment and approval is granted by Ekurhuleni Municipality.

Scope of work:

This assessment and report considers the traffic impact on the immediate surrounding road network arising from the proposed new industrial park development. This assessment and report is undertaken in accordance with the TMH 16: South African Traffic Impact and Site Traffic Assessment Manual (TIA manual).

Methodology:

Traffic surveys / counts for intersections will be taken for a weekday AM period (06h00 – 09h00) and a PM period (15h00 – 18h00) to establish AM/PM peak hour traffic volumes. These traffic surveys / counts were undertaken by Trafsol on Tuesday 12 June 2018 which fell outside any school or public holidays. Schematic representation of the traffic surveys/counts volumes will be included in the report.

For the traffic analysis, the following traffic peak hours are established as:

AM Peak hour: 06h30 – 07h30

PM Peak hour”16h00 – 17h00

13.4.2.4 Wetland and Riparian Impact Assessment

Appointed Specialist: Afzelia Environmental Consultants

Purpose of the study: The purpose of this assessment is to identify and delineate any wetlands and riparian habitat potentially at risk of being impact on by the proposed development. This assessment aims to provide buffer zones to sensitive areas and develop mitigation measures to be implements to ensure that the sensitive systems are protected.

Terms of Reference:

- Undertake a desktop review of the sites biophysical attributes using available literature and GIS Information.
- Review conservation planning tools such as NFEPA data sets, The South African Inventory of Inland Aquatic Ecosystems (SAIIAE), The National Biodiversity Assessment and The Gauteng Conservation Plan (Version 3.3) in order to provide a discussion on how they impact the project.
- Undertake infield delineation of wetlands and riparian habitats within the study area using techniques detailed in the delineation guideline: A practical field procedure for Identification and Delineation of Wetland and Riparian Areas – Edition 1 (DWAF, 2005a).
- Undertake an assessment of the present ecological state (PES) of wetlands using a WET-Health Level 1 Assessment (Macfarlane et al. 2007) and that of riparian habitat using rapid Index of Habitat Integrity Assessment Tool, Version 2 (Kleynhans, 2012).
- Undertake an assessment of the functions and ecosystems services provided by wetlands using WET-EcoServices Level 2 Assessment (Kotze et al. 2007).
- Undertake and assessment of the ecological importance and sensitivity (EIS) of wetlands using the EIS Assessment tool (Roundtree & Kotze, 2013) and that of riparian habitats using the EIS tool (Kleynhans, 1998).
- Identify potential construction and operational phase impacts to delineated watercourses.
- Recommend development setbacks from all watercourses.
- Provide construction-phase and operational-phase mitigation measures.
- Undertake an impact significant assessment.
- Undertake a Department of Water and Sanitation (DWS) Risk Assessment in order to determine the risk level of the proposed development and whether it requires a General Authorisation (GA) or a Water Use License (WUL).

Methodology:

Desktop Review which includes the following information:

i. The latest Google Earth Imagery used to identify likely wetland and riparian vegetation and delineate the approximate wetland and riparian boundary at a desktop level
ii. The NFEPA GIS dataset and the South African Inventory of Inland Aquatic Ecosystems (SAIIAE) was used to identify the prioritised catchment, rivers and wetlands.
iii. The National Biodiversity Assessment and the Gauteng Conservation Plan GIS data sets were used to identify biodiversity conservation areas.
iv. The Threatened Ecosystem GIS dataset was used to identify conservation important vegetation types.
v. The National Geological GIS dataset was used to identify the underlying geology at the site.
vi. Sub-Quaternary Reach (SQR) specific data from the River Eco-Status Monitoring Programme regarding aquatic macroinvertebrate assemblages, fish assemblages, Present Ecological State, Ecological Importance and Ecological Sensitivity (DWS, 2014).

Wetland Assessments

Below is a list of assessments undertaken as well as assessment tool, methodologies and protocols that were used to assess wetland habitats:

i. Wetland Delineation: A Practical Field Procedure for Identification and Delineation of Wetland and Riparian Areas – Edition 1 (DWAF, 2005a).

Riparian Assessments

Below is a list of assessments undertaken as well as assessment tools, methodologies and protocols that were used to assess riparian habitats:

i. Riparian Delineation: A Practical Field Protocol for Identification and Delineation of Wetland and Riparian Areas – Edition 1' (DWAF, 2005a).
ii. Index of Habitat Integrity (IHI): Rapid IHI Assessment tool (Kleynhans, 2012).
iii. Ecological Importance and Sensitivity (EIS): EIS tool (Kleynhans, 1998).

Buffer Zone Recommendations

Development setbacks / buffers to watercourses will be determined using the Buffer Zone tool which is part of the "Buffer Zone Guideline for Wetlands, Rivers and Estuaries" (Macfarlane et al, 2014). The tool works by accounting risks associated with specific land use activities, detailed site information (e.g., climate conditions), the sensitivity of the receiving environment and local buffer attributes. The tool then provides a recommended buffer zone width based on these factors.

Impact Significance Assessment

The methodology used for the impact significance assessment used in this assessment is the same as discussed at Section 10 of this document.

13.4.2.5 Ecological Impact Assessment

Appointed Specialist: Afzelia Environmental Consultants

Purpose of the study: An ecological impact assessment serves to determine the current ecological state of a site, including vegetation and habitats, and then determines the likely impacts of the proposed development on that ecology. In addition, mitigation measures are recommended to reduce negative, and enhance positive impacts.

Terms of Reference:

- Review existing information on the site,
- Determine ana map main plant communities within the site,
- Where possible identify any flora Species of Conservation Concern (SCC) according to the latest legislation and lists including the Red Lists.
- Identify any faunal species that may occur on site.
- Where possible identify any faunal SCC according to the latest legislation and lists, including Red List.
- Assess the extent of alien plant species over the site, and associated risks of alien invasion as a result of the proposed development in accordance with the latest legislation and lists.
- Provide a general overview of the project area in terms of connectivity, corridors, rivers and streams and ecological viability in relation to the surrounding region with relevant recent information.
- Place the project area within the biodiversity context of the wider area (i.e., provide the "bigger picture");
- Identify (as far as is possible from the data collected) the principal ecological processes evident within the project site and its relative importance in determining the biodiversity characteristics present.
- Assess the potential direct and indirect impacts resulting from the proposed development and associated infrastructure, both on the footprint and the immediate surrounding area during construction and operation.
- Provide a description of appropriate mitigation measures that can be adopted to reduce negative impacts for each phase of the project, where required.

Methodology:

Desktop Assessment

In order to correctly classify the site, a desktop assessment will be undertaken. Desktop assessments are based on

available information for the area, and several databases will be checked. These included the following:

- Google Earth imagery was used to assess the current vegetation cover of the site.
- Mucina and Rutherford Vegetation Map and associated plant species lists. This map is the accepted vegetation map for South Africa and is used to place the study site in context.
- Plants of South Africa (POSA) database was checked for expected species and Species of Conservation Concern.
- Conservation Planning Tools such as the list of Threatened Ecosystems in Need of Protection, Wetland datasets (NFEPA), and the Gauteng Conservation Plan (C-Plan) and Biodiversity Sector Plans will be checked and mapped for the study site to provide context.
- A list of Possible Species of Conservation Concern will be constructed based on the expected lists for the study site and assessed against the following:
    - National Protected Tree List (Government Gazette Vol. 593, 21 November 2014, No 38215).
    - Provincial Protected Species List (Transvaal Nature Conservation Ordinance No. 12 of 1983).
    - National List of Threatened and Protected Species or TOPS (R1188 of 2007).
    - The National Red List for Plants (redlist.sanbi.org); and
    - Various faunal National Red Lists.

Field Assessment
A field assessment will be undertaken for the proposed project which will cover the full site. Photographs will be taken to record species present on site. The results of the field assessment will include:

- A site-specific vegetation map.
- A species list for the site.
- A list of confirmed Species of Conservation Concern for the site.

For the purpose of this study, any opportunistic sightings of faunal species will be recorded and photographed wherever possible. Further, the presence of any habitat available for each of the possible species in the region will be recorded.

The Impact Assessment methodology is similar to that which has been explained in Section 10.

13.4.2.6 Heritage Level 1 Impact Assessment

Appointed Specialist: Tsimba Archaeological Footprints (Pty) Ltd

Purpose of the study:

There are two interlinked aims for a HIA. The first is to identify and document cultural heritage sites, cultural resources, sites associated with oral histories (intangible heritage), graves, cultural landscapes, and any structures of historical significance (tangible heritage) that may be affected within the development footprint. The second aim is to assess the archaeological significance of the findings and make recommendations based on the best archaeological practice of interpretation and preservation of archaeological findings.

Terms of Reference:

- Review existing theories and models of cultural heritage resources interpretation and how to develop effective methods of archaeological interpretation for future generations to assist and assist SAHRA in their deliberations.
- Clarify the extent and ways in which current site context archaeological findings may affect the interpretation of cultural sites for present and future generations.
- Shed light on the potential challenges and opportunities brought about by the existence of archaeological sites and other conflicting views of the values of a site;
- Set out the ethical considerations on the interpretation and preservation of archaeological findings given the varied range of approaches available.
- Explain that the issue of archaeological preservation and conservation as relevant not only National Heritage or Provincial Heritage properties, but also for any significant cultural site.
- Focus on best practice of interpretation and preservation of archaeological findings.

Methodology:

Literature review
The methodology used in this HIA is based on a comprehensive understanding of the current or baseline situation; the type, distribution and significance of heritage resources as revealed through desk-based study and additional data acquisition, such as archaeological investigations, built heritage surveys, and recording of crafts, skills and intangible heritage. This is systematically integrated by the use of matrices with information on the nature and extent of the proposed engineering and other works to identify potential. The following tasks will be undertaken in relation to the cultural heritage and are described in the report:

The background information search of the proposed development area will be conducted following the site maps from the client. Sources used in this study may include:

- Published academic papers and HIA and PIA studies conducted in and around the region where the proposed infrastructure development will take place.
- Available archaeological literature on the Springs area was consulted.
- The SAHRIS website and the National Data Base were consulted to obtain background information on previous heritage surveys and assessments in the area, and other planning documents.
- Map Archives - Historical maps of the proposed area of development and its surrounds were assessed to aid information gathering of the proposed area of development and its surrounds.

Field Survey / Ground Truthing
Tsimba Archaeological Footprints heritage specialists will attend a site visit. A systematic survey of the buildings will be conducted paying specific attention to their architecture and structural soundness. The survey will be conducted on foot, a systemic survey of the area results in the maximum coverage of the structure. The descriptions of the shape of these objects/ sites will be sketched and described.

The survey will investigate the cultural resources onsite using the best possible technologies for archaeological field surveys, a Samsung GPS Logger (2018) will be used to pick co-ordinates and a Nikon W300 Camera (with built in GPS) will be used to document the resources as well as the receiving environment.

Data Consolidation and Report Writing
Data captured on the development area (during the field survey) by means of a desktop study and physical survey is used as a basis for the HIA. This data is also used to establish assessment for any possible current and future impacts within the development footprint. This includes the following:

- Assessment of the significance of the cultural resources in terms of their archaeological, built environment and landscape, historical, scientific, social, religious, aesthetic and tourism value.
- A description of possible impacts of the proposed development, especially during the construction phase, in accordance with the standards and conventions for the management of cultural environments.
- Proposal of suitable mitigation measures to minimize possible negative impacts on the cultural environment and resources that may result during construction.
- Review of applicable legislative requirements that is the NEMA (read together with the 2014 EIA Regulations) and the NHRA of 1999
- The consolidation of the data collected using the various sources as described above.
- Acknowledgement of impacts on heritage resources (such as unearthed graves) predicted to occur during construction; and
- Geological Information Systems mapping of known archaeological sites and maps in the region.
- A discussion of the results of this study with conclusions and recommendations based on the available data and study findings.

13.4.2.7 Visual Impact Assessment

Appointed Specialist: Jon Marshall

Purpose of the study: A visual Impact Assessment investigates and assesses the visual impact of the proposed development on the surrounding areas.

Terms of Reference:
The VIA will be done in accordance with –

- The Landscape Institute and Institute of Environmental Management and Assessment (UK) Guidelines for Landscape and Visual Impact Assessment which provides detail of international best practice (technical methodology).

From the initial overview, it is likely that in accordance with guidelines, a Level 3 assessment will be required.

Methodology:

- A desktop review of existing relevant information will be undertaken.
- A preliminary GIS desktop mapping exercise will be carried out, to identify potentially affected areas, immediately obvious sensitive receptors, key viewpoints, and help define the character of the affected landscape;
- A site visit will be conducted to ground-truth the initial landscape character assessment, the affected area, the visual absorption capacity of the landscape as well as potential issues and impacts identified in the desktop exercise.
- Additional issues and sensitive receptors may be identified during the site visit.

14 PUBLIC PARTICIPATION PLAN

14.1 AUTHORITY CONSULTATION

The Competent Authority, which is the Department of Environment, Forestry & Fisheries (DEFF) - Environmental Impact Assessment (National Office), is required to provide an Environmental Authorisation (EA) (either positive or negative) for the project. Consultation with the DEFF for guidance for this project will be conducted through a pre-application, email correspondence and site inspection when required.

A pre-application meeting with DWS will be held when required, however in the interim the online e-WULAAS system (http://www.dwa.gov.za/ewulaasprod/) will be used for the submission of the application and submitting further required information as required for the online system.

14.2 MUNICIPALITIES IN WHICH THE SITE IS SITUATED AND OTHER GOVERNMENTAL AUTHORITIES

The development falls within Region D of the City of Ekurhuleni, Gauteng Province. Notification and request for comments will be sent to the Municipality and other Stakeholders. A copy of the Draft and Final Scoping and EIR will be circulated to Municipality and Stakeholders to them to give them a chance to provide comment.

All the information about the project (BID, Scoping Report and Environmental Impact Report) will be uploaded onto the Environmental Consultants website (www.afzelia.co.za) for electronic access. The Heritage Impact Assessment containing project information will be provided to the Provincial Heritage Resources Authority Gauteng (PHRAG) for their assessment and comment.

The title deed of the property states that the property is subject to mining rights and therefore the application will be circulated to the Department of Mineral Resources for comments.

14.3 IDENTIFICATION OF I&APS

Prior to commencement of the Public Participation Process (PPP) a detailed understanding of the project description was attained from the Applicant (Gauteng Industrial Development Zone (GIDZ)). Upon receiving the description, a desktop site assessment was undertaken, this process was used to identify the following:

- Identify key areas of concern.
- Identify sites for the placing of the site notices.
- Attain a visual understanding of the project.
- Identify areas potentially to be most impacted by the proposed development.

Property information was provided by the Applicant (GIDZ). The land is registered vide the Transfer Title Deed 67314/1993 in favour of Impala Platinum Limited. However, it has since been handed over to the Gauteng Industrial Development Zone, although it does not yet reflect in the Deeds Registry.

Contact details for the property owners will be captured in the I&AP register.

The first step and measures in the identification of key Interested & Affected Parties (I&APs) and Stakeholders, including:

- Landowners,
- Local and Provincial Government,
- Ward Councillor,
- Local Businesses,
- Local Residents,
- Affected and neighbouring landowners,
- Schools, Clinics and Hospitals,
- Environmental Non-Governmental Organisations, and
- Community Based Organisations.

In addition, I&APs were identified primarily through an existing database. Flyers and Site Notices will be used to provide information to the I&AP's on, around and nearby the proposed site. Newspaper adverts in English and Afrikaans will be published in well-known regional newspaper, namely, The Citizen for the English copy and the Beeld for the Afrikaans copy, this provides an opportunity for the information to be spread to a wider audience and allows notification of the application proposed.

Electronic and hard copies of draft and final Scoping and EIR will be sent to key stakeholders and I&APs on the existing database and those who register through the Public Participation Process, informing them of the application for the project. The availability of the draft and final Scoping and EIR for review and indicating how they could become involved in the project will be communicated through the Flyers, Site Notices and Newspaper advertisement.

I&APs identified include: Organs of State including Municipalities, Landowners, Local Businesses and Residents within a 150m distance of the project site as well as schools and clinics in the immediate area.

The property affected by the proposed SEZ Development is Portion 133 of the Farm Geduld 123 IR. This land is currently partially developed and partially vacant and zoned as "Industrial 1" in terms of the Ekurhuleni Town Planning Scheme, 2014. A town planning application is currently underway for this property and proposed land use.

In accordance with the requirements of the NEMA EIA Regulations 2014 under Section (24)5 of NEMA (Regulation 42 of GNR 982), a Register of I&APs must be kept by the Public Participation Facilitator. In fulfilment of this requirement Afzelia

Environmental Consultants have compiled and keep up to date a comprehensive I&AP database (I&AP Register) comprising of key stakeholders, I&AP's and Organ of States. Such a register has and is constantly being updated with the details of involved I&APs throughout the duration of the PPP as well as the entire Environmental Impact Assessment process, including their comments. Table 1 below lists all the key stakeholders, I&AP's and Organ of States identified to date.

Table 6 –: Identified Stakeholders and I&AP's

Name	Stake Holder Category
Delisile Nkosi	Company (landowner/user)
Milenko Rajak	Landowner/user / Calodex
Carina Burger	Company (landowner/user)
Boitumelo Tlali	Impala Platinum
Nhlakanipho Nkontwana	GDARD
Steven Mukhola	GDARD
Olivia Letlalo	GDARD
Tendani Rambuda	GDARD
Aadil Engar	Local government (Ekurhuleni Municipality)
Yusuf Mayet	Local government (Ekurhuleni Municipality)
Jongizizwe Dlabathi	Local government (Ekurhuleni Municipality)
Faith Mabindisa	Local government (Ekurhuleni Municipality)
Phakamile Mbengashe	Local government (Ekurhuleni Municipality)
Clr Ramesh Sheodin	Local government (Ekurhuleni Municipality)
Felicia Lebese	DWS
Philimon Khwinana	Government (DWS)
Mogale Matseba	Government (DWS)
M.Phyllystas	Provincial Government
Makharit	Provincial Government
Jon Hericout	Gold One Group (LTD)
Tiaan	Interested and Affected Party
Pieter du Plessis	Interested and Affected Party
Promise Motau	Community Forum
Siyathokoza Dludlu	Community Forum
Sibongile Hlope	Gauteng Department of Roads and Transport
George Congo	
Mogane Moloko	
Coltrane Letswalo	Department of Mineral Resources
Carol Khanyile	
Council of Geoscience	Council of Geoscience
Passenger Rail Agency of South Africa	PRASA
Ekurhuleni Water Care Company	ERWAT
BirdLife	BirdLife
Endangered Wildlife Trust	EWT
SPARK School	School
DR WK du Plessis School	School
Jan Van Riebeek Laerskool	School
Hugenote Hoerskool	School
Impala Refineries Medical Centre	Medical Centre

Name	Stake Holder Category
Milenko Rajak	Calodex
Joan Cameron	Groundwork South Africa
Z. Franken	Blesbokspruit Community Forum
Mlebea	Blesbokspruit Community Forum
Marguerite	Blesbokspruit Community Forum
Erick	Blesbokspruit Community Forum
Donald Maloka	Blesbokspruit Community Forum
Ralph Teme	Blesbokspruit Community Forum
Mpho Malepe	Blesbokspruit Community Forum
Gene	Blesbokspruit Community Forum
Stephen	Blesbokspruit Community Forum
Rhulani Maluleke	Blesbokspruit Community Forum
Gerhardt	Blesbokspruit Community Forum
Phoka Mathabo	Blesbokspruit Community Forum
Roelien	Blesbokspruit Community Forum
Ashla Gohell	Blesbokspruit Community Forum
Juanita Kapp	Blesbokspruit Community Forum
Community Forum Member	Blesbokspruit Community Forum
Barto	Blesbokspruit Community Forum
Anniee Ambani	Blesbokspruit Community Forum
Albertina Setsiba	Blesbokspruit Community Forum
Charlotte Ross	Affected community member (Mey Street and Gericke Street)
Marina J v Vuuren	Affected community member (Mey Street and Gericke Street)
Monya Ross	Affected community member (Mey Street and Gericke Street)
Ricky Jadunandan	Affected community member (Mey Street and Gericke Street)
Christoff J.v. Vuuren	Affected community member (Mey Street and Gericke Street)
Betty Richards	Affected community member (Mey Street and Gericke Street)
Melissa	Affected community member (Mey Street and Gericke Street)
Neil (Melissa's husband)	Affected community member (Mey Street and Gericke Street)
Peter Anfield	Affected community member (Mey Street and Gericke Street)
G Malan	Affected community member (Mey Street and Gericke Street)
Shamim	Affected community member (Mey Street and Gericke Street)
Yashnika	Affected community member (Mey Street and Gericke Street)
Devesh Jagwant	Affected community member (Mey Street and Gericke Street)
Martina J.V. Vuuren	Affected community member (Mey Street and Gericke Street)
Chris J.V. Vuuren	Affected community member (Mey Street and Gericke Street)
Dean Stone	DA Ward Councillor (not the WC affected by the project)

14.4 CIRCULATION OF BACKGROUND INFORMATION DOCUMENT (BID) TO I&APS

The Background Information Document for the Proposed Development of the Springs Special Economic Zone (SEZ) will be circulated to stakeholders, local business owners, local residents and other I&APs for comment as part of the initial PPP. Email circulation of the bid started on the 28th January 2021. This notification informs the already identified potential interested and affected parties of the proposed development and affords them an opportunity to register as I&APs and to comment or raise any issue that they might have. The I&AP's will be given a 30-day calendar period to respond (Starting from the date of the Notices in the Newspapers), however the EAP will be open to receiving comments and responding to

queries, comments and concerns throughout the Public Participation Process. The BID / Site Notices and Flyers will be given in both English and Afrikaans as these have been identified as the two predominant languages in the area.

14.5 PLACEMENT OF ADVERTISEMENT IN NEWSPAPERS

Newspaper notices were placed in two regional newspapers, the English being placed in the Citizen and the Afrikaans placed in the Beeld. The Notices were published in the Newspapers on the 12th February 2021.

14.6 ERECTION OF SITE NOTICE AND DISTRIBUTION OF FLYERS

Due to the COVID-19 pandemic currently experienced in South Africa (and globally), in order to reduce the amount of face-to-face contact with potential I&AP's, it is proposed that Flyers be distributed, and Notices put up during the public participation process when the Final Scoping Report is available and will then allow sufficient time for additional I&APS's (which have not already been identified) to comment on the proposed development. An advantage of this would be to ensure that the I&AP's are kept up to current information which will be found in the Environmental Impact Report (EIR) and prevent lead times where there may be loss of interest between various stages of the process (between draft scoping phase and EIR phase).

I&AP's will be notified of the project through fixing a notice board at a place conspicuous to and accessible by the public on and nearby the site. These locations will be documented in the Environmental Impact Report and the Public Participation Report for the project.

The notices serve to provide the following information:

- Details of the proposed application / project,
- What procedure is being undertaken, i.e., Scoping and EIR and Water Use License Application,
- The nature and location of the proposed activity,
- Where further information on the application can be obtained; and
- Contact details for the person who represents the Applicant.

14.7 CIRCULATION OF THE SCOPING AND ENVIRONMENTAL IMPACT REPORTS

The draft Scoping, EIR and supporting documentation will be made available for Authority and public review for a total of 30 legislated days and upon request from the EAP. In order to distribute the information regarding the proposed project to the broader public and to ensure that all potential I&AP's are given an opportunity to comment. Comments received during the 30-day public participation period will be incorporated into the final report which will be submitted to the Competent Authority (DEFF) for their decision.

The Draft Scoping Report will be available electronically (email and web-based), however the Final Scoping and EIR will be made available electronically and in hard copy at a strategic public places within the project area and upon request from Afzelia Environmental Consultants (Pty) Ltd. Electronic copies (CD format) will be made available at the same location of the hard copy, allowing general public to attain an electronic copy of they do not have access to the internet and do not wish to handle the hard copy placed at a public place.

Hand sanitiser will be made available at each of the public areas together with the hard copy document to ensure that the

readers make use of the sanitiser before and after each use.

The electronic copy will be made available online at www.afzelia.co.za under the project name: Springs Special Economic Development. The documents will also be available on dropbox for those who request a link to electronic information.

The report will be made available for viewing at the following nearest Public place: Public Library and Civic Centre.

Table 7 – Public Places for viewing hard copy reports.

VENUE	ADDRESS	CONTACT DETAILS	TIMES*
Springs Public Library	46 5th Street, Springs	011 999 8814	8:30 – 17:00
Kwa Thema Library	7019 Nkosi Street	-	09:00 – 16:30
Springs Civic Centre	To be confirmed	011 999 8300	08:00 – 15:00 / 16:00

* Operating times may change depending on lockdown level conditions and regulations.

The comments and queries will be sent to the below contact details.

Company:	Afzelia Environmental Consultants (Pty) Ltd
Contact Person:	Mrs Joleen Wilson
Postal Address:	PO Box 37069, Overport, Durban, 4001
Landline	031 303 2835
Fax	031 312 0896
Email:	joleen@afzelia.co.za
Website:	http://www.afzelia.co.za

14.8 PUBLIC MEETINGS

Due to the COVID-19 pandemic, public meetings will not be held, however, if there is a need, one-on-one consultation with the interested and affected party can be held either in person or on an online platform such as zoom. If there is a need a group zoom meeting can be organised for I&AP's to verbally express their concern and questions while engaging with the environmental consultant, project manager and applicant. This will be arranged as and when the need arises. Details of these meetings will be recorded and included in the Comments and Response Report.

14.9 FOLLOW-UP REGISTER WITH KEY STAKEHOLDERS AND GOVERNMENT DEPARTMENTS

A follow up register will be available to record all telephonic conversation, emails, hard copy, fax, etc. for all Interested and Affected Parties including Organ of State regarding comments.

Afzelia will follow up with government department, municipalities, and key stakeholders through telephonic and email means to accelerate the submission of official comments.

The follow up process will also present officials with the opportunity to communicate queries and concerns related to the project. Details of all follow-ups with key stakeholders and government departments will be captured in the Comments and Responses Report.

14.10 SUMMARY OF ISSUES RAISED BY I&APs

The purpose of the Comments and Responses Report is to record comments received from Organs of State and I&APs

during the entire public participation process during the project.

15 AUTHORITY CONSULTATION

The Environmental Impact Assessment will commence once DEFF accepts the Scoping and Plan of Study Report. If relevant, the necessary revisions will be made to aforementioned documents if requested by this Department.

Copies of the draft EIA Report will be provided to the key regulatory and commenting authorities, as provided in the public participation interested and affected parties list. If additional departments are required, these will be included into the commenting period.

The final EIA Report will be submitted to DEFF. Any requested amendments will be discussed with the department to ensure that their queries are adequately and timeously attended to.

For the remainder of the Scoping process and EIA, the interaction with DEFF will be as follows:

- Submission of Scoping Report;
- Meet (whether face to face or online) with the designated assessing officer to discuss the project and arrange a site visit, if required at this point;
- Address comments on Scoping Report;
- Submit EIA Report;
- Address comments on EIA Report; and
- Obtain a decision.

16 CONCLUSION

The scope of an environmental assessment is defined by the range of issues and alternatives it considers, the nature of the receiving environment and the approach towards the assessment.

Key outcomes of the Scoping Phase for the proposed Springs Special Economic Zone (SEZ), Mixed Use Industrial Development are:

- Stakeholders were effectively identified and have been afforded the opportunity to participate in the Scoping process;
- A Plan of Study was developed to explain the approach to executing the EIA phase, which also includes the terms of reference for the identified specialist studies; and
- The scoping exercise set the priorities for the ensuing EIA phase.

No fatal flaws were identified in terms of the proposed activities and the environment that would prevent the environmental assessment from proceeding beyond the Scoping phase. It is the opinion of the EAP that the Scoping was executed in an objective manner and that the process and report conforms to the requirements of Regulation 21 and Appendix 2 of GN No. 326 (7 April 2017) respectively. It is also believed that the Plan of Study for EIA is comprehensive and will adequately address the significant issues pertaining during Scoping and to ultimately allow for informed decision making.

REFERENCES

National Environmental Management Act, as Amended (Act of 107 of 1998) and the Environmental Impact Assessment Regulations, as amended.

DWS (Department of Water and Sanitation). 2014. A Desktop Assessment of the Present Ecological State, Ecological Importance and Ecological Sensitivity per Sub Quaternary Reaches for Secondary Catchments in South Africa. Secondary: C2. Compiled by RQIS-RDM: https://www.dwa.gov.za/iwgs/rhp/eco/peseismodel.aspx.

GDARD (2014): Technical Report for the Gauteng Conservation Plan (Gauteng C-Plan v3.3). Gauteng Department of Agriculture and Rural Development: Nature Conservation Directorate. 60 pages

Mucina, L & Rutherford, M.C (Eds) 2006. The vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.

APPENDIX 1 – EAPS DECLARATION

APPENDIX 2 – EAPS CV

APPENDIX 3 – BACKGROUND INFORMATION DOCUMENT

APPENDIX 4 – APPROVED PUBLIC PARTICIPATION PLAN

APPENDIC 5 – PROOF OF NEWSPAPER ADVERT – BEELD

APPENDIX 6 – PROOF OF NEWSPAPER ADVERT – CITIZEN