



VAAL AEROTROPOLIS

ENVIRONMENTAL SCOPING REPORT

Proposed Development of an Aerotropolis on Part of Portion 47, and Part of the Remainder of the farm Klipkop 530 IQ; Re/3, Re/9 and Portion 26 of the farm Rietkuil 554 IQ; and Portions 5, Re/6, 7, Re/17, 18 (Ptn of Ptn 6), 20, 51 and 52 of the farm Vlakplaats 555 IQ, situated in the Emfuleni Local Municipality, Gauteng

30 September 2026

VAAL AEROTROPOLIS

Catalysing Economic Transformation in the Sedibeng District

Vaal Aerozone (Pty) Ltd stands at the forefront of driving the Vaal Aerotropolis — a transformative development in the Sedibeng District within the Emfuleni Local Municipality area, positioning the region as a dynamic gateway to global markets.

Featuring world-class infrastructure — including an international airport, airport city, agri-zone, livestock export air platform, trade and commercial zones, and advanced logistics facilities — the Vaal Aerotropolis will represent a strategic investment in revitalising Emfuleni and fostering sustainable regional growth.

As the coordinating force behind this catalytic project within the proposed Vaal Special Economic Zone (SEZ), Vaal Aerozone will bring together expertise, capital, and collaboration to unlock the full potential of the Vaal Aerotropolis and drive long-term economic value for the region.



Proponent:

Vaal Aerozone (Pty) Ltd

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LIST OF ABBREVIATIONS

ATC	Air Traffic Control
ATMs	Air Traffic Movements
AEP	Aviation Environmental Protection
BA	Basic Assessment
BBBEE	Broad-Based Black Economic Empowerment
BID	Background Information Document
BCEA	Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997)
BPEO	Best Practicable Environmental Option
CAA	Civil Aviation Act, 2009
CAR	Civil Aviation Regulations, 2011
CAPEX	Capital Expenditure
CBA	Critical Biodiversity Areas
C & D	Construction and Demolition waste
C-Plan	Conservation Plan
CO ₂	Carbon dioxide
DEA	Department of Environmental Affairs
DFFE	Department of Forestry, Fisheries and Environment
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioner Association of South Africa
ECO	Environmental Control Officer
EGDS	Economic Growth and Development Strategy
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EMZs	Environmental Management Zones
ESA	Ecological Support Area
GA	General Authorisation
GAPA	Gauteng Agricultural Potential Atlas IV
GDARD	Gauteng Department of Agriculture and Rural Development
GDEnv	Gauteng Department of Environment
GDP	Gross Domestic Product
GDRT	Gauteng Department of Roads and Transport
GGT	Grow Gauteng Together 2023
GIS	Geographical Information System

GPEMF	Gauteng Provincial Environmental Management Framework
GPS	Global Positioning System
GN	Government Notice
GSE	Ground Support Equipment
GSDF	Gauteng Spatial Development Framework
Ha	Hectare
HIA	Heritage Impact Assessment
IAIAsa	International Association for Impact Assessment (South Africa)
I&AP	Interested and Affected Party
IATA	International Air Transport Association
IBAs	Important Bird and Biodiversity Areas
ICAO	International Civil Aviation Organization
ICW	International Catering Waste
IDP	Integrated Development Plan
IEM	Integrated Environmental Management
IWMP	Integrated Waste Management Plan
kV	Kilovolt
kVA	Kilovolt-amps
LSDF	Local Spatial Development Framework
m.a.s.l	meters above sea level
MVA	Mega Volt-Amperes
MSCP	Multi Storey Car Parks
mppa	million passengers per annum
MRO	Maintenance, Repair and Overhaul
MSW	Municipal Solid Waste
N/A	Not applicable
NADP	National Airports Development Plan, 2015
NATMAP	National Transport Master Plan
NBA	National Biodiversity Assessment
NEMA	National Environmental Management Act, 1998 (Act 107 of 1998)
NEM:AQA	National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEM:PA	National Environmental Management: Protected Areas Act, 2003 (Act 57 of 2003)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NHRA	National Heritage Resource Act, 1999 (Act No. 25 of 1999)
NWA	National Water Act, 1998 (Act 36 of 1998)
NWM6	National Wetland Map v6
NMD	Notified Maximum Demand
NPAES	National Protected Area Expansion Strategy
NCAP	National Civil Aviation Policy

NTP	National Transport Policy
OHSA	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
ONA	Other Natural Areas
OPEX	Operating Expenditure
PA	Protected Areas
PDF	Portable Document Format
PHRA-G	Provincial Heritage Resources Agency of Gauteng
PIA	Palaeontological Impact Assessment
POPI	Protection of Personal Information
PPP	Public Participation Process
Prism EMS	Prism EMS Africa (Pty) Ltd
RESA	Runway End Safety Areas
RFFS	Airport Rescue and Fire-fighting Services
RPAS	Remote Piloted Aircraft Systems
SACAA	South African Civil Aviation Authority
SACNASP	South African Council for Natural Scientific Professions
SAHRA	South African National Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
SANBI	South African National Biodiversity Institute
SANRAL	South African National Roads Agency State-Owned Company Limited
SAPAD	South African Protected Areas Database
SANS	South African National Standards
SDI	Split Diamond Interchange
SDF	Spatial Development Framework
SDP	Site Development Plan
SEZ	Special Economic Zone
S&EIR	Scoping & Environmental Impact Report
SMMEs	Small, Medium and Micro Enterprises
SPLUMA	Spatial Planning and Land Use Management Act
SWMP	Stormwater Management Plan
TIA	Transportation Impact Assessment
V	Volt
VA	Vaal Aerotropolis
WMA	Water Management Area
WULA	Water Use License Application
WWTW	Wastewater Treatment Works
WTW	Water Treatment Works

1. INTRODUCTION

Vaal Aerozone (Pty) Ltd intends to develop and manage the Vaal Aerotropolis, planned for an area ± 9 km west of the N1 and Vanderbijlpark in the Emfuleni Local Municipality, in the Sedibeng district, Gauteng Province. An Aerotropolis is defined as a metropolitan sub-region whose infrastructure, land use and economy are centred on and around an airport. This development, which will be known as the Vaal Aerotropolis, aims to serve as a key freight and logistics hub, featuring a two-terminal design and integrated air cargo services containing state-of-the-art facilities and infrastructure.

The proposed Vaal Aerotropolis represents a strategic development planned within the jurisdiction of the Emfuleni Local Municipality (ELM) and the Sedibeng District Municipality, aimed at establishing a major economic, aviation, logistics and agricultural development node within the southern Gauteng region. The development is intended to support economic diversification, stimulate investment, facilitate employment creation and strengthen the local and regional economic base.

A key strategic objective of the Aerotropolis is to improve access to economic opportunities for communities within Emfuleni and the broader southern Gauteng region. By establishing a significant concentration of aviation, logistics, agricultural, commercial and industrial activities within the area, the development has the potential to reduce the spatial separation between residential communities and employment opportunities and, consequently, reduce dependence on long-distance commuting to other economic centres within Gauteng.

The Vaal Aerotropolis is envisaged as an integrated, large-scale development comprising, *inter alia*, an International Airport, Logistics Hub and Agricultural Hub. These primary components are intended to function as interconnected economic drivers, supported by the necessary transport, bulk infrastructure, commercial and social-supporting facilities. The International Airport is expected to provide the principal aviation and connectivity function of the Aerotropolis and to serve as a catalyst for the establishment of airport-related economic activities.

The planned Vaal Aerotropolis will be developed in three (3) phases over a period of 60 years, to include an International Airport, a Cargo Terminal, Airport City, Solar Farm, Agri Zone and Trade Zone (Figure 1-1). Each phase is designed to progressively expand the airport's capacity and functionality to accommodate increasing demand. Vaal Aerozone (Pty) Ltd will develop, operate and manage the Vaal International Airport to potentially be included in the Vaal Special Economic Zone (SEZ), as envisioned by the Sedibeng District Municipality SDF, 2025.

Phase 1 (subject of this application) will establish the core infrastructure and catalytic components of the project. The earmarked approximately 3 545 hectares will be divided into 29 erven zoned for "Aerodrome", "Business 1", "Public services / utilities", "Agricultural" for the purpose of the Agri-Zone, "Private open space" and "Private Street". Economically, Phase 1 is projected to generate R82.18 billion in business sales and R36.07 billion in Gross Domestic Product (GDP) during construction, creating approximately 118,498 jobs,

and once operational, it will add R19.68 billion in annual business sales, R9.28 billion to GDP, and sustain nearly 19,838 jobs. Infrastructure related to this phase includes, but is not limited to, development as indicated in the table below.

TABLE 1-1: INFRASTRUCTURE PLANNED FOR PHASE 1 OF THE PROPOSED DEVELOPMENT

Type	Infrastructure Components
Airport Precinct	• A 4.2 km runway designed for International Civil Aviation Organization (ICAO) Code F aircraft • Two rapid-exit taxiways • A passenger terminal with a capacity of 7.2 million passengers per annum • A cargo terminal capable of handling 150 000 tonnes of freight annually
Airport City	• 90-room hotel • Premium office space • Medical consulting rooms • 4-star rated Green Environment with pedestrian friendly tree-lined boulevards
Agri-Zone	• Climate-controlled greenhouses including hydroponic farm • Live animal holding platform for transport by air • Tissue culture facility • Agricultural export facilities including perishable supply chain and packhouses
Trade Zone	• Integration between air, rail, ports, factories and motorways • Airside freight orientated export environment of ± 26 ha • Manufacturing area of ± 72 000 m² • Warehousing and distribution area of ± 72 000 m² • Offices of ± 16 000 m²
Additional Infrastructure	• Access points from the P24 (R54) • Parking apron for local and international aircraft • Aircraft maintenance hangar • Car parking areas for short-stay, long-stay, car rental and staff • Fuel storage facility • Water supply infrastructure • Wastewater treatment works • Stormwater infrastructure • Electrical supply • Waste collection points

Phase 2 (expected to commence in 2048) will be triggered when passenger demand reaches approximately 25 million per annum. This phase will involve i) expanding the passenger terminal and cargo facilities, ii) introducing additional trade and logistics zones, and iii) increasing warehousing and manufacturing capacity.

Infrastructure upgrades will also include additional passenger aircraft stands, a multi-storey short-stay parking structure, a possible second interchange on the N1, the construction of Road K13 and upgrade of the K176 to dual carriageways (pending a future traffic impact assessment) and expanded wastewater and

power infrastructure. Phase 2 will strengthen logistics and industrial clusters, attract foreign investment, and deepen integration with the Vaal SEZ.

Phase 3 (expected to commence in 2068) is considered to be the ultimate development stage. It will accommodate a passenger capacity of 45 million per annum and 872,000 tonnes of cargo annually. It will include the addition of i) a mirror terminal, ii) a second runway, iii) two rapid-exit taxiways, iv) full build-out of the Airport City to include premium offices, retail, hospitality and healthcare facilities, v) expanded Agri-Zones, and vi) Solar Farms.

Advanced multimodal connectivity will also be introduced, including road, rail, and air freight hubs. Infrastructure will be fully upgraded to integrate with regional networks such as the future PWV5 and K13 link roads and, and electrical capacity will be expanded with renewable energy integration. This phase will transform Emfuleni / Rand West City Local Municipalities into global trade gateways and a logistics hub for Southern Africa.

In summary, while the Vaal Aerotropolis is a long-term, multi-phase development, **this application specifically seeks approval for Phase 1 (excluding the Solar Farm)**, which will serve as the foundation for future growth and deliver immediate economic-, social-, and infrastructural benefits to the region. Subsequent applications will be lodged for the required environmental authorisations as the phases and related services progress, subject to the legislation relevant at the time of application.

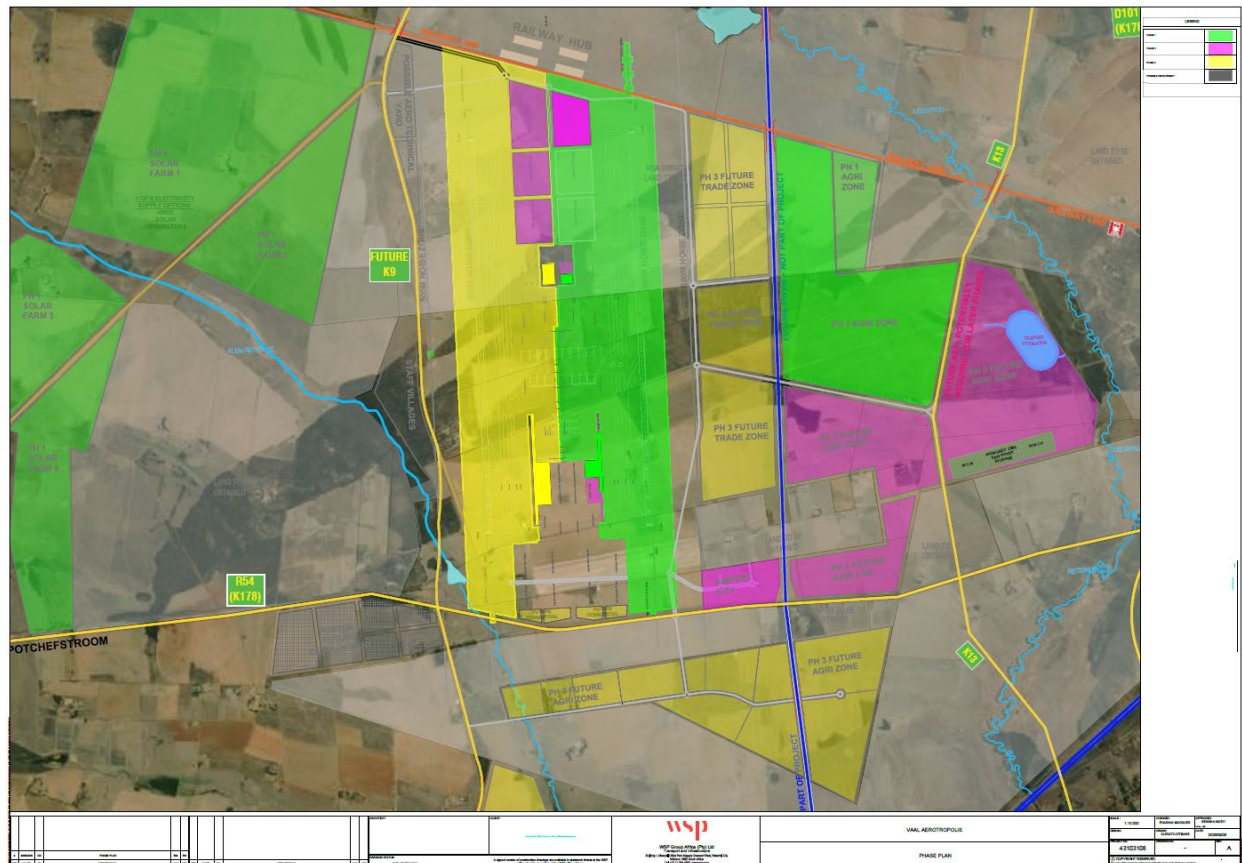


FIGURE 1-1: PROPOSED DEVELOPMENT PLAN FOR VAAL AEROTROPOLIS (3 PHASES)

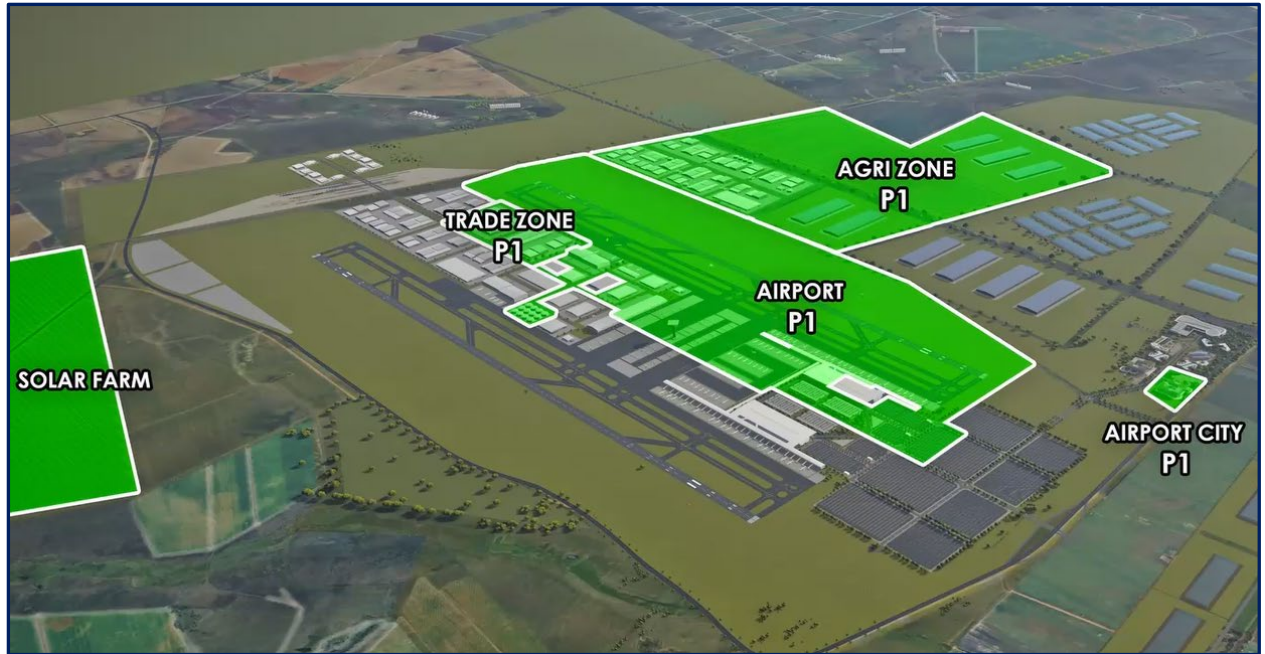


FIGURE 1-2: PHASE 1 DEVELOPMENT PLAN (GREEN)



FIGURE 1-3: PHASE 2 DEVELOPMENT PLAN (PURPLE)

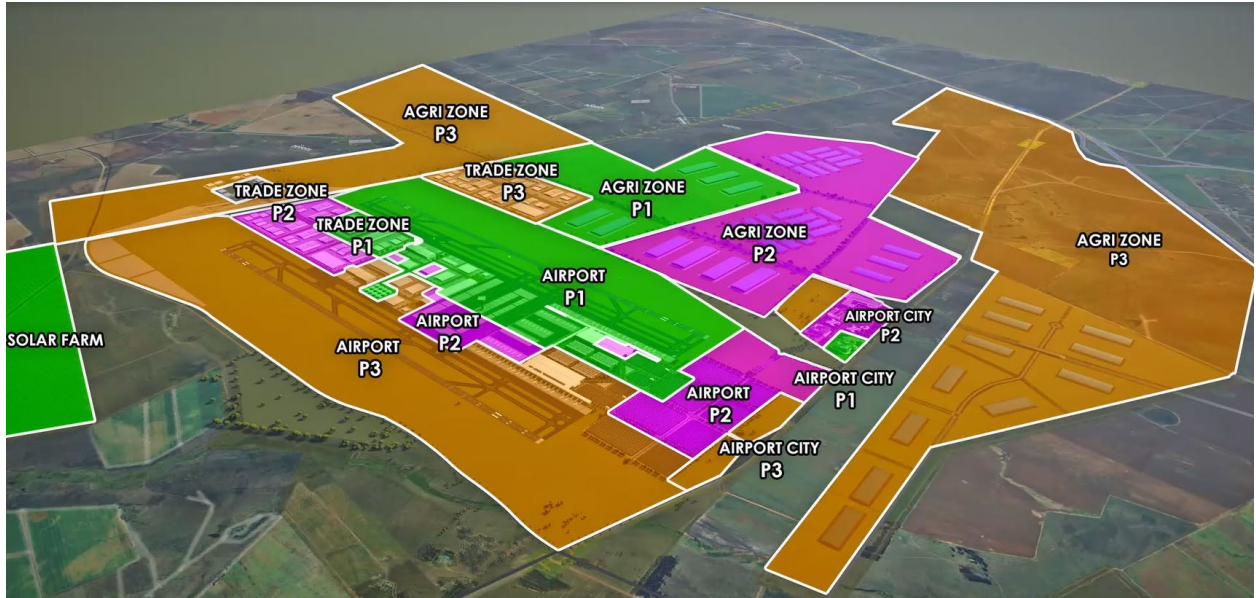


FIGURE 1-4: PHASE 3 DEVELOPMENT PLAN (ORANGE)

Current planning places the total proposed development boundary (all 3 phases) at approximately 11 400 hectares, the majority of which presently constitutes productive or potentially productive agricultural land within the Sedibeng District.

The conversion of this land to airport, industrial, logistics and mixed-use development represents a permanent and, for practical purposes, irreversible change in land use and land capability. This is recognised as a significant impact, both in terms of direct loss of production and potential cumulative regional effects when considered alongside related developments.

However, as is evident from the Development Plans illustrated in Figure 1-1 to Figure 1-4 above, the proposed Vaal Aerotropolis development incorporates an **extensive Agri-Zone**, as an integral component of the Aerotropolis development – from the first Phase of development. The Agri-Zone will be focused on production of high-value agricultural products amenable to transport by air, and planning is for export of these products to the rest of the world, via the cargo terminal.

The proposed Agri-Zone is envisaged as a high-technology agricultural cluster, incorporating climate-controlled growing facilities, including greenhouses and hydroponic production systems, and is anticipated to become one of the largest climate-controlled agricultural production areas in Africa. An integrated perishable supply chain is proposed, incorporating associated logistics and storage infrastructure. The development proposal further provides for a state-of-the-art tissue culture facility and a dedicated live-animal holding facility, intended to facilitate the transportation of live animals by air.

The Agri-Zone is therefore envisioned to form a significant component of the Aerotropolis' agricultural and economic development strategy. The programme is anticipated to support up to 300,000 small-scale

producers and facilitate approximately 145,000 new employment opportunities over the next five years, subject to the successful implementation of the proposed development.

From an agricultural impact perspective, the incorporation of the Agri-Zone provides important mitigation in relation to the potential loss or transformation of existing agricultural land associated with the Aerotropolis. The Agri-Zone will be discussed in more detail, under Section 4.1.3.

Prism EMS Africa (Pty) Ltd has been appointed as the independent Environmental Assessment Practitioner (EAP) to undertake the environmental authorisation process for **Phase 1** of the proposed Vaal Aerotropolis, as required by a host of environmental legislation. This application does however NOT include application for the solar PV facility, planned to form part of Phase 1 of the development.



1.1 ENVIRONMENTAL AUTHORISATION

“Environmental Authorisation” (EA) refers to an authorisation granted by the competent authority of a listed activity in terms of Section 24 of the National Environmental Management Act (Act No. 107 of 1998) [NEMA]. As activities under Listing Notice 1, 2 and 3 of the 2014 Environmental Impact Assessment (EIA) Regulations (as amended) are triggered (Section 4.2 below), a Scoping and EIA process is being conducted. The S&EIR process being followed is detailed in **Figure 1-5** below.

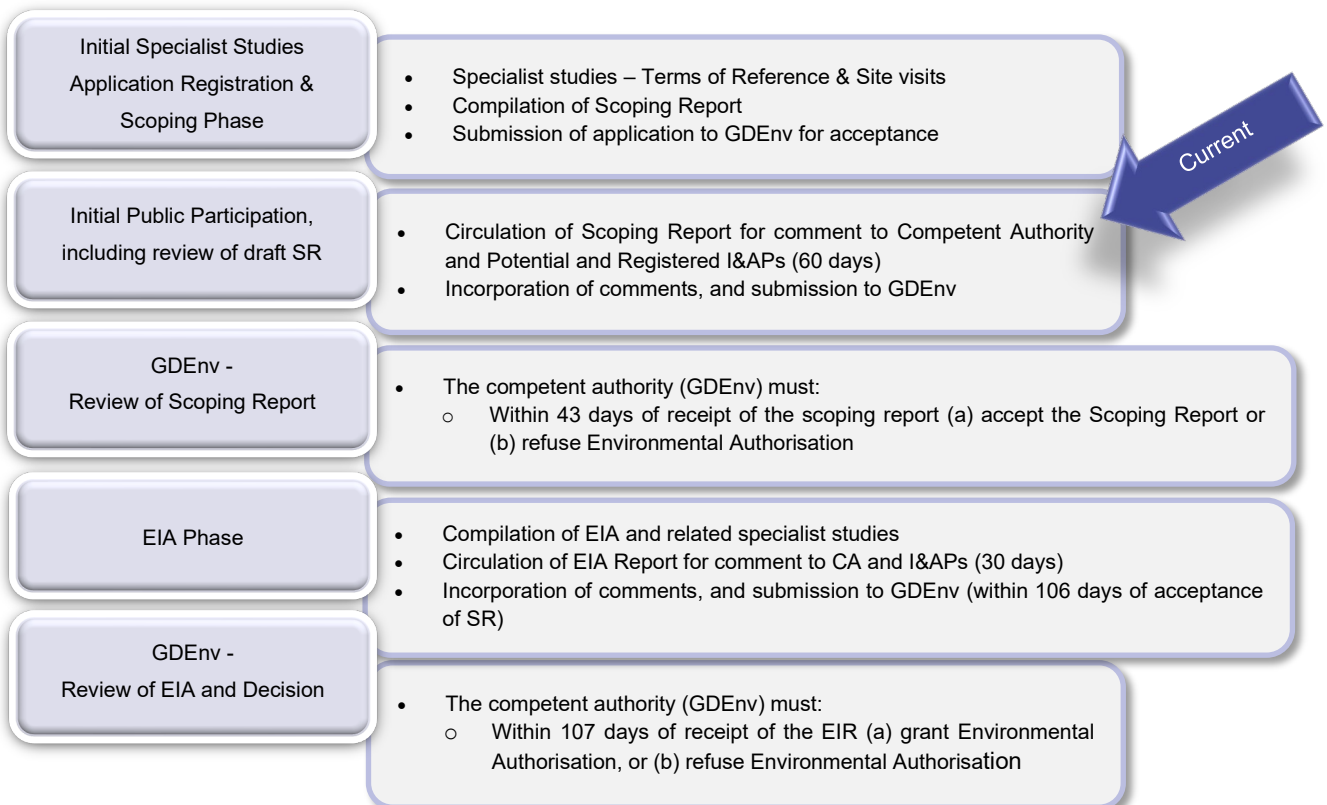


FIGURE 1-5: ENVIRONMENTAL AUTHORISATION PROCESS

An application for an EA has been registered with the Gauteng Department of Environment (GDEnv) and is currently in the initial stage of consultation. The Scoping Report will be made available to commenting authorities and potential and registered Interested and Affected Parties (I&APs) to enable their review and comment on the project and proposed development.

The reference number for the EA application is **GDEnv Ref No: GAUT 002/25-26/E0240**.

1.2 PROCESS TO DATE

1.2.1 APPLICATION

An application for the EA has been registered with the GDEnv. The reference number provided for the Application is: **GAUT 002/25-26/E0240**. The application will be formally advertised, and circulation of the Scoping and EIA Report will form part of the application process.

A Water Use License Application (WULA) has been registered with the Department of Water and Sanitation (DWS) on their online application system. The reference number provided for the Application is **WU40964**.

1.2.2 PUBLIC PARTICIPATION

1.2.2.1 INITIAL STAKEHOLDER ENGAGEMENT

An initial stakeholder engagement process was undertaken in 2024 to inform affected landowners of the proposed development of the Vaal Aerotropolis. Notification letters were sent to all occupants of the study area to inform them of the proposed development's anticipated activities and specialist studies to be undertaken. This allowed for the onset of the I&AP database that will continuously be updated throughout the application process.

1.2.2.2 FORMAL PUBLIC PARTICIPATION

A formal Public Participation Process (PPP) will be undertaken in terms of the EIA Regulations, 2014 (as amended). The Public Participation Process will be inclusive of:

- A potential I&AP database has been compiled and includes adjacent / affected landowners, Ward Councillors, Authorities and Potential I&APs. This database will be continuously updated as the PPP proceeds and as registration requests and associated comments are addressed.
- Communication with authorities was initiated to i) commence / discuss application procedures, ii) acquire reference numbers, and iii) confirm whether submissions should be in hard and/or electronic format.
- Newspaper adverts were placed in the Vaalster (Afrikaans) and Sedibeng Star (English) on 29 September 2026 and will be placed in the Rand West Advertiser (English and Sesotho) on 1 October 2026. The adverts include the dates associated with the registration period as well as review periods for the Scoping Report and WULA Summary Report.
- Several site notices, showing a locality map of the proposed development, were placed on and around the site on 29 September 2026. The site notices also include the dates associated with the registration period as well as review periods for the Scoping Report and WULA Summary Report.
- A Background Information Document (BID) was compiled and includes more in-depth information on the proposed development. The BID clearly explains details associated with the 60-day public participation period as well as the review period for the Scoping Report and WULA Summary Report which will be available from 01 October 2026 to 02 December 2026. The BIDs were emailed,

hand delivered or messaged to adjacent landowners/tenants, affected landowners/tenants, potential I&APs and commenting authorities on 30 September 2026.

- A Public Open Day will be arranged during the EIA phase of the assessment.
- A Comments and Responses register has been opened and all requests to register and/or comments received will be included and continuously updated.
- All information / proof / requests pertaining to the above-mentioned will be included in the final Scoping Report as well as the EIA phase of the S&EIR process.

1.2.2.3 REVIEW OF SCOPING REPORT AND WATER USE LICENSE APPLICATION SUMMARY REPORT

In addition to the above, notification to the public in respect of review periods for the Scoping Report (*this document*) and WULA Summary Report has been undertaken as follows:

- The documents were uploaded to Prism EMS Africa's website: www.prismems.co.za
- Emails and/or messages were sent to all the potential and registered I&APs to notify them of the 60-day review period on 30 September 2026.
- As applicable, electronic copies (e.g., USB flash drive or PDF uploads) were submitted to competent and commenting authorities including GDEnv, Emfuleni Local Municipality, Rand West City Local Municipality, Sedibeng District Municipality, West Rand District Municipality, South African Heritage Resources Agency (SAHRA), the Provincial Heritage Resources Agency of Gauteng (PHRA-G), South African Civil Aviation Authority (SACAA), GDARD and DWS on 30 September 2026.

A 60-day review period has been provided to facilitate the review of the Scoping Report and comment thereon by registered I&APs and competent / commenting authorities alike. All comments received and responses provided during the public review period will be captured in the Comments and Responses Report and submitted as part of the finalised Scoping Report to GDEnv, and WULA Phase 3 submission to DWS, to enable informed assessment of the submissions.

1.3 REPORT OUTLINE

The format of the Scoping Report has been aligned with the requirements contained in Appendix 2 of the EIA Regulations, 2014 (as amended) promulgated under the NEMA (Act No. 107 of 1998), as amended. The required report contents and how it is structured in this report are indicated in **Table 1-2** below.

TABLE 1-2: REQUIRED CONTENTS OF THE SCOPING REPORT

Appendix 2 of the EIA Regulations, 2014	Reference in Report
2(1)(a) Details of the: (i) EAP who prepared the report; and (ii) Expertise including CV	Section 1.4 Appendix A
2(1)(b) Location of the activity including: (i) 21-digit SG code of each parcel (ii) Physical address of farm (iii) Co-ordinates of property boundary	Section 1.7

Appendix 2 of the EIA Regulations, 2014	Reference in Report
2(1)(c) Plan locating the proposed activity or activities applied for at an appropriate scale, or 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	Section 1.7 Figure 1-6
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.	Section 1.7 Section 4.1 Section 4.2 Section 6.1
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	Section 2
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	Section 5
2(1)(h) A full description of the process followed to reach the preferred activity, site and location of the development footprint within the site, including - (i) Details of 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 can be reversed, may cause irreplaceable loss of resources; and 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) The 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) Outcome of the site selection matrix	Section 6.2 Section 7 Section 7.3 & Appendix D (to follow) Section 3 Section 8.5 Section 8.3 Section 8.1 Section 8.4 Section 6 Section 6

Appendix 2 of the EIA Regulations, 2014	Reference in Report
(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such (xi) Concluding statement indicating the preferred alternatives, including preferred location of the activity	Section 6
2(1)(i) 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 (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	Section 8
2(1)(j) 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.	Section 9
2(1)(k) 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	Section 9
2(1)(l) Information specified by the competent authority	Appendix E
2(1)(m) Any other matter	
2(2) Where a government notice <i>gazetted</i> 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.	Not currently applicable

Please note: As per the requirements of GN 960 of 5 July 2019, a copy of the report generated from the National web based environmental screening tool as contemplated in Regulation 16(1)(b)(v) of the EIA Regulations, 2014 (as amended) has been included in **Appendix E2**. Further, in terms of GN 320 of 20 March 2020, the site sensitivity verification is required to confirm the findings of the National Screening Tool. A copy of the Site Verification Report is also provided in **Appendix E1**.

1.4 ENVIRONMENTAL ASSESSMENT PRACTITIONER

Prism EMS Africa have been appointed to undertake the required Environmental Authorisation process in terms of the applicable EIA legislation. Details and expertise of the EAP who prepared the Scoping Report are provided in **Table 1-3** and their Curriculum Vitae is appended in Appendix A.

TABLE 1-3: DETAILS OF THE EAP

EAP:	De Wet Botha
Company:	Prism EMS Africa (Pty) Ltd
Qualifications:	MA. Environmental Management PHED
Experience:	23+ years
Affiliation/ Registration:	South African Council for Natural Scientific Professions (SACNASP): Pr.Sci.Nat. – 119979 Environmental Assessment Practitioners Association of South Africa (EAPASA): Reg.EAP – 2019/1209. Member of the International Association for Impact Assessment (IAIAsa) (1653)
Address:	PO Box 1401, Wilgeheuwel, Johannesburg, 1736
Tel:	066 208 1585
Email:	dewet@prismems.co.za / prism@prismems.co.za
Website:	www.prismems.co.za

Prism EMS Africa Team				
Designation	Name	Qualification	Professional Registration	Specialist Assessment
Project Director Principal EAP	De Wet Botha	MA. Environmental Management PHED	SACNASP: Pr.Sci.Nat. (119979) EAPASA: Reg.EAP (2019/1209) Member of the International Association for Impact Assessors (IAIAsa) (1653) Member of the Gauteng Wetland Forum Member of the South African Wetland Society Member of the Society of Wetland Scientists (International)	- Project Management, - Document Compilation, - Quality Control and Review.
Senior EAP	Elizmarie Bester	MSc Environmental Sciences	SACNASP: Pr.Sci.Nat. (135627) EAPASA: Reg.EAP (2020/2575) Member of IAIAsa (6450)	- Document Compilation - Quality Control and Review

Junior EAP	Ashley Bartmann	BSocSci. Hons. Env.Sci.	EAPASA: Cand.EAP (2025/19475)	• Document Compilation
Junior EAP	Brett Collett	B.Sc. Hons. (Env. Man.) B.Sc. (Env. Man. – Zoology)	FGASA Level 2 EAPASA: Cand.EAP (2025/20560) SACNASP: Cand.Sci.Nat (181127) Member of IAIAA (2916561)	• Document Compilation
Junior EAP	Belinda Jacobs	BA Environmental Management	EAPASA: Cand EAP (2026/21709)	• Document Compilation

1.5 AUTHORITIES

The following key authorities are involved in the decision-making process related to the proposed project:

- The GDEnv with reference to activities under the:
- EIA Regulations and Listing Notices, 2014 (as amended) promulgated in terms of the NEMA (Act 107 of 1998).
- The DWS in reference to activities under:
- Section 21 of the National Water Act (Act No. 36 of 1998) [NWA].
 - The Regulations regarding the Procedural Requirements for Water Use License Applications and Appeals (R. 267 of 24 March 2017).
- Sedibeng District Municipality in reference to:
- Atmospheric Emission License in terms of Chapter 5 of the National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM:AQA) as amended.
- South African Civil Aviation Authority (SACAA) in reference to:
 - The South African Civil Aviation Act (Act No. 13 of 2009).
 - Civil Aviation Regulations, 2011

1.6 APPLICANT

The applicant is the entity that will assume responsibilities as the holder of the EA, if granted. Details of the applicant are contained in **Table 1-4**. Most of the properties are owned by the Applicant. Vaal Aerozone has been granted permission for applications over the properties owned by the Republic of South Africa. The Power of Attorney related to this permission is included under cover of **Appendix F1**.

TABLE 1-4: DETAILS OF THE APPLICANT AND LANDOWNER

Applicant:	Vaal Aerozone (Pty) Ltd
Contact Person:	Mr. P. Atanassov

Vaal Aerozone (Pty) Ltd is the development company established to facilitate the planning, investment, development, operation and long-term management of the proposed Vaal Aerotropolis in the Sedibeng District of Gauteng, South Africa. The organisation serves as the primary body through which public and private sector stakeholders collaborate to advance a catalytic regional development initiative aimed at enhancing trade, logistics, aviation, manufacturing, agricultural exports and economic growth within the Vaal region.

The Vaal Aerotropolis is envisaged as a strategically located aviation-centred economic hub that will integrate an international airport, an Airport City, cargo and logistics facilities, commercial precincts, agri-business zones, industrial development opportunities and supporting infrastructure. As the project proponent, Vaal Aerozone is responsible for coordinating investment, project planning, stakeholder engagement and regulatory compliance to ensure that the development is implemented in a sustainable and responsible manner.

Vaal Aerozone is led by a board and management team comprising experienced professionals with expertise in airport development, aviation operations, infrastructure planning, investment facilitation, strategic management and economic development. The company reports that its leadership collective possesses decades of experience across airport operations, airline route development, air cargo systems, airport planning, aviation project management, security systems, investment structuring and risk management. This breadth of expertise provides the technical and managerial capacity necessary to oversee the development of complex aviation and logistics infrastructure projects.

The organisation's leadership includes professionals with extensive international and South African aviation experience. The management team has been involved in airport development initiatives, aviation consultancy, route development programmes, airport operations management and the delivery of aviation-related infrastructure projects. Such experience allows Vaal Aerozone to engage effectively with regulatory authorities, investors, specialist consultants, infrastructure providers and surrounding communities throughout the planning and implementation phases of the project.

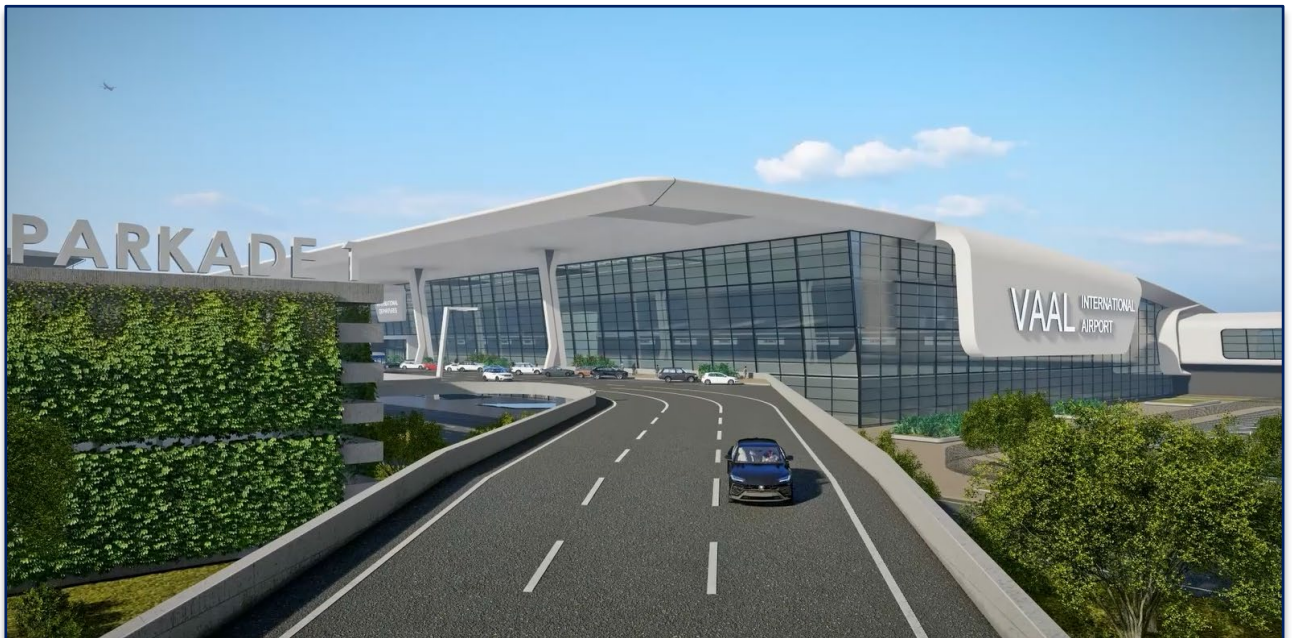
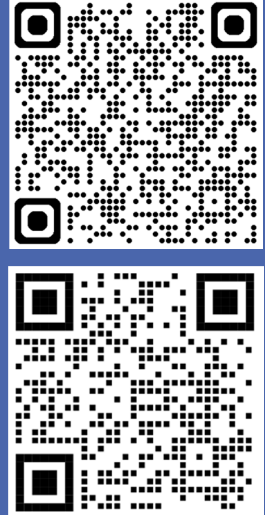
In addition to its internal expertise, Vaal Aerozone has established relationships with key public and private sector stakeholders. The project is being advanced through collaboration with government institutions, regional development agencies, investors and municipal authorities. These partnerships are intended to support the long-term viability of the Vaal Aerotropolis while promoting regional economic development, job creation, industrial diversification and enhanced trade linkages.

Vaal Aerozone is committed to responsible development principles, including sound governance, transparency, stakeholder engagement and sustainable economic growth. Through the EIA process and associated environmental authorisation requirements, the company seeks to ensure that environmental considerations are appropriately integrated into project planning and decision-making. This commitment reflects the applicant's intention to balance economic development objectives with environmental stewardship and social responsibility.

Accordingly, Vaal Aerozone possesses the organisational capacity, industry experience, leadership expertise and stakeholder support necessary to act as the applicant for the Environmental Impact Assessment process and to responsibly advance the planning and implementation of the proposed Vaal Aerotropolis development.



Scan the QR-codes for the company website (<https://vaalaerozone.co.za/>) and information on the proposed Vaal Aerotropolis development.



1.7 PROPERTY AND LOCATION

1.7.1 DEVELOPMENT LOCATION AND PROPERTIES

Within the above-mentioned context, the proposed development area of the Vaal Aerotropolis will be located on a total of 13 farm portions, measuring approximately 3 545 ha in extent, located in the Emfuleni Local Municipality, Gauteng Province.

Of these 13 farm portions, all will be affected during Phase 1 of the development and will be referred to as the **Application Area** (Table 1-5, Table 1-6 and Figure 1-6). However, it should be noted that *in-situ* surveys were conducted on an area exceeding that of the application area. This survey area will be referred to as the **Total Survey Area** (Figure 1-7 and Figure 1-8).

TABLE 1-5: SURVEYOR GENERAL DIAGRAM NUMBERS OF APPLICATION AREA

Surveyor General Diagram number	Property Description	Local Municipality
T0IQ00000000053000047	Part of Portion 47 of farm Klipkop 530 IQ	Emfuleni
T0IQ00000000053000000	Part of the Remainder of the farm Klipkop 530 IQ	Emfuleni
T0IQ00000000055400003	Re of Portion 3 of the farm Rietkuil 554 IQ	Emfuleni
T0IQ00000000055400009	Re of Portion 9 (Ptn of Ptn 3) of the farm Rietkuil 554 IQ	Emfuleni
T0IQ00000000055400026	Portion 26 of the farm Rietkuil 554 IQ	Emfuleni
T0IQ00000000055500005	Portion 5 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500006	Re of Portion 6 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500007	Portion 7 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500017	Re of Portion 17 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500018	Portion 18 (Ptn of Ptn 6) of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500020	Portion 20 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500051	Portion 51 of the farm Vlakplaats 555 IQ	Emfuleni
T0IQ00000000055500052	Portion 52 of the farm Vlakplaats 555 IQ	Emfuleni

Furthermore, the corner point coordinates of the total application area are indicated in **Table 1-6** and can be seen in **Figure 1-8**.

TABLE 1-6: CORNER COORDINATES OF THE APPLICATION AREA

Point	Latitude	Longitude	Point	Latitude	Longitude
A	-26,5631367	27,6782414	X	-26,6235514	27,680876
B	-26,5724473	27,7119542	Y	-26,6191821	27,6800494
C	-26,5717003	27,7137366	Z	-26,618773	27,6828394
D	-26,56716498	27,71454084	AA	-26,6169503	27,6818275
E	-26,56964767	27,7325621	AB	-26,6177115	27,6797446
F	-26,59642674	27,72835109	AC	-26,6132766	27,6781567
G	-26,5953853	27,7389373	AD	-26,6090808	27,6737655
H	-26,5970682	27,7497903	AE	-26,6082232	27,6755423
I	-26,6107626	27,756443	AF	-26,6013198	27,6784528

Point	Latitude	Longitude	Point	Latitude	Longitude
J	-26,6111093	27,7620265	AG	-26,6022384	27,6692059
K	-26,61789189	27,73396112	AH	-26,6254136	27,7111204
L	-26,6280137	27,7317545	AI	-26,6226418	27,7300366
M	-26,6334741	27,6815306	AJ	-26,6158528	27,7287589
N	-26,6320755	27,6809037	AK	-26,6162669	27,7265421
O	-26,6325433	27,6795379	AL	-26,6196283	27,7271593
P	-26,6339856	27,6801395	AM	-26,6200073	27,7248711
Q	-26,6359671	27,664727	AN	-26,6166971	27,7242392
R	-26,6292231	27,665541	AO	-26,6175542	27,7196511
S	-26,6279971	27,6739314	AP	-26,6207734	27,7202449
T	-26,629237	27,6755218	AQ	-26,621167	27,7178678
U	-26,6290538	27,6776773	AR	-26,6180009	27,7172592
V	-26,6274935	27,6773765	AS	-26,6193681	27,7099374
W	-26,6272606	27,6789693			

Refer to **Figure 1-7** and **Figure 1-8** below for the locality map and aerial locality map showing the Total Survey Area of the proposed Vaal Aerotropolis; while **Figure 1-6** displays the Application Area. Please note that A3 maps are also provided in **Appendix C**.

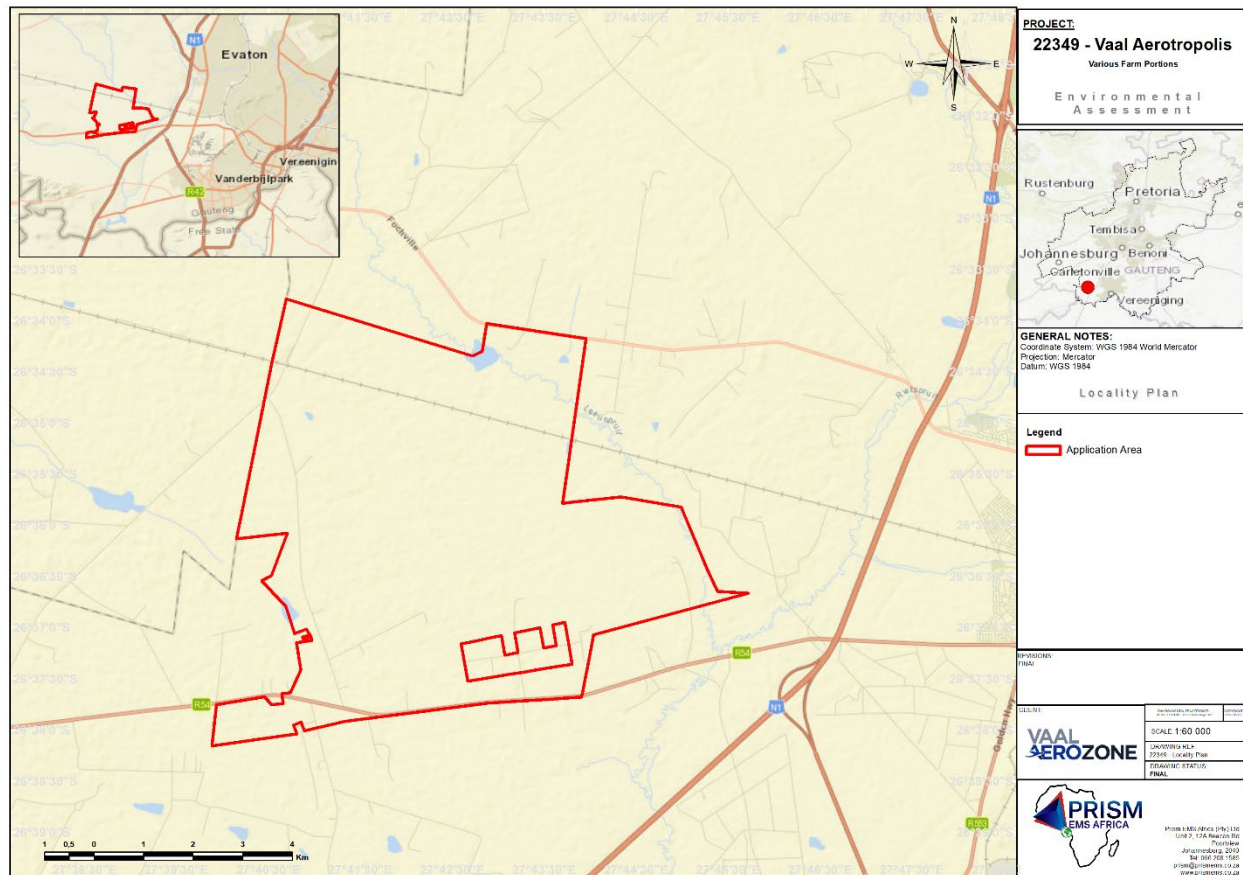


FIGURE 1-6: LOCALITY PLAN OF THE APPLICATION AREA

1.7.2 DEVELOPMENT CONTEXT

The Vaal Aerotropolis aims to become a driving force for economic growth and global trade by serving as a gateway to South African (e.g. Cape Town, George, Durban), regional (e.g., Windhoek, Gaborone, Maputo), and international (e.g., North America, Europe, Southeast Asia) regions. The Aerotropolis will ultimately be comprised of many different components including an Airport City, Agri Zone, Trade Zone, solar PV farm and ancillary services / infrastructure, which will be implemented across a 3-phase 60-year timeframe.

The development will be managed as a Special Economic Zone (SEZ), in accordance with the Special Economic Zones (SEZ) Act, 2014 (Act No. 16 of 2014) and its associated regulations.

Phase 1 (subject of this application) focuses on establishing a catalytic mixed-use hub, anchored by a new international airport, and will lay the groundwork for Phases 2 and 3 to expand upon. This phase entails commencement related construction for the Airport Precinct, Airport City, Agri-Zone and Trade Zones whilst also implementing essential services infrastructure such as road connections, bulk water/sewer reticulations, and storage facilities. Any land not developed during Phase 1 will be utilised for agricultural activities until such time as Phases 2 and 3 are ready to commence.

It is expected that the total Phase 1 area, in addition to accommodating 7.2 mppa, will span roughly 3 545 hectares, divided into 29 erven with zoning for “Aerodrome”, “Business 1”, “Public services / utilities”, “Agricultural” for the purpose of the Agri-Zone, “Private open space” and “Private Street”. The development emphasises inclusive growth, with over 70% of new Small, Medium, and Micro Enterprises (SMMEs) anticipated to be black-owned. To ensure that the proposed development is both scalable and resilient, several other parties / stakeholders (e.g., Rand Water, Emfuleni Local Municipality, ESKOM) will be involved. Each applicable authority / stakeholder will be consulted and authorisations obtained in due time as the project proceeds.

Overall, Phase 1 represents a transformative step toward regional economic revitalisation, sustainable urban development, and enhanced connectivity for southern Gauteng and South Africa as a whole.

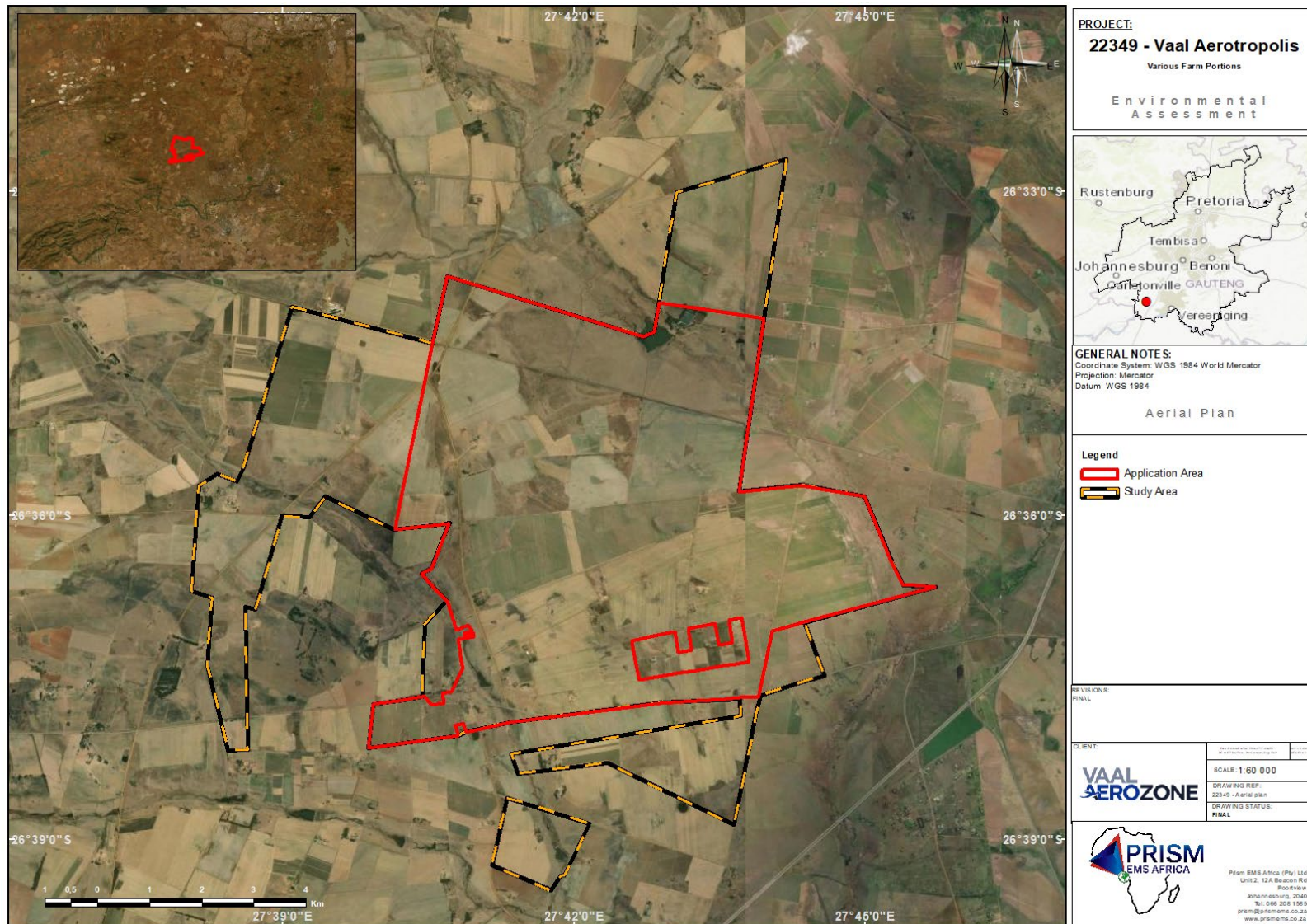


FIGURE 1-7: AERIAL PLAN OF TOTAL STUDY AREA

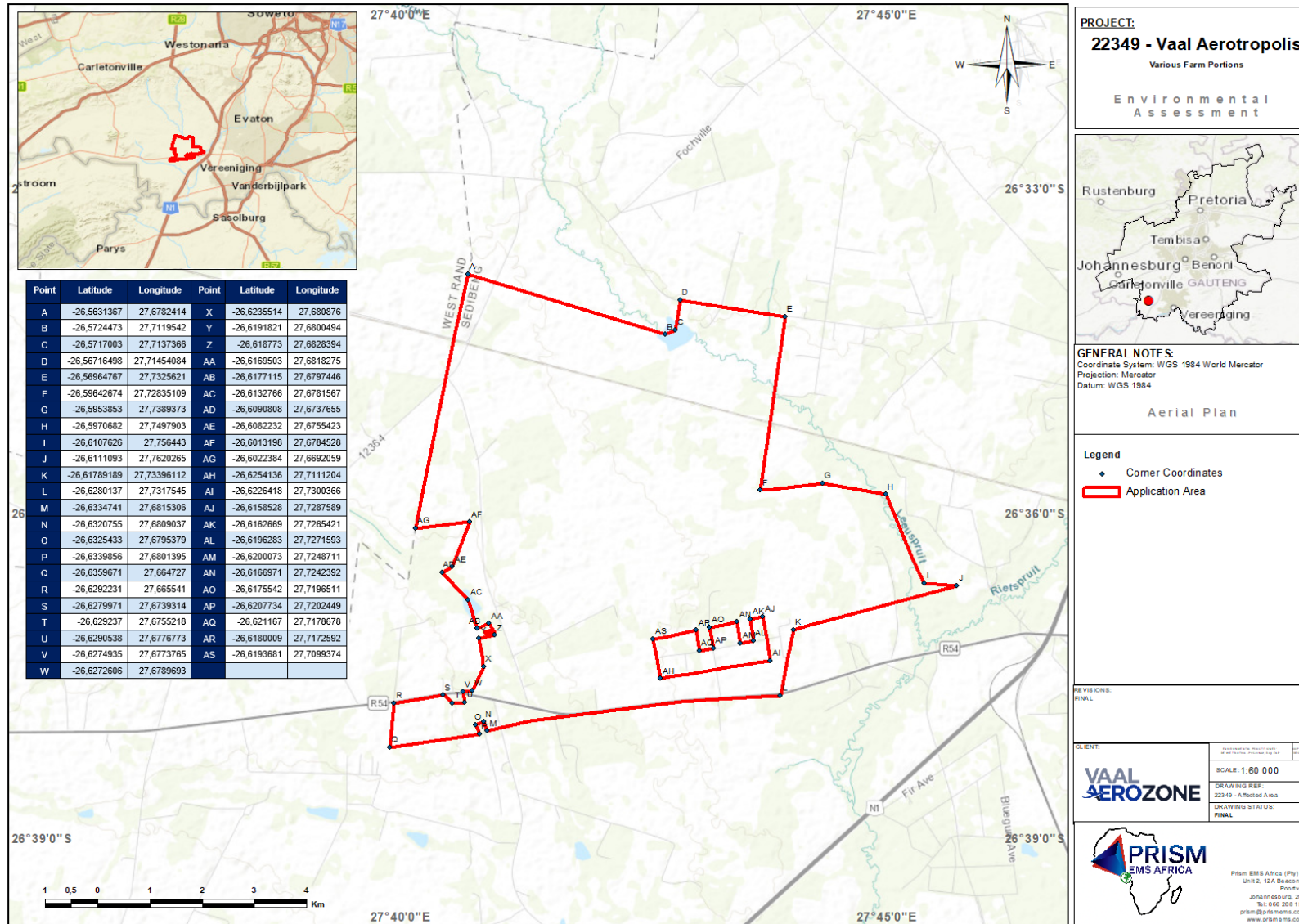


FIGURE 1-8: LOCALITY MAP (INCLUDING CORNER POINTS) OF APPLICATION AREA

2. LEGISLATIVE FRAMEWORK

This section aims to provide an overview of key policy, legislation, plans, guidelines and municipal development planning frameworks triggered by the proposed project. The requirements set out in these Acts and Regulations will be adhered to through the scoping and impact assessment phases of the project.

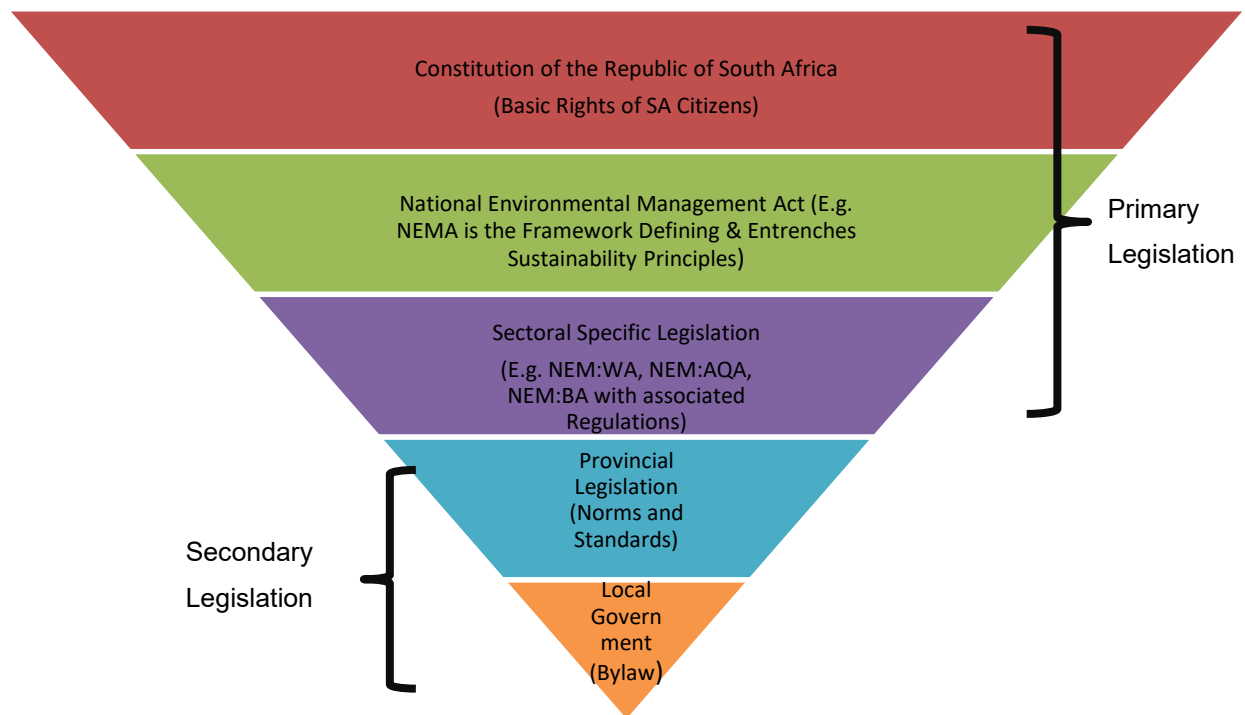


FIGURE 2-1: SOUTH AFRICAN ENVIRONMENTAL LEGISLATION HIERARCHY

The following Acts, Regulations, By-Laws and Guidelines are applicable to the proposed development.

2.1 CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA

Section 24 of the Constitution states that –

“Everyone has the right to -

- a) an environment that is not harmful to their health or well-being; and
- b) have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –
 - (i) Prevent pollution and ecological degradation;
 - (ii) Promote conservation; and
 - (iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”

2.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NEMA), 1998 (ACT NO. 107 OF 1998)

The NEMA is the umbrella framework for all environmental legislation primarily to assist with implementing the environmental rights of the Constitution (refer to Section 2.1). The NEMA provides fundamental principles required for environmental decision making and to achieve sustainable development. It also makes provision for duty of care to prevent, control and rehabilitate the effects of significant pollution and environmental degradation, and prosecute environmental crimes. These principles must be adhered to and taken into consideration during the impact assessment phase.

NEMA defines “environment” as –

“The surroundings within which humans exist and that are made up of –

- (i) *the land, water and atmosphere of the earth;*
- (ii) micro-organisms, plants and animal life;
- (iii) any part or combination of (i) or (ii) and the interrelationship among and between them; and
- (iv) the physical, chemical, aesthetic and cultural, properties and conditions of the foregoing that influence human health and well-being.”

Section 24D and 24(2) of the NEMA make provision for the publication of a list and associated regulations containing activities identified that may not commence without obtaining prior environmental authorisation from the competent authority. These regulations are referred to as the EIA Regulations and are interpreted hand in hand with the various listed activities discussed further below.

2.2.1 ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 (GN R982 OF 4 DECEMBER 2014)(AS AMENDED)

The EIA Regulations were promulgated in terms of Section 24 of the NEMA, for the purpose of providing methodologies and specific requirements for the undertaking of an EIA. The Regulations stipulate that any proposed activity listed in the associated notices must undertake either a Basic Assessment (BA) or Scoping & Environmental Impact Report (S&EIR) in order to obtain an EA (if granted) by the competent authority before the commencement of the specified listed activity.

The EIA Regulations provide the minimum requirements for appointing an EAP and for undertaking the relevant PPP as required. They also detail the contents of the impact assessment reports and all other aspects associated with BA and/or EIAs.

The following listed activities have been identified in terms of the subsequent Government Notices ¹:

¹ Although all applicable Listing Notice activities are presented, the highest-ranking activity(ies) will take precedence and supersede the lower-ranking activity(ies).

2.2.1.1 LISTING NOTICE 1: GN R327 OF 7 APRIL 2017 (AS AMENDED)

Activities listed under this Notice require a Basic Assessment process to be undertaken. The following activities are triggered in terms of Listing Notice 1 and include:

- Activity 9 – The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water— (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more.
- Activity 10 – The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes – (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more.
- Activity 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.
- Activity 12 - The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.
- Activity 13 – The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.
- Activity 14 - The development and related operation of facilities or infrastructure, 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 but not exceeding 500 cubic metres.
- Activity 19 - The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.
- Activity 24 - The development of a road—(i) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or (ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres.
- Activity 27 – The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.
- Activity 28 – Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development – (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare.

- Activity 56 – The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre – (i) where the existing reserve is wider than 13.5 metres; or (ii) where no reserve exists, where the existing road is wider than 8 metres.

Please refer to **Section 4.2** for a more detailed assessment of why these activities are triggered.

2.2.1.2 LISTING NOTICE 2: GN R325 OF 7 APRIL 2017

Activities listed under this Notice require Scoping and EIA to be undertaken. Activities triggered in terms of Listing Notice 2 include:

- Activity 4 – The development and related operation of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage area occurs in containers with a combined capacity of more than 500 cubic meters.
- Activity 6 – The development of facilities or infrastructure for any process or activity which requires a permit or license or an amended permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent.
- Activity 7 – The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods – (ii) in liquid form, outside an industrial complex, using pipelines, exceeding 1 000 meters in length, with a throughput capacity of more than 50 cubic meters per day.
- Activity 8 – The development of – i) airports, or ii) runways or aircraft landing strips longer than 1,4 kilometres.
- Activity 15 – The clearance of an area of 20 hectares or more of indigenous vegetation.
- Activity 16 – The development of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the highwater mark of the dam covers an area of 10 hectares or more.
- Activity 27 – The development of a road (iv) catering for more than one lane of traffic in both directions.

As such a Scoping and EIA process is applicable. Please refer to **Section 4.2** which provides a more detailed assessment of why these activities are triggered.

2.2.1.3 LISTING NOTICE 3: GN R324 OF 7 APRIL 2017

Activities listed under this Notice require a Basic Assessment process to be undertaken but only in specified geographic areas. Parts of the proposed development area fall within a Critical Biodiversity Area (CBA): Important Area and Ecological Support Area (ESA) in terms of the Gauteng Conservation Plan version 4, Zone 3: High control zone of the Gauteng Provincial Environmental Management Framework (GPEMF) as well as the historical extent of a threatened ecosystem (Soweto Highveld Grassland), as such a number of activities are triggered in terms of Listing Notice 3. These include:

- Activity 2(c) (ii)(iv)(v)(vi) – The development of reservoirs, excluding dams, with a capacity of more than 250 cubic metres. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites

identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004) (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority.

- Activity 3(c) (ii)(iv)(v)(vi) – The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower – a) is to be placed on a site not previously used for the purpose; and b) will exceed 15 meters in height. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority.
- Activity 4(c) (ii)(iv)(v)(vi)(vii) – The development of a road wider than 4 metres with a reserve less than 13,5 metres. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority. (vii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas.
- Activity 6(c) (ii)(iv)(v)(vi)(viii) – The development of resorts, lodges, hotels, tourism or hospitality facilities that sleeps 15 people or more. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority. (viii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas.
- Activity 10(c) (ii)(iv)(v)(vi)(vii) – 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 a combined capacity of 30 but not exceeding 80 cubic metres. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority. (vii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas.
- Activity 12(c) (i)(ii) – The clearance of an area of 300 square metres or more of indigenous vegetation. – (i) Within any critically endangered or endangered ecosystem listed in terms of section

52 of the NEM:BA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004. (ii) Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans;

- Activity 14(c) (ii)(iv)(v)(vi) – The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority.
- Activity 18 (c) (ii)(iv)(v)(vi)(vii) – The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority. (vii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas.

Please refer to Section 4.2 which provides a more detailed assessment of why these activities are triggered.

2.2.2 GN 164 OF 2 MARCH 2018 | ADOPTION OF THE GAUTENG PROVINCIAL ENVIRONMENTAL FRAMEWORK STANDARD AND EXCLUSION OF ASSOCIATED ACTIVITIES FROM THE REQUIREMENT TO OBTAIN ENVIRONMENTAL AUTHORISATION IN TERMS OF SECTION 24(2)(d) AND 24(10)(a) READ IN CONJUNCTION WITH SECTION 24(1)(d) OF NEMA, 1998 FOR THE IMPLEMENTATION OF THE GAUTENG PROVINCIAL ENVIRONMENTAL MANAGEMENT FRAMEWORK

In terms of the Gauteng Provincial Environmental Management Framework (GPEMF, 2019), the largest portion of the area earmarked for the proposed development falls within Zone 4 – Normal control zone. There are some interspersed areas which appear to be more sensitive, falling in Zone 3 – a high control zone (outside the urban development zone). Based on the identified zones and expected sensitivities on the site, Environmental Authorisation is required prior to the commencement of any activities.

2.2.3 GN 960 OF 5 JULY 2019 | NOTICE OF THE REQUIREMENTS TO SUBMIT A REPORT GENERATED BY THE NATIONAL WEB BASED ENVIRONMENTAL SCREENING TOOL IN TERMS OF SECTION 24(5)(h) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND REGULATION 16(1)(b)(v) OF THE EIA REGULATIONS, 2014 (AS AMENDED)

As per the requirements of GN 960 of 5 July 2019, a Screening Report was generated on the National Screening Tool website and is submitted in **Appendix E2**.

2.2.4 PROCEDURES FOR THE ASSESSMENT AND MINIMUM CRITERIA FOR REPORTING ON IDENTIFIED ENVIRONMENTAL THEMES IN TERMS OF SECTION 24(5)(A) AND (H) AND 44 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 WHEN APPLYING FOR ENVIRONMENTAL AUTHORISATION (GN 320 OF 20 MARCH 2020) AND GN 1150 OF 30 OCTOBER 2020

The Department of Forestry, Fisheries and the Environment (DFFE) published a number of protocols for the specialist assessment and minimum report requirements including aspects such as agriculture, noise and terrestrial and aquatic biodiversity.

DFFE also published general requirements for site sensitivity verification (GN 320 of 20 March 2020). This notes that a site sensitivity verification can be undertaken by an EAP or a specialist and should utilise the following methodology:

- A desktop analysis, using satellite imagery;
- A preliminary on-site inspection; and
- Any other available and relevant information.
- Further, the outcome of the site sensitivity verification must be recorded in a report that:
- Confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.
- Contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and
- Is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations (EIA Regulations).

Based on the identified sensitivity (including the National Screening Tool Report as well as desktop and satellite imagery), **Table 2-1** provides an overview of the assessments required. A copy of the National Screening Tool as well as the Site Verification Assessment is included in **Appendix E**.

TABLE 2-1: DESKTOP SENSITIVITY AS IDENTIFIED BY THE NATIONAL SCREENING TOOL

Theme	Sensitivity				Specialist Assessment Required
	Very High	High	Medium	Low	
Agricultural					The National Screening Tool as well as the Agricultural Potential Atlas IV, indicates that the agricultural potential of the proposed site is very high to moderate . As such, an Agricultural Impact Assessment will be undertaken and included in the EIA Report.
Animal Species					The National Screening Tool has indicated that the Animal species sensitivity is high , with potential <i>Aves-Tyto capensis</i> , <i>Aves-Mycteria ibis</i> , <i>Aves-Hydroprogne caspia</i> , <i>Aves-Eupodotis senegalensis</i> , <i>Insecta-Aloeides dentatis dentatis</i> , <i>Insecta-Lepidochrysops praeterita</i> , <i>Insecta-Lepidochrysops procera</i> , <i>Mammalia-Crociodura maquassiensis</i> , <i>Mammalia-Hydriectis maculicollis</i> and <i>Mammalia-Ourebia ourebi ourebi</i> . An Animal Impact Assessment, Avi-Faunal Assessment as well as a Terrestrial Biodiversity Impact Assessment will be undertaken and included in the EIA Report.
Aquatic Biodiversity					The National Screening Tool has indicated that the aquatic biodiversity is very high (rivers and wetlands). A Wetland Impact Assessment and an Aquatic Impact Assessment will be undertaken and included in the EIA Report.
Archaeological and Cultural Heritage					The Screening Tool indicated low sensitivity i.r.o. the heritage theme. To ensure no negative impact on any sites of Heritage significance, a Phase 1 Heritage Impact Assessment (HIA) will be undertaken and included in the EIA Report. Formal clearance in terms of the National Heritage Resources Act (NHRA) from the South African Heritage Resources Agency (SAHRA) is required, and will be applied for, as part of the EIA process.
Civil Aviation					The National Screening Tool has indicated that the site has high civil aviation sensitivity. As the proposed development is for an airport, a Civil Aviation Report will be undertaken and included in the EIA Report.
Defence					None

Theme	Sensitivity				Specialist Assessment Required
	Very High	High	Medium	Low	
Palaeontology		✓			The National Screening Tool has indicated that the Palaeontology sensitivity is high. A Palaeontological Impact Assessment will be undertaken and included in the EIA Report.
Plant Species				✓	The National Screening Tool has indicated that the Plant species sensitivity is low. To ensure a rigorous and comprehensive understanding of the possible sensitivity of the area, a Plant Species Assessment as well as a Terrestrial Biodiversity Impact Assessment will be undertaken and included in the EIA Report.
Terrestrial Biodiversity	✓				According to the National Screening Tool, the site has very high sensitivity in terms of terrestrial biodiversity (as the site occurs within a CBA 1 and 2, ESA 1 and 2, National Protected Area Expansion Strategy (NPAES), is expected to contain the vulnerable Soweto Highveld Grassland vegetation unit and a section of the application area falls within the Tweefontein Private Nature Reserve). A Terrestrial Biodiversity Impact Assessment will be undertaken and included in the EIA Report.

2.3 NATIONAL WATER ACT (NWA), 1998 (ACT NO. 36 OF 1998)

The NWA is the primary regulatory legislation, controlling and managing the use of water resources as well as the pollution thereof and is implemented and enforced by the DWS. Section 21 of the NWA lists water uses that must be licensed unless it is listed in the schedule (existing lawful use) and/or is permissible under a General Authorisation (GA), or if a responsible authority waives the need for a Water Use License. Section 21 water uses include:

- Section 21(a): taking water from a water resource
- Section 21(b): storing water
- Section 21(c): impeding or diverting the flow of water in a watercourse
- Section 21(d): engaging in a stream flow reduction activity contemplated in section 36
- Section 21(e): engaging in a controlled activity as identified in Section 37(1) or declared under Section 38(1).
- Section 21(f): discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall, or other conduit.
- Section 21(g): disposal of waste (i.e. effluent from sewage works) in a manner which may detrimentally impact on a water resource;
- Section 21(h): disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.
- Section 21(i): altering the bed, banks, course or characteristics of a watercourse.
- Section 21(j): removing, discharging, or disposing of water found underground if it necessary for the efficient continuation of an activity or for the safety of people.
- Section 21(k): using water for recreational purposes.

Applicable definitions included in the NWA include watercourse which is defined as “(a) a river or spring; (b) a natural channel in which water flows regularly or intermittently; (c) a wetland, lake or dam into which, or from which, water flows; and (d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse (and a reference to a watercourse includes, where relevant, its bed and banks). The Act also defines a wetland as “land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil”.

Due to the presence of freshwater systems (the Leeuspruit and Klein Rietspruit streams and various wetlands) as well as the nature of the development and services required for the proposed development, the following Section 21 uses are expected to be triggered and may require licensing:

- Section 21(a): taking water from a water resources (boreholes).
- Section 21(b): storage of water.
- Section 21(c): impeding or diverting the flow of water in a watercourse.

- Section 21(f): discharge waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.
- Section 21(g): discharging waste (i.e. effluent from sewage works) in a manner which may detrimentally impact on a water resource
- Section 21(i): altering the bed, banks, course or characteristics of a watercourse.
- Section 21(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.

A water use license application has been lodged with the Department of Water and Sanitation (Ref No: WU40964) to authorise the proposed water uses prior to the commencement of the development.

2.3.1 THE REGULATIONS REGARDING THE PROCEDURAL REQUIREMENTS FOR WATER USE LICENSE APPLICATIONS AND APPEALS (R. 267 OF 24 MARCH 2017)

It should be noted that on 24 March 2017, the Regulations regarding the Procedural Requirements for Water Use License Applications and Appeals (R. 267 of 24 March 2017) were published and came into effect. These Regulations provide the requirements for the WULA process. This WULA has been compiled in line with these requirements. A copy of the WUL Summary Report will be made available for public review as part of the public review of the EIA Report.

2.4 NATIONAL HERITAGE RESOURCE ACT (NHRA), 1999 (ACT NO. 25 OF 1999)

The NHRA provides for the protection and management of South Africa's heritage resources. The South African National Heritage Resources Agency (SAHRA) is the administering authority in regard to all matters relating to heritage resources. A heritage resource refers to any historically important feature such as graves, trees, archaeology, culturally significant symbols, spaces, landscapes and fossil beds as protected heritage resources. In terms of Section 38 of the NHRA, SAHRA can call for a HIA for certain categories of development. The NHRA also makes provision for the assessment of heritage impacts as part of an EIA process and indicates that if such an assessment is deemed adequate, a separate HIA is not required.

Section 38 (1) of the NHRA notes that the relevant heritage authority should be notified provided with details such as location, nature and extent of the following developments:

- a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
- b) the construction of a bridge or similar structure exceeding 50 m in length;
- c) any development or other activity which will change the character of a site—
 - (i) exceeding 5 000 m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or

- (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
- (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- d) the re-zoning of a site exceeding 10 000 m² in extent; or
- e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,

Various grave sites and historic buildings (older than 60 years) were discovered on the site. Thus, a HIA will be conducted, and the findings will be included in the EIA Report. The relevant applications to relocate affected grave sites and to demolish historical buildings will be lodged, if necessary, with the Provincial Heritage Resources Authority – Gauteng Province (PHRA-G). It is however not expected that any such application will be required for the first phase of the development.

The SAHRA Palaeontological map has been utilised and confirmed that the study area is predominantly of moderate palaeontological significance, and further studies are required for this aspect. A Palaeontology Impact Assessment (PIA) will be undertaken as part of the EIA phase and included in the EIA Report.

Furthermore, SAHRA will be notified and provided an opportunity to comment on the Scoping Report which is available for public review.

2.5 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (NEM:BA), 2004 (ACT NO. 10 OF 2004)

The NEM:BA aims to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA. The purpose of the NEM:BA is to protect ecosystems and the species within as well as the promoting of sustainable use of indigenous biodiversity. During any environmental authorisation process the following regulations are considered and researched if at any stage the following regulations are applicable:

- Alien and Invasive Species Regulations;
- Alien and Invasive Species List;
- Lists of Critically Endangered, Endangered, Vulnerable and Protected Species; and
- Threatened or Protected Species Regulations.

A Terrestrial Biodiversity Impact Assessment Report will be undertaken to confirm the presence of any threatened species and alien and invasive species. The detailed report will form part of the EIA Report.

2.6 NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT (NEM:PAA), 2003 (ACT 57 OF 2003) (AS AMENDED)

The purpose of the NEM:PAA is to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes.

The objectives of this Act are-

- To provide, within the framework of national legislation, including the NEMA, for the declaration and management of protected areas;
- To provide for co-operative governance in the declaration and management of protected areas;
- To affect a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity;
- To provide for a representative network of protected areas on state land, private land and communal land;
- To promote sustainable utilisation of protected areas for the benefit of people, in a manner that would preserve the ecological character of such areas;
- To promote participation of local communities in the management of protected areas, where appropriate; and
- To provide for the continued existence of South African National Parks.

In line with this, the Minister has established a Register of Protected Areas which was utilised to determine whether the proposed development is affected by Protected areas.

A portion of the site earmarked for future expansion of the Vaal Aerotropolis falls within the Tweefontein Private Nature Reserve (Portions 2 and 4 of the farm Tweefontein 523 IQ). The Tweefontein Private Nature Reserve, proclaimed on 17 August 1955 under Provincial Gazette 2529, Notice No. 195, has however not been utilised, managed or maintained as a nature reserve since its establishment.

An application for the withdrawal of the Declaration of the farm portions as a Private Nature Reserve, is currently in process.

2.7 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE MANAGEMENT ACT (NEM:WA), 2008 (ACT NO. 59 OF 2008)

The NEM:WA aims to regulate waste management in South Africa in order to protect health and the environment through the provision of reasonable measures for the prevention of pollution and ecological degradation.

The Act includes regulations which provide a list of waste management activities that require a waste management license in terms of NEM:WA (GN 921 of 29 November 2013).

The proposed development has been assessed, and a Norms and Standards Registration is required for the proposed development, as the facility triggers Activity 2 of Category C i.r.o the storage of waste. Domestic waste will be collected by municipal waste collectors and disposed of at the municipal landfill, as confirmed in writing by the Emfuleni Local Municipality.

Storage Facilities in excess of 100 m³ (general waste) or 80 m³ (hazardous) will comply with the Norms and Standards for the Storage of Waste. The waste storage facility will be registered with the competent authority within 90 days prior to the construction of the development.

2.8 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT (NEM:AQA), 2004 (ACT NO. 39 OF 2004)

The aim of NEM:AQA is to regulate air quality in order to protect the environment from pollution and ecological degradation.

The proposed development will trigger activities in terms of Category 2, subcategory 2.4 which refers to the storage and handling of Petroleum Products, as the combined storage capacity of petroleum products on site will be greater than a 1000 m³. Therefore, an application for an Air Emissions License will be lodged with the relevant authority.

2.9 PROTECTION OF PERSONAL INFORMATION (POPI) ACT, 2013 (ACT NO. 4 OF 2013)

The Protection of Personal Information (POPI) Act, 2013 (Act No. 4 of 2013), aims to promote the protection of personal information processed by public and private bodies. Section 14 of the Constitution of the Republic of South Africa, 1996, provides that everyone has the right to privacy; this includes the right to protection of personal information.

“The purpose of the POPI Act is to –

- a) Give effect to the constitutional right to privacy, by safeguarding personal information when processed by a responsible party, subject to justifiable limitations that are aimed at -
 - (i) Balancing the right to privacy against other rights, particularly the right of access to information; and
 - (ii) Protecting important interests, including the free flow of information within the Republic and across international borders,

- b) Regulate the manner in which personal information may be processed, by establishing conditions, in harmony with international standards, that prescribe the minimum threshold requirements for the lawful processing of personal information,
- c) Provide persons with rights and remedies to protect their personal information from processing that is not in accordance with this Act,
- d) Establish voluntary and compulsory measures, including the establishment of an Information Regulator, to ensure respect for and to promote, enforce and fulfil the rights protected by this Act.”

The POPI Act aims to ensure that personal information is processed by public and private bodies in a manner that gives effect to the right to privacy. Personal information, as defined by the Act is inclusive of:

- a) Information relating to race, gender, sex, pregnancy, marital status, national, ethnic or social origin, colour, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language and birth of the person,
- b) Information relating to the education or the medical, financial, criminal or employment history of the person,
- c) Any identifying number, symbol, e-mail address, physical address, telephone number, location information, online identifier or other particular assignment to the person,
- d) The biometric information of the person,
- e) The personal opinions, views or preferences of the person,
- f) Correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence,
- g) The views or opinions of another individual about the person,
- h) The name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person.

Consent is defined by the Act as follows: *any voluntary, specific and informed expression of will in terms of which permission is given for the processing of personal information.*

This Public Participation Process has been carried out in line with the POPI Act. Personal Information collected by Prism EMS Africa will not be made available to the public or Authorities unless written consent is given by registered I&APs.

2.10 OTHER LEGISLATION AND GUIDELINES

In addition to the above, the following national, provincial and municipal guidelines, plans and by-laws have been taken into account:

2.10.1 NATIONAL GUIDELINES AND PLANS

The following national plans and guidelines were reviewed and taken into account where necessary. More detail is provided in the subsections below.

2.10.1.1 NATIONAL BIODIVERSITY ASSESSMENT (NBA)

The National Biodiversity Assessment (NBA) was completed as a collaboration between the South African National Biodiversity Institute (SANBI), the DFFE and other stakeholders, including scientists and biodiversity management experts over a three-year period (Driver at al., 2012).

The purpose of the NBA is to assess the state of South Africa's biodiversity with a view to understanding trends over time and informing policy and decision-making across a range of sectors (Driver at al., 2012).

2.10.1.2 DEA, 2014 – INTEGRATED ENVIRONMENTAL MANAGEMENT (IEM) GUIDELINE SERIES

The following guidelines have been adopted by the applicant in the pursuit of best practice and sustainable development and are considered in the management measures and mitigation of impacts identified.

- Integrated Environmental Management Guideline: Guideline on Need and Desirability
- Integrated Environmental Management Guideline Series (Guideline 7)
- Public Participation in the Environmental Impact Assessment Process; and
- Guidelines on Alternatives.

2.10.1.3 NATIONAL CLIMATE CHANGE ADAPTATION STRATEGY, 2019

The National Climate Change Adaptation Strategy (DEFF, 13 November 2019) (NCCAS) provides a common vision of climate change adaptation and climate resilience for the country and outlines priority areas for achieving this vision. Since the NCCAS is specifically focused on adaptation to climate change, mitigation of greenhouse gas emissions is dealt with in other policy documents. The NCCAS however acknowledges that adaptation action and mitigation action impact on one another.

The NCCAS is an important step forward for South Africa, as it (DEFF, 13 November 2019):

- Acts as a common reference point for climate change adaptation efforts in South Africa over the next 1 to 10 years, providing guidance across all levels of government, sectors, and stakeholders affected by climate variability and change.
- Provides a policy instrument in which national climate change adaptation objectives for the country can be articulated to provide overarching guidance to all sectors of the economy.
- Facilitates the degree to which development initiatives at different levels of government and business integrate and reflect critical climate change adaptation priorities and thus inform resource allocation by the various stakeholders towards climate change resilience.
- Guides stronger coherence and coordination on climate change adaptation activities between different institutions and levels of government.
- Supports South Africa in meeting its international obligations by defining the country's vulnerabilities, plans to reduce such vulnerabilities and leverage opportunities, outlining the required resources for such action, whilst demonstrating progress on climate change adaptation.

The NCCAS is divided into sets of strategic objectives, strategic interventions and strategic outcomes with associated actions. The document is directed not only at national government departments, but speaks to South African society as a whole, including the key relevant sectoral institutions, provincial governments and municipalities, and non-governmental entities including the private sector, the research community and civil society.

The vision of the NCCAS is:

- To transition to a climate resilient South Africa, which will follow a sustainable development path, guided by anticipation, adaptation and recovery from a changing climate and environment to achieve our development aspirations.

Although predominantly aimed at government, the strategic objectives, strategic interventions, and strategic outcomes with associated actions outlined in the NCCAS provide a host of opportunities for corporate social investment.

The following actions will be followed in the EIA phase to ensure the resilience of the project:

- Identify climate change impacts relevant to the project location and activities, such as increased temperatures, rainfall and wind speeds.
- Determine the project's vulnerability to climate change, considering its location, infrastructure, and operations.
- Assess the potential impacts of the project on climate change, such as increased greenhouse gas emissions or land degradation.
- Adaptation methods will be identified which include building positioning and design, water management and water conservation strategies.
- Monitoring and evaluation measures will be incorporated within the Construction and Operational EMPs.

2.10.2 CIVIL AVIATION

2.10.2.1 CIVIL AVIATION ACT, 2009 (ACT 13 OF 2009)

The Civil Aviation Act (Act 13 of 2009)(CAA) was put in place to ensure effective control and safety in the civil aviation industry and is relevant to the project as such. The Act intends amongst others to “*repeal, consolidate and amend the aviation laws giving effect to certain International Aviation Conventions; to provide for control and regulation of aviation within the Republic; to provide for the establishment of a South African Civil Aviation Authority with safety and security oversight functions; to provide for the establishment of an independent Aviation Safety Investigation Board (National Aviation Security Programme) in compliance with Annex 13 of the Chicago Convention*”; as well as “*to provide for additional measures directed at more effective control of the safety and security of aircraft, airports and the like; and related matters*”.

The proposed Vaal Aerotropolis will constitute the establishment of a new airport with related ancillary uses and infrastructure and will therefore be subject to the applicable requirements of the South African Civil Aviation Authority (SACAA).

The proposed establishment of the airport will require consideration of civil aviation safety requirements, including the planning and development of aviation infrastructure, aerodrome safeguarding, obstacle limitations, aircraft operations, aviation-related lighting and marking and other requirements applicable to the safe operation of the proposed aerodrome.

The Environmental Impact Assessment process will therefore consider the potential environmental implications associated with the establishment and operation of the airport in conjunction with the applicable civil aviation requirements.

The relevant aviation authorities will be consulted by the proponent during the planning and assessment process to confirm the applicable approvals, licenses, technical requirements and safeguarding measures for the proposed development. In addition, the SACAA will be included as a commenting authority in this Scoping and EIA process.

2.10.2.2 CIVIL AVIATION REGULATIONS, 2011

The Civil Aviation Regulations, 2011 (CAR) and associated Civil Aviation Technical Standards were compiled to fall under the Civil Aviation Act, 2009 and the parts listed below relate, amongst others, to the proposed development and activities. In particular, Part 139 of the Regulations provide a minimum standard and recommended practices on design and operation of aerodromes and heliports. The list below highlights some of the main parts that are relevant to the proposed development:

- General Aviation and Operating Flight Rules.
- Aerodromes and Heliports.
- Airspace and Air Traffic Services.
- Flight Procedure Design.
- Meteorological Information Services.
- Aeronautical Information Services.
- Instrument Flight Procedures, and
- International Civil Aviation Organization (ICAO) Aeronautical Charts.

The SACAA's aviation environmental protection framework specifically includes requirements concerning aircraft noise monitoring, aerodrome environmental programmes and environmental management programmes under Part 139, which states:

Establishment of aerodrome environment management programme

139.02.11 (1) The applicant shall, in the area within its authority and where any foreign object debris (FOD), oil and fuel spillages, bird and wildlife presents or are likely to present a hazard to aircraft

operating to or from the aerodrome, establish an aerodrome environment management programme to minimise the effects of such hazard or potential hazard, taking due cognisance of the provisions of the Environmental Conservation Act, 1989 (Act No. 73 of 1989), and the regulations made thereunder.

(2) The aerodrome operator shall ensure that environmental management meeting is conducted with interval not exceeding three months and that

- (a) the minutes of the meetings must be kept and must clearly indicate all identified environmental issues that may affect the operations;
- (b) the meetings must address all environmental issues within the boundaries of the aerodrome and in the immediate vicinity up to a radius of 10 kilometre that might affect the aerodrome operations negatively.
- (c) mitigating measures to rectify all identified environmental issues must be recorded for audit purposes. This includes communication with external parties.

In terms of Part 139.02.13, an application for an aerodrome license, or an amendment thereof, shall be accompanied by (iv) an Environmental Impact Report, if required in terms of the Environmental Conservation Act, 1989 (as replaced by the NEMA, 1998).

Part 139.02.25 requires that the Holder of an aerodrome license shall (a) maintain and comply with the aerodrome environment management programme referred to in 139.02.08; and (b) operate the aerodrome in accordance with the provisions of the Environmental Conservation Act, 1989 (as replaced by the NEMA, 1998), and the regulations made thereunder, together with the recommendations and requirements prescribed in any relevant Specifications or Codes of Practice published under the Standards Act, 1993 (Act 29 of 1993).

The required aviation approvals and licenses will be pursued separately from, and in conjunction with, the environmental authorisation process. The applicable aviation approvals, together with their respective competent authorities and timing requirements, will be identified in the Environmental Management Programme and/or subsequent environmental assessment documentation. Requirements contained in the CAA, 2009 and CAR, 2011 will be incorporated into the Environmental Management Plan, related to the proposed aerotropolis development.

2.10.2.3 WHITE PAPER ON NATIONAL CIVIL AVIATION POLICY, 2017

The White Paper on National Civil Aviation Policy (NCAP) was developed by the Department of Transport in order to provide a primary framework which will guide all present and future civil aviation developments. The White Paper acknowledges that the present airport infrastructure, with ownership vested in all spheres of government as well as the private and non-profit sector, is an integral part of the South African transport system. This infrastructure contributes to the socio-economic development of the country in terms of direct job creation and economic activity, stimulating economic activity in the wider airport precinct (including

through “airport cities” and “aerotropolises”) as well as by facilitating domestic and international tourism and trade.

“In addition to consideration of environmental impact management and disaster risk reduction, the White Paper specifically addresses environmental matters at source, relating to aircraft noise and engine emissions in accordance with ICAO environmental protection goals. The White Paper calls for the establishment of Airport Environmental Committees at those airports that are required to calculate aircraft noise contours and conduct monitoring of aircraft noise; and/or air quality monitoring.”

Strategic objectives of the White Paper, include, *inter alia*:

- To promote and enhance civil aviation safety, security and environmental compliance in all spheres of the civil aviation industry
- To maintain an appropriate and cost-effective regulatory framework, ensuring safe, secure, environmentally friendly and reliable air services, capable of responding to changing circumstances; and
- To be environmentally and economically sustainable

The planning related to the proposed Vaal Aerotropolis development has been done in consideration of the context of the objectives and policy principles contained in the White Paper on National Civil Aviation Policy, 2017. Particular consideration has been given to the policy objective of promoting environmentally sustainable aviation development and ensuring that environmental considerations are incorporated into the planning, development, expansion and operation of aviation infrastructure.

The Scoping Report identifies the key environmental issues and potential impacts requiring further investigation during the EIA phase. These include, in this application, aircraft and construction-related noise (Noise Assessment), air quality and emissions (Air Quality Impact Assessment and Climate Change Impact Assessment), land-use compatibility (Agricultural Impact Assessment), biodiversity (Plant-, Animal-, Avifaunal- and Terrestrial Impact Assessments), water resources (Aquatic and Wetland Impact Assessments), community impacts (Visual Impact Assessment) and cumulative impacts (EIA). The findings of the specialist assessments and stakeholder engagement process will inform the assessment of alternatives, impact significance and mitigation measures. Appropriate mitigation, monitoring and management requirements will subsequently be incorporated into the EMP and conditions of the Environmental Authorisation, where applicable.

2.10.2.4 THE INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA) - ENVIRONMENTAL POLICY

The International Air Transport Association (IATA) is the international trade association representing the global airline industry, established in 1945. IATA develops industry standards, policies and guidance aimed at promoting safe, efficient, secure and sustainable air transport.

Its environmental policy framework addresses key issues including greenhouse-gas emissions and climate change, sustainable aviation fuels, aircraft noise, local air quality, energy efficiency, waste management and biodiversity. While IATA policies are not generally legally binding, they provide relevant international industry guidance and good practice for assessing and managing the environmental impacts of aviation and airport developments.

The applicable guidelines, standards and recommended industry practices developed by the International Air Transport Association (IATA) will be taken into consideration during the planning and detailed design of the proposed airport development. Where relevant and practicable, the design will incorporate applicable IATA principles relating to environmental sustainability, energy and resource efficiency, greenhouse-gas emissions reduction, sustainable aviation fuels, aircraft and ground-operation efficiency, aircraft noise, air quality, waste management, water use and biodiversity conservation.

The consideration of IATA guidance will support the identification and integration of appropriate environmental mitigation and management measures at the design stage, with the objective of minimising potential environmental impacts and promoting sustainable airport development. IATA guidance will be considered in conjunction with applicable national and local environmental legislation, regulatory requirements, airport design standards and relevant Civil Aviation Act, 2009 and CAR, 2011 regulations.

2.10.2.5 NATIONAL AIRPORTS DEVELOPMENT PLAN, 2015

The National Airports Development Plan (NADP, v25 Final) was initiated by the NCAP as the plan to address the gaps between the airport network and the anticipated future travel and economic needs, by providing a strategic, system-wide approach to guide the coordinated development, expansion, and long-term sustainability of the country's airport network. It guides and supports both overall network planning and the development of individual airports integrated within their broader spatial and transport contexts, in consultation with key airport stakeholders. The Plan is relevant to the project as the infrastructure being developed forms part of the overall airport infrastructure of South Africa.

2.10.2.6 WHITE PAPER ON NATIONAL TRANSPORT POLICY, 2021

The objective of the National Transport Policy (NTP) is to create an environment that supports the development of a transport system that encourages economic and environmentally sustainable inclusive growth, and national and regional competitiveness. Key pillars to achieve this are to ensure transport is accessible, cost effective, time efficient and reliable, safe and secure.

In terms of civil aviation, the NTP recognised the need to accommodate the changing needs and circumstances that may be the result of globalisation, which includes important matters such as liberalisation of air transport, introduction of new technology, greater emphasis on environmental factors and the increased need to regulate Remotely Piloted Aircraft Systems (RPAS).

2.10.2.7 NATIONAL TRANSPORT MASTER PLAN 2050, 2011

The National Transport Master Plan (NATMAP) 2050 is the masterplan for transport infrastructure that was created to ensure a sustainable and dynamic system that is well managed and coordinated. The NATMAP 2050, therefore, aims to achieve an integrated, smart and efficient transport system supporting a thriving economy that promotes sustainable economic growth, support a healthier lifestyle, provides safe and accessible mobility options, socially includes all communities and preserves the environment. The NATMAP makes recommendations that are relevant to the development of airports as part of the national transport infrastructure network.

2.10.2.8 CHICAGO CONVENTION, 1944

The Chicago Convention, also known as the Convention on International Civil Aviation, is published in Schedule 3 of the South African Civil Aviation Act No. 13 of 2009. The Chicago Convention established the core principles permitting international transport by air and led to the creation of the ICAO, a specialised agency of the United Nations charged with coordinating and regulating international air travel. The Convention establishes rules of airspace, aircraft registration and safety, and details the rights of the signatories in relation to air travel.

2.10.2.9 INTERNATIONAL CIVIL AVIATION ORGANIZATION

The International Civil Aviation Organization (ICAO) is a specialised agency initiated at the Chicago Convention (1944) with the core function to maintain an expert bureaucracy between the nations interacting through the aviation industry, and to research new standards and innovations in the industry. The proposed development will be planned and designed to comply with the standards and recommended practices set out by ICAO. Of particular importance in the planning and design of airports are the ICAO Annex 14, DOC 9184 - Airport Planning Manual and DOC 9157 - Aerodrome Design Manual.

2.10.3 PROVINCIAL GUIDELINES AND PLANS

In addition to the above, the following provincial guidelines and plans have been taken into account:

2.10.3.1 THE GAUTENG SPATIAL DEVELOPMENT FRAMEWORK, 2030

The Gauteng Spatial Development Framework (GSDF) 2011 was, amongst others, compiled to specify a clear set of spatial objectives for municipalities to achieve, to ensure realisation of the future provincial spatial infrastructure and to enable and direct growth.

The SDF aims to articulate the spatial objectives within Gauteng. The Gauteng SDF, 2011 was later succeeded by the Gauteng SDF, 2030, and was compiled to specify a clear set of spatial objectives for municipalities to achieve, to ensure realisation of the future provincial spatial infrastructure, and to enable and direct growth. The Gauteng SDF aims to articulate the spatial objectives of the Gauteng region to assist the alignment of neighbouring municipalities' spatial plans.

The Gauteng Spatial Development Framework (GSDF) 2030 plays a direct structural role in guiding the development of the newly designated Vaal Special Economic Zone (SEZ) and its anchor urban nodes, notably Vanderbijlpark (Emfuleni SDF, 2023-2024, discussed under 2.10.4.4 below).

2.10.3.2 GAUTENG CONSERVATION PLAN VERSION 4

The Gauteng Conservation Plan Version 4 (2024) is a strategic, science-based spatial planning tool developed by the Gauteng Department of Agriculture, Rural Development and Environment. It aims to identify and prioritise areas critical for biodiversity conservation and ecological sustainability across the province. The plan supports informed decision-making in land use, environmental assessments, and development planning.

C-Plan v4 uses systematic conservation planning and GIS analysis to map and classify land into categories based on biodiversity value and ecological function. These include Protected Areas (PA), Critical Biodiversity Areas (CBA1 and CBA2), Ecological Support Areas (ESA1 and ESA2), and Other Natural Areas (ONA). Each category is accompanied by specific land use and management guidelines to ensure the protection of ecological infrastructure and ecosystem services.

The plan is widely used by government departments, municipalities, developers, consultants, and conservation organisations. It plays a key role in guiding protected area expansion, supporting biodiversity stewardship, and informing EIAs. Ultimately, C-Plan v4 helps balance development needs with the requirement to conserve Gauteng's natural heritage and meet national and international biodiversity commitments.

2.10.3.3 THE GAUTENG PROVINCIAL ENVIRONMENTAL MANAGEMENT FRAMEWORK (GPEMF) AND ADOPTION OF THE GAUTENG PROVINCIAL ENVIRONMENTAL FRAMEWORK STANDARD AND EXCLUSION OF ASSOCIATED ACTIVITIES FROM THE REQUIREMENT TO OBTAIN ENVIRONMENTAL AUTHORISATION IN TERMS OF SECTION 24(2)(D) AND 24(10)(A) READ IN CONJUNCTION WITH SECTION 24(1)(D) OF NEMA, 1998 FOR THE IMPLEMENTATION OF THE GAUTENG PROVINCIAL ENVIRONMENTAL MANAGEMENT FRAMEWORK (GN 164 OF 2 MARCH 2018)

The GPEMF is a legal instrument in terms of the Environmental Management Framework Regulations, 2010. The purpose of the regulations is to assist environmental impact management including EIA processes, spatial planning and sustainable development.

The objective of the GPEMF is to guide sustainable land use management within the Gauteng Province. The GPEMF, *inter alia*, serves the following purposes:

- To provide a strategic and overall framework for environmental management in Gauteng
- Align sustainable development initiatives with the environmental resources, developmental pressures, as well as the growth imperatives of Gauteng
- Determine geographical areas where certain activities can be excluded from an EIA process; and
- Identify appropriate, inappropriate and conditionally compatible activities in various Environmental Management Zones in a manner that promotes proactive decision-making.

The GPEMF Standard, 2018 provides for a number of activity exclusions in certain zones (for example, Zone 1 and Zone 5). The aim of this is to streamline development in areas that are earmarked for development. In this way, the Standard promotes densification and infill.

Most of the proposed development site occurs in Zone 4: Normal control zone whilst part of the site around the watercourse does fall within Zone 3 (High control zone outside the urban development zone). The GPEMF Standard, 2018 therefore does not apply. No activities are therefore excluded (presently).

2.10.4 MUNICIPAL BY-LAWS AND PLANS

Several by-laws have been published by the Emfuleni Local Municipality to provide a framework for its operation and management. The proposed development must comply with applicable Emfuleni Local Municipality by-laws which may include, but not be limited to:

2.10.4.1 EMFULENI LOCAL MUNICIPALITY SPATIAL PLANNING AND LAND USE MANAGEMENT BY-LAW, 2018

The Emfuleni Local Municipality Spatial Planning and Land Use Management By-Law, 2018 is aimed at providing for the effective administration of “municipal planning” in the area of Emfuleni Local Municipality. No person may use or develop land unless the use or land development is permitted in terms of the

Municipality's land use scheme or an approval in terms of the by-laws. Thereby, in line with Section 44 of this by-law, a township establishment application is being prepared and will be submitted for the establishment of the proposed Vaal Aerotropolis on various Portions of Klipkop 530 IQ, various Portions of Rietkuil 554 IQ, various Portions of Vlakplaats 555 IQ, within Emfuleni Local Municipality, Gauteng.

2.10.4.2 EMFULENI LOCAL MUNICIPALITY SOLID WASTE MANAGEMENT BY-LAW, 2017

The objectives of the solid waste management by-laws are to:

- Give effect to the right contained in the Constitution by regulating waste management within the area of the municipality's jurisdiction
- Provide an effective legal and administrative framework, within which the municipality can manage and regulate waste management activities
- Ensure that waste is avoided, minimised, reused, recycled, recovered, and disposed of in an environmentally sound manner; and
- Promote and ensure an effective delivery of waste services.

2.10.4.3 EMFULENI LOCAL MUNICIPALITY: WATER AND SANITATION BY-LAW, 2004

This by-law prescribes and elaborates on the use and related activities of water and sewer in the Emfuleni Local Municipality and must therefore be considered during any EIA process in the area.

The by-laws note that should an EIA be required before the provision of services can be approved, the applicant will be responsible for carrying out such EIA. It also notes that once environmental approval has been granted and the provision of water services has been approved by the Municipality, it is the responsibility of the applicant to ensure that all laws and conditions affected by the provisions of water services and relating to environmental management and control are complied with.

The by-law also provides requirements for the use of boreholes, storage tanks, discharge into wastewater, treatment of sewage, and stormwater. The applicable services for the proposed development will be put in place.

2.10.4.4 EMFULENI SPATIAL DEVELOPMENT FRAMEWORK, 2023 - 2024

The Emfuleni Spatial Development Framework (ESDF) has been developed with the following objectives:

- To provide a strategic development vision for Emfuleni in line with the Emfuleni Growth and Development Strategy (EGDS) and the Integrated Development Plan (IDP)
- To draft a comprehensive SDF for Emfuleni
- To address specific development issues and challenges in Emfuleni
- To provide a strategic context for the integration and implementation of existing studies applicable to Emfuleni
- To identify specific interventions to realise the vision; and
- To ensure sustainable integrated development

The proposed development is in line with the Emfuleni SDF, 2023-2024, as it is located within the area designated for the development of an Aero City (**Figure 2-2**). The study area is located west of the N1, with the Industrial area of Vanderbijlpark to the east. The P24 (R54) forms the southern boundary of the proposed study area.

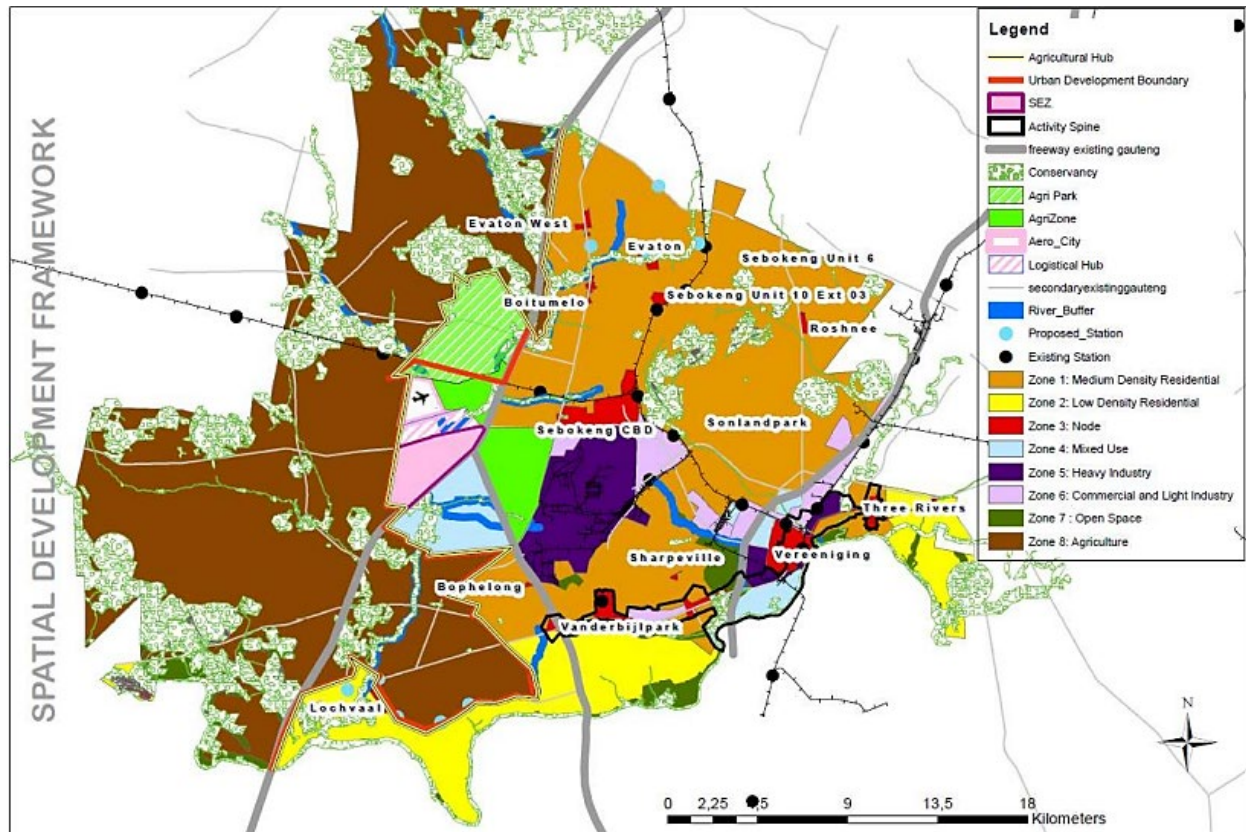


FIGURE 2-2: EMFULENI SDF (PROPOSED AEROTROPOLIS INDICATED ON MAP), 2023-2024

The aim of the proposed international airport as part of the Aerotropolis is to supplement the Logistics Hub proposed as part of the regeneration of the Emfuleni area, and to relieve the OR Tambo International Airport and Rand Airport from the growth constraints they are currently experiencing. Estimates show that the OR Tambo International Airport and Rand Airport are experiencing cargo and passenger growth rates that are unlikely to be satisfied by the future expansion plans of these airports. These expansion plans cannot be amended due to land and infrastructural constraints surrounding these airports. These constraints present an opportunity for the development of a regional airport in Emfuleni, to capture some of the growth potential experienced by the mentioned airports.

Emfuleni Local Municipality has reached an agreement with a few other role players, such as Transnet, ArcelorMittal and the Gauteng Department of Economic Development, that a logistical hub in Emfuleni be considered as an important flagship project within the Vaal region. The Gauteng Provincial Government will need to designate the proposed Logistical Hub a Special Economic Zones (SEZ) to increase the potential of this Hub being realised. The potential components of the Logistics Hub include a Transnet container

depot, an Industrial Development Zone, an airport, warehouses and storage facilities, and Intelligence Information Infrastructure.

The proposed Vaal Logistical Hub is expected to provide O.R. Tambo International Airport with a suitable regional logistic facility to the mutual benefit of both Emfuleni- and Ekurhuleni Municipalities. In addition, the logistical hub will contribute to reducing burdensome transport costs and traffic congestions, make Emfuleni more attractive to local and foreign investments, and create employment opportunities which may have otherwise not been realised.

Potential benefits of the Aerotropolis:

- It will attract new investment and have a positive impact on the socio-economic development of the Vaal region.
- It will diversify and grow the Vaal economy.
- It will create job opportunities that will address unemployment in the Vaal region.
- It will afford local people the opportunity to participate in the economy through business partnering, business establishment, training, and skills development.
- It will create a greater demand for ArcelorMittal's manufacturing output.
- The location of the Logistics Hub at ArcelorMittal will help minimise transport cost of materials.
- It will create various opportunities for BBBEE and SMME's within the Vaal region; and
- Kick-start downstream manufacturing in Emfuleni; and
- Reduce transport costs of goods from areas surrounding the airport and enhance tourism opportunities within the Vaal region. (Emfuleni SDF, 2023-2024).

3. DESCRIPTION OF THE RECEIVING ENVIRONMENT

3.1 LOCAL CLIMATE

3.1.1 OVERVIEW

A review of the local climate is undertaken to establish the prevailing climatic conditions within the study area and to identify climatic factors that may influence the proposed airport development.

The review will also provide a basis for considering climate-change risks and the resilience of the proposed airport infrastructure to projected changes in climatic conditions. The findings will therefore be used to inform the design, impact assessment and development of appropriate mitigation and management measures specifically related to the proposed aerotropolis development.

The climatological data for the Vanderbijlpark area is discussed below.

3.1.1.1 TEMPERATURE

Between the period of 2009 and 2023, the average recorded temperatures ranged from 16°C (average minimum) to 28°C (average maximum) (**Figure 3-1**).

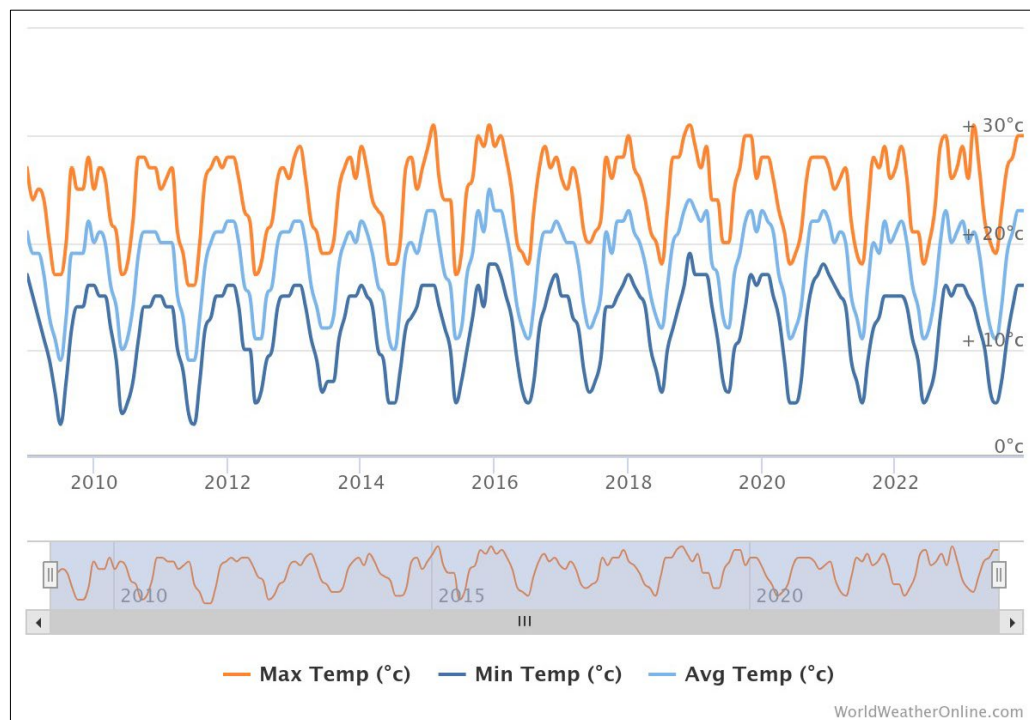


FIGURE 3-1: AVERAGE TEMPERATURE DATA FOR VANDERBIJLPARK (WORLD WEATHER ONLINE)

3.1.1.2 RAINFALL

Between the period of 2009 and 2022, the average annual rainfall in the area ranged from 0mm (usually July and August) to 143mm (usually December and January) (**Figure 3-2**).

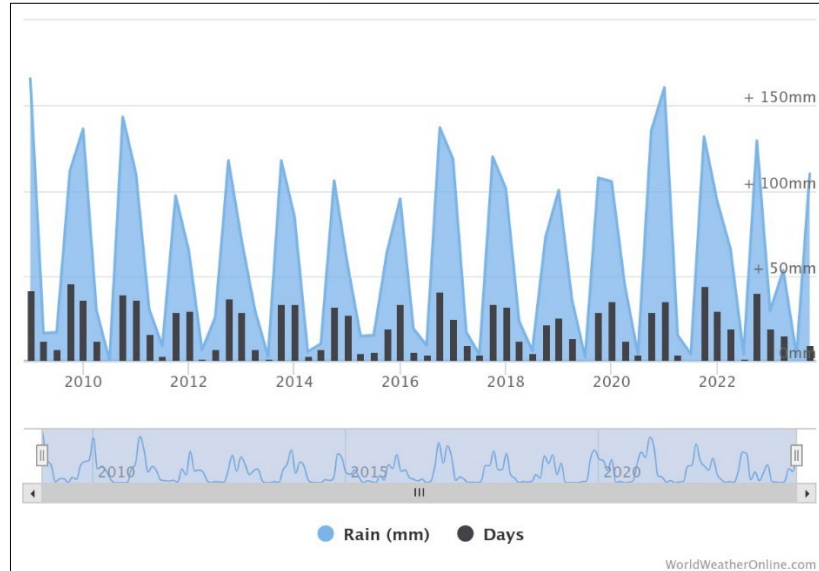


FIGURE 3-2: AVERAGE RAINFALL DATA FOR VANDERBIJLPARK (WORLD WEATHER ONLINE)

3.1.1.3 WIND

The Wind Rose below shows the predominant wind direction as received from the South African Weather Service as measured at the weather station in Vereeniging, approximately 23km from the study area. Wind in the area blows predominately from the north-west direction with windspeeds ranging from 0.1m/s to 11m/s (**Figure 3-3**).

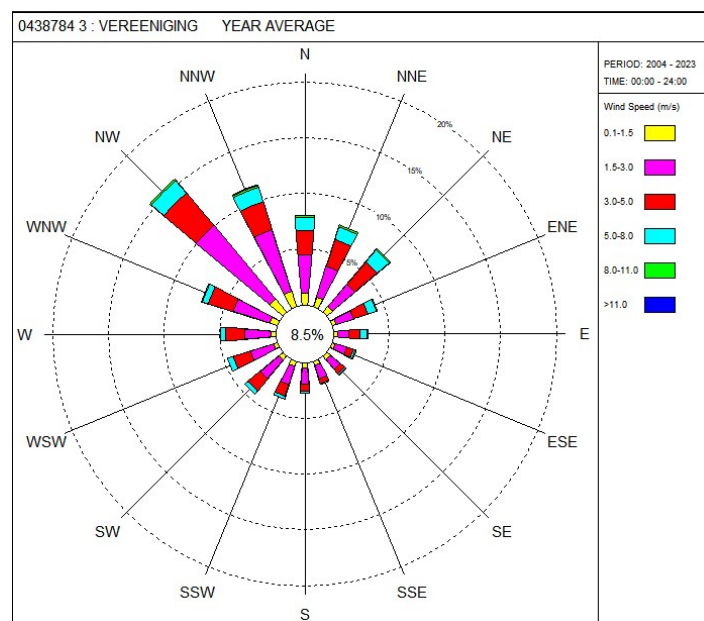


FIGURE 3-3: WIND ROSE FOR THE VEREENIGING AREA (SOUTH AFRICAN WEATHER SERVICE, 2024)

3.1.2 IMPLICATIONS

The proposed airport development has the potential to result in localised changes to microclimatic conditions through changes in land cover, vegetation clearance and the introduction of extensive impervious surfaces and built infrastructure. In particular, increased areas of paved surfaces may contribute to localised increases in surface temperatures, while buildings and other airport infrastructure may modify near-surface airflow and wind conditions.

The development is not anticipated to materially influence regional climatic conditions or prevailing rainfall and wind patterns. However, localised changes in surface characteristics may influence stormwater runoff, heat retention and micro-scale airflow. These potential effects will be considered during the assessment, particularly in relation to climate resilience, stormwater management, air quality and the design of airport infrastructure.

Similarly, the local and regional climate is an important consideration in the planning and design of the proposed airport, as climatic conditions may influence the safety, functionality, durability and long-term resilience of the airport. Wind direction, rainfall and temperature data will inform the design of appropriate stormwater management systems and infrastructure to ensure that the proposed airport is appropriately adapted to anticipated climatic conditions.

A Climate Change Impact Assessment will be completed as part of the EIA, to assess the anticipated impact of the proposed airport on the local climate.

3.2 TOPOGRAPHY

3.2.1 OVERVIEW

The site is located within the Vaal-Orange Catchment (Quaternary Catchment C22J) between two perennial watercourses namely the Leeuspruit, located along the northeastern portion, and the Klein Rietspruit, a tributary to the Rietspruit river, along the southwestern portion of the study area. The confluence of the Leeuspruit and the Rietspruit is located southeast of the study area.

The topography of the study area is undulating with the altitude ranging from 1500 meters above sea level (masl) in the northwest to 1450 masl in the southeast. The predominant slope of the study area ranges from 0.83% in the valley to 35.23% for some structures along the railway; with the average slope being 1.01% (**Figure 3-4**). The undulating terrain of the study area provides for the development of an interconnected airport platform which easily connects to the Aero City and Agri Zones.

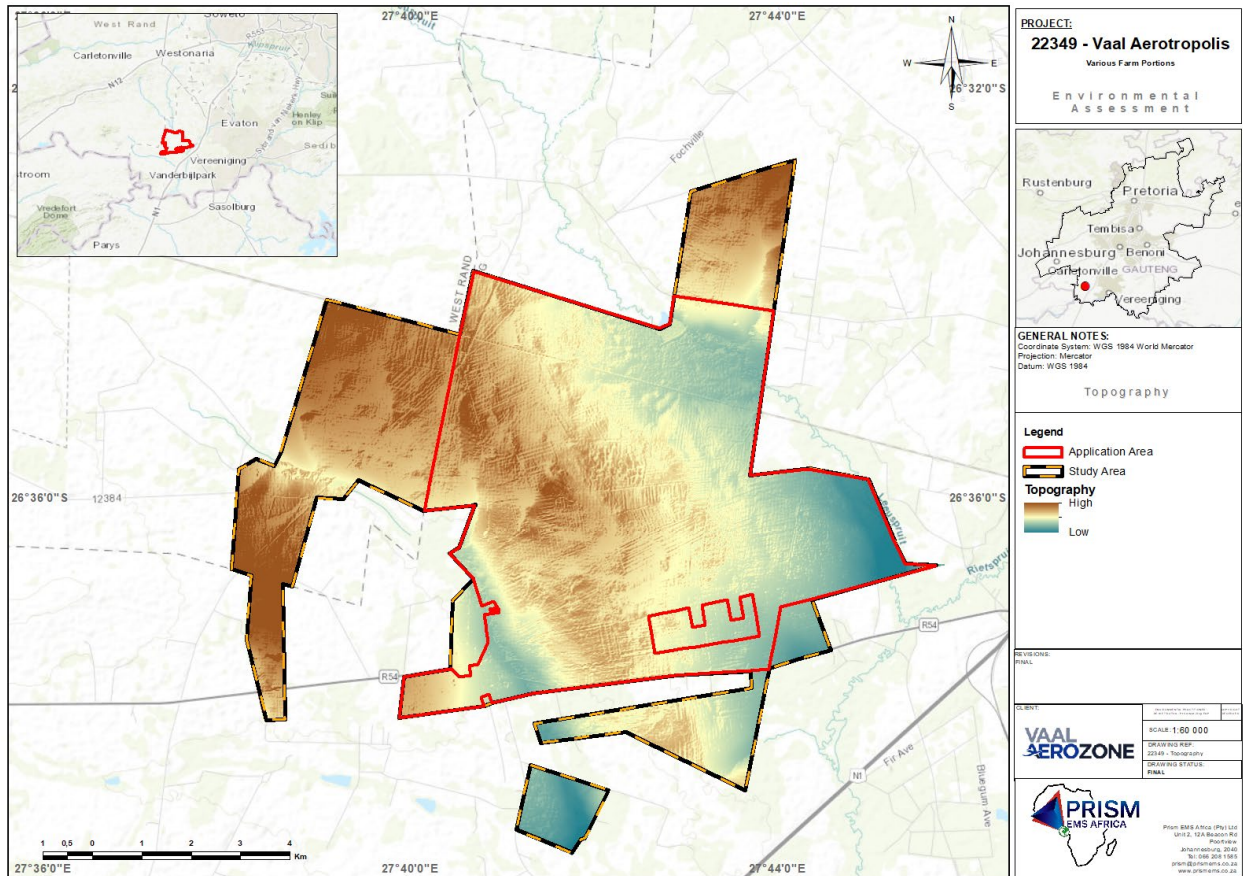


FIGURE 3-4: TOPOGRAPHY OF STUDY AREA

3.2.2 IMPLICATIONS

The development of the proposed airport has the potential to result in permanent localised changes to the existing topography, primarily as a result of site preparation, earthworks, excavation, filling and grading required to accommodate the runways, taxiways, aprons, terminal facilities and associated infrastructure.

Mitigation measures to ensure management of erosion and preservation of topsoil will be included in the Environmental Management Programme (EMPr). In addition, a Stormwater Management Plan is being developed which will take into account the topography of the area. Stormwater attenuation as well as the implementation of the necessary aquatic resource's rehabilitation will form an integral part of this project.

3.3 GEOLOGY AND SOILS

3.3.1 OVERVIEW

The study area is underlain by quaternary sedimentary deposits overlying the older Transvaal Supergroup. These quaternary sedimentary deposits predominantly consist of alluvial and colluvial deposits.

The Transvaal Supergroup rocks were intruded by the Bushveld Igneous Complex with the Magaliesberg formation from the Pretoria Group forming the floor. The regional area is characterised by the Magaliesberg

formation. The Magaliesberg formation formed from shallow marine and sandy coastline regressive system and formed sandstone. The post-Magaliesberg formation consists of quarzitic sandstone and shale. The Transvaal Supergroup overlies the older Witwatersrand and Ventersdorp Supergroups. Various geological formations and groups make up the Transvaal Supergroup. The formations and groups include the Black Reef, Chunniespoort and Pretoria groups. Associated with these groups are the Silverton, Magaliesberg and Daspoort formations. The Magaliesberg formation consists of sandstone with mudrock lenses, the Silverton formation consisting of carbonate rocks and shale and the Daspoort consists of sandstone and mudrocks. These formations characterise the study area.

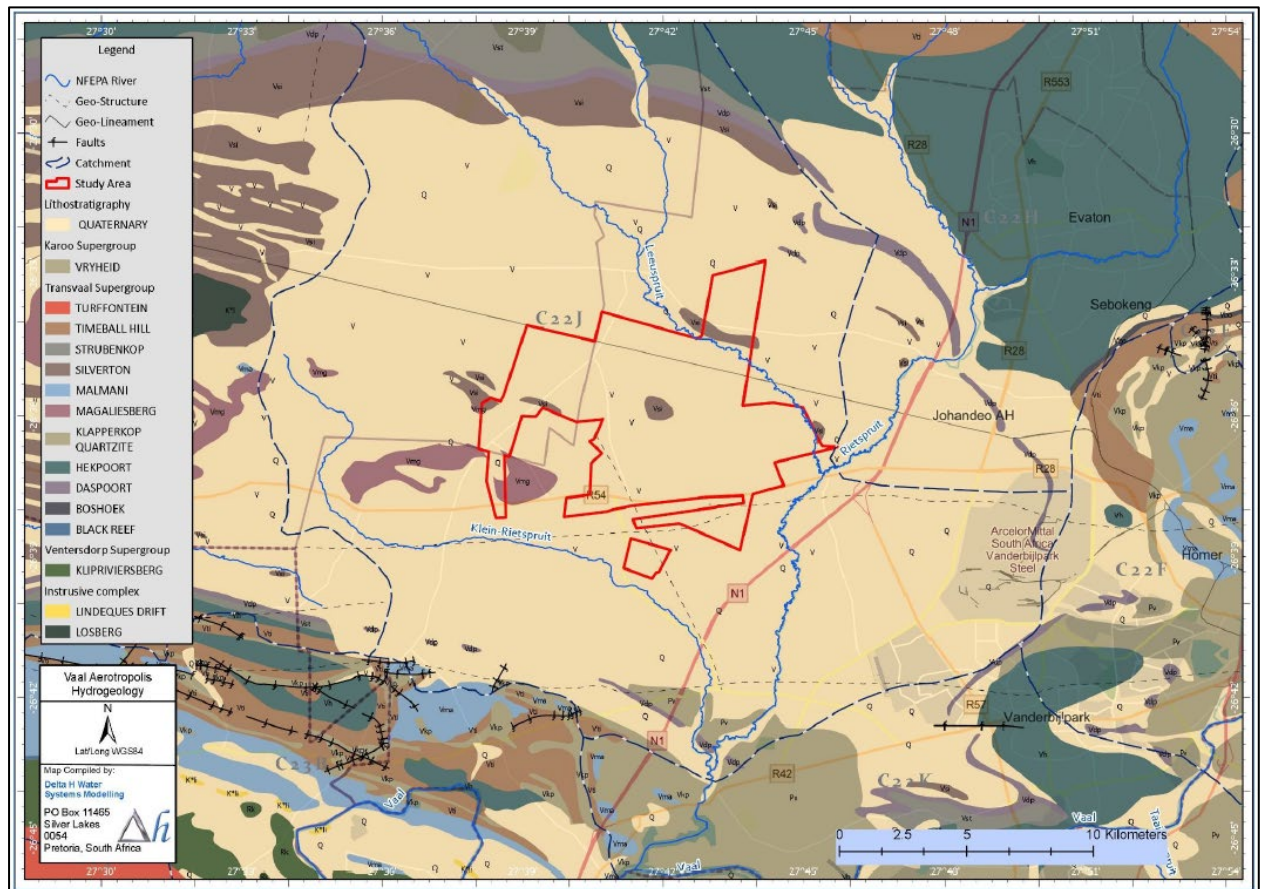


FIGURE 3-5: REGIONAL GEOLOGY (DELTA H WATER SYSTEMS MODELLING, 2024)

According to **Figure 3-6** the soils found in the study area are predominantly red, yellow and/or greyish with low to medium base status. These soils are also associated with plinthic horizons. The soils have a high agricultural potential, especially for annual dry-land or rainfed crops.

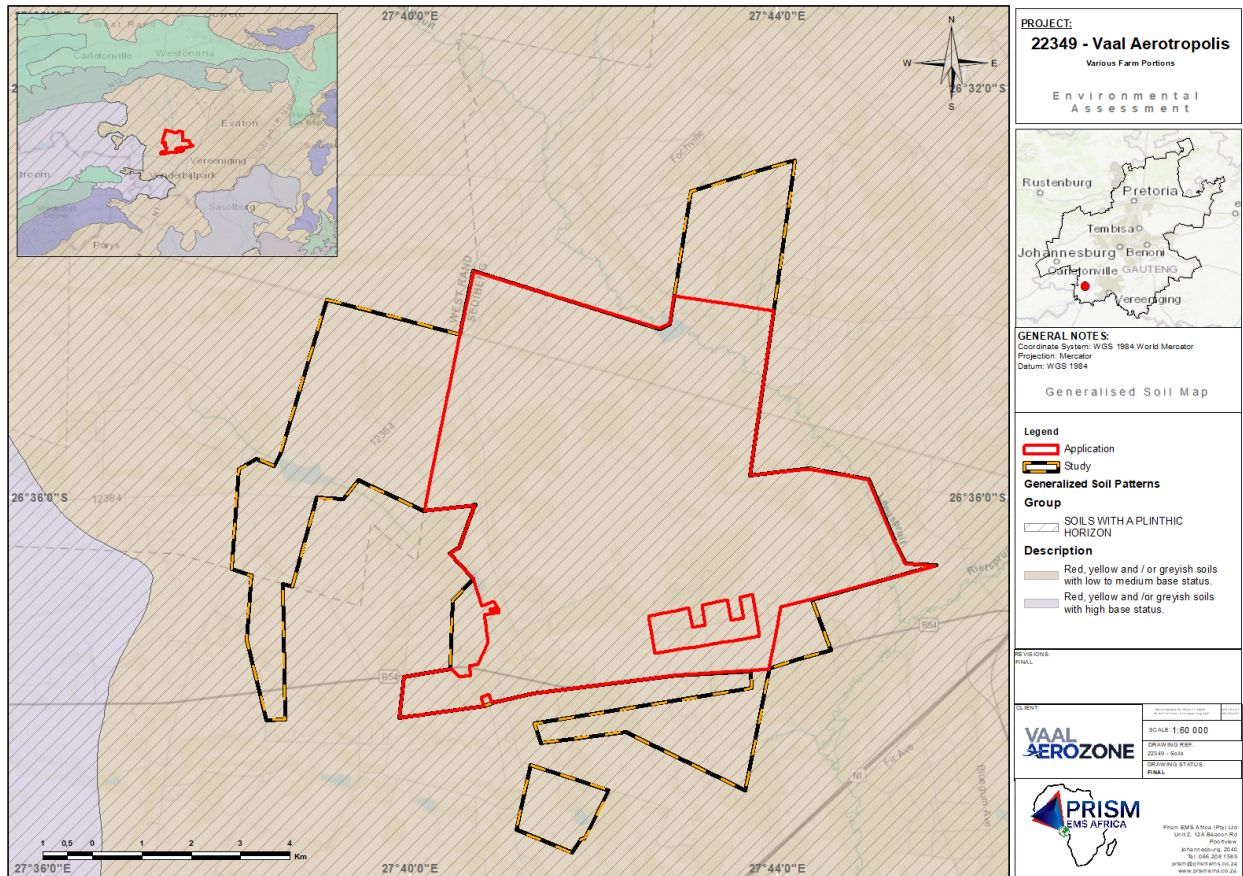


FIGURE 3-6: GENERALISED SOIL MAP (SCHULZE, 2006)

3.3.2 IMPLICATIONS

Several specialist studies, including a Geohydrological Assessment and a Hydropedological Assessment will be undertaken and included in the EIA Report. These assessments will include in-depth desktop assessment as well as site visits to allow for better understanding of the site and its associated geology / soils. Data collected will be mapped, modelled and reported to determine vulnerabilities and sensitivities which will be used to advise stormwater designs, foundations and services. The EMPr will also include measures to mitigate impacts identified during the assessments.

3.4 LAND USE

3.4.1 OVERVIEW

Land use in the study area, presently, is predominantly agricultural and consists of cultivated land, pastures for livestock and some farmhouses with outbuildings for residents.

Various streams and wetlands were also observed on site. The Rietspruit river flows between the study area and the N1 east of the subject study area. Furthermore, the Leeuspruit stream flows through the study area north of the Transnet rail line (northern portion of the development site), and the Klein Rietspruit stream

flows from the west to the east just north of the P24(R54) on the subject site. Site photographs are provided in **Figure 3-7** below, displaying current land-uses on the site.



A) AGRICULTURAL USES



B) WETLANDS AND STREAMS ON SITE



C) DRONE IMAGERY OF STUDY AREA



D) SOME BUILDINGS AND HOUSES LOCATED ON SITE

FIGURE 3-7: SITE PHOTOGRAPHS

3.4.2 IMPLICATIONS

The proposed airport will result in a change in land use from predominantly agricultural activities to aviation-related, commercial, transport and associated infrastructure uses. This represents a permanent transformation of the existing agricultural land within the development footprint, with potential implications for agricultural production, surrounding land-use patterns and existing land-based livelihoods. However, the proposed development is aligned with the Emfuleni Spatial Development Framework (SDF), which has earmarked the area for airport development.

In addition, and in an effort by the applicant to mitigate the loss of agricultural land; as is evident from the Development Plans illustrated in **Figure 1-1** to **Figure 1-4** above, the proposed Vaal Aerotropolis development incorporates an **extensive Agri-Zone**, as an integral component of the Aerotropolis development – from the first phase of development. The Agri-Zone will be focused on production of high-

value agricultural products amenable for transport by air, and planning is for export of these products to the rest of the world, via the cargo terminal.

The proposed Agri-Zone is envisaged as a high-technology agricultural cluster, incorporating climate-controlled growing facilities, including greenhouses and hydroponic production systems, and is anticipated to become one of the largest climate-controlled agricultural production areas in Africa. An integrated perishable supply chain is proposed, incorporating associated logistics and storage infrastructure. The development proposal further provides for a state-of-the-art tissue culture facility and a dedicated live-animal holding facility, intended to facilitate the transportation of live animals by air.

The existing land use and status of the environment will be taken into account and explored in more detail during the EIA Phase through the inclusion of the various specialist studies that aim to take into account the conditions of the site. A Site Verification Assessment in unison with the National Web based Environmental Screening Tool is also appended in **Appendix E** and specifically assesses the current site conditions.



3.5 EXISTING ACCESS ROADS

3.5.1 OVERVIEW

The proposed Vaal Aerotropolis will be located approximately 9 km west of the N1 highway, and the site is bordered by the P24/1 (R54) which runs along the boundary of the study site on the south. To gain access to the current study site, various unpaved roads which can be seen in **Figure 3-8**, can be used from the P24/1 (R54). Furthermore, the K170 (D1017) road is located north of the site and can provide access from the north through a series of unpaved roads. To accommodate the proposed Aerotropolis, various road upgrades and re-alignments are planned for the area. For more information in this regard, refer to Section 4.1.6.2.

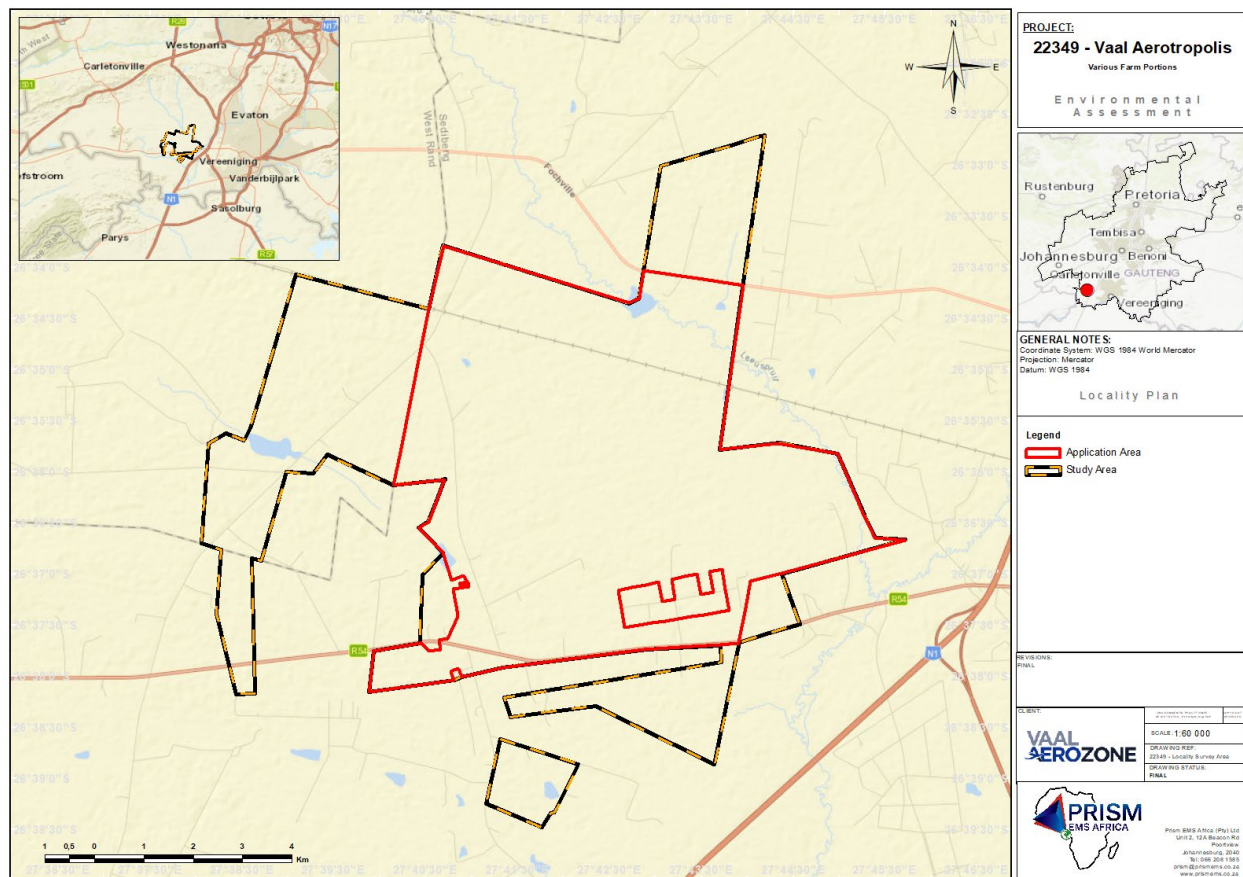


FIGURE 3-8: LOCALITY MAP OF SURVEY AREA

3.5.2 IMPLICATIONS

A detailed Transportation Impact Assessment (TIA) has been undertaken and will be included in the EIA Report. This will ensure that suitable access and roads exist to cater for the proposed development. All planned future routes will be considered and implemented within the development layout plan.

3.6 EXISTING SERVICES

3.6.1 OVERVIEW

Due to the rural nature of the site, there is currently no bulk sewer, water, stormwater or roads infrastructure in the area. The Emfuleni municipal supplies (water, sewer, and electricity) are currently restricted to the municipality's operational, more urban zones, east of the N1 highway. Boreholes are presently utilised by residents as a source of water for domestic and agricultural purposes. Sewer services in the area are, mostly, in the form of septic tanks and French drains, while electricity is available via direct ESKOM connections. Access roads are mainly in the form of provincial roads and/or secondary (i.e., gravel) roads.

3.6.2 IMPLICATIONS

All the above-mentioned services will need to be expanded, upgraded and/or constructed in order to meet the needs of the project. Various alternatives are also being considered; refer to Sections 4.1.6 and 6.2 for more information in this regard.

3.7 AGRICULTURAL POTENTIAL

3.7.1 OVERVIEW

Agricultural potential can be defined as *“Land that has the soil and terrain quality, growing season, and available moisture supply needed to produce sustained high yield of crops economically when treated and managed according to best possible farming practices”*.

For purposes of the Gauteng Agricultural Potential Atlas V (GAPA), land capability was used to identify and map high potential agricultural land. Agricultural land capability is the total suitability of land for use, in an ecologically sustainable way, for crops, grazing, woodland or for wildlife.

According to the Gauteng Agricultural Potential Atlas IV and the National Screening Tool, the site has **moderate to high** agricultural potential and sensitivity (**Figure 3-9**). However, in terms of the updated Gauteng Agriculture Potential Atlas V, significantly smaller areas of the subject site are indicated as High Potential Agricultural Land (**Figure 3-10**).

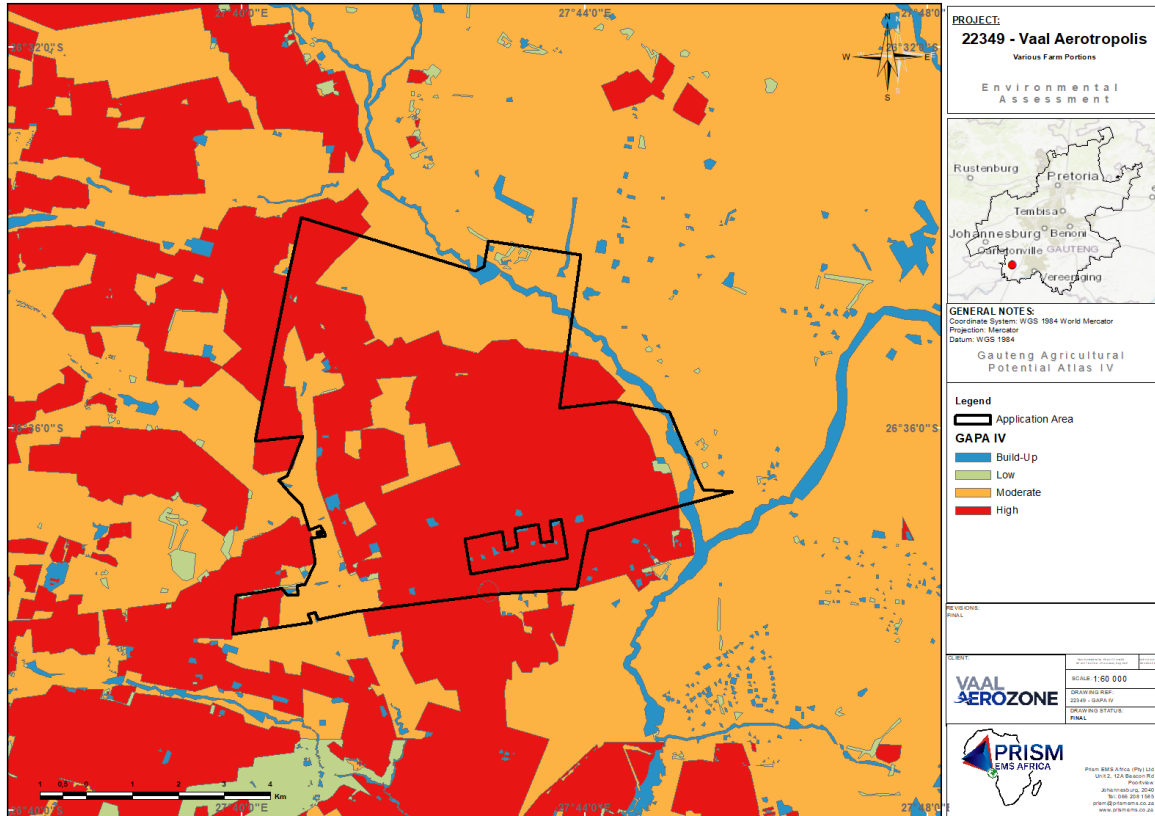


FIGURE 3-9: GAUTENG AGRICULTURAL POTENTIAL ATLAS-IV

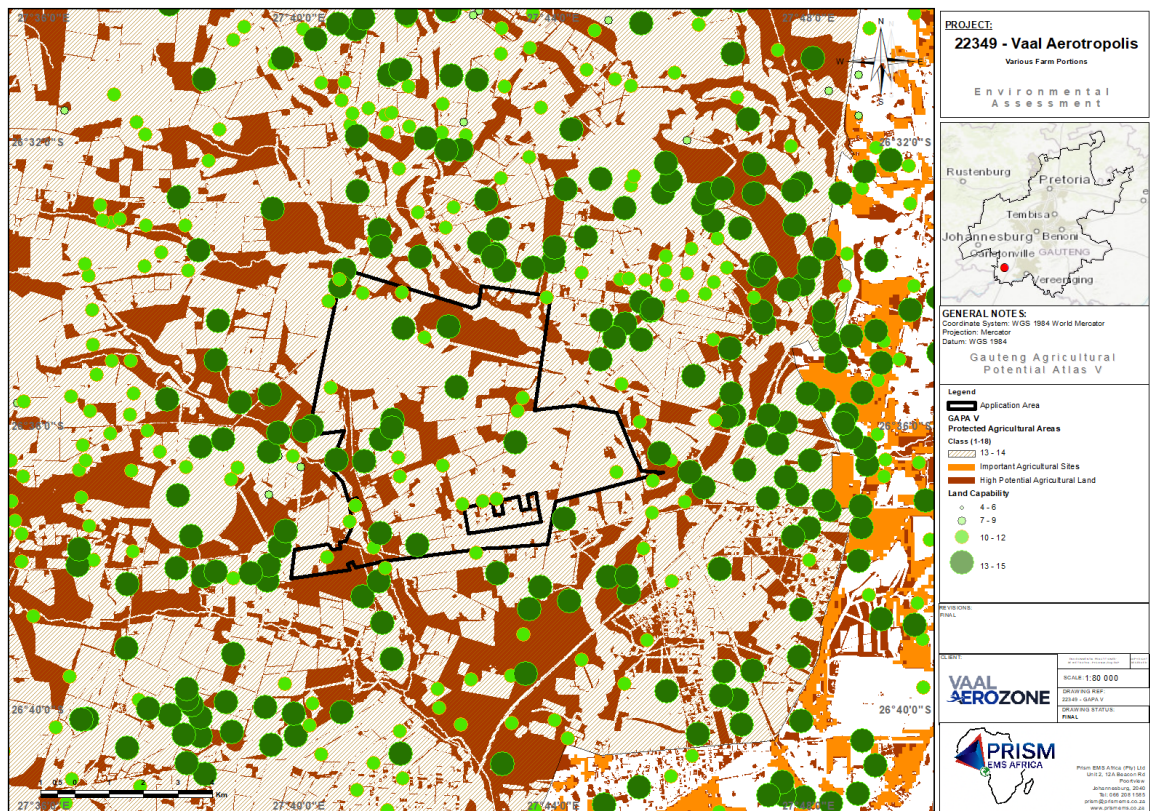


FIGURE 3-10: GAUTENG AGRICULTURAL POTENTIAL ATLAS-V

3.7.2 IMPLICATIONS

As the site verification assessment and GAPA V information suggests a moderate to high agricultural potential, an Agricultural Impact Assessment will be undertaken and included in the EIA Report.

Digital Soils Africa has been appointed to conduct the Agricultural Impact Assessment as well as a Hydopedology Impact Assessment. The purpose of this report will be to confirm the agricultural potential status of the site. The assessment will include an in-depth desktop study which will be confirmed with site assessments and soil classification and analysis.

3.8 SOCIO-ECONOMIC ENVIRONMENT

The application area related to Phase 1 (this application) of the Vaal Aerotropolis development is located within the Emfuleni Local Municipality, Sedibeng District Municipality.

3.8.1 OVERVIEW

According to Census 2022, Emfuleni Local Municipality has a total population of 945 650 people, of which 90.9% are black African, 7.2% are white, 1.0% are coloured, and 0.7% are Indian / Asian. Of those aged 20 years and older, 2.6% have completed primary school, 32.8% have some secondary education, 41.6% have completed matric, and 12.8% have some form of higher education (**Figure 3-11**). The development of the Vaal Aerotropolis in Emfuleni is an initiative that aims to promote economic development within the Emfuleni and Sedibeng municipal areas. Economic benefits include, but are not limited to, anticipated increases in property value but also the creation of future revenue streams in terms of rental and future dividends. Income, in the form of municipal rates and taxes from the Vaal Aerotropolis Development, will also contribute to the growth of the Emfuleni Municipality economy.

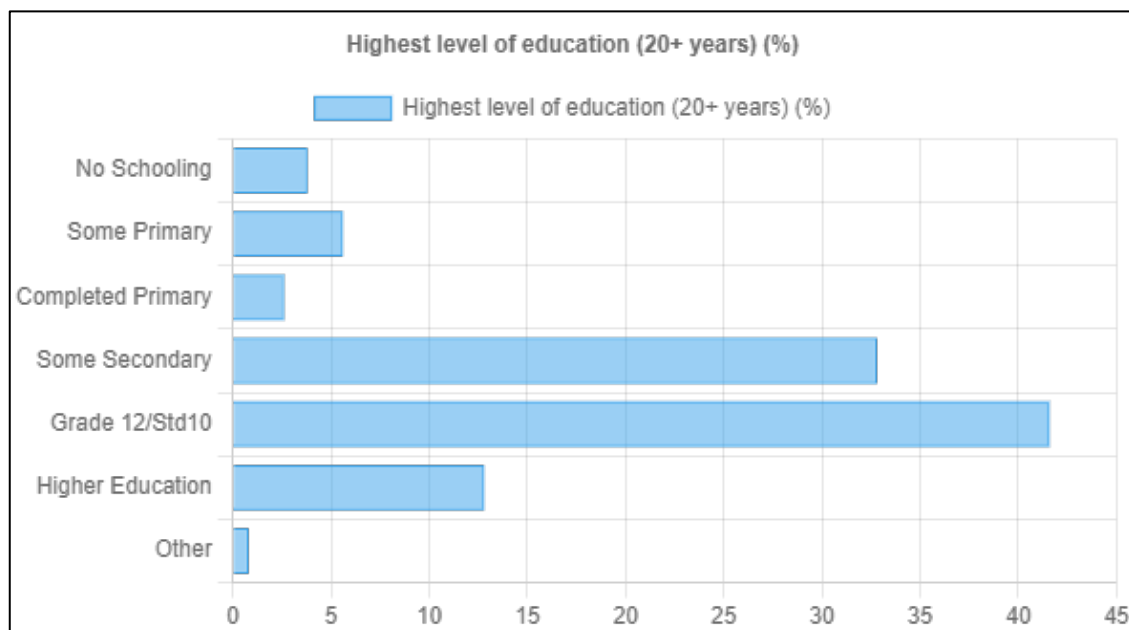


FIGURE 3-11: HIGHEST LEVEL OF EDUCATION IN EMFULENI (STATISTICS SA, ACCESSED 2022)

In terms of household number and size, there are 297 910 households in the Emfuleni Local Municipality with an average of 3,2 persons per household. A total of 80,4% households in the Emfuleni Local Municipality have access to piped water in their dwelling, 16,7% have water in their yard, and only 0,7% of households do not have access to piped water.

In the Sedibeng District Municipality, 9% of the population has no income, according to the Emfuleni Local Municipality IDP of 2022-2023. In addition, according to Census 2011 data, 61% of the population of Emfuleni Local Municipality are employed, and 33% are unemployed.

In terms of the Vaal Aerotropolis itself, the total estimated CAPEX for construction (Phase 1) is anticipated to be R32.7 billion. The number of new enterprise opportunities during the project construction phase is estimated at R82.2 billion for additional business sales, and R36.1 billion for additional GDP. Additionally, 118,498 formal and informal jobs will be created of which an estimated 22.9% of jobs will be skilled, 58.5% will be semi-skilled, and 18.5% will be low skilled.

The total estimated OPEX for operational aspects (Phase 1) is anticipated to be R7.7 billion. In terms of new enterprise opportunities during the operational phase, a total of R19.7 billion is anticipated for additional business sales and R9.3 billion for additional GDP. In addition, 19,838 formal and informal jobs will be created with an estimated 28.2% of these jobs being skilled, 49.0% semi-skilled and 22.8% low skilled.

3.8.2 IMPLICATIONS

The draft National Airports Development Plan, 2024 was designed to eliminate poverty, unemployment and reduce inequality in relation to the country's airport network, by 2030. The Plan has highlighted structural weaknesses to overcome, including poor transport links and infrastructure which raise the cost of doing business and hamper both trade and investment. The Integrated Urban Development Framework, which draws from the National Spatial Development Framework, states that integrated transport and mobility is a vital component of South Africa's economic infrastructure investment. Airports have been shown to contribute to socio-economic development in a range of ways, including improving accessibility for people to geographical areas, whether for personal, essential services, trade, business or tourism reasons. Ultimately, an airport contributes towards the image of the country.

A Spatial Development Framework (SDF) is a strategic planning tool that is used by government to guide and coordinate future land use, economic growth and infrastructure investment in municipal, national or provincial areas. On 29 January 2026 approval was received for the Vaal Aerotropolis Local Spatial Development Framework as contemplated in Section 20 of the Spatial Planning and Land Use Management Act, (Act 16 of 2013) (SPLUMA). The approved Vaal Aerotropolis Local Spatial Development Framework (VA LSDF) was gazetted on 18 March 2026 (Local Authority Notice 252 of 2026) and incorporated into the Emfuleni Spatial Development Framework (SDF).

3.9 TOURISM

3.9.1 OVERVIEW

According to the Emfuleni Local Municipality SDF, 2024 the tourism sector in Emfuleni is currently a relatively small part of the local economy. A wide range of tourist facilities is found within Emfuleni which include bed and breakfast accommodation, guesthouses, hotels and tourist information centres. Furthermore, Emerald Resort & Casino is a significant tourist attraction and can be considered a provincial tourist destination in terms of size. The Vaal River is the most significant tourist attraction within the Emfuleni Local Municipality as it is an important short-stay holiday destination.

The Sharpeville Memorial Initiative, Sharpeville being the location of the signing of the Constitution, has the potential to attract both visitors and tourists from Gauteng as well as abroad. Emphasis should therefore be placed on the development of this historical site in such a manner that will draw day visitors and overseas tourists.

Heritage areas in the broader Sedibeng area include the Redan Rock Art and Iron Ages Site, which include rock engravings and evidence of Late Iron Age Settlements, providing both cultural and archaeological tourism potential.

3.9.2 IMPLICATIONS

The development of an international airport in South Africa is guided by the National Ministry of Transport. Its Revised Strategic Plan 2020-2025 defines the manner in which future international airports within South Africa are to be developed.

The report states under Aviation Infrastructure *“An integrated airport network system has the potential to support the National Development Plan (NDP)’s objective by contributing to growing the economy of the country and ensure that potential investments are utilised effectively and efficiently through economic initiatives such as the aerotropolis concept, airport cities, Special Economic Zones (SEZ’s) linked to international airports aimed at promoting economic growth, trade and tourism and job creation. It could further facilitate the expansion of tourism, including sport and adventure tourism. However, such initiatives must be sustainable to ensure economic growth within the country.”*

The proposed Vaal Aerotropolis, which is planned to include among others, an airport city containing a hotel and entertainment centre, will expand into the tourism sector and will complement and contribute to the tourism of Emfuleni and South Africa as a whole. It is anticipated that the airport would contribute to recreational tourism (Vaal River, boating, fishing, etc), Heritage- and cultural tourism, and nature- and outdoor tourism, due to the nature parks and scenic areas in the vicinity – to incorporate all the tourism nodes as identified in the Emfuleni SDF, 2023-2024.

3.10 BIODIVERSITY

3.10.1 OVERVIEW

A number of documents were assessed to understand the current status of the biodiversity on site from a desktop perspective. These are discussed in the subsections below and also guided the identification of necessary specialist studies.

3.10.2 GAUTENG CONSERVATION PLAN

3.10.2.1 GAUTENG CONSERVATION PLAN v3.3

The Gauteng Conservation Plan (C-Plan) v3.3 was based on the systematic conservation protocol developed by Margules & Pressey (2000) and grounded in the principles of complementarity, efficiency, defensibility and flexibility, irreplaceability, retention, persistence and accountability.

The main purpose of C-Plan v3.3 was to serve as the primary decision support tool for the biodiversity component of the EIA process, to inform protected area expansion and biodiversity stewardship programmes in the province and to serve as a basis for development of Bioregional Plans in municipalities within the province. According to the Gauteng C-Plan v3.3, the proposed site fell within an Ecological Support Area (ESA) as well as Critical Biodiversity Area (CBA): Important Area as well as Irreplaceable area (**Figure 3-12**).

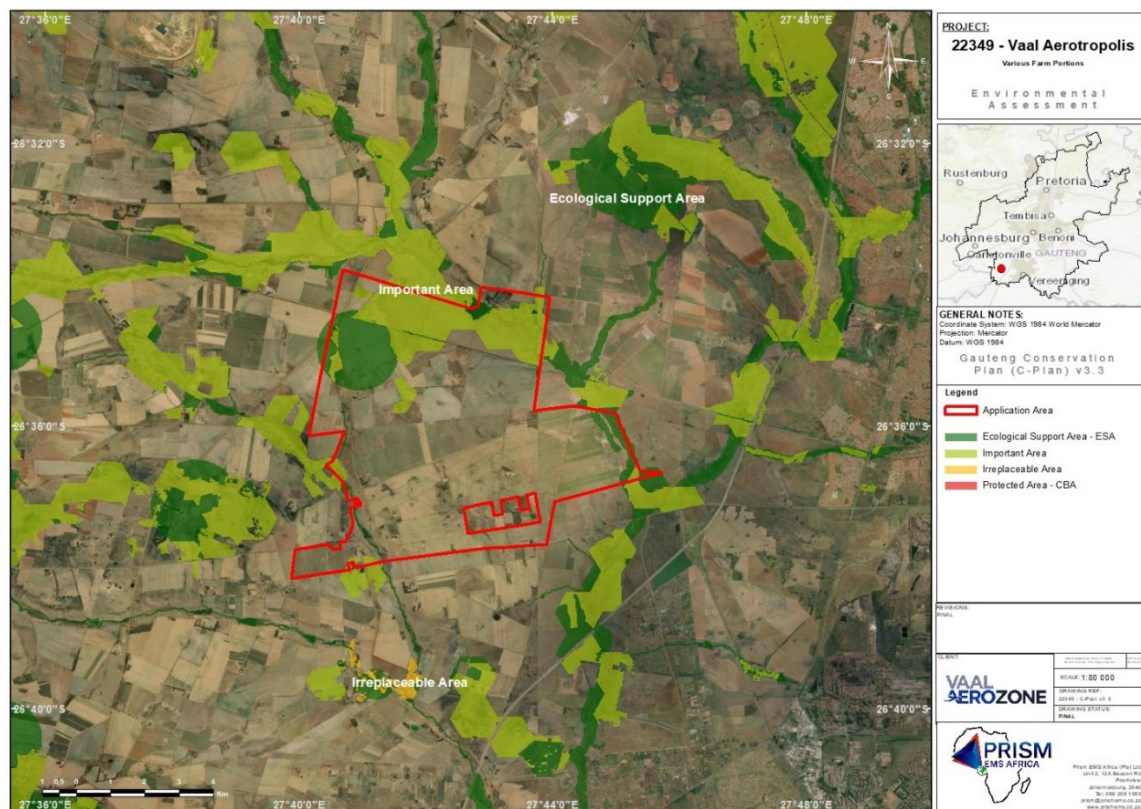


FIGURE 3-12: DESKTOP SENSITIVITY (C-PLAN 3.3)

3.10.2.2 GAUTENG CONSERVATION PLAN v4.0 (2024)

The Gauteng Conservation Plan Version 4, which replaced the C-Plan v3.3 in 2024, is a strategic, science-based spatial planning tool developed by the then Gauteng Department of Agriculture, Rural Development and Environment (now Gauteng Department of Environment). It aims to identify and prioritise areas critical for biodiversity conservation and ecological sustainability across the province. The plan supports informed decision-making in land use, environmental assessments and development planning.

C-Plan v4.0 replaced the old C-Plan v3.3 and uses systematic conservation planning and GIS analysis to map and classify land into categories based on biodiversity value and ecological function. Each category is accompanied by specific land use and management guidelines to ensure the protection of ecological infrastructure and ecosystem services. A C-Plan v4 Map identifies biodiversity priority areas in three major categories which include:

- **Protected Areas (PA):** areas which have legal protection under relevant legislation, or which are managed with a primary conservation objective Protected areas are a fundamentally important part of systematic conservation planning as they indicate the proportion of the various biodiversity targets that are already protected and subsequently the shortfall that would need to be met in order to achieve targets.
- **Critical Biodiversity Areas (CBA1 and CBA2):** areas included in the C-Plan Map because of their biodiversity importance and contribution to achieving conservation targets. CBAs include natural or near-natural terrestrial and aquatic features that were selected based on an area's biodiversity characteristics, spatial configuration and requirement for meeting both biodiversity pattern and ecological process targets. CBAs include irreplaceable sites where no other options exist for meeting targets for biodiversity features (CBA 1), as well as best-design sites selected to meet conservation targets where there are spatial options to meet these targets (i.e., the remaining extent of the biodiversity feature is more than the conservation target) – sites which represent an efficient configuration of sites to meet targets in an ecologically sustainable way that is least conflicting with other land uses and activities (CBA 2). CBAs should be maintained in a natural state, with no further loss of habitat and no deterioration in ecological condition Some CBAs are degraded or irreversibly modified but are still required for achieving specific targets, such as cultivated lands for threatened species foraging area or maintaining ecological connectivity in the landscape.
- **Ecological Support Areas (ESA1 and ESA2):** Natural, near natural, degraded or heavily modified areas required to be maintained in an ecologically functional state to support Critical Biodiversity Areas and/or Protected Areas ESAs maintain the ecological processes on which Critical Biodiversity Areas and Protected Areas depend Some ESAs are irreversibly modified but are still required as they still play an important role in supporting ecological processes.
- **Other Natural Areas:** includes natural areas.

The plan is widely used by government departments, municipalities, developers, consultants, and conservation organisations. It plays a key role in guiding protected area expansion, supporting biodiversity stewardship and informing Environmental Impact Assessments (EIAs). Ultimately, C-Plan v4 helps balance development needs with the imperative to conserve Gauteng's natural heritage and meet national and international biodiversity commitments.

According to the Gauteng C-Plan v4 the site identified for the proposed Vaal Aerotropolis falls within an Ecological Support Area (ESA 1 and 2) as well as Critical Biodiversity Areas (CBA 1 and 2) (**Figure 3-13**).

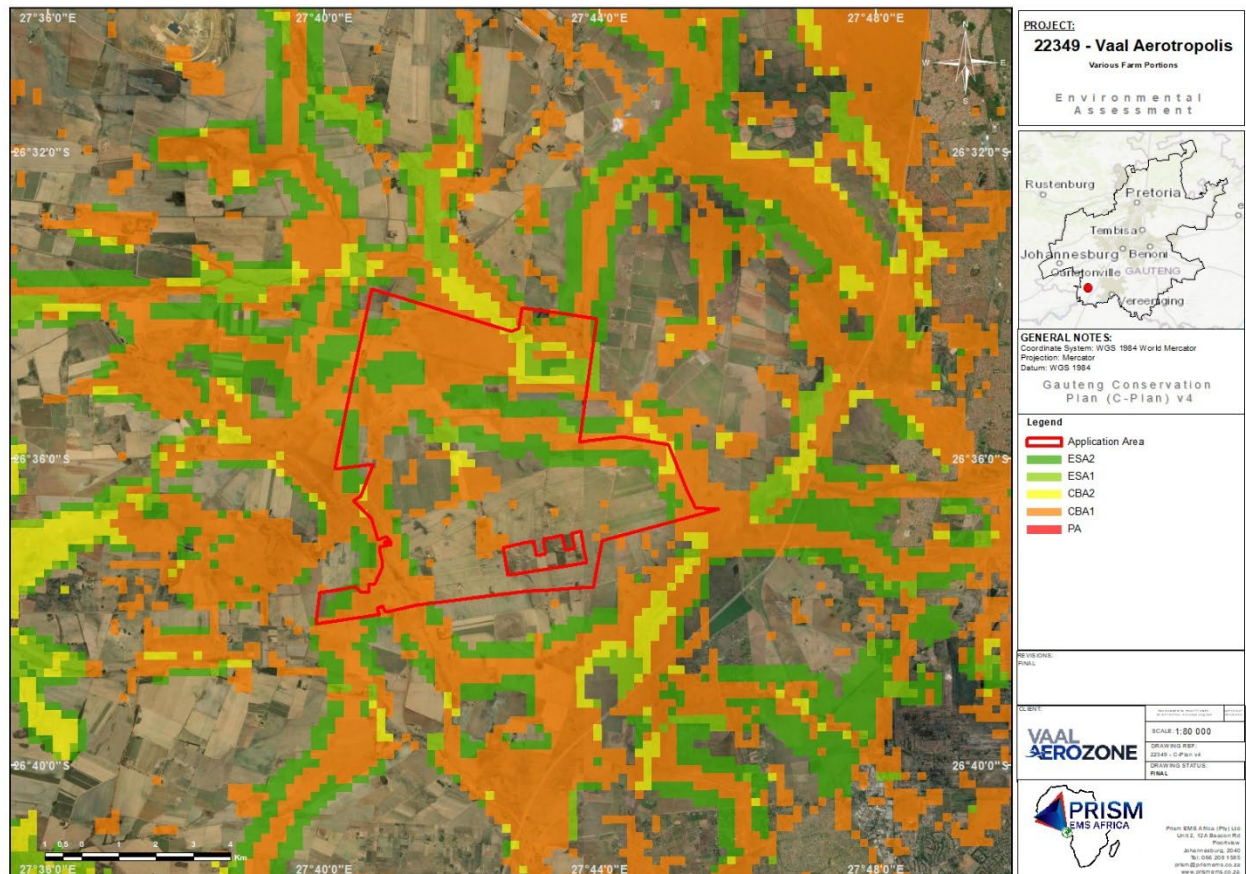


FIGURE 3-13: DESKTOP SENSITIVITY (C-PLAN 4)

3.10.3 THREATENED TERRESTRIAL ECOSYSTEMS

The first national list of threatened terrestrial ecosystems for South Africa was gazetted on 9 December 2011 (National Environmental Management: Biodiversity Act: National list of ecosystems that are threatened and in need of protection, (G 34809, GoN 1002), 9 December 2011). The purpose of listing threatened ecosystems is primarily to reduce the rate of ecosystem and species extinction. This includes preventing further degradation and loss of structure, function and composition of threatened ecosystems. The purpose of listing protected ecosystems is primarily to preserve witness sites of exceptionally high conservation value.

The proposed development occurs within the Soweto Highveld Grassland which is classified as vulnerable (**Figure 3-14**). According to Mucina and Rutherford (2006), only about 0.2% of this unit is conserved in statutory reserves and a number of private conservation areas. More than half of the units have already undergone transformation mostly by urbanisation, cultivation or by building of roads.

Flora on the subject site will be investigated in a Floral Assessment and discussed in the Terrestrial Biodiversity Assessment.

3.10.4 GAUTENG PROVINCIAL ENVIRONMENTAL MANAGEMENT FRAMEWORK (GPEMF)

The objective of the GPEMF is to guide sustainable land use management within the Gauteng Province and has the following purpose:

- To provide a strategic and overall framework for environmental management in Gauteng;
- Align sustainable development initiatives with the environmental resources, developmental pressures, as well as the growth imperatives of Gauteng;
- Determine geographical areas where certain activities can be excluded from an EIA process; and
- Identify appropriate, inappropriate and conditionally compatible activities in various Environmental Management Zones (EMZs) in a manner that promotes proactive decision-making.

The GPEMF identified a number of EMZs based on the desired state, and the environmental sensitivity (amongst others). These are as follows:

- Zone 1: Urban development zone
- Zone 2: High control zone (within the urban development zone)
- Zone 3: High control zone (outside the urban development zone)
- Zone 4: Normal control zone
- Zone 5: Industrial and large commercial focus zone

The proposed development falls within Zone 3: High control zone (outside the urban development zone) and Zone 4: Normal control zone (**Figure 3-14**).

Zone 3 is identified as sensitive areas outside the urban development zone. These areas are sensitive to development activities and in several cases also have specific values that need to be protected. As a result of this, no listed activities are excluded from environmental assessment requirements in this zone.

Zone 4 is dominated by agricultural uses outside the urban development zone as defined in the Gauteng Spatial Development Framework (GSDF). No listed activities are excluded from environmental assessment requirements in this zone. As noted in Section 3.7, the Agricultural potential of the site is medium to high. An Agricultural Impact Assessment will be undertaken to address this.



The National Screening Tool has indicated that in terms of fauna (invertebrates, birds, mammals, reptiles etc.), the area earmarked for the aerotropolis development, has sensitivity ranging from 'medium' to 'high'. Potential Invertebrates-*Aloeides dentatis dentatis*, *Lepidochrysops praeterita* and *Lepidochrysops procera*, Mammals- *Crociodura maquassiensis*, *Hydrictis maculicollis* and *Ourebia ourebi ourebi* and Birds- *Hydroprogne caspia*, and *Eupodotis senegalensis* with medium sensitivity. Bird species with high sensitivity includes *Tyto capensis* and *Mycteria ibis*.

3.10.6 PROTECTED AREAS AND IMPORTANT BIRD AREAS



Important Bird and Biodiversity Areas (IBAs), as defined by BirdLife International, constitute a global network of over 13 500 sites, of which 112 sites are found in South Africa. IBAs are sites of global significance for bird conservation, identified nationally through multi-stakeholder processes using globally standardised, quantitative, and scientifically agreed criteria. Essentially, these are the most important sites for conserving.

Figure 3-15 shows the closest Protected Areas as described by the South Africa Protected Areas Database (SAPAD), namely the Tweefontein Private Nature Reserve Protected area that is in the process of deregistration². Note that no IBAs are located near the proposed site.

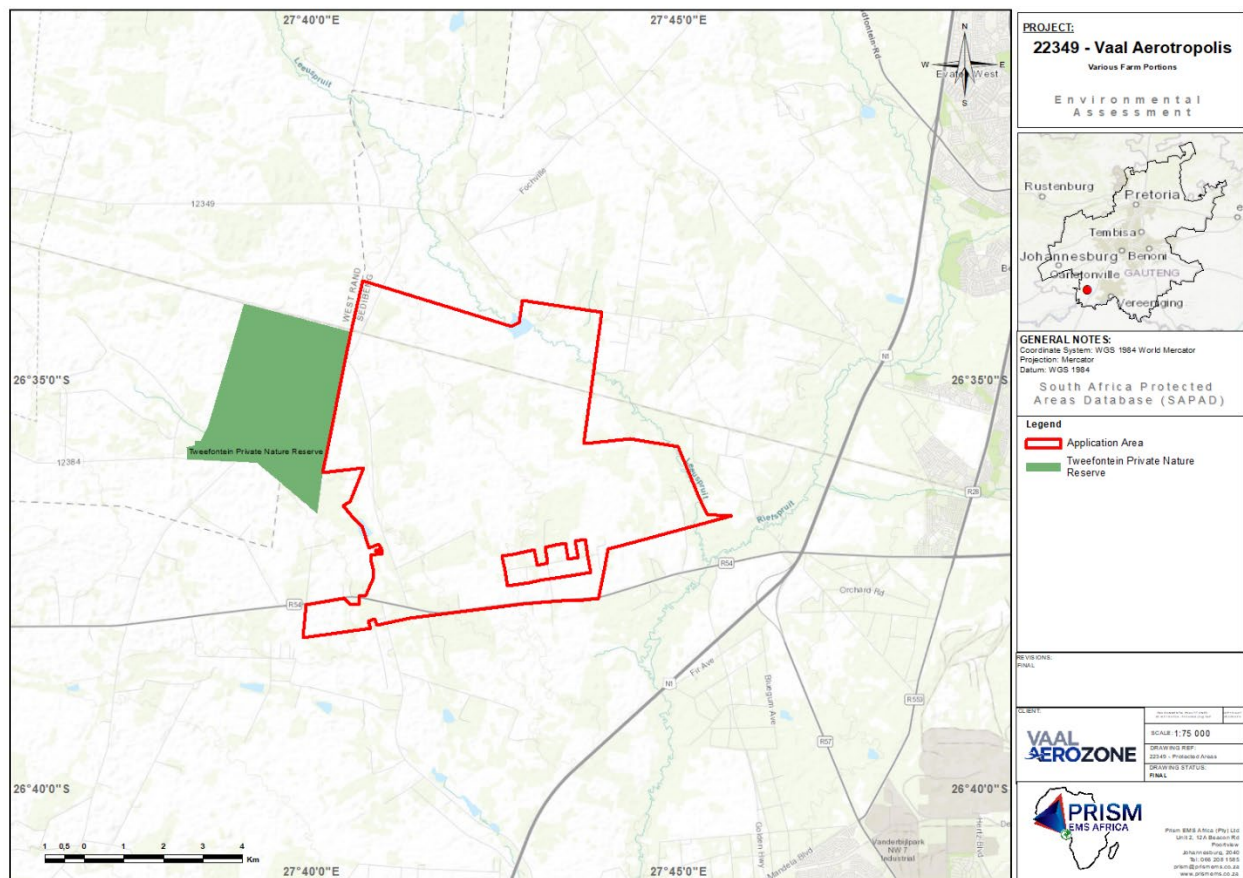


FIGURE 3-15: PROTECTED AREAS (SAPAD)

3.10.7 EXISTING STATUS

As noted above, the maps produced identify desktop sensitivity. A site verification assessment has been undertaken and shows that the site is disturbed and transformed in parts. The predominant land use of the study area is agricultural activities in the form of cultivated lands and livestock farming.

² A separate application to facilitate the deregistration of the Tweefontein Private Nature Reserve is currently in process.

3.10.8 IMPLICATIONS

Due to the desktop sensitivities identified through the utilisation of GIS as well as the National Screening Tool, various specialist assessment will be undertaken to determine the impacts of the proposed development on biodiversity at the site. The findings of these reports will be incorporated into the EIA Report, and mitigation measures will be included in the EMP.

3.11 SURFACE WATER

3.11.1 OVERVIEW

The proposed development area is located within quaternary catchments C22J of the Vaal Orange Water Management Area (WMA) as gazetted in GN 3855 of GG 49225 (1 September 2023). The National Wetland Map Version 6 (NWMv6), as presented by SANBI, indicates that the site has i) two main streams draining through the study area, ii) an unchanneled valley bottom wetland to the west iii) a channelled valley bottom wetland in the east, iv) depression and seepage wetlands, and v) artificial wetlands (**Figure 3-16**).

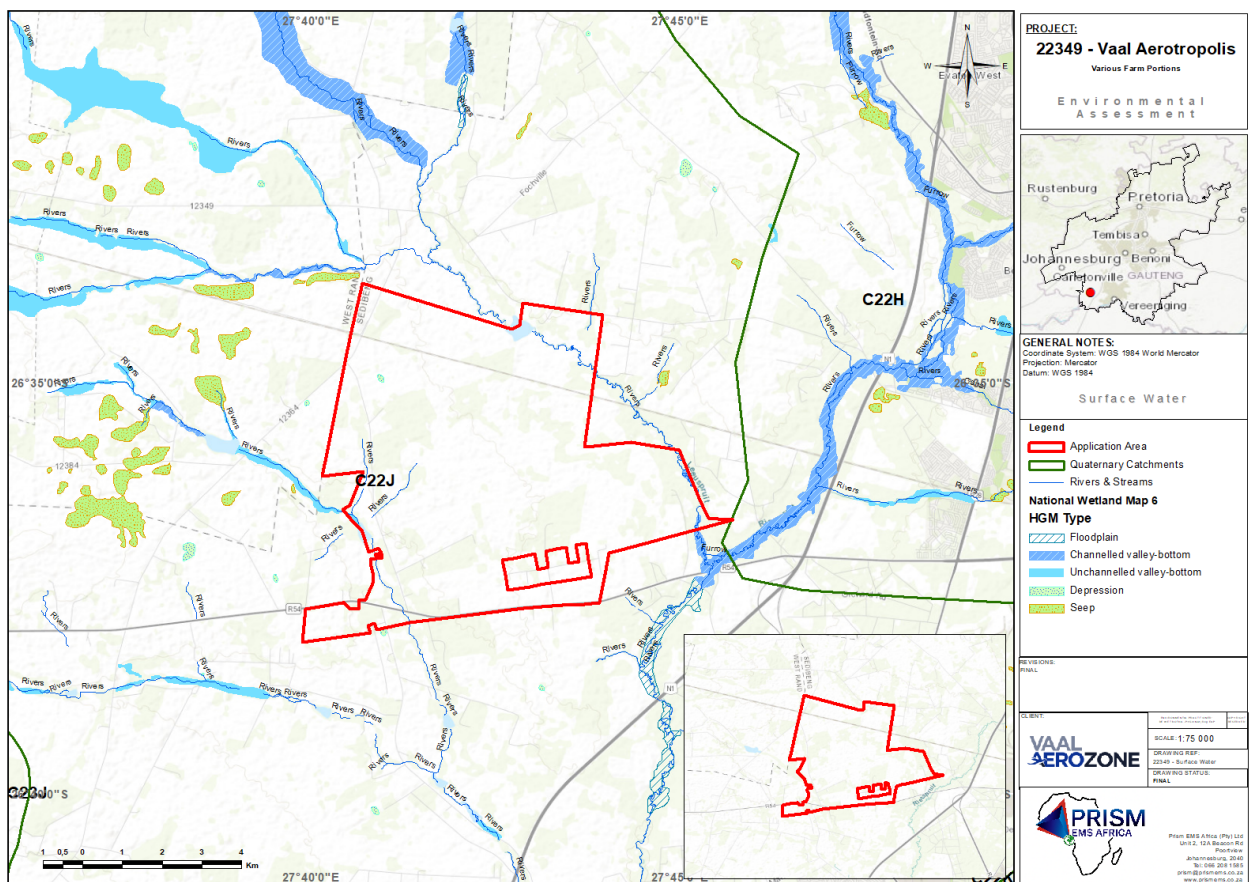


FIGURE 3-16: SURFACE WATER

3.11.2 IMPLICATIONS

In order to determine the impacts of the proposed development on surface water, both an Aquatic Assessment and Wetland Impact Assessment will be undertaken and included in the EIA. A WULA is also being undertaken (concurrently with the Scoping and EIA process).

3.12 GROUNDWATER

3.12.1 OVERVIEW

Based on the conceptual hydrogeological understanding of the site, the following hydro-stratigraphic zones are differentiated within the area:

- Intergranular aquifer system: The proposed area is situated upon an intergranular and weathered zone of the unconfined or semi-confined shallow weathered aquifer or hydro-stratigraphic zone. Water intersections in the intergranular and weathered aquifer are mostly above or at the interface to fresh bedrock, where less permeable layers of weathering products and capillary forces limit the vertical percolation of water and promote lateral water movement.
- Fractured hard rock aquifer: Groundwater flow is governed by secondary porosities such as faults, fractures, joints, bedding planes and other geological contacts in rocks such as sandstone, shale and mudstones. The flow through secondary structures is due to the less permeable matrix of the rock itself.

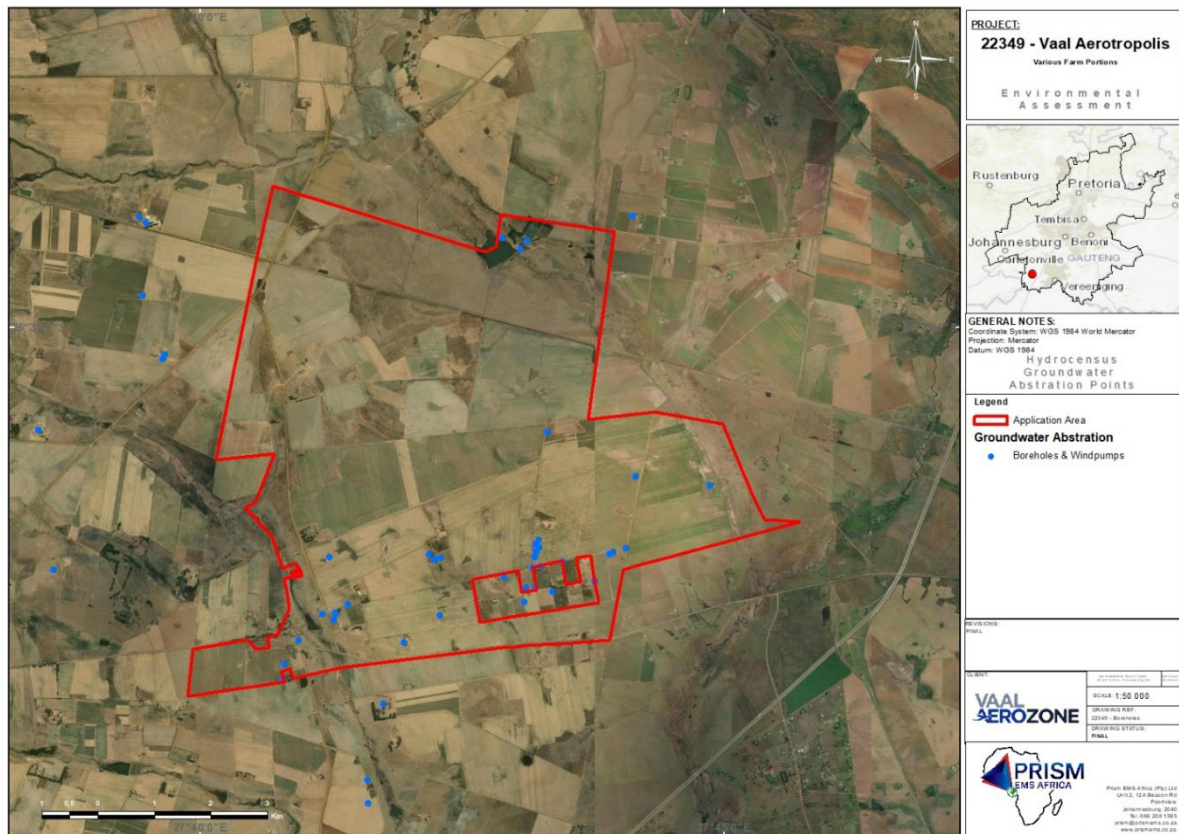


FIGURE 3-17: LOCATION OF GROUNDWATER ABSTRACTION POINTS IN THE STUDY AREA

3.12.2 IMPLICATIONS

A basic hydrogeological study was conducted by Delta-H Water System Modelling (Pty) Ltd. The scope of work for the study included i) collection and review of national and regional geological and hydrogeological data, ii) groundwater vulnerability and aquifer classification assessment, iii) datasets augmentation with a hydro-census in order to establish the quality and quantity of the groundwater resource as well as the actual utilisation thereof, and iv) a specialist report documenting all methodologies, findings, quantitative analyses, recommendations, and conclusions. The Hydrogeological Report and findings will be included in the EIA report.

3.13 ARCHAEOLOGY, CULTURAL HERITAGE AND PALAEOLOGY

3.13.1 OVERVIEW

Information on the archaeology and palaeontology of the area is provided below.

3.13.1.1 ARCHAEOLOGY AND CULTURAL HERITAGE

The National Screening Tool indicated a **low** sensitivity for archaeological and cultural heritage resources. The site verification visits however indicated some areas of sensitivity in terms of cultural heritage (**Figure 3-18**). These sensitive sites include graves and graveyards as well as buildings and ruins of buildings dating back longer than 60 years. A Phase 1 Heritage Impact Assessment is required to obtain formal clearance from the SAHRA, in terms of the NHRA, 1999.



FIGURE 3-18: HISTORICAL FEATURES OBSERVED ON SITE

3.13.1.2 PALAEONTOLOGY

The Palaeontological (fossil) Sensitivity Map developed by SAHRA (**Figure 3-19**) as well as the Palaeontological Theme Sensitivity Map of the DFFE Screening tool has been reviewed and shows that the proposed site falls within an area with **high, medium and low** fossil sensitivities. A palaeontological study will therefore be undertaken and incorporated into the EIA Report.

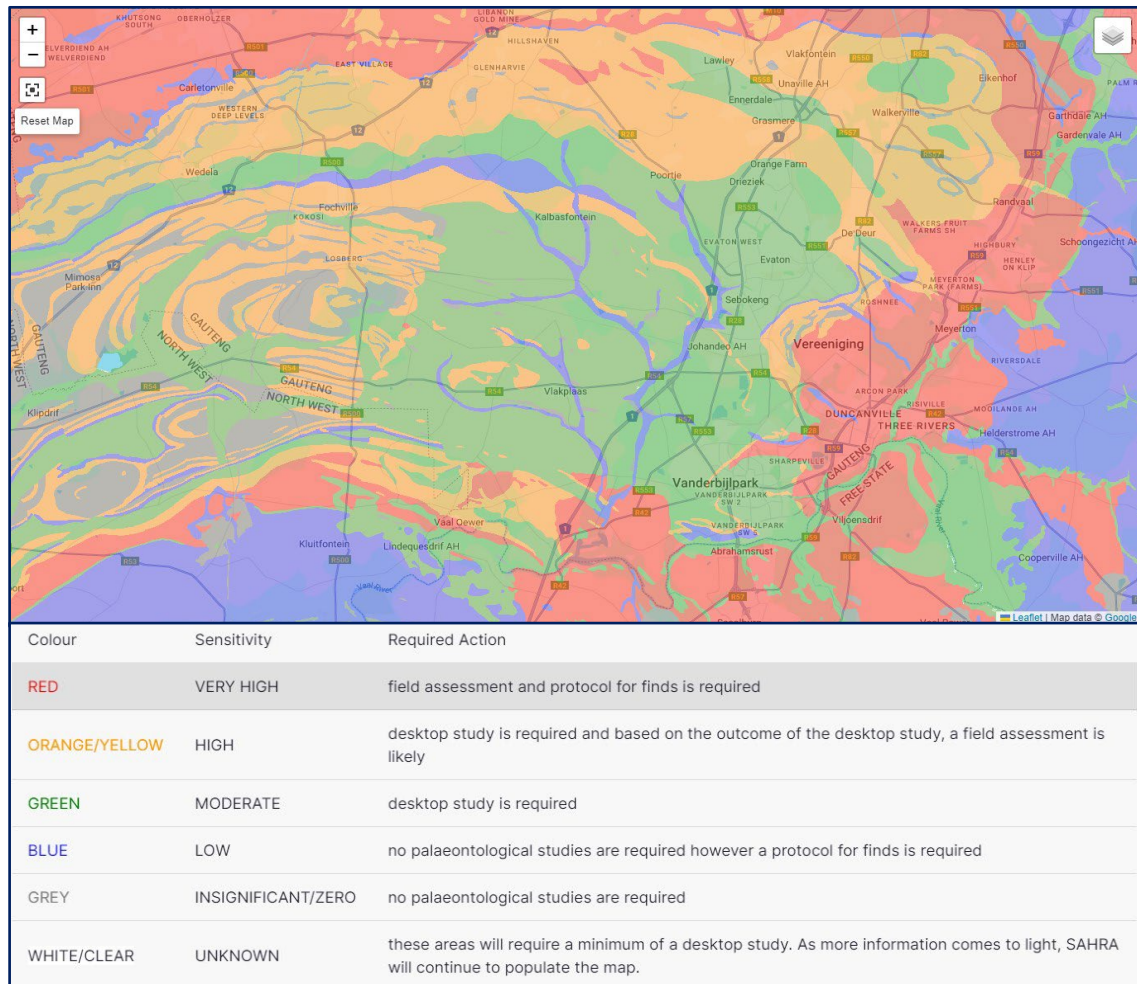


FIGURE 3-19: PALAEONTOLOGICAL (FOSSIL) SENSITIVITY MAP (SOUTH AFRICAN HERITAGE RESOURCES INFORMATION SYSTEM (SAHRIS)) - <https://sahris.sahra.org.za/map/palaeo>

3.13.2 IMPLICATIONS

A Phase 1 HIA and PIA will be conducted to determine whether any palaeontological resources occur on site and determine the impact of the proposed development on the historical sites. This will include a field study to i) systematically survey the proposed impact areas to locate, identify, record, photograph and describe sites of archaeological, palaeontological, historical or cultural interest; ii) record GPS points of sites/areas identified as significant areas; and iii) determine the levels of significance of the various types of heritage and palaeontological resources recorded in the project area. The findings of this study will be included in the EIA Report.

4. SCOPE OF THE PROPOSED PROJECT

4.1 DESCRIPTION OF PROJECT ACTIVITIES

4.1.1 DEVELOPMENTAL CONTROLS AND LAYOUT

Vaal Aerozone (Pty) Ltd intends to develop and manage the Vaal Aerotropolis, planned for an area ± 9 km west of the N1 and Vanderbijlpark in the Sedibeng district located within the Emfuleni and Rand West City Local Municipalities, Gauteng Province. An aerotropolis is defined as a metropolitan sub-region whose infrastructure, land use and economy are centred on and around an airport. This development, which will be known as the Vaal Aerotropolis, aims to serve as a key freight and logistics hub, featuring a two-terminal design and integrated air cargo services containing state-of-the-art facilities and infrastructure. The Vaal Aerotropolis will serve as a driving force and strategic investment for economic growth and global trade, thereby revitalising Emfuleni and creating sustainable value in the region. The planned Vaal Aerotropolis will be developed to include a Cargo Terminal, Airport City, Solar Farm, Agri Zone, and Trade Zone. Each phase is designed to progressively expand the airport's capacity and functionality to accommodate increasing demand. All necessary ancillary services (e.g., water reticulation, roads, electricity, etc.) will be provided for the development, and subsequent applications will be lodged with the relevant competent authorities in due time.

The development of the Vaal Aerotropolis will be rolled out in three phases over a period of approximately 60 years depending on national and international economic factors. This application is relevant to Phase 1 of the Aerotropolis (**Figure 4-1**). The spatial requirements of the airport facilities are based on the air traffic demand forecasted as well as airport planning assumptions based on the forecasted airport operations. The requirements have been defined at a high level, using the annual volumes, planning ratios, benchmarking and industry best practice foreseen for the development.

Table 4-1 below indicates results of a high-level airport demand assessment conducted in 2025, confirming that the proposed airport at the subject site could theoretically generate demand in excess of 4,5 million annual passengers, and around 15 167 tonnes of cargo within 5-years of becoming operational.

A brief summary of anticipated timeframes, passengers, cargo, air traffic movements (ATMs), and location / footprint area foreseen for the development is provided below, in **Table 4-2**³.

³ This application specifically seeks approval for Phase 1 – Other phases to be applied for in due course.



		OR Tambo International Airport	Cape Town International Airport	King Shaka International Airport	Vaal Aerotropolis Trade Area	
					Low Scenario	High Scenario
Socio-Economic Profile	Population 2024	11 034 194	5 211 503	4 115 006	4 090 852	
	Population growth rate	1.66%	2.17%	1.59%	1.8%	
	Households	4 128 907	1 619 666	1 111 825	1 346 059	
	Households growth rate	2.75%	2.85%	1.24%	2.0%	
	SEM 4-5	30.10%	34.2%	24.20%	19.9%	
	SEM 4-5 population	3 321 292	1 779 955	995 831	814 080	
Passengers	International	7 054 616	2 754 405	274 882	1 252 066	1 407 439
	Regional	707 178	169 961	2 514	109 222	122 776
	Domestic	10 005 667	7 093 292	4 706 511	2 707 473	3 043 451
	Unscheduled	85 108	16 694	3 754	13 106	14 733
	Total	17 852 569	10 034 352	4 987 661	4 081 867	4 588 399
	Ratio Passengers per SEM 4-5	5.38	5.64	5.02		
Cargo	Import (tonne)	3 072 697	14 882	2 995	11 331	3 035 725
	Export (tonne)	71 342	36 129	2 800	404	108 314
	Total (tonne)	3 144 039	51 011	5 795	11 735	3 144 039

Capacity	Phase 1 (This Application)	Phase 2	Phase 3
Expected Commencement Date	2028	2048	2068
Passenger Terminal (mppa)	7.2	25	45
Cargo Terminal (tonnes/year)	150 000	362 000	872 000
Runway (ATMs/hr)	23	59	93

4.1.2 AIRPORT PRECINCT AND OPERATIONS

4.1.2.1 RUNWAY AND ASSOCIATED INFRASTRUCTURE

Phase 1 of the new international airport will consist of a single, eastern runway system (Figure 4-2) with a second, western runway planned for the medium-long term development (i.e., Phase 2 – 3; Figure 4-3 and Figure 4-4). The location and orientation of the runways are already defined with a runway length of 4.2km and a width of 60m excluding the additional 7.5 m paved shoulder on either side; therefore, a total width of 75 m. The Runway End Safety Areas (RESA) provided at the end of each runway will be 240 m long and 150 m wide.

Note that all airfield separations and clearances will meet the ICAO recommendations. To that end the following will be implemented:

- Two parallel taxiways for greater operational flexibility.
- A distance of 180 m between the centre line of the runway and the Code F taxiway.
- Another 83.5 m between the Code F taxiway and Code E taxiway.
- Airside and inter-stand roads.
- Aircraft stands for any size of aircraft.

Airside roads will be 10m wide two-way 'Head of Stand' and 'Back of Stand' roads while inter-stand roads will interconnect every 4-5 aircraft stands. A 5m parking/kerb zone will also be provided between the 'Head of Stand' road and the terminal building.

Cargo stands will differ from passenger stands in that cargo stands will include additional operational areas between the stand and cargo terminal - of approximately 50 m - to provide airside road and operational areas for cargo equipment.

TABLE 4-3: TYPE OF AIRCRAFT

Code Letter	Wingspan	Typical Aeroplane Example
A	≤15 m	PIPER PA-31 / CESSNA 404 Titan
B	15 m but <24 m	BOMBARDIER Regional Jet CRJ-200 / DE HAVILLAND CANADA DHC-6
C	24 m but <36 m	BOEING 737-700 / AIRBUS A-320 / EMBRAER ERJ 190-100
D	36 m but <52 m	B767 Series / AIRBUS A-310
E	52 m but <65 m	B777 Series / B787 Series / A330 Family
F	65 m but <80 m	BOEING 747-8 / AIRBUS A-380-800

4.1.2.2 PASSENGER TERMINAL

The passenger terminal will be built and scaled as the project progresses. Phase 1 will be capable of accommodating 7.2mppa (**Table 4-2**). It has been assumed that Phase 1 and 2 will be comprised of 65% domestic and 35% international operations, while Phase 3 will be comprised of 70% domestic and 30% international operations.

The total footprint area for the passenger terminal in Phase 1 will be 28 830 m² which will be divided into 10 080 m² for international and 18 750 m² for domestic passengers.

4.1.2.3 CARGO TERMINAL

The cargo terminal will have a footprint area of 8 830 m² and will cater for a capacity of 150 000 tonnes per year during Phase 1. A 50m wide buffer will be provided between the cargo building and cargo stands to safeguard cargo operations. Another 75 m wide buffer will be provided on the landside of the building to safeguard space for car parking and manoeuvring.

A freight forwarding building will also be constructed as support infrastructure to the cargo terminal itself. This proposed area will be 22 700 m² for Phase 1 based on tonnes per year / square meter ration.

The space requirements for the cargo terminal have been calculated using i) the guidelines provided by the International Air Transport Association (IATA), and ii) a benchmark study that was conducted to assess the cargo facilities provided for King Shaka and O.R. Tambo international airports (**Table 4-1** above).

4.1.2.4 ADDITIONAL FACILITIES

The following additional facilities will also form part of the airport precinct and operations:

- Air Traffic Control Tower: The footprint area for the Air Traffic Control (ATC) tower is 10 000 m² which includes the ATC tower as well as car parking and related functions. The location of the ATC tower is determined by the height required to adequately view the operational area.
- Airport Rescue and Fire-fighting Services Station: The total footprint area required for the Airport Rescue and Fire-fighting Services (RFFS) is 10 000 m², with two stations planned per runway. The requirements include space for car parking, internal roads and RFFS related functions.
- Ground Support Equipment (GSE) and Airport Maintenance Facilities: For Phase 1 a footprint area of 21 600 m² is required for the envisaged passenger capacity in terms of GSE and Airport Maintenance Facilities.
- Maintenance, Repair and Overhaul (MRO) Facilities: It is proposed that, during Phase 1, the MRO hangars should be able to cater for two (2) Code C and one (1) Code F aircraft which will result in a total footprint area of 41 400 m². This footprint area will include supporting infrastructure such as hardstands, workshop, warehouse and car parking.

- **Flight Catering Facilities:** The footprint area for the catering facilities is based on the international benchmark of 1 200 m² per mppa, and includes an area for car parking, therefore the footprint area for Phase 1 will be 8 640 m².
- **Parking Facilities:** Car parking for passenger vehicles will be provided. The proportions of footprint areas for the car parking facilities are calculated as 35% multi-storey car parks (MSCP), 45% long-stay car parks, 10% for car rentals and 10% for staff employed at the airport. Furthermore, a total of 300 car parking spaces per mppa space for MSCP and 650 car parking spaces per mppa for long stay parking with an area is 20 m² per parking has been assumed in accordance with the international benchmark. The total footprint area for the parking facilities is set to be 208 800 m² for Phase 1.

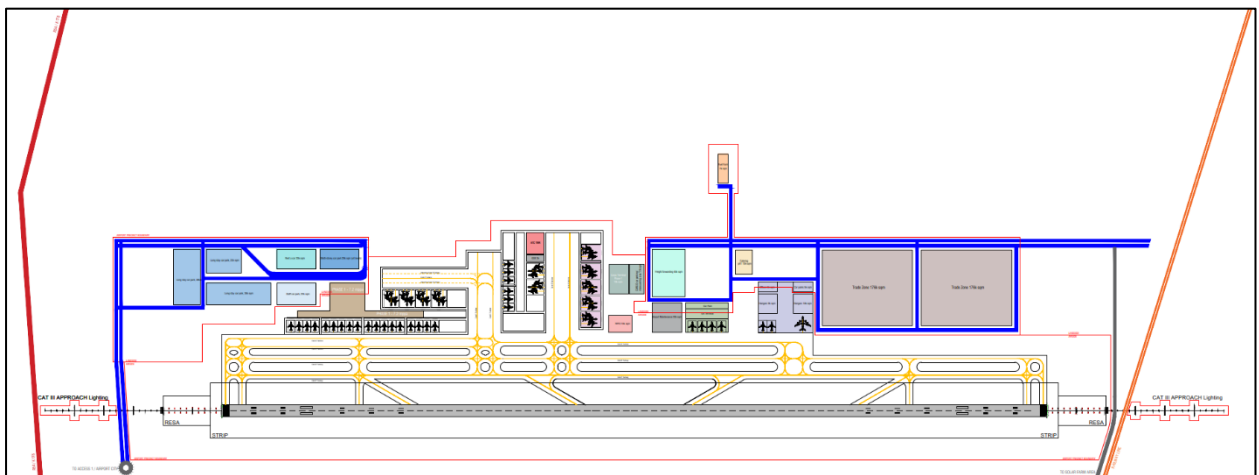


FIGURE 4-2: PROPOSED AIRPORT PRECINCT LAYOUT PLAN FOR 7.2MPPA (PHASE 1)

4.1.3 AIRPORT CITY

The Airport City will be one of the first purpose-planned aviation cities in Africa. The footprint area for Phase 1 (Figure 4-1) is anticipated to be 14 ha which will include:

- a 90-room hotel.
- fully serviced premium offices spanning approximately 3 000 m².
- Conference centre, shopping mall,
- Medical consulting rooms.
- A bus office hotel parking area.

During Phases 2 and 3 it is anticipated that the total area will increase to 34 ha which will include increased retail, hospitality, medical and leisure spaces in an urban green environment which will hold a minimum 4-star rating. Upon completion, the Airport City will include eight blocks consisting of 45 individual stands, pedestrian-friendly zoned, dedicated cycle lanes, a tree-lined boulevard, multi-functional lawn spaces and leases for up to 50 years.

4.1.4 AGRI-ZONE

As indicated above, the proposed Aerotropolis development incorporates an extensive Agri-Zone as an integral component of the overall development. The Agri-Zone will focus on the production of high-value agricultural products suitable for air transport and export to international markets through the proposed cargo terminal.

The proposed Agri-Zone is envisaged as a high-technology agricultural cluster, incorporating climate-controlled growing facilities, including greenhouses and hydroponic production systems, and is anticipated to become one of the largest climate-controlled agricultural production areas in Africa. An integrated perishable-product supply chain is also proposed, incorporating associated logistics and storage infrastructure. The development further provides for a state-of-the-art tissue culture facility and a dedicated live-animal holding facility intended to facilitate the transportation of live animals by air.

4.1.4.1 DEDICATED AGRI-EXPORT ZONES AND CARGO INTEGRATION

The Agri-Zones will be directly integrated with the airport's cargo terminal, offering a one-stop regulatory services environment with direct access to forwarders in the Trade Zone, which is planned as a 26-hectare airside freight-oriented export environment, within the designated Special Economic Zone. It is anticipated that this co-location of production with air-freight infrastructure and streamlined export regulation would reduce post-harvest loss and transit time for perishable produce, and increase farm-gate returns per hectare, relative to the land's current use.

4.1.4.2 AGRICULTURAL INTENSIFICATION

The Agri-Zones are envisaged to be the largest climate-controlled growing area in Africa, supported by an integrated perishable supply chain and a state-of-the-art tissue culture facility. This represents a shift from current, comparatively extensive production toward controlled-environment and precision agricultural systems, which should result in producing substantially higher output per hectare than existing land use, thereby mitigating a portion of the reduction in gross agricultural area, with increased yield intensity on the retained agricultural footprint. The intensified production is planned to be supported by the development's 1 000-hectare on-site solar farm, which should supply sustainable energy to the Vaal Aerotropolis, and will be supported by multiple backup systems ensuring business continuity, which is relevant to the energy demands of climate-controlled growing infrastructure, as is planned for the site.

4.1.4.3 DIVERSIFICATION OF AGRICULTURAL OUTPUT AND LIVESTOCK EXPORT

The Agri-Zones will include what is expected to be the first live animal holding area for transport by air in South Africa, introducing a live-export value chain not currently present in the region, and the development will also be linked to the Agri-Parks programme, expecting to create up to ±300,000 small-scale producers and 145,000 new jobs within the first five years of operation. It is anticipated that this economic catalysation will result in broadening the regional agricultural economy beyond current commodity production and extending participation to small-scale producers, rather than concentrating production solely within the

development footprint. The programme is anticipated to support up to 300,000 small-scale producers and facilitate approximately 145,000 new employment opportunities over the next five years, subject to the approval of the proposed development.

4.1.4.4 CONTRIBUTION TO FOOD SECURITY

The objective is for the combination of a climate-controlled Agri-cluster, integrated perishable supply chain, tissue culture facility and direct air-cargo access to improve both export competitiveness and the efficiency of regional food distribution. The linkage to the Agri-Parks programme and the small-scale producer target is considered to extend food-security and livelihood benefits beyond the Aerotropolis' footprint, into the wider district, in support of national food security objectives.

4.1.4.5 NET-EFFECT POSITION

On this basis - notwithstanding a reduction in gross agricultural land area - agricultural output value, employment intensity per hectare and export competitiveness are expected to increase through the Agri-Zone concept.

The Agri-Zone is intended to form a significant component of the Aerotropolis' agricultural and economic development strategy. From an agricultural impact perspective, the incorporation of the Agri-Zone provides an important mitigation measure in relation to the potential loss or transformation of existing agricultural land associated with the Aerotropolis. By creating dedicated areas for continued agricultural production, including intensive and high-technology production systems, the Agri-Zone is intended to partially mitigate the loss of conventional agricultural production capacity while simultaneously supporting new agricultural enterprises, market access, employment and economic opportunities. The proposed integrated supply chain and proximity to the cargo terminal further provide opportunities for agricultural products to access domestic and international markets.

The proposed eventual layout (Phase 3) for the development is provided together with the preliminary Site Development Plan (SDP) (**Figure 4-3** and **Figure 4-4**). All areas that will not be developed / utilised during Phase 1 of the project will remain as is (i.e. agricultural land will remain) until such time as the development thereof. All necessary environmental authorisations for individual future and/or agricultural activities will be applied for as and when required, but **do not form part of this application**.

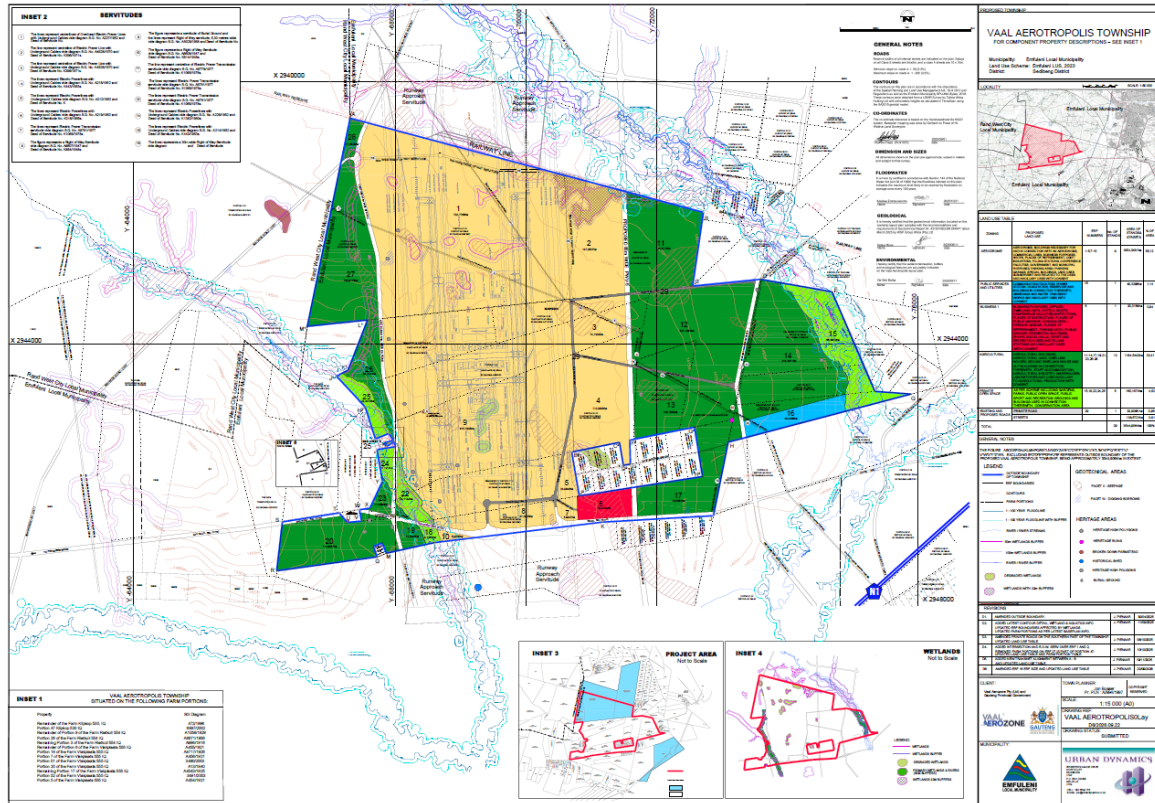


FIGURE 4-3: PROPOSED LAYOUT PLAN (PHASE 1)

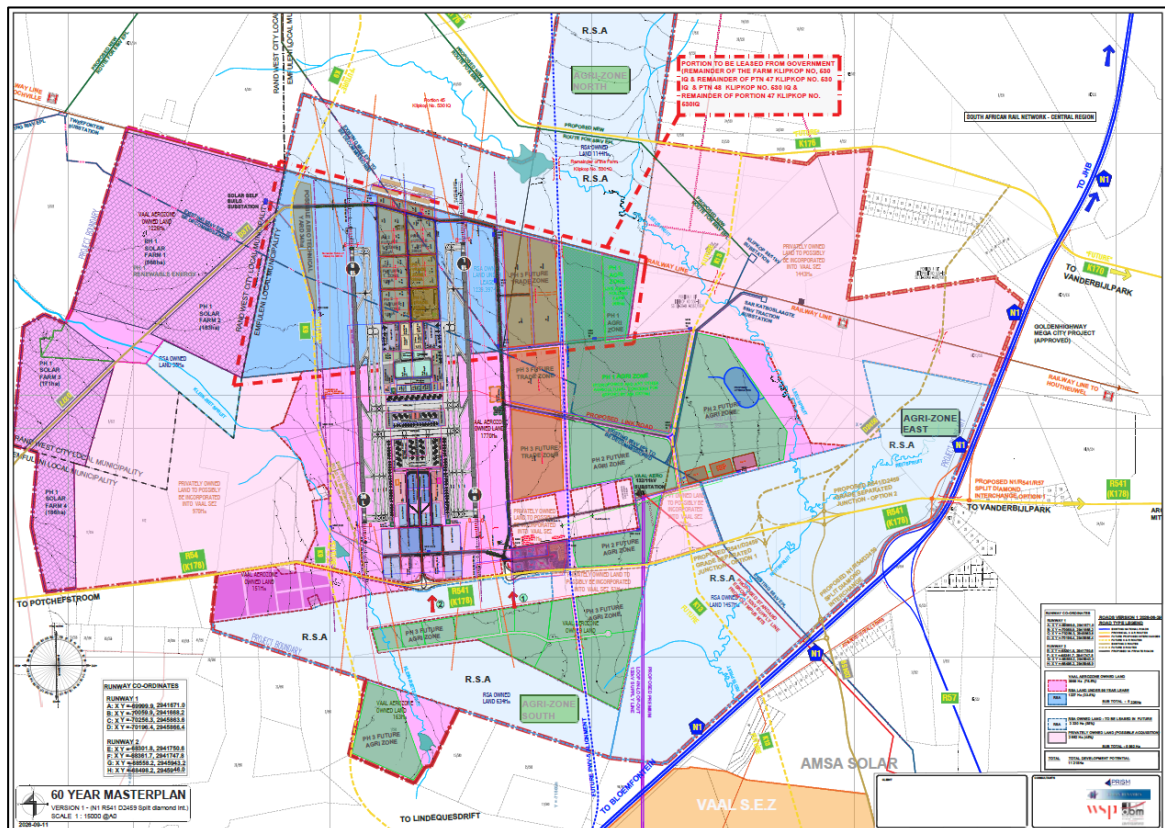


FIGURE 4-4: PRELIMINARY SITE DEVELOPMENT PLAN (COMPLETE DEVELOPMENT)

4.1.5 TRADE ZONE

The Trade Zone, also referred to as a logistics hub, will serve as an integration between air, rail ports, factories and motorways allowing different companies to perform tasks related to the flow of goods. This zone will consist primarily of light industrial and warehousing activities and will be located adjacent to the freight terminal for ease of freight transport. The size of the Trade Zone (Phase 1) will be $\pm 176\,000\text{ m}^2$ with a floor area ratio of 0.6 allowing for a total building area of $\pm 105\,300\text{ m}^2$. This area will include:

- A light manufacturing area estimated at 20% (i.e., $35\,200\text{ m}^2$).
- A warehousing and distribution area estimated at 80% (i.e., $140\,800\text{ m}^2$).

The trade zone is planned to be located between the two runways, which will be constructed as part of Phases 1 and 2, with the possibility of expanding to the east of the airport in Phase 3 (indicated in yellow in **Figure 1-1**).

4.1.6 ANCILLARY SERVICES

The following includes a short description on services that will be provided for the development, either by the developer or, if available, an external service provider. Please note that this information is only provided for the sake of contextualising and describing the project planning. Separate applications will be lodged in future for the authorisation of the services as and when required with the appropriate Competent Authorities.

4.1.6.1 WATER AND SEWER SERVICES

4.1.6.1.1 Water

The proposed water requirements for the Vaal Aerotropolis development according to the different phases are provided in **Table 4-4** and **Table 4-5** below. As the development will be phased, the water supply infrastructure will be aligned with the phased construction plans. Water demand has been estimated based on the land use and occupancy characteristics of each zone, factoring in peak demand scenarios and future growth. The phased approach ensures that the water supply infrastructure is both cost-effective and scalable, meeting the immediate needs of each phase while allowing for seamless expansion in subsequent phases. This design prioritises sustainability, reliability and compliance with relevant regulations and standards.

The bulk water supply, especially during the construction phase and initial stage of Phase 1 of the development, will be primarily sourced from high-yielding boreholes located within or near the proposed development area. Initial assessment results demonstrate the presence of productive water-bearing fracture zones, whereby additional boreholes can be drilled if so required (the necessary authorisations and licenses will be obtained as and when required).

Treatment, storage and distribution infrastructure will be installed and expanded as each phase of the proposed Aerotropolis is implemented. The storage requirements will incorporate provisions for emergency

supply (48-hour supply), as well as fire storage. For Phase 1 an on-site WWTW is proposed including i) a 20 000 m³ raw water storage reservoir, ii) an 8 000 m³ concrete reservoir for treated water storage, iii) a 2 000 m³ tower for adequate pressure supply, and iv) a 1 500 m³ fire storage reservoir. The bulk water distribution network will be comprised of 90 mm to 250 mm diameter pipelines that will allow the boreholes, WTW and airport precinct to be interconnected (**Figure 4-5**).

Proposed WWTW will flow as follows: Raw water storage > Inlet Works > Screening > Coagulation > Flocculation > Sedimentation > Filtration > Disinfection > 8 000 m³ Reservoir. Detailed Design Drawings will be provided during the EIA Phase.

TABLE 4-4: PROJECTED POTABLE WATER DEMANDS (WSP, 2026)

Detailed Land Use	Annual Average Daily Demand (AADD)	Phase 1	Phase 2	Phase 3
		Water Demand (kl/day)	Water Demand (kl/day)	Water Demand (kl/day)
Airport	25 l/passenger/day	493	1 712	3082
Hospital	1 kl/100m ² /day	80	80	80
Hotel Park	1 kl/100m ² /day	68	68	68
Shopping World	0.65 kl/100m ² /day	306	306	306
Office Park	0.65 kl/100m ² /day	483	483	483
Head Office	0.65 kl/100m ² /day	54	54	54
Conference Centre	0.65 kl/100m ² /day	44	44	44
Trade Zones	10 kl/ha/day	360	810	3985
Security House	0.3 kl/unit	2	2	2
Total Potable AADD		1 890	3 559	6 934
Conveyance Losses		10%	10%	10%
Treatment Losses		10%	10%	10%
Total GAADD		2 268	4 271	7 627
Peak Factor		1,5	1,5	1,5
Total Peak Hour Potable Water Demand		3 402	5 873	11 441

TABLE 4-5: PROJECTED NON-POTABLE WATER DEMANDS (FOR AGRICULTURE USES) (WSP, 2026)

Detailed Land Use	Annual Average Daily Demand (AADD)	Phase 1	Phase 2	Phase 3
		Water Demand (kl/day)	Water Demand (kl/day)	Water Demand (kl/day)
Agri-Lab	6 kl/ha	-	393	393
Agri Zones	12 kl/ha	4 267	5 365	4 713
Total Non-Potable Water Demand		4 267	5 758	5 106

The conceptual design of the bulk water infrastructure (both potable and fire) shall make provision to eventually have a bulk supply ring surrounding the Vaal Aerotropolis supplying water to a system of

reservoirs distributed at different development nodes. **Figure 4-5** shows the alignment of the proposed water services pipelines that will be put in place for the Vaal Aerotropolis.

Phases 2 and 3 of the proposed Aerotropolis will require additional water supply to meet the expected demand and is envisioned to be supplied by integration into the Rand Water A20 augmentation pipeline, which is projected to be commissioned in 2034. The said pipeline is expected to connect at the Langerand Reservoir site, which would then require a bulk water supply pipeline of approximately 24,5km, to supply the Vaal Aerotropolis storage facilities (**Figure 4-6**). Application/s for the relevant approval/s will be submitted as and when required, subject to the legislation applicable at the time.

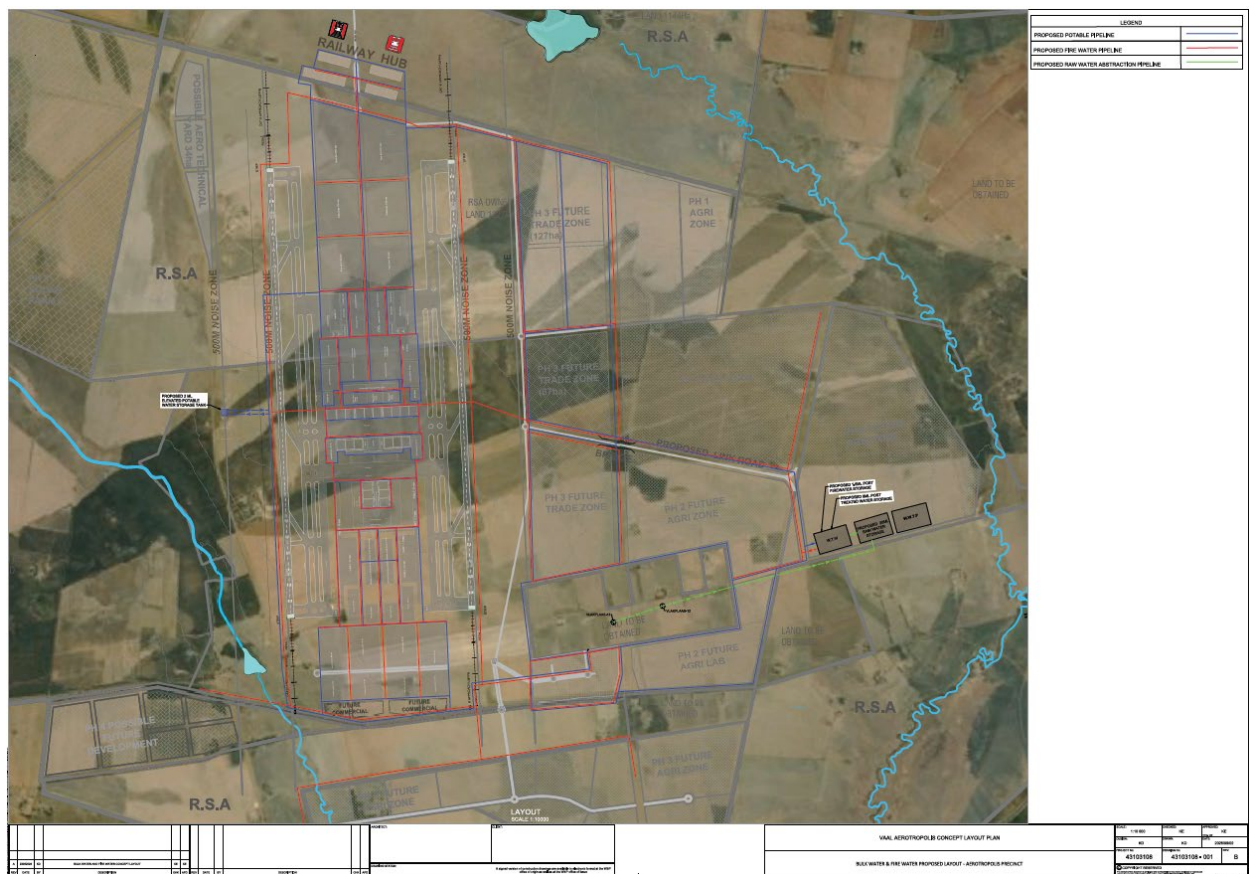


FIGURE 4-5: PROPOSED ALIGNMENT OF WATER AND FIRE WATER SERVICES (WSP, 2026)



FIGURE 4-6: PROPOSED ALIGNMENT OF BULK WATER SUPPLY FROM LANGERAND RESERVOIR TO VAAL AEROTROPOLIS (WSP, 2026)

4.1.6.1.2 Sewer

The bulk sewer services for the new development (**Figure 4-7**) are designed to manage sewage generated across all zones, including, but not limited to, the airport precinct, airport city and trade zones. The proposed sewer requirements for the Vaal Aerotropolis are provided in **Table 4-6**. During each phase of the Aerotropolis' expansion, the bulk sewer infrastructure will be installed, expanded, and adapted to meet the increasing capacity requirements of the growing development. To that end, taking into consideration Emfuleni Local Municipality's constraints and Vaal Aerotropolis' requirements, the following has been proposed for Phase 1 of the Vaal Aerotropolis development.

Phase 1 involves the construction of a 1.8ML/day on-site Wastewater Treatment Works (WWTW) which will be located east of the airport (**Figure 4-7**). The WWTW is planned to, following treatment, result in wastewater ultimately being re-used for irrigation of landscaped and agricultural areas, as part of the industrial processes within the Trade Zone, or discharging into the nearby water resource (Leeuspruit River) in accordance with DWS standards (a Water Use License is in process for this activity). The bulk sewer infrastructure will focus on collecting sewage from the airport, Airport City, and initial portions of the trade zones through a 300 mm diameter bulk sewer pipeline. A gravity sewer pipeline collecting the effluent will convey wastewater through 450 mm diameter bulk sewer pipes to the on-site WWTW.

This phase will include:

- Gravity Sewer Network: Designed to optimise flow from the airport, trade zones, and adjacent areas, minimizing the need for pumping stations.
- Pump Stations: Strategically located pump stations, where required, to assist flow from low-lying areas.
- On-Site WWTW: The WWTW will be designed with an initial treatment capacity of 1.8 ML/day, incorporating processes such as primary sedimentation, biological treatment, and tertiary treatment

for reuse purposes. The treatment processes are subject to the requirements for treated effluent to be reused on the Vaal Aerotropolis.

- Reclamation and Reuse: Treated wastewater will be, where possible, used for landscaping, industrial processes, and other non-potable applications. Sludge generated during treatment will be treated via sludge drying beds prior to being transferred to a designated composting area.

The design of the wastewater treatment system shall account for flexibility and adaptability to accommodate future demands. The proposed on-site WWTW will form part of a separate WULA, with DWS being the competent authority.

TABLE 4-6: PROPOSED SEWER REQUIREMENTS (WSP, 2026)

Detailed Land Use	Phase 1			Phase 2			Phase 3		
	Average Dry Weather Flow (kl/day)	Peak Dry Weather Flow (kl/day)	Peak Wet Weather Flow (kl/day)	Average Dry Weather Flow (kl/day)	Peak Dry Weather Flow (kl/day)	Peak Wet Weather Flow (kl/day)	Average Dry Weather Flow (kl/day)	Peak Dry Weather Flow (kl/day)	Peak Wet Weather Flow (kl/day)
Airport	395	592	651	1 370	2 055	2 260	2 466	3 699	4 253
Hospital	64	95	105	64	95	105	64	95	110
Hotel Park	55	82	90	55	82	90	55	82	94
Shopping World	244	367	403	244	367	403	244	367	422
Office Park	387	580	638	387	580	638	387	580	667
Head Office	43	65	71	43	65	71	43	65	75
Conference Centre	35	52	58	35	52	58	35	52	60
Trade Zones	288	432	475	648	972	475	3 188	4 782	5 499
Security House	2	3	3	2	3	3	2	3	3
Total	1 512	2 268	2 608	2 847	4 271	4 291	6 483	9 725	11 183

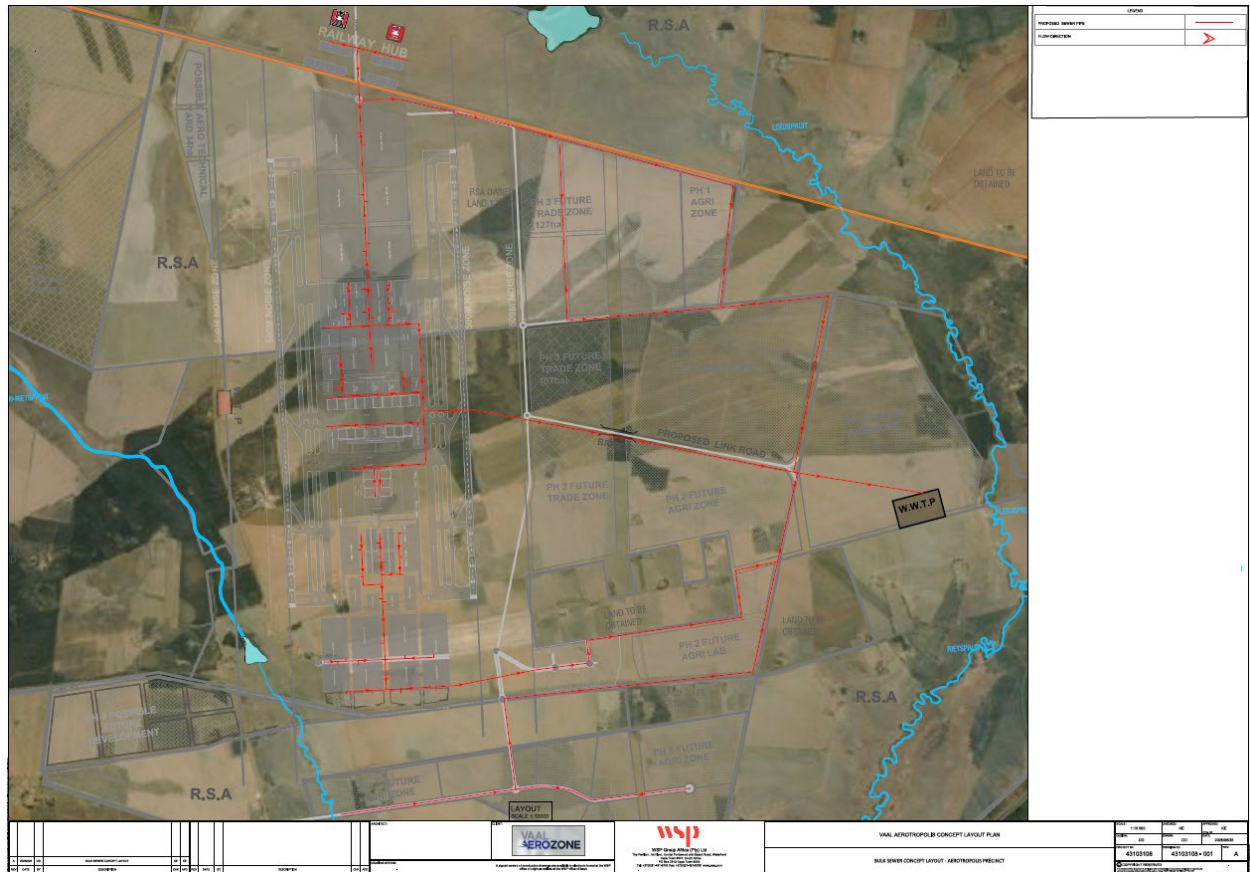


FIGURE 4-7: PROPOSED ALIGNMENT OF SEWER LINES & WWTP POSITION (WSP, 2026)

4.1.6.2 ROADS

A new and upgraded network will be constructed to serve the access and mobility needs of the Vaal Aerotropolis site and surrounding land-uses. The proposed site is surrounded by numerous high, medium and low order roads that will provide vehicle and public transport access to the site. As part of this broader context, a TIA was undertaken to evaluate the potential impact of Phase 1 of the Vaal Aerotropolis on the surrounding road network, including the required new and upgraded roads, interchanges, access points and futureproofing for subsequent development phases⁴. The assessment also included SANRAL's N1 interchange Fatal Flaw Report and the N1 Interchange Application to the Gauteng Department of Roads and Transport (GDRT).

All roads and access points will be designed to meet the following objectives:

- To ensure appropriate regional and metropolitan access to the aerotropolis and surrounding Agri zones.

⁴ Environmental Authorisation to be completed for external roads – Separate Process – In Progress

- Ensure direct and efficient road access to and linkage between various sub-zones of the greater aerotropolis and its precincts.
- To establish a suitable, economical and hierarchical movement network for all vehicles, for passengers, staff, freight and non-motorised transport.
- Enable the establishment of effective and efficient public transportation access.
- Promote integrated and safe vehicle and non-motorised access and circulation to site, on site, for an efficient connected site.
- Promote a multi-modal approach to transport provision.

The key municipal and provincial routes that will support the Vaal Aerotropolis include the N1 freeway, P24 (R54 / K178), D2459 (Roots Road), and possible future links, all of which will require upgrades - primarily to dual carriageways - to accommodate traffic to and from the proposed development. Presently, there are no suitable direct access points to the N1 (**Figure 4-8**), making new interchange infrastructure critical to the development's viability.

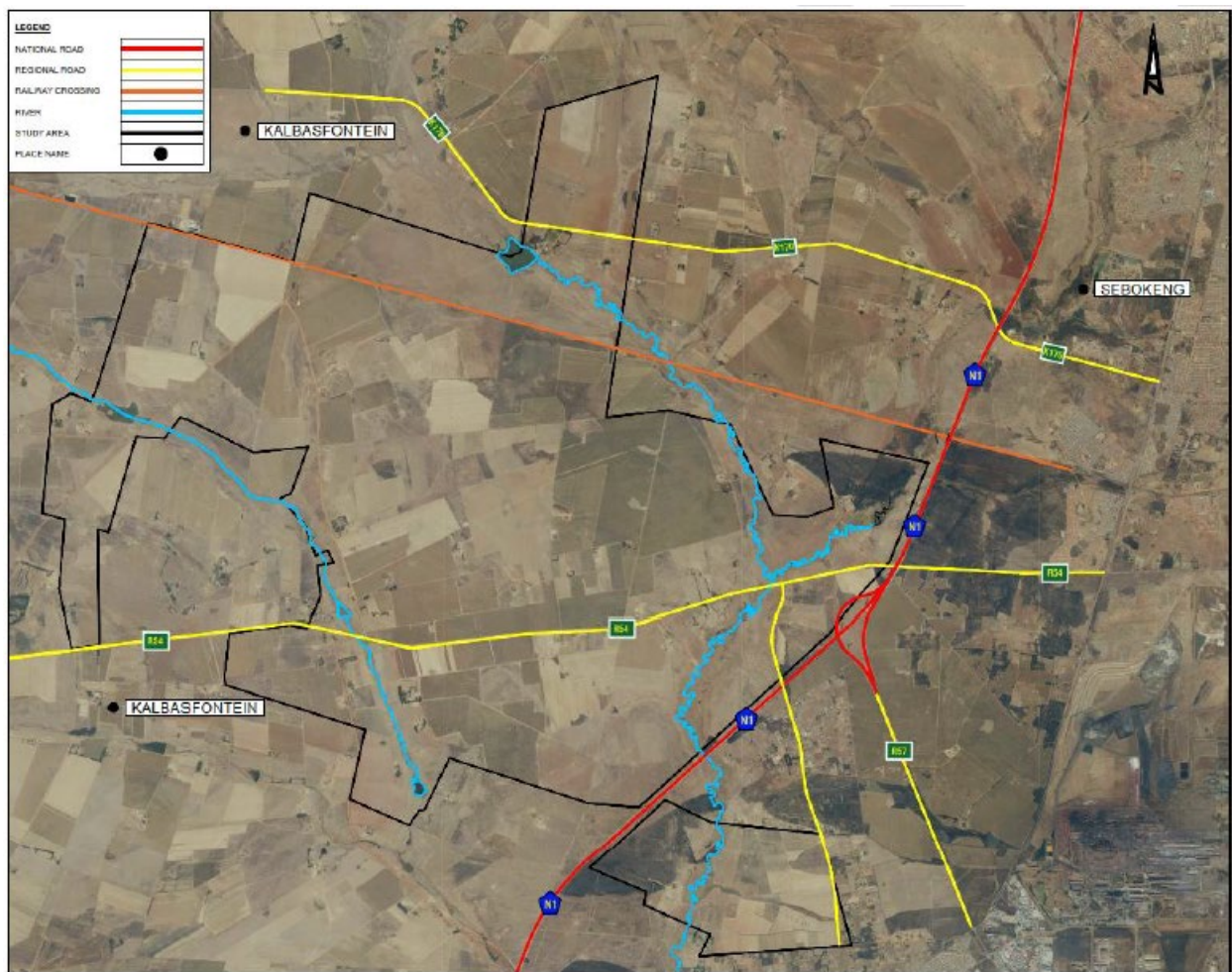


FIGURE 4-8: LAYOUT OF EXISTING MAJOR ROAD NETWORK (WSP, 2026)

4.1.6.2.1 External Roads

Several interchange options were assessed and refined based on safety, spacing and network performance. As a result, a Split Diamond Interchange (SDI) at the N1 / P24 (R54) / D2459 is deemed the preferred option subject to approval from SANRAL and the GDRT. As indicated above, **these applications do not form part of this EIA process and will be completed separate from this application.**

The SDI at the N1 / P24 (R54) / D2459 best satisfies operational efficiency, network integration, and planning objectives while meeting the necessary technical and regulatory criteria. It offers seamless integration between Sebokeng (east of the N1) and the planned airport development (west of the N1).

The SDI contains the following as indicated in **Figure 4-9**:

- N1 split diamond access interchange with the P24 and D2459:
 - The northern portion of the split diamond is an on- and off-ramp with the P24 serving traffic to and from the north on the N1. These two ramp terminals will be dual lane roundabouts for increased capacity and safety.
 - In the south an on- and off-ramp with the D2459 to the N1 will serve traffic from and to the south of the N1. These two ramp terminals will be dual lane roundabouts for increased capacity and safety, however, as this is a low volume interchange, priority stop-controlled junctions will also have ample spare capacity.
 - The two interchange components will allow connectivity between the N1 and the P24 and the D2459 on- and off-ramps.
- P24 and D2459 intersection:
 - This intersection is currently a priority-controlled T-junction, it is proposed to convert it to a narrow diamond grade separated junction with ramp terminal roundabouts.
- P24 (K178):
 - This road is currently a single carriageway; it is proposed to convert it to a dual carriageway from east of N1 interchange to west of the Airport (Access 2).
- A realignment of a portion of the D2459 up to the P24/1 further west is proposed (subject to approval by SANRAL and GDRT during detail design phase), in order to reduce road construction within the Rietspruit floodplain and to increase the distance between this interchange and the proposed N1/P24 SDI.

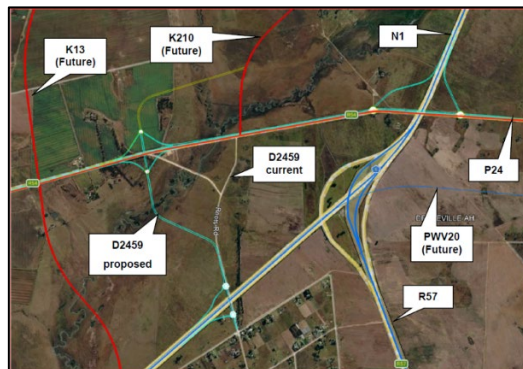


FIGURE 4-9: PROPOSED SPLIT DIAMOND INTERCHANGE (WSP, 2026)

4.1.6.2.2 Internal Roads

The accesses to the Vaal Aerotropolis from the P24 for Phase 1 are proposed as follows:

- Access 1 (**Figure 4-10**): The access will be a partial free flow grade separated junction with access from and to the P24 east of the interchange. The interchange will not have an on or off-ramp serving the P24 to and from the west; this movement will be accommodated at Access 2.
- Access 2 (**Figure 4-11**): This access will be a grade-separated diamond interchange with full accessibility from the P24 (to and from the east and west). All ramps will be free flowing with an additional grade separation between the westbound off-ramp from the P24, and the on-ramp westbound to the P24.

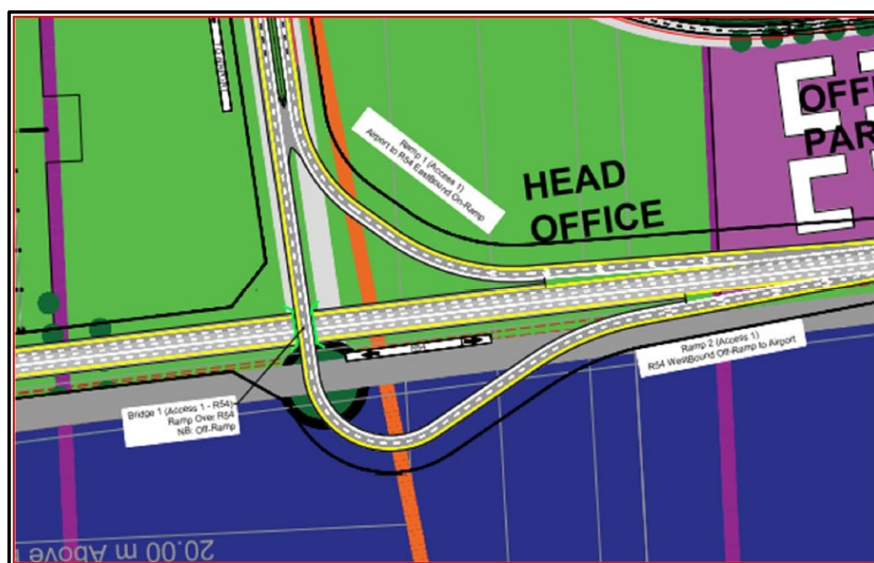


FIGURE 4-10: INTERNAL ACCESS ROAD 1 (EAST) (WSP, 2026)

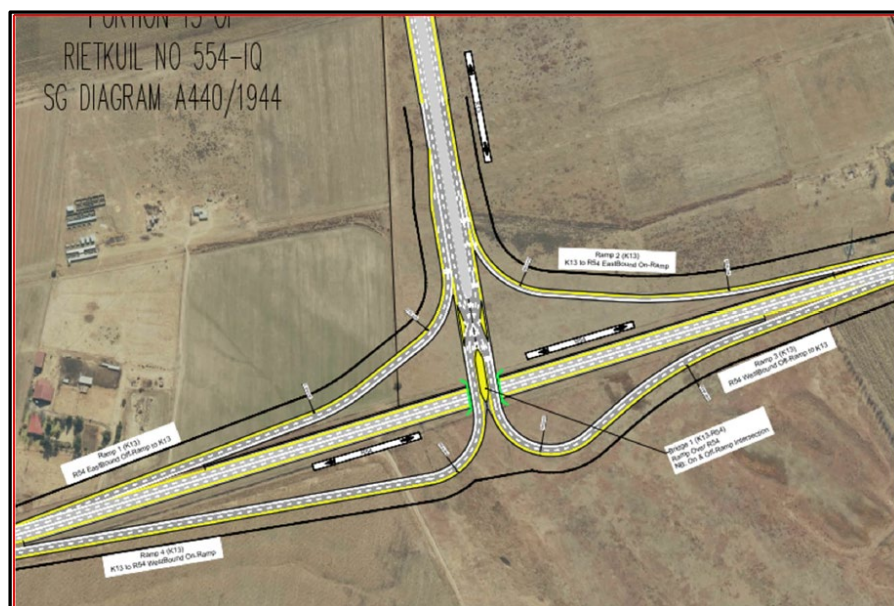


FIGURE 4-11: INTERNAL ACCESS ROAD 2 (WEST) (WSP, 2026)

Additionally, there are two major internal junctions within the Vaal Aerotropolis development. These two junctions connect with Access 1 and Access 2 from the P24 and provide access to the different areas of the development, such as the passenger terminal, freight/cargo terminals, airport city, trade zone and Agri-Zones (**Figure 4-12**).

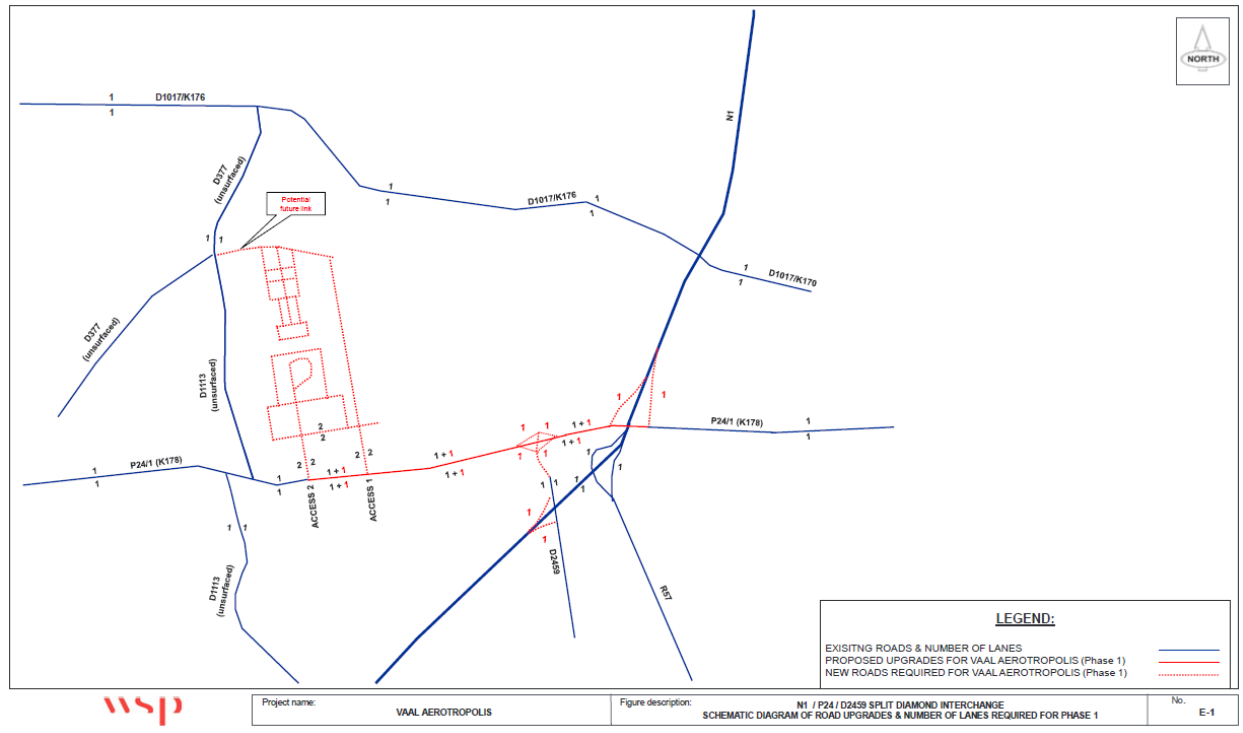


FIGURE 4-12: SCHEMATIC DIAGRAM OF ROAD UPGRADES AND NUMBER OF LANES REQUIRED FOR PHASE 1 (WSP, 2026)

4.1.6.3 STORMWATER MANAGEMENT

A Stormwater Management Plan (SWMP) has been developed by WSP Group Africa (Pty) Ltd to ensure that the development will minimise environmental impacts, minimise the risk of flooding and protect receiving water bodies against negative influences. This plan broadly focuses on two zones – Aerotropolis Precinct and Road Interchanges.

4.1.6.3.1 Aerotropolis Precinct

Based on topography and sub-catchments identified, three (3) main stormwater outfall locations were identified for the site. These are summarised below, as can be seen in **Figure 4-13** below.

- To the northeast, below the existing dam (26°34'43" S; 27°43'14" E).
- To the east near the P24 (R54) (26°35'45" S; 27°44'48" E).
- To the southwest near the existing dam (26°37'24" S; 27°40'58" E).

Ultimately, catchment B and C were consolidated, and flows will be routed to the same outfall point (Outfall 2 in **Figure 4-13**) while catchment A and its associated outfall were retained (Outfall 3 in **Figure 4-13**).

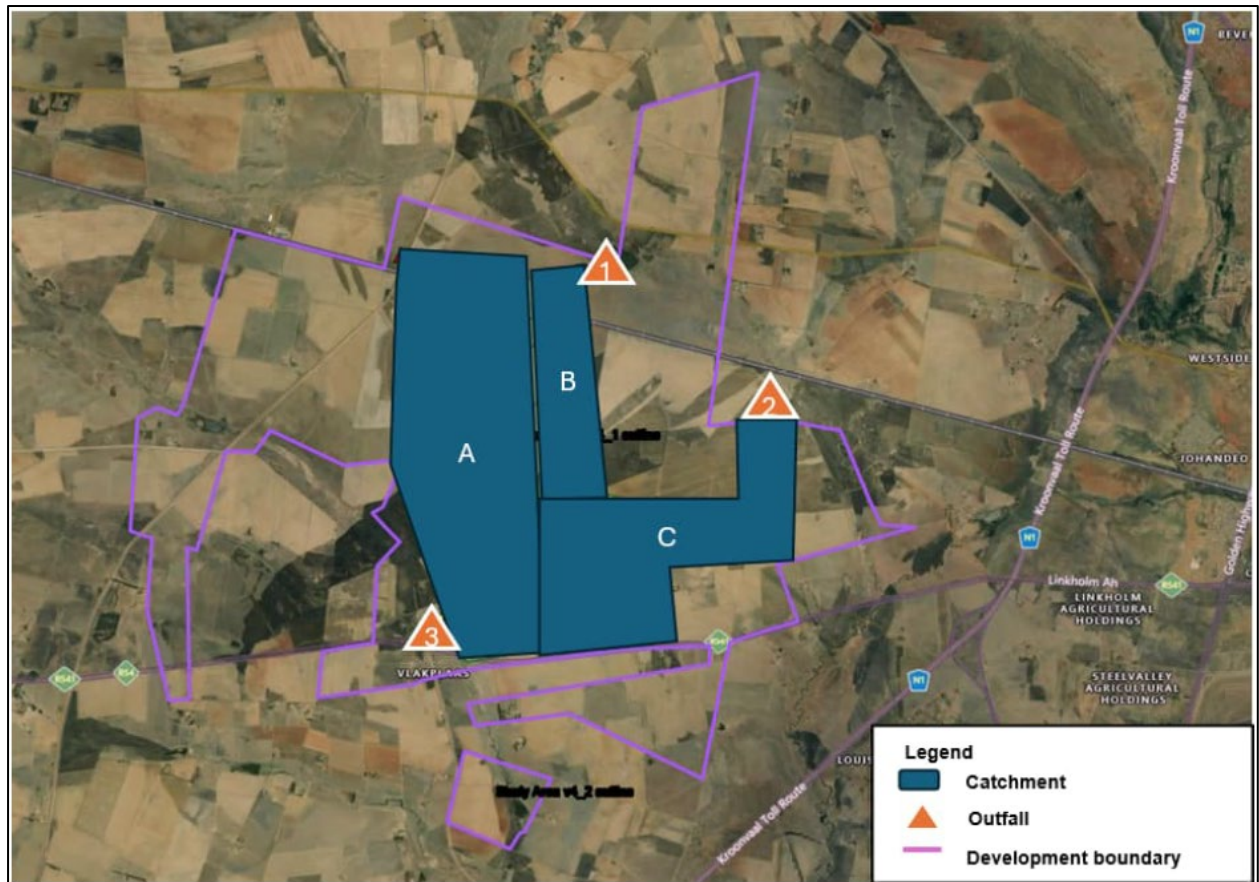


FIGURE 4-13: STORMWATER CATCHMENT DELINEATION AND OUTFALL MAP (WSP, 2026)

In terms of the Vaal Aerotropolis precinct itself (**Figure 4-14**), it is proposed that i) major and minor stormwater routes will be interlinked to form the bulk stormwater services, ii) the minor routes will consist of drainage from the surrounding aerotropolis buildings, runways, parking areas and internal road networks, iii) stormwater runoff will be directed from the minor routes into the major routes, iv) internal roads will have a chamber directing flow along the kerbs along the road towards catchpits to facilitate drainage for the full extent of the internal roads, and v) internal roads will discharge to roadside channels and convey attenuated flow for discharge into the surrounding watercourses.

The minor system, in accordance with Emfuleni Local Municipality guidelines, will be able to accommodate the 1 in 50-year return period. It will consist of Class 100D 900 mm diameter pipes (SANS 677), contain kerbs for collecting run-off along internal roads and include channels along the major internal roads. Run-off from taxiways and runways will be diverted towards strategically placed catchpits and dry swale systems to reduce surface stormwater volumes.

The major system will be comprised of a grid system containing multiple catchpits and specific airside drainage systems to collect runoff through the minor network. This system will consist of 100D 1 350 mm diameter concrete pipes (SANS 677) specifically designed to maximise flow movement away from the runway.

An attenuation dam (dry detention basin) was designed for Outfall 2, since this area will cater for the eastern half of the development and will include runways and future Agri-Zones. The attenuation dam will have an active volume of 950 Ml, cover an estimated area of 29 ha, and have a maximum depth of 4 m.

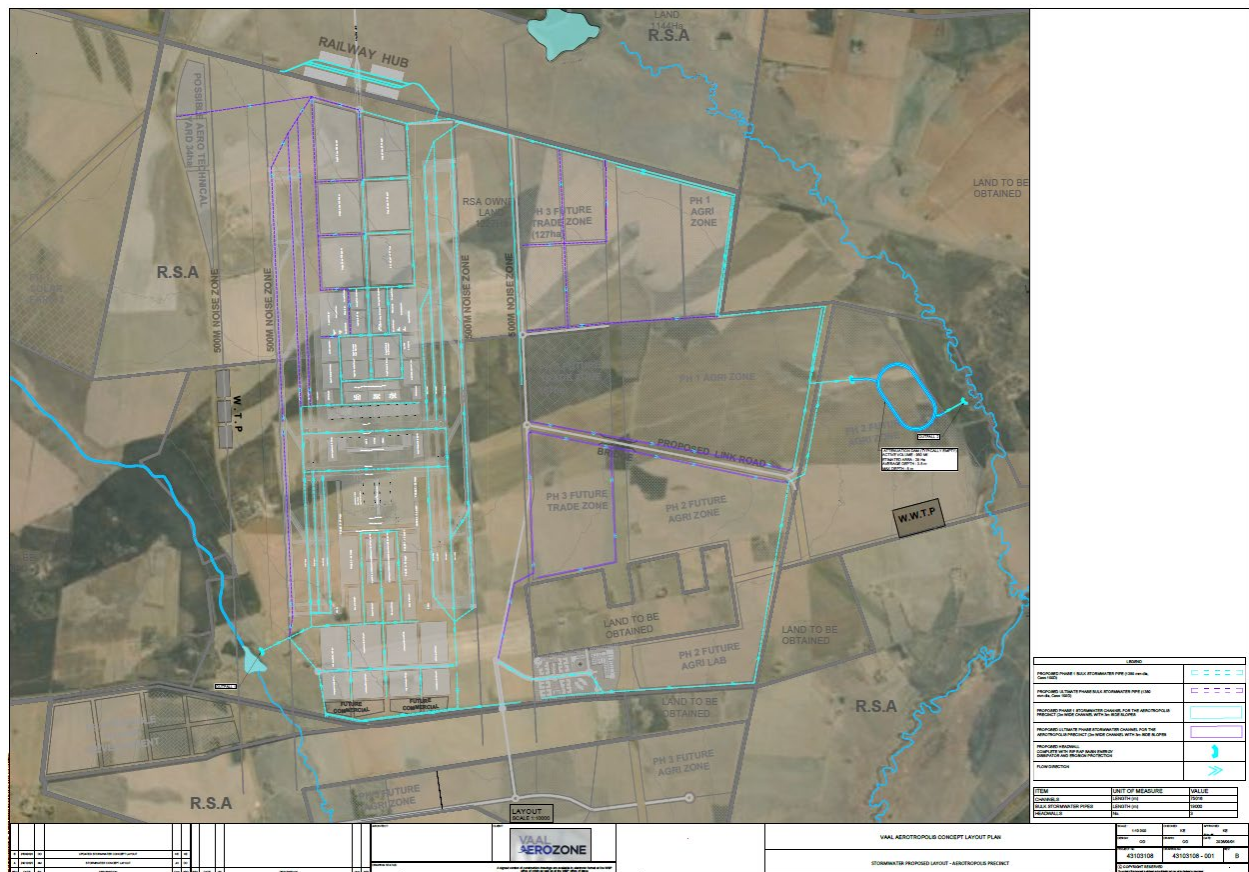


FIGURE 4-14: PROPOSED STORMWATER MANAGEMENT LAYOUT PLAN

4.1.6.3.2 Road Interchanges

The development of the proposed aerotropolis demands that existing access roads be upgraded / expanded and that a new access point to and from the N1 highway be created (refer to Section 4.1.6.2 above). Any alterations in the road network will result in changes in the adjoining drainage.

The proposed drainage system will consist of new channels, culverts, and one bridge at the P24(R54) / D2459 interchange (**Figure 4-15**). The proposed drainage system will tie into existing drainage, which may require upgrades based on the flow volumes generated.

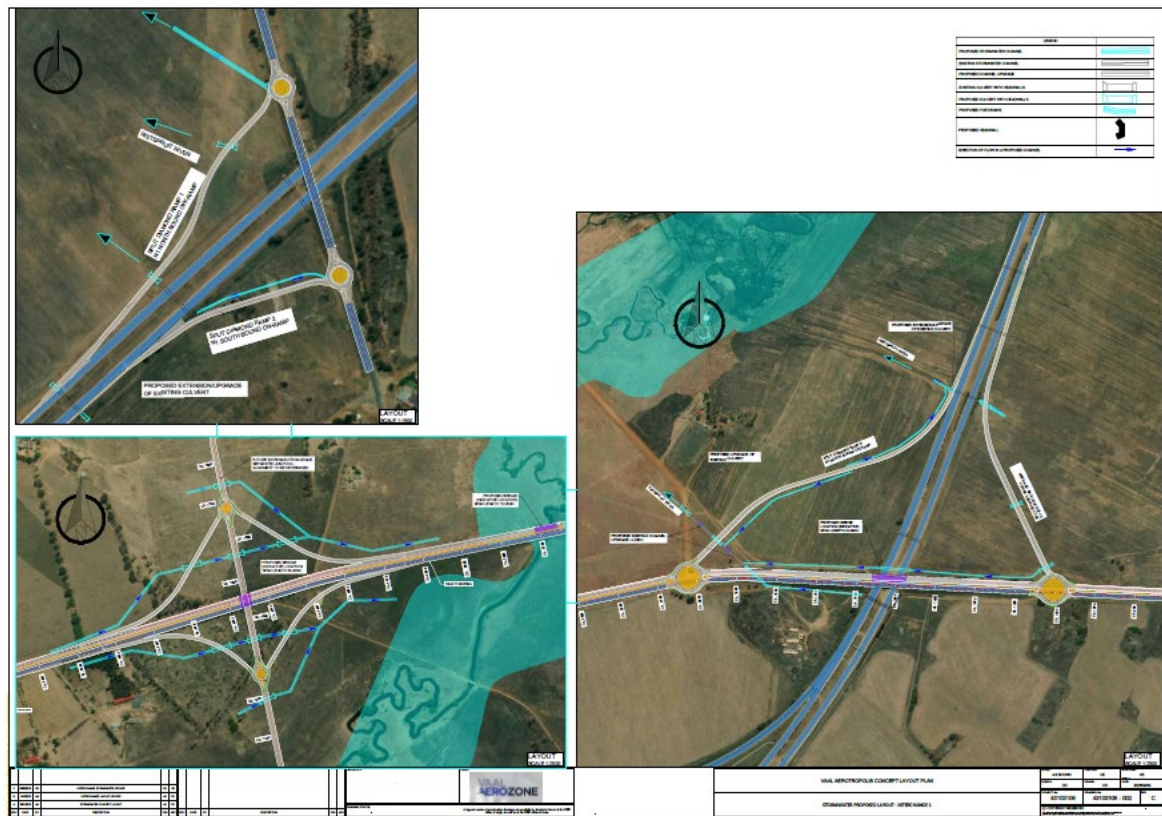


FIGURE 4-15: PROPOSED STORMWATER MANAGEMENT AT VARIOUS INTERCHANGES

4.1.6.3.3 Summary

Stormwater management of the Vaal Aerotropolis will be designed with the overall development context in mind. The development will encompass minor and major systems designed for the recommended 1 in 50-year return period, with a 30% climate change buffer added. Runoff calculations will be based on the symmetrical rainfall distribution in a 24-hour period, however, it is expected that post-development flows will be much larger than pre-development flows. As such, attenuation, erosion control and water quality remediation of post-development flows will be considered in the final stormwater management plan.

4.1.6.4 ELECTRICITY

The proposed development is estimated to have a maximum energy demand of approximately 50 Mega Volt-Amperes (MVA) by the end of Phase 3. During Phase 1 however, the development will be limited to an initial 20 MVA supply. The primary source of power shall be supplied by ESKOM via a 132/11kV bulk intake substation configured with three transformer bays, of which:

- Two 40MVA transformers are to be installed initially to satisfy the Phase 1 demand (20MVA), and
- The third transformer position is reserved for future installation, allowing capacity expansion toward the ultimate demand without major substation redesign.

Phase 1 specifically requires a dedicated bulk electrical supply which can be defined as:

- Notified Maximum Demand (NMD): 20 000 kVA
- Connection Voltage Level: 11kV (delivery)
- Upstream Connection Level: 132 kV transmission / distribution interface.

In addition to the above-mentioned power supply scope, existing 88kV infrastructure will be realigned along the northern boundary of the site. This involves the construction of approximately 15km of new overhead lines, decommissioning and dismantling of existing infrastructure within the development area, and implementation of ESKOM-controlled connection works and servitude adjustments.

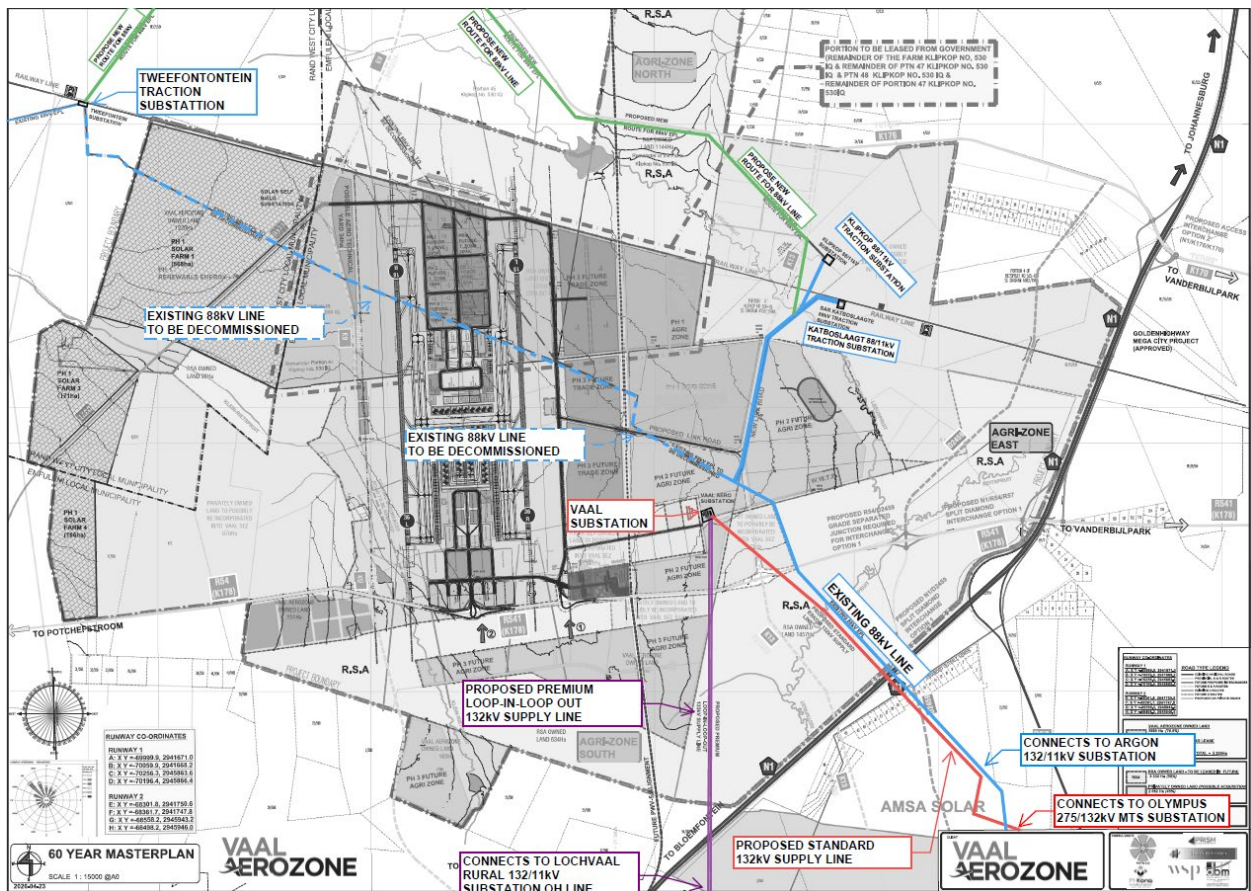


FIGURE 4-16: PROPOSED ELECTRICAL INFRASTRUCTURE

In terms of The Vaal Aerotropolis' electricity demand and supply, relevant environmental authorisations will be obtained. These will follow individual separate applications as per legislative requirements ⁵.

⁵ Environmental Authorisation to be completed for electricity infrastructure – Separate Process – In Progress

4.1.6.5 WASTE

Emfuleni Local Municipality has formally confirmed that it will provide municipal solid waste removal services to the proposed Vaal Aerotropolis development. A total of three waste collection zones has been allocated, comprising a total surface area of 3000 m², which will allow Vaal Aerotropolis to store on-site waste until such time as the municipality can collect it⁶.

In support of the above, an Integrated Waste Management Plan (IWMP) has been developed by WSP consulting engineers specifically for the proposed project. The plan aligns with the waste hierarchy, international best practice, and South African legislation while supporting environmental authorisation and future operational implementation.

It is proposed that waste management prioritises avoidance, reuse, recycling, recovery and lastly disposal, and be applied pragmatically, based on operational feasibility rather than rigid targets. The focus should be on high-volume, repeatable waste streams (e.g. packaging, organics, construction waste), with circular initiatives implemented gradually, based on market availability and operational readiness. All waste generators (airport operators, tenants, airlines, contractors) will be legally responsible for proper handling, storage, transport and disposal of their respective waste.

The key waste streams that have been identified are:

- Municipal Solid Waste (MSW): general, non-hazardous waste from terminals, offices, retail and logistics areas, managed through Emfuleni Local Municipality services.
- Sewage, Wastewater and Treatment Residuals: includes sewage, sludge, grit, and screenings generated from on-site wastewater treatment systems, treated as controlled waste streams (discussed under Section 4.1.3.1.2).
- Waste from Aircraft Operations and Deplaned Waste: generated from aircraft cabins and galleys, requiring strict handling, sealed storage and rapid removal due to hygiene and airside safety constraints.
- International Catering Waste (ICW): A high-risk, regulated waste stream requiring strict segregation, secure storage and disposal through licensed facilities due to biosecurity risks.
- Organic and Biodegradable Waste: includes food waste, agricultural residues and green waste, with potential for future reuse or composting, subject to approvals.
- Construction and Demolition (C&D) Waste: a recurring, high-volume stream across all development phases, requiring material reuse and recycling-focused management.

⁶ The National Environmental Management: Waste Act (Act 59 of 2008) Norms and Standards will be adhered to.

- **Hazardous and Industrial Waste:** includes chemicals, contaminated materials and maintenance residues, requiring strict classification, containment and licensed disposal.
- **Aviation-Specific and Special Waste:** includes medical waste, spill residues, e-waste and other specialised streams requiring licensing/permits, dedicated handling and compliance controls.

The IWMP for the Vaal Aerotropolis provides a robust, practical and strategically phased framework that ensures all waste streams are managed in a manner that is compliant, operationally efficient, and environmentally responsible. Ultimately, the plan establishes a strong foundation for sustainable waste management, while maintaining the flexibility to adapt, optimise, and improve resource efficiency over time as the Vaal Aerotropolis evolves into a fully integrated logistics and economic hub.

4.1.6.6 AVIATION FUEL STORAGE FACILITY

Aviation fuel storage requirements would ordinarily be determined based on the fuel demand associated with peak-day aircraft operations, together with an appropriate reserve capacity to provide resilience in the event of a disruption to the normal fuel supply.

At the current stage of the Vaal Aerotropolis development, detailed operational and fuel demand data are not yet available. Accordingly, the fuel storage and associated land requirements have been established using a benchmarking approach.

The benchmarks considered include the existing fuel farm facilities at O. R. Tambo International Airport and King Shaka International Airport, as well as comparable international airports with passenger throughput of up to approximately 45 million passengers per annum (mppa).

Based on the benchmark assessment, an indicative land requirement of approximately 700 m² per mppa has been adopted for aviation fuel storage and associated facilities at Vaal Aerotropolis. This allowance assumes a greenfield airport development incorporating a hydrant-based aircraft refuelling system, with provision for conventional Jet A-1 and Sustainable Aviation Fuel (SAF).

The adopted allowance is lower than the benchmark requirements observed at O. R. Tambo and King Shaka International Airports, where aircraft refuelling is predominantly undertaken using refuelling bowsters. The proposed hydrant-based system is expected to require less land for fuel distribution, and associated vehicle movements and facilities.

The relevant impact assessment – Air Quality Impact Assessment – and licensing for the storage of fuel, is in process in parallel with this EA application process.

4.2 LISTED ACTIVITIES

In terms of the EIA Regulations, 2014 (as amended) and Listed Activities, 2017 (as amended) (introduced in Section 2.2.1), the activities that are triggered under the Listing Notices for this proposed development are provided in **Table 4-7**. Refer to Section 2.2 for a description and overview of the applicable legislative framework.

TABLE 4-7: DESCRIPTION OF THE LISTED ACTIVITIES

Listing Notice	Activity	Description of Listed Activity	Interpretation
<i>NEMA: Listing Notice 1 (requires a Basic Assessment)</i>			
GN R 327 7 April 2017 (as amended)	9	The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water— (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more;	The bulk water distribution network will be comprised of 90 mm to 250 mm diameter pipelines that will allow the boreholes, WWTW, and airport precinct to be interconnected. The minor stormwater system will consist of 900 mm diameter pipes while the major stormwater system will consist of 1 350 mm diameter concrete pipes.
	10	The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes – (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more;	Sewer reticulation will range between 0.3m to 0.45m diameter pipelines with some sections exceeding 1km.
	11(i)	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.	Phase 1 of the development will require an initial 20 MVA supply which will include the re-alignment of an existing 88kV powerline.
	12	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— i) within a watercourse;	The attenuation dam with an active volume of 950 Ml, covering an estimated 29 ha, and having a maximum depth of 4 m is planned to be constructed within the regulated area of a wetland.

Listing Notice	Activity	Description of Listed Activity	Interpretation
		j) in front of a development setback; or k) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;	Several other forms of infrastructure (i.e., stormwater infrastructure, runways, roads, etc) will be built within 32m of a watercourse.
	13	The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.	The attenuation dam with an active volume of 950 Ml, covering an estimated 29 ha, and having a maximum depth of 4 m will be constructed within the regulated area of a wetland.
	14	The development and related operation of facilities or infrastructure, 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 but not exceeding 500 cubic metres.	An on-site aviation fuel farm will be developed which will contain three 2 000 m ³ tanks resulting in a total storage capacity of 6 000 m ³ .
	19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.	Airport associated infrastructure will cross and/or impede several watercourses.
	24	Development of a road – (i) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or (ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;	Several internal roads will be upgraded to dual-carriageways, and new roads (i.e. main boulevard, access and other arterials to the trade centre) are proposed.
	27	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.	A total of 13 farm portions will be affected spanning an approximate area of 3 545 hectares. Several areas herein will be cleared for construction purposes.
	28 (ii)	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;	This activity is triggered as the site occurs outside the urban area and is greater than 1 ha in extent. Historically the site has been utilised for agricultural purposes.
	56	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre- (i) where the existing reserve is wider than 13,5 metres; or	Several internal roads will be upgraded to dual-carriageways, and new roads (i.e. main boulevard, access and other arterials to the trade centre) are proposed.

Listing Notice	Activity	Description of Listed Activity	Interpretation
		(ii) where no reserve exists, where the existing road is wider than 8 metres;	
NEMA: Listing Notice 2 (requires a Scoping and EIR)			
GN R 325, 7 April 2017 (as amended)	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 a combined capacity of more than 500 cubic meters.	An on-site aviation fuel storage facility will be constructed which will contain three 2 000 m ³ tanks resulting in a total storage capacity of 6 000 m ³ .
	6	The development of facilities or infrastructure for any process or activity which requires a permit or license or an amended permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent.	This activity is triggered as the fuel storage facility will require an Air Emissions License as activities specified in the NEM:AQA are triggered by the operation.
	7	The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods— (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.	This activity is triggered as the operation will utilise a hydrant system for the transport of fuel from the fuel storage facility to the individual aircraft stands. The pipeline lengths for the required system will exceed the specified 1000 meters and throughput of 50 cubic meters.
	8	The development of— (i) airports; or (ii) runways or aircraft landing strips longer than 1,4 kilometres.	The proposed development involves the development of an international airport with a runway which is 4.2 km in length.
	15	The clearance of an area of 20 hectares or more of indigenous vegetation.	A total of 13 farm portions will be affected spanning an approximate area of ± 3 545 hectares. Several areas herein will be cleared for construction purposes.
	16	The development of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the highwater mark of the dam covers an area of 10 hectares or more.	The attenuation dam with an active volume of 950 Ml, covering an estimated 29 ha, and having a maximum depth of 5 m will be constructed within the regulated area of a wetland.
	27	The development of a road— (iv) catering for more than one lane of traffic in both directions.	Several internal roads will be upgraded to dual-carriageways, and new roads (i.e. main boulevard, access and other arterials to the trade centre) are proposed.
NEMA: Listing Notice 3 (requires a Basic Assessment)			
GN R 324 7 April 2017	2(c)(ii)(iv)(v)(vi)	The development of reservoirs, excluding dams, with a capacity of more than 250 cubic metres. –	An on-site WWTW is proposed including a 20 000 m ³ raw water storage reservoir, an 8 000 m ³ concrete reservoir for treated water storage, a 2 000 m ³ tower for adequate

Listing Notice	Activity	Description of Listed Activity	Interpretation
(as amended)		(ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004) (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority.	pressure supply, and a 1 500 m ³ fire storage reservoir will be constructed.
	3(c)(ii)(iv)(v)(vi)	The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower – a) is to be placed on a site not previously used for the purpose; and b) will exceed 15 meters in height. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority.	Masts and other telecommunications infrastructure exceeding 15m are associated with airports and will most likely be constructed.
	4(c)(ii)(iv)(v)(vi)(vii)	The development of a road wider than 4 metres with a reserve less than 13,5 metres. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority. (vii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas.	This activity is triggered due the proposed development of roads wider than 4 meters. In addition, sections of the site are classified as Ecological Support Areas and Critical Biodiversity Area (CBA).

Listing Notice	Activity	Description of Listed Activity	Interpretation
	6(c)(ii)(iv)(v)(vi)(viii)	The development of resorts, lodges, hotels, tourism or hospitality facilities that sleeps 15 people or more. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority. (viii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas	This activity is triggered due the proposed development of a 90-room hotel on site. In addition, sections of the site are classified as Ecological Support Areas and Critical Biodiversity Area (CBA). Furthermore, according to GAPA, the site has a high potential for agriculture.
	10(c)(ii)(iv)(v)(vi)(vii)	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 a combined capacity of 30 but not exceeding 80 cubic metres. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority. (vii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas.	This activity is triggered due the proposed development of the required fuel storage facility for the proposed airport. In addition, a few sections of the site are classified as Ecological Support Areas and Critical Biodiversity Area (CBA).
	12(c)(i)(ii)	The clearance of an area of 300 square metres or more of indigenous vegetation. – (i) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEM:BA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004. (ii) Within Critical Biodiversity Areas or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans.	A total of 13 farm portions will be affected spanning an approximate area of 3 545 hectares. Several areas herein will be cleared for construction purposes. In addition, sections of the site are classified as Ecological Support Areas and Critical Biodiversity Area (CBA).

Listing Notice	Activity	Description of Listed Activity	Interpretation
	14(c)(ii)(iv)(v)(vi)	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs—(a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority.	The attenuation dam with an active volume of 950 Mℓ, covering an estimated 29 ha, and having a maximum depth of 4 m will be constructed within the regulated area of a wetland.
	18(c)(ii)(iv)(v)(vi)(vii)	The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. – (ii) National Protected Area Expansion Strategy Focus Areas; (iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation plan or in bioregional plans. (v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act 10 of 2004). (vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority. (vii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas.	Several internal roads will be upgraded to dual-carriageways, and new roads (i.e. main boulevard, access and other arterials to the trade centre) are proposed. In addition, sections of the site are classified as Ecological Support Areas and Critical Biodiversity Area (CBA).

4.3 PROJECT LIFE-CYCLE

To adequately consider the impacts associated with the proposed development, the major activities during each phase of the project life-cycle are listed below:

Approval Applications and other Feasibility Studies:

- Technical, economic and environmental screening of proposal and alternatives.
- Development of Preliminary Design Reports.
- Environmental, Social and Geotechnical Assessments.
- Establishment of township, Local Spatial Development Framework (LSDF), and Special Economic Zone (SEZ).
- Air traffic forecasting.
- Discussions with affected / adjacent landowners and IAP's (where applicable).
- Environmental Authorisation and WULA processes.

Pre-construction Phase:

- Detailed layouts and services designs.
- Procurement process for Contractors.
- Land acquisition (where necessary).
- Procurement of other necessary materials.
- Appoint Environmental Control Officer (ECO).
- Liaison with specialists (where applicable).

Construction for Phase 1:

- Appointments and site camp set up:
 - Set up site camp with temporary offices and administrative facilities.
 - Set up ablutions.
 - Set up access control, security; signage and lighting.
 - General materials storage and laydown areas.
 - Construction employment.
 - Change-houses, chemical toilets and showering facilities (linked to conservancy tanks – removal of contents by exhauster vehicle and disposal at permitted facility).
 - Temporary waste storage areas; these shall be established and managed in accordance with EMP requirements to be developed in the EIA phase.
 - Sourcing of construction materials and equipment:
 - All bulk materials (aggregate, cement, steel etc.) will be sourced from existing lawful commercial sources; or should it be necessary separate applications for mining permits to allow for borrow pits will be undertaken prior to use.

- Excavation and earthworks:
 - Removal of existing surfacing material where necessary (topsoil, housing structures, agricultural fields, etc.) which could involve excavation below ground level.
 - Levelling and compaction using heavy machinery / earthmoving equipment.
 - Potential for excavations and trenching in order to lay of below ground level equipment (cables, pipes, sumps, drainage etc.).
 - Potential for excavation dewatering in the event of water-table interception.
 - Use of general mechanical equipment within construction areas (generators, cutting and welding equipment, compressors etc.).
 - Operating according to specifications
 - Adhere to all relevant legislation (OHSA, NEMA, BCEA, etc.).
 - Adhere to engineering specifications.
 - Implement all specialist recommendations and mitigation measures.
- Operation Phase:
 - Maintenance of infrastructure.
 - Expansion of infrastructure as Phases 2 and 3 are implemented.
 - Obtaining of permits / licenses / authorisations as Phases 2 and 3 are implemented.
- Decommissioning Phase:

Decommissioning of the development and associated services is not envisioned. However, should decommissioning be required the activity will need to comply with the appropriate environmental legislation and best practices at that time.

5. MOTIVATION FOR NEED AND DESIRABILITY

In terms of Section 2 (f) of Appendix 2 of GN 921 of 4 December 2014, this section discusses the need and desirability of the project which has been assessed in terms of Notice 891 of 2014 which is the updated guideline available regarding need and desirability. In line with this, this section motivates the proposed airport in terms of the full suite of policies from national and provincial level to regional and local Spatial Development Frameworks.

5.1 OVERVIEW

In order to better understand the need and desirability, the proposed development needs to be properly understood. The proposed development is a mixed-use development based in the south-western regions of Gauteng that will comprise an Airport Precinct, Airport City, Agri-Zone, Trade Zone, and Ancillary Infrastructures (refer to Sections 1 and 4 for more information in this regard).

In terms of need, the requirement for the Vaal Aerotropolis is clear and compelling. It addresses critical economic, spatial and infrastructural challenges facing the Emfuleni region and aligns with national and provincial development priorities. It is deemed essential for the future prosperity of southern Gauteng and the broader national economy.

In terms of desirability, critical factors (i.e., the National, Provincial and Local legislative frameworks) influence existing and new developments. To that end, this project is in line with, but not limited to, the following:

- Spatial Planning and Land Use Management Act (No 16 of 2013) (SPLUMA) – the proposed development of an international airport in Emfuleni complies with the relevant principles of the act as it provides a uniform framework for spatial planning and land use management in South Africa, as well as promoting consistency and uniformity in procedures and decision-making.
- Sedibeng Spatial Development Framework (SDF) – this SDF supports i) the development of SEZs, ii) the alignments of municipalities' SDFs and iii) appropriate major current and new development initiatives; all of which are applicable to Vaal Aerotropolis. The proposed Vaal Aerotropolis will address issues related to linkages, transport modes and storage facilities, as it provides for linkages to not only local but also international markets, with easy transport modes via railway and road transport to and from the Aerotropolis.
- District Development Model One Plan – the Vaal Aerotropolis has been described as a catalytic project in that it intends to generate development momentum and attract further investment. Hence, it supports the vision and strategies of the One Plan.
- Vaal-River Regional Spatial Development Framework – this SDF has clearly defined spatial planning and economic development objectives which are in support of the establishment of an

aerotropolis in the Vaal River region. Vaal Aerotropolis is seen as an important flagship project within the Vaal River region.

- Emfuleni Spatial Development Framework – the proposed site falls within the urban development zone as well as the area demarcated for the development of an airport. The mixed land use development will invest in and strengthen existing communities and achieve more balanced regional development and facilitate the provision of a variety of transportation choices. In addition, Emfuleni approved the LSDF for the Vaal Aerotropolis in January 2026.
- Gauteng Spatial Development Framework and Provincial Growth and Development Strategy – the provincial SDF highlighted that Gauteng is a “freight and logistics hub”. Thereby the Vaal Aerotropolis aligns with the province’s vision.
- Growing Gauteng Together (GGT) (2030) – the Vaal Aerotropolis is seen as a main pillar of future economic growth for the southern Gauteng corridor due to its dedicated international cargo, agricultural, Agri-processing and logistical aspects.
- The National Department of Transport, through its approved revised Strategic Plan (2020-2025), promotes the growth of the economy through economic initiatives such as the aerotropolis concept, airport cities, and SEZ linked to international airports.

The proposed Vaal Aerotropolis will therefore contribute to the local, regional & national economy as well as provide an additional international entry point for the Gauteng province, and South Africa as a whole.

5.2 NEED AND DESIRABILITY TABLE

In addition to the above, the following questions have also been addressed in line with the Guideline for Need and Desirability (Notice 891 of 2014) (**Table 5-1**).

TABLE 5-1: NEED AND DESIRABILITY

Question from the Need and Desirability Guideline	Response
Securing ecological sustainable development and use of natural resources	
How will this development (and its separate elements / aspects) impact on the ecological integrity of the area?	The site is not considered to be pristine as it has been degraded by historical agricultural use. Several studies, including Fauna, Flora, Avi-Faunal and Terrestrial Biodiversity Assessments, Hydropedology Assessment, Aquatic- and Wetland Impact Assessments were conducted and will be included in the EIA. These will assess the identified impacts in more detail.
How were the following ecological integrity considerations taken into account? • Threatened Ecosystems • Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries,	The Scoping Report includes a summary of the receiving environment (Section 3) which includes applicable information on: • Threatened ecosystems; • CBAs and ESAs;

Question from the Need and Desirability Guideline	Response
wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure, • Critical Biodiversity Areas (“CBAs”) and Ecological Support Areas (“ESAs”) • Conservation targets, • Environmental Management Framework, • Spatial Development Framework, and • Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.	• Sensitive features such as rivers and wetlands; and • Socio-Economic Information This was used to identify potential sensitivities which required further assessment by a specialist. Based on this, additional specialist studies to be included in the EIA Phase are: • Agricultural Impact Assessment • Aquatic Assessment; • Faunal-, Floral-, Avi-Faunal- and Terrestrial Biodiversity Assessment; • Geohydrological Assessment; • Hydropedology Assessment; and • Wetland Assessment. The findings of these studies will be incorporated into the development layout where necessary.
How will this development disturb or enhance ecosystems and / or result in the loss or protection of biological impacts that could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	The site is not considered to be pristine as it has been degraded by historical agricultural use. Regardless, some impacts have been foreseen which will require mitigation / remedy measures. Several studies, including Faunal-, Floral-, Avia-Faunal and Terrestrial Biodiversity Assessments, Hydropedology Assessment, Aquatic- and Wetland Impact Assessments were conducted and will be included in the EIA. These will assess the identified impacts in more detail. All mitigation measures suggested by the specialists will be incorporated into the Final EIA and its associated EMPr.
How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Significant environmental issues for further consideration and prioritisation during the EIA stage have been discussed in Section 8.1. This focusses on the EIA Phase and ensures that potential impacts relating to the proposed development are determined through specialist studies where necessary. A detailed impact assessment (highlighting both negative and positive impacts) will be undertaken as part of the EIA Phase.
What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or	Refer to 4.1.6.5 for a discussion on the types of waste, as well as management thereof, on the site during both construction and operational phases.

Question from the Need and Desirability Guideline	Response
recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?	The EMPr which will be compiled during the EIA Phase will include waste management measures designed to minimise, reuse and/or recycle waste produced.
How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	It is expected that the proposed airport will result in increased pressure on non-renewable natural resources, particularly during the operational phase. A detailed impact assessment will be undertaken during the EIA Phase. The intent of the developer is to develop a facility with a 4-star green rating, this will include energy- and water efficiency, use of renewable energy, waste reduction and recycling. The planned Agri-Zone will feature an agricultural cluster with greenhouses and hydroponic facilities, intended to offset the loss of agricultural land to the development, as well as contribute to mitigating the carbon impact of the aerotropolis. Treated wastewater can potentially be used for irrigation, and food waste used for compost in the Agri-zone, in an effort to enhance positive impacts of the Agri-zone.
- How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardize the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts? - Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth, or does it reduce resource dependency (i.e. de-materialized growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without	Several studies, including Faunal-, Floral-, Avia-Faunal- and Terrestrial Biodiversity Assessments, a Hydrogeology Assessment, Aquatic- and Wetland Impact Assessments were conducted and will be included in the EIA. These will assess the identified impacts in more detail. Additional renewable natural resources are expected to be consumed during both the construction and operational phases. Capacities and thresholds will, however, not be exceeded for the area. The development is in line with the Emfuleni SDF, 2023-2024, and the approved Vaal SEZ, amongst others. A detailed impact assessment will also be undertaken during the EIA Phase.

Question from the Need and Desirability Guideline	Response
compromising their quest to improve their quality of life) - Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?). - Do the proposed location, type and scale of development promote a reduced dependency on resources?	
How were a risk-averse and cautious approach applied in terms of ecological impacts? - What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? - What is the level of risk associated with the limits of current knowledge? - Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	- A risk-averse and cautious approach is being undertaken. The following has reference: - Detailed Specialist Assessments are being conducted, to determine sensitive areas. Where possible, these will be avoided. - The specialist will identify gaps which will then be noted in both the specialist reports and EIA. - The detailed impact assessment which will be undertaken during the EIA Phase will specifically deal with gaps identified by specialists and/or lack of information through the assessment of 'Level of Confidence'. This assessment will also classify risks based on their assessed significance / importance. - The site-specific EMP which will be compiled in the EIA Phase will provide numerous mitigation measures to ensure that impacts identified (even those considered to be a 'low' risk) can be further mitigated.
How will the ecological impacts resulting from this development impact on people's environmental right in terms following: Negative impacts e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible,	Significant environmental issues for further consideration and prioritisation during the EIA stage have been discussed in Section 8.1. Negative impacts, including but not limited to visual and noise impacts will be assessed by specialists and included in the EIA. Positive impacts (e.g., economic benefits, capital investments, accessibility, etc.) are already being investigated and will be appended in the EIA. A detailed impact assessment also will be undertaken as part of the EIA Phase and will provide more information

Question from the Need and Desirability Guideline	Response
to minimise, manage and remedy negative impacts? Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?	on both the negative and positive impacts associated with the development.
Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?	The development of an aerotropolis can affect human wellbeing and livelihoods because communities and businesses depend on ecosystem services such as water, fertile soil, agriculture, biodiversity, wetlands, clean air and cultural heritage. If these resources are degraded or lost, the impacts can extend into the socio-economic environment. However, the Agri-Zone, proposed Green Star measures, ecological buffers, careful spatial planning and ongoing environmental monitoring is expected to help reduce these impacts. During the EIA Phase, more detailed assessments – including public participation, specialist studies and impact assessment – will be completed, and will inform the final EIA Report.
Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?	Large portions of the site are not ecologically pristine, as they are used for agricultural purposes. It is not expected that the development will have a hugely negative impact on the ecological integrity objectives of the area. Whilst the site falls within an ESA and CBA area as well as the historical extent of a threatened ecosystem, the site visit indicates that the area itself has been altered by historical agricultural use. Specialist Assessments, including Faunal-, Floral-, Avia-Faunal- and Terrestrial Biodiversity Assessments, a Hydropedology Assessment, Aquatic- and Wetland Impact Assessments will be conducted and included in the EIA. It should also be noted that the proposed development is in line with the Emfuleni SDF, 2023-2024, amongst others, which confirms the benefit of the proposed aerotropolis along with an Agri park in the earmarked location of the development.

Question from the Need and Desirability Guideline	Response
Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the “best practicable environmental option” in terms of ecological considerations?	Alternatives relating to site, layout, and technology are being assessed for each aspect (e.g., water, sewer, roads, etc.) as part of the Scoping and EIA process. Several options are being investigated in terms of cost and practicality. Each alternative will be thoroughly assessed as part of the EIA process to determine the best practicable environmental option.
Promoting justifiable economic and social development	
What is the socio-economic context of the area, based on, amongst other considerations, the following considerations? • The IDP (and its sector plans’ vision, objectives, strategies, indicators and targets) and any strategic plans, frameworks or policies applicable to the area, • Spatial priorities and desired spatial patterns (e.g. need for integrated or segregated communities, need to upgrade informal settlements, need for densification, etc.). • Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and • Municipal Economic Development Strategy (“LED Strategy”).	Please see Section 3.8 of the Scoping Report which provides an overview of the socio-economic context of the area, as well as Sections 2.10.4 and 5.1 which include information on applicable SDFs, Plans and Visions for the area.
Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area? • Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?	In summary the proposed development will result in a capital investment of R32.7 billion in the area which will have a multiplier effect in the region. In addition, the proposed development will create several short-term employment opportunities (± 118,498 jobs) as well as several long-term employment opportunities (± 19 838 jobs). This is especially important in light of the high unemployment rate in the area. Vaal Aerotropolis is also included with the Sedibeng District Municipality and Emfuleni Local Municipality’s Spatial Development Frameworks (2024).
How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?	The proposed project is in line with the Emfuleni SDF ,2023-2024, among others, which includes an aerotropolis and Agri park zone within the earmarked location. In addition, through the construction of the development, local community members will be employed. The

Question from the Need and Desirability Guideline	Response
	development will present an estimated 118,498 construction-related and 19,838 operation-related jobs to the surrounding communities. There will also be a number of positive economic multiplier effects through the capital investment required for the development. A Heritage Impact Assessment will also be conducted, including recommendations, to safe-guard the area's culture and sense-of-place.
Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term? Will the impact be socially and economically sustainable in the short- and long-term?	Vaal Aerotropolis is planned to be implemented in three phases across a 60-year timeframe. This will provide jobs in the long-run related to construction, manufacturing, logistics and production to name a few. Thereby, the project will be economically sustainable in both the short- and long-term. A detailed impact assessment will be undertaken in the EIA Phase and will include an assessment of social and economic impacts.
- In terms of location, describe how the placement of the proposed development will: - Result in the creation of residential and employment opportunities in close proximity to or integrated with each other - Reduce the need for transport of people and goods - Result in access to public transport or enable non-motorized and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport), - Compliment other uses in the area - Be in line with the planning for the area, - for urban related development, make use of underutilized land available with the urban edge - optimize the use of existing resources and infrastructure, - opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement), - discourage "urban sprawl" and contribute to compaction/densification,	The Vaal Aerotropolis will be able to cater for cargo aircraft in addition to its other services. This is something that OR Tambo International and Lanseria Airports find challenging due to area / perimeter constraints. Hence Vaal Aerotropolis' location is strategic since it offers space and expansion potential while still being nestled within the Gauteng Province. The proposed project is in line with the Emfuleni SDF, 2023-2024, among others, which includes an aerotropolis and Agri park in the proposed area. The development will present an estimated 118,498 construction-related and 19,838 operation-related jobs opportunities to the surrounding communities. Thus, many people from the area will not have to travel far for job opportunities, which allows the community to develop further as per the Emfuleni SDF, 2023-2024. The proposed development occurs close to the N1, which allows for easy access. New services and infrastructures have already been planned and approved for the area to accommodate for expansion. Parts of the area have already been historically transformed. During the EIA Process, specialist studies including Faunal-, Floral-, Avia-Faunal- and Terrestrial Biodiversity Assessments, a Hydropedology

Question from the Need and Desirability Guideline	Response
- contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs, - encourage environmentally sustainable land development practices and processes, - take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.), - the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential), - impact on the sensitivities of the area, and - in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?	Assessment, Aquatic- and Wetland Impact Assessments were conducted and will be included in the EIA. The findings and mitigation measures will be incorporated into the EIA and associated EMPr. A Heritage Impact Assessment will also be undertaken to ensure the proposed development does not impact on the sense of history, sense of place and overall heritage of the area and the socio-cultural and cultural-historic characteristics of the site. The proposed development will create employment during construction and result in a number of economic multiplier effects through the capital investment of an anticipated R32.7 billion.
- How were a risk-averse and cautious approach applied in terms of socio-economic impacts? - What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? - What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge? - Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	In addition to the Heritage Impact Assessment, a Visual Impact Assessment and Noise Assessment will be undertaken. Furthermore, a risk-averse and cautious approach has been undertaken. The following has reference: - The Heritage Impact Assessment will identify gaps which will then be noted in both the specialist report and EIA. - The Visual and Noise Assessments will be utilised in the design and placement of the development. - The impact assessment which will be undertaken during the EIA Phase will specifically deal with gaps identified by specialists and/or lack of information through the assessment of 'Level of Confidence'. - The EMPr which will be compiled during the EIA Phase will provide numerous mitigation measures to ensure that impacts identified to be a 'low' risk can be further mitigated.
How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following: Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is	A Noise Assessment and Visual Impact Assessment will be undertaken and will be included in the EIA. A detailed impact assessment will be undertaken in the EIA Phase and will include an assessment of social and economic impacts (both positive and negative). It is not expected that there will be negative socio-economic impacts associated with the development.

Question from the Need and Desirability Guideline	Response
not possible, to minimise, manage and remedy negative impacts? Positive impacts. What measures were taken to enhance positive impacts?	Instead, the CAPEX of the project is about R32.7 billion and will create numerous multiplier effects in the area. Further, approximately 118,498 construction-related and 19,838 operation-related jobs will be created.
Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilization of natural resources, etc.)?	A detailed impact assessment will be undertaken in the EIA Phase and will include an assessment of social and economic impacts as well as ecological impacts. Based on the type of proposed development, it is not expected that the socio-economic impacts will result in non-mitigatable ecological impacts.
What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	Several alternatives in terms of site, layout and technology are being assessed as part of the Scoping and EIA Phase. A detailed assessment of the alternatives will be undertaken in the EIA Phase once specialist studies are completed and can contribute to the impact assessment. When assessing these alternatives, the following will be addressed: - The findings of the specialist studies; - The results of the impact assessment; and - The need for the project. This impact assessment will ensure that the Best practicable environmental option is selected.
What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	A detailed Scoping and EIA process is currently being undertaken. This includes the assessment of alternatives, compilation of a detailed impact assessment and undertaking relevant specialist studies in accordance with all applicable legislation. Further, as noted above, the proposed development is in line with local and regional SDFs, Plans and Visions. It is believed that the alternatives being assessed do allow for the best practicable environmental option to be determined and the EAP will be able to make an informed decision.
What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	A number of specialist studies will be undertaken as part of the EIA Phase to ensure that the proposed development is sustainable and does not result any negative impacts to disadvantaged persons. A town planning application is also underway, adding to public and community engagement and involvement in assessing the impacts of the proposed development.

Question from the Need and Desirability Guideline	Response
What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	In identifying the potential impacts associated with the development, the full lifecycle was assessed. A more detailed impact assessment which will incorporate the findings of the specialist studies will also be included in the EIA Report. Further, the site specific EMPr will include the roles and responsibilities related to construction and operational phases of the development and ensure that the responsibility of the implementation of the EMPr falls to the applicant.
What measures were taken to: - ensure the participation of all interested and affected parties, - provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation - ensure participation by vulnerable and disadvantaged persons, - promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means, - ensure openness and transparency, and access to information in terms of the process, - ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, and - ensure that the vital role of women and youth in environmental management and development were recognized and their full participation therein were promoted?	A detailed public participation process is being undertaken as part of the Scoping and EIA process. As part of this, a detailed Interested and Affected Party (I&AP) Database was compiled and included affected and adjacent landowners, organs of state such as the Emfuleni Local Municipality, DWS, SACAA, SAHRA and DFFE etc. In addition, the I&AP database included the affected ward councillor/s of the area. To date, these I&APs have been notified of the Scoping and EIA process and provided an opportunity to register their interest and attend the proposed public open day where information on the proposed upgrade was provided (together with a separate project). All registered I&APs will also be provided with an opportunity to comment on all reports (both the Scoping Report and EIA Report). Numerous communication methods (including site notices, adverts, hand delivery of BIDs, emails, public meetings and extensive consultation) are being employed, and it is felt that public participation will be such as to ensure participation by all potentially interested or affected people.
Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)	The proposed development is in line with several SDF's, including the Emfuleni SDF, 2023-2024. In addition, through the construction phase of the development, local community members will be employed. There will also be several economic multiplier effects through the CAPEX investment of R32.7 billion. This will benefit people from all economic classes and allow for the upliftment and expansion of the local area.

Question from the Need and Desirability Guideline	Response
What measures have been taken to ensure that current and / or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	A site specific EMPr will be compiled in the EIA Phase and will include an Environmental Awareness Plan. As part of this, workers will be informed of their rights to refuse work that might be harmful to human health or the environment. Applicable legislation, such as the OHSA, will also be enforced.
Describe how the development will impact on job creation in terms of, amongst other aspects: - the number of temporary versus permanent jobs that will be created, - whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area), - the distance from where labourers will have to travel, - the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits); and - the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.)	The following can be noted in regard to this: - The EMPr that will be compiled will note that local employment should be encouraged to promote skills transfer and development. This will uplift the immediate area and provide job opportunities to potential job seekers and manage it in the most suitable way. - A small number of job losses might be experienced, due to the loss of agricultural activities on the affected farm portions. Measured against the gain of job opportunities during the construction phase (of the 118,498 jobs anticipated to be created during the construction phase, $\pm 20\%$ thereof ($\pm 23,700$ jobs), is anticipated to employ low- and unskilled employees), as well as new opportunities created as part of the Agri-Zone development, the overall impact of the project is considered to be positive.
What measures were taken to ensure: - That there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and - That actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	National Legislation i.e. NEMA, NWA, NHRA, NEM:BA etc., was consulted in the preparation of this Scoping Report. Provincial guidelines and government input also formed part of the literature review. Spatial development tools also aided the EAP to assess and provide information pertaining to the proposed development. Any comments received from I&APs or organs of state are included in the comments and response register.
Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	The site specific EMPr which will be compiled will include realistic and achievable mitigation measures which aim to reduce any negative impacts as well as to enhance any positive benefits associated with the project. As the project development will span 60-years, applicable authorisations (e.g., EA & WULA) will be applied for and/or updated at each required step in accordance with relevant, at-the-time-of-construction legislation.

Question from the Need and Desirability Guideline	Response
What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimizing further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	The site specific EMPr which will be compiled will include detailed roles and responsibilities. In addition, a penalty system for contractors will be included. All requirements, as stated in approved licenses/authorisations, will be adhered to and enforced.
Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	Several alternatives in terms of site, layout, and technology are being assessed as part of the Scoping and EIA Phase. A detailed impact assessment of each alternative will be undertaken in the EIA Phase once specialist studies are completed and can contribute to the impact assessment. When assessing these alternatives, the following will be addressed: • The findings of the specialist studies; • The results of the impact assessment; and • The need for the project. This impact assessment, with input gained through the Public Participation Process, will ensure that the best practicable environmental option is selected.

6. PROCESS FOLLOWED TO REACH THE PREFERRED ACTIVITY, SITE AND LOCATION

Section 2(1)(g) of Appendix 2 of the EIA Regulations, 2014 (as amended) notes that the Scoping Report needs to include a full description of the process followed to reach the preferred activity, site and location of the development footprint within the site, including –

- Details of the Alternatives considered
- Details of the public participation process undertaken in terms of Regulation 41 of the Regulations, including copies of the supporting documents and inputs
- 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
- The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects
- 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 can be reversed, may cause irreplaceable loss of resources; and can be avoided, managed or mitigated.
- 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
- The 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
- The possible mitigation measures that could be applied and level of residual risk.
- Outcome of the site selection matrix
- If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such
- Concluding statement indicating the preferred alternatives, including preferred location of the activity

6.1 NATURE OF THE ACTIVITIES

The proposed Vaal Aerotropolis development comprises the integrated development of an airport-oriented urban and economic precinct within the Vaal region. The development is envisaged to include aviation-related infrastructure and services, commercial and industrial activities, logistics and warehousing facilities, mixed-use and supporting hotel development, as well as associated municipal and transport infrastructure within the boundaries of the current application.

The development would require the construction of internal roads and upgrading of some access roads, stormwater systems, water, a wastewater treatment facility and sanitation infrastructure, electricity supply, telecommunications and other bulk services, together with associated earthworks, site preparation and landscaping. The Aerotropolis is intended to facilitate economic development, improved regional connectivity, logistics and investment in the Emfuleni area, while creating a coordinated urban framework around the aviation and related economic activities. The proposed Vaal Aerotropolis is in line with and included in the Emfuleni SDF, 2023-2024.

Although the development of the Vaal Aerotropolis will result in the transformation and loss of portions of existing agricultural land, this impact is partially mitigated through the incorporation of an extensive, dedicated Agri-Zone within the overall development framework. The Agri-Zone is intended to retain and promote agricultural production as an integral component of the Aerotropolis and will accommodate a range of focused agricultural activities, including livestock production, hydroponic farming, greenhouse cultivation and other intensive and specialised agricultural enterprises.

The inclusion of the Agri-Zone therefore provides for the continued utilisation of land for agricultural purposes within the broader development area, while supporting more intensive, diversified and potentially higher-value agricultural production. This approach seeks to offset, to a degree, the loss of conventional agricultural land associated with the development and to ensure that agriculture remains an important component of the future land-use structure of the Aerotropolis.

For purposes of the Scoping Report, the activities can broadly be described as the phased establishment of an integrated aviation, logistics, commercial, industrial and mixed-use development, together with the infrastructure required to support these land uses.

6.2 ALTERNATIVES

According to the 2014 EIA Regulations, alternatives are defined as:

“Different means of meeting the general purpose and requirements of the activity, which may include alternatives to the-

- (a) property on which or location where the activity is proposed to be undertaken;*
 - (b) type of activity to be undertaken;*
 - (c) design or layout of the activity;*
 - (d) technology to be used in the activity; or*
 - (e) operational aspects of the activity;*
- and includes the option of not implementing the activity”*

As part of the development planning process for the proposed development, several technical assessments have been undertaken including the following: (i) Outline Scheme Report, (ii) Stormwater Management Plan, (iii) Transportation Impact Assessment, (iv) Geotechnical Assessment, (v) Floodline Delineation

Report, and (vi) Electrical Services Provision. Discussions with the technical team as well as all involved specialists were then undertaken to determine the requirements of the development and to ensure that the concept of sustainability was considered.

On the basis of these investigations and discussions, and in line with the requirements of the Regulations, this Scoping and EIA process assesses and discusses the following development alternatives:

- Proposal
- Alternative 1
- The No-Go Option.

6.2.1 PROPOSAL

The proposal (preferred option) refers specifically to Phase 1 (this application) and is anticipated to conclude in 2047, prior to the commencement of Phase 2. The proposal takes into account the requirements and/or recommendations of various specialists including, but not limited to, engineers, town planners, architects, and various environmental specialists. The aim is to develop the aerotropolis in such a manner that the full potential of the site is achieved; to that end, the following aspects were investigated.

6.2.1.1 SITE

The proposed aerotropolis is earmarked to be developed in the south of Gauteng within the Emfuleni (Phase 1) and Rand West City (Phase 2 & 3) Local Municipalities. A total of 13 farm portions has been earmarked for the proposed Phase 1 of the Vaal Aerotropolis development, thereby making up the application area (**Table 1-5**, **Table 1-6** and **Figure 1-6**).

Within the Vaal Aerotropolis perimeter, a township will be established with the zonings and land uses as shown in **Figure 6-1** below, while all remaining areas - outside the township application - will retain their Agricultural Zoning. These areas are earmarked for expansion of the Aerotropolis and are not included in the current application.

LAND USE TABLE					
ZONING	PROPOSED LAND USE	ERF NUMBERS	No. OF STANDS	AREA OF STANDS& STREETS	% OF AREA
AERODROME	AERODROME, BUILDINGS NECESSARY FOR AND IN CONNECTION WITH AN AERODROME, COMMERCIAL USES, BUSINESS PURPOSES, SHOPS, PLACES OF REFRESHMENT, LIGHT INDUSTRIES, FILLING STATIONS, CONFERENCE FACILITIES, GOVERNMENT AND MUNICIPAL PURPOSES, PARKING AREA / PARKING GARAGE, SPECIAL BUILDINGS, LAND USES SUBSERVIENT AND RELATED TO THE USES AND ANCILLARY USES WITH CONSENT	1-5,7-10	9	1954,0481ha	55,12
PUBLIC SERVICES AND UTILITIES	COMMUNICATION FACILITIES, POWER STATION / SUB-STATION, RESERVOIR AND BUILDINGS IN CONNECTION THEREWITH, SEWERAGE AND WATER TREATMENT WORKS AND ANCILLARY USES WITH CONSENT	16	1	40,3296ha	1,14
BUSINESS 1	BUSINESS PURPOSES, OFFICES, DWELLING UNITS, HOTELS, SHOPS, CONFERENCE FACILITIES, INSTITUTIONS, PLACES OF INSTRUCTION, PLACES OF PUBLIC WORSHIP, PARKING AREA / PARKING GARAGE, PLACES OF REFRESHMENT, PARKING AREA / PUBLIC GARAGE, RESIDENTIAL BUILDINGS, SHOPS, SOCIAL HALLS, SPORT AND RECREATION USES AND FILLING STATIONS AND ANCILLARY USES WITH CONSENT.	6	1	33,3164ha	0,94
AGRICULTURAL	AGRICULTURAL BUILDINGS, AGRICULTURAL LAND, DWELLING HOUSES, SECOND DWELLING HOUSE AND OUT-BUILDINGS IN CONNECTION THEREWITH, STAFF ACCOMMODATION, AGRICULTURAL INDUSTRY, WAREHOUSES, LABORATORIES AND USES ANCILLARY TO AGRICULTURAL PRODUCTION WITH CONSENT	11-14,17,19-21, 23,26-28	12	1184,5442ha	33,41
PRIVATE OPEN SPACE	AS PER SCHEME INCLUDING GARDENS, PARKS, PUBLIC OPEN SPACE, PUBLIC SPORT AND RECREATION GROUNDS AND BUILDINGS USED IN CONNECTION THEREWITH. CONSERVATION AREA	15,18,22,24,25	5	160,1874ha	4,52
EXISTING AND PROPOSED ROADS	PRIVATE ROAD	29	1	33,9086 ha	0,96
	STREETS			138,5721ha	3,91
TOTAL			29	3544,9064ha	100%

FIGURE 6-1: VAAL AEROTROPOLIS TOWNSHIP ESTABLISHMENT – LAND USE TABLE

6.2.1.2 LAYOUT

Each infrastructure aspect related to the different components of the proposed Aerotropolis – Airport Precinct, Airport City, Agri-Zone, Trade Zone and Additional Infrastructure – have been aligned / arranged in such a manner so as to be most effective, cost-saving and sustainable, as per specialist recommendations (**Figure 4-5, Figure 4-6, Figure 4-7 and Figure 6-2**).

The first runway will be constructed in a north-south alignment so as to favour the predominant wind direction and minimise impacts on the avi-faunal community associated with the wetland system identified to the north-north-east of the Vaal Aerotropolis study area. The Trade Zone will be situated adjacent to the first runway (in future, between the two runways which will be approximately 1 700 m apart) with the terminals and additional facilities strategically placed for optimal access and functionality. Airport City will be situated in the southeast of the proposed township and will, depending on the phase, contain sub-areas wherein the hotel, office parks, boulevard, shopping centre, etc. will be built.

6.2.1.3 DESIGN / ENGINEERING

The water and sewer reticulation systems (**Figure 4-5 and Figure 4-7**) will be primarily gravity-based with minimal pump-usage. Treatment for both water and sewer will be done on site via custom-built WTW and WWTW; refer to Section 4.1.3.1 for more information in this regard. The aim of the Aerotropolis is to, at least for Phase 1, be self-sustainable in terms of water supply, effluent treatment, and eventual discharge.

The Split Diamond Interchange (SDI) at the N1/P24(R54)/D2459 has been selected as the preferred road interchange / access method (Section 4.1.6.2). This method takes into account not only topography and existing infrastructure but also in principle permissions from the applicable authorities (e.g., SANRAL, GDRT). This option also determined how interchange-related stormwater infrastructure will be implemented (Section 4.1.3.2). Note that these external road construction/upgrades **are not included** in this application.

Stormwater management structures will be capable of handling a 1:50-year flood event by consisting of major and minor stormwater routes as well as a dry detention basin (attenuation dam) that will be interlinked to form the bulk stormwater services (Section 4.1.3.3). Chambers, catchpits, riprap, gabions, filters, fat traps, and other energy-dissipating / contamination prevention solutions will be implemented at strategic locations to ensure sustainability and long-term operation.

Electricity demands for Phase 1 will be met via connections to existing ESKOM infrastructure (Section 4.1.3.4). Allocated areas for future solar plant facilities will be prepared for future implementation.

The Emfuleni Local Municipality has provided confirmation that it will provide solid waste removal services to the proposed Vaal Aerotropolis (**Appendix F2**). Solid waste will be stored within municipal provided bulk refuse bins (i.e., skips) in a dedicated zone, prior to municipal removal. Applicable by-laws as well as

relevant norms and standards will be adhered to as stated in the IWMP. Conditions associated with the collection and disposal of solid waste will be subject to Emfuleni Local Municipality's requirements,

Figure 6-2 provides an overview of the Proposal Layout for the proposed Vaal Aerotropolis (Phase 1) (**Appendix B1**).

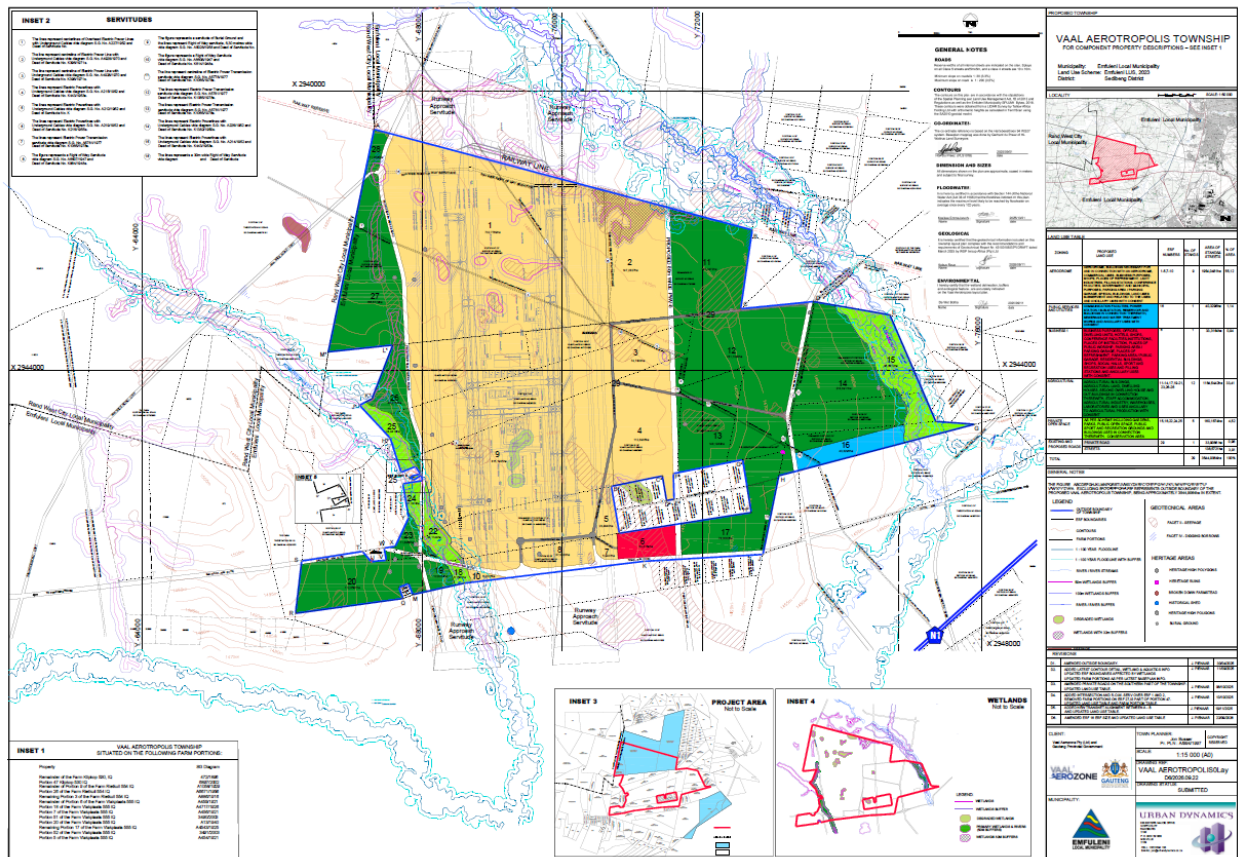


FIGURE 6-2: PROPOSAL LAYOUT PLAN

6.2.2 ALTERNATIVE 1 (NOT PREFERRED)

Alternative 1 refers to options / alternatives that were originally considered as part of the proposed Vaal Aerotropolis, but have ultimately been deemed **not preferred** due to various reasons. These are discussed below, with A3 maps available under **Appendix B2 – B4**.

6.2.2.1 SITE

The location of Alternative 1 is the same as for the Proposal with the proposed aerotropolis earmarked to be developed on the southern side of the Gauteng Province within the Emfuleni and Rand West City Local Municipalities. The original perimeter, however, was intended to comprise more than 20 properties and a total area close to 6000 ha (**Figure 6-3**). However, following purchases, lease agreements and final acquisitions, some properties were removed from the original perimeter span.

6.2.2.2 LAYOUT

The original orientation of the runways was in a north-north-east direction, with a proposed, narrower distance between the two runways of 1 700 m, and the layout of the terminals in an ox-bow form (**Figure 6-3** and **Appendix B2**). With this alternative, the orientation of the runway would have been directly in line with the dam / wetland system to the north of the study area. This would not only have a greater negative impact on aquatic avi-fauna but will also increase the risks associated with bird strikes. In addition, the orientation is also not in line with the predominant wind direction for the area, no adverse impact is expected herewith, however, the orientation is still not ideal.

With reference to the width between the runways, a narrower separation (1 500m) will decrease the storage size of the trade zone by approximately 30% to that of the Proposal Layout. The layout of the passenger terminals in an ox-bow form also proved problematic for the phasing of the development.

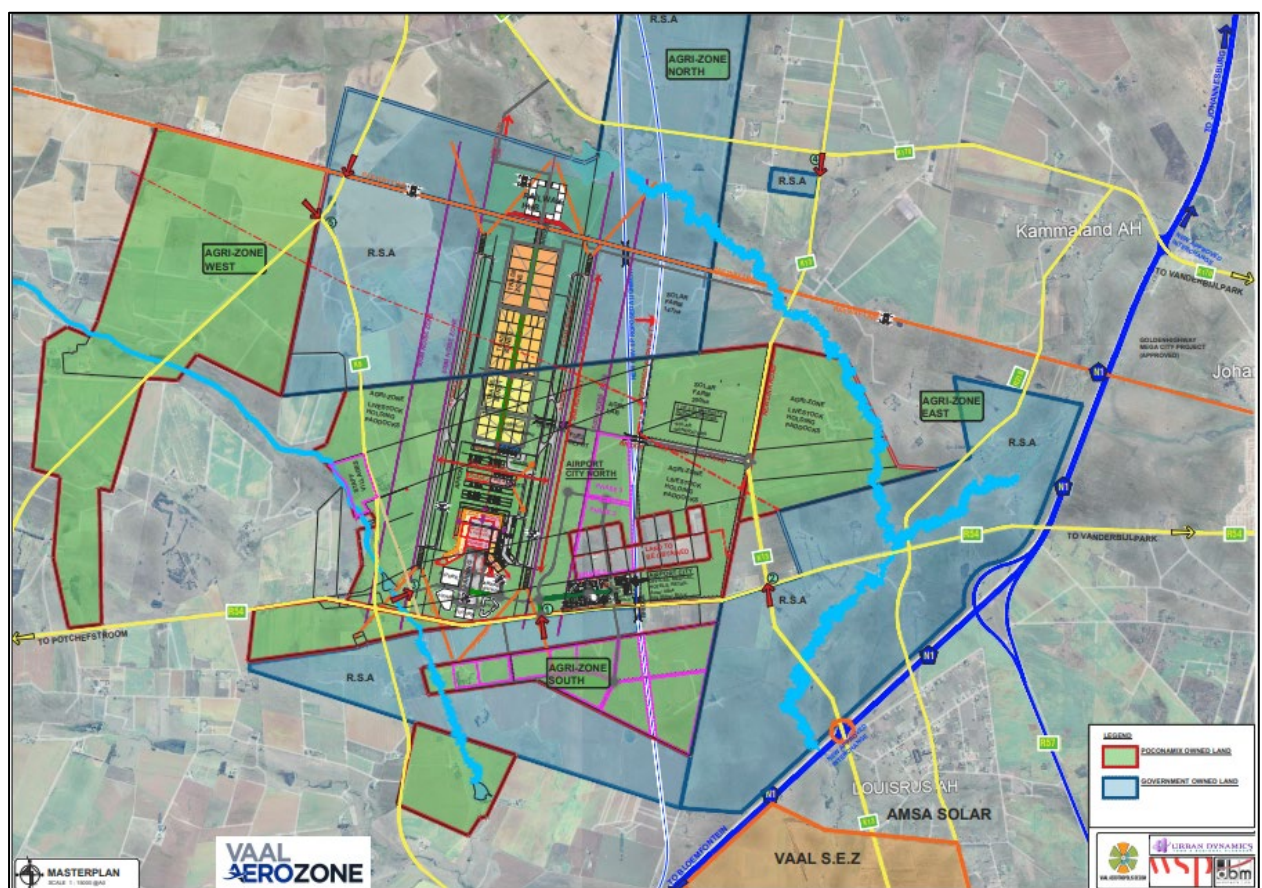


FIGURE 6-3: ALTERNATIVE 1 – ORIGINAL ORIENTATION

6.2.2.3 DESIGN / ENGINEERING

In terms of sewage, further investigation determined that the three existing WWTW (Leeuwkuil, Rietspruit, and Sebokeng) were already at or exceeding capacity and in need of upgrade. In addition, several sections of pipes and associated pump stations were either not operational or in dire need of replacement. Overall,

Emfuleni Local Municipality's infrastructure was deemed to have reached the end of its lifespan and presented too great a risk of sewer spills for Vaal Aerotropolis. Hence, this alternative (i.e., connect to existing municipal infrastructure) was discarded as part of the Phase 1 development in favour of on-site WTW and WWTW. It is, however, suggested that a bulk sewer pipeline be connected between the Vaal Aerotropolis and the regional Rietspruit WWTW as part of the Phase 2 development.

In terms of roads, several N1 interchange options were rejected by SANRAL for various reasons related to interchange spacing, minimal relocation possibilities, sub-standard vehicle weaving distances, problematic restrictions, and inability to promote a balanced road network. The rejected roads were not assessed, and are listed below:

- N1/K13 interchange and K13 link to the K178
- N1/PWV20/PWV5 interchange and PWV5 link to the PWV5/K178 interchange
- N1 and K178 access interchange

It is to be noted that a narrow diamond interchange with a partial cloverleaf off-ramp for southbound vehicles from the N1, and the potential for a future loop to serve westbound vehicles on the K170 to access the N1 northbound (**Figure 6-4** and **Appendix B3**) was approved in principle by SANRAL, however, deemed not-preferred, due to the location on the N1, and the extensive route on lower order roads to the proposed accesses to the airport off the P24/1.

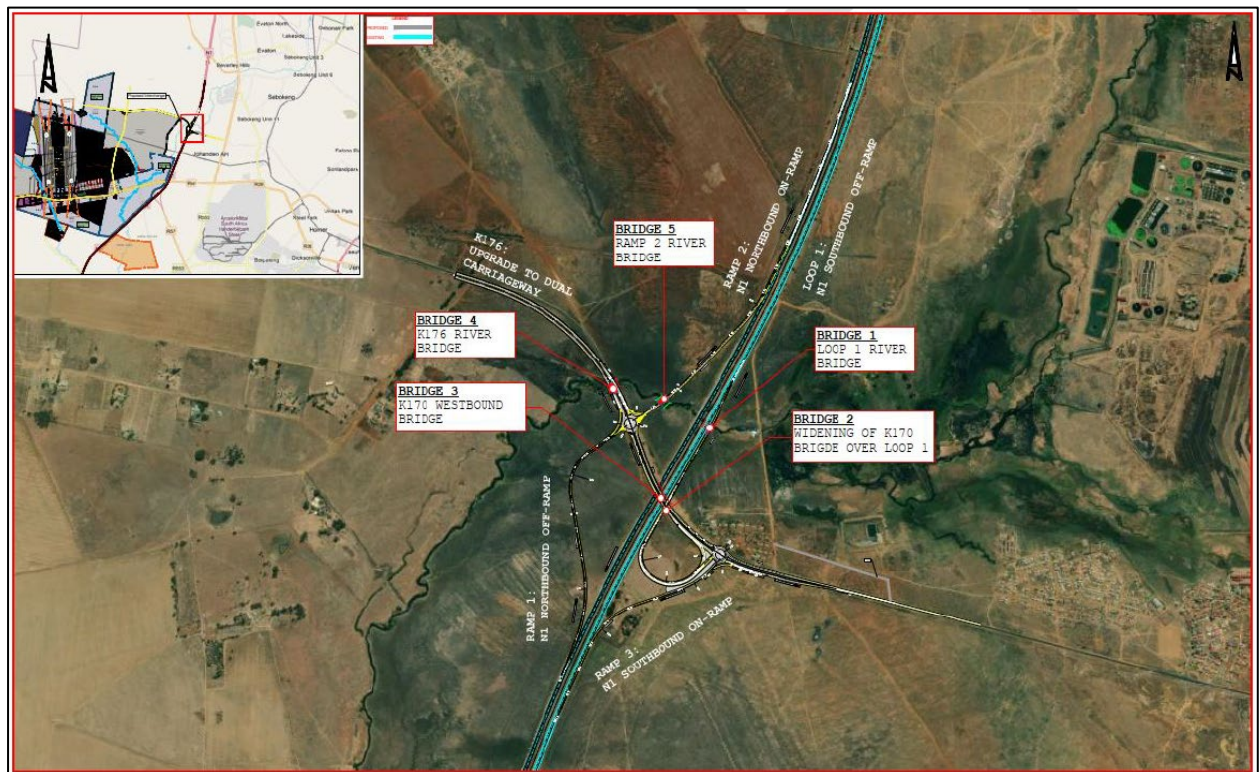


FIGURE 6-4: ALTERNATIVE 1 – NARROW DIAMOND INTERCHANGE

In respect of stormwater, the original plan involved three discharge zones, each with their own discharge point, as well as an attenuation structure located towards the north of the site, in close proximity to the eastern runway (**Figure 6-5** and **Appendix B4**). However, following further assessments in terms of avi-faunal / airplane risk, water quality implications, general layout, and cost implications it was decided to move the attenuation structure to the east of the site, and adjust the associated stormwater infrastructure accordingly.



FIGURE 6-5: ALTERNATIVE 1 – AEROTROPOLIS PRECINCT ORIGINAL STORMWATER LAYOUT MAP

Stormwater designs were also developed for the narrow diamond interchange (not preferred) as discussed above. The aim of these stormwater systems was to integrate with the existing drainage systems. The proposed road drainage would have consisted of new channels and culverts; while the existing drainage would have been reinstated and tied into the new drainage infrastructure to create a complete drainage system for the upgraded interchange (**Figure 6-6** and **Appendix B5**).

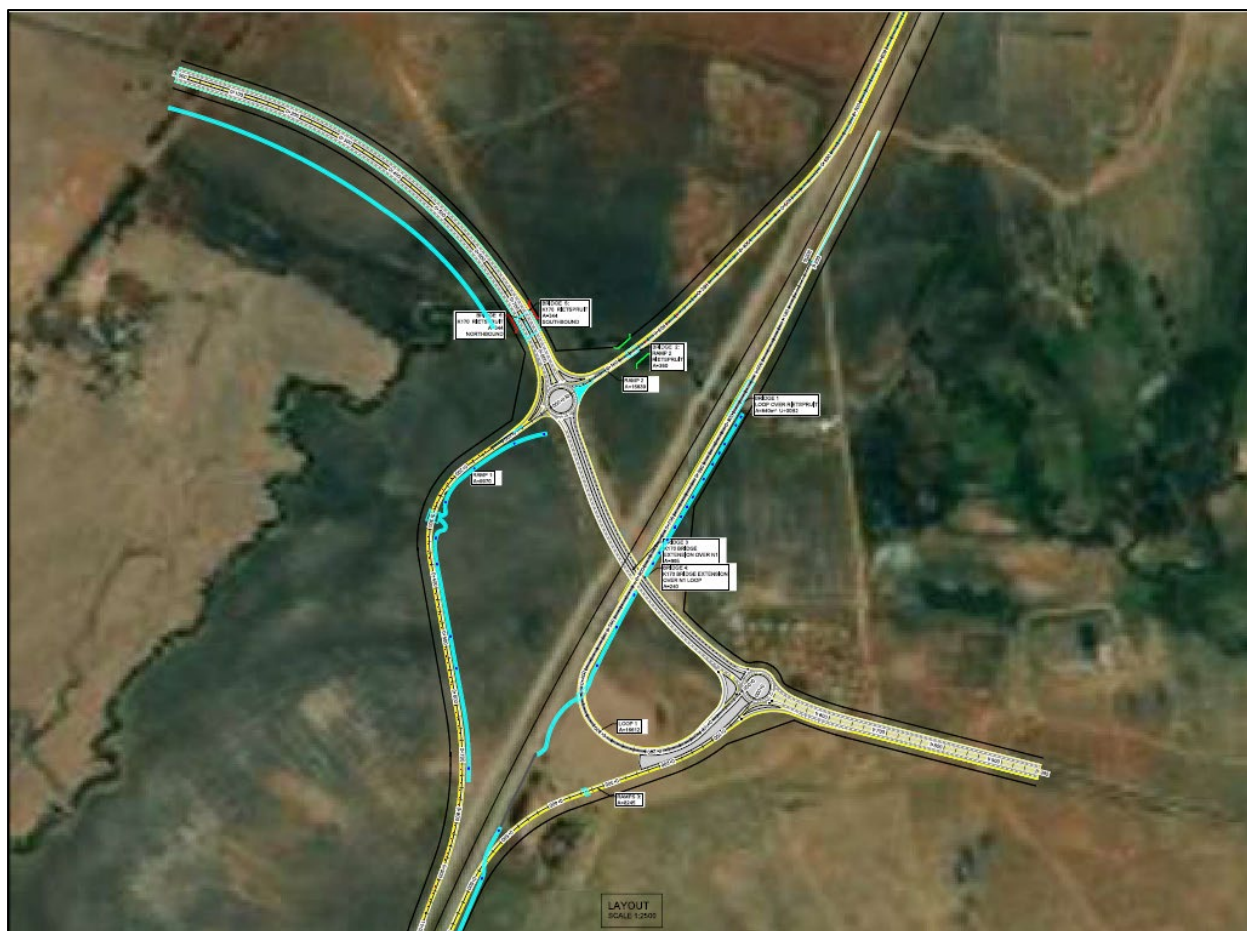


FIGURE 6-6: ALTERNATIVE 1 – NARROW DIAMOND INTERCHANGE STORMWATER LAYOUT MAP

6.2.3 NO-GO ALTERNATIVE

As standard practice and to satisfy regulatory requirements, the option of not proceeding with the project is included in the evaluation of the alternatives. The main result of the No-Go Option is that the environment with its existing agricultural activities will remain the status-quo and limited new / additional impacts will occur. No infrastructure (roads, stormwater, water and sewer reticulation, etc.) will be developed / implemented, and the area will remain relatively undisturbed.

However, the No-Go Option will also result in significant losses in terms of socio-economic potential. The anticipated ± R32.7 billion investment which includes ± 118,498 construction-related and ± 19,838 operation-related employment opportunities will be lost. The aims of the Sedibeng as well as the Emfuleni Spatial Development Frameworks will not be met and a number of additional positive economic multiplier effects, which could be generated through the capital investment, would also be lost.

The No-Go Option is not preferred as the resulting economic losses can be seen as a significant negative impact on the overall South African economy (both nationally and internationally).

6.3 ENVIRONMENTAL ATTRIBUTES AND SENSITIVITY MAP

Due to the development footprint being the same property for both the proposal and alternative, environmental sensitivities as described in **Section 3**, are triggered by both options. A preliminary assessment was undertaken using the C-Plan v4, rivers, wetlands and vegetation data sources to prepare a preliminary sensitivity Map, as is indicated in **Figure 6-7**. These environmental attributes have been considered in the scoping phase to ascertain areas where further investigation is required. The following is a summary of the sensitive features on site:

- Freshwater resources: various wetlands and the Leeuspruit and Klein Rietspruit streams are present within the proposed study area. A Wetland Assessment and Aquatic Impact Assessment will be undertaken to determine the impact of the proposed development on aquatic and wetland resources. A Hydopedological assessment will also be undertaken.
- Ecological sensitive areas including CBA: Irreplaceable Areas and Ecological Support Areas form part of the site; a Floral Assessment and Terrestrial Biodiversity Assessment will be conducted.
- Sensitive faunal species have been identified by the Screening tool and confirmed with the site verification assessment. A Faunal Assessment, Avi-Faunal Assessment and Terrestrial Biodiversity Impact Assessment will be conducted and included in the EIA Report.
- Agricultural sensitivity of the area is very high due to the high agricultural potential of the study area. An Agricultural Impact Assessment will be conducted.
- Heritage and Cultural resources have been identified during the site visit and therefore a HIA & Palaeontological Assessments will be conducted; and
- Vegetation Map – The site forms part of the Soweto Highveld Grassland, which is classified as endangered. A site verification assessment has been undertaken and shows that the site is disturbed and transformed in parts. A Floral Assessment and Terrestrial Biodiversity Assessment will however be conducted.

It should be noted that an updated sensitivity map will be compiled once the various specialist studies have been completed in the EIA Phase.

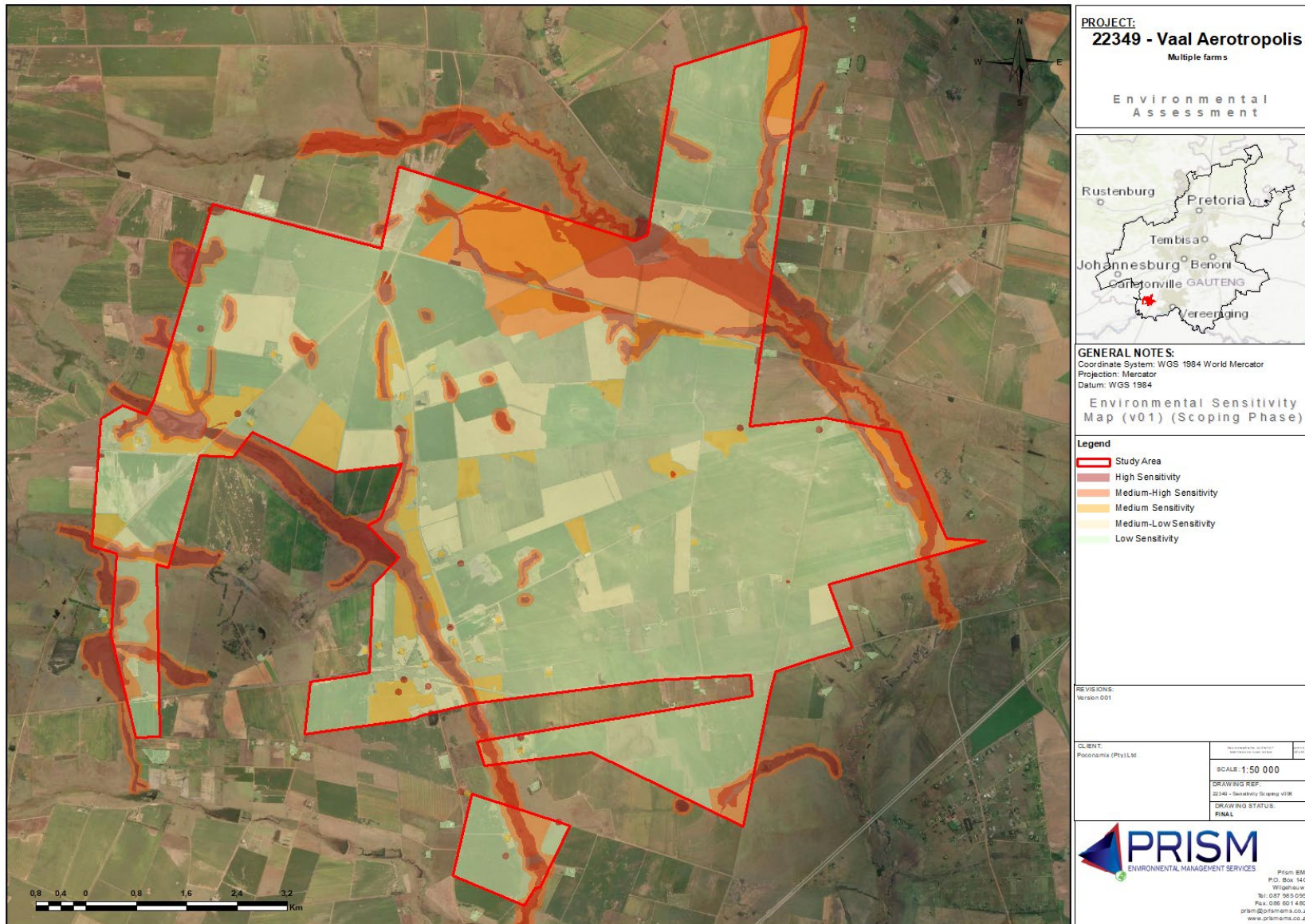


FIGURE 6-7: PRELIMINARY ENVIRONMENTAL SENSITIVITY

7. PUBLIC PARTICIPATION PROCESS

7.1 OBJECTIVE AND PURPOSE OF PUBLIC PARTICIPATION

The purpose of the public participation process is to provide information regarding the proposed project to any potentially Interested and/or Affected Parties (I&APs) for use and consideration throughout the environmental assessment process. The information usually involves a combination of the technical project scope, environmental attributes and sensitivities, cultural and heritage aspects as well as socio-economic factors that may be potentially beneficial or problematic to various role players.

The dissemination of such information is intended to assist the public in understanding how the proposed project and/or development may impact them and the environment in either a positive and/or negative manner, and especially where impacts are determined or perceived as significantly high, how such impacts may be influenced by project changes (layout or design aspects) or management measures may be implemented to reduce or minimise the significance of any identified impacts.

As a registered I&AP, members of the public of any affiliation are awarded the opportunity to remain informed of the steps, actions and decisions made within the environmental impact assessment process and are able to actively participate by reviewing all information provided by the EAP to the I&APs in a reasonable period in order to provide comments, objections, suggestions or any other information that will assist the project to develop in a favourable for all manner or contribute to the competent authority's knowledge in order to make an informed decision on the application for environmental authorisation.

7.2 PROTECTION OF PERSONAL INFORMATION ACT, 2013

The Protection of Personal Information (POPI) Act (Act No. 4 of 2013) aims to promote the protection to personal information processed by public and private bodies. Section 14 of the Constitution of the Republic of South Africa, 1996, provides that everyone has the right to privacy, this includes the right to protection of personal information.

This Public Participation Process is being carried out in line with the POPI Act. All Personal information with regards to I&APs will be recorded on a project specific I&AP database. Registered I&APs will be given the opportunity to provide consent for their details to be used or to remain anonymous. Regardless, all personal information collected on the database as well as personal information contained in any correspondence between Prism EMS Africa and I&APs, will be blanked out for public review as well as review by the Authorities. Each I&AP will be provided with a pseudonym (I&AP 01, I&AP 02, etc.).

Personal Information collected by Prism EMS Africa will not be made available to the public or Authorities unless consent is given by registered I&APs.

7.3 NOTIFICATION PHASE OF PUBLIC PARTICIPATION

The public participation process commenced with identifying and notifying all I&APs. Background information documents (i.e. written notifications) including comment forms were provided as a basic source of information, site notices were placed at strategic locations, newspaper adverts were circulated, and emails were sent out. Herewith, potential I&APs are invited to register as I&APs throughout the Scoping and Environmental Impact Reporting phases of the project.

7.3.1 IDENTIFIED INTERESTED AND AFFECTED PARTIES

Extensive stakeholder notification and consultation was undertaken, resulting in the identification of a broad and diverse network of potential Interested and Affected Parties (I&APs). The stakeholder engagement process yielded a comprehensive I&AP database comprising several hundred identified and formally notified stakeholders, including government authorities, neighbouring landowners, community representatives, non-governmental organisations, and other relevant interest groups. This extensive stakeholder database has facilitated inclusive participation and ensured that potentially affected parties were afforded a reasonable opportunity to engage in the environmental assessment process.

Refer to **Appendix D4** for a detailed list of the interested and/or affected members of the public that were notified and/or subsequently registered as I&APs (redacted as required i.t.o. the POPI Act, 2013).

7.3.2 NEWSPAPER NOTICE

Legal Notices were published in the Vaalster, Westrand Advertiser and Sedibeng Star Newspapers on 29 September and 1 October 2026. The advert includes the dates associated with the registration period as well as review periods for the Scoping Report and WULA Summary Report.

Refer to **Appendix D1** for examples of the newspaper notice – proof to follow for final submission of the Scoping Report.

7.3.3 SITE NOTICE

Several site notices, showing a map of the proposed development and associated components, were placed on and around the site on 28 September 2026. The site notices also include the dates associated with the registration period as well as review periods for the Scoping Report and WULA Summary Report. Refer to **Appendix D2** for examples of the site notices – proof to follow.

7.3.4 WRITTEN NOTIFICATIONS

The surrounding landowners and/or occupiers as well as organs of state (listed in **Appendix D4**) are being notified in writing via WhatsApp and e-mails on **30 September 2026** and issued with a copy of the BID to provide further information on the project. A copy of the BID is provided in **Appendix D3**. Refer to **Appendix D5** for proof of the Written Notifications undertaken as part of the initial notification (*to follow*).

7.3.5 COMMENTS RAISED BY I&APS DURING THE INITIAL NOTIFICATION PERIOD

The comments received during the PPP period (01 October 2026 – 02 December 2026) will be summarised in the Comments and Responses Report (Appendix D7 – to follow). All comments received from I&APs will be addressed in detail during the EIA phase of the S&EIR process.

7.4 SCOPING PHASE AND WULA SUMMARY REPORT COMMENT PERIOD

The Scoping Report (this document) as well as the WULA Summary Report will be made available for review by registered I&APs and Organs of State/Authorities.

Email notification will be sent out to all registered I&APs on 30 September 2026 to notify them of the review of the Scoping Report and WULA Summary Report. As part of this, a link to access the online version of the report, on the website www.prismems.co.za will be provided. Proof of notification will be included in the Scoping Report which is to be submitted to GDEnv after the public review period.

Online uploads, hard copies and/or electronic copies (e.g., USBs) will be submitted to relevant Competent and/or Commenting authorities including, but not limited to:

- GDEnv;
- DWS;
- SACAA;
- SANRAL;
- GDRT;
- National Department of Agriculture (NDA);
- Gauteng Department: Agriculture and Rural Development;
- ATNS;
- DOT;
- NDOT;
- Emfuleni Local Municipality;
- Rand West City Local Municipality;
- Sedibeng District Municipality;
- West Rand District Municipality;
- PHRA-G;
- GPDRT; and
- SAHRA.

Proof of delivery will be included in both the Scoping Report to GDEnv and the WULA Phase 3 submission to DWS after the public review period.

7.5 IMPACT ASSESSMENT PHASE COMMENT PERIOD

Upon acceptance of the Scoping Report by the GDEnv, the applicant / EAP will continue with the tasks contained in the plan of study (**Section 8** of this report). Subsequently an EIA report will be compiled and made available to all registered I&APs and relevant organs of state for a period of 30 days.

7.6 FINAL REPORTS AND DEPARTMENTAL DECISIONS

All comments received during the comment period discussed above will be considered and incorporated into the Final EIA Report and documented in the Comments and Response Report. Thereafter, the Final EIA Report will be submitted to GDEnv for decision.

Likewise, the WULA Summary Report, updated Comments and Response Report, as well as any other identified technical / specialist documents will be uploaded to DWS's online platform for formal assessment and decision making.

7.7 OUTCOME OF THE DECISION

Registered I&APs will be notified in writing of the outcome of the Department's decision within 12 days of the decision. The notification will include details of the process and timeframes in which to appeal the outcome of the decision made by the competent authority, GDEnv.

8. PLAN OF STUDY FOR THE EIA PHASE

The requirements that form part of the plan of study for undertaking the EIA phase include the following:

- A description of the alternatives to be considered and assessed within the preferred site (**Section 6.2**), including the option of not proceeding with the activity (**Section 6.2.3**);
- A description of the aspects to be assessed as part of the environmental impact assessment process (**Table 8-1**);
- Aspects to be assessed by specialists (Table 8-1 and Section 8.2).
- A description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists (**Section 8.3**);
- A description of the proposed method of assessing duration and significance (**Section 8.3**); an indication of the stages at which the competent authority will be consulted (**Section 1.1**);
- Particulars of the public participation process that will be conducted during the environmental impact assessment process (Section 1.2.2; Section 7; Section 8.5; Table 8-10);
- A description of the tasks that will be undertaken as part of the environmental impact assessment process (**Section 8.5**); and
- 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 (**Section 8.4**).

The sections that follow aim to determine potential environmental issues that will be further considered during the EIA Phase. The issues raised by I&APs during the Scoping Phase will also guide the identification of significant issues.

8.1 PREDICTING SIGNIFICANT ENVIRONMENTAL ISSUES

In line with the requirements of the Scoping Process in terms of the EIA Regulations, 2014 (as amended) this section aims to identify potentially significant environmental issues for further consideration and prioritisation during the EIA stage. This focusses on the EIA Phase and ensures that potential impacts related to the proposed development are determined through specialist studies, where necessary.

Potential impacts associated with the proposed development were determined by assessing the following:

- Project-related components and infrastructure (Section 4.1);
- Activities associated with the project life-cycle (i.e. pre-construction, construction, operation and decommissioning) (**Section 4.3**);
- Proposed alternatives (Section 6.2);
- Nature and profile of the receiving environment and potential sensitive environmental features and attributes (**Section 3**), which included a desktop evaluation (via literature review, GIS, topographical maps and aerial photography) and site investigations;

- Issues raised by I&APs (to follow); and
- Legal and policy context (Section 2).

8.1.1 SUMMARY OF ENVIRONMENTAL ISSUES

Pertinent environmental issues linked to the assessment of the receiving environment are briefly discussed in **Table 8-1** below; these may increase as the project proceeds. Information on how the impact will be assessed during the EIA phase and/or mitigated is also provided.

TABLE 8-1: POTENTIAL ISSUES TO BE ASSESSED DURING THE EIA PHASE

Environmental Aspect	Potential Issues / Impacts – Construction	Potential Issues / Impacts – Operation	Studies Required
Local Climate	• No adverse impacts are envisioned.	• Airports and ancillary uses contribute to atmospheric emissions	• Climate Change Impact Assessment • Air Quality Impact Assessment.
Topography	• Alteration of natural slopes; increased erosion risk during earthworks	• Stabilised embankments but potential stormwater runoff	• Geotechnical Assessment • Stormwater Management Plan
Geology and Soils	• Soil disturbance; compaction; contamination from fuel/oil spills	• Potential loss of topsoil; potential topography alteration.	• Geotechnical Assessment • Hydrogeology Study
Land Use and Visual Impact	• Loss of agricultural land; disruption of existing farming. Permanent visual intrusion from infrastructure as well as construction and operational aspects. • Permanent changes in land use (agricultural to Aerotropolis).	• Increase in property values due to new developments (positive). • Permanent conversion to transport sector; reduced agricultural productivity. Permanent change in landscape character; increased lighting at night. • Increased noise impact due to take-off and landing of aeroplanes. • Possible negative and positive visual impacts related to the new buildings and developed areas.	• Detailed EMPr, • Visual Impact Assessment & • Noise Assessment • Agricultural Impact Assessment
Access Roads	• Increased traffic on local roads; • Congestion;	• New roads will be constructed during the project.	• Transportation Impact Assessment

Environmental Aspect	Potential Issues / Impacts – Construction	Potential Issues / Impacts – Operation	Studies Required
	• Safety risks; • Effect on adjacent properties	• Increased traffic due to larger population in the area. • Improved connectivity.	
Agricultural Potential	• Loss of existing farming areas. • Soil disturbance and compaction.	• According to the GAPA IV map the area has a moderate to high agricultural potential. Thus, impacts are expected to the agricultural potential of the area. The proposed development is however in line with the Emfuleni SDF, 2023-2024. The Agri-Zones shall be focused on production of agricultural products amenable to transport by air and the same transported to the rest of the world via the cargo terminal. This high-tech Agri-cluster is expected to be the largest climate-controlled growing area on the continent. An integrated perishable supply chain. A state-of-the-art tissue culture facility. The first live animal holding area for transport by air in South Africa. The Agri-Parks program, creating up to 300,000 small-scale producers and 145,000 new jobs in the next five years.	• Agricultural Impact Assessment
Socio-Economic Environment	• Increased employment opportunities (positive) • Indirect injection of cash in the community due to investment (positive) • Potential issues regarding security in the area due to construction workers in the area	• Increased employment opportunities (positive) • Indirect injection of cash in the community due to investment (positive)	• Socio-Economic and Fiscal Impact Assessment • Public Participation Process

Environmental Aspect	Potential Issues / Impacts – Construction	Potential Issues / Impacts – Operation	Studies Required
Noise	Increased noise pollution due to construction activities,	Increased noise due to use of the area	Noise Assessment
Air Quality	Dust during construction	Increased exhaust emissions due to use of the area	- Air Quality Impact Assessment - Climate Change Impact Assessment
Biodiversity	- Loss of vegetation; - Loss of potential CBA and Threatened Ecosystem area; - Impacts to sensitive features which provide habitat for a number of species - Disturbance of natural ecosystems, making them vulnerable to invasion of alien species - Negative impact due to dust	Disturbance of birds and fauna in the area	- Biodiversity Assessment - Faunal and Floral Assessments
Surface Water	- Impacts to flow, water quality, geomorphology and riparian habitat during construction within the river system. - Increased stormwater resulting in erosion of bed and banks of riparian habitat. - Decreased water quality resulting in contamination by construction vehicles - Increased siltation of river as a result of poor soil management	- Increased and poor management of stormwater - Decreased water quality resulting in contamination by vehicles	- Aquatic Assessment - Wetland Assessment - Hydrogeology Assessment - WUL application with DWS - Stormwater Management Plan
Archaeology and Cultural Heritage	Potential impacts to heritage resources	N/A	- Heritage Impact Assessment - Palaeontology Assessment

8.1.2 SUMMARY OF IMPACTS IDENTIFIED BY IAPS

The comments received during the initial notification period will be summarised in the Comments and Responses Report and attached in the full Public Participation Report as part of the EIA process.

8.2 SPECIALIST STUDIES

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”*.

Further, the EIA Regulations, 2014 (as amended) define a specialist as: *“A person that is generally recognised within the scientific community as having the capability of undertaking, in conformance with generally recognised scientific principles, specialist studies or preparing specialist reports, including due diligence studies and socio-economic studies.”*

The specialist studies ‘triggered’ by the findings of the Scoping process include the following:

- Agricultural Impact Assessment,
- Air Quality Impact Assessment
- Terrestrial Biodiversity Assessment,
- Aquatic Impact Assessment,
- Avifaunal Assessment
- Faunal Assessment
- Floral Assessment
- Geohydrological Assessment,
- Hydropedology Assessment,
- Wetland Assessment,
- Heritage Impact Assessment,
- Palaeontology Impact Assessment,
- Noise Assessment; and
- Visual Impact Assessment.
- Climate Change Impact Assessment
- Socio-Economic and Fiscal Impact Assessment

The *Guideline for determining the scope of specialist involvement in EIA processes* (Münster, 2005) was used in compiling the general Terms of Reference for the specialist studies together with the *Guideline for involving biodiversity specialists in EIA processes* (Brownlie, 2005) and the *GDEnv Requirements for Biodiversity Specialists*. In line with these guidelines, specialists will be required to do the following:

- Address all triggers for the specialist studies identified by the Scoping Report.
- Address issues raised by IAPs, as contained in the Comments and Response Report;
- Meet the requirements of the relevant environmental authorities.
- Identify and assess all potentially significant impacts (direct, indirect and cumulative) and suggest suitable mitigation measures.
- Assess alternatives (including the No-Go option) and identify the Best Practicable Environmental Option (BPEO) for the proposed development.

- All specialist reports must adhere to Appendix 6 of the 2014 EIA Regulations.

In addition to the above-mentioned environmental specialist studies, the following technical studies will also be undertaken and will inform the EIA:

- Outline Scheme Report;
- Bulk Sewer Services Report;
- Bulk Water Services Report;
- Electrical Services Report;
- Stormwater Management Plan;
- Transportation Impact Assessment including Fatal Flaw Reports;
- Floodline Delineation Report;
- Integrated Waste Management Plan;
- Geotechnical Assessment;
- Aquifer pump testing results.

Table 8-2 provides an overview of the environmental aspects that will be assessed by specialists.

TABLE 8-2: SUMMARY OF ENVIRONMENTAL ASPECTS TO BE ASSESSED IN THE EIA.

Environmental Aspects	To be assessed by Specialist	Specialist Study
Geology and Soils	Yes	Geotechnical Assessment Hydropedology Study Agricultural Impact Assessment
Services	Yes	Outline Schemes Report Water, Sewer, Electricity & Stormwater Reports
Access Roads	Yes	Transportation Impact Assessment Fatal Flaw Reports
Biodiversity	Yes	Terrestrial Biodiversity Assessment Avi-Faunal Assessment Faunal Assessment Floral Assessment
Surface Water	Yes	Wetland Assessment Aquatic Assessment Hydropedology Assessment
Heritage and Culture	Yes	Heritage Impact Assessment Palaeontology Impact Assessment
Socio-economic	Yes	Socio-Economic and Fiscal Impact Assessment
Ground Water	Yes	Geohydrology Assessment Aquifer Assessment
Air Quality	Yes	Air Quality Impact Assessment

		Climate Change Impact Assessment
Noise aspects	Yes	Noise Assessment
Visual aspects	Yes	Visual Impact Assessment

8.3 IMPACT ASSESSMENT METHODOLOGY

The standard methodology used in the environmental impact assessment to determine the significance rating of the potential impacts are outlined in this section.

The **significance** of an impact is defined as the combination of the **consequence** of the impact occurring and the **probability** that the impact will occur. The nature and type of impact may be direct or indirect and may also be positive or negative, refer to **Table 8-3**: below for the specific definitions.

TABLE 8-3: NATURE AND TYPE OF IMPACT

IMPACT	Nature and Type of Impact:		
	Direct	Impacts that are caused directly by the activity and generally occur at the same time and place as the activity	✓/✗
	Indirect	Indirect or induced changes that may occur as a result of the activity. These include all impacts that do not manifest immediately when the activity is undertaken, or which occur at a different place as a result of the activity	✓/✗
	Cumulative	Those impacts associated with the activity which add to, or interact synergistically with existing impacts of past or existing activities, and include direct or indirect impacts which accumulate over time and space	✓/✗
	Positive	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will benefit significantly, and includes neutral impacts (those that are not considered to be negative)	✓
	Negative	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes will be compromised	✗

Table 8-4: presents the defined criteria used to determine the **consequence** of the impact occurring which incorporates the extent, duration and intensity (severity) of the impact.

TABLE 8-4: CONSEQUENCE OF THE IMPACT OCCURRING

CONSEQUENCE	Extent of Impact:	
	Site	Impact is limited to the site and immediate surroundings, within the study site boundary or property (immobile impacts)
	Neighbouring	Impact extends across the site boundary to adjacent properties (mobile impacts)
	Local	Impact occurs within a 5km radius of the site
	Regional	Impact occurs within a provincial boundary
	National	Impact occurs across one or more provincial boundaries
Duration of Impact:		

	Incidental	The impact will cease almost immediately (within weeks) if the activity is stopped, or may occur during isolated or sporadic incidences
	Short-term	The impact is limited to the construction phase, or the impact will cease within 1 - 2 years if the activity is stopped
	Medium-term	The impact will cease within 5 years if the activity is stopped
	Long-term	The impact will cease after the operational life of the activity, either by natural processes or by human intervention
	Permanent	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient
	Intensity or Severity of Impact:	
	Low	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are not affected
	Low-Medium	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are modified insignificantly
	Medium	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are altered
	Medium-High	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes are severely altered
	High	Impacts affect the environment in such a way that natural, cultural and/or social functions and processes will permanently cease

The probability of the impact occurring is the likelihood of the impacts actually occurring and is determined based on the classification provided in **Table 8-5**.

TABLE 8-5: PROBABILITY AND CONFIDENCE OF IMPACT PREDICTION

PROBABILITY	Probability of Potential Impact Occurrence:	
	Improbable	The possibility of the impact materialising is very low either because of design or historic experience
	Possible	The possibility of the impact materialising is low either because of design or historic experience
	Likely	There is a possibility that the impact will occur
	Highly Likely	There is a distinct possibility that the impact will occur
	Definite	The impact will occur regardless of any prevention measures

The **significance** of the impact is determined by considering the consequence and probability without taking into account any mitigation or management measures and is then ranked according to the ratings listed in **Table 8-6**. The level of confidence associated with the impact prediction is also considered as low, medium or high (**Table 8-7**).

TABLE 8-6: SIGNIFICANCE RATING OF THE IMPACT

SIGNIFICANCE	Significance Ratings:	
	Low	Neither environmental nor social and cultural receptors will be adversely affected by the impact. Management measures are usually not provided for low impacts
	Low-Medium	Management measures are usually encouraged to ensure that the impacts remain of Low-Medium significance. Management measures may be proposed to ensure that the significance ranking remains low-medium

	Medium	Natural, cultural and/or social functions and processes are altered by the activities, and management measures must be provided to reduce the significance rating
	Medium-High	Natural, cultural and/or social functions and processes are altered significantly by the activities, although management measures may still be feasible
	High	Natural, cultural, and/or social functions and processes are adversely affected by the activities. The precautionary approach will be adopted for all high significant impacts, and all possible measures must be taken to reduce the impact

TABLE 8-7: LEVEL OF CONFIDENCE OF THE IMPACT PREDICTION

CONFIDENCE	Level of Confidence in the Impact Prediction:	
	Low	Less than 40% sure of impact prediction due to gaps in specialist knowledge and/or availability of information
	Medium	Between 40 and 70% sure of impact prediction due to limited specialist knowledge and/or availability of information
	High	Greater than 70% sure of impact prediction due to outcome of specialist knowledge and/or availability of information

Once the significance rating has been determined for each impact, management and mitigation measures must be determined for all impacts that have a significance ranking of Medium and higher in order to attempt to reduce the level of significance that the impact may reflect.

The EIA Regulations, 2014 specifically require a description is provided of the degree to which these impacts:

- can be reversed;
- may cause irreplaceable loss of resources; and
- can be avoided, managed or mitigated.

Based on the proposed mitigation measures the EAP will determine a mitigation efficiency (**Table 8-8**) whereby the initial significance is re-evaluated and ranked again to affect a significance that incorporates the mitigation based on its effectiveness. The overall significance is then reranked and a final significance rating is determined.

TABLE 8-8: MITIGATION EFFICIENCY

MITIGATION EFFICIENCY	Mitigation Efficiency	
	None	Not applicable
	Very Low	Where the significance rating stays the same, but where mitigation will reduce the intensity of the impact. Positive impacts will remain the same
	Low	Where the significance rating reduces by one level, after mitigation
	Medium	Where the significance rating reduces by two levels, after mitigation
	High	Where the significance rating reduces by three levels, after mitigation
	Very High	Where the significance rating reduces by more than three levels, after mitigation

The reversibility is directly proportional the “Loss of Resource” where no loss of resource is experienced, the impact is completely reversible; where a substantial “Loss of resource” is experienced there is a medium

degree of reversibility; and an irreversible impact relates to a complete loss of resources, i.e. irreplaceable (Table 8-9).

TABLE 8-9: DEGREE OF REVERSIBILITY AND LOSS OF RESOURCES

DEGREE REVERSABILITY & LOSS OF RESOURCES	Loss of Resources:	
	No Loss	No loss of social, cultural and/or ecological resource(s) are experienced. Positive impacts will not experience resource loss
	Partial	The activity results in an insignificant or partial loss of social, cultural and/or ecological resource(s)
	Substantial	The activity results in a significant loss of social, cultural and/or ecological resource(s)
	Irreplaceable	The activity results in the complete and irreplaceable social, cultural and/or ecological loss of resource(s)
	Reversibility:	
	Irreversible	Impacts on natural, cultural and/or social functions and processes are irreversible to the pre-impacted state in such a way that the application of resources will not cause any degree of reversibility
	Medium Degree	Impacts on natural, cultural and/or social functions and processes are partially reversible to the pre-impacted state if less than 50% resources are applied
	High Degree	Impacts on natural, cultural and/or social functions and processes are partially reversible to the pre-impacted state if more than 50% resources are applied
	Reversible	Impacts on natural, cultural and/or social functions and processes are fully reversible to the pre-impacted state if adequate resources are applied

8.3.1 CUMULATIVE IMPACTS

It is important to assess the natural environment using a systems approach that will consider the cumulative impact of various actions. Cumulative impact refers to the impact on the environment, which results from the incremental impact of the actions when added to other past, present and reasonably foreseeable future actions regardless of what agencies or persons undertake such actions. Cumulative impacts can result from individually minor, but collectively significant actions or activities taking place over a period of time. Cumulative effects can take place frequently and over a period of time that the effects cannot be assimilated by the environment.

8.4 MITIGATION

According to the EIA Regulations, 2014, "mitigation" means to "*anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible*". Based on this definition, it possible to see that a mitigation hierarchy exists (Figure 8-1).

At the bottom of this hierarchy is the most preferred option which includes **prevention (1)**. These mitigation measures aim to avoid impacts completely.

The second level of mitigation is **reduction (2)** which involves mitigation measures that minimise impacts.

Mitigation measures also include **remediation measures (3)** for environmental impacts. These measures focus on remediating or rehabilitating areas after they have been impacted.

Compensation (4) involves compensating the loss of an entire feature. In the case of the environment, this usually means consideration of an off-set associated with rehabilitation and mitigation.

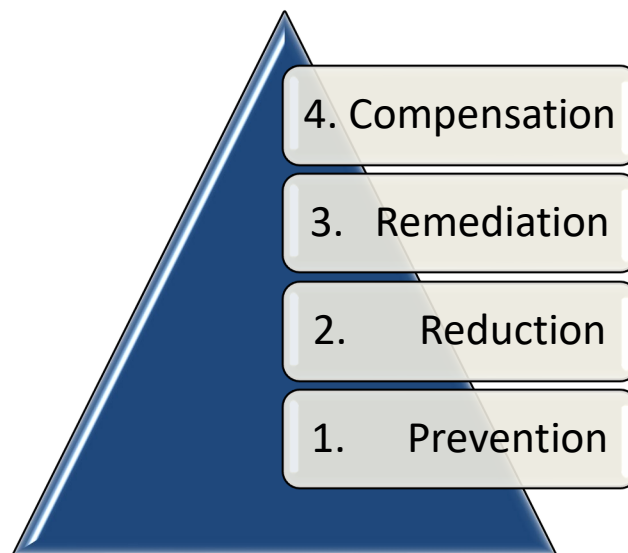


FIGURE 8-1: MITIGATION HIERARCHY

A Construction and Operational EMPr will be developed based on the findings of the impact assessment of the EIA and in line with the requirements of Appendix 4 of GN 982 of 4 December 2014. The EMPr represents a detailed plan of action and includes site-specific mitigation measures for all medium to high (significant) impacts. The mitigation and management measures will include a combination of the following:

- Physical environmental management structures.
- Monitoring and compliance of pollution and regulatory requirements.

All liability for the implementation of the EMPr (as well as the EIA findings and environmental authorisation) lies with the project applicant which in this case is **VAAL AEROZONE (PTY) LTD.**

8.5 ENVIRONMENTAL IMPACT ASSESSMENT PHASE

The next steps in the EIA phase will be undertaken upon completion of the scoping phase (i.e. after the submission and acceptance of this Scoping Report by the GDEnv). During the EIA phase, specialist studies will be conducted and/or finalised to inform the environmental impact assessment. Concerns raised by I&APs pertaining to the proposed development and their potential impacts on the physical, biological aspects of the proposed site will also be assessed at an appropriate level of detail.

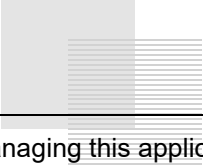
The findings, recommendations and statements compiled by the specialists will be integrated with the other environmental aspects and compiled into an EIA Report and provided to the relevant organs of state and

registered I&APs for review and comment for a minimum period of 30 days. Refer to **Table 8-10** below for an indication of key dates. All comments received from any authority, I&AP and specialist will be considered and incorporated in the EIA Report for final submission to GDEnv for an evaluation and assessment in order to provide a decision on whether to grant or refuse the environmental authorisation.

TABLE 8-10: PROPOSED TIMEFRAMES FOR THE EIA PROCESS

Responsible Role Player	Milestone Tasks	Required Time Period	Proposed Timeframes	Status
Initial Notification Phase				
PPP	Written, Newspaper, Site Notices & BIDs	60 days	01 October 2026 – 02 December 2026	In progress
Specialist Studies and Development Layout Planning				
Specialist Studies	Site Visits and Reporting	N/A	February 2024 – December 2026	✓
Technical Studies	Site Visits and Reporting Liaison with Authorities	N/A	March 2024 & October 2026	✓
Scoping and Application Phase				
EAP	Compile Scoping Report and Application form	N/A	September 2026 – October 2026	✓
EAP	Submit Application for EA Submit Scoping Report for Authority and Public Review	N/A	December 2026 30 September 2026	In progress
GDEnv	Accept/Acknowledge Application for EA	10 days	December 2026 / January 2027	In progress
PPP	I&AP Comment Period on Scoping Report	60 days	01 October 2026 – 02 December 2026	In progress
EAP	Review / Incorporate Comments	5 days		✗
GDEnv	Review Scoping Report	43 days		✗
Impact Assessment Phase				
EAP	Compile EIA Report	N/A	18 January – 18 February 2027	✗
PPP	I&AP Comment on EIA Report	30 days	19 February – 19 March 2027	✗
EAP	Review / Incorporate Comments	2 days	23 March – 19 April 2027	✗
GDEnv	Review EIA Report and Provide Decision	106 days	April 2027 – August 2027	✗
PPP	Notification of Decision / Appeal		August 2027	✗

9. EAP UNDERTAKING

I,  **De Wet Botha**, as the Environmental Assessment Practitioner managing this application provide the following affirmation in relation to -

- the correctness of the information provided in the report;
- the inclusion of comments and inputs from stakeholders and interested and affected parties; and
- any information provided by myself to interested and affected parties and any responses to comments or inputs made by interested and affected parties.
- the level of agreement between myself and interested and affected parties on the plan of study for undertaking the environmental impact assessment.



Designation: Senior Environmental Assessment Practitioner

Prism EMS Africa (Pty) Ltd

Company

24 September 2026

Date

10 LIST OF APPENDICES



APPENDIX A – APPOINTED EAP

- Appendix A1 - Curriculum Vitae of EAP
- Appendix A2 - Company Profile

APPENDIX B – LAYOUT PLANS

- Appendix B1 - Proposed Layout Plan
- Appendix B2 - Alternative Layout (Alternate Orientation)
- Appendix B3 - Alternative Road Interchange (Narrow Diamond Interchange)
- Appendix B4 - Alternative Stormwater Plan (Aerotropolis Precinct)
- Appendix B5 - Alternative Stormwater Plan (Road Interchange)

APPENDIX C – A3 MAPS & DRAWINGS

- Appendix C1 - Layout on Aerial Plan indicating 3 Phases
- Appendix C2 - Locality Map
- Appendix C3 - Aerial Map
- Appendix C4 - Locality Map of Survey Area
- Appendix C5 - Application Area Co-Ordinates
- Appendix C6 - Emfuleni Spatial Development Framework, 2024
- Appendix C7 - Topography Plan
- Appendix C8 - Geology Plan
- Appendix C9 - Soils Plan
- Appendix C10 - GAPA IV
- Appendix C11 - GAPA V
- Appendix C12 - C-Plan v3.3
- Appendix C13 - C-Plan v4
- Appendix C14 - Gauteng EMF
- Appendix C15 - IBA & Protected Area Map
- Appendix C16 - Surface Water Map
- Appendix C17 - Groundwater Abstraction Points Map
- Appendix C18 - Master Plan - Vaal Aerotropolis
- Appendix C19 - Water and Fire Water Services Plan
- Appendix C20 - Sewer Services Plan
- Appendix C21 - Road Network Design Plan
- Appendix C22 - Stormwater Design Plan

Appendix C23 - Electricity Design Plan

APPENDIX D – PUBLIC PARTICIPATION PROCESS

Appendix D1	-	Legal Notification (Newspaper) Notices
Appendix D2	-	Site Notices
Appendix D3	-	Background Information Document
Appendix D4	-	I&AP Register (<i>to follow</i>)
Appendix D5	-	Proof of Initial Notification (<i>to follow</i>)
Appendix D6	-	Proof of Notification of Scoping (<i>to follow</i>)
Appendix D7	-	Comments and Responses Report (<i>to follow</i>)
Appendix D8	-	Comments Received (<i>to follow</i>)
Appendix D9	-	Comments during Initial Notification (<i>to follow</i>)
Appendix D10	-	Comments during Review of Scoping Report (<i>to follow</i>)
Appendix D11	-	GDEnv Correspondence (<i>to follow</i>)

APPENDIX E – NATIONAL SCREENING TOOL

Appendix E1	-	Site Verification Assessment
Appendix E2	-	Screening Tool Report

APPENDIX F – OTHER INFORMATION

Appendix F1	-	Gauteng Department of Economic Development – Power of Attorney
Appendix F2	-	Emfuleni LM – Confirmation of Waste Collection Services

APPENDIX G – WUL

Appendix G1	-	Prelim WULA Summery Report
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