

DEFENCE SITE SENSITIVITY VERIFICATION

*BASIC ASSESSMENT AND SCREENING
REPORT FOR ENVIRONMENTAL
AUTHORIZATION FOR THE PROPOSED
MOKOPANE WATER TREATMENT SERVICES*

ABSTRACT

The Defence Site Sensitivity Verification process is Environmental Theme number five in the six themes-process for the project to determine site environmental sensitivity. The prescribed Desk-Top Analysis, followed by a Gathering of Relevant Data, process was followed.

Hein Reid

REPORT ON THE SPECIALIST ASSESSMENT AND REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON DEFENCE INSTALLATIONS

Prepared by:

Hein Reid,

PARIVISION,

31 VILLA BIANCA, 72 VENUS STREET

BENONI, GAUTENG

1501

Hein.reid@gmail.com

0716408463

Document Name

Document Title: PV/ZUT/Mok/Draft
 Short Title: PV/ZUT/Mokopane
 Document Owner: Hein Reid
 Date of Creation: 29 August 2023
 Last Updated: 4 September 2023

Version History

Version	Date	Description of Changes	Author
Pre-draft	29 August 2023	Initial draft of the document	Hein Reid
Draft	4 September 2023	Draft Report	Hein Reid

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1. Executive Summary

The following executive summary outlines the key findings and conclusions of the Defence Site Sensitivity Verification Report conducted for the Mokopane Water Treatment Project. This verification process is in compliance with the guidelines set forth in Government Notice No. 320, Government Gazette 43110, dated 20th March 2020.

Background

The Mokopane Water Treatment Project is a critical initiative aimed at addressing water challenges in the Piet Potgietersrust Town and Townlands region of South Africa. This project focuses on ensuring access to clean water while adhering to strict environmental regulations. This report focusses on the Defence Site Sensitivity Verification element of the process.

Methodology

The Defence Site Sensitivity Verification process is Environmental Theme number five in the six-themes process for the project to determine site environmental sensitivity. The prescribed Desk-Top Analysis, followed by a Gathering of Relevant Data, process was followed.

Scope

The scope of the assessment at Mokopane necessitates a comprehensive Defence Theme Impact Assessment, which encompasses the evaluation of three distinct options. The primary focus of this assessment revolves around the Preferred Site, denoted as Site 2, which will be thoroughly examined for its suitability and potential impacts. Additionally, the assessment will also scrutinize the Alternative Site, designated as Site 1, to assess its feasibility and compare it to the preferred option. Lastly, the assessment will encompass the No Go alternative, exploring the implications of not pursuing the project

at all. Through this comprehensive evaluation, the assessment aims to provide critical insights and recommendations that will inform decision-makers and stakeholders in the Mokopane region regarding the most prudent course of action concerning the defence theme project.

Findings

The Defence Site Sensitivity Verification process yielded the following key findings:

- a. Confirmation of Land Use and Sensitivity:** The desk-top analysis confirmed the environmental sensitivity of the project site, as previously identified by the national screening tool. The on-site inspection corroborated these findings, further solidifying the site's sensitivity rating.
- b. No Disputes Detected:** The verification process did not yield any disputes regarding the current land use or environmental sensitivity as identified by the screening tool.

Conclusion

Based on the comprehensive Defence Site Sensitivity Verification process, the project site has been confirmed to align with the environmental sensitivity ratings provided by the national web-based screening tool. This verification process has ensured that the Mokopane Water Treatment Project is in compliance with the regulatory requirements outlined in Government Notice No. 320, GOVERNMENT GAZETTE 43110, published on 20th March 2020.

Recommendation

In light of the findings and conclusions of this Defence Site Sensitivity Verification report, it is recommended that the Mokopane Water Treatment Project proceed at site 2, with the other necessary environmental assessments themes and reporting.

Endorsement

This executive summary is provided as an integral part of the Defence Site Sensitivity Verification Report for the Mokopane Water Treatment Project and is endorsed by the specialist responsible for conducting the verification.

2. Introduction

The Mokopane Water Services Project stands as a pivotal initiative aimed at addressing water requirements at Mokopane (Piet Potgietersrust Town and Townlands), situated in the heart of South Africa's Limpopo Province.

The project meticulously adhered to the Defence Site Sensitivity Verification process in accordance with the South African Government Gazette 43110 and GN 320, ensuring its alignment with environmental regulations and sustainability standards.

The scope of the assessment in Mokopane is extensive, focusing primarily on a dedicated defence theme impact assessment. This assessment encompasses an evaluation of three distinct options, each carrying its own set of implications. The first option, the preferred site (Site 2), will be thoroughly examined to gauge its potential impact on the local environment, community, and economy. The second option, an alternative site (Site 1), will be assessed as a viable alternative, aiming to identify any advantages or disadvantages it may offer compared to the preferred site. Lastly, the "No Go" alternative, which involves not implementing the defence theme project at all, will be scrutinized to comprehend the consequences of this decision. This comprehensive assessment will provide valuable insights and data to inform decision-makers on the best course of action for the Mokopane region.

3. Methodology

Site Sensitivity Verification

Before commencing the specialist assessment, a Site Sensitivity Verification was conducted. This serves as the initial step in ensuring the protection of the defence installations. The verification is conducted by an appropriate specialist with radar expertise and the results of the Site Sensitivity Verification are documented in a comprehensive report.

The purpose of the report is to confirm or dispute the current use of the land and environmental sensitivity as identified by the screening tool, include motivation and evidence, supporting any changes in land use or environmental sensitivity. The report is part of the overall EIA and will be submitted along with the relevant assessment report prepared in accordance with the Environmental Impact Assessment Regulations.

The Site Sensitivity Verification Process and Report has been compiled based on the following methodology:

- Existing spatial databases were used to determine the location of defence installations in relation to the proposed project area, and to identify preliminary areas of concern in terms of impacts to defence installations;
- The proposed project site was plotted on the Screening Tool to identify the sensitivity allocated;
- Additional research was undertaken to substantiate the Site Sensitivity Verification process; and
- A Site Sensitivity Verification Report was compiled (i.e. this report).

The information sources listed in Table 1 below were used in the Site Sensitivity Verification process.

Information	Source	Date	Type	Description
National Web-Based Environmental Screening Tool	Department of Environment, Forestry and Fisheries	2020	Online Assessment	The National Web based Environmental Screening Tool is a geographically based web-enabled application which allows a proponent intending to submit an application for environmental authorisation in terms of the Environmental Impact Assessment (EIA) Regulations 2014, as amended to screen their proposed site for any environmental sensitivity ¹ .
RSA Airspaces in 3D	Air Traffic and Navigation Services SOC Limited (ATNS)	2022	Google Earth .kmz file	The RSA Airspaces in 3D data KMZ file is an initiative undertaken by the ATNS to illustrate the definitions and complexities of airspace, routes, aerodromes and navigational facilities within South Africa to the public in the interest of safety ² .

Table 1: Site Sensitivity Verification Information Sources

Specialist Assessment

The project's impact on defence installations is assessed based on sensitivity levels identified by the national web-based environmental screening tool. The assessment and reporting requirements are detailed below in Table 2:

¹ <https://screening.environment.gov.za/screeningtool/#/pages/welcome>

² <https://atns.com/products-services/aim/aeronautical-information-managementrsa-airspaces-in-3d/7423/>

Sensitivity Rating	Description	Defence Compliance Statement
VERY HIGH	This rating indicates a high likelihood of negative impacts on defence installations. In-depth assessment and mitigation measures are likely required.	Required
HIGH	This rating signifies the potential for negative impacts that can be potentially mitigated. Further assessment may be needed.	Required
MEDIUM	This rating suggests a low potential for negative impacts, and if impacts occur, there is a high likelihood of mitigation.	Required
LOW	In low sensitivity areas, no negative impacts on defence installations are expected, and further assessment and mitigation measures are unlikely.	Not Required

Table 2: Site Identification Criteria

Compliance Statement

The compliance statement is prepared by the specialist with radar expertise and includes:

- Contact details and qualifications of the practitioner or specialist.
- A map displaying the development footprint and its overlay on the defence sensitivity map.
- A comment from the Department of Defence confirming or rejecting the proposed development's impact on military areas of interest is on request.
- If further assessment is required, the compliance statement incorporates the assessment report and mitigation measures in accordance with Department of Defence stipulations.

Site Description

This assessment involves the evaluation of three unique options, each with its own set of consequences.

- a. Firstly the preferred site (**"Site 2"**) will undergo a comprehensive examination to assess its potential effects on the local environment, community, and economy.
- b. Secondly, an alternative site (**"Site 1"**) will be appraised as a viable substitute, with a focus on uncovering its comparative advantages and disadvantages when compared to the preferred site.
- c. Lastly, the **"No Go"** alternative, entailing the complete abandonment of the defence theme project, will be rigorously analysed to gain a thorough understanding of the repercussions associated with this choice.

The Site Description section includes a detailed description of the site's physical characteristics. The properties to be assessed are described in Table 3 below.

Site nr	No	Farm Name	Farm/Erf No	Portion	Latitude	Longitude	Property Type
2	1	PIET POTGIETERSRUST TOWN AND TOWNLANDS 4	44	0	24°9'57.81S	29°0'46.31E	Farm
	2	PIET POTGIETERSRUST TOWN AND TOWNLANDS 4	44	80	24°10'43.26S	29°1'50.62E	Farm Portion
1	1	BLINKWATER	820	0	23°56'59.31S	28°56'26.15E	Farm
	2	BLINKWATER	820	0	23°56'59.31S	28°56'26.15E	Farm Portion

Table 3: Property Details

4. Defence Site Sensitivity Verification Results

This section will present a summary of the findings of the site sensitivity assessment for the Defence theme as sourced from the Department of Environmental Affairs Screening Tool.

Site 2

Figure 1 below shows the assessed area.

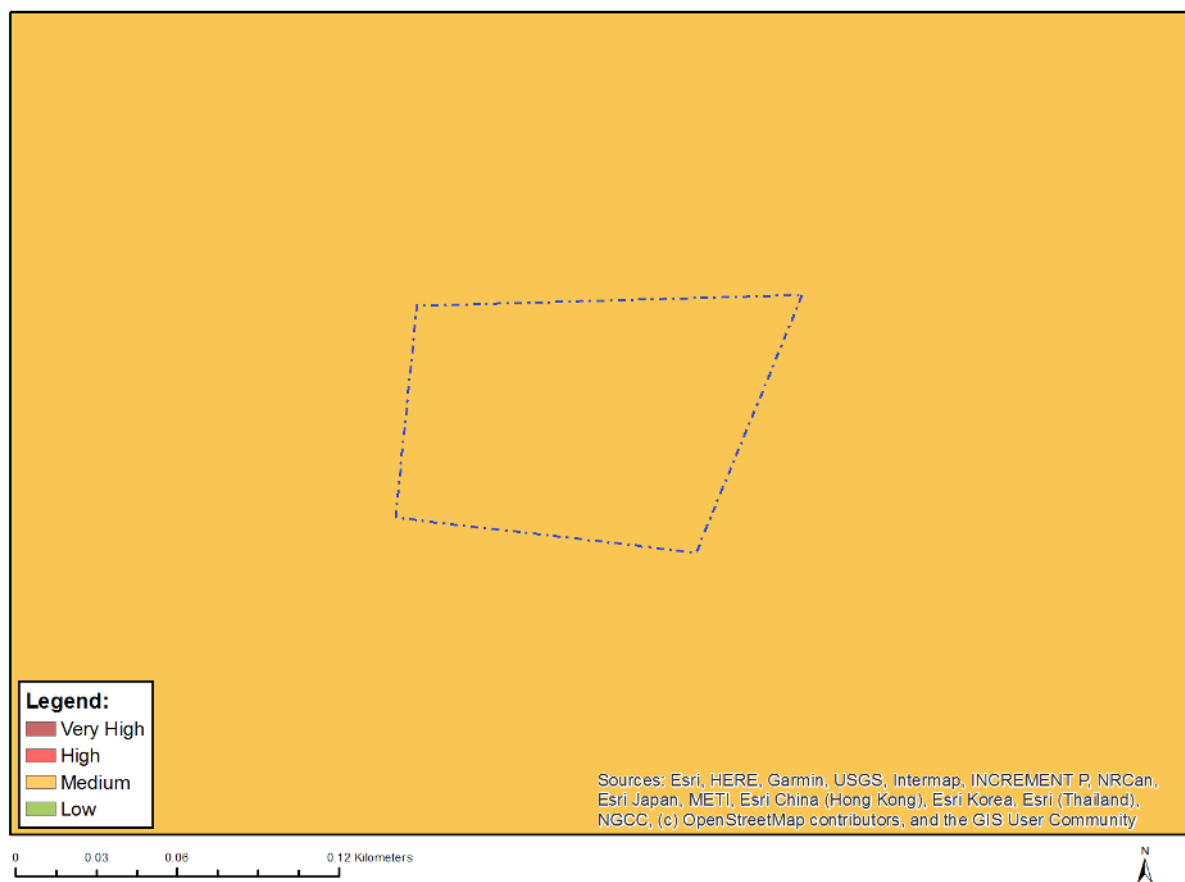


Figure 1: Screening Tool Map Assessed Area for Site 2

Summary of assessment: Site 2

Table 5 shows a summary of the assessment for Site 2.

Findings	The proposed project site is dominated by natural vegetation and there are no areas of cultivation present on site. No defence installations were found within the proposed project assessed area. According to the Visual Impact Assessment, much of the area is characterised by natural vegetation which is dominated by a mix of the winter-deciduous mopane tree and other species such as <i>Acacia tortillis</i> and <i>A. mellifera</i> .
Sensitivity	Medium
Sensitivity Features	Military and Defence site

Table 4: Screening Tool Summary of Site 2 assessment

Site 1

Figure 2 below shows the assessed area.

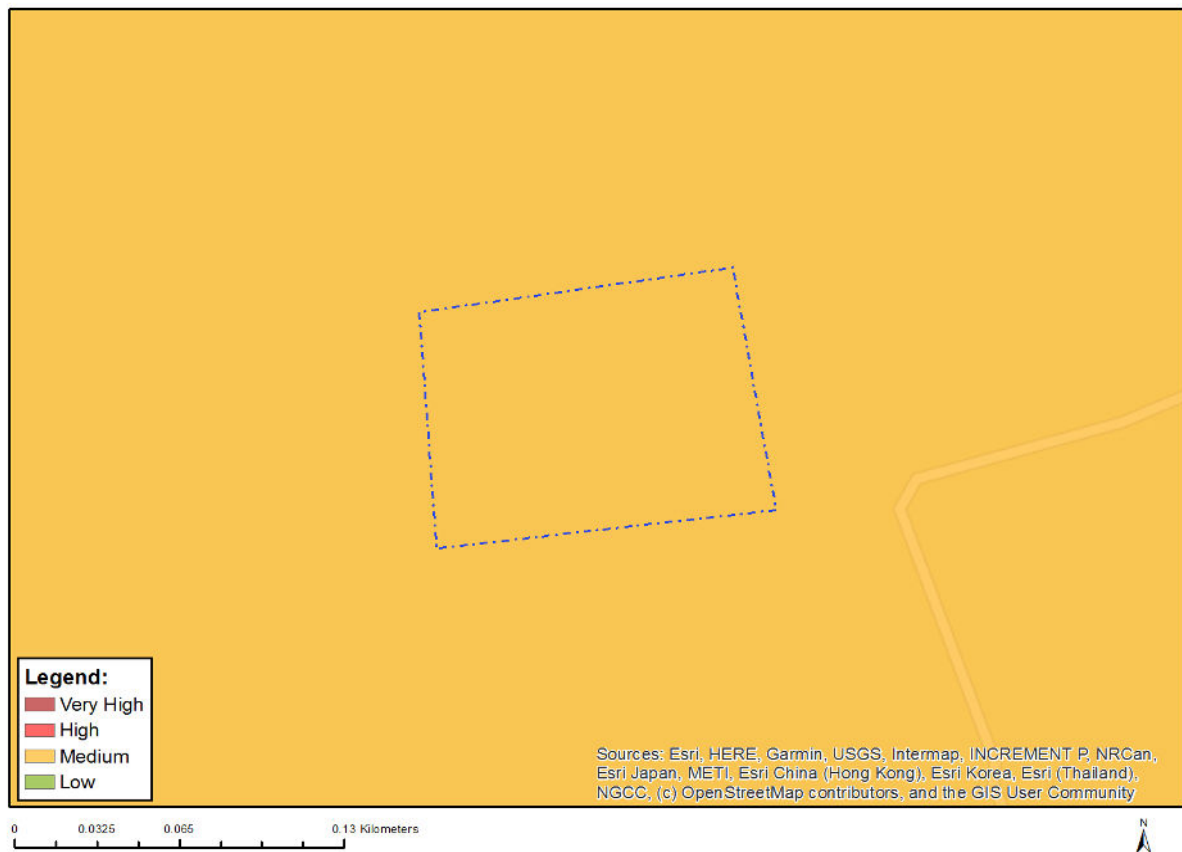


Figure 2: Screening Tool Map Assessed Area for Site 1

Summary of assessment: Site 1

Table 6 shows a summary of the assessment for Site 1.

Findings	The proposed project site is dominated by natural vegetation and there are no areas of cultivation present on site. No defence installations were found within the proposed project assessed area. According to the Visual Impact Assessment, much of the area is characterised by natural vegetation which is dominated by a mix of the winter-deciduous mopane tree and other species such as <i>Acacia tortillis</i> and <i>A. mellifera</i> .
Sensitivity	Medium
Sensitivity Features	Military and Defence site

Table 5: Screening Tool Summary of Site 1 assessment

No Go Option

To explain how the "no go" option does not satisfy the requirements of the MOKOPANE WATER TREATMENT WORKS project as described, we need to consider the specific context and objectives outlined in the provided information. Here are some reasons why the "no go" option may not meet the project requirements:

- a. **Objective of Providing Potable Water** The primary objective of the Mokopane Water Treatment Works project is to supply potable water for commercial and residential purposes, including the Mokopane Town and areas north of Mokopane. The "no go" option, which essentially means not proceeding with any construction or development, would clearly fail to achieve this critical objective. Without infrastructure development, there would be no water treatment facility to provide potable water to the targeted areas.

- b. **Compliance with Phases and Authorizations** The project has gone through various phases, including Phase 2B and Phase 2B+, which have received authorizations and approvals, including environmental clearances (such as EA). The "no go" option would not align with the project's history and the approvals already in place. Failing to proceed with construction as planned could result in non-compliance with legal and regulatory requirements.
- c. **Community and Mining Water Needs** The project's technical features include the provision of potable water to mining clients, residents of rural villages, and the Mokopane Central Business District. The "no go" option would neglect the essential needs of these communities and industries, potentially causing water shortages, impacting livelihoods, and hampering economic activities.
- d. **Water Services Development Plan** The Mogalakwena Local Municipality, as the Water Services Authority, has developed a Water Services Development Plan (WSDP) and the Mogalakwena Water Master Plan (MWMP). These plans have identified the need for two new water treatment works, one of which is the Mokopane WTW. The "no go" option contradicts the municipality's long-term planning and fails to fulfil its responsibility to provide basic water services to the community.
- e. **Overall Program Objectives:** The Mokopane Water Treatment Works project is part of a broader Olifants Management Model Programme Bulk Raw Water Study Phase, aimed at managing water resources effectively. The "no go" option would disrupt the program's objectives and coordination, potentially affecting the overall water resource management in the region.

In summary, the "no go" option does not satisfy the project requirements because it contradicts the core objectives of providing potable water, violates previous approvals and authorizations, neglects the needs of the

community and industries, and goes against established water service development plans and broader program objectives for effective water resource management in the region.

5. Conclusion and Recommendation

Conclusion: Defence Site Sensitivity

Based on the comprehensive Defence Site Sensitivity Verification process, the project site has been confirmed to align with the environmental sensitivity ratings provided by the national web-based screening tool. This verification process has ensured that the Mokopane Water Treatment Project is in compliance with the regulatory requirements outlined in Government Notice No. 320, GOVERNMENT GAZETTE 43110, published on 20th March 2020.

Recommendation

It is recommended that site 2 be developed.

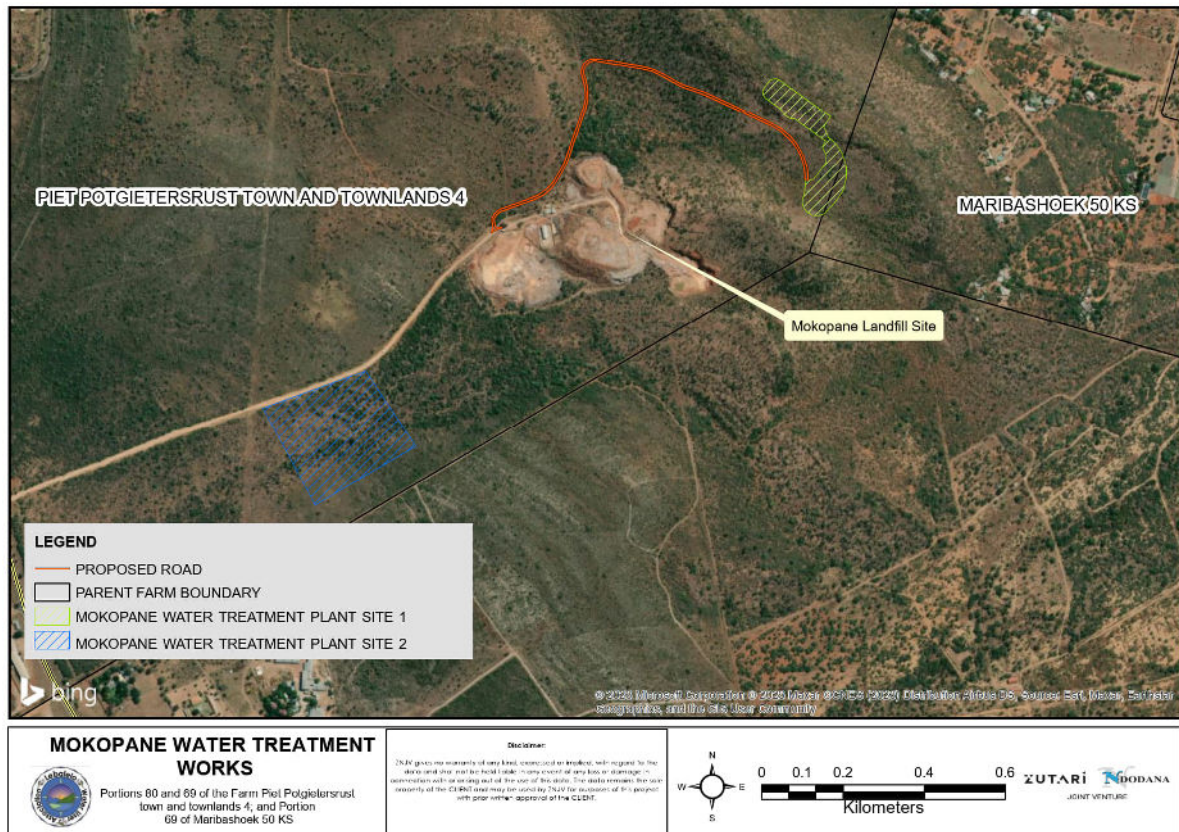


Figure 3: Site 1 and 2 relative positions

6. Endorsement

This Defence Site Sensitivity Verification Report for the Mokopane Water Treatment Project and is endorsed by the Radar Specialist as indicated below:



.....
Hein Reid
Managing Director

29 September 2023

.....
[Date]

7. Details of the Assessment Practitioner

GN 320 notes that the Site Sensitivity Verification must be undertaken by an Environmental Assessment Practitioner (EAP) or specialist with expertise in radar. This chapter describes the credentials and provides a summary of the air traffic control experience of the expert and how it affords him a deep understanding of radar technology and its application, solidifying the Specialist with Expertise in Radar.

An air traffic controller with more than 40 years of experience, specializing in radar operations, brings a wealth of expertise to their role. A seasoned professional uses their radar knowledge and qualifications to conduct air traffic control responsibilities and environmental impact assessments where radar specialization is required with a focus on the following:

- **Radar Equipment Deployment and Operation:** Having spent decades in the field, the specialist air traffic controller is well-versed in deploying and operating radar equipment. They ensure that radar systems are correctly set up, calibrated, and maintained to provide accurate and reliable data for safety critical air traffic control purposes.
- **Radar Data Interpretation:** With extensive experience, the controller can interpret radar data quickly and accurately. They can identify aircraft positions, altitudes, speeds, headings, and other critical information from radar screens, ensuring the safe separation and management of air traffic.
- **Conflict Resolution:** The specialist air traffic controller excels in identifying potential conflicts or deviations from established flight paths on radar screens. They can take proactive measures to issue clear and timely instructions to pilots to avoid conflicts and ensure safety in the airspace.
- **Weather and Environmental Awareness:** Years of radar expertise enable the controller to recognize weather-related challenges,

including thunderstorms, turbulence, or icing conditions, as well as potential environmental impacts. They can guide aircraft to safer routes or altitudes to avoid adverse weather and minimize environmental impact.

- **Emergency Response:** In critical situations, the air traffic controller uses their radar knowledge to assess the severity of emergencies swiftly, consider alternative courses of action and implement the best solution. They can guide aircraft to the nearest suitable airport and coordinate with relevant authorities, demonstrating their proficiency in crisis management.
- **Coordination and Communication:** Effective radar operation requires seamless communication with pilots, fellow controllers, and other aviation personnel. The specialist controller excels in issuing clear and concise instructions, ensuring that all parties involved understand and follow directives.
- **Traffic Management:** With decades of experience, the air traffic controller efficiently manages air traffic flow, even in congested or complex scenarios. Their radar specialization enables them to make informed decisions to minimize delays and maintain efficient operations.
- **Environmental Impact Assessment:** Leveraging their radar specialization, the controller is well-qualified to conduct environmental impact assessments, particularly when radar expertise is required. They can assess the potential impact of aviation operations on the surrounding environment, including wildlife, noise pollution, and other relevant factors.
- **Compliance with Regulations:** The specialist air traffic controller places a high priority on safety and compliance with aviation regulations and procedures. They stay updated with industry standards and ensure that radar equipment and operations adhere to all relevant guidelines.

- **Mentoring and Knowledge Transfer:** Having accumulated a vast reservoir of knowledge, the experienced controller often serves as a mentor to junior controllers. They pass on their radar expertise, operational insights, and environmental impact assessment skills to the next generation of aviation professionals.

In summary, an air traffic controller with over 40 years of radar specialization brings unparalleled expertise to their role. They excel in deploying radar equipment, using radar-derived information, and applying their knowledge to ensure the safe and efficient flow of air traffic. Additionally, their qualifications make them well-suited for conducting environmental impact assessments in situations where radar expertise is essential to evaluate potential impacts on the defence aspect of the environment.


8. APPENDIX A: Radar Specialist Declaration

I, **Hein Reid**, declare that –

- I act as the independent Defence Theme Specialist in support of the environmental assessment practitioner in this site sensitivity verification;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will perform the work relating to the site sensitivity verification in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I will take into account, to the extent possible, the matters listed in Regulation 13 of the Regulations when preparing the site sensitivity verification and any report relating to the site sensitivity verification;
- I undertake to disclose to the applicant all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the site sensitivity verification by the Competent Authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the Competent Authority, unless access to that information is protected by law, in which case it will be indicated that such information exists and will be provided to the Competent Authority;
- I will perform all obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I am aware of what constitutes an offence in terms of Regulation 48 and that a person convicted of an offence in terms of Regulation 48(1) is liable to the penalties as contemplated in Section 49B of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;
- ~~- I have a vested interest in the proposed activity proceeding, such vested interest being:~~

Signature of the Defence Radar Specialist	
Name of Company	Parivision
Date	4 September 2023

9. APPENDIX B: Department of Defence Letter of no Objection

On request