



**TRANS-CALEDON TUNNEL AUTHORITY**

**CONSULTING SERVICES FOR THE MOKOLO CROCODILE  
WATER AUGMENTATION PROJECT PHASE 2  
(MCWAP-2)**

**CONTRACT № TCTA 20-041**

**DEFENCE SITE SENSITIVITY VERIFICATION OF FLOW  
GAUGING WEIRS FOR THE MOKOLO CROCODILE WATER  
AUGMENTATION PROJECT – PHASE 2A (MCWAP2A)**

**Defence Site Sensitivity Verification Report**

**July 2024**

**GBN JOINT VENTURE**

**Report No: 2A-R-PS48-101 (Rev A)**









# MOKOLO CROCODILE WATER AUGMENTATION PROJECT PHASE 2

## CONTRACT № TCTA 20-041

### DEFENCE SITE SENSITIVITY VERIFICATION

#### TABLE OF CONTENTS

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Project Location.....	1
1.2	Need for the Site Sensitivity Verification .....	1
1.3	Methodology .....	1
<b>2</b>	<b>DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER .....</b>	<b>2</b>
<b>3</b>	<b>RESULTS OF THE SCREENING TOOL, SITE VERIFICATION &amp; DESKTOP ANALYSIS .....</b>	<b>3</b>
3.1	Site Sensitivity – Screening Tool.....	3
3.2	Site Verification .....	5
3.3	Desktop Analysis .....	5
<b>4</b>	<b>CONCLUDING STATEMENT .....</b>	<b>6</b>

#### List of Annexures

Annexure A: Correspondence with the Department of Defence regarding the Letter of No Objection

# **MOKOLO CROCODILE WATER AUGMENTATION PROJECT PHASE 2**

## **CONTRACT № TCTA 20-041**

### **DEFENCE SITE SENSITIVITY VERIFICATION**

#### **LIST OF FIGURES AND TABLES**

##### **Figures**

Figure 1: Project Locality Map

Figure 2: Environmental Sensitivity Maps

##### **Tables**

Table 1: Information Sources used for the Site Sensitivity Verification process

## 1 INTRODUCTION

This report serves as the Site Sensitivity Verification for Defence for the Basic Assessment (BA) for the proposed upgrade of two weirs and the construction of a new weir, or alternatively a gantry on the Crocodile (West) River.

The Basic Assessment for the three weirs, or alternatively the Gantry, forms part of the Mokolo Crocodile River (West) Water Augmentation Project Phase 2 (MCWAP-2A) Water Transfer Infrastructure. As a key requirement / mitigation measure of the Environmental Authorisation issued for the MCWAP2A, is the development of a River Management System, which must be developed in order to allow for the effective and efficient management of releases of water from the upstream dams in the Crocodile River (West) Catchment whilst maintaining the Existing Lawful Use (ELU) of water users in the Crocodile River (West) Catchment.

### 1.1 Project Location

The study area is in the reach of the Crocodile River (West) downstream of the Hartbeespoort Dam up to the Vlieëpoort Abstraction Weir. Furthermore, the RMS will also be applicable to the reach of the Moretele River downstream of Klipvoor Dam up to its confluence with the Crocodile River (West), as well as to the reach of the Elands River downstream of Vaalkop Dam up to its confluence with the Crocodile River (West). For the purpose of this assessment the study area focussed specifically on a ten (10) kilometre radius around the three weir positions.

The three weirs and their respective locations are listed below:

- Beestekraal Weir: S 25.403640°, E 27.574750°
- Atlanta Weir: S 25.206310°, E 27.557940°
- Paul Hugo Weir & Gantry: S 24.69508°, E 27.40900°

The localities of the three weirs, and gantry are shown geographically in **Figure 1: Project Locality Map**.

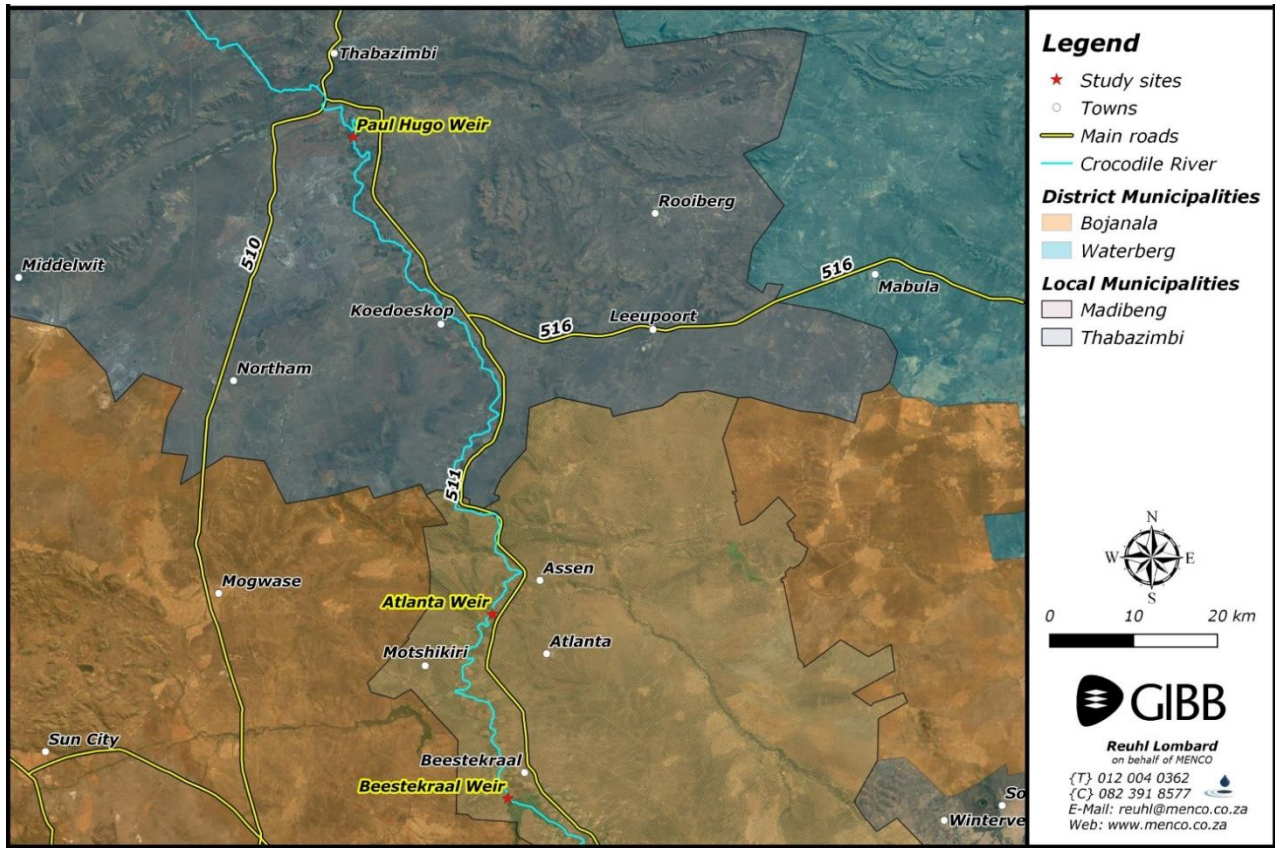


Figure 1: Project Locality map



## 1.2 Need for the Site Sensitivity Verification

On 20 March 2020, in Government Gazette 43110, Government Notice (GN) 320, the Department of Forestry, Fisheries and the Environment (DFFE) published procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (Act 107 of 1998), as amended (NEMA) when applying for an Environmental Authorisation (EA). GN 320 prescribes general requirements for undertaking Site Sensitivity Verification, as well as protocols for assessment and minimum report content requirements of environmental impacts associated with specified environmental themes for activities requiring EA. GN 320 was enforced within 50 days of publication of the notice i.e. on 9 May 2020.

GN 320 specifically includes a protocol that provides the criteria for the specialist assessment and minimum report content requirements for impacts on defence installations for activities requiring Environmental Authorisation. This protocol replaces the requirements of Appendix 6 of the 2014 NEMA Environmental Impact Assessment (EIA) Regulations (as amended).

This specific protocol states that proposed developments that occur on sites identified as Very High, High or Medium sensitivity, as depicted on the National Web-Based Environmental Screening Tool (Screening Tool), must include a Defence Compliance Statement. It further states that there are no requirements if the proposed developments occur on sites identified as Low sensitivity on the Screening Tool. However, a Site Sensitivity Verification is required for the Defence Protocol.

Therefore, since the proposed project requires an Environmental Authorisation in terms of the NEMA EIA Regulations, 2014, as amended, and Defence was identified as a relevant theme for the expansion and construction of three weirs, GN 320 must be complied with.

## 1.3 Methodology

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;
- A site visit was undertaken on 6 December 2022 to confirm the current land use and the environmental sensitivity as it relates to Defence;
- 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 were used in the Site Sensitivity Verification process.

**Table 1: Information Sources used for the Site Sensitivity Verification process**

Data / Information	Source	Date	Type	Description
National Web-Based Environmental Screening Tool (Screening Tool)	Department of Forestry, Fisheries & the Environment	2020	Spatial / Online Assessment	The Screening Tool is a geographically based web-enabled application which allows a proponent intending to submit an Application for EA in terms of the 2014 NEMA EIA Regulations (as amended) to screen the proposed site for any environmental sensitivity.
RSA Airspaces in 3D	Air Traffic and Navigation Services SOC Limited (ATNS)	2020	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.  This database includes all related defence installations.

Therefore, the Site Sensitivity Verification was undertaken using desktop analysis, satellite imagery, preliminary on-site inspection, and other available and relevant information.

**2 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER**

GN 320 states that prior to commencing with a specialist assessment, the current use of the land and the potential environmental sensitivity of the site under consideration as identified by the screening tool must be confirmed by undertaking a Site Sensitivity Verification. GN 320 further notes that the Site Sensitivity Verification must be undertaken by an Environmental Assessment Practitioner (EAP) or specialist with expertise in radar.

This Site Sensitivity Verification has been undertaken by Deon Esterhuizen, a registered EAP (Registration Number 2022/5762) at MDT Environmental (Pty) Ltd. Deon Esterhuizen is also registered with the South African Council for Natural and Scientific Professions (SACNASP), with Registration Number 400154/09 in the field of Environmental Science. Refer to Appendix A of this verification for the declaration by the EAP.

### 3 RESULTS OF THE SCREENING TOOL, SITE VERIFICATION & DESKTOP ANALYSIS

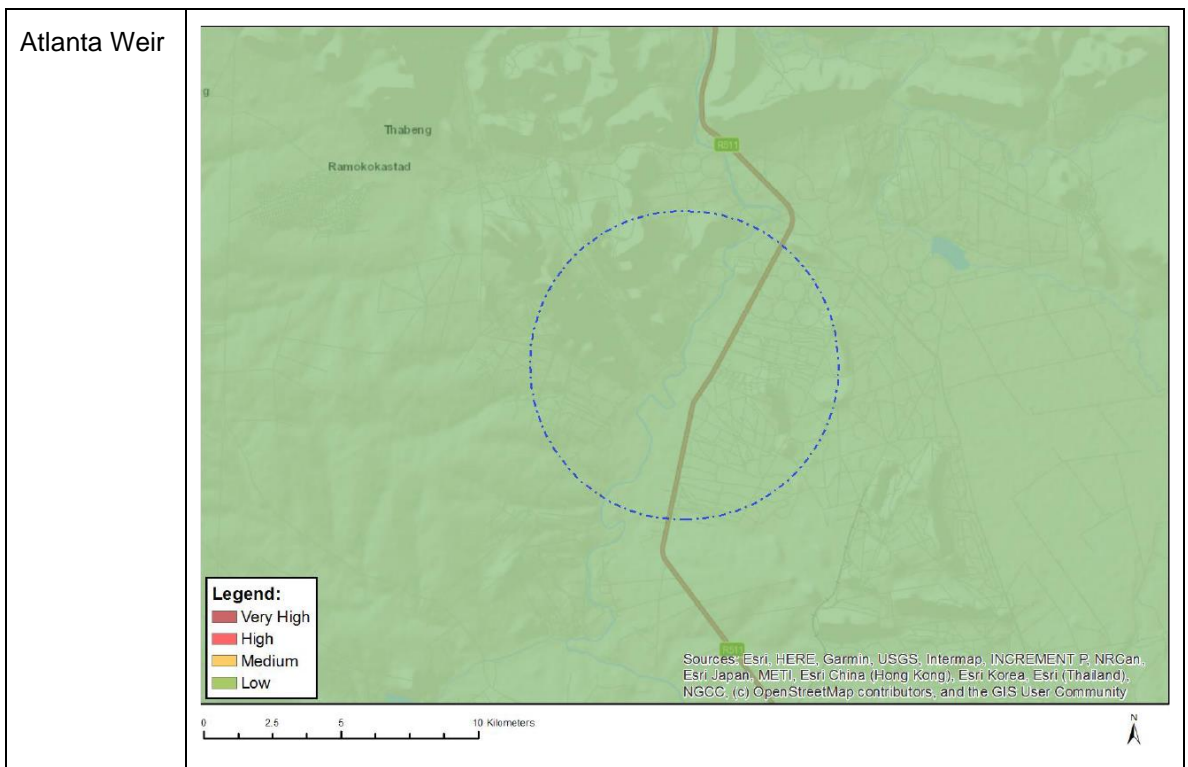
#### 3.1 Site Sensitivity – Screening Tool

An Environmental Screening Report per weir location (Atlanta, Beestekraal and Paul Hugo) was generated. This was generated for the proposed project using the “Any activities within or close to a watercourse” activity description. A five (5) kilometre buffer was included around the proposed development footprints.

All Environmental Themes are addressed in the attached Environmental Screening Reports, but this Site Sensitivity Verification Report only pertains to the Defence Theme.

The map of relative defence theme sensitivity generated and included in the Screening Tool depicted that the proposed three weirs are located in a low sensitivity area from a defence perspective i.e. there are no major or other types of defence installations or buffers that intersect with the project footprint (Figure 2: Environmental Sensitivity Maps).

In terms of GN 320, this means that no further requirements are applicable i.e. a Compliance Statement is not required, if the site is indeed found to be of low sensitivity during the site visit.



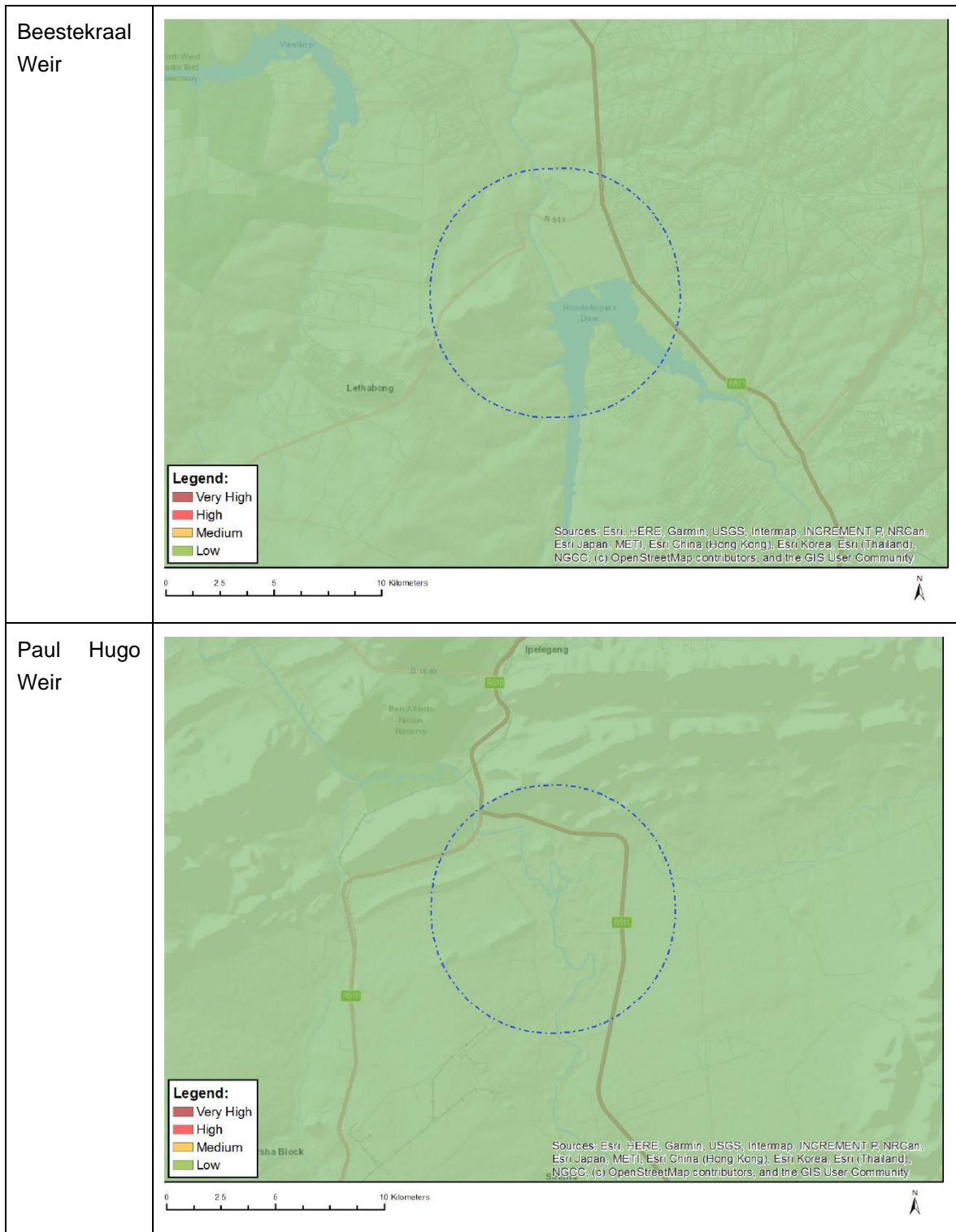


Figure 2: Environmental Sensitivity Maps

### 3.2 Site Verification

A site visit was undertaken on 6 December 2022 to confirm the current land use and the environmental sensitivity as it relates to the Defence Environmental Theme.

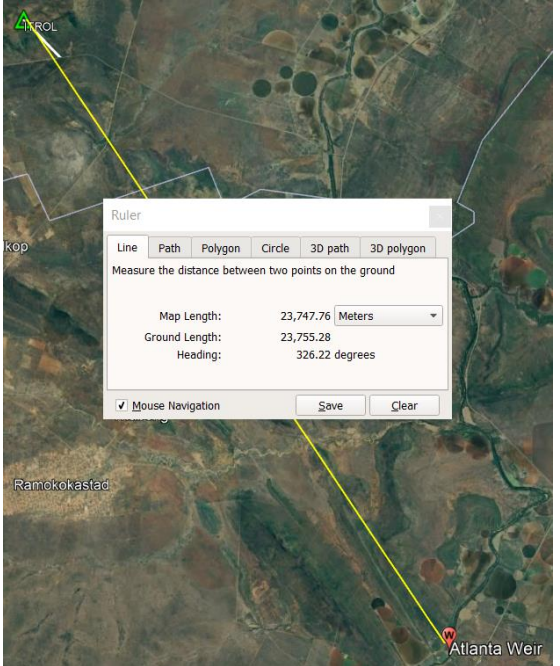
Site photographs were taken by the Environmental Assessment Practitioner on the day.

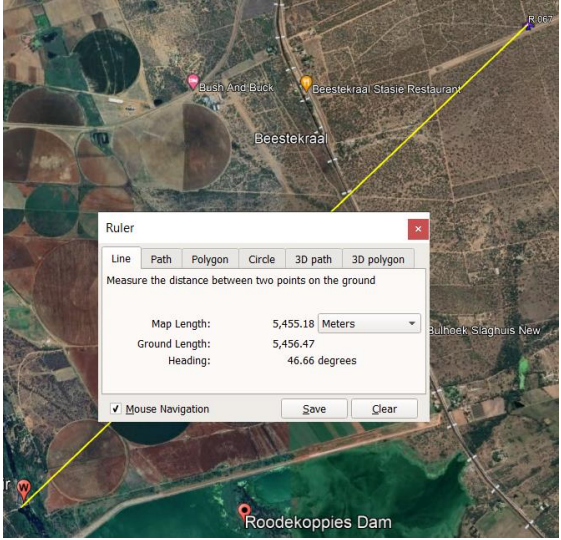
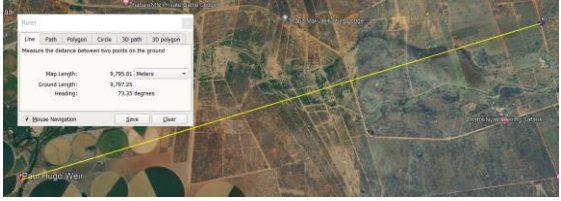
The site visit confirmed that the proposed project site is dominated by agricultural fields and natural vegetation. There are a few farmsteads in the near vicinity of the three sites. No defence installations were found within the proposed project assessed area and footprint.

### 3.3 Desktop Analysis

The Air Traffic and Navigation Services SOC Limited (ATNS) data does not reflect any defence installations within the proposed project area. The Screening Tool also does not show any defence installations in the proposed project area, and denotes the area as of low sensitivity.

Considering the ATNS data, the following was confirmed:

<p><b>Atlanta Weir</b></p> <p>The ITROL waypoint is located within 24km from this weir in a North-Westerly direction.</p>	
---	--

<p><b>Beestekraal Weir</b></p> <p>A SACAA registered private airfield is located within 6km in a North-Easterly direction from this location – R067 Nyumbu.</p>	
<p><b>Paul Hugo Weir</b></p> <p>A SACAA registered private airfield is located within 10km in a North-Easterly direction from this location – R121 Varsvlei Farm.</p>	

Refer to Annexure D for correspondence with the Department of Defence (dated 2024), regarding the Specialists attempts to receive a Letter of no Objection, and confirmation that the proposed project area is not a concern from a defence perspective.

#### 4 CONCLUDING STATEMENT

The three proposed weir sites were determined and verified to be of low sensitivity, as it relates to defence installations. This assessment considered whether the proposed developments are likely to impact on these types of systems that would interfere with and degrade any performance aspect of the military radar infrastructure. However, the proposed weir development (upgrade and newly constructed) will not impact any defence aspects. This site sensitivity verification is based on distance and line of site from any defence infrastructure and on the height of the proposed development, which would be less than three meters and within a river basin.

Greater distance or interrupted line of sight suggests low sensitivity in terms of the defence theme, as shown graphically in this report. The proposed developments are located more than 6 km from the nearest private airfield, and is not within close proximity of any defence installations of concern and is out of the line of sight of any private airfields. The proposed development does not comprise structures of excessive height or having other characteristics that may affect radar systems. The three proposed weirs are unlikely to impact on any military radar installations.

This was determined through a screening tool, site visit and based on existing databases, and confirms the sensitivity allocated on the Environmental Theme Screening Tool. Based on the above, in terms of GN 320, no further requirements are applicable i.e. a Compliance Statement is not required.

**ANNEXURE A – CORRSPONDENCE WITH THE DEPARTMENT OF DEFENCE  
REGARDING THE LETTER OF NO OBJECTION**



Good afternoon Major Kenny,

I have contacted Lieutenant Colonel Zondi telephonically, and she confirmed that you need to provide me with a “No Objection” letter.

Can I please urge you to urgently attend to this matter.

Thank you and regards,

Deon

**Deon Esterhuizen**

Professional Natural Scientist (RN: 400154/09)

Environmental Assessment Practitioner (2022/5762)

Director: MDT Environmental (Pty) Ltd

673 Glossoti Street, Garsfontein, Pretoria, 0043

C: +27 (0) 82 445 1781 | E: [deon@mdte.co.za](mailto:deon@mdte.co.za)

**From:** Deon Esterhuizen <[deon@mdte.co.za](mailto:deon@mdte.co.za)>

**Sent:** Tuesday, May 7, 2024 8:09 AM

**To:** 'dfacmiem@gmail.com' <[dfacmiem@gmail.com](mailto:dfacmiem@gmail.com)>

**Cc:** 'kebasenosi@yahoo.com' <[kebasenosi@yahoo.com](mailto:kebasenosi@yahoo.com)>

**Subject:** RE: MCWAP 2A: RMS- Request for SANDF no objection letter

Good morning Major Kenny,

May I kindly ask whether you have had an opportunity to look at the details of the proposed Project and whether it may impact on any SANDF installations.

This is now delaying the finalisation of our application.

May you please indicate when a “No Objection” letter can be expected.

Thank you and regards,

Deon

**Deon Esterhuizen**

Professional Natural Scientist (RN: 400154/09)

Environmental Assessment Practitioner (2022/5762)

Director: MDT Environmental (Pty) Ltd

673 Glossoti Street, Garsfontein, Pretoria, 0043

C: +27 (0) 82 445 1781 | E: [deon@mdte.co.za](mailto:deon@mdte.co.za)



Good morning Major Kenny,

May I kindly ask whether you have had an opportunity to look at the details of the proposed Project and whether it may impact on any SANDF installations.

This is now delaying the finalisation of our application.

May you please indicate when a “No Objection” letter can be expected.

Thank you and regards,

Deon

### Deon Esterhuizen

Professional Natural Scientist (RN: 400154/09)

Environmental Assessment Practitioner (2022/5762)

Director: MDT Environmental (Pty) Ltd

673 Glosoti Street, Garsfontein, Pretoria, 0043

C: +27 (0) 82 445 1781 | E: [deon@mdte.co.za](mailto:deon@mdte.co.za)

**From:** Minenhle Luthuli <[mluthuli@gibb.co.za](mailto:mluthuli@gibb.co.za)>

**Sent:** Monday, February 19, 2024 9:47 AM

**To:** [dfacmiem@gmail.com](mailto:dfacmiem@gmail.com)

**Cc:** [kebasenosi@yahoo.com](mailto:kebasenosi@yahoo.com); Umeshree Naicker <[UNaicker@gibbenvironmental.co.za](mailto:UNaicker@gibbenvironmental.co.za)>; Deon <[deon@mdte.co.za](mailto:deon@mdte.co.za)>

**Subject:** FW: MCWAP 2A: RMS- Request for SANDF no objection letter

Good day Major L. C Kenny

I am following up on the email below.

Regards

Minenhle  
Luthuli

Environmental Officer/Monitor  
SACNASP Certificated Natural Scientist (RN: 126777)

Cell: +27 734242103  
Email: [mluthuli@gibb.co.za](mailto:mluthuli@gibb.co.za)  
Web: [www.gibb.co.za](http://www.gibb.co.za)  
Office: Johannesburg  
3rd Floor, Building 4  
19 Ninth Street, Houghton  
Estate