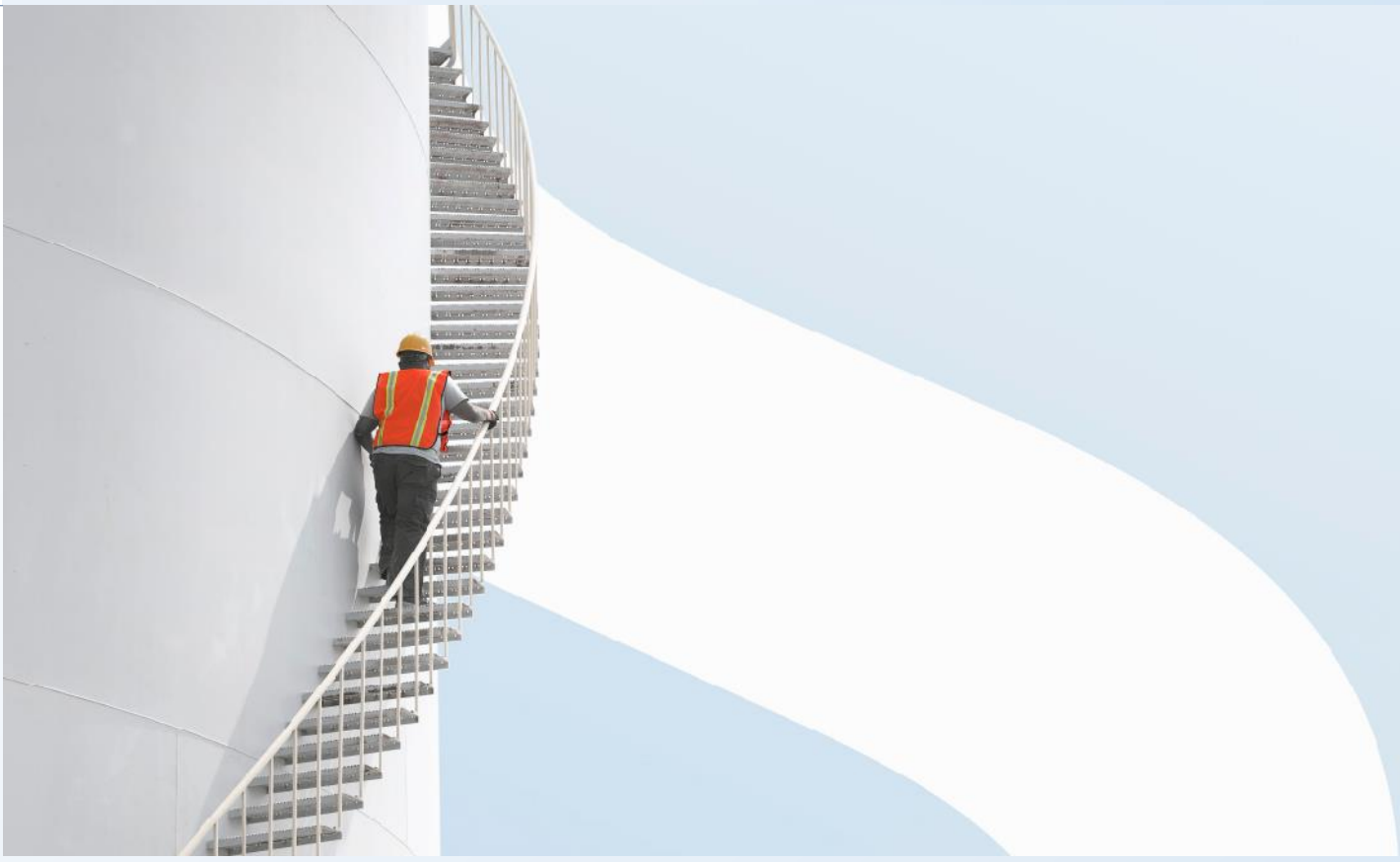
Rustenburg Platinum Mines

MORTIMER SMELTER – CONVERSION TO SLAG CLEANING FURNACE

Draft Environmental Management Programme



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JUNE 2025

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Rustenburg Platinum Mines

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Draft Environmental Management Programme

WSP

Building 1, Maxwell Office Park
Magwa Crescent West, Waterfall City
Midrand, 1685
South Africa

Phone: +27 11 254 4800

WSP.com

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1 INTRODUCTION

1.1 BACKGROUND AND TERMS OF REFERENCE

Rustenburg Platinum Mines (RPM), the world's largest primary producer of platinum, currently owns and operates the Mortimer Smelter in the North West Province. The nearest town is the town of Swartklip located approximately 2.5km North of the site, illustrated in Figure 1-1. The Mortimer Smelter is currently licensed as a primary metallurgical furnace used for smelting sulphide ores. The Mortimer Smelter was placed under care and maintenance in April 2024. If this application is successful, it is intended that the Mortimer smelter will be brought out of care and maintenance in its new capacity, as a slag cleaning furnace (SCF). SCF's perform a critical role in the recovery of PGMs and base metals (Ni, Cu and Co) to improve the overall recovery in the PGM value chain.

The Mortimer furnace will therefore be converted from being a primary furnace treating PGM concentrate to one which operates as a an SCF, treating converter slag (WACS) and converter slag tailings (WACSt) from RPM's Waterval Smelter Complex located in Rustenburg, South Africa.

Historically, deficits in slag cleaning capacity have given rise to excess WACS stockpiles containing significant quantities of base and precious metals, and it is important for overall smelting recoveries that there is sufficient slag cleaning capacity to process all the WACS and WACSt. Based on the requirements for reprocessing these stockpiles and new WACS arisings, Mortimer Smelter is thus proposed to be converted to an SCF.

Upgrades to the Mortimer furnace, to enable its conversion to a SCF which can process WACS and WACSt, will include the receiving, handling, drying, storing and transporting of the newly required feed material to the furnace and appropriate feeding systems into the furnace. There will be upgrades to the off gas system as well as the utilities required to support these systems.

Mortimer smelter has an Atmospheric Emission License (AEL) (Ref: BPDM/RUSTNEBURG PLAT/ 4.1&4.16/FEB23) for the existing primary smelting operations, aligned with Government Notice Regulation 893 of 2013 (Listed Activities), promulgated in line with Section 21 of the National Environmental Management: Air Quality Act (No. 39 of 2004) (NEM:AQA), which is valid until 30 September 2026. The AEL requires amendment to provide for the proposed slag cleaning operation.

With the change to slag cleaning, subcategory 4.20: Slag Processes, subcategory 4.1: Drying and Calcining, will also. RPM are thus applying to amend the Mortimer AEL to allow slag cleaning (proposed) and remove the current subcategory 4:16 as primary smelting will no longer take place. While the dispersion modelling was simulated at maximum emission rates for the additional slag cleaning, it is expected, due to process and feedstock changes, that SO_2 emissions generated by the slag cleaning will be half those emitted by the primary smelter.

In accordance with the Listing Notice 1 (GNR 982 of 2014), as amended, the amendment to the AEL necessitates that RPM must apply for an Environmental Authorisation (EA) for the proposed activities to the Competent Authority (CA), which is the North West Department of Department of Economic Development, Environment, Conservation and Tourism (DEDECT), supported by a Basic Assessment (BA) Process. A separate AEL variation application will be required to be made to the Bojanala District Municipality under the NEM:AQA.

WSP Group Africa (Pty) Ltd (WSP) was appointed by RPM as the independent Environmental Assessment Practitioner (EAP), to undertake the required environmental authorisation process for the proposed activity.

1.2 PURPOSE OF THE EMPR

An EMPr is defined as “an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented or mitigated, and that the positive benefits of the projects are enhanced.”

This EMPr has been compiled in accordance with Appendix 4 of GNR 982, in compliance with section 24N of NEMA, with the purpose of ensuring that negative impacts are reduced, and positive effects are enhanced through a process of continual improvement, during the construction, operational and decommissioning phases for the ASC and SO_2 Abatement Project.

To facilitate compliance to the EMPr by appointed contractors and sub-contractors, it is required that all onsite personnel are aware of the requirements of the EMPr as well as the prescribed penalties should a non-conformance be identified during the construction, operation and decommissioning activities.

Further to the above, appointed contractors and sub-contractors will also be required to comply with all relevant legislation and standards.

A hard copy of the EMPr must always be in the site office and made available to officials at request.

1.2.1 EMPR OBJECTIVES

The EMPr has the following objectives:

- Identify mitigation measures and environmental specifications which are required to be implemented for the planning, construction and rehabilitation, operation, and decommissioning phases of the project in order to manage and minimise the extent of potential environmental impacts associated with the facility;
- Ensure that all the phases of the proposed project do not result in undue or reasonably avoidable adverse environmental impacts, and ensure that any potential environmental benefits are enhanced;
- Identify entities responsible for the implementation of the measures and outline functions and responsibilities;
- Create management structures that address the concerns and complaints of interested and affected parties (I&APs) with regards to the proposed project;
- Propose mechanisms and frequency for monitoring compliance, and preventing long-term or permanent environmental degradation; Comply with all applicable laws, regulations, standards and guidelines for the protection of the environment;
- Train onsite personnel with regard to their environmental obligations; and
- Facilitate appropriate and proactive responses to unforeseen events or changes in project implementation that was not considered in the S&EIA process.

1.2.2 ENVIRONMENTAL OBJECTIVES AND TARGETS

To facilitate compliance to the EMPr, the ASC and SO_2 Abatement Project must comply with all relevant legislation and standards and make all personnel aware of the requirements of the EMPr, as

well as the prescribed penalties should a non-conformance be identified during the different phases of the proposed Project.

It is recommended that environmental objectives (as outlined in this document) be emphasised as minimum requirements. Objectives include:

- Encourage good management practices through planning and commitment to environmental issues;
- Provide rational and practical environmental guidelines to:
  - Minimise disturbance of the natural environment;
  - Minimise fugitive emissions;
  - Minimise impact of added traffic into the area;
  - Ensure surface and groundwater resource protection;
  - Prevent or minimise all forms of pollution;
  - Protect indigenous flora and fauna;
  - Prevent soil erosion;
  - Promote sustainable use of resources;
  - Adopt the best practical means available to prevent or minimise adverse environmental impacts;
  - Comply with all applicable laws, regulations, standards and guidelines for the protection of the environment;
  - Promote the reduction, reuse, recycling and recovery of waste;
  - Develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of waste;
  - Describe all monitoring procedures required to identify impacts on the environment;
  - Define how the management of the environment is reported and performance evaluated; and
  - Train onsite personnel with regard to their environmental obligations.

1.3 STRUCTURE OF THE EMPR

For the purposes of demonstrating legal compliance, Table 1-1 cross-references the sections within the EMPr with the requirements as per Appendix 4 of GNR 982 of 2014, as amended.

Table 1-1 – Legislation Requirements as detailed in Appendix 4 of GNR 326

Appendix 4	Legislated Requirements as detailed in Appendix 4 of GNR 326	Relevant Report Section
(a)	details of-	
	(i) the EAP who prepared the EMPr; and	Section 2.2
	(ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	Section 2.2
(b)	a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 3

Appendix 4	Legislated Requirements as detailed in Appendix 4 of GNR 326	Relevant Report Section
(c)	a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers;	Section 6
(d)	A description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including-	Section 8
	(i) planning and design;	
	(ii) pre-construction activities;	
	(iii) construction activities;	
	(iv) rehabilitation of the environment after construction and where applicable post closure; and	
	(v) where relevant, operation activities;	
(f)	a description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraphs (d) will be achieved, and must, where applicable, include actions to -	Section 8
	(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;	
	(ii) comply with any prescribed environmental management standards or practices;	
	(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and	
	(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable	
(g)	the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 7.3
(h)	the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 7.3
(i)	an indication of the persons who will be responsible for the implementation of the impact management actions;	Section 7.1 Section 8
(j)	the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 6.2

Appendix 4	Legislated Requirements as detailed in Appendix 4 of GNR 326	Relevant Report Section
(k)	the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 7.3
(l)	a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations	Section 7.3
(m)	an environmental awareness plan describing the manner in which-	Section 7.2
	(i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and	
	(ii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	
(n)	any specific information that may be required by the competent authority	N/A

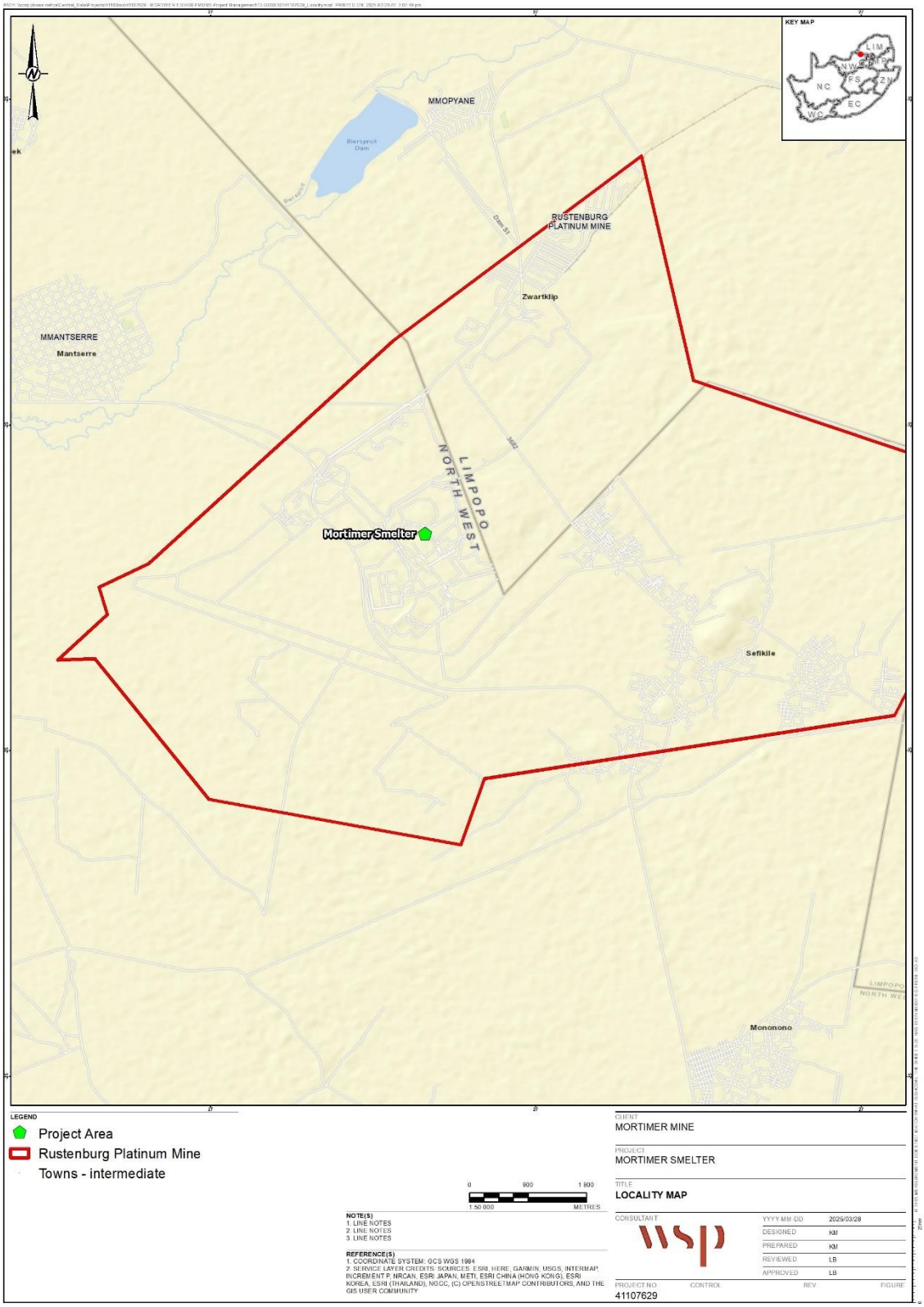

Figure 1-1 - Location of Mortimer Smelter

2 DETAILS OF KEY ROLE PLAYERS

2.1 DETAILS OF THE PROPONENT

Table 2-1 provides details of the project proponent.

Table 2-1 – Details of the proponent

Details	Description
Company Name	Rustenburg Platinum Mines Limited
Company Registration:	1946/022452/06
Physical Address:	Anglo American Platinum Limited, Corporate Office, 144 Oxford Road, Rosebank, Melrose, 2196
Postal Address:	Postnet Suite Number 153, Private Bag X31, Saxonwold, 2132
Telephone Number:	076 440 6254
Contact Person Details	
Contact Person:	Mr Willie Theron
Telephone:	076 440 6254
Email:	Platinum.Environmental@angloamerican.com

2.2 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

WSP has been appointed in the role of Independent EAP to undertake the BA process for the development of the ASC and SO2 Abatement Plant. The Curriculum Vitae (CV) of the EAP is available in Appendix A. The EAP declaration of interest and undertaking is included in Appendix B. Table 2-2 details the relevant contact details of the EAP. In order to adequately identify and assess potential environmental impacts, a number of specialists will support the EAP.

Table 2-2 – Details of the EAP

Details	Description
Company:	WSP Group Africa (Pty) Ltd
Company Registration:	1999/008928/07
Physical Address:	Building 1, Magwa Crescent West, Maxwell Office Park, Waterfall City, Midrand, 1685
Postal Address:	P.O. Box 6001, Halfway House

Details	Description
Environmental Assessment Practitioner:	Anri Scheepers
EAP Qualifications	▪ Bachelor of Arts (Honours), Geography ▪ Bachelor of Arts, Geography
EAPASA Registration No.:	2019/1528
Telephone:	+31 62 287 0811
Email:	Anri.Scheepers@wsp.com

2.2.1 STATEMENT OF INDEPENDENCE

Neither WSP nor any of the authors of this Report have any material present or contingent interest in the outcome of this Report, nor do they have any business, financial, personal or other interest that could be reasonably regarded as being capable of affecting their independence. WSP has no beneficial interest in the outcome of the assessment.

3 PROJECT DESCRIPTION

3.1 OVERVIEW OF THE PROJECT

The proposed activities include the conversion of the existing Mortimer furnace from being a primary furnace treating Platinum Group Metals (PGM) concentrate, to be able to operate as a SCF treating WACS and WACS tailings (WACSt). Upgrades to the Mortimer furnace, to enable its conversion to a SCF which can process WACS and WACSt, will include the receiving, handling, drying, storing and transporting of the newly required feed material to the furnace and appropriate feeding systems into the furnace. There will be upgrades to the off gas system as well as the utilities required to support these systems. The Mortimer furnace will therefore be converted from being a primary furnace treating PGM concentrate to one which operates as a an SCF, treating converter slag (WACS) and converter slag tailings (WACSt) from RPM's Waterval Smelter Complex located in Rustenburg, South Africa.

Feasibility studies are still underway to determine the exact engineering solution that will be proposed. RPM intends to apply for an AEL under sub category 4.20, for the converted furnace, to align with the category used for a similar furnace at Waterval Smelter. In parallel, RPM will investigate an alternative compliance dispensation as contemplated under Regulation 12A of the Minimum Emission Standards.

The existing related EAs in place for the activities occurring within the Mortimer Smelter Complex are detailed below:

- Approved Mortimer Smelter Environmental Management Programme (EMPr) (EAR 05/2021)
  - Original Mortimer EMPr – 23 November 2017
  - Amendment – 18 December 2021
- SO_2 Abatement Plant EMPr and EA (NW30/5/1/2/3/2/1/366EM-3)
  - Approved - 12 March 2018
  - Amendment – 7 March 2022

3.2 DESCRIPTION OF THE AFFECTED PROPERTY

The Mortimer Smelter that is located on the border between the Limpopo and North West ProvincesThe nearest town is the town of Swartklip located approximately 2.5km North of the site.

The Mortimer Smelter complex boundary falls within the jurisdiction of the Moses Kotane Local Municipality within the Bojanala Platinum District Municipality.

The affected property information is provided in Table 3-1 and a focused locality map is provided in Figure 3-1.

Table 3-1 – Description of the affected property

Farm Details	Turfbult 404 KQ
Application area	Plant area (Material receiving, storage and processing): 3.5 Ha
Magisterial District	Moses Kotane Local Municipality within the Bojanala Platinum District Municipality

Distance and direction from the nearest town	2.5km south of Swartklip
21-digit surveyor general code	**SG Office** F; **Major Region** T 0 K Q; **Minor Region** 0 0 0 0; **Erf / Farm Number** 0 0 0 0 0 4 0; **Portion Number** 4 0 0 0 0 0

3.3 DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY

This section provides an overview of the description of the activities to be undertaken and where infrastructure will be placed, as well as the triggered listed activities.

3.3.1 EXISTING OPERATIONS

Although currently under care and maintenance, the Mortimer Smelter is one of RPM's three primary smelters in South Africa. When it was operational, it was a single primary smelting furnace, which was upgraded to 38 MW in 2011. The wet concentrate from the RPM concentrators and third parties in the area was delivered to the Mortimer Smelter where it was dried in a 54 wet ton per hour (nominal at 16% moisture) flash dryer to produce the feed material. The furnace produced slag and matte products. The slag was granulated with high pressure water, dewatered in rake classifiers and sent to the slag mill for further processing. Slag that could not be utilised was deposited onto an intermediate slag stockpile. The matte would then be cast into silica sand pits for cooling, after which it was crushed and transported to the Anglo Converter Plant for further processing.

3.3.2 PROPOSED SLAG CLEANING CONVERSION

The SCF at Waterval Smelter provides a critical function for recovery of PGMs and base metals from the WACS. The SCF capacity has been constrained for many years and will continue to be under capacity pressure, despite a full furnace rebuild that was completed in 2023.

Historically, deficits in slag cleaning capacity have given rise to excess WACS stockpiles containing significant quantities of base and precious metals, and it is important for overall smelting recoveries that there is sufficient slag cleaning capacity to process all the WACS and WACSt. Based on the requirements for reprocessing these stockpiles and new WACS arisings, Mortimer Smelter is thus proposed to be converted to an SCF.

Upgrades to the Mortimer furnace, to enable its conversion to a SCF which can process WACS and WACSt, will include the receiving, handling, drying, storing and transporting of the newly required feed material to the furnace and appropriate feeding systems into the furnace. There will be upgrades to the off gas system as well as the utilities required to support these systems.

While the dispersion modelling was simulated at maximum emission rates for the additional slag cleaning, it is expected, due to process and feedstock changes, that SO_2 emissions generated by the slag cleaning will be half those emitted by the primary smelter.

Feasibility studies are still underway to determine the preferred and most appropriate and feasible SO_2 abatement technology, if required, and for this reason, this report considers the potential

impacts of worst case scenario that is being considered, bearing in mind that the preferred and most appropriate and feasible option may not be option that has the least impact (BPEO). In parallel, RPM will investigate an alternative compliance dispensation as contemplated under Regulation 12A of the Minimum Emission Standards.

Alternative options to abate the proposed plant will replace the authorised SO_2 abatement plant (acid plant) included in the AEL. The acid plant, as per original design intentions, was halted due to the change in furnace duty and the applicability of the WSA technology to the new furnace operation as well as financial considerations associated with the WSA plant.

The proposed site layout is presented in Figure 3-1, the layout for the ASC Project is presented in Figure 3-3, recognising all proposed activities will occur within the existing Mortimer Smelter footprint. The terrace for the SO_2 abatement plant has already been constructed as part of the existing EA's.

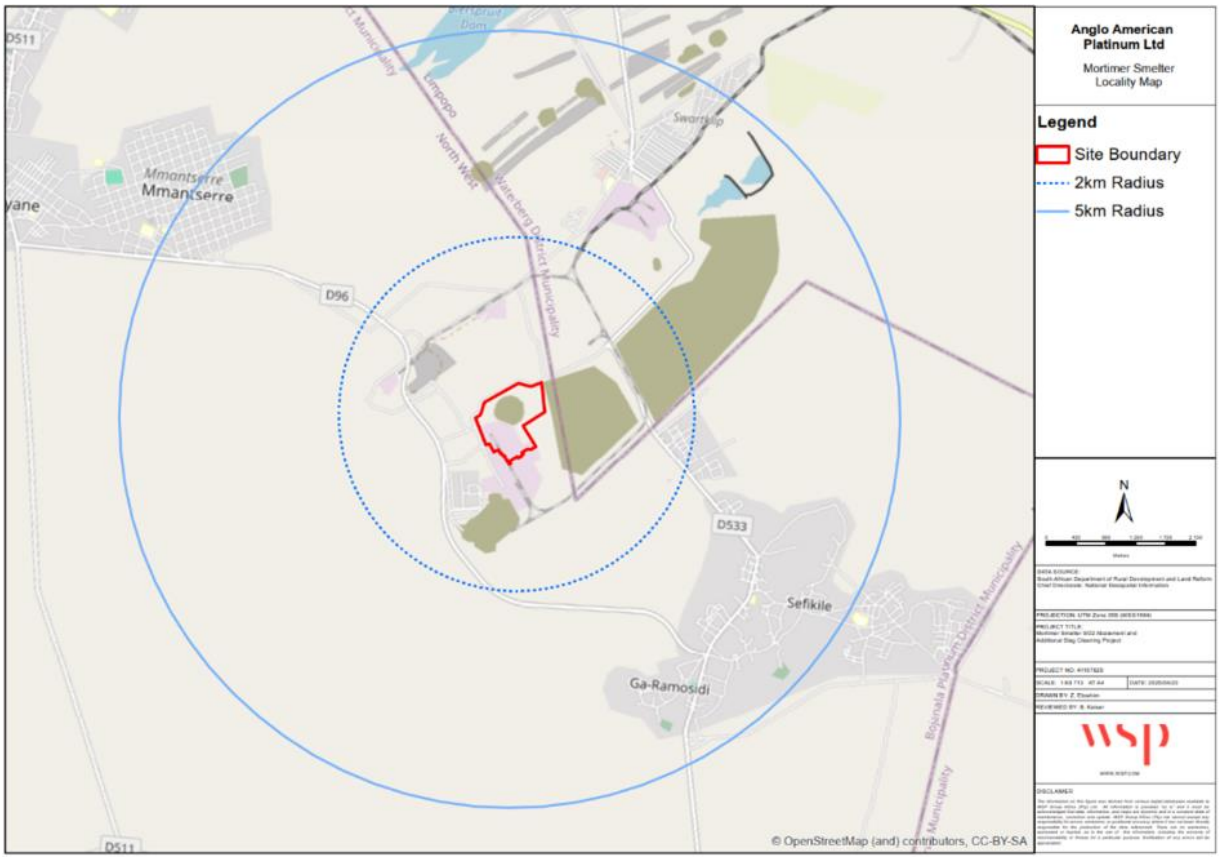

Figure 3-1 - Mortimer Smelter 5km Radius

Figure 3-2 - Proposed Site Layout

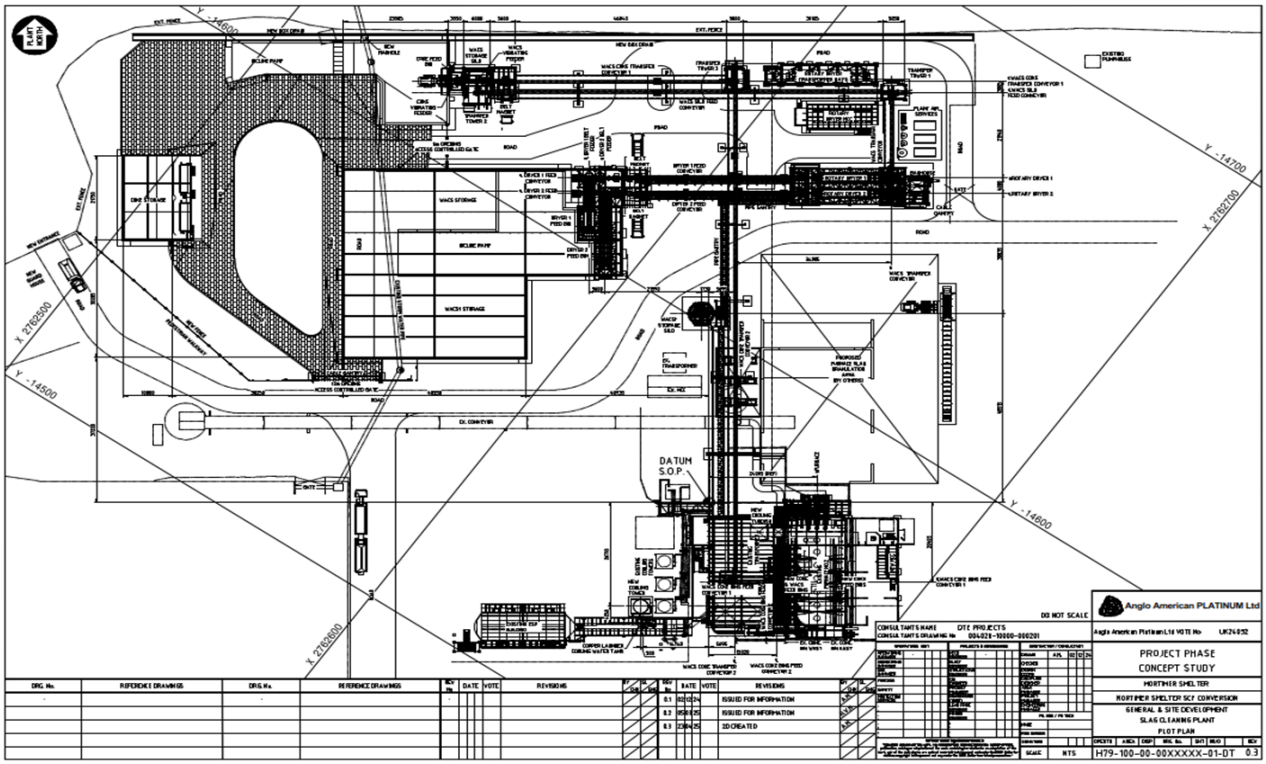

Figure 3-3 - Proposed ASC Layout

Furnace Feed Materials

The furnace will process three different feed stocks, namely green concentrate, WACS and WACSt. The materials will be added in a well-controlled ratio to manage the chemistry and hence operating conditions within the furnace. The processing of WACS will be prioritized before the WACSt as it contains a higher metal value.

Concentrate

Concentrate will be delivered to the Mortimer Smelter via both road tanker and piped as wet slurries from neighbouring plants. The largest concentrate sources for Mortimer smelter are Mogalakwena North, Mogalakwena South, Amandelbult UG2 and the Union concentrates. The concentrate will be "blended" and fed to the flash dryer to produce a bone-dry concentrate with <0.5% moisture. The concentrate will then be stored in the dry concentrate silo and transferred via enclosed pneumatic conveying systems to the furnace feed bins.

WACS

The "wet" WACS will be received in a dedicated bunker by side tipper road trucks. The dedicated WACS bunker will be roofed and enclosed on three sides. The WACS will be loaded by a front-end loader (FEL) into a dedicated WACS hopper from where the material will be transported to the electric dryer for drying, via an enclosed conveyor system. Surge capacity necessary to buffer the manual feeding will allow for consistent feeding into the dryer. The dry material (<0.5% moisture) will be discharged from the drier into an enclosed conventional conveyor. The dry material is transported via an enclosed conveyor network to a dedicated silo with sufficient capacity to effectively buffer the smelting process from the drying process.

WACSt

The "wet" WACSt will be received in a dedicated bunker by side tipper road trucks. The dedicated WACSt bunker will be roofed and enclosed on three sides. The WACSt will be loaded by a FEL into a dedicated WACSt hopper from where the material will be transported to the electric dryer for drying, via an enclosed conveyor system. Surge capacity necessary to buffer the manual feeding will allow for consistent feeding into the dryer. The dry material (<0.5% moisture) will be discharged by enclosed pneumatic conveyors into a dedicated silo with sufficient capacity to effectively buffer the smelting process from the drying process.

Reductant

Reductant (typically ~2% of WACS at Waterval SCF and hence WACSt here) is added to the Waterval SCF on a continuous basis in the form of coke. The purpose of reductant addition is to enable carbothermic reduction of the oxidised base metals and in presence of carbon, Ferric ion, Iron (3+) (Fe3+) reduces to Ferrous ion, Iron (2+) (Fe2+), some Fe2+ to Femetal and eventually collected in the matte phase. Besides improved recovery of base metals, the addition of reductant reduces the likelihood of 'build-ups' on the hearth of the furnace and intermediate layers between matte and slag. The reduction of the magnetite in the WACS / WACSt also helps decrease the slag electrical conductivity. Currently petrochemical coke is being utilized as the reductant at Waterval and will likely be used in this newly converted furnace at Mortimer smelter. The necessary feeding systems for coke will be installed as part of the proposed project.

Combustion Air

The generation of carbon monoxide (CO) will occur in the furnace through the reduction of the metal oxides present in the concentrate. CO is a potentially explosive gas (depending on temperatures and concentrations) and therefore needs to be combusted to carbon dioxide (CO_2) in the freeboard of the furnace. To ensure this combustion occurs in the furnace freeboard a dedicated mechanism for introducing controlled amounts of atmospheric air into the freeboard will be installed. This will perform the function of providing oxygen for the reaction with CO but will also work to dilute concentrations and manage freeboard temperatures.

Feed Material Drying and Handling

To feed the WACS, WACSt and coke into the furnace, an entirely new feed system will be required. This will run in conjunction with the existing concentrate feed system to feed all the required materials into the furnace.

A new set of dedicated electric dryers will be installed to ensure the WACS / WACSt is dried in line with the furnace feeding specifications. A new WACSt storage silo will be installed to provide a buffer between the drying and smelting processes. A pneumatic system will be used for the WACSt transport and will terminate into the existing furnace feed bins. The sequencing of the transfers of WACSt and concentrate into the feed bins, will be used to manage the feed ratio of the two materials. The existing feeders, air slides and furnace feed ports will be used to transport the material into the furnace.

A new WACS storage silo will be installed to provide a buffer between the drying and smelting processes. A traditional enclosed conveyor belt system will be used for the WACS transport and will terminate into the new WACS furnace feed bins. The sequencing of the transfers of WACS and coke will be managed to ensure the two commodities are not mixed in the respective feed bins.

The coke will be received in a dedicated bunker by side tipper road trucks. The dedicated coke bunker will be roofed and enclosed on three sides. A loading system will be required to get the coke into a storage bin to buffer between the furnace feeding requirements and the transport / receipt of fresh coke. The coke will be transported to the furnace building and diverted into three new dedicated storage bins, equipped with load cells, located adjacent to the furnace. The coke will be discharged into the furnace through the necessary feeding equipment to either the same roof ports as the WACS / WACSt or through dedicated roof ports for coke.

Furnace

The existing furnace at Mortimer is a rectangular six-in-line furnace with each pair of electrodes supplied by a 17 MVA transformer. The total furnace electrical supply is 51 MVA translating to a maximum power of 38 MW. The electrodes, with a diameter of 1,250 mm, are used to introduce power into the furnace leading to a hearth power density of 187 kW/m2. Power is generated primarily by the resistance of the slag to the flow of electrical current. As a consequence, heat is generated, and in turn melts the incoming feed materials.

The furnace currently consists of a refractory shell, cooled with composite coolers in the end and side walls all supported by a binding system external to the refractory shell. The hearth and lower sidewalls contain magnesia chrome refractory while the upper sidewalls and roof are super-duty fireclay or VR60 type bricks. The hearth is cooled by an induced draft of atmospheric air while dedicated cooling water is provided to the side and end wall copper components for energy removal.

It is envisaged that no significant changes will be required to the furnace hearth, end walls and side walls as a result of the conversion work for the proposed Project.

Furnace Feeding

The current furnace feeding system uses two feed bins (East and West) to control the feed of concentrate into the furnace. The bins are fed with dry concentrate from the flash dryers to maintain the required level. The material is discharged through metered feeders into an air slide which runs the length of the furnace. Seven feed ports along the length of each air slide open, as dictated by the furnace feed controller, to feed material into the furnace.

The feeding of the furnace will occur on a semi-continuous basis with WACS / WACSt plus concentrate and reductant being added through the roof of the furnace. The feeding is done in multiple batches per hour, but there are no dedicated reducing and settling phases, as is more common on copper slag cleaning furnaces. The feed is blended according to specified ratios to achieve the desired metallurgical outcomes.

The design of the new furnace feed ports for coke will need to be carefully considered to ensure minimal impact on the roof structural integrity, furnace blacktop formation, and as even a distribution of the new feeds as possible. The most appropriate location, and sequence, for coke feeding to maximize the carbon utilization in the bath must also be considered.

The addition of the WACS / WACSt and coke will need to be incorporated into the existing furnace feed controller. Careful consideration will need to be given to the sequencing of the feed to maximise the carbon utilization and preventing elevated furnace freeboard temperatures as far as possible.

Furnace Off Gas

The furnace off gas is generated in the freeboard of the furnace and is drafted out of the furnace through two off-gas ducts. The off gas consists of a process gas portion and an ingress air portion. The process gas consists mostly of SO_2, CO and CO_2. The furnace freeboard conditions need to be controlled to ensure full combustion of CO to CO_2 to ensure the risk of high CO levels in downstream equipment is mitigated. A freeboard temperature of 620 - 650°C will be targeted to enable CO combustion. This will be accomplished through new dedicated and controlled ingress air ports to ensure sufficient oxygen for combustion as well as freeboard temperature control through the power and feed settings of the furnace.

At the Mortimer Smelter, the off-gas cleaning plant consists of off-gas leaving the furnace via two uptakes, one on the slag side and one on the matte side of the furnace. The uptakes combine upstream of an electrostatic precipitator (ESP), where ambient air is allowed to cool the furnace off-gas as necessary to achieve temperatures less than the ESP design temperature of 400°C and remaining above the off-gas dew point temperature.

The removal of particulate matter down to 50mg/dNm^3, is performed by the existing dry electrostatic precipitator (ESP) and the SO_2 emissions are proposed to be removed post the battery limit by the proposed SO_2 abatement project.

3.3.3 SO_2 ABATEMENT

An EA was obtained for the SO_2 abatement project on 12 March 2018 and later amended on 7 March 2022. The proposed installation was in response to the NEM:AQA requirement for furnaces

at metallurgical industries to be operated with efficient SO_2 abatement systems by 2015, however Mortimer Smelter was given an extension until 2020 before further postponement was granted to 31 March 2025. Although the project was subsequently halted when the Mortimer Smelter went under care and maintenance in April 2024, a terrace and some associated infrastructure for the abatement infrastructure had already been prepared.

Due to the change from a primary furnace to an SCF, amendments to the approved SO_2 abatement project are also required. The WSA technology was best suited for gases with > 1% SO_2 content and with this change to the furnace to an SCF the off gas composition is going to be well below 1% SO_2.

Feasibility studies are still underway to determine the preferred and most appropriate and feasible SO_2 abatement technology, and for this reason, this report considers the potential impacts of the worst case scenario which is being considered. Bearing in mind that the preferred and most appropriate and feasible option may not be option that has the least impact. Based on the outcome of these studies, as well as the relevant dispensation work, an Emissions Management Plan (EMP) will be developed to ensure compliance with the updated AEL requested through the Bojanala District Municipality.

The technology alternatives currently being investigated as part of the feasibility study include;

- Fugitive gas extraction from the furnace building and tapping floors.
- Dry Sorbent Injection (DSI) for the capture of SO_2 in the furnace off gas.
- DSI residue collection and storage for transportation and integration in downstream RPM Operations.

The details of each scope item are listed below;Option 1 – Fugitive Gas Extraction as part of the EMP

Option 1 involves installing a new fugitive extraction system as well as a new stack. During normal operation, the fugitive off gas is combined with the furnace off gas and the resultant stream discharged to atmosphere via the new stack.

Options 2 and 3 – Fugitive Gas Extraction Coupled with Simplified/Full DSI as part of the EMP

Options 2 and 3 involve the addition of DSI in the flow scheme for Option 1. The fugitive gas extraction in Option1 is coupled either with simplified DSI or with full DSI.

DSI as an abatement solution involves adding a dry sorbent into the off-gas stream leaving the furnace which then reacts with the SO_2 in the off gas forming a salt. Sodium bicarbonate is used as the sorbent producing sodium sulphate as a dry product. This solution has two options based on where the dry sorbent is injected:

- Simplified DSI - Injecting upstream of existing ESP.
- Full DSI - Injection downstream of existing ESP and installing a new dedicated baghouse filter.

The differences between the fugitive gas extraction with full DSI (Option 3) and fugitive gas extraction with simplified DSI (Option 2) options include:

- For the full DSI option, a dedicated bag filter is installed downstream of the existing ESP, which is not required for the simplified DSI.

- This enables the production of a “clean” residue which can be integrated easier back into the RPM value chain.
- A combined mixture of concentrate and residue is collected from the simplified DSI process and transported to the Precious Metals Refinery (PMR) for integration, as opposed to a relatively clean sorbent without any concentrate for the full DSI process.

In addition, depending the outcome of these studies, it is possible that RPM will seek an alternative compliance dispensation as contemplated under Regulation 12A of the Minimum Emission Standards.

3.3.4 SLAG GRANULATION

Slag is currently tapped out of three slag tapholes, into wet launders and subsequent rake classifiers. Two mud gun and drill units are installed for opening and closing the tapholes. Lancing equipment is also available should it be required for opening the tapholes.

The potential risk for matte entrainment in the slag increases for a furnace in a slag cleaning duty, evident in the operation of the Waterval SCF. To mitigate the risk associated with this as well as the inherent risks associated with water granulation, the granulation technology will be changed at the Mortimer Smelter to a dry granulation process. This new technology has the potential to provide a step change improvement in the safety around the operational furnace.

3.3.5 MATTE TAPPING AND HANDLING

The matte produced in the furnace is periodically tapped out of one of three matte tapholes, into a matte ladle. The ladle is then transferred to the casting bay where the matte is poured into silica moulds for cooling and further processing. The matte superheat will play an important role in the ability to handle this furnace matte.

For the Mortimer slag cleaning furnace, the matte superheat and post taphole handling will rely on the furnace feed setup to ensure the matte does not freeze prior to reaching the casting bay. The concentrate to WACS / WACSt ratio will be adjusted to ensure sufficient superheat for this step as well. Conceptually a blend of 50% WACS / WACSt and 50% concentrate should have sufficiently low matte liquidus temperature to provide for suitable matte superheat for tapping and casting.

3.3.6 STORMWATER MANAGEMENT

Stormwater management in the area in which the additional infrastructure will be constructed will tie into this existing stormwater management plan. Channels/trenches will be developed in order to tie into the existing infrastructure.

3.4 PROPOSED PROJECT DEVELOPMENT ACTIVITIES

The following activities are anticipated for each phase of the project:

3.4.1 CONSTRUCTION PHASE

- Prior to site establishment all authorisations need to be in place;
- Site preparation;
- Development and relocation of required infrastructure on the site;
- Development of access roads;
- Site establishment; and
- Construction of project components.

3.4.2 OPERATIONAL PHASE

- WACS and WACSt processing to commence;
- Ongoing processing and supporting activities;
- Continued maintenance during operation;
- Emissions monitoring; and
- Disposal of wastes from the processing activities.

3.4.3 DECOMMISSIONING PHASE

- Plant to be demolished and materials to be removed;
- Termination of all services to the area; and
- Rehabilitation of all areas to be completed sufficiently to meet relevant commitments of the closure plan.

3.4.4 CLOSURE AND POST CLOSURE

- Ongoing monitoring of post-closure impacts and success of rehabilitation as required in terms of the closure plan.

4 NEED AND DESIRABILITY FOR THE PROJECT

The DFFE's Guideline on Need and Desirability (GN R.891 of 2014) emphasises that while national strategies and policies are important for the development of the economy, they also need to address strategic issues such as climate, food security and the sustainability of natural resource supply and the condition of South Africa's ecosystem services. It is for this reason that the overarching framework for assessing the need and desirability of developments is adopted at policy - level by identifying and promoting the activities/industries/developments that civil society needs. The guidelines also note that at the project level (e.g., within the BA process), the "need" and "desirability" of a project should be reflected in the content of local and regional plans, frameworks and strategies.

Considering the above, the purpose of this part of the report is to outline the necessity and desirability of the proposed Project, highlighting how it fits into the strategic framework of global, national, regional and local development policies and programmes, as well as wider societal requirements (where applicable).

4.1 DIRECT BENEFITS OF THE PROJECT

The existing furnace is currently under care and maintenance. The SCF will result in increased job opportunities and associated economic benefits for the local community. It is estimated that there will be approximately 150 employment opportunities during construction and 116 during operation. The additional revenue generated will also result in increased tax payments to benefit the national economy.

In addition, the proposed development aligns with AAP's commercial priorities aimed at minimising the waste of mineral resources, increasing beneficiation and promoting responsible waste management. It supports the long-term viability of AAP's smelting operations by enhancing metal recovery efficiency and reducing the environmental footprint associated with unmanaged stockpiles of metalurgical rich waste.

4.2 NATIONAL DEVELOPMENT PLAN, 2030

The South African National Development Plan (NDP) outlines the country's long-term vision and goals for sustainable development. The NDP recognises the importance of the minerals and metals cluster of the economy as a key sector contributing to economic growth and job creation. Some of the other key elements of the NDP 2030 related to the proposed Project include:

- **Infrastructure Development:** The NDP underscores the importance of infrastructure development to support economic growth.
- **Beneficiation and Value Addition:** The NDP promotes beneficiation, which involves adding value to raw minerals before export. It identifies priority areas for beneficiation where existing capacity can be leveraged or where there is strong potential to stimulate downstream manufacturing.
- **Environmental Sustainability:** The NDP also stresses the need for environmentally sustainable practices within the industry. Balancing economic growth with environmental conservation is a key consideration, ensuring that mineral processing activities are conducted responsibly and do not harm the environment in the long term.

- **Inclusive Economic Participation:** The NDP advocates for the inclusion of historically disadvantaged groups, including black South Africans, in the mining sector. Policies such as Black Economic Empowerment (BEE) are aligned with the NDP's goal of promoting inclusive economic participation and reducing historical inequalities.
- **Research and Innovation:** The NDP highlights the importance of research and innovation. Encouraging research and the adoption of innovative technologies is seen as essential for improving efficiency, safety, and environmental sustainability.

The proposed Project aligns with the NDP's objectives by enhancing mineral processing capacity within the established infrastructure of the AAP smelter operations. The activities also endeavour to ensure inclusive and sustainable operations which will result in the economic benefit of the region.

4.3 INDUSTRIAL POLICY ACTION PLAN (IPAP), 2018/19-2020/21

IPAP aims to promote industrialisation and enhance the competitiveness of South African industries. Similar to the policies previously discussed, IPAP encourages mineral beneficiation as a key instrument for the industrialisation agenda aiming to shift the economy from mining and resource extraction towards value-added manufacturing that supports diversification, job creation, and sustainable growth.

The proposed Project will play a role in encouraging mineral beneficiation and supporting sustainable economic growth.

4.3.1 SPECIAL ECONOMIC ZONES (SEZ)

With an eye to international trends, the South African government has also sought to employ the SEZ policy instrument with several defined objectives including promotion of beneficiation and value-addition to the country’s minerals and other natural resources.

South Africa has 7 established SEZs located in different provinces. In addition, work is underway on the planning and implementation of new SEZs including the proposed Bojanala SEZ with focus on the mineral beneficiation of PGMs. The SEZ will capitalise on the area’s well-established mining industry, good infrastructure and a large labour pool to drive investment and economic growth, skills development and employment.

While the Mortimer Smelter is located outside the proposed Bojanala SEZ, it is closely aligned with the SEZ’s objectives and is expected to play a significant role in advancing the socio-economic development of the Bojanala region which has been identified as central to the province’s economic recovery strategy.

4.4 INTEGRATED DEVELOPMENT PLAN (IDP)

4.4.1 BOJANALA DISTRICT MUNICIPALITY IDP, 2024/25

The IDP of the Bojanala District Municipality outlines the strategic objectives and concerns of the municipality, focusing on comprehensive development over a specific period. While the specific details of the plan can vary, the main concerns that impact negatively on economic development that are most relevant to the proposed Project include:

- High level of unemployment
- High poverty levels
- Inability to tap into the main economic sectors of the district

The location quotient indicates that the district has comparative advantage in the mining industry. The municipality aims to explore strategies that shift the focus of mining activities to generate more production output that can leave either the district and/or province at final consumable state. The location quotient result places the district in a better position to grow the economy and create jobs using the sector that mainly focuses on mineral beneficiation, which has been identified as one of the components of the Nine Point Plan that forms part of the government's strategy to implement the NDP.

The proposed activities are a good step in aligning with the objectives of the Bojanala District Municipality IDP objectives to shift the focus of the economy to mineral processing.

4.4.2 MOSES KOTANE LOCAL MUNICIPALITY IDP, 2024/25

The ultimate objective of the Moses Kotane Local Municipality's IDP mirror those of the regional municipality, which is to improve the quality of life for local communities. In the medium-term, there are three strategic priorities that have been identified:

- To drive inclusive growth and job creation
- To reduce poverty and tackle the high cost of living; and
- To build capable, ethical and developmental state.

The proposed project is well aligned with these priorities and is expected to make a meaningful contribution toward addressing them. Furthermore, the municipality's Local Economic Development (LED) Strategy outlines, *inter alia,* a commitment to sustainable growth that aligns with the proposed activities.

5 GOVERNANCE FRAMEWORK

The South African regulatory framework establishes well-defined requirements and standards for environmental and social management of industrial and civil infrastructure developments. Different authorities at both national and regional levels carry out environmental protection functions. The applicable legislation and policies are shown in **Table 5-1** below.

Table 5-1 - Applicable Legislation

Applicable Legislation	Description of Legislation
The Constitution of South Africa (No. 108 of 1996)	Section 24(b) of the Constitution provides that "everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation [and] promote conservation." The Constitution cannot manage environmental resources as a stand-alone law, hence additional legislation has been promulgated in order to manage the various spheres of both the social and natural environment. Each promulgated Act and associated Regulations are designed to focus on various industries or components of the environment to ensure that the objectives of the Constitution are effectively implemented and upheld in an on-going basis throughout the country. In terms of Section 7, a positive obligation is placed on the State to give effect to the environmental rights.
National Environmental Management Act (No. 107 of 1998)	In terms of Section 24(2) of the National Environmental Management Act (No. 107 of 1998) (NEMA), the Minister may identify activities which may not commence without prior authorisation. In 2014, which has subsequently been amended, the Minister promulgated GNR 983 (Listing Notice 1), 984 (Listing Notice 2) and 985 (Listing Notice 3) listing activities that may not commence prior to authorisation. The regulations outlining the procedures required for authorisation are published in GNR 982 EIA Regulations (2014, as amended). Listing Notice 1 and Listing Notice 3 identify activities that require a BA process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity. Listing Notice 2 identifies activities that require a Scoping and Environmental Impact Reporting (S&EIR) process to be undertaken, in terms of the EIA Regulations, prior to commencement of that activity. For the proposed Project, the responsibility for processing applications has been delegated to the North West DEDECT. Listed Activity 34 of GNR 983 is considered applicable to the proposed project and therefore, a BA process must be followed to obtain an EA.
Listing Notice 1: GNR 983 (as amended) Activity 34	The expansion of existing facilities or infrastructure for any process or activity where such expansion will result in the need for a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the release of emissions, effluent or pollution **Applicability:** With the inclusion of the proposed ASC, the existing AEL (Ref: BPDM/RUSTNEBURG PLAT/ 4.1&4.16/FEB23) for the Mortimer Smelter will require amendment to include a new subcategory reflecting the reprocessing of slag
NEM:AQA	The NEM:AQA regulates all aspects of air quality, including: ▪ Prevention of pollution and environmental degradation; ▪ Providing for national norms and standards (through a National Framework for Air Quality Management), regulating air quality monitoring, management and control; and ▪ Licensing of activities that result in atmospheric emissions and have or may have a significant detrimental effect on the environment. In terms of Section 22 of NEM:AQA no person may conduct a listed activity (as per GN R.893, 22 November 2013) without an AEL. The NEM:AQA has reviewed, categorised and documented all industrial processes that have an adverse impact on ambient air quality and categorised them as Listed Activities. They are all captured in Section 21 of the NEM:AQA (commonly referred to as the "Section 21 Listed Activities"). Mortimer Smelter currently holds an AEL (Ref: BPDM/RUSTNEBURG PLAT/ 4.1&4.16/FEB23), triggering *Category 4: Metallurgical Industry*, valid until 30 September

Applicable Legislation	Description of Legislation
	2026. In line with the Listed Activities contemplated in Section 21 of NEM:AQA, the category applicable to existing operations (Primary Smelting) at Mortimer Smelter is *Category 4: Metallurgical Industry, subcategory 4.1: Drying and Calcining, and subcategory 4.16: Smelting and Converting of Sulphide Ores.* With the addition of the proposed slag cleaning*, subcategory 4.1: Drying and Calcining and subcategory 4.20: Slag Processes*, will also apply.
National Ambient Air Quality Standards	Ambient air quality standards are defined as "targets for air quality management which establish the permissible concentration of a particular substance in, or property of, discharges to air, based on what a particular receiving environment can tolerate without significant deterioration" . The aim of these standards is to provide a benchmark for air quality management and governance. South Africa's National Ambient Air Quality Standards (NAAQS) are based primarily on guidance offered by two standards set by the South African National Standards (SANS): ▪ SANS 69:2004 Framework for implementing National ambient air quality standards; and ▪ SANS 1929:2005 Ambient air quality – Limits for common pollutants. SANS 69:2004 makes provision for the establishment of air quality objectives for the protection of human health and the environment as a whole. Such air quality objectives include limit values, alert thresholds and target values. SANS 1929:2005 uses the provisions in SANS 69:2004 to establish air quality objectives for the protection of human health and the environment and stipulates that limit values are initially set to protect human health. The setting of such limit values represents the first step in a process to manage air quality and initiate a process to ultimately achieve acceptable air quality nationally.
National Dust Control Regulations	On 01 November 2013 the legislated standards for dust fallout were promulgated in the form of the National Environmental Management: Air Quality Act (NEM:AQA) National Dust Control Regulations (GNR 827 of 2013). These regulations are applicable to this project based on potential impacts to ambient air quality associated with site activities including material handling, wind erosion and vehicular entrainment and provide the acceptable / allowable dust fallout rates for both residential and non-residential areas.
Waterberg Bojanala Priority Area	Mortimer Smelter lies within the Bojanala Platinum District Municipality which falls within the Waterberg-Bojanala Priority Area. The designated priority areas in South Africa are associated with poor air quality as a result of elevated concentrations of criteria pollutants contributed to a high density of source emitters including both industrial and non-industrial source operations. The Waterberg-Bojanala Priority Area was designated in 2012 and introduced as part of Air Quality Management in South Africa to direct resources into areas of poor air quality. Aligned with Government Notice Regulation 5153 of 2024 (Regulations for Implementing and Enforcing Priority Area Air Quality Management Plans), promulgated under Section 20 of the NEM:AQA, a stakeholder must within six months of the publication of a priority area air quality management plan or reviewed plan, submit an emission reduction and management plan for activities for which it is responsible, to the Licencing Authority or Air Quality Officer for approval. An emission reduction and management plan must include measures to achieve emission reduction and management, emission reduction targets in-line with the priority area air quality management plan and implementation timeframes to achieve these targets. Annual progress reports must be submitted to the National Air Quality Officer, in a prescribed format, on the implementation of the emission reduction and management plan for the preceding year.
National Water Act (No. 36 of 1998)	The National Water Act (No. 36 of 1998) (NWA) provides the framework to protect water resources against over exploitation and to ensure that there is water for social and economic development, human needs and to meet the needs of the aquatic environment. The Act defines water source to include watercourses, surface water, estuary or aquifer. A watercourse is defined in the Act as a river or spring, a natural channel in which water flows regularly or intermittently, a wetland, lake or dam into which or from which water flows, and any collection of water that the Minister may declare a watercourse. Section 21 of the Act outlines a number of categories that require a water user to apply for a Water Use License (WUL) and Section 22 requires water users to apply for a General Authorisation (GA) with the Department of Water and Sanitation (DWS) if they are under certain thresholds or meet certain criteria. The list of water uses applicable to the proposed Project include: a) Taking water from a water resource;

Applicable Legislation	Description of Legislation
	c) Impeding or diverting the flow of water in a watercourse; g) Disposing of waste in a manner which may detrimentally impact on a water resource; i) Altering the bed, banks, course or characteristics of a watercourse; The proposed activities will not trigger any water uses and thus do not require a new Water Use Licence.
National Heritage Resources Act (No. 25 of 1999)	The National Heritage Resource Act (No. 25 of 1999) (NHRA) serves to protect national and provincial heritage resources across South Africa. The NHRA provides for the protection of all archaeological and palaeontological sites, the conservation and care of cemeteries and graves by the South African Heritage Resources Agency (SAHRA), and lists activities that require any person who intends to undertake to notify the responsible heritage resources agency and furnish details regarding the location, nature, and extent of the proposed development. Part 2 of the NHRA details specific activities that require a Heritage Impact Assessment (HIA) that will need to be approved by SAHRA. Parts of Section 35, 36 and 38 apply to the proposed project, principally: Section 35 (4) - No person may, without a permit issued by the responsible heritage resources authority- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite; destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite. Section 38 (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as- any development or other activity which will change the character of a site— (i) exceeding 5 000 m2 in extent, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development. In terms of Section 38(8), approval from the heritage authority is not required if an evaluation of the impact of such development on heritage resources is required in terms of any other legislation (such as NEMA), provided that the consenting authority ensures that the evaluation of impacts fulfils the requirements of the relevant heritage resources authority in terms of Section 38(3) and any comments and recommendations of the relevant resources authority with regard to such development have been taken into account prior to the granting of the consent. However, should heritage resources of significance be affected by this proposed project, a permit is required to be obtained prior to disturbing or destroying such resources as per the requirements of Section 48 of the NHRA, and the SAHRA Permit Regulations (GN R668). Due to the already disturbed nature of the wider area, a motivation for exemption from a full Heritage and Palaeontology Impact Assessments has been submitted to the South African Heritage Resources Agency (SAHRA).
National Environmental Management: Biodiversity Act (No. 10 of 2004)	The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM:BA) provides for the management and conservation of South Africa's biodiversity and the protection of species and ecosystems that warrant national protection. NEM:BA regulates restricted activities that may harm listed threatened or protected species or activities that encourage the spread of alien or invasive species. NEM:BA also makes provision for the publication of bioregional plans and the listing of ecosystems and species that are threatened or in need of protection. Within the published bioregional (spatial) plan, terrestrial and aquatic features that are critical for conserving biodiversity and maintaining ecosystem functioning are indicated as Critical Biodiversity Areas (CBAs). Bioregional plans provide the guidelines for avoiding the loss or degradation of natural habitat in CBAs with the aim of informing EIAs and land-use planning, including Environmental Management Frameworks (EMFs), Spatial Development Frameworks (SDFs) and Integrated Development Plans (IDPs). Chapter 3 of the "Guideline regarding the determination of bioregions and the preparation of and publication of bioregional plans" requires environmental decision-makers who are required by NEMA to apply the NEMA Section 2 principles in their decision-making to consider, amongst other things, sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems, which require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure. CBAs

Applicable Legislation	Description of Legislation
	identified in a bioregional plan should be such areas and should, therefore, be considered by decision-makers during the decision-making process. Thus, bioregional plans should be considered by CAs in their decision-making regarding an application for EAs. Alien and Invasive Species Regulations (GN R 598 of 2014), as well as the Alien and Invasive Species List (GN R 864 of 2016), have been published to regulate the monitoring, control and eradication for listed invasive species. The Regulations are effective from 1 October 2014, and it is therefore necessary for all landowners on whose land alien and invasive species occur to make the necessary arrangements to be compliant with these Regulations. This may include studies to identify the existence of alien and invasive species, the determination of the category in the Alien and Invasive Species List and the implementation of programmes to combat or control such species. During site operations, closure and rehabilitation, cognisance would be given to the management of alien and invasive species.
National Environmental Management: Protected Areas Act (No. 57 of 2003)	The National Environmental Management Protected Areas Act (Act No. 57 of 2003) (NEM: PAA) concerns the protection and conservation of ecologically viable areas representative of South Africa's diversity and its natural landscapes and seascapes, and includes inter alia: ▪ The establishment of a national register of all national, provincial and local protected areas; ▪ The management of those areas in accordance with national standards; and ▪ Inter-governmental co-operation and public consultation in matters concerning protected areas. Sections 48 to 53 of the NEM: PAA lists restricted activities that may not be conducted in a protected area. Section 49 states that activities in protected areas are regulated or restricted to the extent prescribed by: ▪ Regulations made under Section 86 of the Act; ▪ Regulations made under Section 87, in the case of provincial and local protected areas; ▪ By-laws made by the relevant municipality, in the case of local protected areas; and ▪ Internal rules made by the managing authority of the area under Section 52. The project does not fall within any protected areas.
National Environmental Management Waste Act (No. 59 of 2008)	This Act provides for regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation. The Act also provides for the licensing and control of waste management activities through GNR. 921 (2013): List of Waste Management Activities that Have, or are Likely to Have, a Detrimental Effect on the Environment. The proposed project does not constitute a Listed Activity requiring a Waste Management Licence (WML) as defined in GNR 921. However, the contents of this Report will include reasonable measures for the prevention of pollution and good international industry practice (GIIP).
Mineral and Petroleum Resources Development Act (No. 28 of 2002)	The aim of the Mineral and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA) is to make provision for equitable access to and sustainable development of the nation's mineral and petroleum resources. Section 53(1) of the MPRDA provides that any person who intends to use the surface of any land in any way that may be contrary to any object of the MPRDA, or which is likely to impede any such object, must apply to the Minister of Mineral Resources (the Minister) for approval. Section 53 of the MPRDA provides a mechanism for ensuring that, inter alia, the mining of mineral resources is not detrimentally affected through the use of the surface of land, and which may, for example, result in the sterilisation of a mineral resource. A Section 53 approval will be required due to the fact that the project is located on various mining right areas. A conditional no-objection letter was received on 24 April 2023 for the proposed project (Reference number: MP30/5/4/2/11096SU) following submission of a Section 53 application to the DMRE, thereby addressing the requirement.
Noise Control Regulations in terms of the Environmental Conservation, 1989 (Act 73 of 1989)	In South Africa, environmental noise control has been in place for three decades, beginning in the 1980s with codes of practice issued by the South African National Standards (formerly the South African Bureau of Standards, SABS) to address noise pollution in various sectors of the country. Under the previous generation of environmental legislation, specifically the Environmental Conservation Act 73 of 1989 (ECA), provisions were made to control noise from a National level in the form of the Noise Control Regulations (GNR 154 of January 1992). In later years, the ECA was replaced by the

Applicable Legislation	Description of Legislation
	National Environmental Management Act 107 of 1998 (NEMA) as amended. The National Environmental Management: Air Quality Act 39 of 2004 (NEMAQA) was published in line with NEMA and contains noise control provisions under Section 34: (1) The minister may prescribe essential national standards – (a) for the control of noise, either in general or by specific machinery or activities or in specified places or areas; or (b) for determining – (i) a definition of noise; and (ii) the maximum levels of noise. (2) When controlling noise, the provincial and local spheres of government are bound by any prescribed national standards. Under NEMAQA, the Noise Control Regulations were updated and are to be applied to all provinces in South Africa. The Noise Control Regulations give all the responsibilities of enforcement to the Local Provincial Authority, where location specific by-laws can be created and applied to the locations with approval of Provincial Government. Where province-specific regulations have not been promulgated, acoustic impact assessments must follow the Noise Control Regulations. Furthermore, NEMAQA prescribes that the Minister must publish maximum allowable noise levels for different districts and national noise standards. These have not yet been accomplished and as a result all monitoring and assessments are done in accordance with the South African National Standards (SANS) 10103:2008 and 10328:2008.
Conservation of Agricultural Resources Act (No. 43 of 1983)	The Conservation of Agricultural Resources Act (Act 43 of 1983) (CARA) provides for the implementation of control measures for soil conservation works as well as alien and invasive plant species in and outside of urban areas. In terms of the amendments to the regulations under the CARA, landowners are legally responsible for the control of alien species on their properties. Various Acts administered by the DFFE and the DWS, as well as other laws (including local by-laws), spell out the fines, terms of imprisonment and other penalties for contravening the law. Although no fines have yet been placed against landowners who do not remove invasive species, the authorities may clear their land of invasive alien plants and other alien species entirely at the landowners' cost and risk. The CARA Regulations with regards to alien and invasive species have been superseded by NEMBA Alien and Invasive Species (AIS) Regulations which became law on 1 October 2014.
Civil Aviation Act (No. 13 of 2009)	Civil aviation in South Africa is governed by the Civil Aviation Act (Act 13 of 2009). This Act provides for the establishment of a stand-alone authority mandated with controlling, promoting, regulating, supporting, developing, enforcing and continuously improving levels of safety and security throughout the civil aviation industry. This mandate is fulfilled by South African Civil Aviation Authority (SACAA) as an agency of the Department of Transport (DoT). SACAA achieves the objectives set out in the Act by complying with the Standards and Recommended Practices (SARPs) of the International Civil Aviation Organisation (ICAO), while considering the local context when issuing the South African Civil Aviation Regulations (SA CARs). As of the 1st of May 2021, Air Traffic and Navigation Services (ATNS) has been appointed as the new Obstacle application Service Provider for Windfarms and later Solar Plants. Their responsibility would pertain to the assessments, maintenance, and all other related matters in respect to Windfarms and in due time Power Plant assessments. The DEA Screening Tool Report identified Civil Aviation as having low sensitivity for the proposed Camden I SEF, and no major or other types of civil aviation aerodromes. ATNS and SACAA will be included on the project stakeholder database. They will be informed of the proposed Project, and comment will be sought from these authorities as applicable. An application for the Approval of Obstacles has been submitted to ATNS/CAA and the required permits will be obtained prior to the development of the project.
Occupational Health and Safety Act (No. 85 of 1993)	The National Occupational Health and Safety Act (No. 85 of 1993) (OHSA) and the relevant regulations under the Act are applicable to the proposed project. This includes the Construction Regulations promulgated in 2014 under Section 43 of the Act. Adherence to South Africa's OHSA and its relevant Regulations is essential.
National Energy Act (No. 34 of 2008)	The National Energy Act aims to ensure that diverse energy resources are available, in sustainable quantitates, and at affordable prices, to the South African economy in support of economic growth and poverty alleviation, taking into account environmental

Applicable Legislation	Description of Legislation
	management requirements and interactions amongst economic sectors. The Act provides the legal framework which supports the development of renewable energy facilities for the greater environmental and social good. The main objectives of the Act are to: Ensure uninterrupted supply of energy to the Republic; Promote diversity of supply of energy and its sources; Facilitate effective management of energy demand and its conservation; Promote energy research; Promote appropriate standards and specifications for the equipment, systems and processes used for producing, supplying and consuming energy; Ensure collection of data and information relating to energy supply, transportation and demand; Provide for optimal supply, transformation, transportation, storage and demand of energy that are planned, organised and implemented in accordance with a balanced consideration of security of supply, economics, consumer protection and a sustainable development; Provide for certain safety, health and environment matters that pertain to energy; Facilitate energy access for improvement of the quality of life of the people of Republic; Commercialise energy-related technologies; Ensure effective planning for energy supply, transportation, and consumption; and Contribute to sustainable development of South Africa's economy. In terms of the act, the Minister of Energy is mandated to develop and, on an annual basis, review and publish the Integrated Energy Plan (IEP) in the Government Gazette. The IEP analyses current energy consumption trends within different sectors of the economy (i.e. agriculture, commerce, industry, residential and transport) and uses this to project future energy requirements, based on different scenarios. The IEP and the Integrated Resource Plan are intended to be updated periodically to remain relevant. The framework is intended to create a balance between energy demand and resource availability so as to provide low-cost electricity for social and economic development, while taking into account health, safety and environmental parameters.
Electricity Regulation Act (No. 4 of 2006)	The Electricity Regulation Act (No. 4 of 2006) (ERA) aims to: Achieve the efficient, effective, sustainable, and orderly development and operation of electricity supply infrastructure in South Africa; Ensure that the interests and needs of present and future electricity customers and end users are safeguarded and met, having regard to the governance, efficiency. effectiveness and long-term sustainability of the electricity supply industry within the broader context of economic energy regulation in the Republic: Facilitate investment in the electricity supply industry; Facilitate universal access to electricity; Promote the use of diverse energy sources and energy efficiency; Promote competitiveness and customer and end user choice; and Facilitate a fair balance between the interests of customers and end users, licensees, investors in the electricity supply industry and the public. The Act establishes a National Energy Regulator as the custodian and enforcer of the National Electricity Regulatory Framework. The Act also provides for licenses and registration as the manner in which generation, transmission, distribution, trading and the import and export of electricity are regulated.

6 ENVIRONMENTAL IMPACT STATEMENT

6.1 SITE SENSITIVITY

The Department of Forestry, Fisheries and the Environment (DFFE) has developed the National Web-based Environmental Screening Tool to flag areas of potential environmental sensitivity related to a site as well as a development footprint and produces the screening report required in terms of regulation 16 (1)(v) of the EIA Regulations of 2014 (as amended). The Notice of the requirement to submit a report generated by the national web-based environmental screening tool in terms of section 24(5)(h) of the NEMA, and regulation 16(1)(b)(v) of the EIA regulations, 2014, as amended (GN R.960 of July 2019) states that the submission of a report generated from the national web-based environmental screening tool, as contemplated in Regulation 16(1)(b)(v) of the EIA Regulations, 2014, published under GN. R.982 in Government Gazette No. 38282 of 4 December 2014, as amended, is compulsory when submitting an application for environmental authorisation in terms of regulation 19 and regulation 21 of the EIA Regulations, 2014 (as amended) as of 04 October 2019.

Specialist assessments were conducted in accordance with the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes, which were promulgated in Government Notice No. 320 of 20 March 2020 and in Government Notice No. 1150 of 30 October 2020 (i.e., “the Protocols”), or Appendix 6 of the EIA Regulations, depending on which legislation apply to the assessment under consideration. A summary of the DFFE screening tool and the specialist sensitivity verification are detailed in Table 6-1 below. Based on the specialist assessments there are no sensitive sites within the project area.

Table 6-1 - Assessment Protocols and Site Sensitivity Verification Summary

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Sensitivity Verification
Agricultural Impact Assessment	Protocol for the specialist assessment and Minimum Report Content Requirement for Environmental Impacts on Agricultural Resources	High Sensitivity	Low Sensitivity
Archaeological and Cultural Heritage Impact Assessment	Guidance on the preparation of a Heritage Impact Assessment	Low Sensitivity	Confirmed Low Sensitivity
Palaeontology Impact Assessment	Guidance on the preparation of a Palaeontological Impact Assessment	Medium Sensitivity	Low Sensitivity
Terrestrial Biodiversity Impact Assessment	Protocol for the specialist assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity	Low Sensitivity	Confirmed Low Sensitivity

Specialist Assessment	Assessment Protocol	DFFE Screening Tool Sensitivity	Sensitivity Verification
Aquatic Biodiversity Impact Assessment	Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Aquatic Biodiversity	High Sensitivity	Low Sensitivity
Plant Species Assessment	Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Plant Species	Low Sensitivity	Confirmed Low Sensitivity
Animal Species Assessment	Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Animal Species	Low Sensitivity	Confirmed High Sensitivity

6.2 IMPACT SUMMARY

All negative impacts associated with the proposed project can be reduced to low to very low significance with the implementation of recommended mitigation measures as presented within this BAR, EMPr and the associated specialist studies. The positive impacts can be further enhanced to moderate significance.

The table below is a summary of the impacts associated with the Proposed Project.

Table 6-2 – Summary of Impacts associated with the Proposed Project

Aspect	Impact Description	Character	Without Mitigation	With Mitigation
Construction Phase				
Air Quality	Impact on ambient air quality during construction	Negative	**Low**	**Low**
Noise	Noise impact on surrounding sensitive receptors	Negative	**Low**	**Very Low**
Cultural Heritage	Destruction of cultural heritage	Negative	**Very Low**	**N/A**
Surface Water	Run-off containing soil contaminated by hydrocarbon spills from vehicles and equipment used during construction	Negative	**Very Low**	**Very Low**
Terrestrial Biodiversity	Disturbance of terrestrial biodiversity as a result of construction activities	Negative	**Very Low**	**Very Low**
Aquatic Biodiversity	Disturbance of aquatic biodiversity as a result of construction activities	Negative	**Very Low**	**Very Low**

Aspect	Impact Description	Character	Without Mitigation	With Mitigation
Soil and Agricultural	Contamination and alternation of land capability	Negative	**Low**	**Very Low**
Groundwater	Groundwater Contamination	Negative	**Low**	**Very Low**
Social	Employment and Economic Development	Positive	**Low**	**Moderate**
Operational Phase				
Air Quality	Impact on ambient air quality during operation	Negative	**Low**	**Low**
Human Health	Impact on health risk during operation from SCA	Negative	**Moderate**	**Low**
Noise	Noise impact on surrounding sensitive receptors	Negative	**Low**	**Very Low**
Surface Water	Contamination of water resources from overflow from RWDs	Negative	**Very Low**	**Very Low**
Terrestrial Biodiversity	Continued disturbance of terrestrial biodiversity	Negative	**Very Low**	**Very Low**
Aquatic Biodiversity	Continued disturbance of aquatic biodiversity	Negative	**Very Low**	**Very Low**
Soil and Agricultural	Soil contamination	Negative	**Low**	**Very Low**
Groundwater	Groundwater Contamination	Negative	**Low**	**Very Low**
Social	Employment and Economic Development	Positive	**Moderate**	**Moderate**
Social	Nuisances to local communities	Negative	**Moderate**	**Low**
Decommissioning Phase				
Air Quality	Impact on ambient air quality during decommissioning	Negative	**Low**	**Low**
Noise	Noise impact on surrounding sensitive receptors	Negative	**Low**	**Very Low**
Cultural Heritage	Destruction of cultural heritage	Negative	**Very Low**	**N/A**
Surface Water	Contaminated run-off from the removal of infrastructure and rehabilitation of waste rock dumps	Negative	**Low**	**Very Low**
Terrestrial Biodiversity	Disturbance of terrestrial biodiversity as a result of decommissioning activities	Negative	**Very Low**	**Very Low**

Aspect	Impact Description	Character	Without Mitigation	With Mitigation
Aquatic Biodiversity	Disturbance of aquatic biodiversity as a result of decommissioning activities	Negative	**Very Low**	**Very Low**
Groundwater	Groundwater Contamination	Negative	**Low**	**Very Low**
Social	Employment and Economic Loss	Negative	**Moderate**	**Low**

6.3 SPECIALIST CONCLUSIONS

6.3.1 AIR QUALITY

RPM propose to develop an additional slag cleaning project and associated SO_2 abatement plant at the Mortimer Smelter, to recover base and precious metals from WACS and WACSt. Mortimer currently hold an AEL for the existing primary smelting operations. While the primary smelting, as licensed, will not be changing, the AEL requires amendment to include the proposed additional slag cleaning operations.

Critically, RPM propose to install a new abatement system in order to mitigate and manage SO_2 emissions in order for the facility to be compliant with the new plant Minimum Emission Standards. Notably, the predicted maximum concentrations for the slag cleaning process were lower than the Primary Smelting operations, with the exception of PM.

In the opinion of WSP, based on the findings of this AIR, we recommend that Mortimer Smelter be authorised to commission the Slag Cleaning operations and SO_2 abatement project., with the AEL being amended to include the already licensed primary smelting as well as the slag cleaning process.

The dispersion model was conducted assuming the worst-case conditions, and the predicted concentrations are deemed to be an overestimation of the actual ambient conditions. Given this, it is recommended that stack and ambient monitoring be conducted to determine the Mortimer smelter operations contribution to the surrounding environment.

6.3.2 HUMAN HEALTH

The overall outcome of this HIA assessment finds the risk for the RPM Mortimer Smelter Additional Slag Cleaning operations as follows:

- SO_2 associated risk = Very Low (Severity = Medium and Probability = Very Low)
- PM_{10} associated risk = Low (Severity = Medium and Probability = Low)

These risk ratings were informed by:

- The predicted ambient concentrations of the pollutants as provided by the AIR (WSP, 2025) and the annual concentrations observed at the Air Quality Monitoring Stations which are under the respective NAAQS limits for each pollutant.
- Severity assessment for both SO_2 and PM_{10}:
  - The AP-HRA informed assessment indicated by risks of all-cause mortality is assessed as Medium
- Probability assessment for SO_2:

- The Hazard Quotients that are less than 0.3 for SO_2 based on NAAQS and is assessed as Very Low.

- Probability assessment for PM10:
  - The Hazard Quotients that are less than 0.7 for PM_{10} based on NAAQS and is assessed as Low.
  - It is to be noted that the Low probability rating for PM_{10} results predominantly from the already high baseline PM_{10} levels.

6.3.3 CULTURAL HERITAGE

Based on the aerial images of the area and the heritage desktop study, it is deemed unlikely that any significant sites, features or material of cultural heritage (archaeological and/or historical) origin and/or significance will exist in the RPM's Mortimer Smelter study & development Project Area. The development of the existing Operations in the area in the recent past would have extensively disturbed or destroyed any sites or features of cultural heritage origin or significance if they did exist here in the past. Previous heritage assessments in the development area also did not identify any cultural heritage resources here.

Although there are no known archaeological and historical sites, features and material in the specific area, some have however been identified in the larger geographical area. This aspect needs to be taken into consideration during activities related to the proposed Mortimer Smelter Development Project. It is therefore recommended that a Chance Find Protocol for future activities in the area be drafted and implemented as mitigation measure. This will ensure that if any previously unknown cultural heritage (archaeological and/or historical) sites, features or material are exposed in future, that these could be investigated by a Heritage Specialist, who will then provide recommendation on the way forward in terms of the best suitable mitigation measures required.

The subterranean nature of cultural heritage (archaeological and/or historical) resources must always be kept in mind. This could include previously unknown and unmarked graves/burials and/or cemeteries.

Finally, it is recommended that Exemption from a Full Phase 1 Heritage Impact Assessment (HIA) for the RPM's Mortimer Smelter ESIA Project be granted to the applicants taking into consideration the above measures.

6.3.4 PALAEONTOLOGY

The insignificant to zero palaeosensitivity is confirmed by the grey colouration in the SAHRIS map (Figure 8-3). Since there is no chance of fossils occurring in the project footprint, an exemption request from any further palaeontological impact assessment will be undertaken.

6.3.5 SURFACE WATER

From a catchment perspective, the catchment is highly developed with the main activities being mining and subsistence agriculture. The impact assessment has indicated that considering the location of the plant area the impacts identified would have a low impact significance for the construction, operation and decommissioning phases. The objectives for the surface water component should include the recommended mitigation measures.

Considering the existing impacts to the Brakspruit and the downstream Bierspruit, and ultimately the Crocodile (West) River, the additional cumulative impact of potential contamination (hydrocarbons,

metals and sediments) to surface water resources, and considering the improvements that the area will have on dirty stormwater, the proposed ASC and SO_2 abatement project, is likely to have a positive impact on the system, and there is unlikely to be any further adverse impacts to the surface water resources if good management practices are practiced.

6.3.6 TERRESTRIAL BIODIVERSITY

Due to the Low and Medium terrestrial biodiversity, plant theme and animal theme sensitivities identified for the development footprint at a desktop level and confirmed to be Low through the site survey, this report serves as a compliance statement, in accordance with the gazetted requirements for Terrestrial Biodiversity Specialist Assessment (Notice No.320 and 1150 Government Gazette 43110 of March 2020) and Plant and Animal Theme Specialist Assessment (Notice No.1150 Government Gazette 43855 of October 2020)

Due to its transformed habitat and lack of very high sensitivity features, the study area is of a low sensitivity for terrestrial ecosystems, plants and animals

The proposed development will not have a significant impact on sensitive terrestrial ecosystems, assuming that the proposed impact management actions are integrated into the projects EMPr and implemented to avoid the risk.

Figure 6-1 - North-West Biodiversity Sector Plan in relation to the PAOI

6.3.7 AQUATIC BIODIVERSITY

Due to the Low aquatic biodiversity sensitivity identified for the development footprint at a desktop level and confirmed through the site survey, this report serves as a compliance statement, in accordance with the gazetted requirements for an Aquatic Biodiversity Specialist Assessment (Notice No.320 Government Gazette 43110 of March 2020).

Due to its transformed habitat and lack of very high sensitivity features, the study area is of a low sensitivity for aquatic ecosystems

The proposed development will not have an impact on sensitive aquatic ecosystem, assuming that the proposed impact management actions are integrated into the projects EMPr and implemented to avoid the risk of water quality deterioration in downstream watercourses.

Figure 6-2 - Wetland features according to the National Wetland Map 5 dataset in relation to the study area

6.4 RECOMMENDATIONS

The following key aspects are recommended to be included as conditions of authorisation:

- The mitigation measures included in the EMPr must be adhered to.

- The final EMPr must form part of all contractual documents with contractors during construction and operational phases of the project. Furthermore, a dedicated Environmental Control Officer (ECO) must be appointed to ensure compliance to all EA conditions and EMPr commitments throughout the construction phase.
- An Environmental Compliance Officer (ECO) must be appointed for the development.

6.5 IMPACT STATEMENT

The overall objective of the BAR is to provide sufficient information to enable informed decision-making by the authorities. This was undertaken through consideration of the proposed project components, identification of the aspects and sources of potential impacts and subsequent provision of mitigation measures.

In assessing the environmental feasibility of the ASC and SO_2 Abatement Project, the requirements of all relevant legislation have been considered. The identification and development of appropriate management and mitigation measures that should be implemented in order to minimise potentially significant impacts associated with the project, has been informed by best practice principles, past experience and the relevant legislation (where applicable).

The impact assessment process has found that the Proposed Project will involve activities which will lead to a number of direct and indirect negative impacts on the biophysical and socio-economic environment. These impacts were found to vary in terms of their consequence and probability. Positive impacts are limited to the creation of employment and economic development opportunities and will also assist with RPM being legally compliant by reducing the WACSt stockpile at Waterval Smelter.

Mitigation measures have been developed where applicable for the above aspects. The mitigation measures are necessary to ensure that the project is planned, constructed and operated in an environmentally responsible manner. It is imperative that all impact mitigation recommendations contained in the EMPr, of which the environmental impact assessment took cognisance, are legally enforced.

It is the opinion of WSP that the information contained in this document (read in conjunction with the EMPr) is sufficient for the North West DEDECT to make an informed decision for the environmental authorisation being applied for in respect of this project. The findings of this BAR and associated Specialist studies conclude that there are no fatal flaws associated with the proposed development. Negative environmental impacts associated with the proposed ASC and SO_2 Abatement Project can be mitigated to acceptable levels. It is therefore the opinion of the EAP that the project can proceed, and that all the listed mitigation measures and recommendations are considered.

7 MANAGEMENT PROCEDURES AND ADMINISTRATIVE REQUIREMENTS

7.1 ORGANISATIONAL STRUCTURE AND RESPONSIBILITIES

Formal responsibilities are necessary to ensure that key management measures/procedures are executed. RPM will be responsible for the overall control of the project site during the pre-construction, construction, operation, decommissioning and rehabilitation phases of the project. RPM's responsibilities will include the following:

- Ensuring a suitably qualified environmental resource is available and responsibilities include coverage of the proposed project from the outset of the construction phase and related activities. ;
- Being fully familiar with the BA, EA conditions and the EMPr;
- Applying for an amendment of the EA from the DEDECT as and when required in line with the prevailing legislation;
- The overall implementation of the EMPr;
- Ensuring compliance, by all parties, and the imposition of penalties for non-compliance;
- Implementing corrective and preventive actions, where required;
- Ensuring that any other necessary permits or licences are obtained and complied with; and
- Preventing pollution and actions that will harm or may cause harm to the environment.

Table 7-1 provides a high-level outline of the various roles and responsibilities of the project. The specific responsibilities as per the various time periods within which the measures contemplated in the EMPr must be implemented, have been included in EMPr under Section 8.

Table 7-1 – Roles and Responsibilities

Designation	Roles and Responsibilities
DEDECT	▪ Is the designated authority responsible for approving this EMPr and has overall responsibility for ensuring that RPM complies with this EMPr, and any conditions listed in the EA. ▪ Shall also be responsible for approving any significant amendments that may be required to the EMPr. ▪ May further perform random site inspections to check compliance with the EMPr.
Holder of the EA (Applicant) (RPM)	▪ The Holder of the EA shall take overall responsibility for the adherence to the EMPr and EA conditions. ▪ RPM is ultimately responsible for the implementation of the EMPR during all phases of the project. ▪ Must appoint the ECO prior to commencement of construction. ▪ The competent authorities must be notified of the details and contact numbers of the appointee in writing for record and communication purposes. ▪ Appoint a capable and suitably qualified and independent external EA to monitor and audit compliance with the EMPr on a regular basis. ▪ Should any activity be planned on the site that requires an environmental authorisation, permit or license approval, which is not covered by existing authorisations or approvals, appropriate applications for authorisations and approvals must be lodged with the competent authorities.

Designation	Roles and Responsibilities
	▪ Mortimer senior management to report major environmental incidents and major EMP non- compliances (that could result in notable environmental damage or pollution) to the competent authorities as per applicable legislation and regulatory requirements by means of the existing RPM incident reporting system.
Project Manager/Site Manager	▪ Ensure that RPM and the relevant contractor/s are aware of all specifications, and legal constraints pertaining to the project during construction, specifically with regards to the environment. ▪ Ensure that all stipulations within the EMPr and conditions of the environmental authorisation are communicated and adhered to by RPM and its contractor(s). ▪ Monitor the implementation of the EMPr and conditions of the environmental authorisation throughout the project by means of site inspections and meetings. This will be documented as part of the site meeting minutes. ▪ Be fully conversant with the BA for the project, the conditions of environmental authorisation and all relevant environmental legislation. ▪ Overall responsibility and accountability for the site during the construction phase.
Contractor	▪ Be fully conversant with the BA, the conditions of EA and the EMPr. ▪ Approve method statements. ▪ Provide support to the ECO and EO. ▪ Be fully conversant with all relevant environmental legislation and ensure compliance thereof. ▪ Have overall responsibility for the implementation of the EMPr and conditions of the environmental authorisation ▪ Ensure that their workforce, sub-contractors and suppliers comply with all elements of the EMPr and environmental authorisations and permits. ▪ Ensure that audits are conducted to ensure compliance to the EMPr and conditions of the environmental authorisation. ▪ Liaise with the Project Manager or his delegate, the ECO/EO and others on matters concerning the environment ▪ Prevent actions that will harm or may cause harm to the environment and take steps to prevent pollution and unnecessary degradation onsite. ▪ Confine construction activities to demarcated areas. ▪ Contractors to be responsible for rectifying and rehabilitating, at their own expense, any environmental damage caused by their activities on the construction site and surroundings. Measures to repair damage and rehabilitate the affected area must be approved and signed off by the ECO/EO.
Environmental Officer (EO)	The EO (suitably qualified environmental resource) must be appointed by the Company / Contractor / Project Manager and part of their duties include managing the day-to-day onsite implementation of the EMPr, and for the compilation of weekly environmental monitoring reports during construction. During the operational phase environmental monitoring reports may be as specified by the DEDECT (such as annually) by the EO or external ECO. In addition, the EO must act as liaison and advisor on all environmental and related issues and ensure that any complaints received from I&APs are duly processed and addressed and that conflicts are resolved in an acceptable manner and timely manner. The EO shall be a full-time dedicated member of the Contractor's team and must be approved by RPM.

Designation	Roles and Responsibilities
	The EO's responsibilities include, but not limited to: ■ Monitoring, on a daily basis, environmental specifications on site and compliance with the conditions of the EA, environmental legislation and EMPr. ■ Keeping a register of compliance / non-compliance with the environmental specifications. ■ Identifying and assessing previously unforeseen, actual or potential impacts on the environment. ■ Ensuring regular environmental monitoring and reporting. ■ Conducting site inspections and bringing any environmental concerns to the attention of the Contractor and management where necessary. ■ Advising the Contractor on the rectification of any pollution, contamination or damage to the construction site, rights of way and adjacent land. ■ Attending site meetings (scheduled and ad hoc). ■ Presenting the environmental awareness training course to all staff, Contractors and Sub contractors, and monitoring the environmental awareness training for all new personnel on-site, as undertaken by the Contractor. ■ Ensuring that a copy of the EA and the latest version of the EMPr are available on site at all times, and maintaining a records-keeping system of all compliance and environmental documentation. ■ Ensuring that the Contractor is made aware of all applicable changes to the EMPr that are approved by the DEDECT. ■ Assisting the Contractor in drafting environmental method statements and/or the Environmental Policy where such knowledge/expertise is lacking. ■ Maintaining the following on site: • A weekly site diary. • An incidents register • An I&AP complaints register • A register of audits • Records of all communication received in relation to compliance actions. The EO will remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is handed over to the Operator.

7.2 ENVIRONMENTAL AWARENESS PLAN

Legislation requires that RPM (via the appointed contractor) must develop an environmental awareness plan that describes the manner in which RPM intends to inform employees of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment. In recognition of the need to protect our environment, environmental management should not only be seen as a legal obligation but also as a moral obligation.

It is important to ensure that all relevant personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and ongoing minimisation of environmental degradation and harm.

To achieve effective environmental management, it is important that employees, contractors (including subcontractors) are aware of the responsibilities in terms of the relevant environmental legislation and the contents of the EMPr, conditions of the environmental authorisation.

RPM will provide appropriate resources to facilitate social and environmental awareness training during the construction, operational and decommissioning phases of the project. RPM will require that all managers associated with the project adhere to the mitigation/management measures detailed in the EMPr and identify, evaluate, and minimise risks to the social, physical and biophysical environments. This will be implemented by educating employees in social and environmental matters and responsibilities relating to performance of their assigned tasks. Furthermore, employees will be entrusted to maintain the necessary level of environmental performance for their activities. Contractors, and their associated sub-contractors, will also need to demonstrate compliance to mitigation/ management measures included in the EMPr.

RPM has an existing Environmental Awareness Plan which covers the following:

- Internal Communication;
- Standard Meetings;
- Environmental Topics;
- External Communication;
- Complaints; and
- Training.

7.2.1 INTERNAL COMMUNICATION

Internal Communication of environmental issues to ensure environmental awareness will be achieved by using any combination of the following means:

- Meetings;
- Memos;
- Notice boards;
- Briefs;
- Reports;
- Monthly themes;
- Daily operational bulletins;
- Newsletter;
- E-mail;
- Telephone; and
- Induction training.

7.2.2 STANDARD MEETINGS

The following standard meetings will be held at specific times to ensure that environmental and social awareness; potential problems; complaints etc. are heard and addressed proactively:

- Safety, Health and Environmental Meetings will be held monthly by the Senior Management;
- Safety, Health and Environmental Meetings will be held weekly (during construction) and monthly (during operation) by the relevant personnel, environmental and social issues will form part of the agenda;
- Monthly EMS meetings are held where environmental issues relating to the EMS are discussed.

- All Employees can also communicate to Senior Management through their reporting lines or by using complaint forms and incident forms to improve communication.

7.2.3 ENVIRONMENTAL AND SOCIAL TALK TOPICS

Monthly environmental talk topics are compiled and distributed by the Environmental Section personnel to relevant people and are displayed on the relevant notice boards. The following environmental topics are covered:

- Water Quality;
- Water Use and Consumption;
- Air Quality i.e. dust;
- Power Consumption and Energy Efficiency;
- Waste Management;
- Fauna and Flora;
- Emergency Procedures;
- Incidents Reporting;
- Systems;
- Noise;
- Heritage Impacts;
- Speed Limits;
- Health Risks (such as HIV/ Aids); and
- General Awareness (e.g. World Environment Day, National Arbour Day).

7.2.4 EXTERNAL COMMUNICATION

SOCIAL PERFORMANCE MEETING

The Social Performance meeting is a forum used to keep stakeholders informed of the significant environmental aspects identified through the EMS. This is also the forum where I&APs get the opportunity to raise environmental concerns. Records are kept of all decisions and concerns.

PUBLICATIONS

The following publications are also used to communicate environmental issues to outside parties:

- Newsletters;
- Annual Sustainable Development Report; and,

GENERAL COMMUNICATIONS

Any environmental issues will be communicated to and from Head Office (in terms of Divisional and Group Communication) by means of the following:

- Fax or E-mail;
- News briefs from Head Office;
- Formal meetings and workshops;
- Quarterly environmental report; and,
- Annual environmental report.

Communication to community, government, neighbouring mines, farmers, land owners, environmental Groups, Non-Governmental Organisations (NGOs) and other I&APs will be

communicated to ensure environmental awareness by an appropriate selection of the following means:

- Fax or e-mail;
- Postal system;
- Telephone;
- Formal meetings; and/or,
- Open days.

7.2.5 TRAINING

It is important to ensure that all personnel, contractors and their sub-contractors have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and on-going minimisation of environmental harm. As a minimum environmental training must include the following:

- Employees must have a basic understanding of the key environmental features of the site and the surrounding environment.
- Employees will be thoroughly familiar with the requirements of the EMPr and the environmental specifications as they apply to the project.
- Employees must undergo training for the operation and maintenance activities associated with project and have a basic knowledge of the potential environmental impacts that could occur and how they can be minimised and mitigated.
- Awareness of any other environmental matters, which are deemed to be necessary by the Environmental Officer.
- Training must include the environment, health and safety as well as basic HIV/AIDS education.

The following facets to training form part of this Environmental and Social Awareness Plan:

- **Induction:** Environmental awareness training is given at induction when personnel join the company and / or return from leave. Induction training is also given to visitors entering the site.
- **Job Specific Training:** Job specific training programmes will be developed as and when required. The programs will be based on the significant environmental and social aspects/ impacts that are identified during regular audits and site inspections. Supervisory staff will be equipped with the necessary knowledge and information to guide their employees on environmental and social aspects applicable to performing a specific task.

  - **Competency Testing and coaching:** This is done through visible felt leadership (VFL) on a one-on-one basis. Competence and the effectiveness of training and development initiatives will be determined through Planned Task Observations (PTO's).

  The process to declare competency of personnel is documented in the ISO9001:2000 procedure. This plan will be amended periodically in light of operational changes, learning experienced during its implementation and other activities that can affect the risk profiles.

- **Training Records**: Training can be done either in a written or verbal format but will be in an appropriate format for the receiving audience. Persons having received training must indicate in writing that they have indeed attended a training session and have been notified in detail of the contents and requirements of the EMPr. The attendance registers must be kept on file.

7.3 MONITORING

RPM will establish, implement and maintain a procedure(s) to monitor and measure, on a regular basis, the key characteristics of the operations that have a significant environmental impact. The procedure(s) shall include the documenting of information to monitor performance, applicable operational controls and conformity with each operations environmental objectives and targets (EMPr). RPM will ensure that calibrated or verified monitoring and measurement equipment is used and maintained and shall retain associated records as proof.

RPM will establish, implement and maintain a procedure(s) for periodically evaluating compliance with applicable legal requirements within each operation and evaluate compliance with other requirements to which it subscribes. Records of findings, observations, etc. of the evaluation shall be maintained.

RPM shall establish, implement and maintain procedures for dealing with actual and potential non-conformities identified and will develop procedures for taking corrective and preventive action. The procedures shall define requirements for the following:

- Identifying and correcting non-conformities and taking actions to mitigate their environmental impact
- Investigating non-conformities, determining their causes and taking actions in order to avoid their recurrence
- Evaluating the need for actions to prevent non-conformities and implementing appropriate actions designed to avoid their occurrence
- Recording the results of corrective actions and preventive actions taken
- Reviewing the effectiveness of corrective actions and preventive actions taken

RPM will ensure that any necessary changes are made and adequately documented and recorded and will establish and maintain records as necessary to demonstrate conformity to the requirements of the EMPR and relevant procedures.

RPM will ensure that annual internal audits of the conditions within the EMPr are conducted at planned intervals. Audit procedures shall be established, implemented and maintained and shall address the responsibilities and requirements for planning and conducting audits, reporting results and retaining associated reports. The procedure will also address the determination of the audit criteria, scope, frequency and methods. Internal auditors shall ensure objectivity of the audit process.

All the conditions outlined in the EMPr (Section 8) will be subject to required internal day-to-day monitoring and external compliance monitoring. Where required, any specific additional monitoring has been outlined in the EMPr.

7.3.1 MECHANISMS FOR MONITORING

Table 7-2 below shows the mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including:

- Monitoring of Impact Management Actions
- Monitoring and reporting frequency
- Responsible persons
- Time period for implementing impact management actions

- Mechanism for monitoring compliance

Table 7-2: Monitoring Mechanisms

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
ASC and SO_2 Abatement Plant	Noise	Noise monitoring are to be undertaken on the fence line and at receptors	Mortimer Smelter Management	Biennial monitoring and reporting
ASC and SO_2 Abatement Plant	Air Quality	As per the Air Quality Monitoring Procedure	Mortimer Smelter Management	To align with the AEL requirements
ASC and SO_2 Abatement Plant, hazardous material management	Ground Water	Existing Groundwater monitoring as per the Water Quality Monitoring Procedure	Mortimer Smelter Management	As per existing WUL requirements
ASC and SO_2 Abatement Plant, hazardous material management	Surface Water	Refer to Table 7-3,	Mortimer Smelter Management	As per existing WUL requirements
ASC and SO_2 Abatement Plant	Process Water	Existing process water monitoring as per the Water Quality Monitoring Procedure	Mortimer Smelter Management	Quarterly monitoring
Clearance Construction On-going Rehabilitation	Alien Vegetation Establishment	As per the BAP	Mortimer Smelter Management	Assessments at least once every three years, with implementation of BAP in between

Surface Water Monitoring

It is proposed that surface water monitoring be undertaken at the sites set out in Table 7-3.

Table 7-3 – Proposed surface water monitoring sites

Site	Reason for monitoring	Coordinates		Type of sample
		Latitude	Longitude	

Fraser Alexander RWD	To understand the main contaminants of concern and to inform a rehabilitation plan for the dams during the closure phase	-24.965892°	27.146862°	To align with existing WUL requirements
Barber's RWD		-24.937776°	27.171112°	
Game Farm Flood Storage Dam		-24.934193°	27.176074°	
Brakspruit at Spitskop Road	To understand the impact from the site on the Brakspruit	-24.917887°	27.213931°	To align with existing WUL requirements
Upstream site on the Sefathlane River		Best site to be identified		To align with existing WUL requirements

7.4 NON-CONFORMANCE AND CORRECTIVE ACTION

The auditing of the construction and operational activities may identify non-conformances to the EMPr and conditions of the EA. Non-conformances may also be identified through incidents, emergencies or complaints recorded. In order to correct non-conformances, the source must be determined, and corrective actions must be identified and implemented.

7.4.1 COMPLIANCE WITH THE EMPR AND CONDITIONS OF THE ENVIRONMENTAL AUTHORISATION

- A copy of the EMPr and conditions of the environmental authorisation will be available onsite at all times for the duration of the construction and operational activities;
- All persons employed by a contractor or their sub-contractors will abide by the requirements of the EMPr and conditions of the environmental authorisation;
- Any members of the workforce found to be in breach of any of the specifications contained within the EMPr and conditions of the environmental authorisation may be ordered by the Site Manager to leave the site. A contractor will not direct a person to undertake any activity which would place them in contravention of the specifications contained within the EMPr and conditions of the environmental authorisation;
- Should a contractor be in breach of any of the specifications contained in the EMPr and conditions of the environmental authorisation, the Site Manager will, in writing, instruct the contractor responsible for the incident of non-compliance regarding corrective and/or remedial action required, specify a timeframe for implementation of these actions, implement a penalty and/or indicate that work will be suspended should non-compliance continue;
- Should non-compliance continue, further written notification will be forwarded to the contractor responsible for the incident of non-compliance outlining the required corrective and/or remedial action, the timeframe for implementation, penalties and/or work will be suspended as specified previously; and
- Departmental officials will be given access to the property referred to in the BA and EMPr for the purpose of assessing and/or monitoring compliance with the EMPr and conditions of the environmental authorisation, at all reasonable times.

7.4.2 DUTY OF CARE

Under Section 28 of the NEMA, all personnel involved with the construction and operational activities onsite will be responsible for implementing measures to prevent pollution or degradation of the environment from occurring, continuing or recurring. Failure to comply with the above conditions is a

breach of the duty of care. If such harm is unavoidable, steps must be taken to minimise and rectify such pollution or degradation of the environment.

7.5 DOCUMENTATION AND REPORTING

The following documentation must be kept onsite in order to record compliance with the EMPr and conditions of the environmental authorisation:

- Record of complaints; and
- Record of emergencies and incidents.

The contractor will be required to report on the following:

- Environmental incidents involving contractor/ employees and/or the public;
- Environmental complaints and correspondence received from the public; and
- Incidents that cause harm or may cause harm to the environment.

The above records will form an integral part of the ECO's reports and records thereof maintained for the duration of the project. These records will be kept with the EMPr and conditions of the EA and will be made available for scrutiny if so requested by the Project Manager or his delegate, the ECO.

The contractor will ensure that the following information is recorded for all environmental complaints/incidents/emergencies:

- Date of complaint/incident/emergency;
- Location of complaint/incident/emergency;
- Nature of complaint/incident/emergency;
- Causes of complaint/incident/emergency;
- Party/parties responsible for causing complaint/incident/emergency;
- Immediate actions undertaken to stop/reduce/contain the causes of the complaint/incident/emergency;
- Additional corrective or remedial action taken and/or to be taken to address and to prevent reoccurrence of the complaint/incident/emergency;
- Timeframes and the parties responsible for the implementation of the corrective or remedial actions;
- Procedures to be undertaken and/or penalties to be applied if corrective or remedial actions are not implemented; and
- Copies of all correspondence received regarding complaints/incidents/emergency.

An on-site environmental file must be maintained throughout all phases of the Project. Digital copies of relevant documentation may be kept in addition to hard-copy documents. This file is to be made available at the request of the auditor, ECO, Holder of the EA or similar monitoring body. A digital photographic record will be kept to show before, during and post rehabilitation evidence of the project. The photographic record can also be used in cases of damages claims if they arise. Each image must be dated and a brief description note attached. The photographic record and weekly inspection log may be combined.

7.6 METHOD STATEMENTS

Before the contractor begins each construction activity, the contractor shall give to the EO and Project Manager a written Method Statement setting out the following:

- The type of construction activity;
- Locality where the activity will take place;
- Identification of impacts that might result from the activity;
- Identification of activities or aspects that may cause an impact;
- Methodology and/or specifications for impact prevention for each activity or aspect;
- Methodology and/or specifications for impact containment for each activity or aspect;
- Emergency/disaster incident and reaction procedures; and
- Treatment and continued maintenance of impacted environment.

The contractor must provide such information at least two weeks in advance of any or all construction activities for review and approval. Any changes made to the Method Statement after approval shall be given to the EO for review and the Project Manager for approval.

The ECO and/or Project Manager may provide comment on the methodology and procedures proposed by the contractor but shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems.

7.7 PUBLIC COMPLAINTS

All environmental related complaints and queries must be directed to the relevant Environmental Officer for attention. All information regarding complaints reported to the Mortimer Smelter telephone exchange will be captured on a complaint form and handed to the relevant Environmental Officer. The relevant Environmental Officer will record all complaints in the complaints register.

The Environmental Officer will forward all complaints received onto the Community Engagement Department (CED) Department or as detailed in the relevant complaints procedure (specific for each operation). The CED Department will be responsible for capturing the complaints on an EMS system and developing appropriate actions.

RPM shall keep a Complaints Register on site to allow the general public to document any comments on or complaints regarding the activities of the site.

The Complaints Register must:

- Have numbered pages – any missing pages must be accounted for by the Contractor;
- Be tabled during site meetings;
- Be made available to the Project Manager, the ECO, the Project Company, and/or any authority at any time if requested; and
- Include a section for the documentation of the action taken to address the complaint.

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8 ENVIRONMENTAL MANAGEMENT PROGRAMME

The EMPr contains guidelines, operating procedures, rehabilitation and pollution control requirements which will be binding to the onsite personnel working for, or on behalf of RPM. It is essential that the EMPr be carefully studied, understood, implemented and adhered to at all times.

In instances where the method statements provided by the contractor conflict with the EMPr, such conflicts will be discussed between the Site Manager, EO, ECO and contractor and if unresolved the EMPr will take precedent.

The EMPr identifies various actions which are undertaken throughout the construction and operational phases of the ASC and SO_2 Abatement Project. Not every action will be required during the entire course of activities. Therefore, the actions identified in the EMPr have been given priority timeframes for proposed implementation. The columns in the structure of the EMPr have been described Table 8-1 below.

Table 8-1 – Structure of EMPr

Column	Description
Activity/Aspect	Highlights the various activities/aspects associated with the project i.e. the contractors' activities that will interact with the environment.
Impact Management Outcome	The desired outcomes from effectively minimising negative impacts and/or enhancing positive impacts.
Impact Management Actions/Measures	Indicates the actions required to prevent and /or minimise the potential impacts on the environment that are associated with the project.
Indicator and Compliance Management	Items that will assist with determining compliance against management actions.
Responsibility	Indicates the party responsible for implementing the environmental measures and action plans laid out in the EMPr. Please note that the Site Manager will have authority to stop works if/as necessary.
Priority Timeframe	Indicates when the actions for the specific aspect must be implemented and/or monitored.

Table 8-2 – Contractor laydown area and site access: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.1 CONTRACTOR LAYDOWN AREA AND SITE ACCESS			
Impact Management Outcome: ▪ To implement measures to minimise impacts on the environment from the initiation of construction activities through planning, careful site access route selection and implementation of mitigation measures.			
Indicator and Compliance Mechanism: ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Close-out on incidents. ▪ Monitoring and audit reports. ▪ Induction training and register. ▪ Environmental awareness programme/toolbox talks.			
Project Initiation of Construction Activities	Appoint an EO to manage and verify compliance with the EA and EMPr.	▪ Project Manager ▪ EO ▪ Contractor (Site Manager)	▪ Pre-Construction ▪ Construction ▪ Decommissioning
	The development footprint must be demarcated to ensure that only the demarcated areas are impacted upon. The no-go areas identified must be demarcated before the construction commences.		
	All personnel and contractors to undergo Environmental Awareness Training, including awareness of the surrounding area and sensitive areas to inform importance of these areas and their conservation. A signed register of attendance must be kept for proof.		▪ Construction ▪ Operation
	Locate firefighting measures at laydown areas and vehicles, such as fire extinguishers, and make personnel aware of fire prevention and firefighting measures.		
	Firefighting equipment must be securely placed and inspected monthly.		

Table 8-3 – Vehicle, Equipment and Machinery Management: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.2 VEHICLE, EQUIPMENT AND MACHINERY MANAGEMENT			
Impact Management Outcome: ▪ To implement measures to minimise impacts on the environment from poorly maintained equipment, machinery and vehicles onsite.			
Indicator and Compliance Mechanism: ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Close-out on incidents. ▪ Monitoring and audit reports. ▪ Transport route delineation. ▪ Daily equipment, machinery and vehicle checklists. ▪ Incident classification and reporting procedure.			
Operation of Equipment, Machinery and Vehicles	Ensure that the equipment, machinery and vehicles are adequately maintained so as to: ▪ Reduce the potential for spillages of oil, diesel, fuel or hydraulic fluid. ▪ Ensure road-worthiness. ▪ Reduce emissions. Evidence of such maintenance must be recorded and maintained onsite for verification.	▪ Project manager ▪ Contractor	▪ Construction ▪ Operation ▪ Decommissioning
	Maintenance vehicles should stick to demarcated roads as far as practically possible to minimise soil compaction on adjacent soils.		
	The movement of vehicles into and out of the site must be managed to ensure the impact on public areas is minimised, such as ensuring that abnormal loads are moved outside of peak traffic hours, and reasonable measures are taken to ensure that public and staff safety is managed adequately.		

Table 8-4 – Fuel and Chemical Management: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.3 FUEL AND CHEMICAL MANAGEMENT			
Impact Management Outcome: ▪ To ensure the correct storage, handling and disposal of fuels and chemicals in order to prevent impacts to the surrounding environment.			
Indicator and Compliance Mechanism: ▪ Maintenance records. ▪ Safe disposal certificates (if applicable). ▪ Material safety data sheets (MSDS). ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Chemicals management procedure (to be developed). ▪ Monitoring and audit reports. ▪ Training records.			
Fuel and Chemical Management	Provide secure storage for fuel, oil, chemicals and other hazardous materials. Securely lock the storage areas to accommodate all hazardous substances such as fuel, oils and chemicals. The storage area must be roofed and the floor must be an impermeable surface and suitably bunded as per the requirements outlined in South African National Standard (SANS) 10089-1 (2008). If storage capacity triggers licencing, those must be acquired.	▪ Project manager ▪ EO ▪ Contractor	▪ Construction ▪ Operation
	Indicate the location of the fuel and chemical storage area on the layout plans.		
	Label all liquids (chemicals and hydrocarbons) stored onsite for easy identification. MSDS for onsite chemicals, hydrocarbon materials and hazardous substances must be readily available. MSDS must include mitigation measures to ameliorate potential environmental impacts which		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	may result from a spill, incorporating health and safety mitigation measures.		
	A spill management plan must be in place to ensure that should there be any chemical spill out or over that it does not run into the surrounding areas. Drip trays or any form of oil absorbent material must be placed underneath vehicles/machinery and equipment when not in use.		
	All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs may be undertaken beyond the contractor lay down area. All repairs are to be performed on an impervious surface.		
	Storage areas and vehicle maintenance areas must have appropriate containment measures in place, including bunds, concrete, canals, collector drains and interception trenches.		
	All hazardous substances must be stored on an impervious surface in a designated bunded area, able to contain 110 % of the total volume of materials stored at any given time. Storage areas must be well marked with appropriate signage.		
	If a spillage of a hazardous material occurs the resultant hazardous waste must be cleaned up using absorbent material provided in spill kits on site and disposed of in a designated hazardous waste bin.		
	Spilled material must be cleaned up and disposed of appropriately as soon as practically possible		
	In cases where a surface leak occurs during loading and off-loading activities, the spill material will be cleaned using a spill kit.		
	Leaking equipment and vehicles must be repaired immediately or be removed from project area to facilitate repair		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
Health and Safety	Display “no smoking” and “no naked flame” signs in and around the project area, as well as near the hazardous material store.	▪ Project manager ▪ Contractor	▪ Construction ▪ Operation
	Strategically place the correct types of fire extinguishers onsite and near the hazardous material store. Train key personnel on basic firefighting skills		
	Frequently inspect and maintain containment facilities and retain records onsite.		

Table 8-5 – Waste Management: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.4 WASTE MANAGEMENT			
Impact Management Outcome: ▪ To ensure the correct handling, storage, transportation and disposal of general waste and hazardous waste.			
Indicator and Compliance Mechanism: ▪ Induction training and records. ▪ Waste Management Plan (WMP). ▪ Relevant SANS Codes of Practice. ▪ Waste manifests and safety disposal certificates (all waste streams). ▪ Emergency preparedness and response procedure. ▪ Incident classification and reporting management procedure (to be developed). ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Monitoring and audit reports.			

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
General Waste Management	General waste generated because of construction and operational activities must be managed in accordance with the existing Waste Management Procedure (WMP).	▪ EO ▪ Contractor	▪ Construction ▪ Operation ▪ Decommissioning
	Train and inform all onsite personnel regarding general waste minimisation, management and disposal as per a WMP.		
	Prohibit littering, burning and burying of waste onsite.		
	Waste must be removed from the site on a regular basis for disposal at a registered or licensed disposal facility.		
	Waste management must be a priority and all waste must be collected and stored adequately.		
	Refuse bins shall be emptied daily (or as required) to prevent overflow and secured.		
	Temporary storage of domestic waste shall be in covered waste skips/containers.		
	Retain records such as waybills and waste manifests associated with waste removal, transportation and disposal (safe disposal certificates).		
	Prohibit the mixing of general waste with hazardous waste. Should general waste be mixed with hazardous waste, it will be considered hazardous waste. There should be waste segregation (e.g. chemicals, oil contaminated rags, paper, plastic) and management on the site.		
	Recover, recycle and reuse general waste as far as possible.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
Hazardous Waste Management	Train and inform all onsite personnel regarding hazardous waste minimisation, management and disposal as per the WMP.	▪ EO ▪ Contractor	▪ Construction ▪ Operation ▪ Decommissioning
	A designated and appropriately demarcated and covered or concreted/bunded hazardous waste storage area must be established.		
	Ensure that all hazardous wastes temporarily stored on site are stored in a covered skip and are placed on a hard standing surface.		
	Clean areas where hazardous waste spills have occurred and dispose of the hazardous material appropriately. Key personnel must be trained on handling spillages.		
	Retain records of appropriate safety disposal certificates associated with hazardous waste removal, transportation and disposal.		
	An emergency preparedness and response plan is to be implemented by the contractor/operator for any hazardous waste being removed, transported and disposed of offsite.		
	Ensure that waste manifest documentation (as per the Waste Classification and Management Regulations – GNR 634) is prepared and maintained for the generation, transportation and disposal of waste.		
	Severe spills (level 3-5) should be reported to the authorities as per the emergency preparedness and response frequencies / specifications.		

Table 8-6 – Health and Safety: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.5 HEALTH AND SAFETY			
Impact Management Outcome: ▪ To ensure communication with members of the public to promote safety awareness. ▪ To prevent public access to construction sites and storage areas. ▪ To ensure safety for all onsite personnel.			
Indicator and Compliance Mechanism: ▪ Induction training and records. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Monitoring and audit reports. ▪ Incident classification and reporting management procedure (to be developed). ▪ PPE Register. ▪ Occupational health and safety plan (to be developed). ▪ Health and safety protocol (to be developed).			
Health and Safety	The construction phase will be managed according to all the requirements of the Occupational Health and Safety Act 85 of 1993, specifically the Construction Regulations.	▪ Project Manager ▪ Contractor ▪	▪ Construction ▪ Operation
	All onsite personnel are required to undergo induction training and regular toolbox talks in order to raise awareness of the conditions contained herein.		
	Development and implementation of an occupational health and safety plan and Safety Health Environment Risk & Quality (SHERQ) policy.	▪ Contractor/Operator ▪ Project Manager	▪ Construction ▪ Operation
	The appointed contractor will be responsible for the development of a comprehensive health and safety protocol which must be adhered to.	▪ Contractor	▪ Construction

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Emergency response plan to be in place prior to beginning construction and to include aspects such as appointment of emergency controller, provision of first aid, first responder contact numbers.		
	Provide and wear appropriate PPE onsite.	▪ Contractor/Operator ▪ Project Manager	▪ Construction ▪ Operation
	All normal procedures for working at heights, hot work permits, confined space entry, cordon off excavations etc to be in place before construction begins.	▪ Contractor/Operator ▪ Project Manager	▪ Construction ▪ Operation
	All necessary good hygiene practices to be in place, e.g. provision of toilets, eating areas, infectious disease controls.	▪ Project Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation
	Policies and practice for dealing with known vectors of disease such as Aids, TB, COVID 19 and others to be implemented.		
	Prior to construction, determine the dangerous species in the area and what responses are needed to bites/exposure/attacks.		
	Train all onsite personnel handling chemical or hazardous substances in the use of such substances and the environmental, health and safety consequences of incidents.	▪ Project Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation
	Outside work must be stopped during thunderstorms. Lighting conductors may be required for the final installation, to be confirmed during design phase.	▪ Site Manager ▪ Contractor	▪ Construction ▪ Operation
Facility emergencies	Emergency response plan for full operation and maintenance phase to be in place prior to beginning commissioning.	▪ Operator	▪ Operation
	A detailed risk assessment of all normal operating and maintenance activities on site to be compiled, and form the basis of operating instructions, prior to commencing commissioning.	▪ Operator	▪ Operation

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	MSDSs must be made available for all chemicals and substances on site.	▪ Project Manager ▪ Contractor ▪ Operator ▪ EO	▪ Construction ▪ Operation
Fire risk	Suitable fire-fighting equipment on site near source of fuel, e.g. diesel tank, generators, mess, workshops etc.	▪ Project Manager ▪ Contractor ▪ Operator	▪ Construction ▪ Operation
	Ensure regular testing of emergency alarm systems are undertaken.		
	Emergency Response plan to be implemented.		
Public Safety	Restrict public access by employing full time security for the site.	▪ Project Manager	▪ Construction ▪ Operation
Decommissioning of facility	End of Life shutdown procedure including a risk assessment of the specific activities involved.	▪ Operator ▪ EO	▪ Decommissioning
	Re-purpose the equipment with associated environmental impact considered.		
	Disposal according to local regulations and other international directives.		
	Operator should seek the opinion from a waste consultant on how to correctly dispose of hazardous waste.		
Community Health	Continue implementation of RPM integrated healthcare system through Platinum Health.	▪ RPM ▪ Project Manager	▪ Operational
	Continue implementation of prevention, care and rehabilitation service programmes for HIV/AIDS and Tuberculosis (TB) and chronic diseases like diabetes and hypertension.		
	Maintain existing community health initiatives .		

Table 8-7 – Air quality: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.6 AIR QUALITY			
Impact Management Outcome: ▪ To ensure that impacts to air quality of the surrounding environment are minimised.			
Indicator and Compliance Mechanism: ▪ Complaints register. ▪ Incident reporting system. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Incident classification and reporting management procedure (to be developed). ▪ Equipment, machinery and vehicle maintenance.			
Dust Management	Limit the duration of the construction phase to as short a timeframe as possible.	▪ EO ▪ Contractor	▪ Construction ▪ Operation
	Activities with high dust-causing potential, such as grading and moving of soil, must not be carried out in sensitive areas during adverse wind conditions.		
	Where possible, minimise the area under construction.		
	Make use of wet suppression techniques to minimise dust entrainment during periods of high wind speeds.		
	Where possible, minimise speed limits.		
	Dust-reducing mitigation measures must be put in place and must be strictly adhered to, for all roads and soil/material stockpiles especially. This includes wetting of exposed soft soil surfaces and not conducting		

	activities during high wind periods which will increase the likelihood of dust being generated;		
	All stockpiles must be restricted to designated areas and may not exceed a height of two (2) metres.		▪ Construction
	Earth-moving works have the potential to generate large amounts of dust. Pre-planning of earth-moving works can reduce dust emissions by limiting the time the site is exposed. Options for dust control can include the following: ▪ Plan earth-moving works so that they are completed just prior to the time they are needed ▪ Observe weather conditions and do not commence or continue earth moving works if conditions are unsuitable e.g., under conditions of strong winds ▪ Reduce off-site hauling via balanced cut and fill operations ▪ Pre-water areas to be disturbed		
	All materials transported to, or from, site must be transported in such a manner that they do not fly or fall off the vehicle. This may necessitate covering or wetting friable materials.		
	Dampen exposed soil to suppress dust if required. Use watering sprays on materials to be loaded and during loading.		
Noxious emissions	Ensure that all vehicles, machines and equipment are adequately maintained to minimise emissions.	▪ EO ▪ Site Manager	▪ Operation
	No burning of waste, such as plastic bags, cement bags and litter is permitted		
	Existing and proposed mitigation techniques must be maintained and abatement machinery must be regularly serviced according to supplier specifications.		

	PM_{10}, SO_2 and dust fallout monitoring must be continued to assess ambient concentrations and dust fallout levels.		
	Fugitive emissions from the furnace building must be monitored through ambient stations.		

Table 8-8 – Noise: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.7 NOISE			
Impact Management Outcome: ▪ To ensure that noise impacts to the surrounding environment are minimal or mitigated.			
Indicator and Compliance Mechanism: ▪ Complaints register. ▪ Incident reporting system. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Incident classification and reporting management procedure (to be developed). ▪ Equipment, machinery and vehicle maintenance.			
Noise	When working near a potential sensitive receptor, limit the number of simultaneous activities to a minimum as far as possible.	▪ RPM ▪ EO	▪ Planning phase
	Use noise control devices, such as temporary noise barriers and deflectors for high impact activities, and exhaust muffling devices for combustion engines.	▪ Contractor	▪ Construction
	Select equipment with the lowest possible sound power levels.	▪ Contractor	▪ Construction ▪ Operation

	Ensure equipment is well-maintained to avoid additional noise generation	▪ Contractor	▪ Construction ▪ Operation
	Installing suitable mufflers on engine exhausts.	▪ Contractor	▪ Construction ▪ Operation
	Installing acoustic enclosures for equipment causing radiating noise.	▪ RPM ▪ Contractor	▪ Operation
	Improving the acoustic performance of constructed buildings by applying sound insulation, where required and possible.	▪ RPM ▪ Contractor	▪ Operation
	Health & Safety ("H&S") agent/ EO to include a component covering environmental noise in the Health and Safety Induction to sensitise all employees and contractors about the potential impact from noise.	▪ RPM ▪ EO	▪ Construction ▪ Operation
	Should any complaints arise, regular fenceline noise monitoring campaigns should be established to determine the source of such noise, which will allow for the implementation of correct mitigation strategies.	▪ EO ▪ Project Manager	▪ Operation

Table 8-9 – Aquatic Biodiversity: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.8 AQUATIC BIODIVERSITY			
Impact Management Outcome: ▪ Prevent the unnecessary destruction of, and fragmentation of the aquatic biodiversity of the area. ▪ Prevent contamination of wetlands.			

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
Indicator and Compliance Mechanism: ▪ Induction training and records. ▪ Incident classification and reporting management procedure (to be developed). ▪ Environmental awareness programme/toolbox talks. ▪ Monitoring and audit reports.			
River water quality	All construction activities and infrastructures associated with the project must remain within the approved footprint.	▪ Project Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation
	All surface runoff from the slag cleaning area must be contained within an established dirty water area that is contained and separate from the surrounding clean water catchment.		
	No release of polluted runoff to the downstream river network should be permitted.		
	An aquatic biomonitoring programme should be initiated (if not already undertaken as part of the mine's current environmental management programme) within the Mortimerspruit to monitor for any adverse water quality impacts arising from activities proposed at Mortimer Smelter.		
	Areas where potentially contaminating materials will be stored should include appropriate barrier systems in their design to prevent leaching of contaminants into the environment.		

Table 8-10 – Terrestrial Biodiversity: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.9 TERRESTRIAL BIODIVERSITY			
Impact Management Outcome: ▪ To minimise impact to the vegetation community. ▪ To minimise impact to plant SCC.			
Indicator and Compliance Mechanism: ▪ Induction training and records. ▪ Environmental awareness programme/toolbox talks. ▪ Monitoring and audit reports.			
Loss of vegetation/ habitat	The boundaries of the development footprint area are to be clearly defined (fenced) and it must be ensured that all construction and operation activities remain within the defined footprint areas. The proposed development footprint areas should remain as small as possible.	▪ Project Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation
	Vegetate open and exposed areas to prevent soil erosion and the establishment of alien invasive vegetation.		
	Alien invasive vegetation needs to be identified and removed throughout the Project area and lifespan.		
	The boundaries of the development footprint area are to be clearly defined (fenced) and it must be ensured that all construction and operation activities remain within the defined footprint areas.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	The proposed development footprint areas should remain as small as possible.		
	No areas falling outside of the demarcated study area may be cleared during the construction and operational phases.		
	Any natural areas beyond the development footprint should not be disturbed.		
	All vehicles are to remain on demarcated roads and no driving through the veld should be allowed.		
	A speed limit of 40km/h must be implemented on all maintenance roads running through the study area to minimise risk to fauna from vehicles.		
	Proper waste management procedures should be in place to avoid litter, food or other foreign material from lying around and all waste material should be removed from the site.		
	All disturbed areas are to be rehabilitated and reseeded where necessary.		
	No plants may be translocated or otherwise uprooted or disturbed without express permission from the EO.		
	Construction crew, in particular the drivers, should undergo environmental training (induction) to increase their awareness of environmental concerns.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	No trapping, collecting or hunting of faunal species must be allowed during any phases of the proposed development.		
	A record of fauna mortalities/injury due to interactions with Project infrastructure/activities should be kept on site and regularly reviewed to inform the need for implementation of any additional mitigation measures.		
	The implementation of the recommended construction/operation phase mitigation measures should be monitored on an annual basis, to audit their efficacy in addressing potential impacts, so that adaptive management actions can be timeously undertaken as necessary, to ensure that potential impacts on animal species are avoided/minimised.		
	Any dangerous fauna (e.g., snakes, scorpions) that are encountered during construction should not be handled or molested by construction staff and the EO or other suitably qualified persons should be contacted to remove the animals to safety.		
Impacts of roads	Wherever possible, existing roads/tracks should be used.	▪ Project Manager ▪ Contractor ▪ EO	▪ Construction ▪ Operation
	Proper road maintenance procedures should be in place.		
	Material brought onto site e.g., building sand should be regularly checked for the germination of alien species.		
	Access to the site should be strictly controlled.		

Table 8-11 – Surface Water: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.10 SURFACE WATER			
Impact Management Outcome: ▪ To minimise impact to surface water resources			
Indicator and Compliance Mechanism: ▪ Induction training and records. ▪ Environmental awareness programme/toolbox talks. ▪ Monitoring and audit reports.			
Increased Contaminated Run-Off during Construction	Reduce areas that need to be cleared for the laydown area. The proposed development footprint areas should remain as small as possible.	▪ Project Manager ▪ Contractor ▪ EO	▪ Construction
	The boundaries of the development footprint area are to be clearly defined (fenced) and it must be ensured that all construction and operation activities remain within the defined footprint areas.		
	Rehabilitate as soon as possible once construction is complete in an area and ensure adequately designed berms and stormwater collection facilities to capture contaminated sediment before water is released to the environment.		
	Ensure clean-up of hydrocarbon spills from machinery is done immediately, and contaminated soils disposed of to a permitted site, or rehabilitated in-situ as needed.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Any dangerous fauna (e.g., snakes, scorpions) that are encountered during construction should not be handled or molested by construction staff and the EO or other suitably qualified persons should be contacted to remove the animals to safety.		
Contaminated run-off reaching water resources	Any storage facilities for hazardous chemicals and hydrocarbons used in the process or in heavy equipment, must be adequately designed and maintained.	▪ Project Manager ▪ Contractor ▪ EO	▪ Operation
	Water samples should be taken for analyses at an accredited laboratory from the dirty water facilities, as per current WUL requirements.		
	Maintain any upstream silt traps		
	Maintenance of oil and water separators where present.		
	Maintain surface water monitoring as per existing WUL.	▪ EO	▪ Operation

Table 8-12 – Archaeological and Cultural Heritage: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.11 ARCHAEOLOGICAL AND CULTURAL HERITAGE			
Impact Management Outcome: ▪ To ensure that sites/artefacts of heritage value are identified and protected.			
Indicator and Compliance Mechanism: ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Incident classification and reporting management procedure (to be developed). ▪ Monitoring and audit reports.			
Archaeological resources	Develop and implement Chance Find Protocol Report.	▪ Project Manager ▪ Contractor ▪ EO	▪ Construction
	Report any chance finds made during development.		
Loss of heritage resources	▪ Monitoring of the Project area by the EO during pre-construction and construction phases for chance finds, if chance finds are encountered to implement the Chance Find Procedure for the project.	▪ Project Manager ▪ Contractor ▪ EO	▪ Construction ▪ Decommissioning
	▪ Development activities must be confined to the approved development footprint only.		
	▪ The decommissioning phase should be kept as short as possible.		

Table 8-13 – Socio-Economic: EMPr Mitigation and Management Measures

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
8.12 SOCIO-ECONOMIC			
Impact Management Outcome: ▪ To ensure that the negative socio-economic impacts are mitigated and managed. ▪ To ensure that the positive socio-economic impacts are enhanced.			
Indicator and Compliance Mechanism: ▪ Induction training and records. ▪ Health, safety, environmental and community incident and complaints management system register. ▪ Monitoring and audit reports. ▪ Incident classification and reporting management procedure (to be developed). ▪ PPE Register. ▪ Occupational health and safety plan (to be developed). ▪ Health and safety protocol (to be developed). ▪ Employment records and community engagement local enterprise development records.			
Creation of local employment, training, and business opportunities	Preparation and implementation of a Stakeholder Engagement Plan (SEP) prior to and during the construction phase.	▪ Project Manager ▪ Contractor ▪ Developer	▪ Construction ▪ Operation
	Should unskilled labour be required during the construction phase, this should be sourced from the local communities. This requirement must be specified within the contract signed by the contractor.		
	RPM is to ensure that any new or replacement employment and procurement opportunities maximise benefits to local communities where possible.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	Local entrepreneurs and previously disadvantaged contractors must be provided preferential opportunities to tender for contracts.		
	Local recruitment must take place through the tribal recruitment office and with the knowledge of mutually agreed community structures and recruitment channels / mechanisms.		
	Mortimer Smelter must keep records of the number of local people employed, place of residence, recruitment office, job descriptions, length of service and opportunities for career development. Sub-contractors to Mortimer Smelter must keep similar records for all placements of local people.		
Construction workers on local communities	Where possible, RPM should make it a requirement for contractors to implement a 'locals first' policy for construction jobs, specifically for semi and low-skilled job categories	▪ Project Manager ▪ Contractor ▪ Applicant ▪ EO	▪ Construction ▪ Operation
	RPM and contractor should develop a Code of Conduct (CoC) for construction workers. The code should identify which types of behaviour and activities are not acceptable. Construction workers in breach of the code should be subject to appropriate disciplinary action and/or dismissed. All dismissals must comply with the South African labour legislation. The CoC should be signed by the proponent and the contractors before the contractors move onto site. T		
	RPM and the contractor should implement an HIV/AIDS, COVID-19 and Tuberculosis (TB) awareness programme for all construction workers at the outset of the construction phase.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	No construction staff, with the exception of security staff, to be accommodated on site overnight.		
	Contractor should ensure that open fires on the site for cooking or heating are not allowed except in designated areas.		
	Smoking on site should be confined to designated areas.		
	Contractor should ensure that construction related activities that pose a potential fire risk, such as welding, are properly managed and are confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include avoiding working in high wind conditions when the risk of fires is greater. In this regard special care should be taken during the high-risk dry, windy winter months.		
	An EO should monitor the establishment phase of the construction phase.		
	Where feasible, efforts should be made to employ local service providers that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria.		
	The local authorities, community representatives, and organisations on the interested and affected party database should be informed of potential job opportunities for locals and the employment procedures for operational phase. A training and skills development programmes for locals should be initiated as part of the operational phase.		

Activity/Aspect	Impact Management Actions/Measures	Responsible Person	Priority Timeframe
	The recruitment selection process should seek to promote gender equality and the employment of women wherever possible.		

8.13 HERITAGE MANAGEMENT PLAN

The purpose of this document is to provide a response guideline should archaeological sites, palaeontological sites or graves become exposed during ground altering activities within the ASC and SO_2 Abatement Project area. Heritage resources are protected in terms of the National Heritage Resources Act (No. 25 of 1999) (NHRA).

8.13.1 CHANCE FIND PROCEDURE

- The following procedure is only required if fossils are seen on the surface and when drilling/excavations commence.
- When excavations begin the rocks and discard must be given a cursory inspection by the environmental officer or designated person. Any fossiliferous material (trace fossils, plants, insects, bone or coal) should be put aside in a suitably protected place. This way the project activities will not be interrupted.
- Photographs of the putative fossils can be sent to the palaeontologist for a preliminary assessment.
- If there is any possible fossil material found by the environmental officer then a qualified palaeontologist should be sub-contracted to conduct a site visit to inspect the selected material and check the dumps where feasible.
- Fossil plants or vertebrates that are considered to be of good quality or scientific interest by the palaeontologist must be removed, catalogued and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site a SAHRA permit must be obtained. Annual reports must be submitted to SAHRA as required by the relevant permits.
- If no good fossil material is recovered then no site inspections by the palaeontologist will be necessary. A final report by the palaeontologist must be sent to SAHRA once the project has been completed and only if there are fossils.

8.13.2 TRAINING, INSPECTION AND MONITORING

Since it is not practical to have a regular monitoring presence over the construction period by either an archaeologist or palaeontologist, environmental awareness training must be conducted by the EO for all contractors and subcontractors. The training must include, as a minimum, the following:

- Identifying potential features of heritage significance;
- Procedures for dealing with heritage resources discovered on site;
- Applicable Legislation pertaining to the protection of heritage resources; and
- The importance of protecting heritage resources.
- The contents of the Heritage Management Plan must be communicated to the staff through the induction training. On the job training can also be undertaken through the use of Environmental Toolbox Talks.

9 CONCLUSION

It is the opinion of WSP that the information contained in this document (read in conjunction the EMPr) is sufficient for the North West DEDECT to make an informed decision for the EA being applied for in respect of this Project.

Mitigation measures have been developed, where applicable, and are presented within the EMPr. It is imperative that all impact mitigation recommendations contained in the EMPr of which the environmental impact assessment took cognisance, are legally enforced.

Considering the findings of the respective studies, no fatal flaws were identified for the proposed Project. Should the avoidance and mitigation measures prescribed be implemented, the significance of the considered impacts for all negative aspects pertaining to the environmental aspects is expected to be low. It is thus the opinion of the EAP that the Project can proceed, and that all the prescribed mitigation measures and recommendations are considered by the issuing authority.

It is therefore the opinion of the EAP that provided this project is mitigated, as per the mitigation and management measures outlined in this EMPr, the project will result in impacts that should not negatively affect the environment. It is the applicant's responsibility to ensure that this EMPr is made binding on the contractor by including the EMPr in the contract documentation. It is understood that the applicant commits to implementing the mitigation measures outlined in the EMPr.

The contractor must thoroughly familiarise himself with the requirements of the EMPr and appoint an EO to oversee the implementation of the EMPr on a day-to-day basis. In addition, the applicant must appoint an external ECO to undertake monthly compliance audits during construction against the requirements of the EMPr as well as the EA.

Parties responsible for transgression of this EMPr must be held responsible for any corrective actions that may need to be undertaken. Parties responsible for environmental degradation through irresponsible behaviour/negligence must receive penalties.

WSP is of the opinion that the project can proceed, provided that the outlined mitigation measures of the BA process and this EMPr are implemented effectively.

In terms of NEMA, everyone (i.e. all persons engaging in any component of this project) is required to take reasonable measures to ensure that they do not pollute the environment. 'Reasonable measures' includes informing and educating employees about the environmental risks associated with their work and training them to operate in an environmentally responsible manner.

RPM also recognises that, in terms of NEMA, the cost to repair any environmental damage will be borne by the person responsible for the damage. Should the above-mentioned environmental guidelines and mitigation measures be adopted, it is anticipated that the negative environmental impacts of the proposed Project will be mitigated adequately. RPM and the selected Contractor shall appoint relevant personnel, as well as an independent ECO, to monitor the site periodically throughout construction to ensure that the required environmental controls are in place and working effectively. During operation and maintenance, the area specific Environmental Manager and EO will monitor environmental controls.

Appendix A

EAP CV

Anri Scheepers

Environmental Planning & Advisory, Principal Associate

CAREER SUMMARY

Anri graduated from the University of Johannesburg with a BA honours in Geography in 2007 and has fifteen years work experience. Anri is a principal associate and assistant team coordinator for the Planning and Advisory Services unit.

Anri has been involved in numerous mining and industrial projects in South Africa. Anri has experience with diamond, gold, platinum, chrome, coal and manganese mining and processing operations. The projects include Environmental and Social Impact Assessments, Amendment processes and Environmental Management Programme consolidation and alignment processes. She has project managed numerous multi-disciplinary projects in various sectors in South Africa and has experience with the International Finance Corporation Performance Standards and African Development Bank Guidelines.

Anri is qualified as a Lead Auditor and has undertaken legal compliance auditing, including environmental authorisations, waste management licences, water use licences and environmental performance assessments. In addition, she has undertaken general site assessments to determine compliance against, local, provincial and national environmental legislation. Anri has also been involved in environmental due diligence and liability assessments.

Anri's roles and responsibilities include the management of Environmental Authorisation and Waste Management Licence Processes (Basic Assessments and Scoping and Environmental Impact Reporting), Water Use Licence Application Processes and Auditing.

10 years with WSP

15 years of experience

Area of expertise

Stakeholder Engagement

Environmental Authorisation Processes

Environmental Management Plans

Legal Compliance Assessments

Environmental Due Diligence and Liability Assessments

Environmental Management Systems

Water Use License Applications

Language

English – Fluent

Afrikaans – Fluent

EDUCATION

Bachelor of Arts (Honours), Geography, University of Johannesburg, Gauteng, South Africa	2007
Bachelor of Arts, Geography, University of Johannesburg, Gauteng, South Africa	2006

Anri Scheepers

Environmental Planning & Advisory, Principal Associate

ADDITIONAL TRAINING

	year
Environmental-Law Mine Closure	2019
Snake Awareness, Scorpion Awareness and First Aid for Snakebite and Scorpion Sting	2016
Environmental Management Systems ISO 14001 Audit: Lead Auditor	2014
IWRM, Water Use Authorisations, and Water Use Licence Applications – Procedures, Guidelines, IWWMPs and Pitfalls	2012
ISO 14001 Environmental Management Systems (EMS), Implementation and Auditing	2011
IEMA Approved Foundation Course in Environmental Auditing	2009

PROFESSIONAL MEMBERSHIPS

None

PROFESSIONAL HISTORY

WSP Group Africa (Pty) Ltd	April 2013 – present
Terra Pacis Environmental	February 2009 – March 2013
Cymbian Environmental	February 2008 – January 2009

PROFESSIONAL EXPERIENCE

Environmental Authorisation Processes

Sable Place Properties Jet Park Warehouse Development, Gauteng
2020 – 2021
Project Manager
Basic Assessment Process for the development of a commercial park within a 30m from a wetland and within a critical biodiversity area.

Richbay Chemicals, Vosloorus Filling Plant, Vosloorus, Gauteng
2019 – 2022
Project Manager
Environmental authorisation process for the proposed dangerous goods filling plant.

Government of the Kingdom of Eswatini, Ministry of Natural Resources and Energy, Department of Water Affairs Mbabane – Manzini Corridor Dam (Nondvo Dam), Hhohho Region, Eswatini
2018 – 2021
Project Manager
An Environmental and Social Impact Assessment for the proposed Nondvo Dam in Eswatini (previously Swaziland).

Sappi Southern Africa, Sappi Ngodwana Reservoir, Mpumalanga
2020
Project Manager
Basic Assessment Process for the construction of a reservoir within a critical biodiversity area.

Anri Scheepers

Environmental Planning & Advisory, Principal Associate

AngloGold Ashanti, Demolition and Rehabilitation of Infrastructure at West Wits Business Operations, Carletonville, Gauteng
2019
Project Manager
A contaminated land assessment and environmental authorisation process for the decommissioning and rehabilitation of selected infrastructure West Wits Operations.

Department of Rural Development and Land Reform Kranspoort Cattle Feedlot, Basic Assessment Process, Kranspoort, Mpumalanga, South Africa
2018
Project Director
A Basic Assessment Process and Waste Management Plan for the proposed development of a cattle feedlot.

Anglo American Platinum Limited, Amandelbult Section Dangerous Goods and Railway Extension Final Basic Assessment Report, Thabazimbi, Limpopo
2017 – 2018
Project Director
The Basic Assessment Process for the proposed installation of diesel tanks and the extension of a railway line at the Amandelbult Section, Tumela Mine.

Anglo American Platinum Limited, Anglo Platinum Water Separation Project, Rustenburg, Northwest,
2016 – 2017
Project Manager
The Basic Assessment process for the proposed refurbishment of an existing pipeline and installation of new pipelines as part of the Water Infrastructure Upgrade Project.

Sasol Energy Technology, Blending Facility Upgrade Project, Sasolburg, Free State, South Africa
2017
Project Manager
Basic Assessment Process for the installation of dangerous goods tanks at the Sasol One Site.

Sasol Energy Technology, Blending Facility Upgrade Project, Sasolburg, Free State, South Africa
2017 – 2018
Project Manager
Basic Assessment process for the construction of a fuel drum storage warehouse adjacent to the existing underground fuel storage tanks at the Fuel Blending Facility on the Sasol One site.

Rappa Holdings (Pty) Ltd, Section 24G Application Process for Rappa Holdings, Germiston, Gauteng
2017 – 2018
Project Manager
Undertaking the rectification process for six historic rectification applications.

Anglo American Platinum Limited, Environmental Authorisation Process for the SO2 Abatement Plant at Mortimer Smelter, Swartklip, Northwest, South Africa
2016 – 2017
Project Manager
Undertaking a Scoping and Environmental Impact Reporting Process to ensure compliance with the National Environmental Management Air Quality Act (No. 39 of 2004).

Anglo American Platinum Limited, Environmental Authorisation Process for the SO2 Abatement Plant at Polokwane Smelter, Polokwane, Limpopo, South Africa
2016 – 2017
Project Manager
Undertaking a Scoping and Environmental Impact Reporting Process to ensure compliance with the National Environmental Management Air Quality Act (No. 39 of 2004).

Anri Scheepers

Environmental Planning & Advisory, Principal Associate

Confidential, GmbH Environmental Authorisation for a Private Vehicle Proving Ground Development, Northern Cape, South Africa
2016
Project Manager
A Scoping and Environmental Impact Reporting Process for a private vehicle proving ground.

Rietvlei Mining Company, Establishment of the Proposed Rietvlei Opencast Coal Mine, Mpumalanga, South Africa
2016 – 2018
Project Manager
This project involved repeating the environmental authorisation process with the DMR as the competent authority, for the establishment of an opencast coal mine north of Middelburg.

Blue Sphere Investments and Trading 103 (Pty) Ltd, Environmental Authorisation for Blue Sphere, Nigel, Gauteng, South Africa
2014
Consultant
This project includes an environmental impact assessment, environmental management programme report, water use license application, waste management license application and an atmospheric emissions licence application as well as the public participation process.

Transalloys (Pty) Ltd, Environmental Authorisation for the Proposed Construction and Operation of Two Furnaces and Associated Infrastructure at Transalloys, eMalahleni, Mpumalanga, South Africa
2014
Consultant
The project entailed undertaking an environmental authorisation (by way of a scoping and environmental impact reporting process), including an atmospheric emissions licence application and waste management licence application process for the construction of two new 75MVA submerged arc furnaces that will primarily produce silicomanganese.

Much Asphalt (Pty Ltd, Section 24G Rectification Process for the Storage of Dangerous Goods for Much Asphalt, Gauteng, South Africa
2014
Project Manager
Much Asphalt was required to undertake a Section 24G Rectification Process for the unlawful storage of dangerous goods on a number of their sites. Zaffar was involved in the compilation of the Section 24G application forms.

Samancor Manganese (Pty) Ltd, M14 Furnace Environmental Authorisation, Meyerton, Gauteng, South Africa
2012
Consultant
The project entailed undertaking an environmental authorisation, including an atmospheric emissions licence application process, in terms of the National Environmental Management Act (No. 107 of 1998) for the construction of an 81MVA furnace that will produce Ferromanganese and Silicomanganese.

Samancor Manganese (Pty) Ltd, Basic Assessment Process for the Proposed Expansion and Upgrading of the Raw Materials Stockyard at Metalloys, Meyerton, Gauteng, South Africa
2011
Consultant
The project included the undertaking of an environmental authorisation process, by way of a basic assessment process, and the amendment application of an atmospheric emissions licence. The project involved the expansion and The project entailed undertaking an environmental authorisation, including an atmospheric emissions licence application process, in terms of the National Environmental Management Act (No. 107 of 1998) for the construction of an 81MVA furnace that will produce Ferromanganese and

Silicomanganeseupgrading of the existing Raw Materials Stockyard at the Samancor Meyerton Works (Metalloys site).

Hotazel Manganese, Proposed new Sinter Plant: Mamatwan Mine, Hotazel, Northern Cape, South Africa
2010
Consultant
This project included an environmental impact assessment, environmental management programme report addendum and water use license application as well as the public participation process for a proposed sinter plant at the Mamatwan Mine in the Northern Cape.

Environmental Management Plans

Goldman Sachs Refurbishment (Fit-Out) of the 8th Floor in 140 West Building, South Africa
2020
Project Manager
Compilation of the Environmental Management Plan for the refurbishment of an office space in order to acquire a Green Star SA – Office v1 certification by the Green Building Council of South Africa.

United Nations Office for Project Services (UNOPS), Environmental Management Plan for the South Sudan Feeder Roads, South Sudan
2019
Project Director
Compilation of an Environmental Management Plan for the construction of the Kayango Market to A43 Road in South Sudan.

Emira Property Fund, Environmental Programme for the Proposed Knightsbridge Development, Bryanston, Gauteng, South Africa
2015
Project Manager
Compilation of a Green Star Rating Environmental Programme for the Proposed Knightsbridge Development.

J.P Morgan Chase & Company, 1 Fricker Road EMP ECO, Illovo, Gauteng, South Africa
2017
Project Manager
An EMP was compiled for the proposed refurbishment of the office building to attain a Green Star rating and is also responsible for conducting the first EMP compliance audit and training of the DEO to carry out subsequent audits.

Samancor Manganese (Pty) Ltd Metalloys, Compilation of Environmental Management Plans - West Plant Metalloys, Meyerton, Gauteng, South Africa
2011
Consultant
The project included the undertaking of an environmental risk assessment for all facilities and activities at West Plant. Environmental management plans were compiled from the results of the risk assessments.

Environmental Management Programme Reports

Anglo Platinum Limited - Rustenburg Platinum Mines Limited Separation of the Union Section Operational Environmental Management Programme (and Addendums) into 'Carved Out' versus 'Retained' categories, Swartklip, Northwest Province, South Africa
2017
Project Manager
The Section is in possession of an approved Environmental Management Programme as well as numerous addendums for mining, concentrating and smelting, operations. The Section is in a restructuring process which involves the selling and/or disenfranchising of certain of the operations. WSP/PB restructured the Sections's consolidated Environmental Management Programme to align with the future goals/strategies of the Mine.

Anri Scheepers

Environmental Planning & Advisory, Principal Associate

AngloGold Ashanti (Pty) Ltd EMPR Updates – Vaal River and West Wits Operations, Gauteng and Northwest, South Africa
2014 – 2016
Project Manager
The alignment of the West Wits (WW) and Vaal River (VR) Operations Environmental Management Programme Reports (EMPR) in accordance with the requirements of the Mineral and Petroleum Resources Development Act (No. 28 0f 2002) (MPRDA).

Anglo American Platinum Ltd Environmental Management Programme Report Consolidation and Alignment of Union Mine: Rustenburg Platinum Mines, North-West, South Africa
2014
Project Manager
The EMPR consolidation and alignment process combined the original EMPR and authorised EMPR amendments into a complete and comprehensive document, which will become the overarching EMPR for the mine lease area and will be used as a concise management tool for all employees operating within mine lease area.

Waste Management

Samancor Manganese (Pty) Ltd, Applications for Samancor Manganese (Pty) Ltd Metalloys in terms of section 20 of the Environment Conservation Act 73 of 1989, Meyerton, Gauteng, South Africa
2014
Consultant
The project entailed applications, by way of risk assessments, in terms of section 20 of the Environmental Conservation Act, for the North Plant Sludge Dam, West Plant Sludge Dam, Bag Filter Material Storage Facilities and Slag Stockpiles at Metalloys. Subsequent to the receipt of the waste management licences in terms of the National Environmental management: Waste Act (No. 59 of 2009) an amendment process was also undertaken.

AfriSam South Africa (Pty) Ltd, Applications for Afrisam, Vanderbijlpark, in terms of section 20 of the Environment Conservation Act 73 of 1989. Vanderbijlpark, Gauteng, South Africa
2014
Consultant
The project entailed applications in terms of section 20 of the Environmental Conservation Act, for the slag stockpiles at Afrisam, Vanderbijlpark. Subsequent to the receipt of the waste management licences in terms of the National Environmental management: Waste Act (No. 59 of 2009) an amendment process was also undertaken.

Columbus Stainless (Pty) Ltd, Waste Management Licence Application for The Existing and New Waste Management Facilities At Columbus Stainless Complex In Middleburg, Mpumalanga Province, South Africa
2014
Project Manager
Columbus Stainless (Pty) Ltd (Columbus) proposes to license existing waste management facilities and a new hazardous waste store within the footprint of the Columbus Complex. The Environmental Authorisation process by way of Scoping and Environmental Impact Reporting is required in order to license the said facilities. The facilities requiring licensing involve, but is not limited to: storage, recovery, bailing and treatment. WSP is responsible for obtaining a Waste Management License for the said activities via the Department of Environmental Affairs in line with relevant legislation.

Samancor Manganese (Pty) Ltd, Establishment of a Waste Monitoring Committee, Meyerton, Gauteng, South Africa
2011
Consultant

The project included the identification of potential members for the monitoring committee and the establishment of the committee. The establishment of the committee included the compilation of the constitution and committee meetings.

Water Use Licence Applications

Anglo American Platinum Ltd, Polokwane Metallurgical Complex Water Use Licence Application Process for the SO2 Abatement Plant at Anglo American Platinum Limited: Polokwane Smelter, Polokwane, Limpopo, South Africa
2017 – 2018
Project Manager
The project involved the management of specialist along with the compilation and submission of the technical documentation.

Rietvlei Mining Company (Pty) Ltd, Rietvlei Coal Mine Water Use Licence Application and Integrated Water and Waste Management Plan, Middelburg, Mpumalanga, South Africa
2016 – 2017
Project Manager
The project involved the compilation of the Integrated Water and Waste Management plan for all water uses proposed at the Greenfileds Rietvlei Opencast Coal Mining Operation.

Samancor Manganese (Pty) Ltd, Metalloys Water Use Licence Application, Meyerton, Gauteng, South Africa
2009
Assistant
This project involved compiling and submitting water use licence applications for all water use licence activities being undertaken at Metalloys. Subsequently a water use licence amendment process was also undertaken.

Environmental Authorisation Amendments / Renewals

Vodacom South Africa, Amendment of the Vodacom Dangerous Good Environmental Authorisations, Midrand, Gauteng
2021
Project Manager
The amendment process of the environmental authorisations to amend auditing and monitoring conditions.

AngloGold Ashanti Limited, Transfer of the West Wits Operations EMPR to Harmony Gold
2020
Project Manager
The amendment of the EMPR to transfer the West Wits Operations EMPR to Harmony Gold.

Rustenburg Platinum Mines, Amandelbult Section Bus and Taxi Terminal Part 2 Amendment Process, Thabazimbi, Limpopo
2020 – 2021
Project Manager
The amendment process of the existing Environmental Management Programme Report to formalise the bus and taxi terminal.

Sibanye-Stillwater Sibanye Rustenburg Platinum Mine, Part 2 Amendment Process, Rustenburg, North West
2018
Project Manager
The proposed amendment of the Environmental Management Programme Report to excluded activities which will not take place and to ensure alignment of the management measures.

Anglo American Inyosi Coal Zibulo Colliery, Part 2 Amendment Process, Mpumalanga
2018 – 2019

Anri Scheepers

Environmental Planning & Advisory, Principal Associate

Project Manager
The amendment of the Zibulo Colliery Environmental Management programmes for the inclusion of a new coal stockpile.

Scaw South Africa Scaw Metal Waste Treatment and Disposal Facility, Part 2 Amendment
2018 – 2019
Project Manager
The amendment of the Scaw Waste Management Licence to include different waste types.

Anglo American Platinum Limited, The transfer of Authorisations for Union Mine
2018
Project Manager
The transfer a Waste Management Licence and ECA Permit in terms of the Part 1 Amendment Process.

Anglo American Platinum Limited, The transfer of Authorisations for Anglo American Platinum Rustenburg Section
2018
Project Manager
The transfer a two Waste Management Licences in terms of the Part 1 Amendment Process.

Sibanye-Stillwater, Amendment of the Sibanye Rustenburg Platinum Mines Environmental Management Programme, Rustenburg, Northwest
2018
Project Manager
A Part 2 Amendment Process was undertaken to limit the EMPR to activities have commenced or will be undertaken.

Rappa Resources (Pty) Ltd, Amendment Process for the Copper Smelting and Casting Plant at Rappa Resources, Germiston, Gauteng
2017 – 2018
Project Manager
A Part 2 Amendment Process for the installed Copper Smelting and Casting Plant at Rappa Resources.

Technopack Eastern Cape (Pty) Ltd, Renewal of the Technopack Eastern Cape Waste Management Licence, Springs, Gauteng
2017
Project Manager
The Waste Management Licence was renewed to ensure the continuation of the plant operations at Enstra.

Impala Platinum Refineries, The Impala Platinum Springs Waste Management Licence Amendment, Springs, Gauteng
2018
Project Manager
A Part 1 Amendment Process was undertaken in order to amend some of the conditions of the Waste Management Licence.

Rustenburg Platinum Mines Limited, Environmental Authorisation Amendment Process for the Ventilation Shaft at Siphumelele 1 Mine, Rustenburg, North-West, South Africa
2016
Project Manager
Part 2 Amendment Process for the proposed establishment of the Ventilation Shaft at Siphumelele 1 Mine.

Stakeholder Engagement

Nulandis, Minimum Emissions Standard Postponement Application for Nulandis Lilianton and Modderfontein
2018 – 2019

Anri Scheepers

Environmental Planning & Advisory, Principal Associate

Project Manager
Undertaking the stakeholder engagement process in support of the Nulandis Lilianton and Modderfontein Minimum Emissions Standard Postponement Application.

Sappi Southern Africa, Minimum Emissions Standard Postponement Application for Sappi Ngodwana
2019
Project Manager
Undertaking the stakeholder engagement process in support of the Sappi Ngodwana Minimum Emissions Standard Postponement Application.

AEL, Intelligent Blasting Minimum Emissions Standard Postponement Application for AEL Intelligent Blasting Modderfontein
2018 – 2019
Project Manager
Undertaking the stakeholder engagement process in support of the Modderfontein Site Minimum Emissions Standard Postponement Application.

Omnia Fertilizer a Division of Omnia Group (Pty) Ltd, Identification of Interested and Affected Parties for Omnia Sasolburg, Sasolburg, Free State, South Africa
2018
Project Manager
The identification of interested and affected parties in terms of Clause 4.1 and 4.2 of ISO 14001:2015.

BHP Billiton Metalloys (Pty) Ltd, Re-establishment of a Monitoring Committee for Metalloys, Meyerton, Gauteng, South Africa
2015 – 2016
Project Manager
The re-establishment of a Monitoring Committee for four of the Waste Management Facilities at Samancor Manganese, Metalloys.

Department of Water Affairs and Forestry (DWAF), Stakeholder Engagement for Mooi-Mgeni Transfer Scheme Phase 2, Rosetta Village, Kwazulu- Natal, South Africa
2009
Assistant
This project involved undertaking the public participation process for the Mooi-Mgeni Transfer Scheme Phase 2, which will primarily encompass the construction of the proposed Spring Grove Dam and an associated transfer pipeline from the proposed dam to the Mpofana River.

Legal Compliance

AfriSam, Regulation 34 Audits (Eikenhof, Roodekrans, Ladysmith, Umlaas, Pietermaritzburg, Rooikraal), South Africa
2020 – 2022
Lead Auditor and Project Director
Undertaken the Regulation 34 Compliance Audits for various AfriSam Operations

Rustenburg Platinum Mines, EMPR Regulation 34 Audits at Mogalakwena Section, Limpopo, South Africa
2020 and 2021
Lead Auditor and Project Director
Undertaking nine compliance audits in accordance with Regulation 34 of the EIA Regulations and compilation of seven statements of confirmation that the activities have not yet commenced.

Impala Platinum, Desktop Review of the Impala EMPR 2019 Audit, South Africa
2020
Lead Auditor

A desktop review was undertaken to determine whether any changes has been made to the operations at Impala that could influence compliance.

Impala Platinum Refiners, External Waste Management Licence Audit at Impala Platinum, Gauteng, South Africa
2016, 2018 and 2020
Lead Auditor
External compliance audit of the WML for the Salvage Yard at Impala Springs.

Rustenburg Platinum Mines, External Water Use Licence Audit of the Rustenburg Operations, Northwest, South Africa
2020
Lead Auditor
Undertaking the Water Use Licence for the Waterval Smelter and Anglo Convertor Plant, Rustenburg Base Metal Refinery and Precious Metals Refinery.

Impala Platinum, Regulation 34 and Waste Management Licence Audits, Rustenburg
2019
Lead Auditor
Undertaking seven compliance audits in accordance with Regulation 34 of the EIA Regulations.

AngloGold Ashanti Limited, Surface Operations Regulation 34 Audits
2019
Lead Auditor
Undertaking the Regulation 34 audits for the Vaal River, Mine Waste Solution and West Wits Operations.

OSE Foundation, Used Oil Industry Audits, Countrywide, South Africa
2014 – 2019
Lead Auditor
Country-wide environmental compliance auditing of the South African recycled oil industry, comprising sixteen oil refinery operations, and twenty-nine drum re-conditioning plants. The audits are primarily focussed on compliance to legislation and ensuring that each site follows international best practice. The audits include a review of the refineries ISO14000 auditor's findings and tracking of compliance in regard to corrective actions.

Sasol Gas, Third Party Audits, Johannesburg, Gauteng, South Africa
2017
Project Manager
Undertaken compliance assessments of three environmental authorisations and two water use licence for Sasol Gas.

Transnet Pipelines (GOC) Ltd, External Environmental Compliance Audit - Tarlton Intermixture Fractionator Plant, Gauteng, South Africa
2014 and 2016
Lead Auditor.
An external environmental compliance audit of the record of decision for the Transnet Pipelines Tarlton Intermixture Fractionator Plant was undertaken in order to establish whether Transnet Pipelines are compliant with the conditions specified therein. The audit was undertaken by means of site observations, interviews and verification of available information.

Anglo Platinum Limited - Rustenburg Platinum Mines Limited, Waste Management Licence for the Remediation and Decommissioning of Tar Residue Pits, Rustenburg, North-West, South Africa
2015
Lead Auditor
A c loser-out audit was undertaken to compile compliance with the Waste Management Licence conditions during remediation and decommissioning.

Anglo American Thermal Coal, Water Use Licence Audit for the Landau Colliery, Mpumalanga, South Africa
2014
Auditor
The audit of the Water Use Licence was conducted in accordance with the relevant requirements of the National Water Act and conditions stipulated therein. The audit report included a summary of findings and compliance criteria, as well as recommendations for future corrective and preventative actions if required.

AfriSam South Africa (Pty) Ltd, Waste Management License Audit for the Slagment Operation, Vanderbijlpark, Gauteng, South Africa
2014
Lead Auditor
This project involved the annual environmental compliance auditing for AfriSam's Slagment Operation in Vanderbijlpark in Gauteng Province. The audit included AfriSam's compliance to the conditions of their waste management license.

A-Thermal retort Technologies (Pty) Ltd, Legal Compliance Audit, Olifantsfontein, Province, South Africa
2012
Lead Auditor
The project included undertaking a legal compliance audit of the atmospheric emissions licence and waste management licence.

Samancor Manganese (Pty) Ltd Metalloys, Water Use Licence Audit, Meyerton, Gauteng, South Africa
2012
Auditor
The project entailed undertaking a compliance verification audit of the water use licence conditions of Metalloys. Recommendations were also provided in the audit report for non-compliance or potential concerns.

Samancor Manganese (Pty) Ltd, M14 Furnace Legal Compliance Audit, Meyerton, Gauteng, South Africa
2010 & 2012
Auditor
The project included undertaking a legal compliance audit at Samancor Manganese (Pty) ltd (Metalloys) to verify their compliance to the conditions of the record of decision issued for the M14 Furnace and the associated atmospheric emissions licence.

Samancor Manganese (Pty) Ltd, Annual Audit of the Record of Decision and Environmental Management Plan for the Fouriespruit Stream diversion and Old Slag Area, Meyerton, Gauteng, South Africa
2009 & 2010
Lead Auditor
A legal compliance audit on the record of decision and the associated environmental management plan was undertaken to establish whether the upgrading of the existing stream diversion and the closure and rehabilitation of the old slag disposal area comply with the conditions contained therein.

Xtrata Coal South Africa, Goedgevonden Mine Water Use Licence Audit, Ogies, Mpumalanga, South Africa
2009
Auditor
The project entailed undertaking a compliance verification audit of the water use licence conditions of Goedgevonden Mine. Recommendations were also provided in the audit report for non-compliance or potential concerns.

Environmental Due Diligence & Liability Assessments

Anri Scheepers

Environmental Planning & Advisory, Principal Associate

Client Confidential. Environmental, Health and Safety and Social for a client with coal mining operations.
2022
Lead Auditor
Environmental, Health and Safety and Social Due Diligence as part of a process associated with a funding package and to demonstrate progress towards rectifying non-conformances detailed in an Environmental and Social Action Plan.

Client Confidential. Environmental and Social Due Diligence Assessment for a client within the paints manufacturing industry
2022
Lead Auditor
Project scope included site visits and desktop studies of the environmental, social and health and safety data to ensure compliance with local regulatory standards as well as industry best practices. The client sites were located across Africa at 19 sites. Country assessments included: South Africa and Uganda.

Client Confidential. Environmental Due Diligence for Rolfes Chemicals, Germiston, Gauteng, South Africa
2014
Auditor
Environmental Due Diligence for the acquisition of a Processing Plant and associated facilities.

Client Confidential. Environmental and Social Due Diligence of 22 FMCG facilities, Country-wide, South Africa
2014
Lead Auditor
Transactional Environmental and Social Due Diligence for the acquisition of 22 FMCG facilities mainly in the food manufacturing and consumer formulated chemical sectors situated across South Africa for an international private equity and real estate investor.

Client Confidential. Environmental and Social Due Diligence of Medrock, Johannesburg, South Africa
2014
Lead Auditor
Transactional Environmental and Social Due Diligence for the acquisition of three medical supplies facilities situated in Johannesburg.

Site Assessments

Two Rivers Platinum Mine, The development and expansion at Two Rives Platinum Mine
2021
Project Manager
Environmental Screening for the proposed expansions at the existing Two Rivers Platinum Mine.

Richbay Chemicals, The Development of a Filling Plant, Vosloorus, Gauteng
2019
Project Manager
Environmental screening for the proposed chemical filling plant.

Glubay Coal, Springfield Coal Mine, Meyerton, Gauteng
2019
Project Manager
Site and Legal Review for the Proposed Springfield Coal Mine.

Client Confidential, The Development of Thermal Power Plant and Solar PV Plant, Nacala, Mozambique
2018
Project Manager

Anri Scheepers

Environmental Planning & Advisory, Principal Associate

Environmental and social screening for the alternative sites in terms of the International Finance Corporation Performance Standards on Environmental and Social Sustainability.

Anglo American Inyosi Coal (Pty) Ltd, Gap Analysis for the Northern Pit Development at Zibulo Colliery, Mpumalanga
2018
Project Manager
Undertaking a gap analysis of the proposed development of an opencast pit in the northern section of the approved mining right area for Zibulo Colliery, Mpumalanga.

Vodacom Group Limited, Screening Assessment of Proposed Waste Management Facility at Vodacom Campus, Midrand, Gauteng, South Africa
2017
Project Manager
Screening assessment to prepare a business case based on the facts so that the options for Vodacom's development vs. the potential requirement to identify an alternative site can be objectively evaluated by Vodacom.

Sappi Southern Africa Limited, Site Assessment of a culvert on Sappi Forest Property, plantation Nooitgedacht – Camelot South, Ngodwana, Mpumalanga, South Africa
2015
Project Manager
A site assessment of a recently completed culvert development on Sappi Forest property, plantation Nooitgedacht – Camelot South, Mpumalanga. The purpose of the site assessment is to evaluate the works undertaken on site in respect of the National Environmental Management Act (107 of 1998) as amended and National Water Act (36 of 1998) and relevant regulations promulgated under these acts.

South African Breweries (Pty) Ltd, Legal Assessment for a Proposed Development of a barley Malting Process in Alrode, Germiston, Gauteng, South Africa
2013
Senior Consultant
Undertaking of legal assessment to identify and assess potential scenarios based on environmental assessment triggers for the proposed development at erven 283, 289 and 1607 in Alrode Extension 2.

Environmental Assessment Practitioners Association of South Africa

Registration No. 2019/1528

Herewith certifies that

ANRI SCHEEPERS

is registered as an

Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 March 2025

Expires: 31 March 2026

Chairperson

Registrar

SAQA
SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Appendix B

EAP DECLARATION

dedect

Department:
Economic Development, Environment,
Conservation and Tourism
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

AgriCentre Building
Cnr. Dr. James Moroka
Stadium Rd
Private Bag X2039
MMABATHO 273
www.nwpg.gov.za

CHIEF DIRECTORATE: ENVIRONMENTAL SERVICES
DIRECTORATE: ENVIRONMENTAL QUALITY MANAGEMENT

Enquiries: Ouma Skosana
Tel: +27 (18) 389 5156
Email: oskosana@nwpg.gov.za

DETAILS OF EAP AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	
NEAS Reference Number:	
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014

PROJECT TITLE

Rustenburg Platinum Mines (RPM): Mortimer Smelter - Additional Slag Cleaning and SO_2 Abatement

1. Details of EAP

Environmental Assessment Practitioner (EAP):[1]	WSP Group Africa (Pty) Ltd		
Contact person:	Anri Scheepers		
Postal address:	P.O Box 6001, Halfway House		
Postal code:	1685	Cell:	+31 62 287 0811
Telephone:	011 300-6089	Fax:	-
E-mail:	Anri.Scheepers@wsp.com		
Professional affiliation(s) (if any)	EAPASA Registration - 2019/1528		

Project Consultant:	WSP Group Africa (Pty) Ltd		
Contact person:	Anri Scheepers		
Postal address:	P.O Box 6001, Halfway House		
Postal code:	1685	Cell:	+31 62 287 0811
Telephone:	011 300-6089	Fax:	-
E-mail:	Anri.Scheepers@wsp.com		

1. Declaration by Environmental Assessment Practitioner

I, Anri Scheepers of WSP Group Africa (pty) Ltd declare that;

- I act as the independent environmental practitioner in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- 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 take into account, to the extent possible, the matters listed in Regulation 18 of the regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority 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 application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- **I will keep a register of all interested and affected parties that participated in a public participation process; and**
- **I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not**
- **all the particulars furnished by me in this form are true and correct;**
- ***will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and***
- **I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 49B (2) of the Act.**

2. 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 Environmental Impact Assessment Regulations, 2014;

Signature of the Environmental Assessment Practitioner

WSP Group Africa (Pty) Ltd

Name of company

29 May 2025

Date

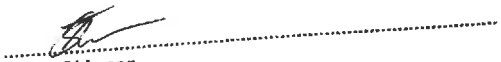
Signature of the Commissioner of Oaths

29/05/2025

Date

EX-OFFICIO PROFESSIONAL GISC PRACTITIONER

Designation



Official stamp:

Tracy Skinner
Commissioner of Oaths
Ex-Officio Professional GISc Practitioner (PGP 1356)
Magwa Crescent West, Waterfall City
Midrand

Building 1, Maxwell Office Park
Magwa Crescent West, Waterfall City
Midrand, 1685
South Africa

wsp.com