

# MARULA PLATINUM (PTY) LTD

## ESTABLISHMENT OF TWO ADDITIONAL VENTILATION SHAFTS, ASSOCIATED INFRASTRUCTURE UPGRADES AND CHANGES TO THE APPROVED SURFACE INFRASTRUCTURE LAYOUT AT THE MARULA PLATINUM (PTY) LTD MINE ON THE FARMS CLAPHAM, WINNARSHOEK AND DRIEKOP (LIMPOPO PROVINCE)

January 2021

### INTRODUCTION

Marula Platinum Mine Pty Ltd (Marula) is a platinum producer in the Sekhukhune District of the Limpopo Province which has been in operation since 2001. The mine operates with an approved Environmental Management Programme Report (EMPr) (approved December 2001) and subsequent amendment for the proposed Merensky Project (approved in 2008) as well as two mining licenses (which cover both the Upper Group 2 (UG2) and Merensky ore bodies within the mine lease area boundary) granted in 2003 in terms of the old Minerals Act, 50 of 1991. Marula has received new order mining rights for the operation.

Existing mine operations are comprised of two shaft complexes (Clapham and Driekop) with an associated waste rock dump (WRD) at the Clapham shaft, A UG2 mineral concentrator plant, a tailings storage facility (TSF), a dense medium separation (DMS) waste site (approved but not yet constructed), the new TSF (currently under construction), water management facilities and associated support services. The life of mine is 40 years, with a remaining life of mine of approximately 21 years.

Marula now proposes the establishment of additional surface infrastructure within its mining right area (see Figure 1). The proposed surface infrastructure includes:

- The construction of two ventilation shafts. One ventilation shaft will be located on the farm Winnarshoek 250KT, and the other will be located on the farm Clapham 118KT. The shafts will also have associated refrigeration plants and bulk air coolers;
- Changes to supporting infrastructure at existing/approved ventilation shafts;
- The development of water pipelines and powerlines to support the ventilation shaft operations;
- The establishment of an additional product stockpile; and
- Implementation of remediation measures to assist with the management of the TSF pollution plume.

### ENVIRONMENTAL AUTHORISATION PROCESS

For the purpose of this project, an integrated environmental authorisation process will be undertaken and will meet the requirements of:

- Regulation 31 (substantive amendment process) to cater for changes to the approved layout in terms of the Environmental Impact Assessment (EIA) Regulations (Government Notice Regulation (GNR) 982 of 2014), as amended (as amended by GNR.619 of 2016, GNR.326 of 2017, GNR.706 of 2018 and GNR.599 of 2020); and
- Regulation 19 (Basic Assessment process) to cater for listed activities in terms of the EIA Regulations (GNR 982 of 2014), as amended. The proposed activities trigger the following listed activities in terms of the NEMA EIA Regulations, 2014 (GNR 982, as amended in 2016, 2017, 2018 and 2020):
  - NEMA (GNR 983 of 2014): Listing Notice 1, Activity 27; and
  - NEMA (GNR 983 of 2014): Listing Notice 1, Activity 48.

The Department of Mineral Resources and Energy (DMRE) is the competent authority for this application.

Integrated Water Use License Application (IWULA) in terms of the National Water Act (No 36 of 1998) and Regulations Regarding the Procedural Requirements for Water Use License Applications and Appeals (GNR. 267 of 2017) will be applied for due to the fact that the

proposed water and power supply infrastructure crossing watercourses. The competent authority will be the Department of Human Settlements, Water and Sanitation (DHSWS).

### PURPOSE OF THIS DOCUMENT

This document has been prepared by SLR to inform you about:

- The proposed project;
- The baseline environment of the project area;
- The environmental assessment process being followed (Basic Assessment Report (BAR) Process));
- Possible environmental / cultural / socio-economic impacts; and
- How you can have input into the environmental assessment process.

### YOUR ROLE

You have been identified as an interested and/or affected party (I&AP) who may want to be informed about the proposed project and have input into the environmental process and report. To register as an I&AP please submit your name, contact information and interest in the matter in writing to the contact person(s) given below by 24 February 2021.

Any I&APs registered on the project database will also be given the opportunity to review and comment on the BAR when it becomes available for public review in 2021. Where responses to this document or comments are received by 24 February 2021, these will be included in the Draft BAR for public review. However, I&APs will have the opportunity to submit comments until the end of the BAR review period.

All comments received will be recorded and included in the report submitted to the DMRE for decision-making.

### HOW TO RESPOND

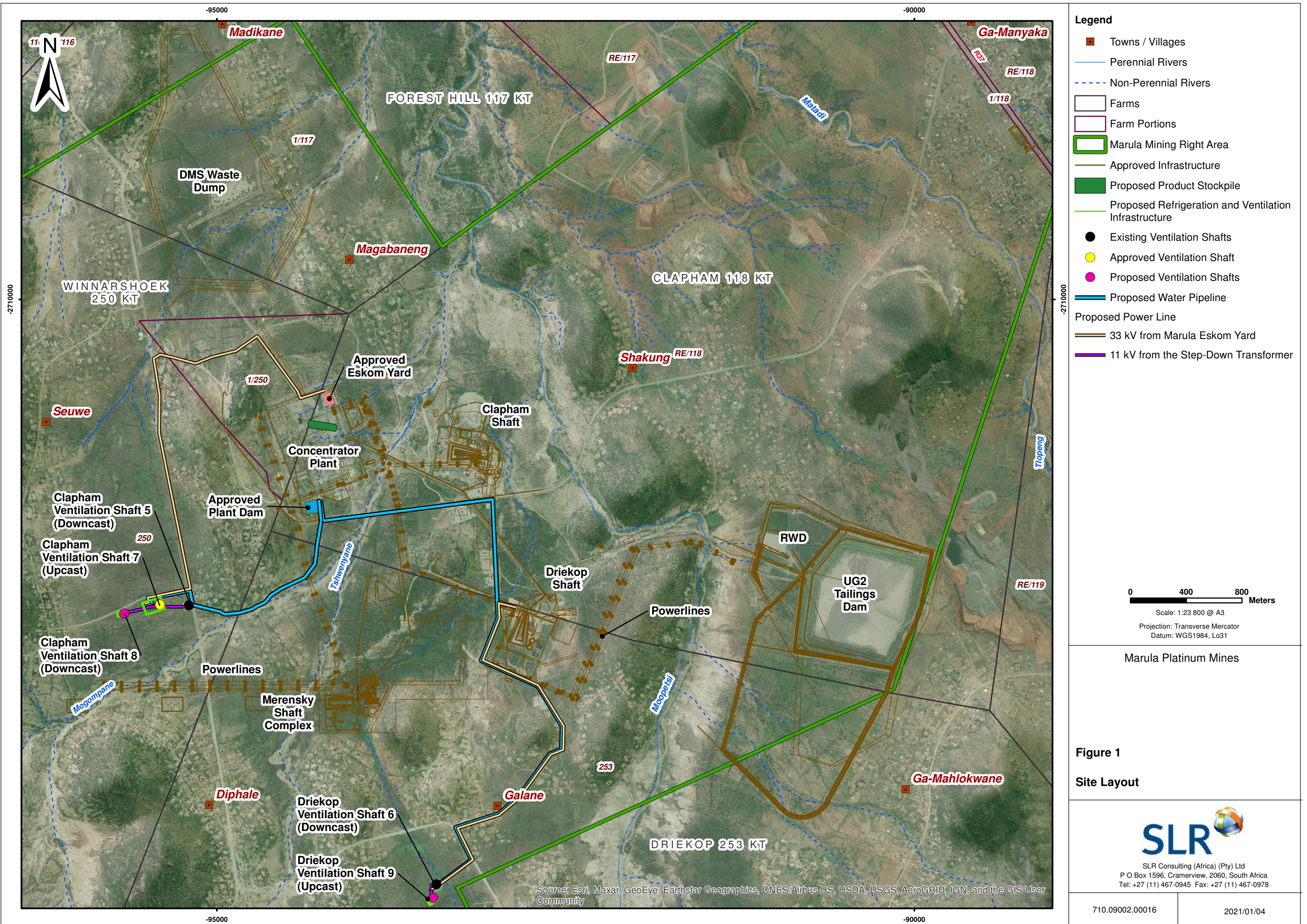
Responses to this document can be submitted by means of the attached comments sheet and/or through communication with the person listed below.

### WHO TO CONTACT?

#### Mavisha Nariansamy

mnariansamy@slrconsulting.com  
(011) 467 0945 (Tel) / (011) 467 0978 (Fax)

SLR Consulting (Africa) (Pty) Ltd (SLR), an independent firm of environmental consultants, was appointed by Marula to manage the environmental authorisation process.



## PROJECT OVERVIEW

Marula proposes to establish additional ventilation shafts and upgrade upgrading existing services at existing ventilation shafts at the mine. Two new ventilation shafts are proposed, one will be constructed on the Driekop shaft complex (Ventilation Shaft 9) and one on the Clapham shaft complex (Ventilation Shaft 8). The proposed new Ventilation Shaft 9 will require surface fans and an electrical room. The proposed Ventilation Shaft 8 will require a bulk air cooler. In addition to the proposed ventilation shafts, additional infrastructure is required at existing/approved ventilation shafts as per the below:

- Driekop Ventilation Shaft 6 (existing) - Requires a new bulk air cooler, refrigeration plant and condenser cooling towers.
- Clapham Ventilation Shaft 5 (existing) - Requires a new bulk air cooler.
- Clapham Ventilation Shaft 7 (approved as part of Merensky Reef Project but not yet constructed) - Authorisation is needed for surface main fans, electrical rooms, refrigeration plant and condenser cooling towers.

The proposed project would be in the vicinity of existing mine infrastructure and involve the establishment of new infrastructure as well as the upgrading of existing support services and infrastructure at the mine. Specifically, upgrades to the existing power and water supply is required to support the proposed project.

- **Power supply:** Power is currently supplied to the mine by a consumer Eskom substation. The 132kV line enters the mine from east and feeds into the existing Eskom yard located north of the existing UG2 plant. From the Eskom yard, power is distributed via 11kV lines to Clapham shaft, Driekop shaft and the TSF. The proposed project comprises an expansion of the existing Eskom sub-station to 54 MVA by the addition of a 20 MVA transformer. The existing transmission network will be expanded, and new transmission lines constructed in order to service the new Ventilation shafts.
- **Water supply:** The addition of the new ventilation shafts will result in water demand to the shaft complex to increase by 20%. The current Plant Dam on site has enough capacity to accommodate the increase, however water pipelines for conveyance will be required.
- **Product stockpile:** An additional product stockpile will alleviate capacity storage constraints experienced with current operations. The additional product stockpile will be established within the existing, disturbed footprint of the Concentrator Plant.
- **Remediation and Monitoring:** Methods to manage the contamination plume emanating from the existing TSF will be investigated and presented in more detail in the BAR.

## MOTIVATION FOR THE PROPOSED PROJECT

The proposed ventilation shafts will enable current mine operations to be optimized, will aid in supporting increased mining capacity and will improve mineworker safety by removing noxious gases and regulating air temperatures.

The associated infrastructure upgrades and developments will support the operation of the new ventilation shafts. The development of remediation and monitoring methods will limit the risk of contamination emanating from the pollution plume from the TSF.

## STATUS OF THE ENVIRONMENT

This section provides a short description of the Project area.

**Geology:** The project area is situated in the Bushveld Igneous Complex (BIC), an intrusive igneous body. The area is underlain by two aquifers; namely a shallow, weathered aquifer and a deeper fractured rock aquifer.

**Climate:** The project area experiences typical savannah climatic conditions, namely hot and wet summers and cold and dry winters. The mean annual rainfall is approximately 600 mm per annum.

**Soils and land capability:** The soils overlying the project area are generally clayey (vertic/melanic) and have a low yielding agricultural potential. The vegetation overlying these soils forms part of a regional complex type known as the Arid Northern Bushveld.

**Biodiversity:** Most of the vegetation within the project area, is severely transformed with a high incidence of bush encroachment. Very little evidence of wild faunal populations is associated with the project area due to the presence of mining, prospecting, farming and community activities.

**Surface water resources:** The mine falls within the catchment of the Motse River or quaternary catchment B71E. The mine and proposed project area are drained by the Moopetsi River and its tributaries. The Moopetsi flows into the Matadi River with the confluence approximately 4 km downstream on the mine. The Matadi then flows into the Motse River which feeds the Olifants River. The confluence of the Motse and Olifants River is approximately 25 km downstream of the mine. Reliance on surface water is mostly limited to subsistence farming and livestock watering. The community excavate into the Moopetsi River to obtain water for livestock watering and local irrigation of crops. Existing Marula and surrounding mining operations and community activities have influenced the quality of the surface water resources within the project area.

The proposed power and water supply infrastructure will intersect non-perennial tributaries of the Moopetsi and Tshwenyane Rivers.

**Ground water resources:** The project area is underlain by two aquifers; namely a shallow, weathered aquifer and a deeper fractured rock aquifer. Groundwater quality is generally marginal to poor due to elevated nitrate concentrations. Third party water users rely on groundwater for domestic and agricultural purposes.

**Air Quality:** Ambient air quality in the project area has been influenced by existing mining activities, dust from exposed surfaces, gaseous and particulate emissions from mining operations, miscellaneous fugitive dust sources including vehicle entrainment on roads and windblown dust from open areas, gaseous and particulate emissions from vehicles, gaseous and particulate emissions from household fuel burning; and gaseous and particulate emissions from biomass burning/veld fires (e.g. wild fires). Dust fallout levels at the mine indicates compliance with the National Dust Control Regulations (NDCR). Ambient baseline monitoring for pollutant (PM10 (particulate matter 10 micrometers or less in diameter) and PM2.5 (particulate matter 2.5 micrometers or less in diameter)) indicated compliance with the NAAQS.

**Noise:** The present mining operation at Marula is by far the most dominant source of noise in the area, with the closest noise sensitive receptors being residential developments of Winnarshoek (~80 m from project activities), Diphale (~600 m from project activities) and Galane (~300 m from project activities). The average baseline noise levels were 43 dBA during the day and 33.8 dBA during the night.

**Visual:** The landscape character and quality of the visual resource has been altered by current mining operations.

**Heritage/cultural and palaeontological resources:** The mine is in the archaeologically sensitive Steelpoort area of the Limpopo Province. The most prominent natural features surrounding the mine are the chromite hills to the east and the imposing Leolo Mountain range to the west. The Leolo Mountain is known as a beacon in the history of the origins of the Pedi. The area to the south is historical known for the first discovery of platinum nuggets in 1924. The Leolo and Modimolle mountains are both sacred places and probably served as burial grounds for successive Pedi chiefs (and their wives). The findings of the 2020 Heritage specialist survey indicated that the proposed project will not interfere with any significant heritage resources in the area.

**Socio-economic:** The nearest major town is Burgersfort and a major labour-sending town to the mine is Steelpoort. The Sekhukhune District Municipality covers an area of approximately 1 358 million ha and has a total population of 1 169 762. The unemployment rate is estimated at 29%. The Municipality has a weak economic base with high poverty levels with an unemployment rate estimated at 50%. The community is a typical rural community where there is unemployment, pressure on basic infrastructure and services and pressure on delivery of basic services from a pre-mining context. Educational levels in the broader area are relatively low with a high level of unemployment. Service provision remains a challenge.

**Land use:** The main land use in the proposed project area is subsistence livestock farming, settlements together with the mining operations on site and scattered in the larger area. Community settlements are mainly located close to the foothills and slopes adjacent to hills, and within proximity of the proposed project area.

## ALTERNATIVES FOR THE PROPOSED PROJECT

### PROJECT ALTERNATIVES CONSIDERED

The following alternatives are being considered as part of the environmental authorisation process:

- The location of ventilation shaft 9 at Driekop.
- The route for the OHT line from the existing Driekop Shaft Complex to the ventilation shaft 9 at Driekop.
- The routes for the water pipelines from the existing Plant Dam to ventilation shaft 8 at Clapham and ventilation shaft 9 at Driekop.

### PROJECT ALTERNATIVES NOT CONSIDERED

Project alternatives are not being considered for the following project components for the following reasons:

- Expansion and capacity upgrade of the existing Eskom substation:
  - Additional power is required to support the operation of the additional shaft complexes. To optimise existing infrastructure, a strategic decision to upgrade the existing Eskom substation located within the MR area was made. Due to the fixed location, no alternative sites have been considered.
- Location of refrigeration and cooling infrastructure:
  - The location of the additional cooling infrastructure (bulk air coolers and surface fans) are dictated by the position of the ventilation shafts.

## POTENTIAL BIOPHYSICAL / CULTURAL / SOCIO-ECONOMIC IMPACTS

Given the nature of the proposed project, impacts are expected to be limited to:

- **Topography:** The potential to present additional hazardous excavations and infrastructure that can be harmful to third parties and animals.
- **Soils and land capability:** The potential to cause further loss of soil resources and land capability through physical disturbance and contamination.
- **Biodiversity:** The potential to cause further physical destruction and general disturbance to terrestrial biodiversity.
- **Surface water:** The potential to contribute to surface water contamination through additional sources that can influence water quality through run-off. The potential to further alter the natural drainage patterns of the site through development of additional infrastructure.
- **Air:** The potential to contribute to an increase in ambient dust and PM concentrations that can influence sensitive receptors.
- **Noise:** The potential to increase in existing disturbing noise levels that can influence sensitive receptors.
- **Visual:** The potential to contribute to additional negative visual views.
- **Heritage/cultural and palaeontological:** The potential to disturb and/ or destroy sensitive heritage/cultural and palaeontological resources.
- **Socio-economic:** Economic impact on local, national and regional economy through direct benefits (wages, taxes and profits) and indirect benefits (procurement of goods and services, and the increased spending power of employees). Inward migration causing an increased pressure on social services.
- **Land Use:** A change and/or loss in existing land uses affecting general community activities

## PARTIES INVOLVED IN THE BASIC ASSESSMENT PROCESS

### IAPs

- Surrounding landowners, land users and communities;
- Surrounding mines and industries;
- Parastatals; and
- Kgoši's, traditional councils and community development forums.

### COMPETENT AND COMMENTING AUTHORITIES

- Limpopo DMRE;
- Limpopo Department of Economic Development, Environment and Tourism (LEDET);
- Department of Human Settlements, Water and Sanitation (Lydenburg Area) (DHSWS);
- Limpopo Department of Rural Development and Land Reform (DRDLR);
- Limpopo Department of Agriculture;
- Limpopo Department of Roads and Public Transport; and
- Limpopo Heritage Resources Agency (LHRA).

### LOCAL AUTHORITIES

- Greater Tubatse Local Municipality (including ward councillor); and
- Sekhukhune District Municipality

**Please let us know if there are any additional parties that should be involved.**

## ENVIRONMENTAL AUTHORISATION PROCESS

The environmental authorisation process provides:

- Information on the project and environment in which it is being undertaken;
- Identifies, in consultation with Interested and Affected Parties (I&APs) the potential negative as well as positive environmental/cultural/socio-economic impacts of the proposed project; and
- Reports on management measures required to mitigate impacts to an acceptable level and incorporates requirements for monitoring programmes (where required).

The likely process steps and timeframes are provided below.

### STEPS IN THE AUTHORISATION PROCESS

#### PHASE I - Pre-application phase August to November 2020

- Compilation of I&AP database;
- Notify commenting authorities and I&APs of proposed project and environmental assessment (via newspaper adverts, site notices, flyers and Background Information Documents (BID));
- Pre-application meeting with the DMRE; and
- Focused meetings with key I&APs.

#### PHASE II – BAR Phase December 2020 to January 2021

- Submission of NEMA application to DMRE;
- Compile BAR and summary, distribute to I&APs and commenting authorities for 30-day review (January 2021); and
- Update the BAR with comments received during the public review period.

#### PHASE III – Competent Authority Review Phase (Second quarter of 2021)

- Submission of the updated BAR following the public review period to DMRE for decision-making (107 days legislated decision-making period); and
- Circulate decision to I&APs registered on the project database, within 14 days of decision being issued.

MARULA PLATINUM (PTY) LTD

BACKGROUND INFORMATION DOCUMENT FOR THE ESTABLISHMENT OF TWO ADDITIONAL VENTILATION SHAFTS, ASSOCIATED INFRASTRUCTURE UPGRADES AND CHANGES TO THE APPROVED SURFACE INFRASTRUCTURE LAYOUT AT THE MARULA PLATINUM MINE

REGISTRATION AND RESPONSE FORM FOR INTERESTED AND AFFECTED PARTIES

DATE		TIME	
PARTICULARS OF THE INTERESTED AND AFFECTED PARTY			
NAME			
POSTAL ADDRESS			
		POSTAL CODE	
STREET ADDRESS			
		POSTAL CODE	
WORK/ DAY TELEPHONE NUMBER		WORK/ DAY FAX NUMBER	
CELL PHONE NUMBER		E-MAIL ADDRESS	

PLEASE IDENTIFY YOUR INTEREST IN THE PROPOSED PROJECT

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PLEASE WRITE YOUR COMMENTS AND QUESTIONS HERE

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Please return completed forms to:

Mavisha Nariansamy or Rizqah Baker

SLR Consulting (Africa) (Pty) Ltd

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