

MOKALA MANGANESE (PTY) LTD BACKGROUND INFORMATION DOCUMENT

PROPOSED CHANGES TO SURFACE INFRASTRUCTURE AT THE MOKALA MINE ON THE REMAINING EXTENT OF THE FARM GLORIA 266, NORTHERN CAPE PROVINCE

MARCH 2021

INTRODUCTION

Mokala Manganese (Pty) Ltd (Mokala) is in the process of establishing the Mokala Mine which is situated on the remaining extent of the farm Gloria 266, located 4 km north-west of the town Hotazel in the Joe Morolong Local Municipality, Northern Cape Province (see Figure 1). Mokala holds existing environmental authorisations and licenses under the Mineral and Petroleum Resources Development Act, 28 of 2002 (MPRDA), the National Environmental Management Act, 107 of 1998 (NEMA), the National Environmental Management: Waste Act No. 59 of 2008 (NEM:WA) and the National Water Act, 36 of 1998 (NWA).

Mokala is proposing to amend the approved mine layout to optimize their mining operations. These changes are tabulated below.

Proposed activity/infrastructure changes to the approved layout

- Expansion of the open pit.
- Increase in the capacity of the approved waste rock dump (WRD) and the establishment of an additional WRD.
- Establishment of additional topsoil stockpiles.
- Relocation of stormwater management infrastructure.
- Increase in the capacity of product stockpiles (run-of-mine (ROM), Low Grade and High Grade).
- Mining of the barrier pillar between the Kgalagadi Mine and Mokala Mine.

Activities/infrastructure that have already taken place

- The reconfiguration of plant area, ROM, and high-grade product stockpiles to accommodate the expansion of the open pit.
- The relocation of the low-grade product stockpile.
- The relocation of support infrastructure.
- Relocation of transportation related facilities/infrastructure.
- The relocation of the approved WRD to accommodate the expansion of the open pit.
- The relocation of the approved topsoil stockpiles.

PURPOSE OF THIS DOCUMENT

This document has been prepared to inform you about:

- the proposed project;
- the project alternatives considered (if relevant);
- the biophysical, cultural, and socio-economic baseline environment of the project area;
- the environmental assessment processes being followed;
- possible biophysical, cultural, and socio-economic impacts and related specialist input; and
- how you can have input into the environmental assessment process.

ENVIRONMENTAL AUTHORISATION

Prior to the commencement of the proposed project the following is required:

- an Environmental Authorisation in terms of the NEMA for activities in Listing Notice 1 (Government Notice Regulation (GNR) 983 of 2014, as amended) and Notice 2 (GNR 984 of 2014, as amended), from the Department of Mineral Resources and Energy (DMRE). The Environmental Impact Assessment (EIA) Regulations being followed are NEMA GNR 982 of 4 December 2014, as amended;
- an amended Waste Management Licence in terms of the NEM:WA for waste activities in Category A and Category B (GNR 921 of 2013), as amended from the DMRE;
- an amendment Integrated Water Use Licence (IWUL) in terms of the NWA for Section 21 Water Uses from the Department of Human Settlement, Water and Sanitation; and
- an amended Environmental Management Programme report (EMPr) in terms of Section 102 of the MPRDA from the DMRE.

SLR Consulting (South Africa) (Pty) Ltd (SLR), an independent firm of environmental consultants, has been appointed by Mokala to manage the environmental authorisation process.

YOUR ROLE

You have been identified as an interested and affected party (I&AP) who may want to be informed about the proposed project and have input into the environmental authorisation process and reports.

You have an opportunity to review this document and to provide your initial comments to SLR for incorporation in the environmental assessment process. You will also be given the opportunity to review and comment on the Scoping Report and EIA and EMPr.

All comments will be recorded and included in the reports submitted for decision-making.

COVID-19 RESTRICTIONS

Due to COVID-19 restrictions, online and digital platforms may be utilised to engage with I&APs.

SCOPING REPORT

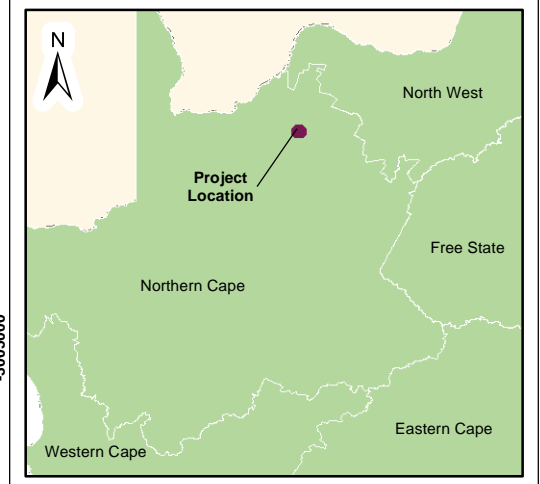
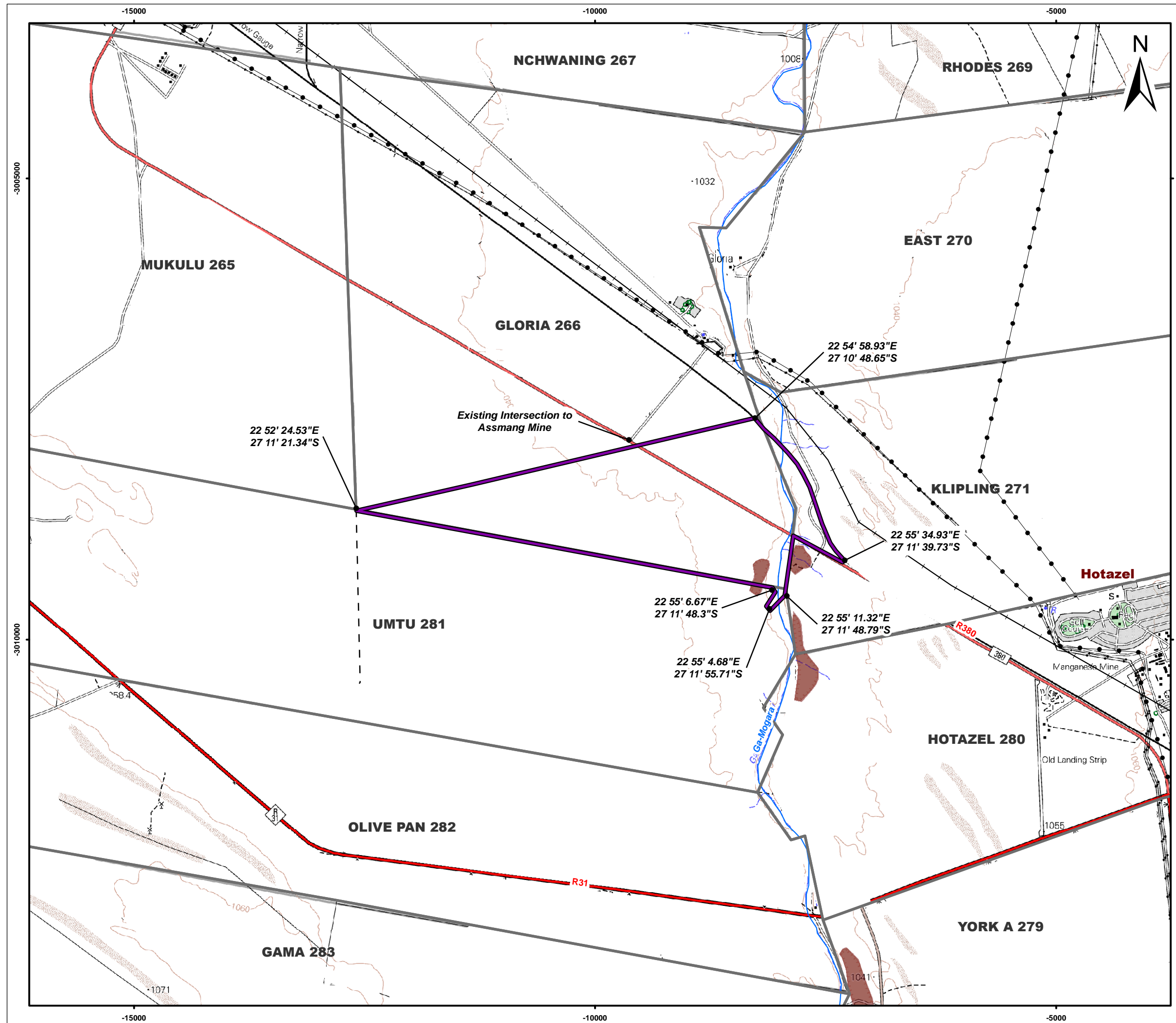
The Scoping Report will be made available for public review.

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

Gugu Dhlamini
(011) 467 0945 (Tel) or
gdhlamini@slrconsulting.com



- Legend**
- Project Area
 - Tracks/Paths
 - Rivers
 - Powerlines
 - Railway
 - Farm Boundaries
 - Historical Borrow Pits

0 400 800 Meters
 Scale: 1:40 000 @ A3
 Projection: Transverse Mercator
 Datum: Hartbeeshoek, Lo 23

MOKALA MANGANESE (PTY) LTD

Figure 1

Local Setting

SLR
 SLR Consulting (Africa) (Pty) Ltd
 P O Box 1596, Cramerview, 2060, South Africa
 Tel: +27 (11) 467-0945 Fax: +27 (11) 467-0978

PROJECT OVERVIEW

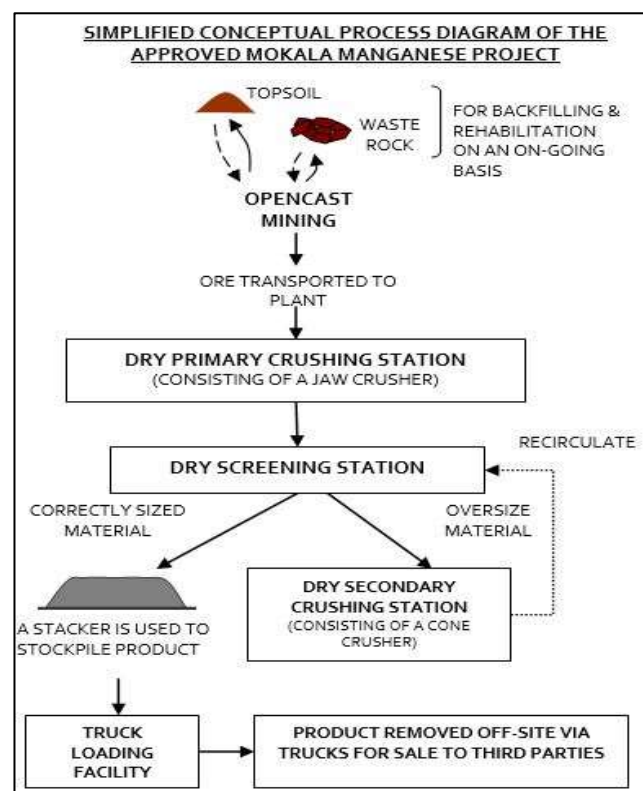
OVERVIEW OF APPROVED OPERATIONS

In broad terms approved activities/infrastructure (albeit not all established or operational) include the following; open cast activities, a dry crushing and screening plant, WRDs, product and ROM stockpiles, topsoil stockpiles and mine related facilities such as workshops, stores and various support infrastructure and services. Additional approved activities include:

- the realignment of the R380 road;
- upgrading of the intersection to the mine; and
- the realignment of a section of the Ga-Mogara drainage channel within the existing river channel.

CONCEPTUAL FLOW DIAGRAM

A simple conceptual high-level process flow diagram of the approved activities is provided below (Figure 2) below.



CURRENT STATUS

Mokala is currently in the construction phase of the project with limited operational activities taking place (strip mining). In this regard, temporary infrastructure/activities in support of the construction phase is currently on site. Construction facilities will either be removed at the end of the construction phase or incorporated into the layout of the operational mine.

OVERVIEW OF INFRASTRUCTURE CHANGES

Mokala is proposing to amend the approved mine layout to optimize their mining operations (Figure 3). A summary of the infrastructure changes is discussed below. It is important to note that no changes to the realignment of the R380, the upgrade of the mine intersection, or the realignment of the Ga-Mogara drainage channel are anticipated. In addition to this, the mining process as described in Figure 2 remains unchanged.

Proposed activity/infrastructure changes to the approved layout

Expansion of the open pit

The approved EMPr makes provision for an open cast pit. Mokala is proposing to expand the open pit footprint in a westerly and northerly direction to cater for the updated resource plan.

Increase in the capacity of the approved WRD and establishment of an additional WRD

Mokala is proposing on expanding the approved open pit footprint and as such additional waste rock storage space will be required to store additional waste rock stripped from the increased open pit footprint.

Establishment of additional topsoil stockpiles

Mokala is proposing to expand the approved open pit footprint and as such additional topsoil storage space will be required to store topsoil stripped from the increased open pit footprint.

Relocation of stormwater management infrastructure

The approved EMPr makes provision for the establishment of stormwater management facilities (recycle water ponds, drains and clean water realignment berms). Due to the relocation of the support infrastructure the location of the approved stormwater management facilities will need to be re-evaluated.

Increase in capacity of product stockpiles

Mokala is proposing to increase the capacity of the approved ROM, low grade and high grade stockpiles to accommodate the increase in production tonnages.

Mining of a barrier pillar

Mokala is proposing to mine the barrier pillar between the Mokala Mine and the Kgalagadi Mine. An agreement between the two parties will need to be in place outlining how the resources will be mined and stockpiled and how waste rock will be stockpiled and the area rehabilitated.

Activities/infrastructure changes that have already taken place

The reconfiguration of plant area and the high grade and ROM product stockpiles

The reconfiguration of plant area, ROM stockpile and high-grade product stockpile have been undertaken as this will be required due to the proposed expansion of the open pit.

Relocation of the low-grade product stockpile

The low-grade product stockpile has been relocated as this will be required due to the proposed expansion of the open pit.

Relocation of support infrastructure

Various approved support infrastructure have been relocated including the following; water storage facilities (potable and process water), workshops and washbay, change houses, sewage treatment plant, water treatment plant, fuel storage, administrative block (offices, kitchen, canteen, training centre, mustering centre, clinic), stores and waste storage to cater for the proposed expansion of the open pit footprint.

Relocation of transportation related facilities/infrastructure

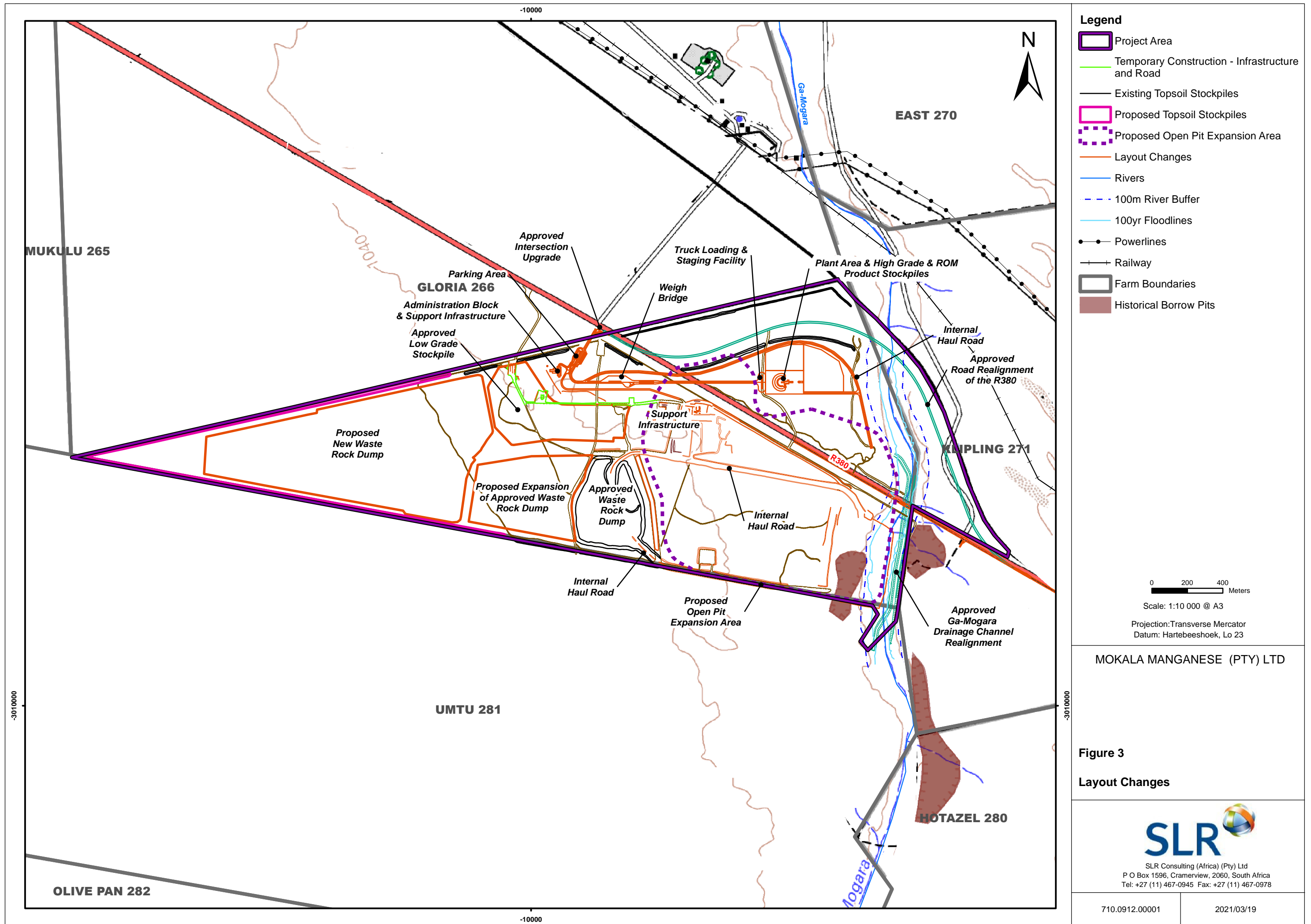
Various approved transportation related facilities such as internal haul roads, weighbridges, parking areas, truck loading and staging facilities have been relocated for the optimisation of the mining operations.

Relocation of the approved WRD

The approved WRD has been relocated to allow for the proposed expansion of the open pit.

Relocation of the approved topsoil stockpiles

The approved topsoil stockpiles have been relocated due to the changed site layout.



BIOPHYSICAL, CULTURAL AND SOCIO-ECONOMIC BASELINE OVERVIEW

The biophysical, cultural and socio-economic baseline environment likely to be influenced by the proposed project is discussed below.

Geology

The Mokala Mine is located within the Kalahari Manganese Field and is covered by Kalahari sands, calcrete, clays and gravel beds of the Kalahari Group.

Climate

The Mokala Mine falls within the Northern Steppe Climatic Zone that is characterised by seasonal rainfall, hot temperatures in summer and colder temperatures in winter. The site is dominated by winds from the north, northeast, and east.

Topography

The Mokala Mine is located in a relatively flat area with gentle slopes. The elevation on site varies from 1020 m to 1040 m above mean sea level. The natural topography at the Mokala Mine has been influenced by on-site Mokala construction and operational activities.

Soils and Land Capability

Soils types are homogeneous in terms of texture, structure, soil depth and consist of well drained sandy soils. These soils types have a low cultivation potential due to the high infiltration rates associated with sandy soils and are highly erodible. Soil resources and related land capability have been influenced by on-site Mokala construction and operational activities.

Biodiversity

The Mokala Mine falls within the Kathu Bushveld and the Gordonia Duneveld. Protected trees found at the Mokala Mine include the *Vachellia erioloba* (Camel Thorn), and the *Vachellia haematoxylon* (Grey Camel Thorn in terms of the National Forests Act of 1998 (Act 84 of 1998)). The natural vegetation at the Mokala Mine has been influenced by on-site Mokala construction and operational activities. Mining activities at the mine and surrounding the Mokala Mine have disturbed the local faunal population and as such very few faunal species occur at the mine.

Surface water

The Mokala Mine is located in quaternary catchment D41K which has a gross total catchment area of 4 216 km². The non-perennial Ga-Mogara drainage channel is located on the eastern boundary of the mine and flows in a northerly direction towards the Kuruman River. Due to the ephemeral nature of the Ga-Mogara drainage channel, there is no third-party reliance on surface water. No wetlands are present within or immediately adjacent to the Mokala Mine.

Groundwater

Two distinct aquifers underly the Mokala Mine. These include a shallow aquifer comprising Kalahari sands, residual Dwyka Tillite and dolomite and a deeper aquifer comprising the ore body and underlying lavas. The average ground water level at the Mokala Mine ranges from 13 m to 100 m below ground level. The majority of third-party boreholes surrounding the mine are used for monitoring, livestock watering and domestic purposes.

Air quality

Ambient air quality in the surrounding area has been influenced by mining activities, vehicle tailpipe emissions and agricultural activities. Ambient air quality on site has been influenced by on-site Mokala construction and operational activities.

Noise

The greater area is generally defined by rural features. Noise levels near the Mokala Mine are mainly as a result of surrounding farming activities, localised traffic, train movement and surrounding mining operations. Noise levels at the Mokala Mine have been influenced by on-site Mokala construction and operational activities.

Visual

In general, the Mokala Mine is located within the flat open plains of the Kalahari. The scenic quality surrounding the Mokala mine has predominantly been influenced by surrounding mining operations to the North (Assmang Mine), South (Kgalagadi Mine) and South East (Kudumane Mine). Similarly the scenic quality at the Mokala Mine has been influenced by existing construction and operational activities.

Heritage and Palaeontology

A number of heritage resources from the Middle and Late Stone Age are located along the eastern boundary of the Mokala Mine, near the Ga-Mogara drainage channel. These resources range from low to medium heritage significance. The palaeontological sensitivity of the Mokala Mine is low, however, there is a possibility that the Hotazel Formation manganese ore body could contain stromatolites.

Socio-economic

The town of Hotazel and the residence of the Gloria Mine are located within a 4 km radius of the Mokala Mine. The educational levels in the area are relatively low with high levels of unemployment and a dependency on subsistence agriculture, the public sector, seasonal workers and employment in the mining sector. Water provision and sanitation remains a challenge, mostly in the rural areas. There has been an increase in the number of households that were provided with electricity as a source of energy in the area. Mining and government services are the main economic sectors.

Land use

Land uses surrounding the Mokala Mine include a combination of livestock grazing, game farming, mining (Assmang Mine located to the north, Kgalagadi Mine located to the South and Kudumane Mine located to the South East) and associated rail network and sparsely situated residences. Land uses on site have been influenced by existing Mokala construction and operational activities particularly on the eastern section of the remaining extent of the farm Gloria 266. The far western section of the mine is currently utilised by the Kgalagadi Mine for game.

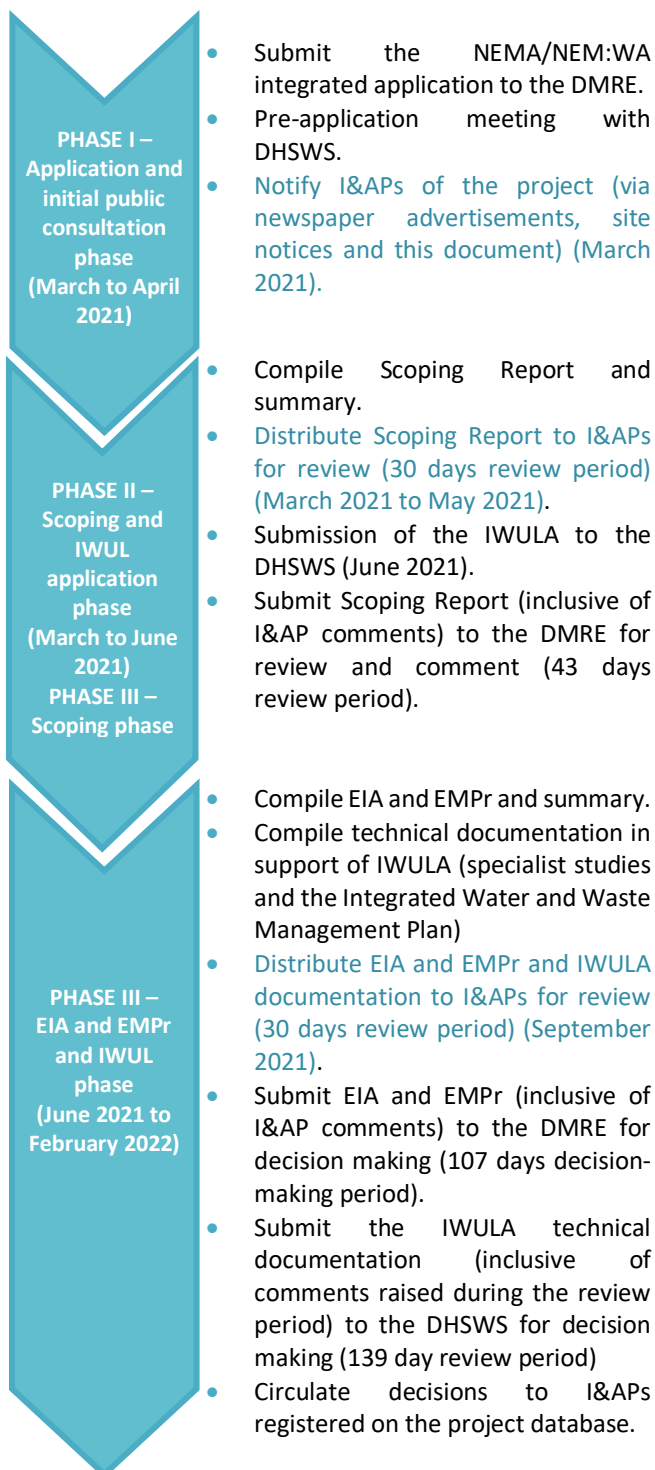
POTENTIAL BIOPHYSICAL, CULTURAL AND SOCIO-ECONOMIC IMPACTS AND RELATED SPECIALIST INPUT

Potential impacts that have initially been identified and will be investigated further as part of the environmental assessment process are tabulated below. Where specialist input is required this has been indicated in the table below. Additional impacts may be identified as part of the environmental assessment process.

Aspect	Potential biophysical, cultural and socio-economic impacts	Specialist input (where required)
Biophysical		
Soils and land capability	Soil resources and related land capability have been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to further compromise soil resources through erosion, compaction and/or pollution and the related natural capability of the land through an increased surface infrastructure footprint.	Soils and Land Capability Assessment
Biodiversity (terrestrial)	The natural terrestrial biodiversity at the Mokala Mine has been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to further disturb and/or modify; vegetation, habitat units, and related ecosystem functionality through an increased surface infrastructure footprint.	Biodiversity-Terrestrial Assessment
Surface water	Natural drainage across the Mokala site has been influenced through existing on-site activities and infrastructure, which also presents numerous sources that can pollute surface water. The proposed activity/infrastructure changes has the potential to further contribute to the alteration of natural drainage patterns through a decrease in run-off to the catchment. The proposed activity/infrastructure changes also have the potential to present additional pollution sources. This should be considered in the context of the ephemeral nature of the Ga-Mogara drainage channel and third-party reliance.	Hydrology Assessment
Groundwater	Groundwater resources have been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to present additional pollution sources, while the expansion of the open pit has the potential to further lower groundwater levels through dewatering. This in turn can influence availability of groundwater resources to surrounding groundwater users.	Geohydrology Assessment
Air	The ambient air quality has been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to generate additional emission sources which could potentially have a negative impact on ambient air quality which in turn will influence potential sensitive receptors.	Air Quality Assessment
Noise	Noise levels at the Mokala Mine have been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to present additional noise sources which in turn may influence potential sensitive receptors.	Desktop Noise Assessment
Visual	The visual character of the Mokala Mine has been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to generate additional negative visual views through the establishment of additional infrastructure on site. This however needs to be considered in the context of distance to sensitive receptors and surrounding neighbouring mines that have already influenced the visual character of the area.	Qualitative Assessment
Cultural		
Heritage/cultural resources and palaeontological resources	The proposed activity/infrastructure changes, particularly those located in the western section of the mine site, have the potential to damage and/or destroy heritage resources which may be of cultural importance. The palaeontological sensitivity of the site is found to be low, however there is a possibility that the Hotazel Formation manganese ore body could contain stromatolites.	Heritage/Cultural Assessment and desktop Palaeontological Assessment
Socio-economic		
Economics	Sterilisation of mineral resources occurs through the disposal of mineral resources onto mineralised waste facilities (WRD's) and through backfilling the open pit. This in turn can influence the national, local, and regional economy by prohibiting the efficient exploitation of a resource. The proposed increase in the waste rock volumes has the potential to further contribute to the sterilisation of mineral resources.	Qualitative Assessment
Social benefits	The project has the potential to allow for the continuation of job opportunities that the livelihoods of individuals living in the local area may depend on.	Qualitative Assessment
Sense of place	The natural sense of place has been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to further change the nature of the site and could be perceived by surrounding land users as negative.	Visual Assessment
Safety to third parties	The natural topography of the site has been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to further alter topography through an increase of the surface infrastructure footprint, which in turn presents additional hazardous infrastructure that could be harmful to third parties and fauna.	Qualitative Assessment
Land use	The natural land use of the site has been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to further change and/or result in a loss of existing land uses, particularly to the west of the mine site.	Qualitative Assessment

ENVIRONMENTAL AUTHORISATION PROCESS

The environmental assessment process provides information pertaining to procedural components and the environment in which it is being undertaken. It identifies and assesses, in consultation with I&APs, the negative and positive biophysical, cultural and socio-economic impacts (key I&AP input stages are indicated in blue text below). The environmental assessment process also reports on management measures required to mitigate impacts to an acceptable level and incorporates requirements for monitoring programmes (where required). The process steps and estimated timeframes are provided below.



PUBLIC PARTICIPATION PROCESS

The purpose of the public participation process is to notify I&APs of the project and to provide them with the opportunity to raise issues or concerns regarding the project. The public participation process will be undertaken in accordance with the requirements of Chapter 6 of Regulations 982 of 4 December 2014 (EIA Regulations), as amended.

Due to COVID-19 restrictions, online and digital platforms will be utilised to engage with I&APs. These platforms will include a combination of email, SMS, site notices, newspaper adverts, a webinar and access to SLR's data free website where reports can be accessed to inform I&APs about the project. **A virtual public meeting for the proposed project is planned, all I&APs who are interested in attending should please contact SLR as per the contact details above in order to obtain the meeting particulars.**

I&APs involved in the environmental authorisation process are listed below.

I&APS INVOLVED IN THE ENVIRONMENTAL AUTHORISATION PROCESS

LANDOWNERS, LAND USERS AND OTHER I&APS

- Surrounding landowners, land users and community forum.
- Non-government organisations and associations.
- Surrounding mines and industries.
- Parastatals.

COMPETENT AUTHORITIES

- DMRE
- DHSWS

COMMENTING AUTHORITIES

- Northern Cape Department of Environment and Nature Conservation.
- Department of Environment, Forestry and Fisheries.
- Northern Cape Department of Rural Development and Land Reform – inclusive of the Land Claims Commissioner.
- Department of Human Settlement, Water and Sanitation.

LOCAL AUTHORITIES

- John Taolo Gaetsewe District Municipality.
- Joe Morolong Local Municipality (including the ward councillor).

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

**MOKALA MANGANESE (PTY) LTD
BACKGROUND INFORMATION DOCUMENT**

PROPOSED CHANGES TO SURFACE INFRASTRUCTURE AT THE MOKALA MINE ON THE REMAINING EXTENT OF THE FARM
GLORIA 266, NORTHERN CAPE PROVINCE

MARCH 2021

DATE		TIME			
PARTICULARS OF THE INTERESTED AND AFFECTED PARTY					
NAME					
INTEREST IN THE PROPOSED PROJECT					
POSTAL / STREET ADDRESS					
		POSTAL CODE			
WORK/ DAY TELEPHONE NUMBER		WORK/ DAY FAX NUMBER			
CELL PHONE NUMBER		E-MAIL ADDRESS			
PLEASE REGISTER ME AS AN INTERESTED & AFFECTED PARTY (I&AP) SO THAT I MAY RECEIVE FURTHER INFORMATION AND NOTIFICATIONS DURING THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">YES</td> <td style="width: 50%; text-align: center;">NO</td> </tr> </table>	YES	NO
YES	NO				
HOW WOULD YOU LIKE TO RECEIVE YOUR NOTIFICATIONS?			E-MAIL		
			REGISTERED MAIL (POST)		
			SMS		

PLEASE WRITE YOUR COMMENTS AND QUESTIONS HERE (please use separate sheets if you wish)

PLEASE INCLUDE THE FOLLOWING OF MY COLLEAGUES/FRIENDS/NEIGHBOURS AS I&APS FOR THIS PROJECT:

Please return completed forms to:
Gugu Dhlamini
SLR Consulting (South Africa) (Pty) Ltd
(011) 467 0945,
PO Box 1596, Cramerview, 2060
gdhlamini@slrconsulting.com

THANK YOU FOR YOUR CONTRIBUTION!!!