



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

Final Version for Submission

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED)

DMR REFERENCE NO: GP 10396 MP

APPLICANT: Bundu Sand (Pty) Ltd

PROJECT: Mining Permit Application

MINERALS: Sand

TEL / FAX NO: +27 12 669 9931 / +27 12 669 9938

POSTAL ADDRESS: PO Box 31159, Kyalami, 1684

PHYSICAL ADDRESS: Portion 94 and 95 of Farm Uitzicht Alias Rietvalei 314 JR, Pretoria, South Africa

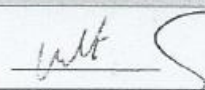

The format of this report follows the template provided by the competent authority (The Department of Mineral Resources and Energy) obtained from www.dmr.gov.za.

REVIEW RECORD

DRAFTING AND REVIEW OF REPORT

	NAME	DESIGNATION
AUTHOR	Greg Coates	Senior Environmental Consultant (Umhlaba Environmental Consulting CC)
APPLICANT CONTRIBUTION	Gabriel Gomes	Mine Manager (Bundu Sand (Pty) Ltd)
SPECIALIST CONTRIBUTION	Dr David Hoare	Ecological Consultant (David Hoare Consulting (Pty) Ltd)
	Francois P Coetzee	Heritage Consultant
REVIEWER	Andrew Nicholson	Principal Environmental Consultant (Umhlaba Environmental Consulting CC) EAPASA Registration: 2019/716

ACCEPTANCE OF REPORT FOR FINAL DISTRIBUTION

	NAME	DATE	SIGNATURE
AUTHOR	Greg Coates	19 th January 2021	
APPLICANT	Gabriel Gomes	20 th January 2021	

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CONTACT DETAILS

UMHLABA ENVIRONMENTAL CONSULTING CC

Tel: (011) 791 3389
Fax: (011) 791 3384
P.O. Box 731504 Fairland, 2030

E-mail: info@umhlaba.co.za
Web: www.umhlaba.co.za



EXECUTIVE SUMMARY

Bundu Sand (Pty) Ltd (herein after referred to as Bundu) applied for a mining permit to the Department of Mineral Resources and Energy with the objective being to mine sand to be used in the building industry. Umhlaba Environmental Consulting CC was appointed by the applicant to undertake the application process for an environmental authorization in terms of the National Environmental Management Act (NEMA), No. 107 of 1998, as amended and the EIA Regulations, 2017 (GN R 326).

Site Location and Proposed Activities

The application area covers 4.9959ha of portion 94 and portion 95 of the Farm Uitzicht Alias Rietvalei 314 JR, which is situated 11km east of Hartbeespoort and 15km west of Petoria West, in City of Tshwane Metropolitan Municipality, Gauteng Province. Access to the site will be from the R514 and along existing gravel roads used for previous mining in the area. The proposed mining operation is for two years and based on free dig methods with no drilling or blasting being required. Prior to mining, any topsoil will be cleared and stored at the mining site boundary before red sand is mined to an average depth of 4m. Machinery to be used will be front end loaders to excavate the sand which will be stockpiled before being transported by haul trucks to customers. Once mining is completed, the area will be rehabilitated with the topsoil stockpile and vegetation cover restored to the same or better state as prior to mining.

Environmental Authorisations Triggered

The following environmental authorisations are required to facilitate all the proposed activities;

- Listing Notice 1: Activity 21 – application for a mining permit.
- Listing Notice 1 Activity 22 – the decommissioning of any activity requiring a closure certificate.
- Listing Notice 1: Activity 27 – clearing of indigenous vegetation greater than 1ha but less than 20ha.

These activities require that a Basic Assessment process (BA) contemplated in Regulations 19 and 20 of the 2014 EIA regulations (as amended) must be followed. The draft BAR was made available for public review for a 30 day period ending 15th December 2020.

Need and Desirability

The site is located within Zone 4 of the Gauteng Environmental Management Framework (2014) which is categorised as being dominated by agricultural uses outside the urban development zone as defined in the Gauteng Spatial Development Framework. When specifically considering the activity of mining within this zone, mining is considered to be conditionally compatible with the typical developments or land uses for this zone.

The sand found in the proposed mining area is a high grade red building sand which will provide a good quality sand to the local building industry for filling purposes, such as levelling surfaces before a construction project commences. As well as providing product to the local market, this sand mining project is conveniently situated to provide product for IDP projects in the Atteridgeville, Lotus Gardens and Saulsville area which has been identified as a priority area for development in the IDP.

Current Landuse and Environmental Sensitivity

The entire extent of the proposed site is currently vacant and is not supporting any particular land use at present. The patterns indicated on the Surveyor-General's 1:50 000 topo-cadastral map of the area that includes the site shows that the central to western parts of the site were previously cultivated. However, typical plough-line patterns evident on the aerial image of the site clearly indicate that the entire western half was previously cultivated. It is also evident from desktop information that the site was heavily impacted by quarrying across a large part of the eastern part of the site.

The closest receptors to the site are the agricultural buildings (chicken farm) immediately west by approximately 500m. To the north beyond the Swartspruit river are some small holdings at approximately 1300m, to the east is the Krauseville Agricultural Holdings at approximately 1500m, and to the south over the ridge is the Gerotek vehicle tesing facility at approximately 1700m. There are extensive existing sand mining operations immediately to the north of the proposed site and an abandoned quarry immediately to the south-east. With the exception of the abandoned quarry, the ridge to the south of the site is in a natural state. The vegetation within the application area is previously disturbed and therefore secondary

in nature (as verified by an independent specialist ecological study). According to the Gauteng C-Plan, none of the site is within a designated sensitive area, although adjacent areas to the south are within areas mapped as "Ecological Support Area". The site is within one regional vegetation type, a grassland vegetation type called Gold Reef Mountain Bushveld, classified as Least Concern, and not listed in the National List of Ecosystems that are Threatened and need of protection.

Assessment of Impacts

The **key findings** from the environmental impact assessment can be summarised as follows;

- The most significant positive impacts, ranked as **Medium** of higher;
 - Socio-economic - Legal / responsible mining that provides building material that could be used in local development including nearby priority projects identified in the IDP.
 - Rehabilitation – The land is already transformed by previous cultivation and mining activities. Rehabilitation after sand mining will support a future land use determined by the landowner.
- The most significant negative impacts, ranked as **Medium** of higher prior to consideration of management measures is;
 - Visual - Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography..
 - Surface water flow - Altered / impeded flow of water over the site during a rainfall event.
 - Soil - Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.
 - Heritage - Any heritage artefacts discovered onsite will either need to be moved or risk being destroyed.
 - Social aspects – Access to private land, landowner relationships and future land use after mining.

All negative impacts can be reduced with the implementation of mitigation measures including controls such as engineering, procedural, training and monitoring/maintenance. After the implementation of mitigation measures all impacts reduce to either low medium or low.

Rehabilitation Plan

After mining has been completed, the below rehabilitation activities will be undertaken. As the whole application area is to be mined, the scale and extent of rehabilitation is relevant to the whole 4.9959 ha.

- All mobile equipment / foreign matter will be removed from the site.
- The entire disturbed area will be inspected for any signs of pollution (as a result of mining activities) and if identified it will be removed and disposed of in a registered landfill site.
- Stockpiled overburden/topsoil will be backfilled into the excavations and the any steep walls will be sloped to a safe angle.
- The disturbed area will be reseeded and alien vegetation will be controlled until the site is successfully revegetated.
- Areas compacted as a result of mining activities undertaken will be loosened to promote self-vegetation, and any ruts created by accessing or leaving the site will be filled to ensure that no future erosion shall emanate from the site.
- The landowner will be requested to inspect the success of the rehabilitation.

Financial Provision for Rehabilitation

The cost of rehabilitating the site after mining is calculated at R300 000 and will be provided in the form of a bank guarantee.

Assessors Opinion

It is the author's opinion that this application **should** be authorised for the following reasons:

- The impact assessment has indicated that no significant negative impacts are likely to result from the proposed activities and appropriate mitigation and management measures can be implemented to manage all potential impacts to an acceptable level.
- The proposed project fits with activities already taking place on the direct and adjacent properties (sand mining).

- The proposed site is itself already transformed from its natural state through historical activities of cultivation and quarrying.
- The result of the proposed project will make available a building product that will support local development, including IDP projects in nearby communities which are identified as priority areas.

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ABBREVIATIONS

Abbreviations	Definition
BAR	Basic Assessment Report
CV	Curriculum Vitae
dBA	A-weighted decibel
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
EIA	Environmental impact assessment
EIR	Environmental Impact Report
EMF	Environmental Management Framework
EMPr	Environmental Management Programme Report
GN	General Notice
Ha	Hectares
I&APs	Interested and/or affected parties
IDP	Integrated Development Plan
MPRDA	Mineral and Petroleum Resources Development Act (MPRDA), No. 28 of 2002 as amended
NEMA	National Environmental Management Act (NEMA), No. 107 of 1998
SANS	South African National Standards
WULA	Water Use License Application

1. IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (MPRDA), No. 28 of 2002 as amended, the Minister must grant a prospecting or mining right if among others the mining “will not result in unacceptable pollution, ecological degradation or damage to the environment”.

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment (EIA) and an Environmental Management Programme (EMP) report in terms of the National Environmental Management Act (NEMA), No. 107 of 1998, it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of Regulation 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of Regulation 17(1)(c) the competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or a permit are submitted in the exact format of, and provide all the information required in terms of, this template.

Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

2. OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

The objective of the basic assessment process is to, through a consultative process —

- a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
- b) identify the alternatives considered, including the activity, location, and technology alternatives;
- c) describe the need and desirability of the proposed alternatives,
- d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focussed on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within the sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:
 - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
 - (ii) the degree to which these impacts—
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources; and
 - (cc) can be managed, avoided, or mitigated;
- e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
 - (i) identify and motivate a preferred site, activity and technology alternative;
 - (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
 - (iii) identify residual risks that need to be managed and monitored.

PART A:

SCOPE OF ASSESSMENT AND BASIC IMPACT ASSESSMENT REPORT

Bundu Sand (Pty) Ltd (herein after referred to as Bundu) has applied for a mining permit with the objective being to mine sand to be used in the building industry. Umhlaba Environmental Consulting CC was appointed by the applicant to undertake the application process for an environmental authorization in terms of the National Environmental Management Act (NEMA), No. 107 of 1998, as amended and the EIA Regulations, 2017 (GN R 326).

The proposed mining operation will be for two years and based on free dig methods with no drilling or blasting being required. Prior to mining, any topsoil will be cleared and stored at the mining site boundary before red sand is mined to an average depth of 4m. Machinery to be used will be front end loaders to excavate the sand which will be stockpiled before being transported by haul trucks to customers. Access to the site will be from the R514 and along existing gravel roads used for previous mining in the area. Once mining is completed, the area will be rehabilitated with the topsoil stockpile and vegetation cover restored to the same or better state as prior to mining.

3. CONTACT PERSON AND CORRESPONDENCE ADDRESS

a) DETAILS OF

(i) Details of the EAP

Name of the Practitioner:	Greg Coates
Tel No.:	011 791 3389
Fax No.:	011 791 3384
E-mail Address:	greg@umhlaba.co.za

(ii) Expertise of the EAP

(1) *The qualifications of the EAP*

- BSC Agric (Wildlife Science) / MSc Zoology
- See **Appendix A.1**.

(2) *Summary of the EAP's past experience*

(In carrying out the Environmental Impact Assessment Procedure).

- Over 7 years of experience of environmental management for the mining industry of South Africa.
- See **Appendix A.1**.

b) LOCATION OF THE OVERALL ACTIVITY

Farm Name:	Portion 94 and Portion 95 of the Farm Uitzicht Alias Rietvalei 314 JR
Application Area (Ha);	4.9959 Ha
Magisterial District:	City of Tshwane
Distance and Direction from Nearest Town:	11km east of Hartebeestpoort Dam and 15km west of Pretoria town in City of Tshwane Metropolitan Municipality, Gauteng Province. See Figure 1.
21 Digit Surveyor General Code for each Farm Portion:	Portion 94: T0JR0000000031400094 Portion 95: T0JR0000000031400095

c) LOCALITY MAP

(Show nearest town, scale not smaller than 1:250000).

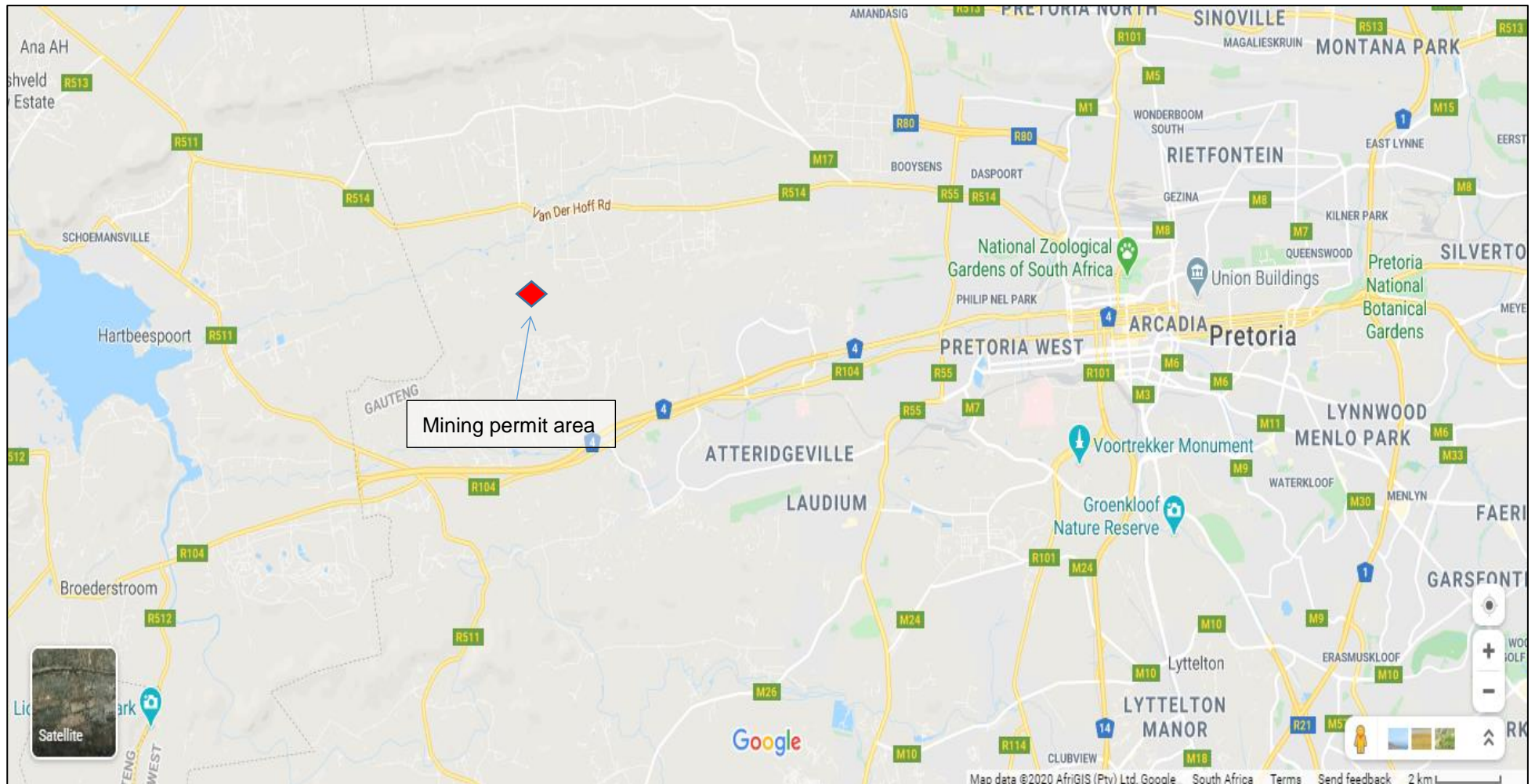


Figure 1: Locality Map.

d) DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY

(i) Listed and specified activities

<p align="center">NAME OF ACTIVITY</p> <p><i>(E.g. For prospecting – drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc.</i></p> <p><i>E.g. For mining - excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)</i></p>	<p align="center">AERIAL EXTENT OF THE ACTIVITY</p> <p><i>(Ha or m²)</i></p>	<p align="center">LISTED ACTIVITY</p> <p><i>(Mark with an X where applicable or affected)</i></p>	<p align="center">APPLICABLE LISTING NOTICE</p> <p><i>(GNR 324, GNR 325 or GNR 327) / Not listed)</i></p>
<ul style="list-style-type: none"> • Site clearance / preparation: <ul style="list-style-type: none"> - Clearing of vegetation and topsoil - placement of mobile toilets and waste bins 	4.9959 Ha	X	GNR 327: Activity 27
<ul style="list-style-type: none"> • Mining of sand will include: <ul style="list-style-type: none"> - Mining of red sand using excavator / front end loader; - Stockpiling of red sand at the cleared area before loading and transporting by haul trucks. 	4.9959 Ha	X	GNR 327: Activity 21
<ul style="list-style-type: none"> • Decommissioning and Rehabilitation will entail: <ul style="list-style-type: none"> - Removing all mobile equipment and inspecting for signs of pollution - Filling in excavations; - Establishment of indigenous species; - Removal of alien vegetation 	4.9959 Ha	X	GNR 327: Activity 22
<ul style="list-style-type: none"> • Supporting Services <ul style="list-style-type: none"> - Waste management; - Sanitation; - Water supply and use; and - Diesel. 	100 m ²		Not listed

(i) Description of the activities to be undertaken

(Describe methodology or technology to be employed, including the type of commodity to be mined and for a linear activity, a description of the route of the activity).

The proposed mining operation will be based on free dig methods, no drilling or blasting will be required. Topsoil will be cleared and stored at the mining site boundary before red sand is mined to an average depth of 4m. Machinery to be used will be front end loaders to excavate the sand which will be stockpiled at the cleared area before being transported by haul trucks to customers. Typical machinery to be associated with the operation is indicated in Photo 1.

The mining permit activities will typically entail:

- Site clearance / preparation for the:
 - Clearing of vegetation and topsoil which will be used to create a boundary berm along the southern edge of the mining permit area to assist with controlling stormwater runoff
 - Placement of the mobile ablation facilities and waste bins;
- Mining of sand resources:
 - Sand will be excavated from the cleared areas to no deeper than 4 meters using excavators and loaded to dumper trucks to be taken to a designated stockpile area within the mining permit area.
 - The trenches will be excavated in a systematic sequence where one trench will be mined at a time and levelled off as mining continues into a new section of the mining permit area.
 - Front End Loaders will load product to haul trucks from the stockpile area and take it to the market according to order.
- Decommissioning and Rehabilitation will entail:
 - Removing mobile equipment and inspecting for pollution
 - Filling in excavations;
 - Establishment of indigenous vegetation;
 - Removal of alien vegetation
- Supporting services will include:
 - Waste management: waste bins will be placed at designated areas to deal with waste.
 - Sanitation: chemical toilets will be used.
 - Water supply and use: Water requirements will be sourced directly from the landowner's water source (i.e. borehole).
 - Diesel: a mobile diesel bowser will be brought onto site when the vehicles requires refuelling and removed as soon as the re-fueling is completed.

Appendix A2 provides a satellite image of the application area with the proposed site layout.



Photo 1: Typical machinery to be used during the proposed mining activities.



Photo 2: Example of excavations.



Photo 3: Example of sloping after mining.

e) POLICY AND LEGISLATIVE CONTEXT

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATION CONTEXT?
Constitution of South Africa, specifically every one has a right; <ul style="list-style-type: none"> a. to an environment that is not harmful to their health or well-being; and b. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that <ul style="list-style-type: none"> i. prevent pollution and ecological degradation; ii. promote conservation; and iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. 	Entire document	The mining permit activities will only proceed after effective consultation. This proposed mining permit operation will create minimal employment opportunities. Positive benefits mainly lie with the landowner and the applicant.
Minerals and Petroleum Development Resources Act, Act 28 of 2002 (MPRDA) and the MPRDA Amendment Act, Act 49 of 2008	Entire document	The conditions and requirements attached to the granting of the mining permit will apply to the mining permit activities.
National Environmental Management Act, Act 107 of 1998 (as amended)(NEMA)	Entire document	The appropriate environmental authorisation will be obtained before proceeding with any mining permit activities. Measures will be implemented to prevent any pollution occurring during the mining permit activities.
Environmental Impact Assessment Regulations: GNR 324, 325, 326 & 327 of 7 April 2017	Entire document	Listed activities as per the NEMA EIA Regulations have been considered and authorisation is thus required with regards to the triggering activities.
National Water Act, Act 36 of 1998 (NWA)	N/A	A water use license is not required for this application. Water requirements for the proposed operation will be sourced legally and brought to site using a water truck or mobile container.
Regulation 704 (GN704) (Government Gazette 20118, 4 June 1999).	Management measures	Mining permit activities will not take place within 100m of a recognised water course or wetland.
National Environmental Management: Air Quality Act, Act 39 of 2004 (NEMAQA)NEM:AQA	Management measures	Appropriate dust suppression measures will be included in the management plan.
National Environmental Management: Waste Act, Act 59 of 2008 (NEMWA)NEM: WA	Management measures environmental	Although listed activities as per the 2013 NEM:WA Regulations have been considered, it has been determined that a waste licence is not required. All waste generated as a result of the mining permit activities will be disposed

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATION CONTEXT?
	awareness plan	of appropriately. Proof of legal disposal will be maintained on site. In addition, the generation of potential waste will be minimised through ensuring employees are subjected to the appropriate environmental awareness campaign before commencement of mining permit activities.
National Heritage Resources Act, 25 of 1999 ("NHRA")	N/A	Given that this Act has been put into place to protect and conserve heritage resources, the mining activities will be halted and a suitably qualified specialist will be contacted if anything of heritage importance is found on the proposed site.
Occupational Health and Safety Act (No. 85 of 1993)	N/A	The employer needs to manage his/her staff and crew in strict accordance with the Occupational Health and Safety Act in order to prevent injuries to the staff.
SANS 10103:2008 The Measurement and Rating of Environmental Noise with Respect to Land Use, Health, Annoyance and to Speech Communication	Management / monitoring measures	Used to set the standard allowable for noise generation during the mining permit activities.
SANS 1929:2005 Edition 1.1 – Ambient Air Quality Limits for Common Pollutants	Management / monitoring measures	Used to set the standard for dust generation during the mining permit activities.
South African National Biodiversity Institute – BGIS Landuse Decision Support Tool	Baseline Environment	Used to obtain environmental baseline information about the area.
City of Tshwane Metropolitan Municipality – Approved Integrated Development Plan 2019/2020	Needs and desirability	Used to identify socio-economic information and spatial development information within which the area falls under.
Guideline on Need and Desirability in terms of the EIA Regulations. Integrated environmental management guideline series 9.	Needs and desirability	Considered when completing the sections on need and desirability.
Gauteng Environmental Management Framework, 2014	Application process, needs and desirability.	Considered when completing the sections on need and desirability.
National Environmental Screening Tool	Baseline Environment	Considered when completing the baseline environmental conditions.

f) NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

The site is located within Zone 4 of the Gauteng Environmental Management Framework (2014) which is categorised as being dominated by agricultural uses outside the urban development zone as defined in the Gauteng Spatial Development Framework. When specifically considering the activity of mining within this zone, mining is considered to be conditionally compatible with the typical developments or land uses for this zone.

The sand found in the proposed mining area is a high grade red building sand which will provide a good quality sand to the local building industry for filling purposes, such as levelling surfaces before a construction project commences. This makes it an ideal, and much needed, building material most often utilised for building and landscaping purposes. As well providing product to the local market, this sand mining project is conveniently situated to provide product for IDP projects in the Atteridgeville, Lotus Gardens and Saulsville area which has been identified as a priority area for development in the IDP (City of Tshwane Metropolitan Municipality Approved IDP, 2019/2020).

g) MOTIVATION FOR THE PREFERRED SITE, ACTIVITIES AND TECHNOLOGY ALTERNATIVE

Preferred site: The mining permit activities will apply to the entire area covered by the application, i.e. 4.9959ha. This identified site is preferred as it presents a sand resource that is accessible for the proposed mining method and it does not include any sensitive aspects such as graves or wetlands.

Preferred Activities: The preferred manner in which the proposed mining activities can be undertaken is through free dig methods (using an excavator, front end loaders and haul trucks) as this is the simplest and most cost effective manner of obtaining the sand resource. No processing will take place on the site as the sand is mostly used as fill material and therefore does not require processing.

Technology Alternatives: Due to the very simple nature of the proposed operation, there are no comparable technological alternatives to the proposed mining activities.

h) FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PREFERRED ALTERNATIVES WITHIN THE SITE

NB!! – This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.

(i) Details of the development footprint alternatives considered

With reference to the site plan provided as Appendix A2:, and the location of the individual activities on site, provide details of the alternatives considered with respect to:

(a) The property on which or location where it is proposed to undertake the activity

The proposed mining operation would occur on and adjacent to properties which have been historically disturbed by agricultural and mining activities. See Appendix A2. This site has a known resource and is logically the next direction of mining given where mining has already occurred in the area. The proposed site also does not present any environmentally sensitive aspects and has little conservation value. Therefore no alternative site location was considered.

(b) The type of activity to be undertaken

No alternatives to the proposed activities have been considered due to the very simplistic nature of the mining operation required to obtain the sand resource.

(c) *The design or layout of the activity*

There are no design or layout alternatives as it is intended that the entire application area will be excavated to a depth of approximately 4m. The only strategic planning would be to position the topsoil berm on the southern border of the mining area to act as a barrier to prevent stormwater runoff from upgradient entering the mining area.

(d) *The technology to be used in the activity*

Due to the very simple nature of the proposed operation, there are no technological alternatives to the proposed mining activities.

(e) *The operational aspects of the activity*

Due to the very simple nature of the proposed operation, there are no operational alternatives to the proposed mining activities.

(f) *The option of not implementing the activity*

Should the project not be implemented, a viable source of building material will not be realised that could have aided the City of Tshwane Metropolitan Municipality in achieving the approved 2019/2020 IDP which plans to address the city's infrastructure and service delivery challenges, especially in the Atteridgeville, Lotus Gardens and Saulsville area which has been identified as a priority area.

(ii) Details of the public participation process followed

This section describes the process implemented to identify and consult with interested and affected parties. Details of the documentation used and evidence of implementation of the consultation process is presented in Appendix 3.1.

In light of the prevailing Covid-19 pandemic, electronic communication was preferred to avoid gatherings of people. Electronic communication is also a faster means of communication considering the limited time frames that the application process allows.

Notification of I&APs:

1. I&APs were identified and where possible e-mail addresses obtained (or postal addresses).
2. Notification letters were sent via e-mail (or registered mail if specifically requested) [written notification as per Regulation 41(2)(b)] and a Background Information Document (BID) was sent by e-mail. I&AP were requested to confirm if they wish to be involved in the process.
3. Site notices were erected at suitable locations close to the proposed application area [as per Regulation 41(2)(a)] and included the details described in Regulation 41(3) and complied with the details described in Regulation 41(4).
4. A Newspaper advertisement was placed in a relevant local newspaper [as per Regulation 41(2)(c)].

Consultation with I&APs:

1. An I&AP register was maintained as per Regulation 42.
2. Public Meeting: In light of the prevailing Covid-19 pandemic, electronic communication was preferred and one on one meeting were offered instead of a public meeting.
3. One on One Consultation: The Landowner was provided with a hand delivered notification and the project discussed in person. No other I&AP requested a one on one meeting.
4. Request for Comments: All I&APs were encouraged and/or requested to indicate their feedback in writing and comment forms provided for this purpose.

Particulars of Public Participation Process:

1. The draft Basic Assessment Report [report as per Regulation 19(1)] was made available for I&AP to review for a period of 30 days [as per Regulation 19(1)], electronically via the Umhlaba web site, and a hard copy at the Umhlaba Office. E-mail and sms notification of the availability of the document were sent to registered I&AP.
2. Once the final Basic Assessment Report was completed all registered I&AP were notified and provided access to the submitted report via the Umhlaba web site. E-mail notification of the availability of the document was sent to registered I&AP.

The following information was requested from interested and affected parties;

- To provide information on how they consider that the proposed activities will impact on them or their socio-economic conditions
- To provide written responses stating their suggestions to mitigate the anticipated impacts of each activity
- To provide information on current land uses and their location within the area under consideration
- To provide information on the location of environmental features on site to make proposals as to how and to what standard the impacts on site can be remedied.
- To make proposals as to how the potential impacts on their infrastructure can be managed, avoided or remedied.

(iii) Summary of issues raised by I&APs

A summary of the issues raised by interested and affected parties is provided in Table 1. All original feedback received is provided in Appendix A3.2.

Table 1: Summary of issues raised and the EAP's response.

I&AP AND MEANS OF CONSULTATION		DATE	ISSUE RAISED	EAP'S RESPONSE (AS MANDATED BY APPLICANT)	SECTION OF REPORT IN WHICH ISSUE IS ADDRESSED
Person consulted	Codes in footer ¹	Date on which I&AP response was received.	Summary provided below, written feedback provided in Appendix A.5., where available		
Landowner / Lawful Occupiers of Land					
Sebastião Farms (Pty) Ltd	M	5/11/2020	Sebastião Farms (Pty) Ltd requires a signed agreement in terms of the leasing of the land to Bundu Sand (Pty) Ltd for mining of sand.	A lease of agreement was agreed upon by both parties and duly signed.	Appendix A3.2.
Lawful Occupiers of Adjacent Properties					
Wilhelmina S Bredenkamp	E, T	11/12/2020	Ms Robin Bredenkamp requested that the information about the application be sent to her lawyers for comment.	The BID and link to the draft BAR were emailed to Mr De Bruyn who is the lawyer for the Bredenkamp family on the 16 th December 2020 with an indication that his comment period would be extended until 8 th January 2021. A followup email was sent on 4 th January 2021 however no comment was provided.	N/A
Japie J Du Plessis	E, T	11/12/2020	Mr Du Plessis provided written confirmation that he has no objections to the application.	No objections were acknowledged by the EAP.	N/A
Freek Joubert	E, T	4/11/2020	Mr Joubert indicated over the phone that he has no interest in the application and did not want to provide comments.	Acknowledged his wishes and did not engage Mr Joubert in any further consultation.	N/A
Willem R Mocke	E, T	11/12/2020	Mr Mocke verbally indicated over the phone to the EAP during the notification process that there were no objections from Uitzicht Sands.	Requested that written confirmation of no objections be sent through, however this was never received. Sent a reminder email on 8 th December 2020 and phoned on 11 th December 2020.	N/A
Municipality					
City of Tshwane: Divisional Head - Environmental Management	E, RM	No response			
Municipal Councillor					
Cllr Frik Van Wyk (Ward 55)	E	8/12/2020	Provided concerns about haul trucks damaging the roads and requested that the mine contribute towards the maintenance of such roads.	Responded that this application is to essentially extend the life of the current operation. There is no intention to increase production rate therefore the truck traffic associated with the Bundu operation is unlikely to increase.	N/A
Organs of State & Other Competent Authorities Affected					
Department of Rural Development and Land Reform: Land Claims Commissioners	E, RM	No response			
Department of Water and Sanitation Regional Office: Gauteng	E, RM	No response			
Department of Agriculture and Rural Development Gauteng	E, RM	15/12/2020	Ms Kgari Manotwane (Rural Development) responded via email that there were no objections to the application.	No objections were acknowledged by the EAP.	N/A
Provincial Heritage Resources Agency Gauteng	E, RM, SAHRIS	18/11/2020 17/12/2020	Issued a letter and email response stating that in terms of section 38 of the National Heritage Resources Act 25 of 1999, a Heritage Impact Assessment should be conducted by a professional heritage specialist during the EIA process.	Mr Francois P Coetzee was commissioned to undertake the required HIA which was completed in December 2020. The report is appended to this document and the management recommendations therein were incorporated into the environmental management plan section of this report.	Appendix A7 Part B (1)(f)
Communities					
Community Leader. Ward 1.	E	7/11/2020	Ms Loletta Moraba provided concerns via email about the potential health impacts on her community in Ward 1 as well as the social benefits that the community could expect from the mine.	Responded that Bundu Sand is an existing sand mining operation located in the south western section of Ward 55. Given the location, size of the area, duration (2 years) and the restricted scope of activities (free digging of sand), there are unlikely to	N/A

¹ RM=Registered mail, E=Email, M=One on one Meeting, PM=Public Meeting, T=Telephone, SAHRIS=Case Upload Portal

I&AP AND MEANS OF CONSULTATION		DATE	ISSUE RAISED	EAP'S RESPONSE (AS MANDATED BY APPLICANT)	SECTION OF REPORT IN WHICH ISSUE IS ADDRESSED
Person consulted	Codes in footer ¹	Date on which I&AP response was received.	Summary provided below, written feedback provided in Appendix A.5., where available		
				be any health implications for the communities in Ward 1 (over 15km away). The most likely affected parties would be the direct and adjacent landowners/occupiers to the application area who are being consulted directly. The proposed area would be mined by the existing Bundu Sand operation and with their current employees. Bundu Sand is committed to social investment and will continue to contribute in line with their existing commitments.	
Other I&AP					
Jura Poultry Farm (Pty) Ltd	E, T	15/12/2020	Mr Johann Williamson provided written confirmation that Jura Poultry has no objections to the application.	No objections were acknowledged by the EAP.	N/A
Rietvalei Quarry	E, T	5/11/2020	Mr Steve Mahlangu verbally indicated over the phone to the EAP during the notification process that there were no objections from Rietvalei Quarry.	Requested that written confirmation of no objections be sent through, however this was never received. Sent a reminder email on 8 th December 2020 and tried phoning on 11 th December 2020 with no answer. Also sent a request via whatsapp on 11 th December 2020.	N/A

(iv) The environmental attributes associated with the development footprint alternatives

(The environmental attributes described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects).

(1) **Baseline Environment**

(a) Type of environment affected by the proposed activity

(Its current geographical, physical, biological, socio-economic, and cultural character).

Local Setting

The proposed site is accessed from the R514 approximately 11km east of Hartbeespoort. The closest receptors to the site are the agricultural buildings (chicken farm) immediately west by approximately 500m (Figure 3). To the north beyond the Swartspruit river are some small holdings at approximately 1300m, to the east is the Krauseville Agricultural Holdings at approximately 1500m, and to the south over the ridge is the Gerotek vehicle testing facility at approximately 1700m. There are extensive existing sand mining operations immediately to the north of the proposed site and an abandoned quarry immediately to the south-east. With the exception of the abandoned quarry, the ridge to the south of the site is in a natural state.

Geology and Soils

This area consists predominantly of quartzites, conglomerates and some shale horizons of the Magaliesberg, Daspoort and Silverton Formations (Vaalian Pretoria Group) and the Hospital Hill, Turffontein and Government Subgroups (Randian Witwatersrand Supergroup). Soils are shallow, gravel lithosols of the Mispah and Glenrosa forms. In the areas that have not yet been disturbed by previous mining activities, the soils are described according to the Land Type Series (refer to Figure 2), produced by the Department of Agricultural Technical Services and the Soil and Irrigation Research Institute (ARC-ISCW, 2007):

- *On the ridge:* Ib3c - Rocky areas with miscellaneous soils.
- *Base of the ridge:* Ba8a - Widespread red soils that have undergone extensive to moderate leaching (dystrophic² and / or mesotrophic³).

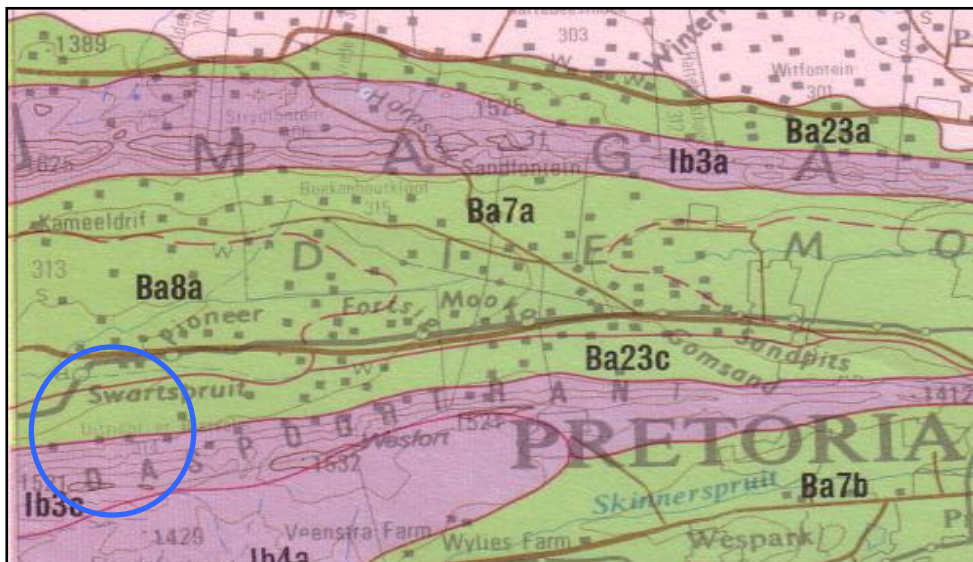


Figure 2: Soil profile of the site and surrounding areas.

² **Dystrophic:** Refers to soil that has suffered marked leaching, such as the sum of exchangeable (as opposed to soluble) Ca, Mg, K and Na, as expressed in cmol/kg clay, is less than 5. (The figure is calculated from the S-value and the clay content.) Such soil is said to have a low base value.

³ **Mesotrophic:** Refers to soil that has suffered moderate leaching, such as the sum of exchangeable Ca, Mg, K and Na, is 5 – 15 cmol/kg clay, is less than 5. (The figure is calculated from the S-value and the clay content.) Such soil is said to have a medium base status

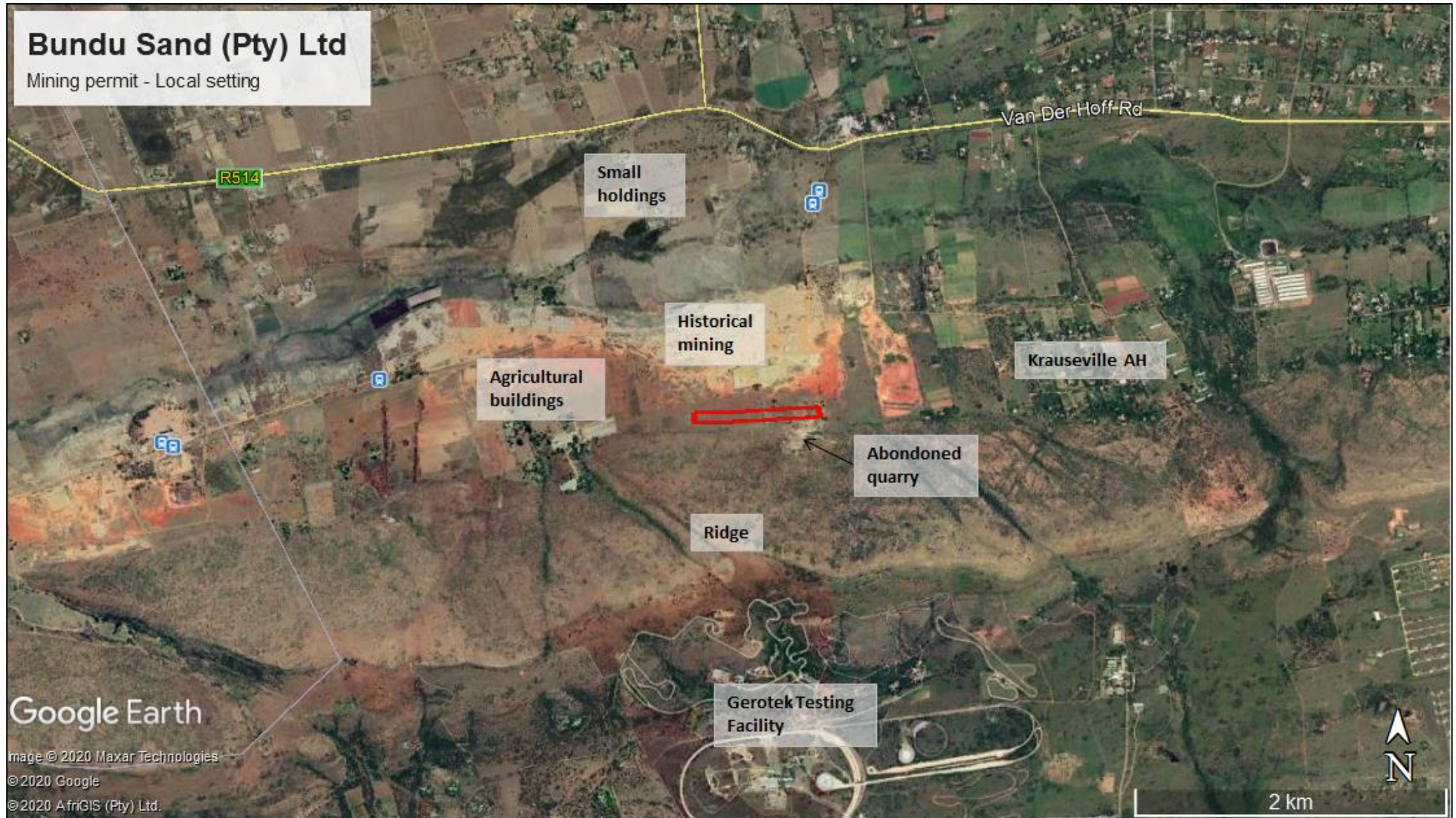


Figure 3: Aerial image illustrating the local setting of the site in relation to surrounding land uses and receptors.

Topography

The study area is situated on a gently sloping landscape. The landscape slopes very gently towards the north as well as towards the west (see contour map in Figure 4). The site is at an elevation of approximately 1255–1270 m. The highest point is on the south-eastern boundary of the site and the lowest part is on the northwestern corner as illustrated by the Google Earth 3D image in Figure 5.

Vegetation and Flora

David Hoare Consulting (Pty) Ltd conducted an Initial Site Sensitivity Verification survey of the site concentrating on vegetation and flora (Hoare, 2020 - see Appendix A9 for full report) and found the following:

The site is within one regional vegetation type, a grassland vegetation type called Gold Reef Mountain Bushveld, classified as Least Concern, and not listed in the National List of Ecosystems that are Threatened and need of protection (GN1002 of 2011), published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004).

According to the Gauteng C-Plan (version 3.3 in Hoare, 2020), none of the site is within a designated area, although adjacent areas to the south are within areas mapped as “Ecological Support Area”.

The vegetation on site is secondary and previously disturbed. This is due to previous sand mining and disturbance due to quarrying of most of the eastern part of the site, and previous cultivation on the western half of the site. The remaining parts of the site have been continuously disturbed by various activities related to these two main disturbances.

A total of 54 species were recorded on the site during the field survey, 3 of which are exotic and an additional 9 of which are declared weeds or invader plants (a list of the species identified is presented in the report in Appendix A9). The proportion of naturalized exotic and invader species is moderate high (22%), despite the high levels of disturbance of habitat on site. There are three listed plant species that have habitat requirements that are partially met by those found on site, but none of these species were found on site. Based on the field survey, it is considered unlikely that any of these species could occur there.

The vegetation and flora on the site is therefore considered to be transformed from its natural state and is not considered to be particularly sensitive or valuable from a botanical perspective.

Water

There are no natural water sources within the proposed mining permit area. The Swartspruit River runs west to east approximately 1km north of the site and a non-perennial stream runs south to north approximately 100m east of the site. Some scattered wetlands are also shown by the Gauteng C-Plan to be located approximately 700m north of the site although this was not verified in the field (Figure 6).

The proposed site falls within the quaternary catchment A21H. A summary of the characteristics of the quaternary catchment area (Midgley et al., 1994) is provided in Table 2. The site covers an area of 0.0482 km², approximately 0.010% of the quaternary catchment A21H. Assuming that run-off over the whole area is consistent, then the proposed mining permit area has a Mean Annual Run-off (MAR) of approximately 1 870m³.

Table 2: Catchment area characteristics of quaternary catchment A21H.

	Quaternary Catchment A21H
Surface area (km ²)	514.00km ²
Mean Annual Evaporation (mm)	1 700mm
Mean Annual Precipitation (mm)	668mm
Mean Annual Run-off (mm)	36mm
Gross MAR (m ³)	18 700 000m ³

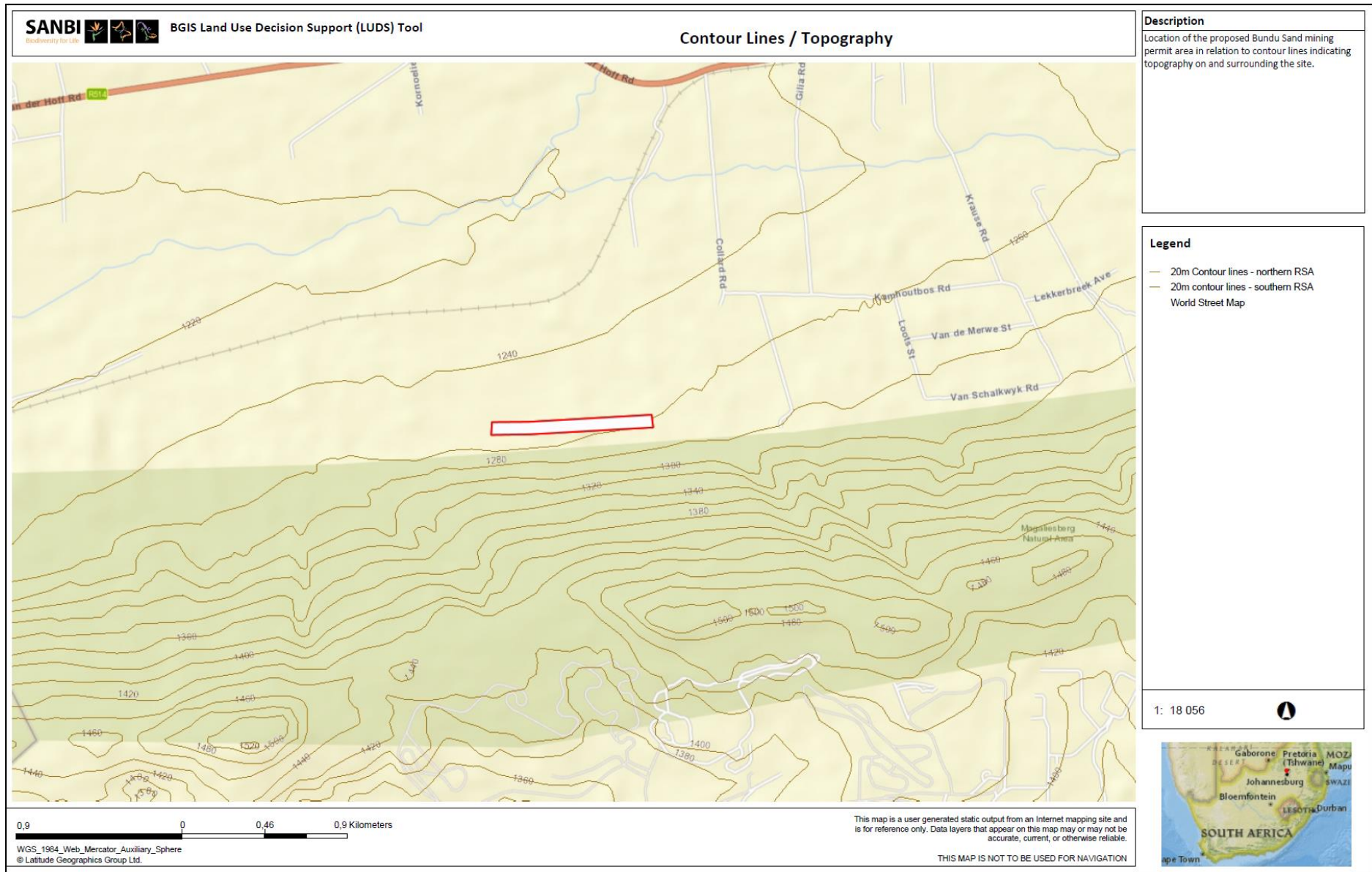


Figure 4: Map showing contour lines indicating the topography of the site and surrounding areas.



Figure 5: Google Earth 3D image illustrating the gentle slope of the land from east to west and the ridge south of the site (note this view is from north to south).

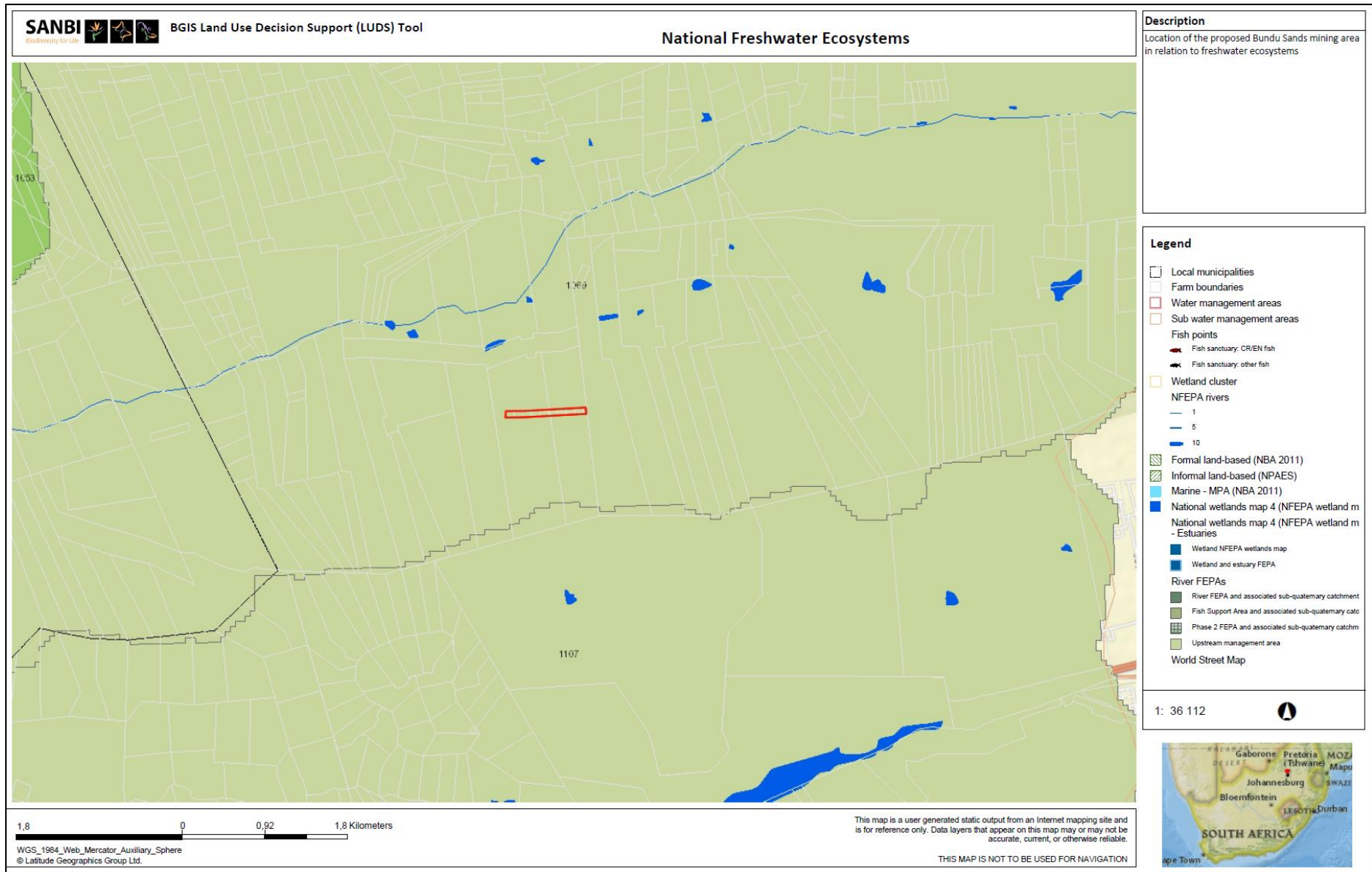


Figure 6: Map indicating the location of the site in relation to surface water sources.

Fauna

The site and surrounding areas have been mostly transformed from their natural state due to historical cultivation and mining (Hoare, 2020). This has resulted in the current habitat comprising mostly of secondary grasslands and alien vegetation which is considered no longer ideal for supporting fauna of any conservation importance. A visit to the site by the EAP on the 16th September 2020 noted some physical evidence (burrows and scat) of porcupine and other smaller rodents, as well as scrub hare and baboon. However, given the extent and shape of the mining permit area it is likely that these animals are not resident or entirely dependent on the proposed area itself, but descend from the ridge and move through the area when foraging. The mining area falls within the quarter degree square 2528CA. Table 3 shows which species of conservation importance may be expected in the quarter degree square (IUCN, 2001) and whether it is likely if they will occur on site.

Table 3: Red data animal species expected in the quarter degree squares 2528CA.

SCIENTIFIC NAME	COMMON NAME	SARDB	LIKELY TO OCCUR ON-SITE
Mammals			
<i>Cloeotis percivalli</i>	Short-eared trident bat	CE	Low
<i>Mystromys albicaudatus</i>	White-tailed rat	EN	Low – grassland disturbed
<i>Damaliscus lunatus lunatus</i>	Tsessebe	EN	Do not occur outside protected areas
<i>Ourebia ourebi</i>	Oribi	EN	Do not occur outside protected areas
<i>Neamblysomus julianae</i>	Juliana's golden mole	VU	Low
<i>Rhinolophus blasii</i>	Peak-saddle horseshoe bat	VU	Low
<i>Hippotragus niger niger</i>	Sable antelope	VU	Do not occur outside protected areas
<i>Atelerix frontalis</i>	South African hedgehog	NT	Low – grassland mostly disturbed
<i>Myotis welwitschii</i>	Welwitsch's hairy bat	NT	Low
<i>Myotis tricolour</i>	Temminck's hairy bat	NT	Low
<i>Pipistrellus rusticus</i>	Rusty bat	NT	Low
<i>Miniopterus schreibersii</i>	Schreiber's long-fingered bat	NT	Low
<i>Rhinolophus clivosus</i>	Geoffroy's horseshoe bat	NT	Low
<i>Rhinolophus darlingi</i>	Darling's horseshoe bat	NT	Low
<i>Dasymys incommutatus</i>	Water rat	NT	No
<i>Hyaena brunnea</i>	Brown hyaena	NT	Low
<i>Leptailurus serval</i>	Serval	NT	Low
<i>Lutra maculicollis</i>	Spotted-necked otter	NT	No
<i>Mellivora capensis</i>	Honey badger	NT	Low
Birds			
<i>Grosbeak leuconotus</i>	Whitebacked Night Heron	VU	None
<i>Gyps coprotheres</i>	Cape Vulture	VU	Low
<i>Polemaetus bellicosus</i>	Martial Eagle	VU	Low
<i>Aquila rapax</i>	Tawny Eagle	VU	Low
<i>Circus ranivorus</i>	African Marsh Harrier	VU	Low
<i>Falco naumanni</i>	Lesser Kestrel	VU	Low

SCIENTIFIC NAME	COMMON NAME	SARDB	LIKELY TO OCCUR ON-SITE
<i>Anthropoides paradiseus</i>	Blue Crane	VU	Low
<i>Podica senegalensis</i>	African Finfoot	VU	None
<i>Eupodotis cafra</i>	Whitebellied Korhaan	VU	Low
<i>Tyto capensis</i>	Grass Owl	VU	None
<i>Ciconia nigra</i>	Black Stork	NT	Low
<i>Phoenicopterus ruber</i>	Greater Flamingo	NT	None
<i>Phoenicopterus minor</i>	Lesser Flamingo	NT	None
<i>Asagittarius serpentarius</i>	Secretarybird	NT	Low
<i>Alcedo semitorquata</i>	Halfcollared Kingfisher	NT	None
<i>Mirafraga cheniana</i>	Melodius Lark	NT	Low
<i>Buphagus erythrorhynchus</i>	Redbilled Oxpecker	NT	Low
Reptiles			
<i>Python sebae natalensis</i>	African Rock Python	VU	Low
<i>Homosorelaps dorsalis</i>	Striped harlequin snake	Rare	Low

* Conservation Status Category assessment according to IUCN Ver. 3.1 (IUCN, 2001), as evaluated by the Threatened Species Programme of the South African National Biodiversity Institute in Pretoria. *IUCN (3.1) Categories: VU = Vulnerable, EN = Endangered, CR = Critically Endangered, NT = Near Threatened.

Climate

The closest reference in terms of climatic conditions is Harbeespoort which is located 11km west of the site. There are no physical barriers such as mountains or ridges between the site and Hartbeespoort therefore the conditions experienced at Hartbeespoort are considered to be representative of conditions that would be experienced at the site.

The Hartbeespoort area has a warm and temperate climate, with warm to hot summers averaging temperatures of 22.4°C and cool, dry winters averaging 11.0°C. The average annual precipitation is 697mm, with most rainfall occurring mainly during summer. The following figures provide more insight into the typical climatic conditions experienced in the greater area of where the site is located.

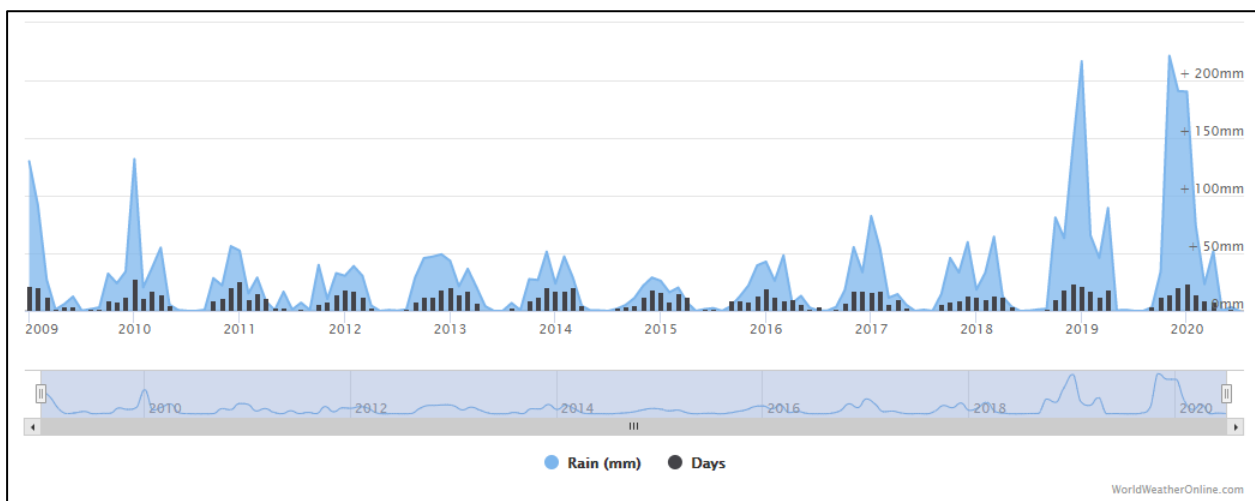


Figure 7: Long term trend for rainfall and number of rain days for the Hartbeespoort area.

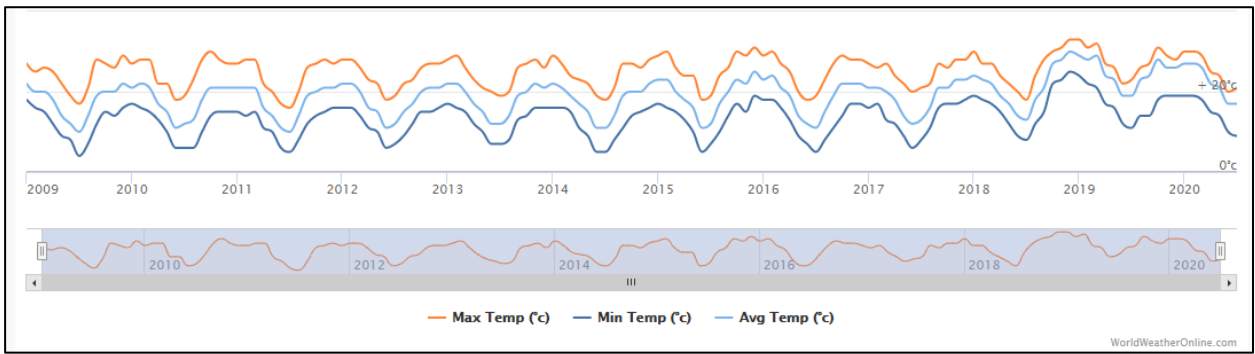


Figure 8: Long term trend for maximum, minimum and mean temperature for the Hartbeespoort area.

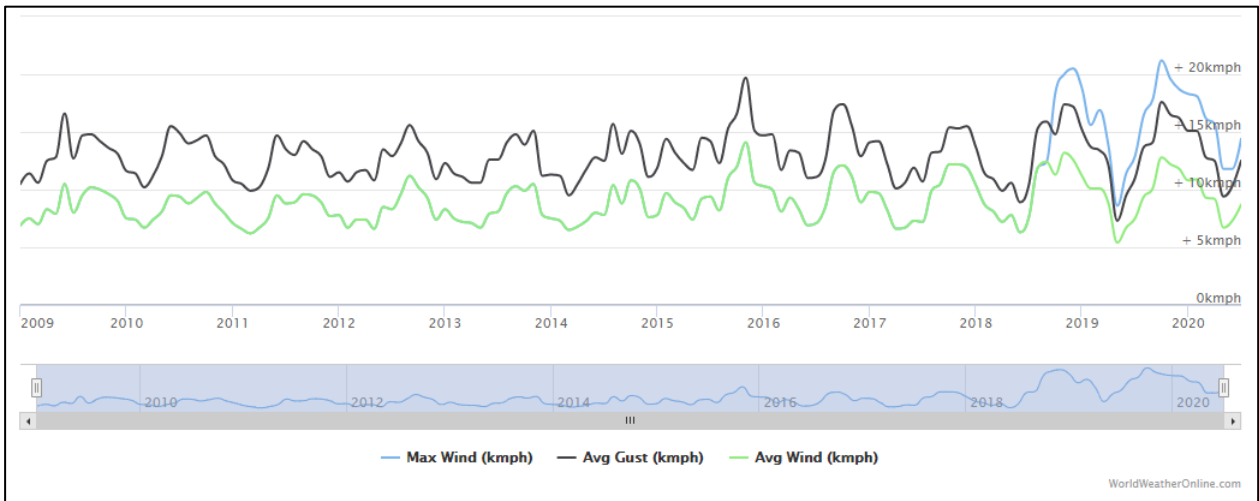


Figure 9: Long term trend for maximum and average wind speeds for the Hartbeespoort area.

The only available long term wind directional data is from the SAWS station at OR Tambo International Airport located some 47km to the south east of the proposed site. Annual average and monthly average wind roses have been generated using hourly wind speeds between 1989 and 2003 (Figure 10 and Figure 11, respectively). The wind roses provided indicate the wind frequencies for the 16 cardinal wind directions. The frequency of occurrence of winds within each direction is indicated by the length of the shaft compared with the dotted circles, representing a 5% frequency of occurrence. At the bottom of each wind rose / page are wind speed classes. These illustrate the frequencies of occurrence of winds in each category, for each wind direction. The frequencies of calm periods, wind speeds are below 1m/s, are indicated as a percentage value in the centre of each wind rose.

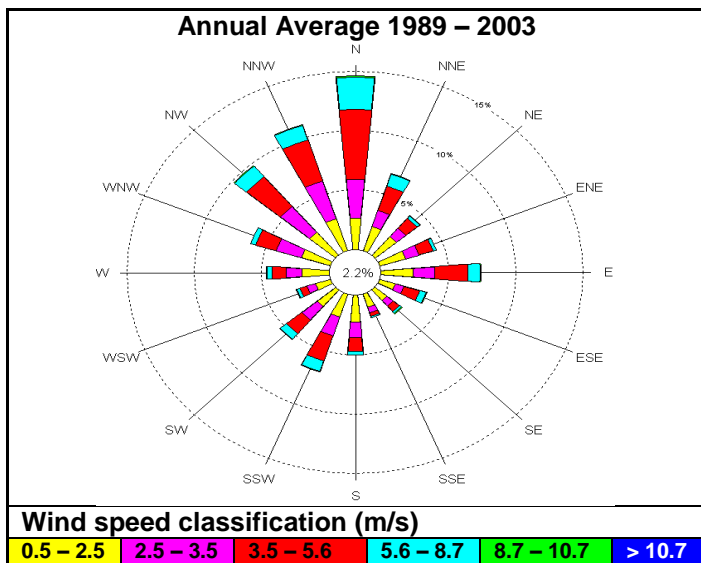


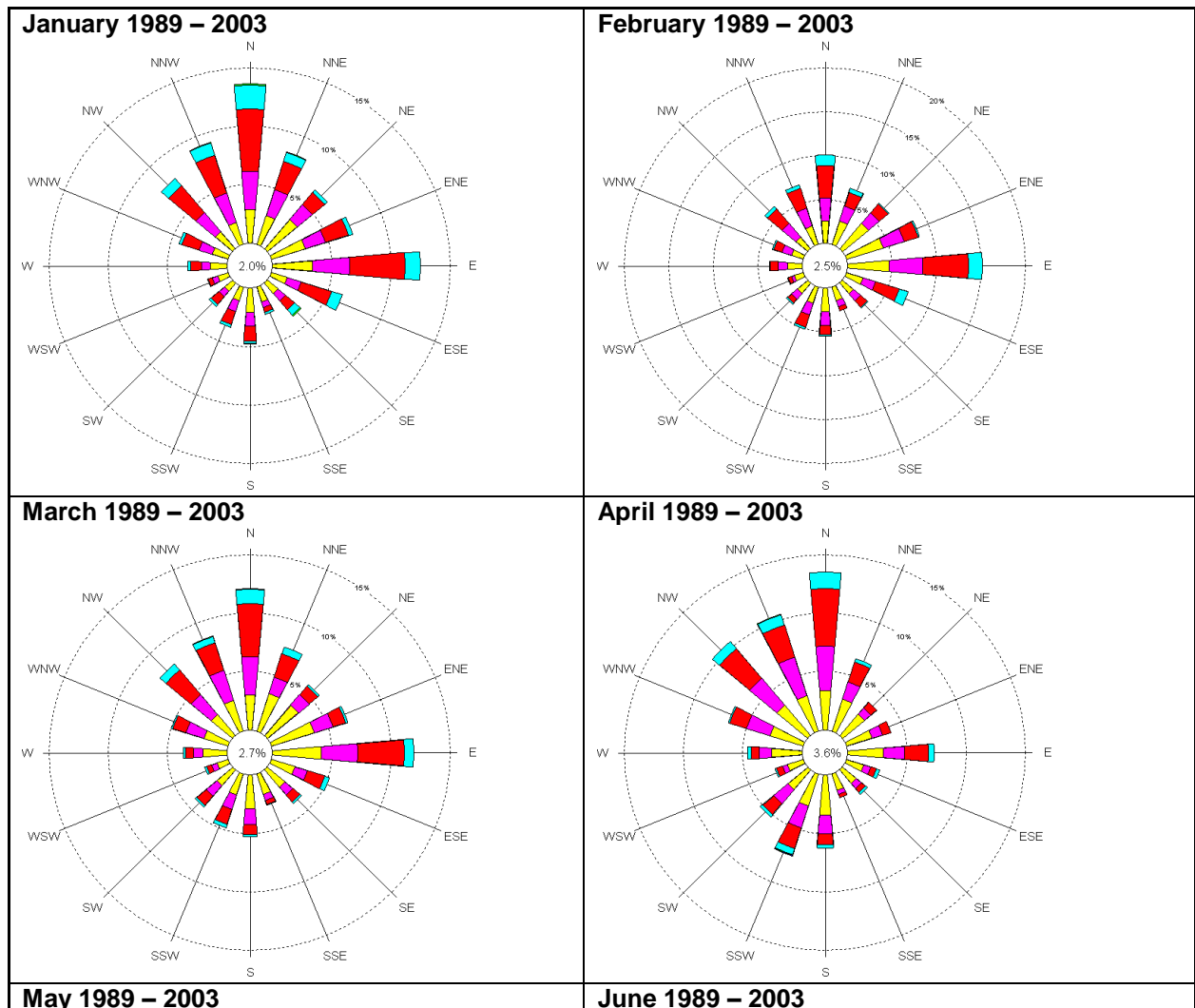
Figure 10: Annual average wind rose recorded for the SAWS station at the O.R. Tambo International Airport, for the period 1989 to 2003.

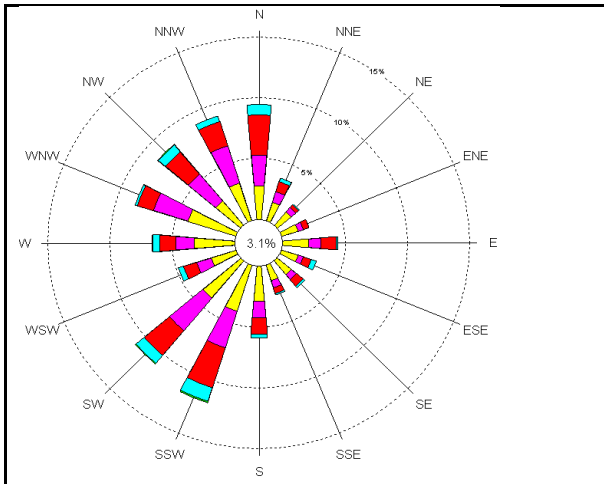
The predominant wind direction for this region, occurring for approximately 35% of the year, arises from a north-westerly to northerly direction. Secondary less frequent components arise from the south-westerly and easterly sectors, recording winds for more than 5% of the year (from each sector). The strong gusts (>8.7m/s) recorded for this station are most frequently associated with winds from these prominent sectors. On average, calm periods are recorded as occurring 2.2% of the year.

The monthly average wind roses recorded at the O.R. Tambo International weather station are presented in Figure 11. During a year, the frequency of northerly winds remains prominent, with an increase in frequency of occurrence (>20% in a single month) and strength from August to December. It is during these periods that any dust generated from the mining operation would impact on areas south of the mine. However, with the start of the summer rains in October, the generation and transportation of dust between October and December will be reduced. It is important to note that the frequency of winds from other sectors decreases during these months.

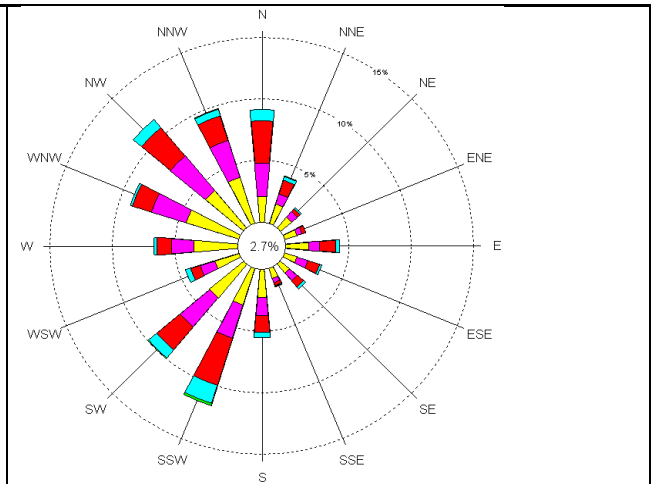
The decrease in the frequency of occurrence of northerly winds in January is coupled with an increase in occurrence of easterly winds, until March. Thereafter, the prominent wind direction is from the south-western and north-western quadrants, between May and July.

Gusts of wind are recorded between June and December, predominantly arising from the south-south-western and northern sectors.

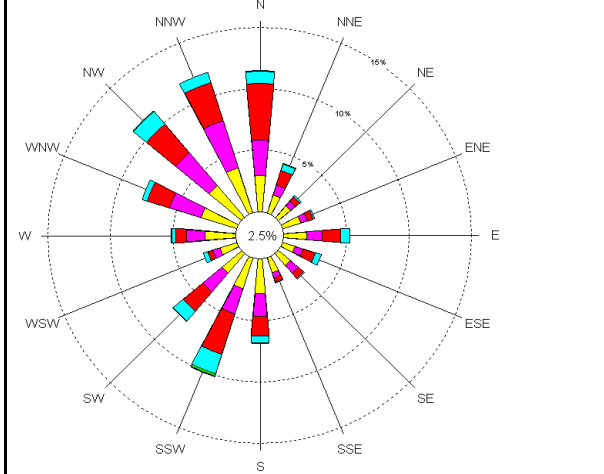




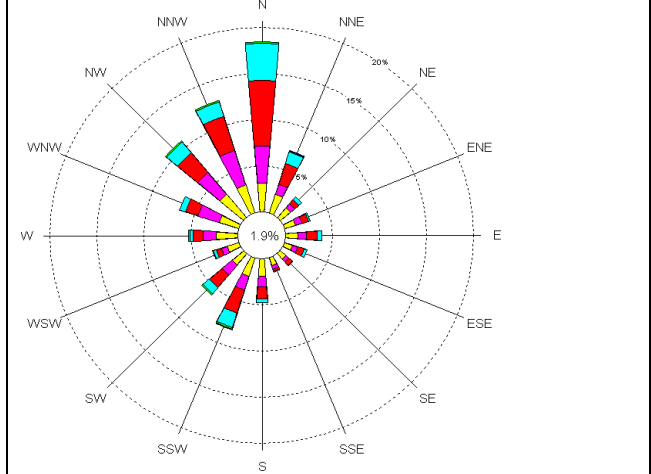
July 1989 – 2003



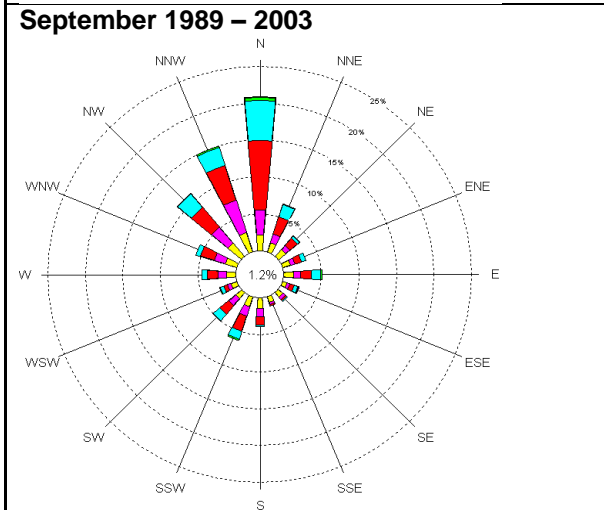
August 1989 – 2003



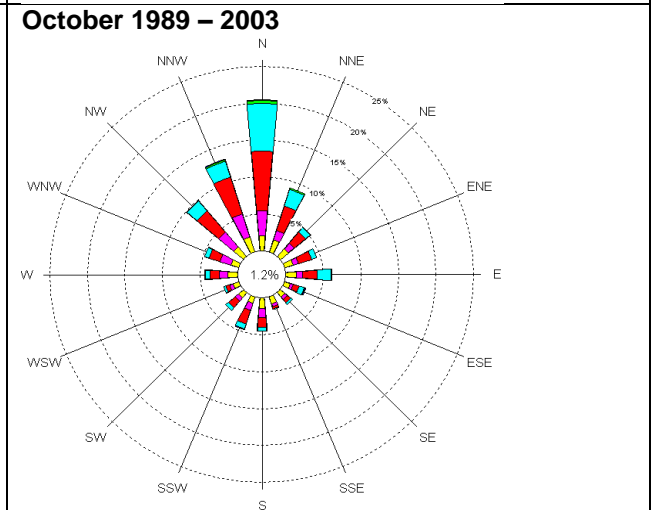
September 1989 – 2003



October 1989 – 2003



November 1989 – 2003



December 1989 – 2003

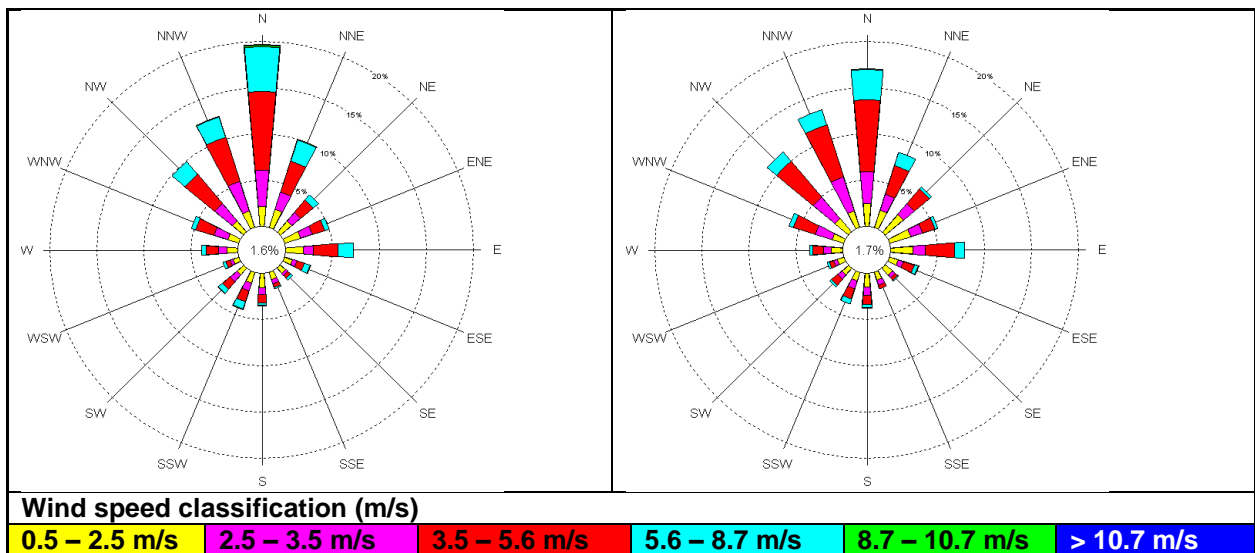


Figure 11: Monthly average wind rose recorded for the SAWS station at the O.R. Tambo International Airport, for the period 1989 to 2003.

Socio-economic structure

The site is located in Ward 55 (see Figure 12) within Region 3 of the City of Tshwane. This Region is bordered by the Magaliesberg Mountain range to the north and the N4 freeway to the east, including a small part of East Lynne and Silverton. The region includes the CBD of Tshwane, the Brooklyn and Hatfield metropolitan nodes as well as the western area of Tshwane (commonly known as Pretoria West). To the south west, the region borders on the jurisdiction of Mogale City and to the west is Madibeng in North West Province.

Region 3 has a population of 514 195. This is approximately 18% of the total population of the City of Tshwane of 2 921 488 (Statistics SA, 2011). Approximately 39 % of the population in Region 3 can be regarded as within the low income group (monthly household income of less than R2000 rand a month).

Atteridgeville is the closest major town to the site (5.8km south east) and has the following characteristics (Statistics SA, 2011):

Total population	64,425	Number of households	16,456
Young (0-14)	22,6%	Average household size	3,7
Working Age (15-64)	72%	Female headed households	42,9%
Elderly (65+)	5,4%	Formal dwellings	92,6%
Dependency ratio	38,9	Housing owned/paying off	66,6%
Sex ratio	93,2	Flush toilet	99,3%
Population density	6550 persons/km ²	Weekly refuse removal	96,1%
No schooling aged 20+	4,5%	Piped water inside dwelling	67,2%
Higher education aged 20+	15,8%	Electricity for lighting	98%
Matric aged 20+	38,6%		

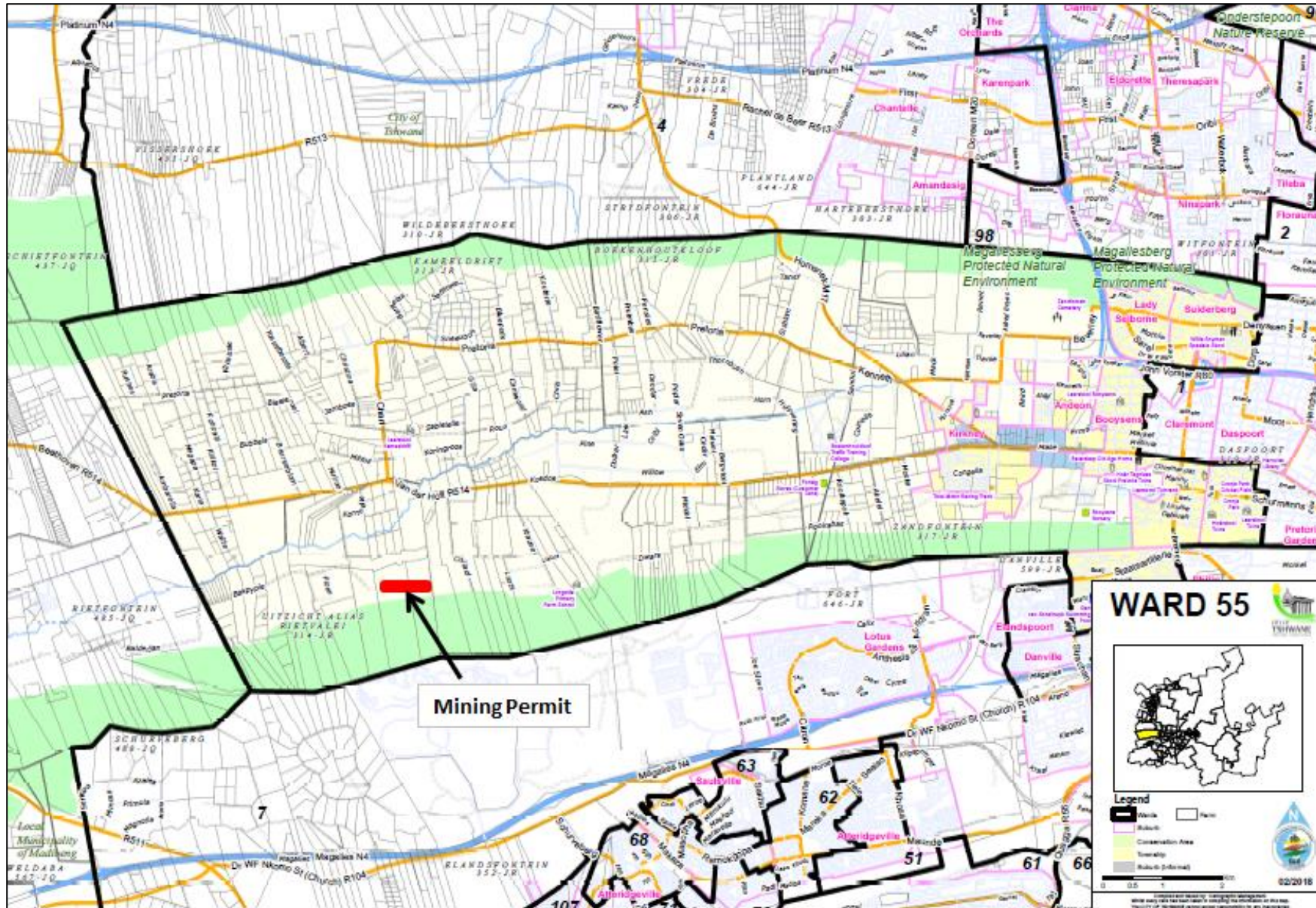


Figure 12: Location of the proposed mining permit area within Ward 55.

The City of Tshwane website⁴ lists the following as the current challenges facing Region 3 and the possible solutions:

Challenge	Solution
Homelessness/vagrancy and street-begging	Submission of Implementation Plan of the approved CoT Homelessness Policy
Monitoring support only available to ECD centres and not to community development initiatives.	Revitalization of the NPO funding strategy with the necessary resource allocation
Main challenge hampering service excellence: PHC Clinic Operations Critical staffing shortages – dedicated TB nurses, Data capturers, Lay counsellors, medical doctors. Maintenance backlog on repairs in clinics	Motivation for the filling of vacant positions which are due over a long period now. Request for "Tshepo 10 000" people to be trained to assist at clinics with basic work such as admin, cleaning, etc.
Free use of SRAC facilities Shortage of Security Guards at SRAC facilities which lead to high level of vandalism	The strict implementation of the Free Use Policy. To submit a report with cost implications to the Adjustment Budget to request additional funds.
Illegal water connections which compromises the infrastructure efficiency and revenue loss	Public must assist in reporting the illegal usage of water
Stolen water meters and steel manhole covers, sold as scrap	Moved away from copper to plastic water meters, and from cast iron to alternative non-metal manhole covers
Taking over of water and sanitation provision to informal settlements	Provision of sufficient funding and personnel to ensure service delivery
Illegal Connections	Security of Revenue Protection Section
Community education and enlightenment with respect to Electricity and Energy usage.	Customer education programmes are presented during imbizos.
Illegal Electricity connections which overload the infrastructure resulting in constant power failures and premature failure and reduction of equipment lifespan.	Capex funds, though insufficient, are being used to refurbish the network and prolong the lifespan of the equipment. Also, stricter revenue protection methods are being investigated.
Insufficient budget for planned maintenance put pressure on reactive maintenance	Increase planned maintenance budget

Sites of cultural heritage importance

A cultural heritage survey (Coetzee, 2020) was undertaken over the application area with the results of the survey being provided in a heritage impact assessment report (Appendix A7) and summarised below.

A large graveyard (Site 3) was recorded adjacent to the application area during the survey (Figure 13) with each grave clearly demarcated with packed stones and cement bases. Site 1 consists of various buildings that were probably associated with the mining activities during the 1960s and 1970s. Site 2 is a brick and cement reservoir (dam) that was used to retain water pumped from an adjacent borehole.

⁴ <http://www.tshwane.gov.za/sites/regions/Pages/Region-3.aspx>

The following recommendations and mitigation measures are proposed:

- Site 3 should be fenced off (either a palisade or other physical barrier) and an entrance gate installed;
- A buffer zone of 20 metres should be maintained along its periphery; and
- Care should be taken during the mining phase to prevent any impact on the graves.

The 20m buffer zone extends slightly into the mining permit area (Figure 14) and therefore Bundu must be aware of this and make provision to avoid this area during mining.

No archaeological (both Stone Age and Iron Age) settlements, structures, features, assemblages or artefacts were recorded within the application area during the survey. Therefore the recommendation from the specialist report from a cultural heritage perspective, is that the proposed sand mining may proceed, taking into account the recommendations made.

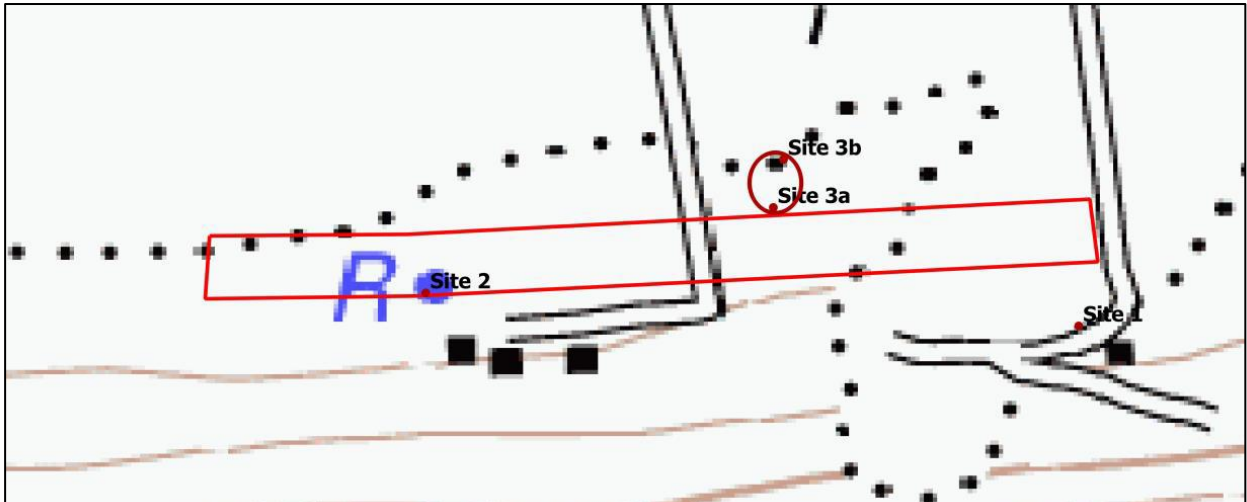


Figure 13: The location of the various heritage sites (Coetzee, 2020).

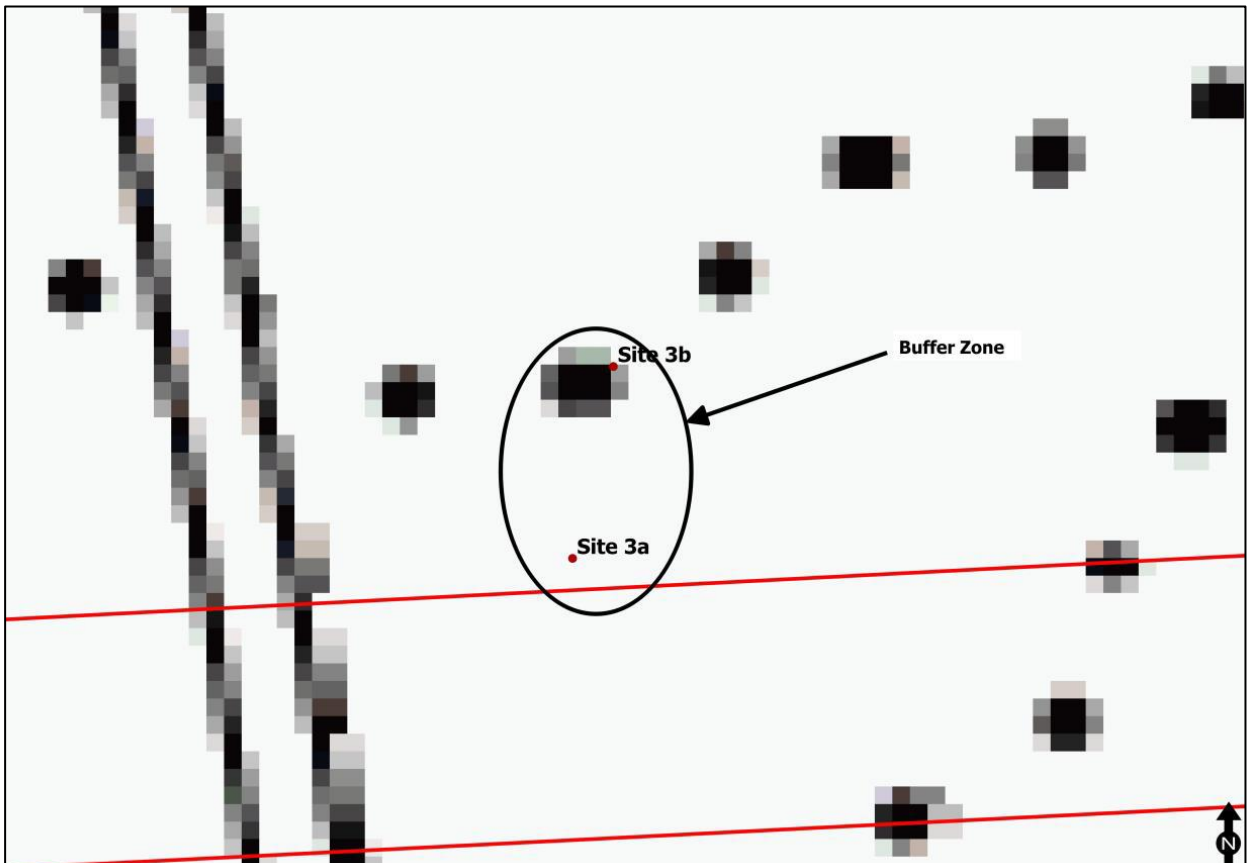


Figure 14: Detailed location of the graveyard (Site 3) on the periphery of the mining area (Coetzee, 2020).

(b) Description of the current land uses

The entire extent of the proposed site is currently vacant and is not supporting any particular land use at present. The patterns indicated on the Surveyor-General's 1:50 000 topo-cadastral map of the area that includes the site (Figure 15) shows that the central to western parts of the site were previously cultivated. However, typical plough-line patterns evident on the aerial image of the site dated 22 June 2020 (Figure 16) clearly indicate that the entire western half was previously cultivated. It is also evident from desktop information that the site was heavily impacted by quarrying across a large part of the eastern part of the site (see quarry indicated on the Surveyor-General's 1:50 000 topo-cadastral map of the area. This quarry and associated disturbance is clearly visible on aerial imagery for the site.

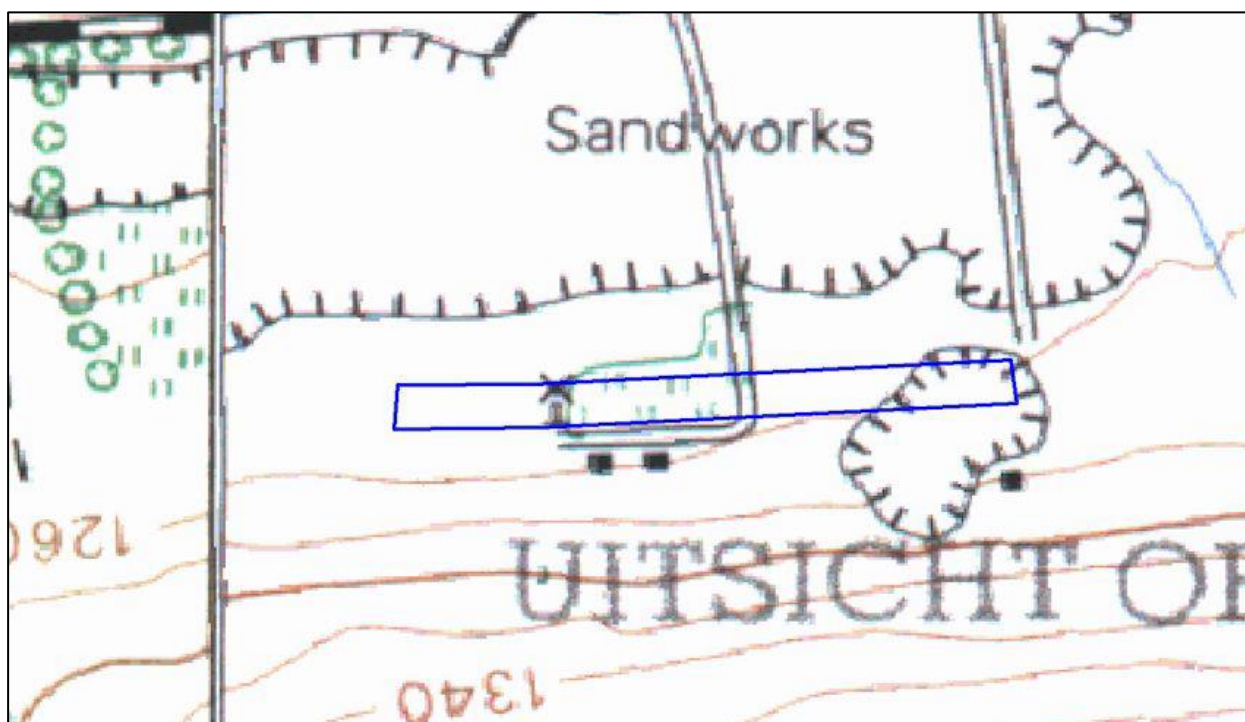


Figure 15: Surveyor-General's 1:50 000 topo-cadastral map of the area (sourced from Hoare, 2020).

(c) Description of specific environmental features and infrastructure on the site

There is currently no existing infrastructure on site except for a disused brick reservoir measuring 8m in diameter and 1m high (Photo 4), and various vehicle tracks crossing the site (Figure 16). A prominent erosion gully runs south to north in the western section of the site (Photo 5). The vegetation on site is secondary and previously disturbed. This is due to previous sand mining and disturbance due to quarrying of most of the eastern part of the site, and previous cultivation on the western half of the site (Hoare, 2020). The remaining parts of the site have been continuously disturbed by various activities related to these two main disturbances. Photo 6 and Photo 7 provide an indication of the current status of the site.

Of cultural and heritage concern is a graveyard located adjacent to the mining permit area amongst some large trees to the north (Figure 16).



Photo 4: Disused reservoir.



Photo 5: Erosion gully.



Photo 6: View of the central and western sections of the site noting secondary grassland cover and abundance of alien vegetation.



Photo 7: View of the eastern section of the site noting remnants of gravel and compacted surfaces from historical quarrying activities.

According to the Gauteng C-Plan (Figure 17), none of the site is within a designated area, although adjacent areas to the south are within areas mapped as “Ecological Support Area”. The entire site is considered to have secondary grassland in previously cultivated and/or mined areas. These areas are considered to have LOW sensitivity. This is in contrast to the very high sensitivity given in the online screening tool assessment for the site (see Appendix A9 for verification). The site is within one regional vegetation type, a grassland vegetation type called Gold Reef Mountain Bushveld, classified as Least Concern, and not listed in the National List of Ecosystems that are Threatened and need of protection (GN1002 of 2011), published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004).

(d) *Environmental and current land use maps*

(Show all environmental, and current land use features).

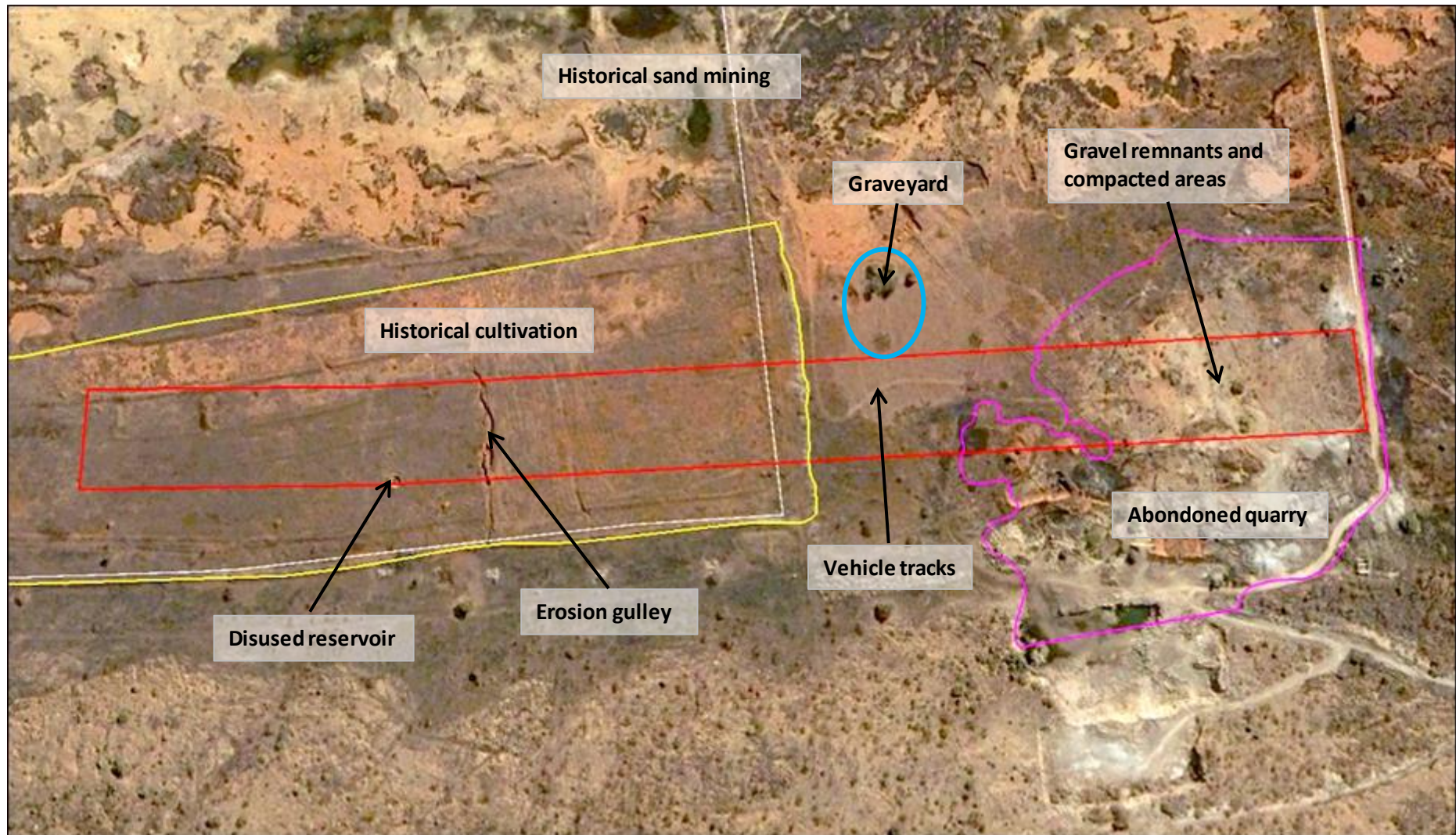


Figure 16: Aerial image indicating the current land uses within and surrounding the proposed mining permit area (adapted from Hoare, 2020).

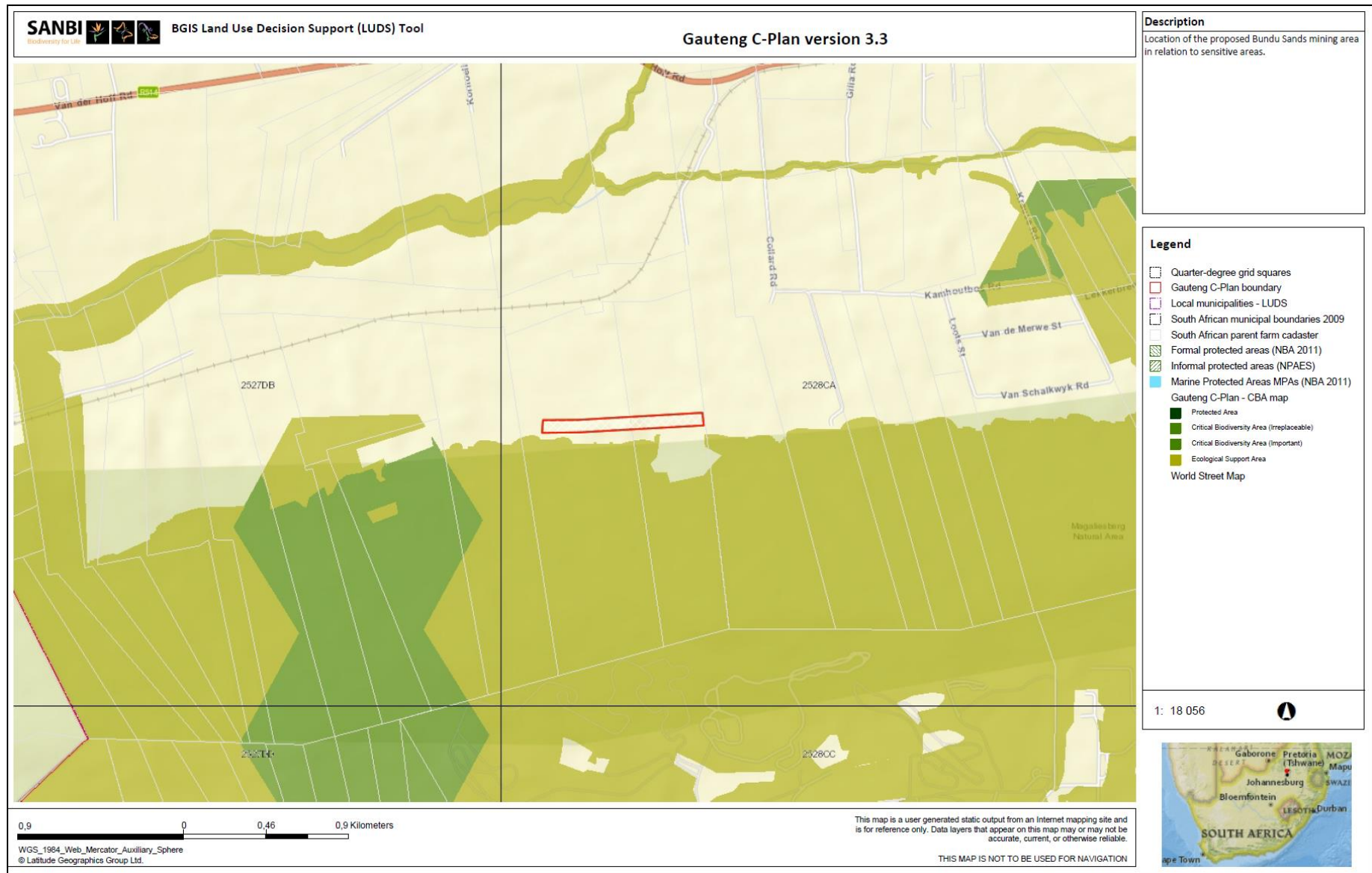


Figure 17: Gauteng C-Plan indicating the location of the proposed mining permit area in relation to environmentally sensitive areas.

(v) Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts can be reversed

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability, and duration of the impacts. Please indicate the extent to which they can be reversed, the extent to which they may cause irreplaceable loss of resources, and can be avoided, managed or mitigated).

Phase	Activity	Aspect	Potential Source / Cause	Impact	Consequence					External Factors		Ranking	Reverability of impact	NEMA Hierarchy	
					Nature	Extent	Duration	Frequency	Probability	I&AP	Cumulative				
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21 - application for a mining permit - GNR 327 Activity 27 - clearing more than 1ha of natural vegetation - GNR 327 Activity 22 - decommissioning	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	Medium	Local	Medium	Daily	High	No	No	Medium-High	Yes - impact ceases when mining stops.	Manage
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Medium	Local	Medium	Daily	High	No	No	Medium-High	Yes - impact ceases when mining stops.	Manage
2. Preparation and Operational Activities	Clearing of Land (preparation), Excavation of Sand, Loading and Hauling, Stockpiling, Supporting Services	Air quality	Dust entrainment and exhaust emission from vehicles and machinery. Windblown dust from exposed surfaces.	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Low-Med	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	Yes - impact reverses when mining stops	Manage
		Noise	Noise generated from vehicle / machinery operations	Increased ambient noise levels that may cause a nuisance to nearby receptors	Neg	Low-Med	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	Yes - impact reverses when mining stops	Manage & Mitigate
		Visual	The existng vegetation will be removed during clearing / preparation of the site for mining and the sand will then be excavated to a depth of 4m. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Medium	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Manage
		Surface water flow	The excavated area will be devoid of vegetation and the existing topography onsite will be lowered by 4m.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Low-Med	Neighbouring	Short	Monthly	High	No	Yes	Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Manage
		Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Low-Med	Local	Long	6 Monthly	Low	No	Yes	Low-Medium	Yes - impact reverses when pollution source is removed after mining stops.	Avoid, Manage & Mitigate
		Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The sand reserve will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Medium	On-site	Medium	Weekly	Medium	No	Yes	Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Manage
		Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Low-Med	On-site	Medium	Monthly	Low	No	Yes	Low-Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage
		Heritage	All objects on the surface of the mining site as well as within the sand to a depth of 4m will be removed.	Any heritage artefacts discovered onsite will either need to be moved or risk being destroyed.	Neg	High	On-site	Long	Monthly	Improbable	Yes	Yes	Medium	No - if an artefact is disturbed or destroyed it cannot be repaired or replaced	Avoid
		Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land sufficiently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Med-High	Neighbouring	Medium	Daily	Low	No	Yes	Medium	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage
3. Decommissioning & Rehabilitation	- Filling-in sections were mining is completed; - Establishment of indigenous species; - Removal of alien vegetation	All environmental aspects and socio-economic impacts on interested and affected parties	Implementation of sucessful concurrent rehabilitation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	Medium	On-site	Medium	Monthly	High	No	Yes	Medium	N/A	Manage

(vi) Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined in order to decide the extent to which the initial site layout needs revision).

The Umhlaba Impact Ranking Tool is a quantitative manner of investigating, assessing and evaluating the potential impacts / risks resulting from the activities associated with the proposed activity on the receiving environment; i.e. the biophysical, socio-economic and cultural heritage environment.

Legal Requirements:

The Umhlaba Impact Ranking Tool has been developed taking cognisance of the requirements of the MPRDA, The 2014 EIA regulations of the NEMA and the requirements of ISO 14001.

Regulation 50(c) of GNR 527 to the MPRDA, stipulates that the Environmental Impact Assessment (EIA) must include “an assessment of the **nature, extent, duration, probability** and **significance** of the identified potential environmental, social and cultural impacts of the mining operation, including the **cumulative** environmental impacts”.

Appendix 3, (3)(j) of GNR 982 of NEMA stipulates that the “assessment of each identified potentially significant impact and risk, including – (i) **cumulative** impacts, (ii) the **nature**, significance and consequence of the impact and risk, (iii) the **extent** and **duration** of the impact and risk, (iv) the **probability** of the impact and risk occurring, (v) the **degree** to which the impact and risk can be **reversed**, (vi) the **degree** to which the impact and risk may cause **irreplaceable loss of resources**; and (vii) the **degree** to which the impact and risk can be **mitigated**”.

ISO 14001, Section 4.3.1 Environmental Aspects stipulates that “the organisation shall establish, implement and maintain a procedure

- a) to identify the environmental aspects of its activities, products and services within a defined scope of the environmental management system that it can control and those that it can influence taking into account planned or new developments, or new or modified activities, products and services, and
- b) to determine those aspects that have or can have significant impacts on the environment”

When considering the above requirements and the purpose of this report, the significance of impacts / risks will be determined through the implementation of the Umhlaba Impact Ranking Tool as described below.

Definitions: The terms “environment”, “activity”, “aspect” and “impact” will be used technically throughout this document, and so it is important to explain what is meant by each term in the context of the Impact Assessment.

- **Environment (as defined in NEMA):** The **surroundings within which humans exist and that are made up of;**
 - the land, water and atmosphere of the earth;
 - micro-organisms, plant and animal life;
 - any part or combination of the above, and the interrelationships among and between them; and
 - the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing;
- **Activity:** A specific deed, action or function, that takes place at the Operation, such as;
 - Clearing of vegetation
 - Excavation of sand
 - Loading, hauling and stockpiling
- **Aspect:** Considered to be a direct effect of an *activity*, which has an influence on the *environment* (and is neither categorised as positive or negative), such as;
 - Mining will results in noise, the noise being the *aspect* of the *activity*.
- **Impact:** The end-result of an *aspect* that occurred due to an *activity*, resulting in an influence on the *environment*, which is either categorised as positive or negative (a subjective categorisation), such as;
 - Mining will results in noise (*aspect*) which can be a nuisance to surrounding I&AP (the *impact*).

Criteria to Consider when Determining Significance: The ranking of impacts / risks (also known as determination of significance) is estimated using two criteria, namely *Consequence* and *Probability*. These consider the contributing factors / criteria listed in the legislation. The definitions of each are provided below. The **Consequence** of an impact resulting from an aspect is expressed as a combination of:

Nature of impact: An indication of the extent of the damage (negative impacts) or benefit (positive impacts) the impact inflicts on natural, cultural, and/or social functions (environment).

Extent of impact: A spatial indication of the area impacted (i.e. how far from activity the impact is realised).

Duration of impact: A temporal indication of the how long the effects of the impact will persist, assuming the activity creating the impact ceases. For example, the impact of noise is short lived (impact ceases when activity ceases) whereas the impact of removing topsoil exists for a much longer period of time.

Frequency of the aspect occurring: An indication of how often an aspect, as a result of a particular activity, is likely to occur. Note that this does not assess how often the impact occurs. It applies only to the aspect. For example blasting takes place monthly and haulage daily while the resultant frequency of the impacts occurring will vary based on a number of factors.

The **Probability** of an impact resulting from an aspect is expressed as:

- **Probability** of impact occurring: An estimated indication of the potential for an impact to occur.

The **Significance** of an impact: Considering Consequence and Probability (defined above), Significance is an indication of how serious a negative impact is anticipated to be and how beneficial a positive impact may be. Significance is considered to be High, Medium-High, Medium, Low-Medium or Low. A description of the ranking process is provided below.

It must also be noted that the final significance ranking of an impact will take cognisance of other aspects specified in the legislation, such as:

- Cumulative impacts
- Impacts / Issues raised by interested and affected parties (I&AP).

How these are incorporated in the ranking is explained below.

Significance Ranking of Impact / Risk:

Consequence and Probability

Using the criteria listed in the legislation, scores are assigned to each the criteria, as outlined in the table below. The scoring range in the table has been selected to represent the scale in which varying impacts can occur. The combination of scores is then used to determine the **Consequence** and **Probability**, as described below.

- Consequence is expressed as the sum of all criteria in order to get a score out of 100.
- Probability of the impact occurring is expressed as a score out of 100.

Scoring for environment impact assessment criteria.

CONSEQUENCE	NATURE OF IMPACT:		
	Low	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are not affected.	1
	Low-Medium	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are affected insignificantly.	5
	Medium	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are altered.	10
	Medium-High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes are severely altered.	15
	High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will temporarily or permanently cease.	25
	EXTENT OF IMPACT:		
	On-site	Impact occurs on-site (within the boundary of the application area).	1
	Neighbouring	Impact occurs within a 5km radius of the site.	5
	Local	Impact occurs within a 20km radius of the site.	10
	Regional	Impact occurs within a 100km radius of the site.	15
	National	Impact occurs within South Africa.	25
	DURATION OF IMPACT:		
	Very Short-term	The impact will cease within 1 week if the activity is stopped.	1
	Short-term	The impact will cease within 6 months if the activity is stopped.	5
	Medium-term	The impact will cease within 1 years if the activity is stopped.	10
	Long-term	After the operational life of the operation.	15
Permanent	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.	25	
FREQUENCY OF OCCURRENCE OF THE ACTIVITY:			
Annually or less	Activity occurs at least once in a year or less frequently.	1	
6 months	Activity occurs at least once in 6 months.	5	
Monthly	Activity occurs at least once a month.	10	
Weekly	Activity occurs at least once a week.	15	
Daily	Activity occurs daily.	25	
PROBABILITY	PROBABILITY OF POTENTIAL OCCURRENCE OF THE IMPACT:		
	Improbable	The possibility of the impact materialising is very low either because of design or historic experience.	10
	Low	The possibility of the impact materialising is low either because of design or historic experience.	30
	Medium	There is a possibility that the impact will occur.	60
	High	There is a distinct possibility that the impact will occur.	80
	Definite	The impact will occur regardless of any prevention measures.	100

The **final significance** ranking of an impact will also take cognizance of;

- Impacts / Issues raised by **Interested and Affected Parties**: For new and existing operations, I&AP will be consulted, either during the compilation of the impact assessment (for new operations) or part of an existing / on-going consultation process (for existing operations). During this consultation process, I&AP will identify concerns relating to impacts resulting from activities associated with the operation. Impacts identified by I&AP's will be assigned additional scoring.
- **Cumulative Impacts**: Cumulative Impacts will be considered where an off-site activities (not related to the operation being evaluated) will result in the same impact at the receptors being considered.

Below is a summary of the influence of external factors on final significance scoring:

EXTERNAL FACTOR	DESCRIPTION	POINTS TO ADDED
Concern raised by I&AP	Unresolved Impact rasied as a concern by an I&AP	100
Cumulative impact	Impact can be considered cumulatively with off site impacts	50

The final significant ranking takes cognisance of the initial scoring plus any additional score associated with allocating an external factor. At no time can the sum total of all the scores exceed 1000.

The significance of an impact is considered to be classified into one of the following; High, Medium-High, Medium, Low-Medium or Low. Each of the classified impact has a scoring band into which it falls. The band has been determined by a combination of 25 years of experience of Umhlaba employees. The definition of each classification is provided below and focuses on the need for mitigation or management.

Low (4 – 60)	Management measures may not be necessary, but in some instances are encouraged to ensure that the impact remains of Low significance.
Low-Medium (61-200)	Management measures are usually encouraged to ensure that the impacts remain of Low-Medium significance.
Medium (201-400)	Management measures are required to ensure, at minimum, the significance of the impact does not increase.
Medium-High (401-650)	Management measures are required to reduce the significance of the impact to, at least, Medium significance.
High (>651)	Impact should be avoided, or if not possible, managed to reduce the significance of the impact to, at least, Medium significance (where possible).

Additional Factors that do not contribute to the Significance of an Impact

After completing the determination of significance of an impact, there are additional factors, which in terms of NEMA which need to be considered. NEMA stipulates that the impact assessment must consider the following for “each identified potentially **significant impact**”; namely;

- “the degree to which the impact can be reversed”,
- “the degree to which the impact may cause irreplaceable loss of resources”, and
- “the degree to which the impact can be mitigated.

The Umhlaba tool regards a “significant impact” as one with an initial ranking of medium or higher.

Although these factors are important in the evaluation of the impacts (particularly for new developments), they will not be applicable to all impacts and hence, may not influence the significance rating of an impact (explained below).

- **Degree to which the Impact can be Reversed:** An indication to the degree to which the impact can be reversed will be provided. Three categories have been allocated:
 - **Not possible:** Once the impact has occurred it will be permanent and cannot be reversed.
 - **Potentially:** With appropriate management and mitigation measures there is a potential the impact can be reduced / reversed.
 - **Likely:** With appropriate management and mitigation measures there is a good likelihood that the impact can be reduced / reversed.
- **Degree to which the Impact can be Mitigated:** This requirement is essentially achieved by determining significance before consideration of controls and then the significance after the consideration of management controls. The difference between the before and after controls is an indication of the “degree to which the impact can be mitigated”.
- **Degree to which the Impact may cause Irreplaceable Loss of Resources:** Aspects that need to be considered in terms of irreplaceable loss of resources should be discussed at the beginning of the impact assessment. An example is the removal of geological material.

(vii) The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties).

No alternatives have been considered. The impacts identified with this application have been presented in Section v above.

(viii) The possible mitigation measures that could be applied and the level of risk

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

Table 4: Issues raised and possible mitigation measure.

COMMENTS RECEIVED ON THE DRAFT & REVISED SCOPING REPORT	
I&AP COMMENTS RAISED	POSSIBLE MITIGATION MEASURES TO ADDRESS I&AP COMMENTS
<p>The only issue raised by I&AP that requires specific mitigation is the impacts on Cultural and Heritage Resources. SAHRA requested a specialist which was duly undertaken and the recommendations from the report incorporated into the environmental management plan section of this report. A summary of the findings are given below:</p> <p>A large graveyard (Site 3) was recorded during the survey with each grave clearly demarcated with packed stones and cement bases. Site 1 consists of various buildings that were probably associated with the mining activities during the 1960s and 1970s. Site 2 is a brick and cement reservoir (dam) that was used to retain water pumped from an adjacent borehole.</p>	<p>The following shall apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Known sites should be clearly marked in order that they can be avoided during demolition and construction activities. <input type="checkbox"/> The contractors and workers should be notified that archaeological sites might be exposed during the construction activities. <input type="checkbox"/> Should any heritage artefacts be exposed during excavation or demolition work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible; <input type="checkbox"/> All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken; <input type="checkbox"/> Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and <input type="checkbox"/> Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the NHRA (Act No. 25 of 1999), Section 51. (1). <p>In order to achieve this, the following should be in place:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage. <input type="checkbox"/> Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above. <input type="checkbox"/> In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

(ix) Motivation where no alternative sites were considered

The proposed mining operation would occur on and adjacent to properties which have been historically disturbed by agricultural and mining activities. The proposed site therefore does not present any highly environmentally sensitive aspects and has little conservation value as determined by a specialist (Appendix A9). The site has a known resource and is logically the next direction of mining given where mining has already occurred in the area. Therefore no alternative site location was considered.

Due to the simplistic nature of the proposed operation there are also no operational or technological alternatives identified that would be viable.

(x) Statement motivating the alternative development location within the overall site.

(Provide a statement motivating the final site layout that is proposed).

Due to the simplistic nature of the proposed operation there are no alternate site layout options to those presented in Appendix A2.

i) FULL DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS AND RISKS THE ACTIVITY WILL IMPOSE ON THE PREFERRED SITE (IN RESPECT OF THE FINAL SITE LAYOUT PLAN) THROUGH THE LIFE OF THE ACTIVITY

(Including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures).

The below process was followed for a screening level impact assessment in order to determine the potential impacts of the proposed activities to be assessed in more detail during the Basic Assessment process. The full process undertaken to assess and rank impacts is outlined in Section 3(g)(vi) and the complete results of the assessment is given in Appendix A.4.

Considering the baseline environment, the proposed activities were evaluated against all the below environmental attributes to identify potential impacts / risks.

Environmental Attributes (presented alphabetically):	
• Aesthetics / Visual affects	• Sites of heritage & cultural interest
• Air Quality / Dust	• Soil
• Ecology / Fauna and Flora	• Socio-economic
• Geological features / subsidence	• Surface water
• Ground water	• Topography
• Noise / Sound levels	• Vibration
• Sensitive receptors	• Safety

All potential impacts were then categorised as follows:

Identified / concern raised as;

- Known impact (an impact that is known by experience)
- Identified by I&AP's
- Identified by Specialist (if applicable)

The probability of the impacts were then categorised into;

- Improbable
- Probable and
- Definite

The duration of the impact were then categorised into;

- Short term (impact will cease within 6 months)
- Medium term (impact will cease within 5 years)
- Permanent

Using the above definitions, the identified impacts were classified as either potentially significant or insignificant;

- Insignificant impacts / risks were described but not assessed any further.
- Potentially significant impacts / risks were subjected to further assessment during the Basic Assessment process to determine the significance of the impact / risk in order to assign the appropriate management measures.

Impacts deemed to be potentially significant were assessed further using the Umhlaba Impact Assessment tool as outlined in Section (vi) above and mitigation measures developed accordingly.

j) ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

(This section of the report must consider all the known typical impacts of each of the activities (including those that could or should have been identified by knowledgeable persons) and not only those that were raised by registered interested and affected parties).

The complete supporting impact assessment conducted by the EAP is attached as Appendix A.4.

Phase	Activity	Aspect	Potential Source / Cause	Impact	Consequence					External Factors		Ranking	Controls / Management Measures Implemented				Significance (WITH controls)	
					Nature	Extent	Duration	Frequency	Probability	I&AP	Cumulative		Significance (WITHOUT controls)	Effective Engineering	Effective Procedural	Effective Training		Effective Monitoring / Maintenance
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21 - application for a mining permit - GNR 327 Activity 27 - clearing more than 1ha of natural vegetation - GNR 327 Activity 22 - decommissioning	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	Medium	Local	Medium	Daily	High	No	No	Medium-High	No	No	No	No	Medium-High
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Medium	Local	Medium	Daily	High	No	No	Medium-High	No	No	No	No	Medium-High
2. Preparation and Operational Activities	Clearing of Land (preparation), Excavation of Sand, Loading and Hauling, Stockpiling, Supporting Services	Air quality	Dust entrainment and exhaust emission from vehicles and machinery. Windblown dust from exposed surfaces.	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Low-Med	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	No	Yes	Yes	No	Low-Medium
		Noise	Noise generated from vehicle / machinery operations	Increased ambient noise levels that may cause a nuisance to nearby receptors	Neg	Low-Med	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	No	Yes	Yes	No	Low-Medium
		Visual	The existing vegetation will be removed during clearing / preparation of the site for mining and the sand will then be excavated to a depth of 4m. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Medium	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	No	Yes	Yes	No	Low-Medium
		Surface water flow	The excavated area will be devoid of vegetation and the existing topography onsite will be lowered by 4m.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Low-Med	Neighbouring	Short	Monthly	High	No	Yes	Medium	No	Yes	Yes	No	Low-Medium
		Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Low-Med	Local	Long	6 Monthly	Low	No	Yes	Low-Medium	No	Yes	Yes	Yes	Low-Medium
		Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The sand reserve will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Medium	On-site	Medium	Weekly	Medium	No	Yes	Medium	No	Yes	No	Yes	Low-Medium
		Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Low-Med	On-site	Medium	Monthly	Low	No	Yes	Low-Medium	No	Yes	No	No	Low-Medium
		Heritage	All objects on the surface of the mining site as well as within the sand to a depth of 4m will be removed.	Any heritage artefacts discovered onsite will either need to be moved or risk being destroyed.	Neg	High	On-site	Long	Monthly	Improbable	Yes	Yes	Medium	Yes	Yes	Yes	No	Low
		Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land sufficiently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Med-High	Neighbouring	Medium	Daily	Low	No	Yes	Medium	No	Yes	No	No	Low-Medium
3. Decommissioning & Rehabilitation	Filling-in sections where mining is completed; Establishment of indigenous species; Removal of alien vegetation	All environmental aspects and socio-economic impacts on interested and affected parties	Implementation of successful concurrent rehabilitation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	Medium	On-site	Medium	Monthly	High	No	Yes	Medium	No	No	No	Medium	

k) SUMMARY OF SPECIALIST REPORTS

(This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form).

The National Environmental Screening Tool (2017) identified the following possible environmental sensitivities:

Theme	V High Sensitivity	High Sensitivity	Medium Sensitivity	Low Sensitivity
Agriculture		X		
Animal species			X	
Aquatic biodiversity		X		X
Civil aviation			X	
Plant species			X	
Terrestrial biodiversity	X			

An applicant intending to undertake an activity on a site identified as being of “very high sensitivity” for terrestrial biodiversity on the national web based environmental screening tool must submit a Terrestrial Biodiversity Impact Assessment. However, where the information gathered from the Initial Site Sensitivity Verification or the specialist assessment differs from the designation of “very high” terrestrial biodiversity sensitivity from the national web based environmental screening tool and it is found to be of a “low” sensitivity, then a terrestrial biodiversity impact assessment is not required.

An Initial Site Sensitivity Verification assessment was undertaken by David Hoare Consulting (Pty) Ltd (see report in Appendix A9) and found that there appears to be a discrepancy between the sensitivity from the online screening tool and mapped regional Plans. The Very High sensitivity for Terrestrial Biodiversity appears to be a mapping error whereby a C-Plan designated polygon for an “Important” area was not “closed”. The result is that the entire area surrounding this was included within this C-Plan area, whereas the Gauteng C-Plan clearly shows that the site is NOT within any such area. The site is also not within any threatened ecosystem and was found to have only secondary vegetation in previously disturbed areas (based on a field site visit as well as historical aerial imagery, and information from the Surveyor-General’s 1:50 000 topocadastral map of the site). The historical disturbances on site are due to previous cultivation on site as well as to quarrying and sand mining activities. The combination of these various historical activities has entirely modified the original natural vegetation so that it is currently composed of secondary grassland with scattered indigenous and exotic trees. The conclusion of the assessment was therefore that the area is considered to have LOW sensitivity which is in contrast to the VERY HIGH sensitivity given in the online screening tool assessment for the site, and that the vegetation and flora onsite is not valuable from a botanical perspective. A terrestrial biodiversity impact assessment was therefore not undertaken for the current project.

A cultural heritage survey (Coetzee, 2020) was undertaken over the application area with the results of the survey being provided in a heritage impact assessment report (Appendix A7) and summarised below.

A large graveyard (Site 3) was recorded adjacent to the application area during the survey buildings that were probably associated with the mining activities during the 1960s and 1970s. Site 2 is a brick and cement reservoir (dam) that was used to retain water pumped from an adjacent borehole.

The following recommendations and mitigation measures are proposed:

- Site 3 should be fenced off (either a palisade or other physical barrier) and an entrance gate installed;
- A buffer zone of 20 metres should be maintained along its periphery; and
- Care should be taken during the mining phase to prevent any impact on the graves.

The 20m buffer zone extends slightly into the mining permit area and therefore Bundu must be aware of this and make provision to avoid this area during mining.

No archaeological (both Stone Age and Iron Age) settlements, structures, features, assemblages or artefacts were recorded within the application area during the survey. Therefore the recommendation from the specialist report from a cultural heritage perspective, is that the proposed sand mining may proceed, taking into account the recommendations made.

I) ENVIRONMENTAL IMPACT STATEMENT

(xi) Summary of the key findings of the environmental impact assessment

The **key findings** from the environmental impact assessment can be summarised as follows;

- The most significant positive impacts, ranked as **Medium** of higher;
 - Socio-economic - Legal / responsible mining that provides building material that could be used in local development including nearby priority projects identified in the IDP.
 - Rehabilitation – The land is already transformed by previous cultivation and mining activities. Rehabilitation after sand mining will support a future land use determined by the landowner.
- The most significant negative impacts, ranked as **Medium** of higher prior to consideration of management measures is;
 - Visual - Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography..
 - Surface water flow - Altered / impeded flow of water over the site during a rainfall event.
 - Soil - Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.
 - Heritage - Any heritage artefacts discovered onsite will either need to be moved or risk being destroyed.
 - Social aspects – Access to private land, landowner relationships and future land use after mining.

All negative impacts can be reduced with the implementation of mitigation measures including controls such as engineering, procedural, training and monitoring/maintenance (see Impacts Assessment in Appendix A4). After the implementation of mitigation measures all impacts reduce to either low medium or low.

(xii) Final site map

(Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. Attach as Appendix A5:).

The site map attached in Appendix A5. There are no identified environmental sensitivities to be avoided within the proposed site boundary.

(xiii) Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives

Due to the simplistic nature of the proposed operation there are no alternatives considered. The positive and negative impacts listed above are applicable to the proposed activity.

m) PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPR

(Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPR as well as for inclusion as conditions of authorisation).

Activity		Aspect	Potential Source / Cause	Impact		Reverability of impact	NEMA Hierarchy	Impact Management Outcomes
Phase	Description of the physical activities that will cause the impacts		Description as to how the activity may cause the impact	A description of the impact that may result from the activity			Avoid / Manage / Mitigate (Definitions on page 6.1)	Appendix 4(1)(d): A description of the impact management outcomes.
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21 - application for a mining permit - GNR 327 Activity 27 - clearing more than 1ha of natural vegetation - GNR 327 Activity 22 - decommissioning	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	Yes - impact ceases when mining stops.	Manage	The proposed activities are legally authorised and allow for optimal utilisation of the mineral resources that minimises impacts on the natural, social and economic environments..
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Yes - impact ceases when mining stops.	Manage	A building material product is available to the local market.
2. Preparation and Operational Activities	Clearing of Land (preparation), Excavation of Sand, Loading and Hauling, Stockpiling, Supporting Services	Air quality	Dust entrainment and exhaust emission from vehicles and machinery. Windblown dust from exposed surfaces.	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Yes - impact reverses when mining stops	Manage	Off-site dust fallout rates are below the residential / non-residential standard (as applicable) On-site dust fallout rates are below the site specific target
		Noise	Noise generated from vehicle / machinery operations	Increased ambient noise levels that may cause a nuisance to nearby receptors	Neg	Yes - impact reverses when mining stops	Manage & Mitigate	Noise levels emanating from prospecting activities are kept below the acceptable standard
		Visual	The existing vegetation will be removed during clearing / preparation of the site for mining and the sand will then be excavated to a depth of 4m. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Manage	The visual appearance of the mining site is kept neat and tidy
		Surface water flow	The excavated area will be devoid of vegetation and the existing topography onsite will be lowered by 4m.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Yes - impact reverses when mining stops and site is	Manage	Erosion resulting in sediments entering any water source is limited or avoided altogether

Decommissioning &					rehabilitated.			
	Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Yes - impact reverses when pollution source is removed after mining stops.	Avoid, Manage & Mitigate	Hydrocarbons entering any water source is limited or avoided altogether	
	Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The sand reserve will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Manage	Compaction and degradation are limited. Hydrocarbons entering the soil is limited or avoided altogether.	
	Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage	Removal of flora and fauna is restricted to the authorised area of the mining permit. Fauna and flora are restored to the site through rehabilitation activities after mining.	
	Heritage	All objects on the surface of the mining site as well as within the sand to a depth of 4m will be removed.	Any heritage artefacts discovered onsite will either need to be moved or risk being destroyed.	Neg	No - if an artefact is disturbed or destroyed it cannot be repaired or replaced	Avoid	No cultural / heritage site is destroyed or damaged by mining activities.	
	Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land sufficiently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage	Mining activities are undertaken in agreement with the landowner so as not to jeopardise current or future landuses. Good relations maintained with landowners.	
	Filling-in sections were mining is completed; Establishment of indigenous species; Removal of alien vegetation	All environmental aspects and socio-economic impacts on interested and affected parties	Implementation of successful concurrent rehabilitation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	N/A	Manage	The mining permit area is returned to a state that will support a predetermined future use.

n) ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION

(Any aspects which have not formed part of the EMPr that must be made conditions of the Environmental Authorisation).

The landowner must be requested to inspect the success of the rehabilitation after mining to confirm that it supports the predetermined future land use indicated by the landowner.

o) DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

(Which relate to the assessment and mitigation measures proposed).

When considering the uncertainties in this assessment it is important to note that EIA/EMP processes are not an exact science and impacts can only be evaluated on the information that is currently available and through past experience. Due to the fact this application **only** allows sand mining (no processing), and the land is already transformed through historical cultivation and mining, the physical impacts are anticipated to be restricted and the majority of impacts and appropriate mitigations measures are known.

p) REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED

(i) Reasons why the activity should be authorized or not

It is the author's opinion that this application **should** be authorised for the following reasons:

- The impact assessment has indicated that no significant negative impacts are likely to result from the proposed activities and appropriate mitigation and management measures can be implemented to manage all potential impacts to an acceptable level.
- The proposed project fits with activities already taking place on the direct and adjacent properties (sand mining).
- The proposed site is itself already transformed from its natural state through historical activities of cultivation and quarrying.
- The result of the proposed project will make available a building product that will support local development, including IDP projects in nearby communities which are identified as priority areas.

(ii) Conditions that must be included in the authorisation

(1) *Specific conditions to be included into the compilation and approval of EMPr*

The landowner must be requested to inspect the success of the rehabilitation after mining to confirm that it supports the predetermined future land use indicated by the landowner.

(2) *Rehabilitation requirements*

After mining has been completed, the following will be undertaken:

- All mobile equipment / foreign matter will be removed from the site.
- The entire disturbed area will be inspected for any signs of pollution (as a result of mining activities) and if identified it will be removed and disposed of in a registered landfill site.
- Stockpiled overburden/topsoil will be backfilled into the excavations and the any steep walls will be sloped to a safe angle.
- The disturbed area will be reseeded and alien vegetation will be controlled until the site is successfully revegetated.

- Areas compacted as a result of mining activities undertaken will be loosened to promote self-vegetation, and any ruts created by accessing or leaving the site will be filled to ensure that no future erosion shall emanate from the site.
- The landowner will be requested to inspect the success of the rehabilitation.

q) PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

This application is for an Environmental Authorisation of TWO years for sand mining activities. If mining has not been completed within the two year period the applicant will have the opportunity to renew the right.

r) UNDERTAKING

(Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic assessment report and the Environmental Management Programme report).

An undertaking to meet the requirements of this section is provided at the end of this EMPr.

s) FINANCIAL PROVISION

(State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation).

R 300 000 has been proposed for financial provision purposes.

(i) Explain how the aforesaid amount was derived

The Financial Provision amount was derived by making use of the DMR "Guideline Document for the Evaluation of the Quantum of Closure Related Financial Provision Provided by a Mine", Revision 1.6, published in January 2005, (DMR, 2005). The calculation is presented in Appendix A10.

(ii) Confirm that this amount can be provided for from operating expenditure

(Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the Mining work programme, Financial and Technical Competence Report or Prospecting Work Programme as the case may be).

The calculated financial provisioning amount has been provided for as an operational cost in the Financial and Technical report submitted as part of the application process.

t) SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

(i) Compliance with the provisions of sections 24(4)(a) and (b) read with section 24(3)(a) and (7) of the National Environmental Management Act (Act 107 of 1998), the EIA report must include the:-

(1) Impact on the socio-economic conditions of any directly affected person

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as an Appendix A6: Socio-Economic Assessment.

No specialist socio-economic investigation was conducted for this application however socio-economic impacts are considered in the impact assessment register based on the information obtained from the approved Integrated Development Plan for the City of Tshwane (2019/20).

(2) Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act, attach the investigation report as Appendix A7: Heritage Assessment and confirm that the applicable mitigation is reflected in ~~2.5.3; 2.11.6. and 2.12.~~ the EMP Report⁵ herein).

There is no nationally owned infrastructure or land within the proposed site boundary. There are also no known cultural or heritage interests identified within the application area however management measures have been included to avoid or mitigate any cultural or heritage interests that may be discovered during the implementation of the proposed activities.

u) OTHER MATTERS REQUIRED IN TERMS OF SECTION 24(4)(A) AND (B) OF THE ACT

(The EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as an Appendix A8: Motivation).

With reference to Section 24(4)(b)(i), the proposed mining operation would occur on and adjacent to properties which have been historically disturbed by agricultural and mining activities. The proposed site is therefore transformed from its natural state, does not present any highly environmentally sensitive aspects and has little conservation value as determined by a specialist (Appendix A9). The site has a known resource and is logically the next direction of mining given where mining has already occurred in the area. Therefore no alternative site location was considered.

Due to the simplistic nature of the proposed operation there are also no operational or technological alternatives identified that would be viable..

⁵ The template provided on the DMR website has reference to numbered sections of this report that do not exist and hence have been crossed out and amended by underlined text.

PART B:
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1. DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME

This environmental management programme report have been compiled in line with the template provided by the Department of Minerals and Resources.

a) DETAILS OF THE EAP

(Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section ~~1(a)~~ 3(a)⁶ herein as required).

The requirement for the provision of the details and expertise of the EAP are already included in PART A, Section 3(a).

b) DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

(Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (3)(h) herein as required d).

The requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, Section 3(d).

c) COMPOSITE MAP

(Provide a map (attached in Appendix B1: composite maps showing Environmental Sensitivity) 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 should be avoided, including buffers).

A composite map illustrating the environmental sensitivity of the site is given in Appendix B.1.

d) DESCRIPTION OF IMPACT MANAGEMENT OBJECTIVES INCLUDING MANAGEMENT STATEMENTS

(i) Determination of closure objectives

(Ensure that the closure objectives are informed by the type of environment described in the baseline environment herein).

The closure objectives for the activities contained within this application is to revert any land impacted by mining activities to the same or better condition prior to mining having taken place .

(ii) Volumes and rate of water use required for the operation

No processing / washing of the excavated sand will be required. If water is required for otheruse it will be obtained from a pre-existing legal source.

(iii) Has a water use licence been applied for?

A water use license will not be required. If water is required for other use it will be obtained from a pre-existing legal source.

⁶ The template provided on the DMR website has an error in the reference to a former section of this report. This has been crossed out and amended by underlined text.

(iv) Impacts to be mitigated in their respective phases

(Measures to rehabilitate the environment affected by the undertaking of any listed activity).

And

e) IMPACT MANAGEMENT OUTCOMES

(A description of impact management outcomes, identifying the standard of impact management required for the aspects contemplated in paragraph (b));

And

f) IMPACT MANAGEMENT ACTIONS

(A description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs ~~(c)~~ and ~~(d)~~ (d) and (e)⁷ will be achieved).

Phase	Activity	Aspect	Potential Source / Cause	Impact	Reverability of impact	NEMA Hierarchy	Impact Management Actions	Impact Management Outcomes	Timeframe	Compliance	
	Description of the physical activities that will cause the impacts		Description as to how the activity may cause the impact	A description of the impact that may result from the activity		Avoid / Manage / Mitigate (Definitions on page 6.1)	Appendix 4(1)(f)(i): Actions to be implemented in order to achieve Impact Management Objectives	Appendix 4(1)(d): A description of the impact management outcomes.	Appendix 4(1)(i): Time period for Implementation of Impact Management Actions	Appendix 4(1)(ii): Environmental Management Standards / Practices	
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21 - application for a mining permit - GNR 327 Activity 27 - clearing more than 1ha of natural vegetation - GNR 327 Activity 22 - decommissioning	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	Yes - impact ceases when mining stops.	Manage	A Basic Assessment process must be undertaken by an independent and competent person, that adheres to the requirements of the EIA regulations. Once authorised, the conditions of the EA must be strictly adhered to.	The proposed activities are legally authorised and allow for optimal utilisation of the mineral resources that minimises impacts on the natural, social and economic environments..	Throughout planning phase	EIA Regulations
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Yes - impact ceases when mining stops.	Manage	Before mining commences the authorised area must be demarcated on the ground. Once the mineral has been mined, ensure that it is made available to the local market.	A building material product is available to the local market.	Throughout planning phase	MPRDA
2. Preparation and Operational Activities	Clearing of Land (preparation), Excavation of Sand, Loading and Hauling, Stockpiling, Supporting Services	Air quality	Dust entrainment and exhaust emission from vehicles and machinery. Windblown dust from exposed surfaces.	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Yes - impact reverses when mining stops	Manage	Ensure that the equipment being used has appropriate dust suppression systems where applicable. Do not undertake activities that generate dust if high winds are taking dust offsite. Make use of a water cart to wet areas that are sources of dust. Set suitable speed limits for the haul roads and access roads. Implement traffic control measures such as speed bumps if necessary.	Off-site dust fallout rates are below the residential / non-residential standard (as applicable) On-site dust fallout rates are below the site specific target	Throughout operational phase	NEM:AQA, GN827
		Noise	Noise generated from vehicle / machinery operations	Increased ambient noise levels that may cause a nuisance to nearby receptors	Neg	Yes - impact reverses when mining stops	Manage & Mitigate	All equipment and/or vehicles will be maintained appropriately to minimise noise nuisance. Operational hours of the mine will be restricted to daylight hours.	Noise levels emanating from prospecting activities are kept below the acceptable standard	Throughout operational phase	ECA, NEM:AQA, SANS 10103
		Visual	The existing vegetation will be removed during clearing / preparation of the site for mining and the sand will then be excavated to a depth of 4m. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Manage	Once an area has been mined out and will not be disturbed through further mining activities, implement rehabilitation activities. Ensure that the equipment required for supporting services is stored neatly onsite.	The visual appearance of the mining site is kept neat and tidy	Throughout operational phase	NA
		Surface water flow	The excavated area will be devoid of vegetation and the existing topography onsite will be lowered by 4m.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Manage	Create a berm with cleared material from the site along the southern boundary of the mining area that facilitates the natural flow of water away from the mining area. If not enough material is available to create a berm, then trenches or diversion channels must be dug to fulfill the same objective.	Erosion resulting in sediments entering any water source is limited or avoided altogether	Throughout operational phase	NWA, GN 704

⁷ The template provided on the DMR website has an error in the reference to a former section of this report. This has been crossed out and amended by underlined text.

		Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Yes - impact reverses when pollution source is removed after mining stops.	Avoid, Manage & Mitigate	Chemical toilets to be provided for sanitation requirements and must be serviced regularly. All vehicles / machinery to be used must be well maintained. All chemicals required will be stored in a sealed container and on an impermeable layer such as a plastic lining. Spillages of hydrocarbons will be cleaned up immediately and placed in a sealed container and disposed of appropriately. Diesel container / bowser brought to site must be positioned on a plastic lined area. Dispensing of fuel must be done by trained personnel.	Hydrocarbons entering any water source is limited or avoided altogether	Throughout operational phase	NWA, GN 704
		Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The sand reserve will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Manage	Any topsoil must be used to create a berm on the southern boundary of the mining area. This berm must be stabilised to ensure that the topsoil is not eroded away by surface water flow. Any areas that are compacted by mining activities must be ripped as part of the rehabilitation process.	Compaction and degradation are limited. Hydrocarbons entering the soil is limited or avoided altogether.	Throughout operational phase	CARA
		Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage	Before mining commences, the authorised area must be demarcated on the ground to ensure that fauna and flora beyond the authorised area are not impacted. Rehabilitation activities must be undertaken to facilitate the restoration of fauna and flora after mining activities have ceased.	Removal of flora and fauna is restricted to the authorised area of the mining permit. Fauna and flora are restored to the site through rehabilitation activities after mining.	Throughout operational phase	NA
		Heritage	All objects on the surface of the mining site as well as within the sand to a depth of 4m will be removed.	Any heritage artefacts discovered onsite will either need to be moved or risk being destroyed.	Neg	No - if an artefact is disturbed or destroyed it cannot be repaired or replaced	Avoid	Personnel must be informed of the graveyard adjacent to the mining permit. The graveyard must be fenced off and a 20m buffer maintained where no mining or related disturbance can take place. Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place	No cultural / heritage site is destroyed or damaged by mining activities.	Throughout operational phase	NHRA
		Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land sufficiently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Yes - impact reverses when mining stops and site is rehabilitated.	Avoid & Manage	Weekly inspection of the site by site manager to ensure that environmental management is being implemented as per the EMP and that any landowners concerns/requests are being considered. Rehabilitation of the site must be undertaken as per the EMP.	Mining activities are undertaken in agreement with the landowner so as not to jeopardise current or future landuses. Good relations maintained with landowners.	Throughout operational phase	NA
3. Decommissioning & Rehabilitation	Filling-in sections were mining is completed; Establishment of indigenous species; Removal of alien vegetation	All environmental aspects and socio-economic impacts on interested and affected parties	Implementation of successful concurrent rehabilitation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	N/A	Manage	All mobile equipment / foreign matter will be removed from the site. The entire disturbed area will be inspected for any signs of pollution (as a result of mining activities) and if identified it will be removed and disposed of in a registered landfill site. Stockpiled overburden/topsoil will be backfilled into the excavations and the any steep walls will be sloped to a safe angle. The disturbed area will be reseeded and alien vegetation will be controlled until the site is successfully revegetated. Areas compacted as a result of mining activities undertaken will be loosened to promote self-vegetation, and any ruts created by accessing or leaving the site will be filled to ensure that no future erosion shall emanate from the site. The landowner will be requested to inspect the success of the rehabilitation.	The mining permit area is retored to a state that will support a predetermined future use.	Throughout operational phase	NEM:BA, CARA

4. General Requirements	Administration	Documentation	Management of legally required documents	Legal compliance (in terms of record keeping)	Pos	Have all necessary environmental authorisations on-site that are applicable to the activities being undertaken	Manage	<p>Ensure valid copies of the following documents / authorisations are available at all times (list provided below):</p> <ul style="list-style-type: none"> • The registered mining permit and associated documents • A copy of the regulation 2(2) plan depicting the mining permit area. • A copy of the approved EMPR • Copy of the latest Environmental Performance Audit • Records of implementing concurrent rehabilitation • Records of all environmental awareness training • Complaint book • A copy of the weekly inspection reports • Records of consultation with interested and affected parties • Records of non-conformances • Vehicle inspection check sheets and vehicle maintenance records • Records of waste disposal and relevant registration certificates of any service providers (as per NEM:WA) 	Valid documentation applicable to environmental management of the site.	While the mining permit is valid.	As per authorisation
		Handling complaints	Interested and affected parties	Poor relations between Bundu and interested and affected parties.	Neg			<p>All complaints received by the mine must be recorded. The information recorded must include, but is not limited to:</p> <ul style="list-style-type: none"> • Date of complaint. • Name and contact details of complainant. • Nature / Description of the complaint. • A description as to how the complaint will be addressed. • A proposed target date for rectifying the complaint. • Date when corrective action was implemented (if necessary). • Confirmation / Explanation of feedback provided to the complainant. • A list of any monitoring or follow-up work that is required, including target dates. 	Active communication with I&AP's resulting in potential issues being solved timeously.	Throughout operational phase	NA
		Ongoing consultation with I&AP's	Interested and affected parties	Maintaining a relation between Bundu and interested and affected parties.	Pos			<ul style="list-style-type: none"> • Maintain a proactive open door policy with all interested and affected parties. • Provide the landowner and surrounding land occupiers and any other interested and affected party an opportunity to discuss the environmental performance of the mine (at least annually) and maintain a record of all communication. 	Active communication with I&AP's resulting in potential issues being solved timeously.	Throughout operational phase	NA
		Training	Training undertaken as per the Environmental Awareness Plan	Improved environmental awareness resulting in reduced impacts due to the occurrence of fewer environmental incidents / correct response to incidents	Pos	Make staff aware of the environmental risks associated with their jobs and how to manage the risks	Avoid & Manage	<ul style="list-style-type: none"> • Prior to the implementation of mining activities the contractors will undergo environmental awareness training to inform them of the sensitivity of; - The need to avoid pollution of the soil by ensuring hydrocarbon spills are minimized or if they do occur they are cleaned up - The need to implement effective waste management (separation of domestic & hazardous waste) - The extent of the mining area so as not to unnecessarily disturb any flora and fauna beyond the authorised area - Typical heritage artefacts to be aware of - Good behavior in terms of interaction with the land owner and local community when implementing mining. 	Improved environmental awareness resulting in reduced impacts due to the occurrence of fewer environmental incidents / correct response to incidents	As per the EAP	NEMA

i) FINANCIAL PROVISION⁸

(1) Determination of the amount of Financial Provision

- (a) ***Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under Regulation 22(2)(d) as described in ~~2-4 Part A, (3)(q)(iv)(1)~~⁹ herein.***

The current closure objective for the activities contained within this application is to *rehabilitate the disturbed land back to a state similar or better than what it was found prior to undertaking any mining.*

- (b) ***Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties***

Landowners and I&AP's had the opportunity to review the sections of this report pertaining to closure and rehabilitation and to provide their comments thereon. Any comments received specifically relating to closure and rehabilitation are addressed in the relevant sections of this report.

- (c) ***Provide a rehabilitation plan that describes and shows the scale and aerial extent of the main mining activities, including the anticipated mining area at the time of closure***

After mining has been completed, the below rehabilitation activities will be undertaken. As the whole application area is to be mined, the scale and extent of rehabilitation is relevant to the whole 4.9959 ha illustrated in the layout plan in Appendix A2.

- All mobile equipment / foreign matter will be removed from the site.
- The entire disturbed area will be inspected for any signs of pollution (as a result of mining activities) and if identified it will be removed and disposed of in a registered landfill site.
- Stockpiled overburden/topsoil will be backfilled into the excavations and the any steep walls will be sloped to a safe angle.
- The disturbed area will be reseeded and alien vegetation will be controlled until the site is successfully revegetated.
- Areas compacted as a result of mining activities undertaken will be loosened to promote self-vegetation, and any ruts created by accessing or leaving the site will be filled to ensure that no future erosion shall emanate from the site.
- The landowner will be requested to inspect the success of the rehabilitation.

- (d) ***Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives***

The rehabilitated land will represent the pre-mining landuse unless otherwise agreed with the landowner.

⁸ The template provided on the DMR website does not have headings for numbers "g" and "h". Numbering has been maintained as per the template.

⁹ The template provided on the DMR website has an error in the reference to a former section of this report. This has been crossed out and amended by underlined text.

(e) **Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline**

R 300 000 has been proposed for financial provision purposes. Please refer to Section 3(s).

(f) **Confirm that the financial provision will be provided as determined.**

The amount calculated above will be provided for in the form of Insurance financial guarantee.

Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including:

Based on the Environmental Impact Assessment (see Appendix A.4), the following monitoring network may be required and must be considered should any complaints be received from surrounding receptors.

IMPACTS	SOURCE ACTIVITY	FUNCTIONAL REQUIREMENTS	ROLES AND RESPONSIBILITIES	MONITORING AND REPORTING FREQUENCY
Dust Fallout	<ul style="list-style-type: none"> Stripping of topsoil Excavating sand Vehicle entrainment Exposed surfaces (access roads, stockpiles etc) 	See minimum requirements below	Monitoring by an independent service provider and results scrutinised by the mine manager.	Monthly
Noise levels	<ul style="list-style-type: none"> Excavating sand Vehicle / equipment activities 	See minimum requirements below	Monitoring by an independent service provider and results scrutinised by the mine manager.	Biannually

Should either or both of the above monitoring networks be required, a guideline of minimum requirements has been provided hereafter, with site specific information provided where necessary. It must be stressed that these requirements are only a guide and that they are likely to change during the life of a mine depending on a number of factors, such as; advice for service providers, input from specialists, input from the authorities, analysis of monitoring results, changes in neighbouring land use, change in on-site activities and/ or changes in monitoring requirements (i.e. SANS).

Minimum requirements for air quality (dust fallout) monitoring.

DUST FALLOUT MONITORING	
Applicable Legislation:	<ul style="list-style-type: none"> National Environmental Management Act, Act No 107 of 1998 (NEMA), particularly Section 28. National Environmental Management: Air Quality Act, Act No. 39 of 2004 (NEM:AQA), particularly Section 12. South African National Standard - SANS 1929.
Parameters:	<ul style="list-style-type: none"> Dust Fallout / Deposition.

DUST FALLOUT MONITORING		
Monitoring Method:	Single or directional fallout monitors, following the American Society for Testing and Materials standard method for collection and analysis of dustfall (ASTM D1739). An open topped cylinder (bucket) not less than 150mm in diameter with a height not less than twice the diameter and suspended 2m above the ground (<i>fixed point monitoring</i>). The bucket must be exposed for a <i>continuous</i> period of 30 days (± 2 days). The dust is dissolved in water which is returned to the laboratory, filtered and the residue dried before the insoluble dust is weighed. Results are expressed as mg/m ² /day.	
Site Selection Parameters:	Monitoring sites should be located within 2km of the mining area (background sites can be further away) and must consider: <ul style="list-style-type: none"> • <i>Wind direction</i>: Monitoring stations should be located downwind of the mining site. (Ensure monitoring point recording dust fallout downwind of all prominent wind directions.) • <i>Receptors</i>: Monitoring points must be located at all sensitive receptors (residential area, schools, ecologically sensitive habitats, etc.) within 2km of the mine. • <i>Other sources of pollution in the vicinity</i>: If the mining site is located downwind of another dust source, locate a directional unit between the mining site and the off-site source. 	
Recommended Sites:	The fallout buckets need to be placed along the boundary of the quarry in at least the four main wind directions.	
Monitoring Interval:	• <i>Monthly (on-going)</i> : Sampler should be exposed for a continuous period of 30 days (± 2 days), results expressed as mg/m ² /day.	
Evaluation of Results:	Performance Indicators:	<ul style="list-style-type: none"> • SANS 1929. • On-site – target of below Industrial limit. • Site boundary – Industrial limit. • Previous monitoring results.
	Reporting:	It is advisable to store all results in a spread sheet and project the results graphically in order to determine: <ul style="list-style-type: none"> • Exceedances of the SANS, which should be presented on the graphs. • Trends with previously monitored results.
	Environmental Management:	When exceedances of performance indicators are recorded, the following steps must be taken and documented: <ul style="list-style-type: none"> • Determine the source of the pollution and prevailing winds. • If pollution is from the mine, determine if it is as a result of a once off incident or a routine event. • Determine how the incident / event can be prevented, or how it can be managed in future. Implement appropriate mitigation measures. • The success of mitigation must be confirmed through continued routine monthly sampling. • If pollution continues after two months of monitoring, alternative preventative / mitigation measures must be implemented. The success must once again be confirmed through the routine monthly monitoring.

Minimum requirements for sound level monitoring.

SOUND LEVEL MONITORING	
Applicable Legislation:	<ul style="list-style-type: none"> • Regulation 154 (Regulations regarding Noise Control) of the Environment and Conservation Act, Act No. 73 of 1989 (ECA). • South African National Standard - SANS 10103 (Previously SABS 0103.).
Parameters:	Noise must be measured in "dBA".
Monitoring Method:	Outdoor monitoring must be undertaken by placing the microphone of an integrating impulse sound level meter:

SOUND LEVEL MONITORING		
	<ul style="list-style-type: none"> • At least 1.2m, but not more than 1.4m, above the ground and • At least 3.5m away from walls, buildings or sound reflecting surfaces. <p>The person taking the measurements must ensure:</p> <ul style="list-style-type: none"> • The microphone of an integrating impulse sound level meter is at all times provided with a windshield; • The measuring instruments are operated strictly in accordance with the manufacturer's instructions; and • Sound measuring instruments are checked annually by the SABS or a calibration laboratory approved by the Minister, to ensure accuracy. 	
Site Selection Parameters:	<ul style="list-style-type: none"> • <i>On the mine boundary</i> in direct line of site of: The active mining area. • <i>Off-site</i> at the following locations: In direct line of site of the active mining area. Any sensitive receptors (such as schools, hospitals, houses, etc.) in close proximity to the mine. Locations from which noise complaints have been received. A site away from the mine that reflects the "background" noise levels. 	
Recommended Sites:	Site used in previous surveys and / or the site of a complaint.	
Monitoring Interval:	<ul style="list-style-type: none"> • <i>Once off</i> to determine the baseline. Thereafter whenever there is a <i>change in the process</i> or a <i>complaint</i>. If there is a complaint a survey must be commissioned to qualify the complaint. 	
Evaluation of Results:	Performance Indicators:	<ul style="list-style-type: none"> • SANS 10103. • Site boundary – Industrial district. • Site boundary with residential developments – Urban district, with road traffic. • Previously monitoring results.
	Reporting:	<p>It is advisable to store all results in a spread sheet and project the results graphically in order to determine:</p> <ul style="list-style-type: none"> • Exceedances of the SANS, which should be presented on the graphs. • Trends with previously monitored results.
	Environmental Management:	<p>When exceedances of performance indicators are recorded, the following steps must be taken and documented:</p> <ul style="list-style-type: none"> • Determine the source of elevated sound levels. • If increased sound levels are from the mine, determine if this is as a result of a once off incident or a routine event. • Determine how the incident / event can be prevented, or how it can be managed in future. Implement appropriate mitigation measures. • The success of mitigation measures must be confirmed through a follow-up survey. • If elevated sound levels continue after follow-up survey, alternative preventative / mitigation measures must be implemented. The success must once again be confirmed through a follow-up survey.

I) INDICATE THE FREQUENCY OF THE SUBMISSION OF THE PERFORMANCE ASSESSMENT REPORT¹⁰

As the proposed duration of the permit is two years, it is proposed that the environmental audit be undertaken every year and submitted to the DMR in accordance with Regulation 34 of GNR 326 of the National Environmental Management Act, Act No. 107 of 1998, as amended.

m) ENVIRONMENTAL AWARENESS PLAN

(1) Manner in which the applicant intends to inform his or her employees of any environmental risk which may result from their work

Bundu recognises the importance of environmental training and is committed to implementing training to its employees. As part of this commitment, Bundu recognises the importance of making all employees and subcontractors aware of the potential environmental impact that could result from conducting their jobs and how this potential can be minimised through effective training.

Based on the impact assessment the most important environmental management issues relating to Bundu are recognising the importance of:

- demarcating the authorised area and restricting disturbance
- managing stormwater flow
- managing topsoil for rehabilitation
- maintaining good landowner relationships

Other environmental issues that should also be included are:

- managing dust emissions.
- managing nuisance noise
- avoiding / managing hydrocarbon spills
- being aware of possible cultural / heritage artefacts
- managing waste

It is important to note that the environmental awareness programme is a living document and should be reviewed regularly to ensure that relevant environmental concerns are discussed and the potential impacts of such concerns are minimised. The syllabus to be taught to employees has been determined through identification of the major environmental concerns raised in the impact assessment of this report.

Employees will be informally trained prior to the start of undertaking mining activities where various environmental topics will be addressed. Training will be implemented in the following forums:

- Induction training / Environmental talks
- Training on an incident.

Induction training / Environmental talks:

Prior to the implementation of mining activities, environmental awareness training will be provided to inform employees / contractors of the measures for managing the environmental issues listed above.

Training on incidents:

If an environmental incident occurs, the following topics will be discussed with all employees / contractors (this is not an exhaustive list):

¹⁰ The template provided on the DMR website does not have headings for numbers "j" and "k". Numbering has been maintained as per the template.

- How and why the incident occurred.
- How the incidents was cleaned up (if applicable).
- Evaluation of the clean-up or response by staff.
- Can the clean-up or response be improved.
- What preventative measures should be implemented / what can be done to reduce the likelihood of the incident recurring.

A record of all training implemented will be maintained at the registered office.

(2) Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment

Managing Non-Conformances:

Management & Mitigation	Timeframes
<p>1. Non-Conformances:</p> <ul style="list-style-type: none"> • Should an environmental impact occur which is outside the normal operating environmental conditions of the mine (and is not considered an environmental emergency), it must be raised as a non-conformance. • Non-conformances may be raised by any employee, customer or interested and affected party. If a non-conformance is raised the mine: <ul style="list-style-type: none"> - Record the non-conformance and undertake the actions described below. <ul style="list-style-type: none"> • For reported non-conformances, the applicable responsible person must: <ul style="list-style-type: none"> - Implement corrective action if required. - Identify the source of the non-conformance. - Identify and implement preventative actions to ensure that it does not re-occur. - Once all actions and investigations have been completed, it be documented and signed off. - Retain all documents pertaining to the non-conformance to be made available for inspection. 	LoM

Managing Emergency Incidents:

Emergency incidents / accidents can be defined as incidents / accidents having the following criteria:

- The likelihood of these incidents / accidents occurring is considered to be very low or may never take place during the life of the mine.
- The environmental impacts associated with these incidents / accidents may be significant.
- It is essential that the mine personnel know how to respond in the event of an environmental emergency situation in order to avoid significant environmental degradation / impacts or injury to human health.

Ideally such incidents should not occur if all necessary management measures are implemented. However, despite the best intentions and the best environmental management practices, it is impossible to ensure that no incidents / accidents ever occur on a mining site. Therefore, it is vital to ensure that all personnel are aware of the management measures to be undertaken in the event of an accident.

Overall Management

Although there are emergency specific management measures to be implemented (discussed separately for each identified emergency incident), there are also common management measures that must be applied throughout.

Management & Mitigation	Timeframes
<ul style="list-style-type: none"> Assembly points must be: <ul style="list-style-type: none"> Clearly labelled. Documented. Communicated to all employees. 	LoM.
<ul style="list-style-type: none"> Emergency numbers are to be prominently displayed. 	LoM.
<ul style="list-style-type: none"> Conduct emergency mock exercises of emergency incidents to practice and perfect response. This will minimise the safety and environment impacts of real emergency. 	Annually.
<ul style="list-style-type: none"> If this identifies deficiencies in the management actions, amend relevant procedures 	Within a week.
<ul style="list-style-type: none"> Report any emergency incidents to the relevant government / municipal departments within 14 days of the incident. 	When an incident occurs
<ul style="list-style-type: none"> General environmental incidents must be reported to environmental authorities, as required in Section 30 of the NEMA. 	When an incident occurs

Large Hydrocarbon Spills (spills resulting in a surface pollution spread of greater than 2m²).

Goals and Objectives: Prevent extensive pollution as a result of a hydrocarbon spill. In the event that a spill occurs (despite management measures), immediate **clean up** steps should be taken as described below, followed by the **reporting** of the incident.

Clean up Procedures	Timeframes
<p>Prevention Steps:</p> <ul style="list-style-type: none"> Prevent vehicles that are in a state of disrepair (leaking diesel or oil) from operating. Ensure that the diesel bowser is maintained in a good condition and does not leak. Train employees on fuel dispensing techniques to minimise the potential of a spills. Implement daily vehicle checks for oil leaks. 	LoM
<p>Clean-up Steps:</p> <ul style="list-style-type: none"> The source of the spill must be stopped and the spill must be contained. 	In the event of a spill.
<ul style="list-style-type: none"> All contaminated material must be lifted and stored in containers that do not leak (the type of container will be determined by the volume of contaminated material to be stored). 	
<ul style="list-style-type: none"> Dispose of contaminated material as hazardous waste. 	LoM
<ul style="list-style-type: none"> Keep a record of the collection. Retain proof of disposal (waste manifest documents) from the hazardous waste disposal company that this waste was disposed of at a suitably licensed facility. 	LoM
<p>Reporting:</p> <ul style="list-style-type: none"> Report the incident as per the requirements in Section 30 of the NEMA. 	Within 14 days.

Fire

Goals and Objectives: Prevent the spread of fires.

Management & Mitigation	Timeframes
<p>Vehicle/equipment Fires:</p> <ul style="list-style-type: none"> Fire extinguishers to be available in all vehicles and must be checked on a monthly basis. 	LoM.
<ul style="list-style-type: none"> Fire extinguishers to be checked by a qualified person. 	Annually.
<ul style="list-style-type: none"> If the fire cannot be controlled by the person who discovers the fire, it will be reported to the emergency services. 	Immediately.
<p>Training:</p> <ul style="list-style-type: none"> Selected employees who form the fire fighting team will undergo fire drill 	Annually.

Management & Mitigation	Timeframes
training. <ul style="list-style-type: none"> • Records of training must be retained. 	

n) SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

(Among others, confirm that the financial provision will be reviewed annually).

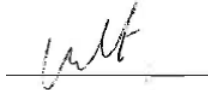
The financial provision must be reviewed annually and submitted to the competent authority in accordance with the prevailing legislation. Any shortfall in the provision in place must be topped up accordingly.

2. UNDERTAKINGS

THE EAP HEREWITH CONFIRMS

- a) The Correctness of the Information Provided in the Reports
- b) The Inclusion of Comments and Inputs from Stakeholders and I&Ap's, where relevant
- c) The Inclusion of Inputs and Recommendations from the Specialist Reports, where Relevant
- d) That the Information Provided by the EAP to Interested and Affected Parties and any Responses by the EAP to Comments or Inputs made by Interested and Affected Parties are Correctly Reflected herein, where relevant

Signature of the EAP: _____



Name of company: Umhlaba Environmental Consulting CC

Date: 19th January 2021

UNDERTAKING BY APPLICANT

(To be signed on approval by the DMR)

I, Gabriel Gomes, representative for Bundu Sand (Pty) Ltd, hereby declare that the information regarding the mining process in this document is true, complete and correct and that I undertake to implement the measures as described in this Environmental Management Programme report. In addition to the implementation of the Environmental Management Programme report, I understand that this undertaking is legally binding and that failure to give effect hereto will render me liable for prosecution. I am also aware that the Regional Manager may, at any time but after consultation with me, make such changes to this programme as he/she may deem necessary.

Signed on this 20th day of January, 2021 at Doornrandje

Signature: _____

DMR APPROVAL

I, _____ [on behalf of the Department of Mineral Resources] hereby approve the Environmental Management Programme for Bundu Sand (Pty) Ltd – Mining Permit, compiled in accordance with the requirements of *Appendix 4 of GNR 326 – The Environmental Impact Assessment Regulations, 2017 – to the National Environmental Management Act, Act No. 107 of 1998 as amended.*

Signed on this _____ day of _____, 20____ at _____

Signature: _____

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APPENDICES FOR PART A

APPENDIX A1: CV OF EAP

PERSONAL DETAILS:

Full names:	Gregory David Coates
Telephone:	011 791 3389
Fax:	011 791 3384
E-mail:	greg@umhlaba.co.za

EDUCATION:

Formal:

- **Senior Certificate with exemption (1997)** – Durban High School, RSA.
- **BSc: Wildlife Science (graduated 2001)** – University of Natal, Pietermaritzburg, RSA.
- **MSc: Zoology (graduated 2003)** - University of KZN, Pietermaritzburg, RSA.

Training: Courses, Workshops and Seminars Attended:

- **IAIAsa ECO Workshop**
2019 (September) – Panel discussion on ECO vs EAP registrations
- **Environmental Law Update Workshop**
2018 (October) – Legal Training Workshop by Imbewu Sustainability Legal Specialist
- **Carbon Footprint Analyst**
2018 (July) – IEMA and SETA accredited course by Terra Firma Academy
- **Air Quality: Dustfall Monitoring and Reporting**
2017 (October) – Short Course by Gondwana Environmental Solutions
- **Conducting and Reporting an Independent EIA Process**
2017 (February) - Short Course by Gondwana Environmental Solutions
- **Financial Provision Regulations and Mine Closure Requirements**
2016 (July) – Legal Training Workshop by Imbewu Sustainability Legal Specialist
- **Invasive Species Consultant Training**
2015 (April) – Workshop by South African Green Industries Council
- **ArcGIS1: Introduction to GIS**
2014 (September) – Short Course by ESRI
- **Environmental Law for Environmental Managers**
2014 (August) – Short Course by Centre for Environmental Management, Potchefstroom
- **Intro to the Practical Implementation of Environmental Law and the Legislation Updates**
2013 (October) – Workshop by Imbewu Sustainability Legal Specialists
- **Introductory Workshop in Project Management and Project Management Thinking**
2013 (July) – Online Course by ProjectManagement.co.za

EMPLOYMENT HISTORY:

Environmental Consultant Umhlaba Environmental Consulting CC

August 2013 – Present

My role at the company is as a generalist consultant either managing or collaborating on projects involving new applications for, or the amendment / renewal of, environmental authorisations (EA) in terms of NEMA EIA Regulations. I have experience in compiling applications for mining and prospecting rights, water use licenses and waste licenses in conjunction with EA processes (SEIA and BA) as part of the country's one environmental system. I also undertake projects assessing environmental compliance (audits of EA's), environmental risk (due diligence), environmental liability (financial provisioning), environmental monitoring networks (dust fallout and water quality) and environmental rehabilitation.

Nature Guide Savanna Private Game Reserve

August 2010 – May 2013

I was a FGASA and DEAT registered nature guide for this exclusive safari lodge.

Nature Guide Mala Mala Private Game Reserve

March 2010 – August 2010

I was a FGASA and DEAT registered nature guide for this exclusive safari lodge.

Policy Advisor UK Department of Energy and Climate Change

December 2008 – September 2009

I was part of a team developing policy and regulations for the Carbon Reduction Commitment scheme which was a mandatory emissions trading scheme to reduce carbon emissions from the small business sector in the UK.

Consultant 1st Contact Ltd

December 2006 – September 2008

I was a consultant for the tax refunds and immigration services offered by this London based company.

Nature Guide Mala Mala Private Game Reserve

December 2003 – September 2006

I was a nature guide for this exclusive safari lodge.

LIST OF EIA's IN LAST FIVE YEARS:**AfriSam South Africa (Pty) Ltd:**

- Lead EAP for an EMP amendment process for Verulam Quarry.

Anganna Investments 143 (Pty) Ltd:

- Lead EAP for a Basic Assessment process for a prospecting right application for gold.

Atoll Metal Recovery (Pty) Ltd:

- Lead EAP for an EMP amendment process for Zimbiwa Quarry.

Drift Supersand (Pty) Ltd:

- Lead EAP for an EMP amendment process for Laezonia Quarry.

FIL Stone Projects CC:

- Lead EAP for a Basic Assessment process for a prospecting right application for aggregate.

Khuma Mining and Exploration (Pty) Ltd:

- Assistant EAP for a Basic Assessment process for a prospecting right application for gold.

Rand Leases Properties (Pty) Ltd:

- I&AP review of the draft Basic Assessment reports for the West Wits Kimberley West and Creswell Park mining permit applications.

Roelan Trading 173 (Pty) Ltd:

- Lead EAP for Scoping and EIA process for a prospecting right application for platinum.

West End Claybricks (Pty) Ltd:

- Lead EAP for an EMP amendment process.

LIST OF OTHER PROJECTS IN LAST THREE YEARS:**AfriSam South Africa (Pty) Ltd:**

- Environmental Audits of the EMP for Coedmore Quarry, PMB Quarry, Umlaas Rd Quarry, Newcastle Quarry, Ladysmith Quarry, Macassar Sand Mine, Jukskei Quarry and Ferro Quarry.
- Monthly collection of dust fallout / water samples for four quarry operations and reporting on results.

Atoll Metal Recovery (Pty) Ltd:

- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Zimbiwa Quarry.

Begane Quarry (Pty) Ltd

- Independent review of the environmental monitoring network including dust fallout and water quality.

Bundu Mining (Pty) Ltd:

- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Doornrandje Quarry.

Drift Supersand (Pty) Ltd:

- Environmental Audit of the EMP for Laezonia Quarry.
- Closure application in terms of MPRDA for the Roodekrans Prospecting Right.

Goldfields (Pty) Ltd:

- Infrastructure inventory for the purposes of calculating financial provision for the South Deep operation.

Gold One (Pty) Ltd:

- Renewal applications for the Newshelf Nigel, Grootvlei and Cons Modder prospecting rights.
- Closure applications for the Newshelf New State Areas and West Pit 1 prospecting rights.
- Environmental Audit of the EMP for the Sub Nigel operation.

Group Five Construction (Pty) Ltd:

- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Zimbiwa Quarry.
- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Sky Sands operation.
- Development of environmental monitoring protocols (dust and water) and independent monthly review of dust fallout and water quality monitoring results.

Raumix Aggregates (Pty) Ltd:

- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Donkerhoek, Rosslyn, Willows and Crushco Quarries.
- Updating of the mine work programmes for the Willows, Rosslyn, Rossway and Crushco quarries.

Regal Bricks (Pty) Ltd:

- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method for the Chamdor operation.
- Renewal application for a mining right.

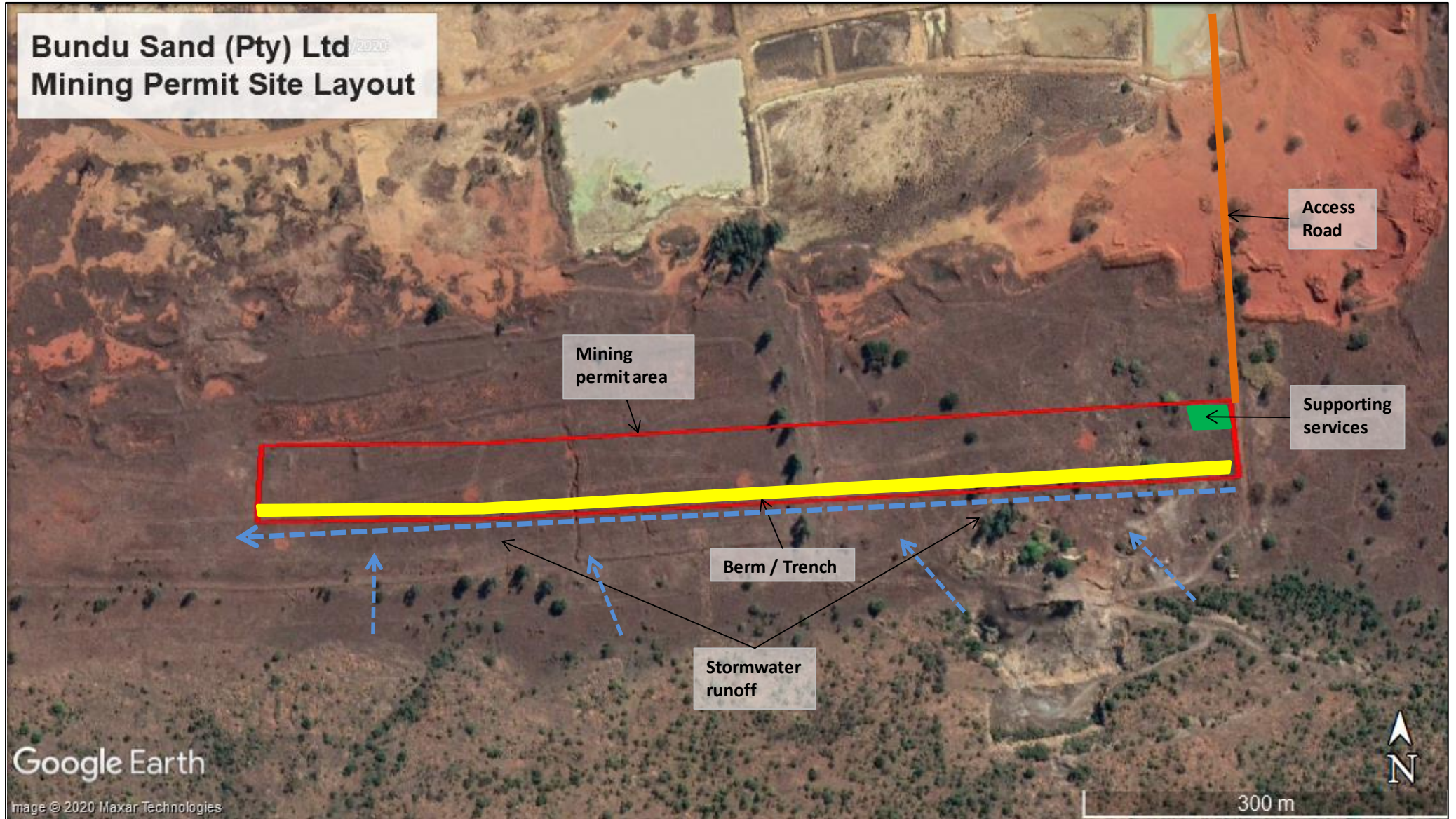
Sibanye Stillwater (Pty) Ltd:

- Properties Assessment and Infrastructure Inventory for Beatrix, Driefontein, Kloof, Cooke, Rustenberg, Kroondal and Marikana operations.

West End Claybricks (Pty) Ltd:

- Environmental Audit of the EMP and Financial Provision Calculation using the Quantum method.

APPENDIX A2: SITE LAYOUT PLAN



APPENDIX A.3: RECORD OF PUBLIC PARTICIPATION DURING THIS BASIC ASSESSMENT PROCESS.

Appendix A.3.1. Documents used in Notification and Consultation Process.

A register of I&AP was maintained with the final version being presented below:

State Departments				
	Department	Designation & Contact Person	Postal Address	Contact Details
1	Department of Rural Development and Land Reform <i>Land Claims Commissioners</i>	Chief Director: Land Restitution Support (Gauteng): Ms Cindy Benyane Deputy Chief Land Claims Commissioner: Mr Thami Mdontswa	Private Bag X03 Arcadia, Pretoria 0001	E: CJBenyane@ruraldevelopment.gov.za E: ETMdontswa@ruraldevelopment.gov.za
2	Department of Water and Sanitation <i>Regional Office: Gauteng</i>	Acting Chief Director: Gauteng Region Mr M Keet	Private Bag X995 Pretoria 0001	E: keetm@dwa.gov.za E: koshaner@dws.gov.za
3	Department of Agriculture and Rural Development <i>Gauteng</i>	Mr Mncedisi Madolo (Agriculture) Ms Kgari Manotwane (Rural Development) Mr Loyiso Mkwana (Sustainable Resource Management) Ms Ambibola Olowa (Compliance and Enforcement)	PO Box 8769 Johannesburg 2000	E: Mncedisi.Madolo@gauteng.gov.za E: Kgari.Manotwane@gauteng.gov.za E: Loyiso.Mkwana@gauteng.gov.za E: Ambibola.Olowa@gauteng.gov.za
4	Provincial Heritage Resources Agency <i>Gauteng</i>	Ms Tebogo.Molokomme	PO Box 87552 Houghton 2041	E: Tebogo.Molokomme@gauteng.gov.za E: noluthando.cembi@gauteng.gov.za
5	City of Tshwane. <i>Ward 55.</i>	Cllr Frik Van Wyk		E: fwwyk3@gmail.com C: 072 114 9493
6	City of Tshwane <i>Divisional Head: Environmental Management</i>	Mr Patric Mphahlele	PO Box 403 Pretoria 0001	E: Patricmp@tshwane.gov.za
Landowner				
	Registered Landowner	Representative	Postal Address	Contact Details
7	Sebastião Farms (Pty) Ltd	Gerard Gomes-Sebastiao	-	C: 071 443 2490 E: gerard@gomes.co.za
Surrounding Landowners				
	Full Name(s)	Property Description	Postal Address	Contact Details
8	Wilhelmina S Bredenkamp	Plot 26 Uitzicht	-	C: 062 815 6401 W: 083 205 0058 C: 076 655 2497 E: robbinbredenkamp@gmail.com
9	Japie J Du Plessis	Plot 96, Kameeldrift West	-	T: 012 383 2007 C: 072 380 2357 E: francisca.duplessis@quintiles.com
10	Freek Joubert			E: 071 150 7582
11	Jan Schombee			E: 082 569 5114
12	Willem R Mocke	Plot 119, Uitzicht	-	C: 082 660 0369 C: 082 869 2041 E: uitzicht@netline.co.za E: uitzicht.transport@gmail.com
Other				
	Company / Affiliation	Designation & Contact Person	Postal Address	Contact Details
13	Rietvalei Quarry	Steve Mahlangu		T: 083 716 4960 E: mahlangu@rietvaleiquarry.co.za E: mahlangu.mahlangu@yahoo.com
14	Jura Poultry Farm (Pty) Ltd	Johann Williamson	-	T: 082 575 6481 E: johann@jurapoultry.co.za
15	City of Tshwane. <i>Ward 1.</i>	Loletta Moraba		E: loletta17moraba@gmail.com E: mhlolongonqobile@rocketmail.com

Background Information Document

PROJECT:	Application for Environmental Authorisation for a Mining Permit for Sand.
REF No:	GP 30/5/1/3/2 (10396) MP
APPLICANT:	Bundu Sand (Pty) Ltd
LOCATION:	Ptn 94 and Ptn 95 of the Farm Uitzicht Alias Rietvalei 314 JR, Ward 55, City of Tshwane.
CONSULTANT:	Umhlaba Environmental Consulting CC
COMMENT CLOSING DATE:	15 th December 2020

PURPOSE OF THIS DOCUMENT

- Provide an overview of the proposed project and Environmental Authorisation.
- Invite potential Interested & Affected Parties to participate in the process.

PROJECT LOCATION

The application area covers 4.9959 Ha over the above mentioned properties and is located in the south-western section of Ward 55 which is approximately 11km east of Hartbeespoort and approximately 15km west of Pretoria West (see Figure 1

PROJECT DESCRIPTION

The proposed mining operation will be based on free dig methods, no drilling or blasting will be required. Topsoil will be cleared and stored at the mining site boundary before red sand is mined to an average depth of 4m. See Figure 2 for the proposed site layout. Machinery to be used will be front end loaders to excavate the sand which will be stockpiled at the cleared area before being transported by haul trucks to customers.

The mining permit activities will typically entail:

Site clearance / preparation -

- Clearing of vegetation and topsoil which will be used to create a boundary berm along the southern edge of the mining permit area to assist with controlling stormwater runoff
- Placement of the mobile ablution facilities and waste bins;

Mining of sand resources -

- Sand will be excavated from the cleared areas to no deeper than 4 meters using excavators and loaded to dumper trucks to be taken to a designated stockpile area within the mining permit area.
- The trenches will be excavated in a systematic sequence where one trench will be mined at a time and levelled off as mining continues into a new section of the mining permit area.
- Front End Loaders will load product to haul trucks from the stockpile area and take it to the market according to order.

Decommissioning and rehabilitation -

- Removing mobile equipment and inspecting for pollution
- Filling in excavations;
- Establishment of indigenous vegetation;
- Removal of alien vegetation

Supporting services -

- Waste management: waste bins will be placed at designated areas to deal with waste.
- Sanitation: chemical toilets will be used.
- Water supply and use: Water requirements will be sourced directly from the landowner's water source (i.e. borehole).
- Diesel: a mobile diesel bowser will be brought onto site when the vehicles require refuelling and removed as soon as the re-fueling is completed.

ENVIRONMENTAL AUTHORISATIONS TRIGGERED

The following environmental authorisations are required to facilitate all the proposed activities;

- Listing Notice 1: Activity 21 – application for a mining permit.
- Listing Notice 1: Activity 27 – clearing of indigenous vegetation greater than 1ha but less than 20ha.
- Listing Notice 1 Activity 22 – The decommissioning of any activity requiring a closure certificate.

These activities require that a Basic Assessment process (BA) contemplated in Regulations 19 and 20 of the 2014 EIA regulations (as amended) must be followed.

BASIC ASSESSMENT PROCESS

In brief this process includes:

- Compiling a draft Basic Assessment Report (BAR) following the DMR template which provides detail on the activities proposed, record of public participation, an assessment of the identified impacts, and an outline of measures to manage these impacts.
- Making this draft BAR available for review to registered I&AP's for a 30 day period. The draft BAR will be available at www.umhlaba.co.za.
- Incorporating I&AP feedback and finalising the BAR for submission to the DMR (within 90 days of submitting the application)
- Evaluation of the submitted BAR by the DMR to either grant or refuse the authorisation (within 107 days of submitting the final BAR).
- Notification of registered I&AP's of the RoD and process to appeal the decision.

PUBLIC PARTICIPATION PROCESS

If you are interested in this project you are requested to:

- **Register** as an I&AP with Umhlaba, who will include you on the "I&AP Register" in order for you to receive future project information and/or formally record issues and concerns (comments). To register, please complete and return the attached comment form to the contact details provided.
- **Access** project information that is made available to you (only registered I&AP's will be notified) in order to provide feedback within the required timeframe. Information will be made available on the Umhlaba website and notifications will be sent via email and sms.
- **Attend** the public meeting.
- **Communicate** with the EAP to raise your further comments in order that they can be included and addressed within the application documents submitted to the DMR.

PUBLIC MEETING

If significant interest in the project is shown, a public meeting will be held. If little interest is shown from the notification process, then one or one meetings will be held with interested parties. This will be confirmed to all registered I&AP's by way of email and sms notifications.

CONTACT Us

Please contact **Greg Coates** of Umhlaba Environmental Consulting CC who is the appointed EAP for this application, **before 15th December 2020**, to raise your queries or comments on the draft BAR, or any other concerns regarding this application. Please use the attached comment form or alternatively submit your comments directly in writing to the following contact details:

Tel: 011 791 3389 / 073 431 4006

Fax: 011 791 3384

Email: greg@umhlaba.co.za

Postal: PO Box 731504, Fairland, 2030

Website: www.umhlaba.co.za

LIST OF ACRONYMS

BA	Basic Assessment
BAR	Basic Assessment Report
CA	Competent Authority
DMRE	Department of Mineral Resources and Energy
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
I&AP	Interested and Affected Parties
MPRDA	Mineral and Petroleum Resources Development Act
NEMA	National Environmental Management Act
RoD	Record of Decision

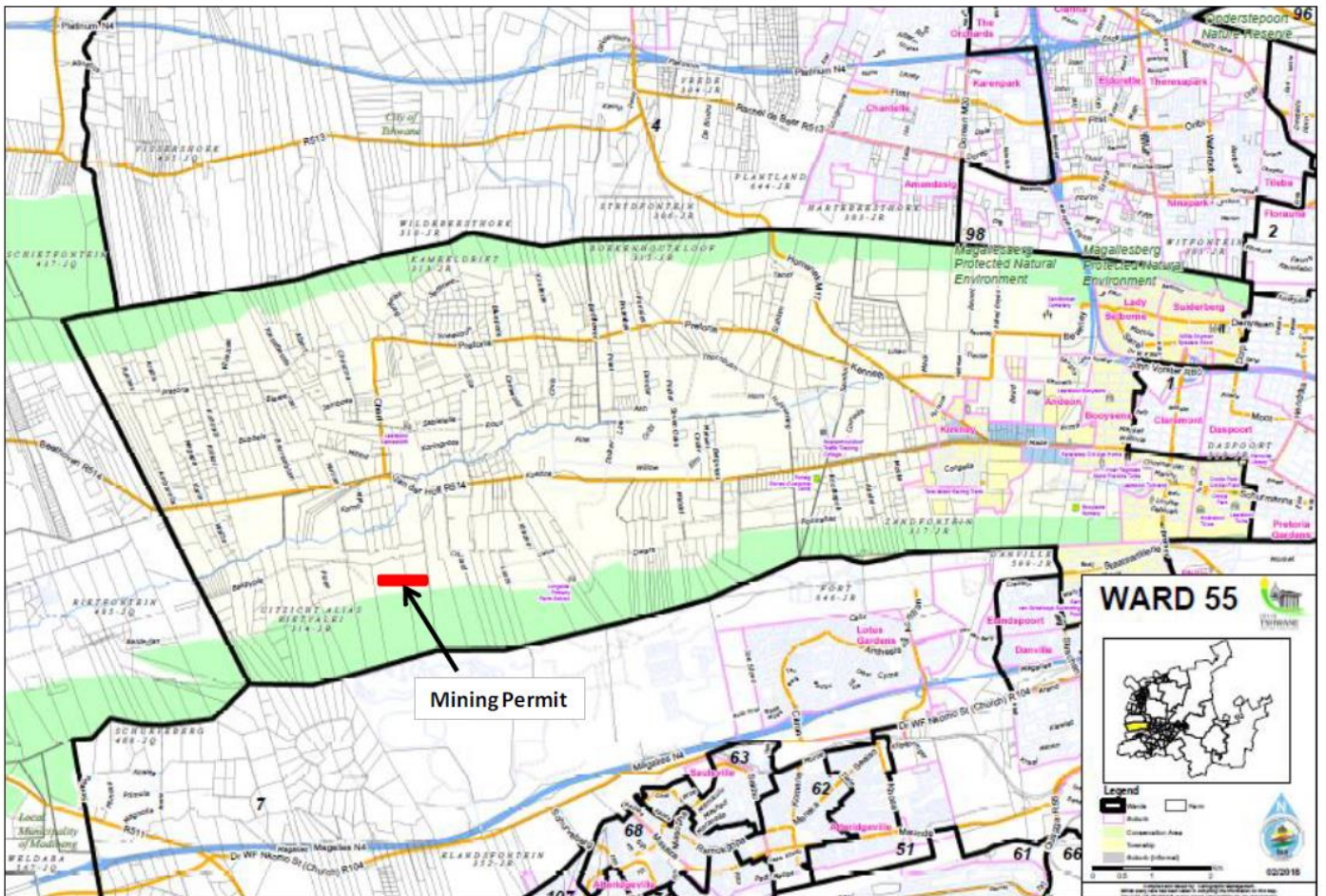


Figure 1: Location of the proposed mining permit area within Ward 55.

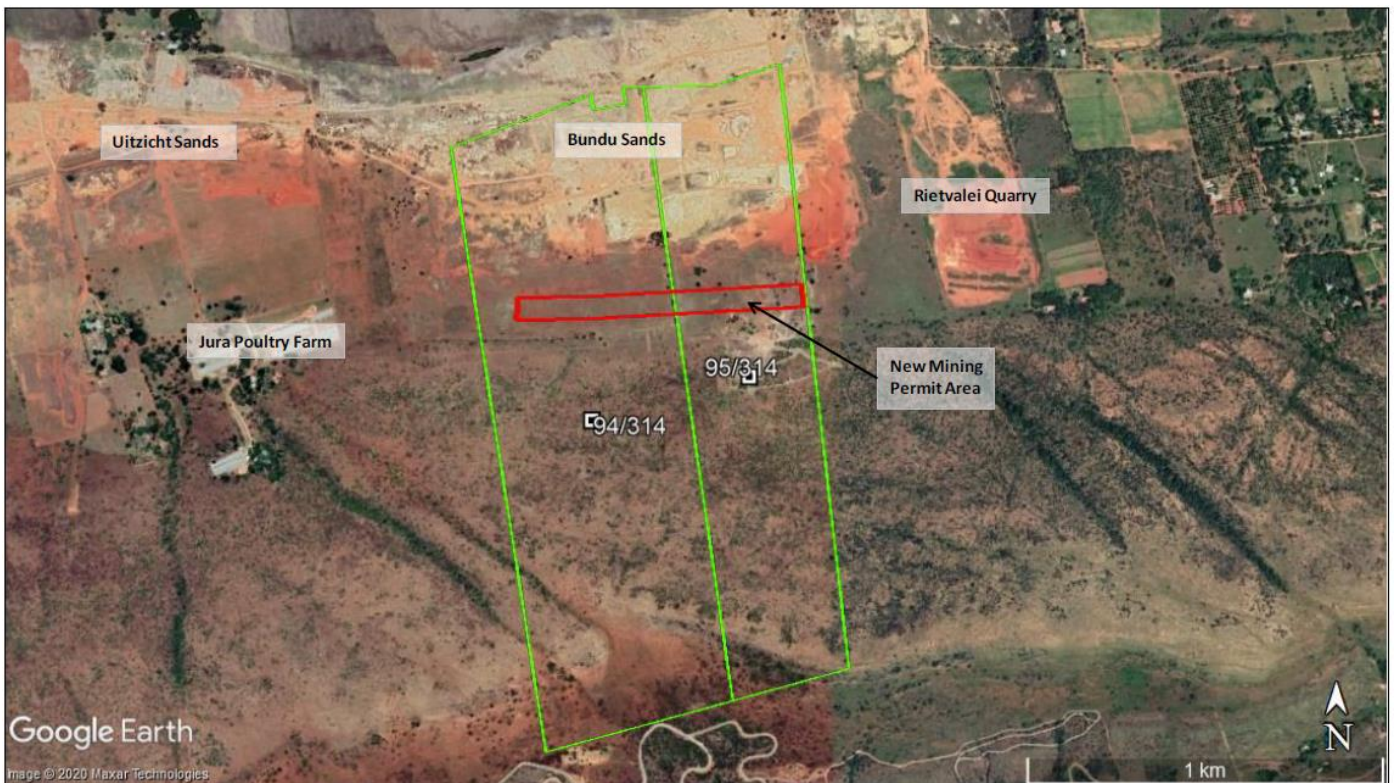



Figure 2: Indication of the proposed site layout of the mining permit area.

The Landowner, Sebastiao Farms (Pty) Ltd was notified in person as per below:

Post: P.O. Box 731504, Fairland, 2030
Tel: 011 791 3389 | Fax: 011 791 3384 | E-mail: info@umhlaba.co.za | Web: www.umhlaba.co.za
CK Reg: 2004/002962/23 | Founding Members: Lynn Jones and Andrew Nicholson


UMHLABA
ENVIRONMENTAL CONSULTING CC

RE: NOTIFICATION OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION – GP 10396 MP

I hereby acknowledge that the Background Information Document (BID) relating to the application for an Environmental Authorisation for a Mining Permit submitted by Bundu Sand (Pty) Ltd has been provided to me including:

- Location and nature of the project
- Application and public participation process to be followed
- How to access and comment on the draft Basic Assessment Report which includes an:
 - Environmental Impact Assessment report
 - Environmental Management Programme report

I accept receipt of the BID on behalf of the Landowner Land Occupier

Property / Organisation: Sebastiao Farms Pty Ltd

Name of recipient: G. A. Gomes - Sebastiao

Date: 5.11.2020

Contact email: gerardo.gomes.co.za

Contact number: 071 443 2490

Signature of recipient: [Signature]

The relevant Ward Councillor, Cllr Van Wyk for Ward 55, was notified by email:

From: Greg Coates <greg@umhlaba.co.za>
Sent: Monday, 09 November 2020 4:23 PM
To: 'fwwwyk3@gmail.com'
Subject: NOTICE OF AN APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR A MINING PERMIT
Attachments: BID_Bundu Sand_GP 10396 MP.pdf

Good day Cllr Van Wyk,

The Department of Mineral Resources and Energy has accepted an application by **Bundu Sand (Pty) Ltd** to conduct mining permit activities (**application ref no GP 10396 MP**) for sand over ~5ha of portion 94 and portion 95 of the Farm Uitzicht Alias Rietvalei 314 JR, City of Tshwane.

You have been identified as an Interested and Affected Party (I&AP) and are therefore hereby notified of the application in terms of Chapter 6 of the EIA Regulations, 2017 (GN R 326), as amended in respect of Listed Activities that have been triggered.

Umhlaba Environmental Consulting CC has been appointed as the independent Environmental Assessment Practitioner (EAP) responsible for undertaking the application process which requires public participation. Please therefore find attached to this letter a Background Information Document (BID) that provides a summary of the proposed project and the process to be followed. The intention is to gain input into the process from any I&AP's who may have comments on the draft Basic Assessment Report (BAR) which is available for review and comment until the 15th December 2020. You can access the draft BAR:

- Electronically at www.umhlaba.co.za/public-participation/
- Hard copy at the Umhlaba office located at 21 Bosbok Road, Randparkridge, JHB.

In light of the Covid-19 pandemic, one on one meetings with I&AP who request so will be preferred over a public meeting.

It is essential that your comments reach us no later than the **15th December 2020**.

Please contact me directly should you have any queries.

Regards,

Greg Coates



GREG COATES MSc Zoology
Tel: 011 791 3389 | Fax: 011 791 3384
E-mail: greg@umhlaba.co.za | Web: www.umhlaba.co.za
Post: P.O. Box 731504, Fairland, 2030



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The relevant Government Departments were notified by registered letters and email. Proof of the letters being sent and an example of the letter and email wording is provided below:

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(With an insurance option/met 'n versekeringsopsie)



Full tracking and tracing/Volledige volg en spoor

Name and address of sender *Gregory Coates (Umhlaba Consulting)*
 Naam en adres van afsender

Enquiries/Navrae
 Toll-free number
 Tolvry nommer
0800 111 502

No	Name and address of addressee Naam en adres van geadresseerde	Insured amount Versekerde bedrag	Insurance fee Versekeringsgeld	Postage Posgeld	Service fee Diensgeld	Affix Track and Trace customer copy Plak Volg-en-Spoor-kliëntafskrif
1	<i>Patric Mphahlele City of Khwane, Dutli: Environ Management. PO Box 403, Pretoria, 0001</i>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RC258732680ZA CUSTOMER COPY 301028R
2	<i>Mr. Mokoame: Prov Heritage Resource Ag. GP. PO Box 87552, Houghton, 2041</i>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RC258732659ZA CUSTOMER COPY 301028R
3	<i>Mr. Mkwana: GP Dept Agri + Rural Develop. PO Box 8769, Johannesburg, 2000</i>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RC258732628ZA CUSTOMER COPY 301028R
4	<i>Ms Manotwane: GP Dep Agri + Rural Develop. PO Box 8769, Johannesburg, 2000</i>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RC258732591ZA
5	<i>Mr Madolo: Dep Agri + Rural Develop (Agri) PO Box 8769, Johannesburg, 2000</i>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RC258732565ZA CUSTOMER COPY 301028R
6	<i>Ms Duma: GP Rep Agri + Rural Develop (Compliance): PO Box 8769, Johannesburg, 2000</i>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RC258732530ZA CUSTOMER COPY 301028R
7	<i>Mr Koot: Chief Dir: GP Region, Water + Sanitation. PO Box X 995, Pretoria, 0001</i>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RC258733138ZA CUSTOMER COPY 301028R
8	<i>Mr Benyane: Chief Dir: Land Restoration Support GP. PVT Bag X03, Arcadia, PTA, 0001</i>					REGISTERED LETTER (with a domestic insurance option) ShareCall 0860 111 502 www.sapo.co.za RC258733107ZA CUSTOMER COPY 301028R
9						
10						
		Total	R	R	R	R

Number of letters posted *EIGHT*
 Getal briewe gepos

Signature of client *[Signature]*
 Handtekening van kliënt

Signature of accepting officer *[Signature]*
 Handtekening van aanneembeampte

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R2 000,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binelandse geregistreerde briewe van toepassing.



ATT: Ms Benyane
Chief Director: Land Restitution Support (Gauteng)
Private Bag X03
Arcadia, Pretoria
0001

10th November 2020

REFERENCE NO.: **GP 10396 MP**

Copy emailed to: CJBenyane@ruraldevelopment.gov.za

Dear Ms Benyane,

The Department of Mineral Resources and Energy has accepted an application by **Bundu Sand (Pty) Ltd** to conduct mining permit activities (**application ref no GP 10396 MP**) for sand over ~5ha of portion 94 and portion 95 of the Farm Uitzicht Alias Rietvalei 314 JR, City of Tshwane.

You have been identified as an Interested and Affected Party (I&AP) and are therefore hereby notified of the application in terms of Chapter 6 of the EIA Regulations, 2017 (GN R 326), as amended in respect of Listed Activities that have been triggered.

Umhlaba Environmental Consulting CC has been appointed as the independent Environmental Assessment Practitioner (EAP) responsible for undertaking the application process which requires public participation. Please therefore find attached to this letter a Background Information Document (BID) that provides a summary of the proposed project and the process to be followed. The intention is to gain input into the process from any I&AP's who may have comments on the draft Basic Assessment Report (BAR) which is available for review and comment until the 15th December 2020. You can access the draft BAR:

- Electronically at www.umhlaba.co.za/public-participation/
- Hard copy at the Umhlaba office located at 21 Bosbok Road, Randparkridge, JHB.

In light of the Covid-19 pandemic, one on one meetings with I&AP who request so will be preferred over a public meeting.

It is essential that your comments reach us no later than the **15th December 2020**.

Please contact me directly should you have any queries.

Yours sincerely,



Greg Coates
Environmental Consultant

Tel: 011 791 3389
Fax: 011 791 3384
PO Box 731504, Fairland, 2030
Email: greg@umhlaba.co.za

From: Greg Coates <greg@umhlaba.co.za>
Sent: Monday, 09 November 2020 4:06 PM
To: 'CJBenyane@ruraldevelopment.gov.za'
Subject: NOTICE OF AN APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR A MINING PERMIT
Attachments: BID_Bundu Sand_GP 10396 MP.pdf

Good day Ms Benyane,

The Department of Mineral Resources and Energy has accepted an application by **Bundu Sand (Pty) Ltd** to conduct mining permit activities (**application ref no GP 10396 MP**) for sand over ~5ha of portion 94 and portion 95 of the Farm Uitzicht Alias Rietvalei 314 JR, City of Tshwane.

You have been identified as an Interested and Affected Party (I&AP) and are therefore hereby notified of the application in terms of Chapter 6 of the EIA Regulations, 2017 (GN R 326), as amended in respect of Listed Activities that have been triggered.

Umhlaba Environmental Consulting CC has been appointed as the independent Environmental Assessment Practitioner (EAP) responsible for undertaking the application process which requires public participation. Please therefore find attached to this letter a Background Information Document (BID) that provides a summary of the proposed project and the process to be followed. The intention is to gain input into the process from any I&AP's who may have comments on the draft Basic Assessment Report (BAR) which is available for review and comment until the 15th December 2020. You can access the draft BAR:

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In light of the Covid-19 pandemic, one on one meetings with I&AP who request so will be preferred over a public meeting.

It is essential that your comments reach us no later than the **15th December 2020**.

Please contact me directly should you have any queries.

Regards,

Greg Coates



GREG COATES MSc Zoology
Tel: 011 791 3389 | Fax: 011 791 3384
E-mail: greg@umhlaba.co.za | Web: www.umhlaba.co.za
Post: P.O. Box 731504, Fairland, 2030



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The South African Heritage Resources Agency was notified by uploading the case to the SAHRIS portal:

SAHRIS

- MyDashboard
- Explore
- Create
- Calendar
- Maps
- Help

Heritage Cases

VIEW EDIT

Application for Environmental Authorisation for a Mining Permit

Add new comment Subscribe to: This post 25 reads

CaseHeader LocationInfo Admin

Status: SUBMITTED

HeritageAuthority(s): SAHRA
PHRA-G

Case Type: Section 38 (8) - Statutory Comment Required

Development Type: Sand Mining

ProposalDescription:
Proposed sand mining operation over 5ha of Ptn 94 and Ptn 95 of the Farm Uitzicht Alias Rietvalei 314 JR, City of Tshwane. Gauteng.

ApplicationDate: Tuesday, November 10, 2020 - 16:53

CaseID: 15752

Applicants: Bundu Sand (Pty) Ltd

Consultants/Experts: Greg Coates

OtherReferences:

Dept	CaseReference	DueDate	FinalDecision
DMR	GP10396MP	15/12/2020	

Heritage Reports: Cultural Heritage Impact Assessment

ReferenceList:

AdditionalDocuments

- BID_Bundu Sand_GP 10396 MP.pdf
- Draft BAR_Bundu Sand_GP 10396 MP.pdf
- APPENDIX A9_Specialist Flora and Vegetation Assessment.pdf

The Surrounding Landowners and other I&AP were notified by email. An example of the wording is given below:

From: Greg Coates <greg@umhlaba.co.za>
Sent: Wednesday, 04 November 2020 11:27 AM
To: 'uitzicht.transport@gmail.com'
Subject: BUNDU SAND (PTY) LTD - NOTICE OF AN APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR A MINING PERMIT.
Attachments: BID_Bundu Sand Mining Permit.pdf

Good day Mr Mocke,

As discussed telephonically on the 4th November 2020, the Department of Mineral Resources and Energy has accepted an application by **Bundu Sand (Pty) Ltd** to conduct mining permit activities (**application ref no GP 10396 MP**) for sand over ~5ha of portion 94 and portion 95 of the Farm Uitzicht Alias Rietvalei 314 JR.

As an adjacent landowner / occupier to the application area, you have been identified as an Interested and Affected Party (I&AP) and are therefore hereby notified of the application in terms of Chapter 6 of the EIA Regulations, 2017 (GN R 326), as amended in respect of Listed Activities that have been triggered.

Mr Greg Coates of **Umhlaba Environmental Consulting CC** has been appointed as the independent Environmental Assessment Practitioner (EAP) responsible for undertaking the application process which requires public participation. Please therefore find attached to this letter a Background Information Document (BID) that provides a summary of the proposed project and the process to be followed. The intention is to gain input into the process from any I&AP's who may have comments on the draft Basic Assessment Report (BAR) which is available for review and comment until the 15th December 2020. You can access the draft BAR:

- Electronically at www.umhlaba.co.za/public-participation/
- Hard copy at the Umhlaba office located at 21 Bosbok Road, Randparkridge, JHB.

In light of the Covid-19 pandemic, one on one meetings with I&AP who request so will be preferred over a public meeting.

It is essential that your comments reach us no later than the **15th December 2020**.

Please contact me directly should you have any queries.

Regards,

Greg Coates



GREG COATES MSc Zoology
Tel: 011 791 3389 | Fax: 011 791 3384
E-mail: greg@umhlaba.co.za | Web: www.umhlaba.co.za
Post: P.O. Box 731504, Fairland, 2030



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The General Public were notified by erecting a site notice at the entrance to the application area and by publishing a legal notice in a local newspaper (Pretoria West Rekord):

NOTIFICATION OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION		
MINING PERMIT		
APPLICANT: Bundu Sand (Pty) Ltd	PROJECT NAME: Sand Mining Permit	DMRE REFERENCE NO: GP 10396 MP
LOCATION: The application area covers 4.9959 Ha of portion 94 and portion 95 of the Farm Uitzicht Alias Rietvalei 314 JR, which is located 11km east of Hartbeespoort and 15km west of Petoria West, in City of Tshwane Metropolitan Municipality, Gauteng Province. See map below.		
APPLICATION PROCESS: The proposed activities below trigger Activities 21, 22 and 27 of the NEMA Listing Notice 1 which requires that a Basic Assessment (BA) process be undertaken as per Regulations 19 and 20 of the 2014 EIA regulations (as amended).		
<p>PROPOSED ACTIVITIES: The proposed mining operation will be for two years and based on free dig methods with no drilling or blasting being required. Prior to mining, any topsoil will be cleared and stored at the mining site boundary before red sand is mined to an average depth of 4m. Machinery to be used will be front end loaders to excavate the sand which will be stockpiled before being transported by haul trucks to customers. Once mining is completed, the area will be rehabilitated with the topsoil stockpile and vegetation cover restored to the same or better state as prior to mining.</p> <p>The draft BAR providing a detailed description of the activities as well as an impact study and management plan will be available electronically at www.umhlaba.co.za for public review and comment until the 15th December 2020.</p> <p>CONTACT DETAILS: For additional information and to register as an interested or affected party so that you may give input into the environmental authorisation process, please contact Greg Coates of Umhlaba Environmental Consulting CC: Tel: 011 791 3389 Fax: 011 791 3384 E-mail: greg@umhlaba.co.za</p> <p>PUBLIC MEETING: In light of Covid-19, one on one meetings with I&AP who request so will be preferred.</p>		



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LEGAL NOTICES

NOTIFICATION OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR A MINING PERMIT

Notice is given in terms of the EIA Regulations (GNR326) to the National Environmental Management Act (NEMA), No. 107 of 1998, as amended that Bundu Sand (Pty) Ltd has applied for an environmental authorisation to the Department of Mineral Resources and Energy to conduct sand mining activities (application ref no GP10396MP) over ~5ha of portion 94 and portion 95 of the Farm Uitzicht Alias Rietvalei 314 JR, located 15km west of Pretoria West, in the City of Tshwane Metropolitan Municipality. The proposed mining operation will be free digging of sand to an average depth of 4m using excavators (no drilling or blasting required). No processing of the sand is required as it will be used predominantly as a fill material in the construction industry. Once mining is completed, the area will be rehabilitated by sloping and revegetating the area. Environmental authorisations required in terms of the NEMA Listing Notice 1 include Activity 21 "application for a mining permit", Activity 22 "decommissioning of mining activities" and Activity 27 "clearing of indigenous vegetation greater than 1ha but less than 20ha". Umhlaba Environmental Consulting has been appointed as the independent Environmental Assessment Practitioner. Should you have an interest in this application you are invited to register and be notified of project updates and opportunities to provide input into the authorisation process. Please contact Greg Coates: greg@umhlaba.co.za Tel: (011) 791 3389 Fax: (011) 791 3384 P.O. Box 731504, Fairland, 2030. For more information, the draft Basic Assessment Report (BAR) is currently available for public review and comment at www.umhlaba.co.za until 15th December 2020.

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT PROCESS AND INVITATION TO PARTICIPATE FOR THE PROPOSED DEVELOPMENT OF AN ALUMINIUM PLANT LOCATED AT ERF 112 PRETORIA WEST INDUSTRIAL

Notice is hereby given in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended, and the Environmental Impact Assessment Regulations, 2017 as published in the Government Notice R326 of 7 April 2017, that Unica Aluminium (Pty) Ltd (the Applicant) is applying for authorisation for an aluminium plant on Erf 112 Pretoria Industrial (241 Edison Road), Pretoria West, City of Tshwane Metropolitan Municipality, Gauteng Province.

In terms of the activities published in Government Notice No. R325 of 7 April 2017, an Environmental Impact Assessment (EIA) is required for the following activities:
GNR 325 Activity 6: "The development of facilities or infrastructure for any process or activity which requires a permit or license or an amended permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent."

Furthermore the development will also trigger waste activities as per the List of Waste Management Activities promulgated under GNR 921 in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) for the recycling, recovery, treatment, storing and sorting of general waste.

The draft environmental scoping report is available for review and comment. In order to participate in this process and/ or to obtain an electronic copy of the scoping report, please contact the Environmental Consultant below:

Ms Abbigail El Mohamadi
Cell: 083 509 5927
Postal Address: PO Box 418, Sonpark, Nelspruit, 1206
E-mail: abbigailmohamadi@gmail.com
Comments on the SR are required by no later than thirty (30) days after placement of this notice i.e. by 7 December 2020.

Place your legal notice in your local newspaper.

Tel: 087-285-0575
Fax: 086-595-0000
classadnw@caxton.co.za

TERMS & CONDITIONS

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A reminder was sent to all registered I&AP by email on the 8th December 2020. An example of the text is given below:

From: Greg Coates <greg@umhlaba.co.za>
Sent: Tuesday, 08 December 2020 4:01 PM
To: 'fwwwyk3@gmail.com'
Subject: REMINDER - APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR A MINING PERMIT
Attachments: BID_Bundu Sand_GP 10396 MP.pdf
Importance: High

Good day Cllr Van Wyk,

This is a follow-up email to the notification sent below. It is essential that your comments reach us no later than the **15th December 2020**.

Even if you have no objections to the application please be so kind as to complete the attached comment form and return it to me as proof that you have been consulted.

The relevant documentation regarding the application is available:

- Electronically at www.umhlaba.co.za/public-participation/
- Hard copy at the Umhlaba office located at 21 Bosbok Road, Randparkridge, JHB.

Please contact me directly should you have any queries.

Regards,

Greg Coates



GREG COATES MSc Zoology
Tel: 011 791 3389 | Fax: 011 791 3384
E-mail: greg@umhlaba.co.za | Web: www.umhlaba.co.za
Post: P.O. Box 731504, Fairland, 2030



Please consider the environment before printing

LEASE AGREEMENT

Memorandum of Agreement Entered Into By And Between:

SEBASTIAO FARMS (PTY) LTD

Registration Number: 1969/004845/07

Herein represented by Gabriel Gomes-Sebastiao, duly authorised thereto in his capacity as director.

[Hereinafter referred to as "the Landlord"]

And

BUNDU SAND (PTY) LTD

Registration Number: 2009/019446/07

Herein represented by Gabriel Gomes, duly authorised thereto in his capacity as director.

[Hereinafter referred to as "the Tenant"]

1. PARTICULARS

1.1. Leased Premises/Premises

The leased premises situated on Portion 94 and Portion 95 of the farm Uitzicht alias Rietvalei 314JR.

1.2. Lease Period

10 (ten) years commencing on the 28/09/2020 (hereinafter referred to as the "commencement date) and ending on the conclusion of the Lease Period (hereinafter referred to as the "expiry date").

1.3. Commencing Basic Monthly Rental/Rental

R 30 000 (*thirty thousand* Rand) per month, VAT excluded, escalating at a rate of 12% (twelve percent) per annum on each anniversary of the commencement date. First payment will be on *date mining Commences.*

1.4. Purpose for which Tenant is Renting the Leased Premises

The Leased Premises shall be used for the purpose of mining as well as the workshop facilities.

1.5. Place of Payment of Monthly Rental and Other Amounts

All payments due by the Tenant in terms of this lease are to be paid directly into the bank account of the Landlord as indicated from time to time.

OPTION OF RENEWAL

- 2.1. The lease agreement is subject to a Renewal Term of 10 (ten) years.
- 2.2. The date upon which the option must be exercised is at least 2 (two) months prior to the expiry date.
- 2.3. Rental during the option period will be subject to an escalation of 12% (twelve percent) per annum on each anniversary of the commencement date.
- 2.4. All the terms of this lease shall continue to apply during the renewal period, save that contained in this lease agreement.
- 2.5. The right of renewal shall be exercised by notice in writing from the Landlord to the Tenant given and received and shall lapse if not so exercised.
- 2.6. The Tenant shall then have the right to accept or decline the renewal within a period of 7 (seven) days from receipt thereof.
- 2.7. If this lease does not endure at least for the full term for which it is initially contracted, the right of renewal shall lapse, and any notice of exercise thereof given prior to such lapsing shall be null and void. Notwithstanding the aforementioned, the Tenant shall remain liable for the full terms of the lease agreement.

3. ADDITIONAL CHARGES


Electricity and Water consumption is separately metered and will be invoiced separately to the Tenant.

4. PAYMENTS

- 4.1. The monthly rental shall be paid in advance by the Tenant to the Landlord on the first day of each month with effect from the first day of the month in which the commencement date falls, free of exchange and without any deduction or set off of whatever nature.
- 4.2. The Tenant shall not withhold, defer, or make any deduction from any payment due to the Landlord, whether or not the Landlord is indebted to the Tenant or in breach of any obligation to the Tenant.
- 4.3. Such payments shall be made to the Landlord.
- 4.4. The Rent and all other amounts payable by the Tenant under this lease shall be excluded of value-added tax in so far as it is applicable and such tax shall be recoverable by the Landlord from the Tenant in addition to the Rent and such other amounts.

THUS done and signed at Centurion on the 28 day of September 2020.

AS WITNESSES:

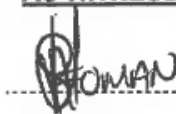




The Landlord

THUS done and signed at Centurion on the 28 day of September 2020.

AS WITNESSES:





The Tenant

Our Ref: 15752



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Andrew Salomon
Tel: 021 462 4502
Email: asalomon@sahra.org.za
CaseID: 15752

Date: Wednesday November 18, 2020
Page No: 1

Letter

In terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999)

Attention: Bundu Sand (Pty) Ltd

Proposed sand mining operation over 5ha of Ptn 94 and Ptn 95 of the Farm Uitzicht Alias Rietvalei 314 JR, City of Tshwane. Gauteng.

Thank you for your notification regarding this development.

In terms of the National Heritage Resources Act, no 25 of 1999, heritage resources, including archaeological or palaeontological sites over 100 years old, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. This means that prior to development it is incumbent on the developer to ensure that a **Heritage Impact Assessment** is done. This must include the archaeological component (Phase 1) and any other applicable heritage components. Appropriate (Phase 2) mitigation, which involves recording, sampling and dating sites that are to be destroyed, must be done as required.

The quickest process to follow for the archaeological component is to contract an accredited specialist (see the web site of the Association of Southern African Professional Archaeologists www.asapa.org.za) to provide a Phase 1 Archaeological Impact Assessment Report. This must be done before any large development takes place.

The Phase 1 Impact Assessment Report will identify the archaeological sites and assess their significance. It should also make recommendations (as indicated in section 38) about the process to be followed. For example, there may need to be a mitigation phase (Phase 2) where the specialist will collect or excavate material and date the site. At the end of the process the heritage authority may give permission for destruction of the sites.

Where bedrock is to be affected, or where there are coastal sediments, or marine or river terraces and in potentially fossiliferous superficial deposits, a Palaeontological Desk Top study must be undertaken to assess whether or not the development will impact upon palaeontological resources - or at least a letter of exemption

Our Ref: 15752



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Andrew Salomon
Tel: 021 462 4502
Email: asalomon@sahra.org.za
CaseID: 15752

Date: Wednesday November 18, 2020
Page No: 2

from a Palaeontologist is needed to indicate that this is unnecessary. If the area is deemed sensitive, a full Phase 1 Palaeontological Impact Assessment will be required and if necessary a Phase 2 rescue operation might be necessary. **Please note that a nationwide fossil sensitivity map is available on SAHRIS to assist applicants with determining the fossil sensitivity of a study area.**

If the property is very small or disturbed and there is no significant site the heritage specialist may choose to send a letter to the heritage authority motivating for exemption from having to undertake further heritage assessments.

Any other heritage resources that may be impacted such as built structures over 60 years old, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or viewscapes must also be assessed.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

Andrew Salomon
Heritage Officer: Archaeology
South African Heritage Resources Agency

Phillip Hine

From: Molokomme, Tebogo(GPSPORTS) <Tebogo.Molokomme@gauteng.gov.za>
Sent: Thursday, 17 December 2020 2:23 PM
To: Greg Coates
Cc: Botha, Grant (GPSPORTS); Cembi, Noluthando(GPSPORTS)
Subject: RE: REMINDER - APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR A MINING PERMIT

Dear Mr Coates

Please note that in terms of section 38 of the National Heritage Resources Act 25 of 1999, a Heritage Impact Assessment should be conducted by a professional heritage specialist during the EIA process.

Once the report is ready, submit it to the PHRA-G for review including the outcome of the public participation process followed.

Kind Regards,
Tebogo Molokomme

Statutory Bodies: Provincial Heritage Resources Authority: PHRA-G
Gauteng Department of Sport, Arts, Culture & Recreation
Tel: 011 355 2545 **Mobile:** 072 932 0866
Web: www.gautengonline.gov.za | www.sacr.gpg.gov.za

From: Loletta Moraba <loletta17moraba@gmail.com>
Sent: Saturday, 07 November 2020 5:26 PM
To: greg@umhlaba.co.za
Cc: mhlolongonqobile@rocketmail.com
Subject: Community insight regarding notification of mining permit

Dear Mr Coates.

My name is Jolina Moraba i am a community leader in pretoria west ward one.

As a community leader of ward one the community is very concern regarding the health implication with regards to umhlaba mine.

Whitch measures will umhlaba mine undertake to protect the health of the community ?.

And how will the community benefit in terms of employment eg unemployed youth,bursary sceems and other coporate social investment.

Your Cooperation will be highly Appriciated.

Kind Regards.
J.L moraba (Community leader of ward one)

From: Frik van Wyk <fwwyk3@gmail.com>
Sent: Tuesday, 08 December 2020 8:28 PM
To: Greg Coates
Subject: Re: REMINDER - APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR A MINING PERMIT
Attachments: image001.jpg

Good day...

Transport is one of my biggest concerns .
If companies like you can help to maintain the roads that residents must use every day.
Trucks is the main reason for condemning our roads.

I dont have any other concerns.

Regards
Cllr vanwyk.

From: MANOTWANE, KGARI (GDARD) <Kgari.Manotwane@gauteng.gov.za>
Sent: Tuesday, 15 December 2020 9:55 AM
To: Greg Coates
Subject: RE: REMINDER - APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR A MINING PERMIT

Hello Greg

I do not have any objection towards this development.

Ms. Kgari Manotwane , Gauteng Department of Agriculture and Rural Development
56 Eloff Street, Umnotho House, Johannesburg
Tel 0796510744 / 011 240 2541

PUBLIC COMMENT FORM
Mining Permit Application – GP 10396 MP

Your Name: Jim SW Mianon Date: 2020/12/15
 Property Description: Jura Poultry Farm

Contact Details:
 Tel: _____ Email: Johann@JuraPoultry.co.za
 Cel: 0825756481
 Your preferred method of communication: SMS Email

What is your Interest in the Project: Mark with (X)

Business / Financial	<input type="checkbox"/>	Legal Representative	<input type="checkbox"/>
Residential / Community	<input type="checkbox"/>	Surrounding Landowner	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>	Specify:	_____

Comments / Concerns / Suggestions (attach additional pages if necessary):



Jura Poultry Farm (Pty) Ltr
 Private Bag X 5
 Montana Park
 0159
 Vat no: 4080223904
 Tel: (012) 819 7914

Examples of questions to ask yourself:

- What are your current land uses (e.g. residential, agricultural, retail, any other) how will the activities impact on this use?
- How do you consider the proposed activities will impact on you or your socio-economic conditions?
- Are there any specific environmental / cultural / heritage features on site which you feel require protection.
- What impacts do you believe the activities will have on you?

Return to: Greg Coates
 Email: greg@umhlaba.co.za
 Post: P.O. Box 731504, Fairland, 2030
 Fax: 011 791 3384

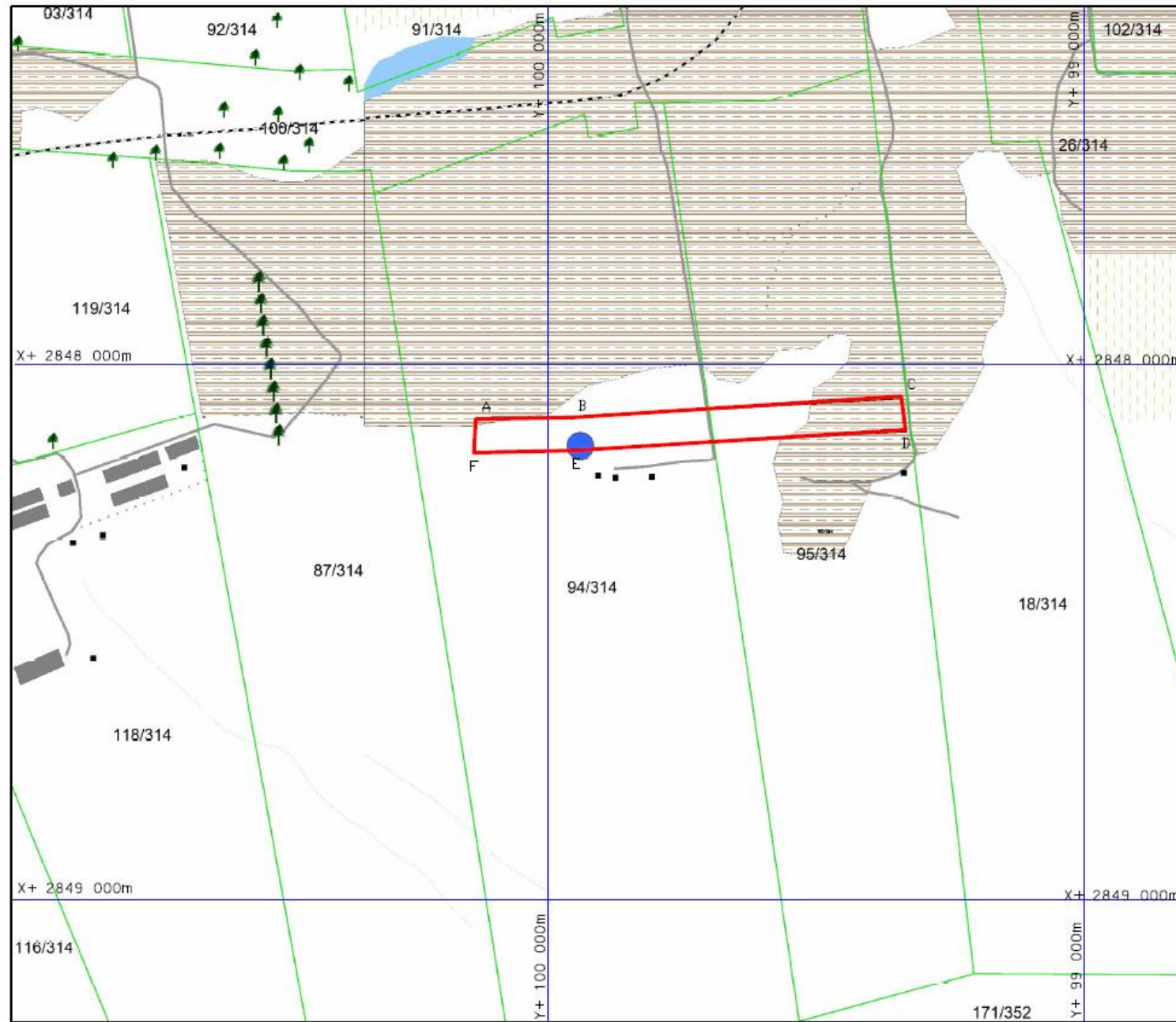
Post: PO. Box 731504, Fairland, 2030
 Tel: 011 791 3389 | Fax: 011 791 3384 | E-mail: info@umhlaba.co.za | Web: www.umhlaba.co.za
 CK Reg: 2004/002962/23 | Founding Members: Lynn Jones and Andrew Nicholson



APPENDIX A.4: IMPACT ASSESSMENT REGISTER

Phase	Activity	Aspect	Potential Source / Cause	Impact		Consequence					External Factors		Ranking	Controls / Management Measures Implemented				Significance (WITH controls)
						Nature	Extent	Duration	Frequency	Probability	I&AP	Cumulative		Significance (WITHOUT controls)	Effective Engineering	Effective Procedural	Effective Training	
1. Application for Authorisations	Basic Assessment: - GNR 327 Activity 21 - application for a mining permit - GNR 327 Activity 27 - clearing more than 1ha of natural vegetation - GNR 327 Activity 22 - decommissioning	Socio-economic	Application in terms of EIA regulations to NEMA	Legal and responsible mining	Pos	Medium	Local	Medium	Daily	High	No	No	Medium-High	No	No	No	No	Medium-High
			Securing a mineral to become available to local markets through mining	Available building material that could be used in local development including nearby priority projects identified in the IDP.	Pos	Medium	Local	Medium	Daily	High	No	No	Medium-High	No	No	No	No	Medium-High
2. Preparation and Operational Activities	Clearing of Land (preparation), Excavation of Sand, Loading and Hauling, Stockpiling, Supporting Services	Air quality	Dust entrainment and exhaust emission from vehicles and machinery. Windblown dust from exposed surfaces.	Increased dust fallout that may cause a nuisance to nearby receptors.	Neg	Low-Med	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	No	Yes	Yes	No	Low-Medium
		Noise	Noise generated from vehicle / machinery operations	Increased ambient noise levels that may cause a nuisance to nearby receptors	Neg	Low-Med	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	No	Yes	Yes	No	Low-Medium
		Visual	The existing vegetation will be removed during clearing / preparation of the site for mining and the sand will then be excavated to a depth of 4m. Mining equipment and supporting services will be visible against the landscape.	Landscape that differs in appearance to the surrounding area with regards to vegetation cover and topography.	Neg	Medium	Neighbouring	Medium	Daily	Low	No	Yes	Low-Medium	No	Yes	Yes	No	Low-Medium
		Surface water flow	The excavated area will be devoid of vegetation and the existing topography onsite will be lowered by 4m.	Altered / impeded flow of water over the site during a rainfall event.	Neg	Low-Med	Neighbouring	Short	Monthly	High	No	Yes	Medium	No	Yes	Yes	No	Low-Medium
		Water quality	Hydrocarbons such as fuels and greases will be used to operate machinery during mining. Spills from operational / standing machinery or spillages during refuelling of machinery could occur. Spillage could also occur from the chemical toilets.	Hydrocarbon, chemical toilet spillages and sediment could mix with surface water runoff and flow into a water source resulting in pollution of the surface water quality. Spills could also infiltrate the soil and filter down to the groundwater level causing pollution of ground water quality.	Neg	Low-Med	Local	Long	6 Monthly	Low	No	Yes	Low-Medium	No	Yes	Yes	Yes	Low-Medium
		Soil	Topsoil will be stripped and stockpiled for use during rehabilitation. The sand reserve will be excavated and removed from the site.	Altered chemical state and physical structure of the topsoil which may reduce its effectiveness during rehabilitation.	Neg	Medium	On-site	Medium	Weekly	Medium	No	Yes	Medium	No	Yes	No	Yes	Low-Medium
		Fauna / flora (Ecology)	Flora and subsequently habitats for fauna will be removed when clearing the site in preparation for mining.	Existing flora will be lost and fauna will not be able to inhabit the site during mining.	Neg	Low-Med	On-site	Medium	Monthly	Low	No	Yes	Low-Medium	No	Yes	No	No	Low-Medium
		Heritage	All objects on the surface of the mining site as well as within the sand to a depth of 4m will be removed.	Any heritage artefacts discovered onsite will either need to be moved or risk being destroyed.	Neg	High	On-site	Long	Monthly	Improbable	Yes	Yes	Medium	Yes	Yes	Yes	No	Low
		Social	Unauthorised access to land. Lack of consideration of landowners requests. Not rehabilitating land sufficiently.	Unhappy landowners / land occupiers. Reduced land capability after mining.	Neg	Med-High	Neighbouring	Medium	Daily	Low	No	Yes	Medium	No	Yes	No	No	Low-Medium
Decommissioning &	Filling-in sections where mining is completed; Establishment of indigenous species; Removal of alien vegetation	All environmental aspects and socio-economic impacts on interested and affected parties	Implementation of successful concurrent rehabilitation activities	Reverse the temporary negative impacts associated with the mining activities.	Pos	Medium	On-site	Medium	Monthly	High	No	Yes	Medium	No	No	No	No	Medium

APPENDIX A5: SITE MAP



Legend
— Application Area
— Farm & Portion Boundaries

Scale 1 : 20 000



RIGHT DESCRIPTION

The figure lettered A,B,C,D,E,F and A, represents portion of Portions 94 and 95 of the farm Ultzicht Allas Rietvalel 341 JR ,within the Magisterial District of Pretoria in respect of which application is made for a mining permit for sand in terms of Section 27 of the Minerals and Petroleum Resources Development Act (Act 28 of 2002),as amended.

REGULATION 2(2) PLAN

GP 30/5/1/2/1 () MP

BUNDU SAND (PROPRIETARY) LIMITED
 Co Reg No: 2009/019446/07

SIDES	Meters	ANGLES OF DIRECTION	CO-ORDINATES WGS 84 WG 29		
			Y+	X+	
AB	178.688	269:04:25	A	100136.062	2848099.341
BC	617.604	266:18:43	B	99957.397	2848096.452
CD	62.897	352:57:12	C	99341.072	2848056.725
DE	616.992	86:23:41	D	99333.356	2848119.147
EF	190.409	88:44:00	F	100139.489	2848162.154
FA	62.906	183:07:22	E	99949.127	2848157.945

IN EXTENT: 4.9959 Ha

LEGEND

- Administrative**
 Province
 District municipalities
 Local municipalities
 Estates
 Sub places
 SAGHS
Land Use
 Low urban density
 Recreation area
 Cemetery
 Rifle range
 High urban density
 Golf course
 Military camp
 Caravan park
 Container depot
 Garden
 Refuse dump
 Drive in theater
 Holiday resort
 Bird sanctuary
 Park
 Botanical garden
 Zoo
 Golf driving range
- Roads**
 Other access
 Secondary road
 Main road
 Street
 National route
 Aerial route
 Hiking trail
 Under construction
 On off ramp
 National freeway
 Interchange
 Structures
 Bridge
 Power line single
 Stadium
 Railway
 Standard
 Station (points)
 Marshalling line
 Station building
 Large station (lines)
 Name gauge
 Abandoned
 Large station (areas)
 Under construction
 Untyped
 Station (lines)
- Vegetation**
 Cultivated land (areas)
 Woodland
 Orchard vineyard
 Plantation
 Cultivated land (points)
 Irrigated water
 Dam
 Dry pan
 Fish farm
 Lake
 Large reservoir
 Marsh wet
 Mud flats
 Non-perennial pan
 Perennial pan
 Pool
 Purification plant
 Sewerage works
 Swamp
 Water tank
- Water**
 Dry water course center line
 Dry water course extent (areas)
 Dry water course extent (lines)
 Flood bank
 Non-perennial center line (areas)
 Non-perennial center line (lines)
 Non-perennial extent
 Perennial center line
 Perennial extent
 Rapids
 Sand bank
 Untyped (areas)
 Untyped (lines)
 Waterfall
 Tidal
 Island
 Walled area
 Sandy area
 Sand dune
 Dry water course extent
 Cut line
 Fire break
 Fume
 Rocky outcrop
 Bitterfield
 Cave
 Grave
 Ground sign
 Monument
 Shipwreck

LOCALITY PLAN



Compiled by: Genpec (Pty) Ltd

P O Box 603
 Fochville
 2515

Mobile: 0824664278
 E-Mail: eddie@genpec.co.za
 Date 25 May 2020

Signed Date:	
Approved Date:	

APPENDIX A6: SOCIO-ECONOMIC ASSESSMENT

No specialist socio-economic investigation was conducted for this application however socio-economic impacts are considered in the impact assessment register based on the information obtained from the approved Integrated Development Plan for the City of Tshwane (2019/20).

APPENDIX A7: HERITAGE ASSESSMENT

APPENDIX A8: MOTIVATION WHERE NO ALTERNATIVES ARE CONSIDERED

The proposed mining operation would occur on and adjacent to properties which have been historically disturbed by agricultural and mining activities. The proposed site therefore does not present any highly environmentally sensitive aspects and has little conservation value as determined by a specialist (Appendix A9). The site has a known resource and is logically the next direction of mining given where mining has already occurred in the area. Therefore no alternative site location was considered.

Due to the simplistic nature of the proposed operation there are also no operational or technological alternatives identified that would be viable.

APPENDIX A9: VEGETATION AND FLORA ASSESSMENT

APPENDIX A10: FINANCIAL PROVISION CALCULATION

BACKGROUND INFORMATION

Multiplication Factor:

Mineral: **Sand**
 Risk Class: **Category C - Low Risk**
 Area Sensitivity: **High**
 Biophysical: **High**
 Social: **Medium**
 Economic: **Medium**
 Level of information available: **No detailed closure plan, hence a "rules-based" approach will be used**

Weighting Factor:

Weighting Factor 1 - Terrain: **Flat**
 Weighting Factor 2 - Proximity: **Peri-urban**

CALCULATION OF THE QUANTUM - Current Cost

Mine: **Bundu Sand (Pty) Ltd**

Location: **Pretoria West**

Evaluators: **Umlhlabu Environmental Consulting CC**

Date: **2020-09-03**

No.	Description	Unit	A	B	C	D	E	F=A*C*D*E
			Quantity	Original Master Rate	Inflated Master Rate	Multiplication factor	Weighting factor 1	Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors)	m ³	0.0	6.82	15.91	1	1.00	R -
2 (A)	Demolition of steel buildings and structures	m ²	0.0	95	221.60	1	1.00	R -
2(B)	Demolition of reinforced concrete buildings and structures	m ²	0.0	140	326.57	1	1.00	R -
3	Rehabilitation of access roads	m ²	360.0	17	39.66	1	1.00	R 14 275.91
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0.0	165	384.89	1	1.00	R -
4 (B)	Demolition and rehabilitation of non-electrified railway lines	m	0.0	90	209.94	1	1.00	R -
5	Demolition of housing and/or administration facilities	m ²	0.0	190	443.21	1	1.00	R -
6	Opencast rehabilitation including final voids and ramps	ha	0.0	96700	225568.74	1	1.00	R -
7	Sealing of shafts adits and inclines	m ³		61	118.97	1	1.00	R -
8 (A)	Rehabilitation of overburden and spoils	ha	0.0	66400	154888.98	1	1.00	R -
8 (B)	Rehabilitation of processing waste ponds (basic, salt producing waste)	ha	0.0	82700	192911.42	1	1.00	R -
8 (C)	Rehabilitation of processing waste ponds (acidic, metal-rich waste)	ha	0.0	240200	560306.21	0.81	1.00	R -
9	Rehabilitation of subsided areas	ha	0.0	55600	129696.19	1	1.00	R -
10 (A)	General surface rehabilitation: remnants	ha	0.0	52600	122698.20	1	1.00	R -
10 (B)	General surface rehabilitation: no remnants	ha	4.82	10000	23326.65	1	1.00	R 112 434.47
11	River diversions	ha	0.0	52600	122698.20	1	1.00	R -
12	Fencing	m	0.0	60	139.96	1	1.00	R -
13	Water management	ha	0.0	20000	46653.31	0.33	1.00	R -
14	2 to 3 years of maintenance and aftercare	ha	4.8	7000	16328.66	1	1.00	R 78 704.13
15 (A)	Specialist study	Sum					1.00	R -
15 (B)	Specialist study	Sum					1.00	R -
	Sum of 1 to 15							R 205 414.51
	Weighting Factor 2						1.05	
	Subtotal 1							R 215 685.23
1	Preliminary and General						12%	R 25 882.23
2	Contingencies						10%	R 21 568.52
	Subtotal 2							R 263 135.99
	VAT (15%)							R 36 839.04
	Grand Total in 2020							R 299 975.02

APPENDICES FOR PART B

APPENDIX B1: COMPOSITE MAPS SHOWING ENVIRONMENTAL SENSITIVITY

