Stads- en Streekbeplanners
Town and Regional Planners

Yorkstraat 56 York Street | Posbus 1186/P.O. Box 1186 | George 6530 | Tel: (044) 874 5207 | Fax: (044) 8736354
Cell: 082 569 2438 E-pos/E-mail: neldek@mweb.co.za

10 December 2024

The Municipal Manager
P.O. Box 19
George
6530

Sir

PROPOSED CONSENT USE FOR A QUARRY FOR FARM No. 306, SITUATED IN THE MUNICIPALITY AND DIVISION OF GEORGE, WESTERN CAPE.

Duly authorized by the registered owner of Farm No. 306 we hereby apply for the following:

Application is being made for a consent use for the purpose of mining sand and G7 gravel in terms of Section 15.(2)(o) of the By-Law on Municipal Land Use Planning of George Municipality, 2023.

In support of the application, the following documentation is attached for your consideration:

a) Application form fully completed and signed (Annexure 1);
b) Power of Attorney by the Registered Owner (Annexure 2);
c) Letter by Brand & van der Bergh Attorneys relating to the cancellation of the bond registered on the property (Annexure 3);
d) Motivation Report (Annexure 4);
e) Copy of the General Plan No. 6575-88 (Annexure 5);
f) Plan No. G/I/213-1 dd. October 2024 (Annexure 6);
g) Site Layout Plan (Annexure 7);
h) Proof of Payment will be provided in due course as it is made available to the applicant (Annexure 8);
i) Copy of Title Deed No. T72732/2003 (Annexure 9);

j) Conveyancer certificate by Abraham Vlok Van der Bergh practising at Brand & van der Bergh Attorneys (Annexure 10);
k) Environmental Authorisation dd. 26/09/2024 (Annexure 11);
l) Rehabilitation Plan (Annexure 12);
m) Specialist Reports (Annexure 13);
n) Site Sensitivity Verification Report (Annexure 14);
o) Environmental Screening Tool and Risk Assessment Report prepared by W Nel Environmental Consulting Services (Annexure 15);
p) Visual representations (Annexure 16);
q) Copy of Pre-Application dd. 23/10/2024 (Annexure 17); and
r) Mining Permit issued for the proposed quarry dd. 3/12/2024 (Annexure 18).

Should there be any further information required you are kindly requested to contact us.

Yours Sincerely

Nel & de Kock Town and Regional Planners
Per: Alexander Havenga A/3313/2023

ANNEXURE 1

Application Form for Application(s) Submitted in terms of the Land Use Planning By-Law for George Municipality

NOTE: *Please complete this form by using: Font: Calibri; Size: 11*					
PART A: APPLICANT DETAILS					
First name(s)	**Alexander**				
Surname	**Havenga**				
SACPLAN Reg No. (if applicable)	**Pr. Pln A/3313/2023**				
Company name (if applicable)	**Nel & de Kock Town and Regional Planners**				
Postal Address	***P.O. Box 1186,***				
	George		*Postal Code*	**6530**	
Email	**neldek@mweb.co.za**				
Tel	**044 874 5207**	*Fax*	**n/a**	*Cell*	**079 513 3530**
PART B: REGISTERED OWNER(S) DETAILS (if different from applicant)					
Registered owner	**Johannes Hendrik Stander**				
Address	**Farm No. 306**				
	George Rural		*Postal code*	**6529**	
E-mail	**stander@hilbert.co.za**				
Tel	**n/a**	*Fax*	**n/a**	*Cell*	**083 627 6794**
PART C: PROPERTY DETAILS (in accordance with Title Deed)					
Property Description	**Farm No. 306, George**				

[Erf / Erven / Portion(s) and Farm number(s), allotment area.]							
Physical Address	**Farm No. 306, Geelhoutboom, George Rural**						
GPS Coordinates	**33°58'36.42"S 22°19'45.96"E**			*Town/City*	**George Rural**		
Current Zoning	**Agricultural Zone I**		*Extent*	**107,7185ha**	*Are there existing buildings?*	**Y**	*N*
Current Land Use	**Agriculture**						
Title Deed number & date	**T72732/2003**						
Any restrictive conditions prohibiting application?	Y	**N**	*If Yes, list condition number(s).*				
Are the restrictive conditions in favour of a third party(ies)?	Y	**N**	*If Yes, list the party(ies).*				
Is the property encumbered by a bond?	**Y**	N	*If Yes, list Bondholder(s)?*	**Letter by Brand & van der Bergh attorneys is attached whereby they state they are in process of cancelling the bonds registered on the property.**			
Has the Municipality already decided on the application(s)?	Y	**N**	*If yes, list reference number(s)?*				

Any existing unauthorized buildings and/or land use on the subject property(ies)?	**Y**	N	*If yes, is this application to legalize the building / land use?*	**Y**	N
Are there any pending court case / order relating to the subject property(ies)?	Y	***N***	*Are there any land claim(s) registered on the subject property(ies)?*	Y	***N***

PART D: PRE-APPLICATION CONSULTATION

Has there been any pre-application consultation?	**Y**	N	*If Yes, please complete the information below and attach the minutes.*		
Official's name	**Khuliso Mukhovha**	*Reference number*	**3451061**	*Date of consultation*	**14/10/2024**

PART E: LAND USE APPLICATIONS IN TERMS OF SECTION 15 OF THE LAND USE PLANNING BY-LAW FOR GEORGE MUNICIPALITY & APPLICATION FEES PAYABLE

***Application fees that are paid to the Municipality are non-refundable and proof of payment of the application fees must accompany the application.**

BANKING DETAILS

Name:	***George Municipality***
Bank:	***First National Bank (FNB)***
Branch no.:	***210554***
Account no.:	***62869623150***
Type:	***Public Sector Cheque Account***
Swift Code:	***FIRNZAJJ***
VAT Registration Nr:	***4630193664***
E-MAIL:	***msbrits@george.gov.za***
****Payment reference**:*	**Erven ____, George/Wilderness/Hoekwil…**

PART F: DETAILS OF PROPOSAL

Brief description of proposed development / intent of application:

Application is being made for a consent use for a quarry in terms of Section 15.(2)(o) of the By-Law on Municipal Land Use Planning of George Municipality, 2023, in order to mine sand and G7 gravel from Farm No. 306, George.

PART G: ATTACHMENTS & SUPPORTING INFORMATION FOR LAND USE PLANNING APPLICATIONS

Please complete the following checklist and attach all the information relevant to the proposal. Failure to submit all information required will result in the application being deemed incomplete.

Is the following compulsory information attached?

Y	*N*	*Completed application form*		***Y***	*N*	*Pre-application Checklist (where applicable)*	
Y	*N*	*Power of Attorney / Owner's consent if applicant is not owner*		**Y**	N	*Bondholder's consent*	
Y	*N*	*Motivation report / letter*		***Y***	*N*	*Proof of payment of fees*	
Y	*N*	*Full copy of the Title Deed*		***Y***	*N*	*S.G. noting sheet extract / Erf diagram / General Plan*	
Y	*N*	*Locality Plan*		***Y***	*N*	*Site layout plan*	

Minimum and additional requirements:

Y	N	***N/A***	*Conveyancer's Certificate*		*Y*	*N*	**N/A**	*Land Use Plan / Zoning plan*	
Y	*N*	**N/A**	*Proposed Subdivision Plan (including street names and numbers)*		*Y*	*N*	***N/A***	*Phasing Plan*	
Y	N	**N/A**	*Consolidation Plan*		Y	N	**N/A**	*Copy of original approval letter (if applicable)*	
Y	N	***N/A***	*Site Development Plan*		Y	N	**N/A**	*Landscaping / Tree Plan*	
Y	**N**	N/A	*Abutting owner's consent*		***Y***	N	**N/A**	*Home Owners' Association consent*	

Y	N	N/A	*Copy of Environmental Impact Assessment (EIA) /* ~~*Heritage Impact Assessment (HIA)*~~ ~~*Traffic Impact Assessment (TIA) / Traffic Impact Statement (TIS) /*~~ ~~*Major Hazard Impact Assessment (MHIA) /*~~ *Environmental Authorisation (EA) / Record of Decision (ROD)*		Y	N	**N/A**	*1 : 50 / 1:100 Flood line determination (plan / report)*
Y	N	**N/A**	*Services Report or indication of all municipal services / registered servitudes*		**Y**	N	N/A	*Required number of documentation copies* **2 copies**
Y	*N*	N/A	*Any additional documents or information required as listed in the pre-application consultation form / minutes*		Y	N	**N/A**	*Other (specify)*
PART H: AUTHORISATION(S) IN TERMS OF OTHER LEGISLATION								
Y	***N/A***	*National Heritage Resources Act, 1999 (Act 25 of 1999)*			Y	**N/A**	*Specific Environmental Management Act(s) (SEMA)* *(e.g. Environmental Conservation Act, 1989 (Act 73 of 1989), National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004),* *National Environmental Integrated Coastal Management Act, 2008 (Act 24 of 2008), National Environmental Management: Waste Act, 2008 (Act 59 of 2008),* *National Water Act, 1998 (Act 36 of 1998)* *(strikethrough irrelevant)*	
Y	N/A	*National Environmental Management Act, 1998 (Act 107 of 1998)*						
Y	**N/A**	*Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970)*						
Y	**N/A**	*Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013)(SPLUMA)*						
Y	**N/A**	*Occupational Health and Safety Act, 1993 (Act 85 of 1993): Major Hazard Installations Regulations*						
Y	**N/A**	*Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA)*			Y	**N/A**	*Other (specify)*	
Y	N/A	*If required, has application for EIA / HIA / TIA / TIS / MHIA approval been made? If yes, attach documents / plans / proof of submission etc.*						
Y	**N**	*If required, do you want to follow an integrated application procedure in terms of section 44(1)of the Land-Use Planning By-law for George Municipality?*						

SECTION I: DECLARATION

I hereby wish to confirm the following:

1. *That the information contained in this application form and accompanying documentation is complete and correct.*
2. *The Municipality has not already decided on the application.*
3. *I'm aware that it is an offense in terms of section 86(1)(d) to supply particulars, information or answers in an application, knowing it to be false, incorrect or misleading or not believing them to be correct.*
4. *I am properly authorized to make this application on behalf of the owner and (where applicable) copies of such full relevant Powers of Attorney/Consent are attached hereto.*
5. *I have been appointed to submit this application on behalf of the owner and it is accepted that correspondence from and notifications by the Municipality in terms of the by-law will be sent only to me as the authorised agent and the owner will regularly consult with the agent in this regard (where applicable).*
6. *That this submission includes all necessary land use planning applications required to enable the development proposed herein.*
7. *I confirm that the relevant title deed(s) have been read and that there are no restrictive title deed restrictions, which impact on this application, or alternatively an application for removal/amendment/suspension forms part of this submission.*
8. *I am aware of the status of the existing bulk services and infrastructure in the subject area and that I am liable for any possible development charges which may be payable as a result of the proposed development.*
9. *I acknowledge that in terms of the Protection of Personal Information Act (POPIA) all correspondence will be communicated directly and only to myself (the applicant). No information will be given to any third party and/or landowner (if the landowner is not the applicant). I herewith take responsibility to convey all correspondence to the relevant parties.*

Applicant's signature:		*Date:*	**10 December 2024**
Full name:	**Alexander Havenga**		
Professional capacity:	**Registered Professional Planner**		
SACPLAN Reg. Nr:	**Pr. Pln A/3313/2023**		

Annexure 2

POWER OF ATTORNEY

I, the undersigned,

Johannes Hendrik Stander

In my capacity as the Registered owner of Farm No. 306, George, situated in the Municipality and division of George, Province of the Western Cape.

hereby nominate and appoint:

NEL & DE KOCK TOWN & REGIONAL PLANNERS

With power of substitution, to be our true and lawful Agent in our name, place and stead, to apply to the George Municipality for a **Consent Use for a Quarry on Farm No. 306, George,** and I hereby ratify, allow and confirm, and promise and agree to ratify, allow and confirm all and whatsoever our said Agent shall lawfully do or cause to be done by virtue of these presents.

SIGNED at GEORGE on this 19 th of JULY in the presence of the under mentioned witnesses.

.....

AS WITNESSES:

1. .....

2. .....

Annexure 3

BRAND & VAN DER BERGH

PROKUREURS I|I ATTORNEYS

TO WHOM IT MAY CONCERN

Ons Verw / Our Ref: AVDB/tj/N3227
U Verw: / Your Ref:

03 December 2024

Dear Sir/Madam

BOND CANCELLATION: J.H. STANDER IFO NEDBANK LTD
PROPERTY: FARM NO. 306

The above matter refers.

We confirm that we have received instructions from Nedbank to attend to above bond cancellations and confirm that the bond has been paid up in full.

Kindly do not hesitate to contact the writer hereof should you have any further questions.

Yours faithfully

BRAND & VAN DER BERGH ATTORNEYS

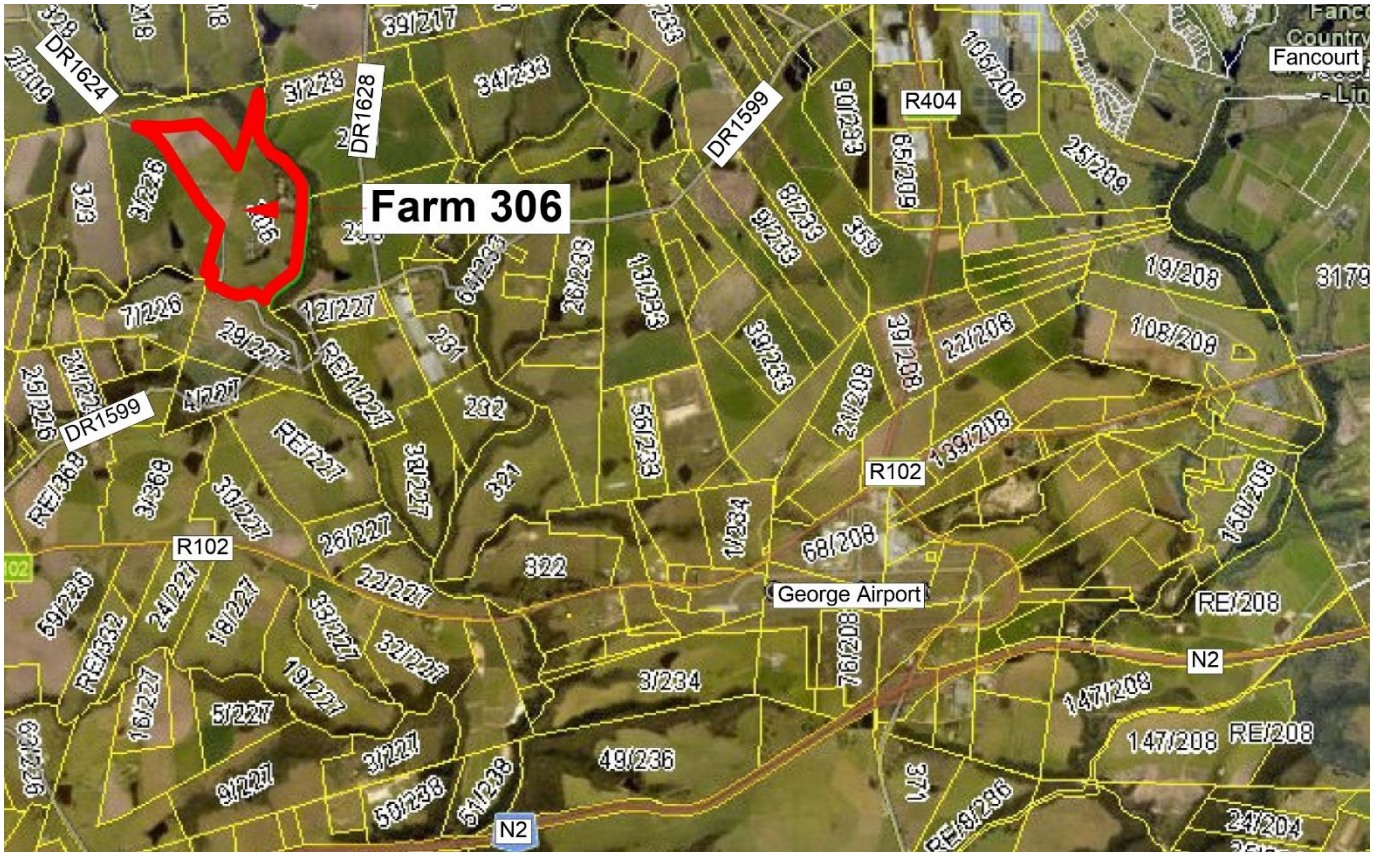
Per:

126 Cradock Street, PO Box 1079, George, 6530
Docex 9 | Tel: (044) 874 5244

ANNEXURE 4

MOTIVATION REPORT

CONSENT USE FOR A QUARRY:
FARM No. 306, SITUATED IN THE MUNICIPALITY AND DIVISION OF GEORGE, WESTERN CAPE
FOR
JH STANDER (GROW GREEN MINING Pty Ltd)



Stads- en Streekbeplanners
Town and Regional Planners

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1. APPLICATION

Application is being made for a consent use for the purpose of mining sand and G7 gravel in terms of Section 15.(2)(o) of the By-Law on Municipal Land Use Planning of George Municipality, 2023, on Farm No. 306, George.

2. BACKGROUND

The proposed quarry is in extent 4.95ha as indicated on the attached Site Layout Plan, Annexure 7. The area from where the sand and G7 gravel will be extracted is a highly disturbed area on the property where large scale excavation of sand and gravel has taken place over time through unlawful mining activities. The owners appointed Melissa Murgatroyd of Femcotech Resource Consultants to submit a S24G application to the Department of Environmental Affairs and Development Planning in order to obtain the necessary Environmental Authorisation and mining permit for the quarry. The Environmental Authorisation was approved by DEA&DP on 26/09/2024 and is attached to this application as Annexure 11. As the Environmental Authorisation is now in place, Femcotech consulted Nel & de Kock Town and Regional Planners to apply to George Municipality for a consent use for a quarry in order to legalise the land use of the quarry in accordance with George Municipality's Integrated Zoning Scheme By-Law, 2023.

3. PURPOSE

The purpose of this application is to obtain approval for a consent use for a quarry which will allow the owners to operate the quarry in accordance with George Municipality's Integrated Zoning Scheme By-Law, 2023 and the granted Environmental Authorisation.

4. MOTIVATION

4.1 NEED

The need for this application sprouted from Grow Green Mining Pty Ltd.'s function to provide their customers with sand and G7 gravel which can be mined on the subject property, Farm No. 306, George. Therefore, the need for this application is to obtain the Municipality's approval for the supplementary use of a quarry on the subject property which will allow Grow Green to mine sand and G7 and as a result thereof provide it to their customers. Considering the rapid growth rate of George and environs the availability of building materials as now applied for has become a challenge. The extraction of the 'minerals' will bring lower costs of the product in the area as it is locally sourced and will contribute to the economy of George in various aspects. The quarry will result in a financial gain for the owner of the property, the

mining company and the workers which will be employed by the quarry. By benefiting these beneficiaries will also be beneficial to the Municipal fiscus.

4.2 DESIRABILITY

PHYSICAL CONDITION:

4.2.1 TOPOGRAPHY

The subject property is situated on the eastern side of a small hill. The highest point on the property is roughly 204m while it slopes downwards from its highest point in a predominant easterly direction to the Maalgate River. The slope of the property is approximately 1:73 on its flattest part and 1:4 on its steepest part where it slopes down to the Maalgate River. The topography where the proposed mining activities will take place was previously disturbed through unlawful mining practices. Nevertheless, the slope of the area where the quarry is proposed will not negatively influence this application as it is standard practise to manipulate the ground and topography where such mining activities take place. According to the Rehabilitation Plan attached as Annexure 12 steep slopes should be smoothed to a gradient of 18 degrees after mining activities are concluded. To mitigate and control wind and water erosion the Rehabilitation Plan indicates that all slopes shall be equipped with poles or sand filled hessian bags or “sausages” staked across the face of the rehabilitated slope. Therefore, where topography will be manipulated by the proposed quarry the Rehabilitation Plan makes provision to rehabilitate the area ensure the sustainability of the site when mining activities are concluded.

4.2.2 BOTTOM CONDITIONS

The bottom conditions of the area where the quarry is proposed consist of sand and G7 gravel. The fact that ‘minerals’ such as sand and G7 can be found on the property gave rise to this application for a consent use for a quarry. The bottom conditions pose to not negatively affect this application as it is the content of the bottom conditions which gave rise to this application.

4.2.3 VEGETATION

The proposed site is heavily disturbed through the historic mining activities and the transformation of surrounding areas to pastures for grazing purposes. According to the Site Sensitivity Report by W Nel Environmental Consulting Services, alien vegetation is present on the site where the quarry is proposed. A Terrestrial Plant Assessment was completed by Enviro-EAP and in the report the ecological sensitivity map was found to be of medium sensitivity. The relevant Ecological Sensitivity Map is marked Figure 3 on p. 55 of the attached Specialist Reports submitted as part of the NID to Heritage Western Cape and is attached to this application as Annexure 13. The report furthermore states that the whole area where

the quarry is proposed can be mined without any negative or unreversable impacts on plant species.

4.2.4 FLOOD LINES

The proposed quarry is situated in close proximity to the Maalgate River, while a berm is present on the eastern side of the quarry separating it from the river. The location of the quarry near the Maalgate River is a result of the presence of sand and gravel which gave rise to this application. Dr. Dabrowski of Confluent Aquatic Consulting & Research was appointed to conduct a Freshwater Assessment of the quarry. Dr. Dabrowski's report is included in the Specialist Reports attached as Annexure 13, and can be seen on p. 16-38 of the aforementioned document. According to his findings assuming that the mitigation measures are implemented, the proposed project will not have any effect on the production of high-quality water and will therefore not compromise the management objectives of SWSAs as the operation will take place outside of natural watercourses and their associated buffers.

4.2.5 SENSITIVITIES

The sensitivities of the area where the quarry is proposed are summarised in the Site Sensitivity Verification Report attached as Annexure 14. The proposed quarry is situated on a previously disturbed area and therefore poses to not have a more adverse effect on the sensitivities than what the historic mining activities already disturbed. After conclusion of the mining activities a Rehabilitation Plan is in place to rehabilitate the area in order to leave the mine area in a condition that minimizes adverse impacts on the social and natural environment.

4.2.6 WATER TABLE

In the Department of Environmental Affairs Screening Tool and Risk Assessment Report prepared by W Nel Environmental Consulting Services, attached as Annexure 15, it was found that the proposed mining activities will not impact on the hydrology of the area and therefore no Hydrology Assessments were requested. Therefore, the water table poses to not have an impact on the proposed quarry and will therefore not be elaborated further on in this motivation report.

4.2.7 DRAINAGE PATTERN

No new construction is proposed and therefore the design of the drainage pattern and how it will connect to the municipal storm water system is not applicable. It should, however, be mentioned that Werner Nel, the Environmental Consultant who

compiled the Site Sensitivity Report, stated in the aforementioned report that a storm water outlet channel is present on the site which diverts storm water into the Maalgate River and pose a concern as to how the mining activities may affect the water quality of the Maalgate River. Dr. Dabrowski do, however, propose mitigation measures by which stormwater must be managed within the perimeter of the quarry. The existing channel leading from the quarry towards the Maalgate River must be closed off and be replaced by a berm that is continues with the berm surrounding the rest of the quarry. Therefore, drainage pattern will not impinge this application for a quarry should the mitigation measures be followed.

4.2.8 FILLINGS AND EXCAVATIONS

Application is made for a consent use for a quarry on the subject property. Therefore, excavations and fillings will be present as it is a standard method to mine sand and G7. After conclusion of the mining activities, the site will be rehabilitated in line with the Rehabilitation Plan which is attached to this application as Annexure 12.

4.3 EXISTING PLANNING AND LEGISLATION

4.3.1 SPATIAL PLANNING AND LAND USE MANEGEMENT ACT, 2013, (S.P.L.U.M.A.)

4.3.1.1 SPATIAL JUSTICE

- **Past spatial and other development imbalances must be redressed through improved access to and use of land.**
  The property which relates to this application is situated in the rural area of Geelhoutboom in the George Municipal area. The property was made available on the free market when the owner acquired it in 2003 with his own capital he built this farm up to function as a viable agricultural unit. Therefore, this application pose to not be adequate to address this principle of access to and use of land as the owner acquired it on the free market with the intention of utilising it for agricultural activities.

- **Spatial development frameworks and policies at all spheres of government must address the inclusion of persons and areas that were previously excluded, with an emphasis on informal settlements, former homeland areas and areas characterises by widespread poverty and deprivation.**
  Due to considerations discussed above, this objective is not readily achievable with this application.

- **Spatial Planning mechanisms, including land use schemes, must incorporate provisions that enable redress in access to land by disadvantaged communities and persons.**

As discussed above, the location of the property in the rural area of Geelhoutboom does not lend itself to the compliance of this objective and the fact that the property is zoned and actively used for agricultural purposes and not to address the access to land by disadvantaged communities or persons.

- **Land use management systems must include all areas of a Municipality and specifically include provisions that are flexible and appropriate for the management of disadvantaged areas, informal settlements and former homeland areas.**
  A pragmatic approach to the management of land use systems to follow flexible and appropriate processes to facilitate housing for the disadvantaged community is indispensable.

- **Land development procedures must include provisions that accommodate access to secure tenure and the incremental upgrading of informal areas.**
  This aspect has already been discussed above.

- **A Municipal Planning Tribunal considering an application before it, may not be implemented or restricted in the exercise of its discretion solely on the ground that the value of land or property is affected by the outcome of the application.**
  This provision does not apply to the application.

4.3.1.2 PRICIPLE OF SPATIAL SUSTAINABILITY

- **Promote land development that is within the fiscal, institutional and administrative means of the Republic.**
  The proposed development is done with private funding and therefore the fiscal, institutional and administrative capacity of government agencies are not relevant to this application.

- **Ensure that special consideration is given to the protection of prime and unique agricultural land.**
  The property forming the focus of this application is zoned Agricultural Zone I and is predominantly utilised for grazing and rotational crops. The proposed quarry is situated on a portion of the property previously disturbed by mining activities which is in close proximity to the Maalgate River where the sand and G7 gravel can be found. The extraction of the aforementioned is temporary while this consent use will only be valid for the period the mining permit is issued. The mining permit is issued until 02/12/2026 with the option of renewing it 3 times for a period of one year and is attached to this application as Annexure 18. Therefore, the maximum time the mining permit can be renewed is until 02/12/2029. Therefore, after conclusion of the mining

activities the site will be rehabilitated in accordance with the Rehabilitation Plan attached to this application as Annexure 12.

- **Uphold consistency of land use measures in accordance with the environmental management instruments.**
  A Section 24G process was followed to obtain approval for the proposed quarry on the subject property. An environmental Authorisation was issued for the proposed quarry on 26 September 2024 and is attached to this application as Annexure 11.

- **Consider all current and future costs to all parties for the provision of infrastructure and social services in land developments.**
  Approval of this application will not incur any costs with regard to the provision of services as the proposed quarry does not require any new services. Any new infrastructure which may be required will be for the cost of the company managing the mine. Therefore, approval of this application pose to not hold any costs for the Municipality.

- **Promote land development in locations that are sustainable and limit urban sprawl.**
  The nature of this application does not lend itself to be accommodated within the urban edge. Therefore, this principle aimed at limiting urban sprawl is not relevant to this application.

- **Result in communities that are viable.**
  Approval of this application will result in a viable mine which will produce sand and G7 gravel to the community for the period the mining permit is issued. Therefore, approval of this application will contribute to the viability of the community as the proposed quarry will create jobs and supply the development sector with materials required for construction. After fruition of the quarry and the lapsing of the mining permit, the quarry will be rehabilitated and the haul road will be seeded with grass suitable for grazing.

4.3.1.3 PRINCIPLE OF EFFICIENCY

- **Land development optimises the use of existing resources and infrastructure.**
  The intention of this application is obtain approval for a quarry which will extract natural resources i.e., sand and G7 gravel and make it available for the building and construction industry in the area. The proposed quarry poses to utilise existing resources and infrastructure for the duration of the mining activity. Therefore, this application poses to be in line with this principle.

- **Decision-making procedures are designed to minimise negative financial, social, economic, or environmental impacts.**

As a privately funded project, sensible decision making to have minimal negative consequences are indispensable for the successful implementation of the project. As already discussed, it will not have a negative social or economic and impact, but will result in a viable opportunity for the business to extract the ‘minerals’ for their customers.

- **Development applications procedures are efficient and streamlined and timeframes are adhered to by all parties.**
  Adherence to prescribed timeframes vest in the Municipality and therefore the applicant does not have any control over it.

4.3.1.4 PRINCIPLE OF SPATIAL RESILIENCE

This principle, which is primarily aimed at a sustainable way of life for communities that are most vulnerable to economic and environmental setbacks, is not directly applicable to this application.

4.3.1.5 PRINCIPLE OF GOOD ADMINISTRATION

- **All spheres of government ensure an integrated approach to land use and land development that is guided by the spatial planning and land use management systems as embodied in this Act.**
  Authorities involved in this application includes George Municipality, the Department of Environmental Affairs and Development Planning, Western Cape Department of Infrastructure and the Western Cape Department of Agriculture. The various departments of the authorities involved function as an integrated team and the applicant has no further comment on this principle of good administration.

- **Policies, legislation and procedures must be clearly set in order to inform and empower members of the public.**
  Procedures of the public participation process for this application will be adhered to as prescribed when the applicant receives a Section 38 Land Use Planning By-Law, 2023, compliance letter and is instructed to start with this process.

4.3.2 LAND USE PLANNING ACT, 2014, (L.U.P.A.)

As far as the proposed development is concerned, there is a great deal of overlap between the principles of spatial justice, sustainability, good administration and resilience that are pursued under this legislation, but which have already been discussed in par 4.3.1 above. To avoid duplication, these principles will not be

discussed again.

4.3.3 NATIONAL, PROVINCIAL AND LOCAL GOVERNMENT POLICIES AND GEORGE MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK, 2023

National, Provincial and Local Government policies sets out and put in place coherent policies and frameworks to support Municipalities fulfil their municipal planning mandate in line with national and provincial agendas. Application is made in terms of Section 15 of the Land Use Planning By–Law of George Municipality, 2023. Therefore, the local policies and frameworks of the Municipality took the policies and frameworks of National and Provincial Government into consideration and only the George Municipal Spatial Development Framework, 2023 (MSDF) will be discussed for the purpose of this application.

George Municipality's Spatial Development Framework, 2023, lists mining and quarrying(supported) in Policy B2 which relates to the Primary Sector in the Economic Growth chapter of the document. The policy focusses on forestry areas which should be maintained as an economic sector. Bearing in mind that the proposed quarry is situated in the rural area of Geelhoutboom and not within a proclaimed forestry area and will therefore not detract from this policy and the applicant cannot comment on the policy guidelines as a result thereof.

4.3.4 Western Cape Land Use Planning Guidelines for rural areas, 2019

Chapter 13 of the Western Cape Land Use Planning Guidelines focusses on mining and industry in rural areas. The objectives of this guideline are as follows:

- "To facilitate the development of industrial activity that underpins the rural economy, conservation and tourism.
- Appropriate industrial activity in rural areas includes:
    - Packing, storage and bottling or processing of agricultural products.
    - Small scale production or processing activities associated with tourist facilities.
    - Extracting minerals e.g. salt mining.
    - Processing natural resources e.g. bottling of spring water."

This application proposes the development of an industrial activity in the form of a quarry which will support the rural economy in Geelhoutboom. Approval of this application will raise funds not only for the owner of the property, who can invest the extra income back into his agricultural activities, but also for the owners of the mine which in turn employs various individuals who will be reimbursed by working on the mine. Therefore, this application is in line with this objective which will contribute and support the rural economy in Geelhoutboom.

The Western Cape Land Use Planning Guidelines for rural areas, 2019, gives the following guidance for implementation of mining and industries in rural areas:

- **"Industry in rural areas should only be located in the following SPC'S:**
  Settlement
  Agriculture
  Buffer 2"
    - A portion of property abutting the Maalgate river is classified as Critical Biodiversity Area 2 which is provided for in a Core 2 Spatial Planning Category. The remainder of the property is not classified by biodiversity areas. In light thereof the applicant interpreted that it falls under 'Agriculture' and therefore this application is in line with this Guideline as the proposed quarry is proposed on a previously disturbed portion of the property in a 'Agriculture' SPC.

- **"All non-place-bound industry (industries not ancillary to agriculture or serving rural needs e.g. transport contractors, breweries, fabricating pallets, bottling & canning plants, abattoirs, sawmills and builder's yards) should be located within urban areas. The obligation is on the applicant to illustrate why the industry must be located in the rural area rather than in an industrial area of a town."**
    - This application intends to obtain approval for a quarry on the subject property which is place bound due to the availability of sand and G7 in the specific area the quarry is proposed. Therefore, since no industry is proposed with this application, no further elaboration will be made on this guideline.

- **"Industries associated with tourist facilities in the rural areas such as a small scale brewery, butchery or arts and craft factory can be accommodated, depending on local conditions."**
    - This guideline is not applicable to this application as the proposed quarry is not associated with tourist facilities. The mining of raw materials on the subject property will however be used for the construction of roads and facilities related to tourist amenities in close proximity thereof.

- **"Only activities that are appropriate in a rural context, generate positive socio-economic returns, and do not compromise the environment or ability of the municipality to deliver on its mandate should be accommodated. The long term impact on the municipality (resources and financial); agricultural activities, production and sustainability, risk and finances; and the scenic, heritage and cultural landscape should be considered when decisions are taken."**
    - This guideline is applicable to the Municipality as the decision making authority. It should, however, be mentioned that a quarry is normally associated in a rural context, it will generate positive socio economic

returns and will not compromise the environment as it is proposed on a previously disturbed area of the property.

- **"Extractive industry (i.e. quarrying and mining) and secondary beneficiation (e.g. cement block production, concrete batch plants, pre-mix asphalt plants) have to take place at the mineral or material source. If the mine will result in a significant negative impact on biodiversity, a biodiversity offset must be considered in accordance with National policy and Provincial guidelines."**
    - The minerals (sand and G7) will be excavated, crushed (when needed) and loaded onto tipper trucks that will transport the material to clients on order. Therefore, this proposal does not provide for secondary beneficiation. The Section 24G application currently in process will determine the relevance of a biodiversity offset.

- **"All place-bound agricultural industry related to the processing of locally sourced (i.e. from own and/or surrounding farms) products due to the perishability thereof, should be located within the farmstead precinct in the agricultural area."**
    - The minerals proposed to be extracted in the quarry are not perishable and therefore no further elaboration will be made on this guideline.

- **"Industry in rural areas should not adversely affect the agricultural potential of the property."**
    - As indicated on the attached Site Layout Plan, the extent of the proposed quarry will be 4.95ha in size and pose to not adversely affect the agricultural potential of the property. It should furthermore also be mentioned that the proposed quarry is located on a previously disturbed area which currently does not hold any agricultural potential, while the quarry will generate funds for the owner of the property who can invest the additional income back into his agricultural enterprise.

- **"Agricultural industry should be subservient or related to the dominant agricultural use of the property and/or surrounding farms."**
    - The proposed quarry is subservient to the dominant agriculture practices on the subject property as the quarry will be approximately 4.95ha in size leaving in excess of 100ha for agriculture.

- **"The employees of an agricultural industry as provided for in Chapter 10.2 Agri Worker Housing can be accommodated on the farm in a sustainable manner, that does not compromise the functionality and integrity of farming landscapes."**
    - This application does not propose a housing component. Therefore, this guideline is not relevant to this application.

- **“Avoid establishing industries with any permanent on-site employees’ residential component in rural areas as on the farm accommodation is restricted to agri workers. Employees should be accommodated in existing settlements.”**
    - As stated above this application does not propose a housing component for workers which will therefore not establish permanent on-site employees.

- **“Structures accommodating industry should conform to local vernacular, and attention needs to be given to appropriate buffers, and landscaping and screening to reduce their visual impact on the rural landscape. Information on the architectural design must be provided, for the purposes of heritage and visual assessments.”**
    - As indicated on Annexure 7, Site Layout Plan, the quarry will not lead to any construction of permanent structures. Therefore, no further elaboration will be made on this guideline.

- **“Development applications should include a locality plan to indicate how it contributes to the clustering of nodal areas.”**
    - A locality plan is attached to this application as Annexure 6. The availability of the minerals proposed to be extracted is the reason for the location of the quarry. Therefore, it cannot contribute to the clustering of nodal areas as it is site bound.

- **“A site development plan must be submitted to the municipality for consideration. The exact proposed footprint must be shown on the site development plan, it should illustrate the placement of the industry in relation to existing buildings on the property, and provide details on infrastructure provision, engineering services, access and parking arrangements and the position and nature of all proposed signage and landscaping.”**
    - A Site Layout Plan is attached as Annexure 7. The extent of the proposed quarry is 4.95ha and does not require any infrastructure provision with regard to engineering services as all of the equipment will be dependent on its own power. A parking area and the site access is indicated on the Site Layout Plan.

- **“The subdivision of agricultural land to accommodate industrial activities should be discouraged and only used as a last resort so as not to fragment the agricultural landscape.”**
    - This application does not propose the subdivision of agricultural land. Therefore, no further elaboration will be made in this regard.

- **“Before subdivision is considered, all other options to fund and provide security for loans’ and financing, e.g. long term lease agreements,**

shareholding in the land holding entity or title deed restrictions should be investigated before subdivision is granted."

- As stated above, this application does not propose the subdivision of agricultural land. Therefore, no further elaboration will be made in this regard.

- **"Conditions should be imposed to effectively manage waste and effluent."**
  - This guideline is aimed at the Municipality and the quarry will conform to any conditions relating to waste management and effluent which may be imposed by the Municipality.

4.3.4 BY-LAW ON MUNICIPAL LAND USE PLANNING OF GEORGE MUNICIPALITY, 2023

4.3.4.1 According to Section 38(1), the following documents are required in support of the application:

4.3.4.1.1 **Annexure 1**, Application form fully completed and signed;

4.3.4.1.2 **Annexure 2**, Power of Attorney to Nel & de Kock Town and Regional Planners by the registered owner to prepare and submit this application;

4.3.4.1.3 **Annexure 3**, Letter by Brand & van der Bergh Attorneys relating to the cancellation of the bond registered on the property is attached to this application;

4.3.4.1.4 **Annexure 4**, Motivation Report by Nel & de Kock Town and Regional Planners;

4.3.4.1.5 **Annexure 5**, Copy of the Surveyor General Plan No. 6575-88 is attached to this application;

4.3.4.1.6 **Annexure 6,** Plan No. G/I/213-1 dd. October 2024 is attached to this application;

4.3.4.1.7 **Annexure 7,** Site Layout Plan is attached to this application;

4.3.4.1.8 **Annexure 8,** Proof of Payment will be provided in due course as it is made available to the applicant;

4.3.4.1.9 **Annexure 9,** Copy of Title Deed No. T72732/2003 is attached to this application;

4.3.4.1.10 **Annexure 10**, Conveyancer certificate by Abraham Vlok Van der Bergh practising at Brand & van der Bergh Attorneys is attached to this application;

4.3.4.1.11 **Annexure 11**, Environmental Authorisation dd. 26/09/2024 is attached to this application;

4.3.4.1.12 **Annexure 12**, Rehabilitation Plan is attached to this application;

4.3.4.1.13 **Annexure 13,** Specialist Reports is attached to this application;

4.3.4.1.14 **Annexure 14,** Site Sensitivity Verification Report is attached to this application;

4.3.4.1.15 **Annexure 15,** Environmental Screening Tool and Risk Assessment Report prepared by W Nel Environmental Consulting Services is attached to this application;

4.3.4.1.16 **Annexure 16,** Visual representations of the proposed quarry is attached to this application;

4.3.4.1.17 **Annexure 17,** Copy of Pre-Application dd. 27/09/2023 is attached to this application; and
The following was identified in the discussion of the Pre-Application:

- Motivate the application in terms of SPLUMA, LUPA, and the MSDF.
    - SPLUMA, LUPA and the MSDF is discussed in Par. 4.3.1, 4.3.2 and 4.3.3 of the Motivation Report.
- Application to be circulated to the Department of Environmental Affairs and Development Planning, the Western Cape Department of Infrastructure and the Western Cape Department of Agriculture for comment on land use change and stormwater to be addressed if not noted in Authorization.
    - The application will be circulated to all of the relevant Departments once the applicant is instructed to start with the Public Participation Process.
- A Notification of Intend to Develop must be submitted to Heritage Western Cape, or a Record of Decision be provided if the process was concluded with the environmental process.
    - A Notice of Intend to Develop was submitted to Heritage Western Cape and the process was concluded in the Environmental Authorisation which is attached to this application as Annexure 11.
- The Environmental Authorization / Authorization from the Department of Mineral Resources must be submitted with the application.
    - As stated above, the Environmental Authorisation is attached to this application as Annexure 11.
- Applicant to address Western Cape Rural Development Guidelines.
    - The Western Cape Rural Area Guidelines, 2019, is discussed in Par. 4.3.4 of the Motivation Report.
- The visual impact to be discussed.
    - Annexure 16 contains pictures illustrating the visual impact of the proposed quarry. The visual representations clearly indicate that the

proposed quarry is screened off by natural vegetation and topography and can hardly be noticed from the various locations the pictures were taken from.

- Picture A & B: These pictures were taken from the proposed quarry site illustrating natural vegetation screening of the proposed quarry from surrounding areas;
- Picture C: This picture was taken from DR1624. The location of the proposed quarry is indicated and cannot be observed from this location as it is situated behind natural vegetation.
- Picture D: This picture was taken from DR1599. The location of the proposed quarry is indicated and cannot be observed from this location as it is situated behind natural vegetation.
- Picture E: This picture was taken from DR1628. The location of the proposed quarry is indicated and cannot be observed from this location as the topography of the terrain is higher between the location the picture was taken from and the proposed quarry.

4.3.4.1.18 **Annexure 18,** Mining Permit dd. 03/12/2024 is attached to this application.

4.3.4.3 Proposed development parameters (George Integrated Zoning Scheme By-Law, 2023)

Quarry:

4.3.4.3.1 Development parameters applicable to ‘‘agriculture’ together with additional parameters determined by the Municipality apply:

The focus of this application, a quarry, does not propose any permanent structures which can be evaluated in accordance with the development parameters of the Zoning Scheme. Therefore, the applicant cannot give comment in this regard. The Site Layout Plan of the proposed quarry is attached to this application as Annexure 7.

4.3.4.3.2 If a quarry is approved as a consent use in Agricultural Zone I, the consent may only be granted for the number of years equal to the expected lifetime of the quarry concerned:

The mining permit of the proposed quarry is attached to this application as Annexure 18. The aforementioned permit was granted for a period ending 02/12/2026. It should, however, be mentioned that the mining permit may be renewed three periods not exceeding one-year. Therefore, it is proposed that this consent use approval be valid until 02/12/2029 to make provision for any renewals of the mining permit

4.3.4.3.3 The owner must comply with national and provincial statutory requirements applicable to mining:
The owner of the quarry will abide to the statutory requirements of government as required by this development parameter.

4.3.4.3.4 A Site Development Plan must be submitted to the Municipality for its approval:
A Site Layout Plan of the proposed quarry is attached to this application as Annexure 7 which therefore complies with this development parameter.

4.3.5 TITLE DEED

Abraham Vlok van der Bergh of Brand & van der Bergh attorneys compiled a conveyancer certificate which is attached to this application as Annexure 10. Attorney van der Bergh states in this certificate that the title deed of the property, i.e., Title Deed No. T72732/2003, does not contain any conditions prohibiting this application for a consent use for a quarry on the subject property. Therefore, no further elaboration will be made in this regard. Attached as Annexure 3 is confirmation by Brand & van der Bergh Attorneys that they are currently in process of cancelling the bonds registered on the property. Therefore, a bondholder's consent is not required.

4.4 CHARACTER OF THE ENVIRONMENT

The property relevant to this application is situated within the rural area of Geelhoutboom where the predominant land use is agriculture which focusses on grazing of cattle and rotational crops. This application for a consent use for a quarry is temporary as the application will only be valid for the period the mining permit is issued. Quarrying is normally associated with rural areas as it cannot take place within the urban edge of a town. The quarry is furthermore proposed on an already disturbed area of the property which poses to not detract further from the character of the environment other than what can currently be experienced. After fruition of the mining activities the site will be rehabilitated in accordance with the Rehabilitation Plan attached to this application as Annexure 12.

Attached as Annexure 16, is a document containing visual illustrations of the proposed quarry from several roads in the vicinity of the property on which the quarry is proposed. As can be seen on the pictures, the quarry is screened of by the natural topography of the area and vegetation. Therefore, approval of this application will not detract from the character of the area as it will almost be not noticeable from the public roads in close proximity to the property.

4.5 POTENTIAL OF THE PROPERTY

4.5.1 AGRICULTURE

As mentioned earlier in this report, the land unit relevant to this application is situated within the rural area of Geelhoutboom while the predominant land use of the property is agricultural. The quarry is proposed on an already disturbed area which will not detract from the current agricultural potential of the property. After completion of the mining activities the haul road area will be ripped and seeded with grass for grazing purposes which will contribute to the agriculture of the property Therefore, approval of this application will not only benefit the owner financially which will raise funds to better the functioning of the land unit for agriculture, but will also rehabilitate it to expand the current pastures once the mining activities is finalised.

4.5.2 CONSERVATION

The portion of the property where the quarry is proposed is already disturbed. Therefore, approval of this application poses to not affect the conservation of the property negatively. After fruition of the mining activities the area will be rehabilitated in accordance with the Rehabilitation Plan.

4.5.3 MINING

Sand and G7 gravel can be found on the property which is the motive for this application. Therefore, approval of this application will allow the owners to legally operate a quarry from the property.

4.5.4 RECREATION

As mentioned throughout this report the subject property is zoned for agricultural purposes. The property does not offer recreational activities for the public, but may hold some recreational activities for the owner. Therefore, since this property is in private ownership and application is made for a quarry it is not reasonably profound to propose any recreational facilities on it. In light of the aforementioned, no further elaboration will be made with regard to recreation.

4.5.5 RESIDENTIAL

The subject property is zoned for agricultural purposes and only offers residential opportunities for the owner. This application for a quarry does not propose any additional residential opportunities and since the primary use of the property is for agriculture no further elaboration will be made in this regard.

4.6 LOCATION AND ACCESSIBILITY

The subject property is situated at 33°58’36.42”S 22°19’45.96”E within the rural area of Geelhoutboom. The property can be accessed from DR1624 which connects to Charles Street (DR1599) which in turns join the R404. This application does not propose an amendment of the access and the existing access will remain in place as is. The application will be circulated to the Western Cape Department of Infrastructure who will comment on the access of the property.

4.7 PROVISION OF SERVICES

Approval of this application will not require any additional services as now new permanent structures will be a result thereof. Therefore, no further elaboration will be made in this regard.

4.8 CONSTRUCTION PHASE

This application does not propose any construction and therefore no elaboration will be made with regard to the construction phase.

5. CONCLUSION

The influx of people to the Garden Route through recent years led to an increased demand for sand and G7 gravel which is materials commonly associated with construction. Therefore, approval of this application will contribute to serve the demands for construction materials in the Garden Route, while also contributing to the economy in various ways. The contribution to the economy includes, but is not limited to the following, financial gain for the owner of the farm which will subsidise the existing agricultural activities, financial gain for the mining company, financial gain for the workers of the mining company, financial gain for construction companies requiring the materials, financial gain for the Municipality in the form of additional rates and taxes of new construction, etc. On the strength of the rationalisation followed in this report, it is evident that approval of this application has a substantial benefit not only for the owners of the mine and the owners of the property, but also to the greater George as it will allow the mining of sand and G7 gravel which can be supplied to local customers at more affordable rates which can lead to a well-balanced economy.

6575-88

SIDES Metres		ANGLES OF DIRECTION		CO-ORDINATES All plus System Lo 23° Y	X
		Constants		0,00	3 700 000,00
AB	251,29	270 51 20	A	63 065,16	60 431,23
BC	249,58	265 03 10	B	62 813,89	60 434,98
CD	215,60	310 08 10	C	62 565,24	60 413,46
DE	239,79	324 00 00	D	62 400,41	60 552,44
EF		196 25 50	E	62 259,46	60 746,43
			F	62 053,7	60 048,7
GH	432,67	117 12 30	G	62 124,0	61 789,6
HJ		196 25 50	H	62 508,8	61 591,8
JK	95,58	139 00 00	J	62 399,88	61 222,60
KL	81,59	138 00 40	K	62 462,59	61 150,47
LM	79,63	143 13 10	L	62 517,17	61 089,82
MN	502,25	147 45 50	M	62 564,84	61 026,04
NO	94,93	139 24 20	N	62 832,75	60 601,21
OP	35,58	133 12 40	O	62 894,52	60 529,13
PQ	83,92	123 12 00	P	62 920,45	60 504,77
QA	79,44	110 19 10	Q	62 990,67	60 458,82
			H'	62 508,6	61 591,8
		Δ George	(30)	61 558,28	59 914,42
		Δ Oud 7	(163)	56 603,60	51 940,04

1. The figure A B C D E J K L M N O P Q representing Portion 71 of the farm Diepe Kloof No. 226
   Vide Dgm. No. 6574/88 D.T. 2590/1989
2. The figure f middle of Nosinokama River g middle of Brakkloof stream h representing the Remainder of Portion 2 of the farm Buffels Drift No. 227.
   Vide Dgm. No. 2387/1858 D.T. 1858-10-132

The figure A B C D E f middle of Nosinokama River g middle of Brakkloof stream h J K L M N O P Q

represents 107,7185 Hectares of land, being

FARM 306 comprising 1 & 2 above

situate in the Administrative District

of ~~Goore~~ George Province of Cape of Good Hope.

~~Surveyed in~~ Compiled in August 1988

by me.

M D Clough Land Surveyor

This diagram is annexed to CCT No. T2591/1989 dated i.f.o. Registrar of Deeds	The original diagrams~~is~~ are as scheduled above ~~No. annexed to Transfer/Grant No.~~	File No. Geor1 306 S.R. No. Compiled Comp. BL-7DCD (6288)

C

OFFICE COPY

S.G. No. 6575-88

Approved

Surveyor-General 88/11/03

BEACONS

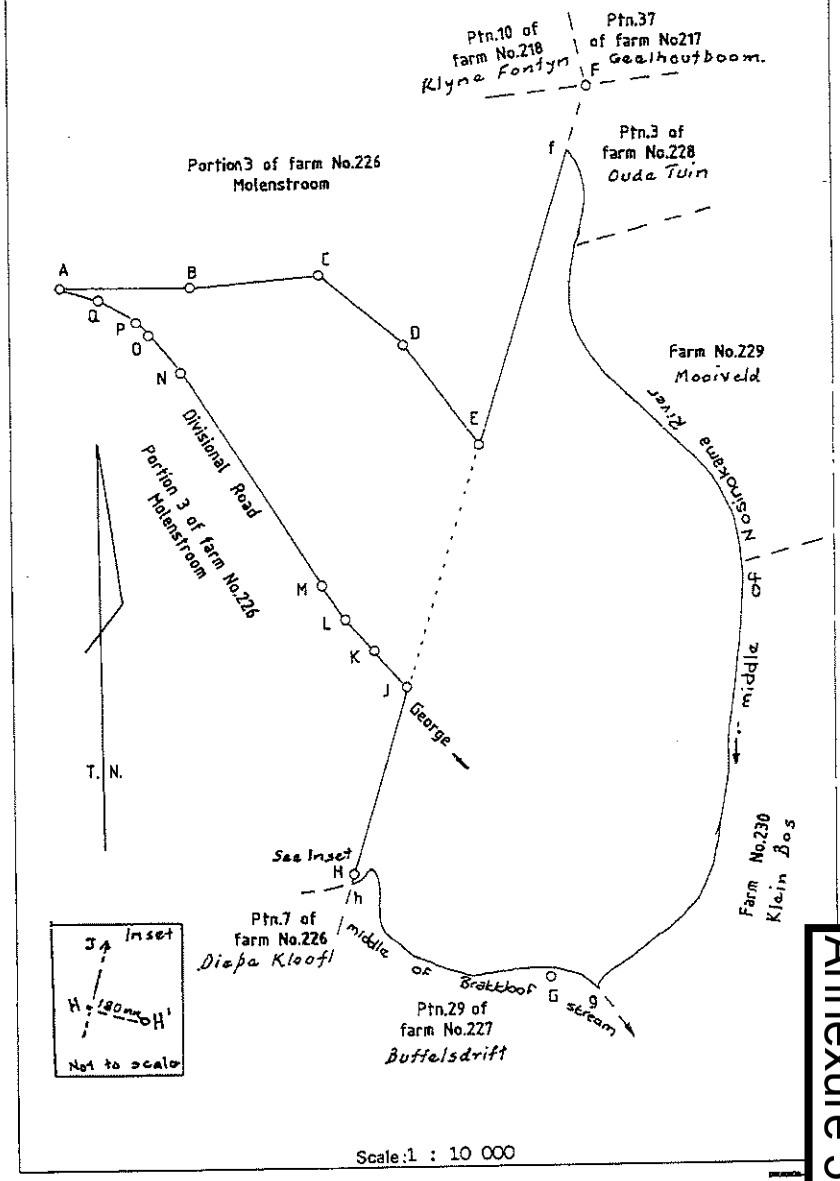
A,B,C,D,E,J,K,L,M,O,P,Q 20 x 900 mm iron peg & stone cairn

F 230 x 230 mm concrete block projecting 300 mm

G 150 x 150 mm concrete block projecting 300 mm

H Not beaconed

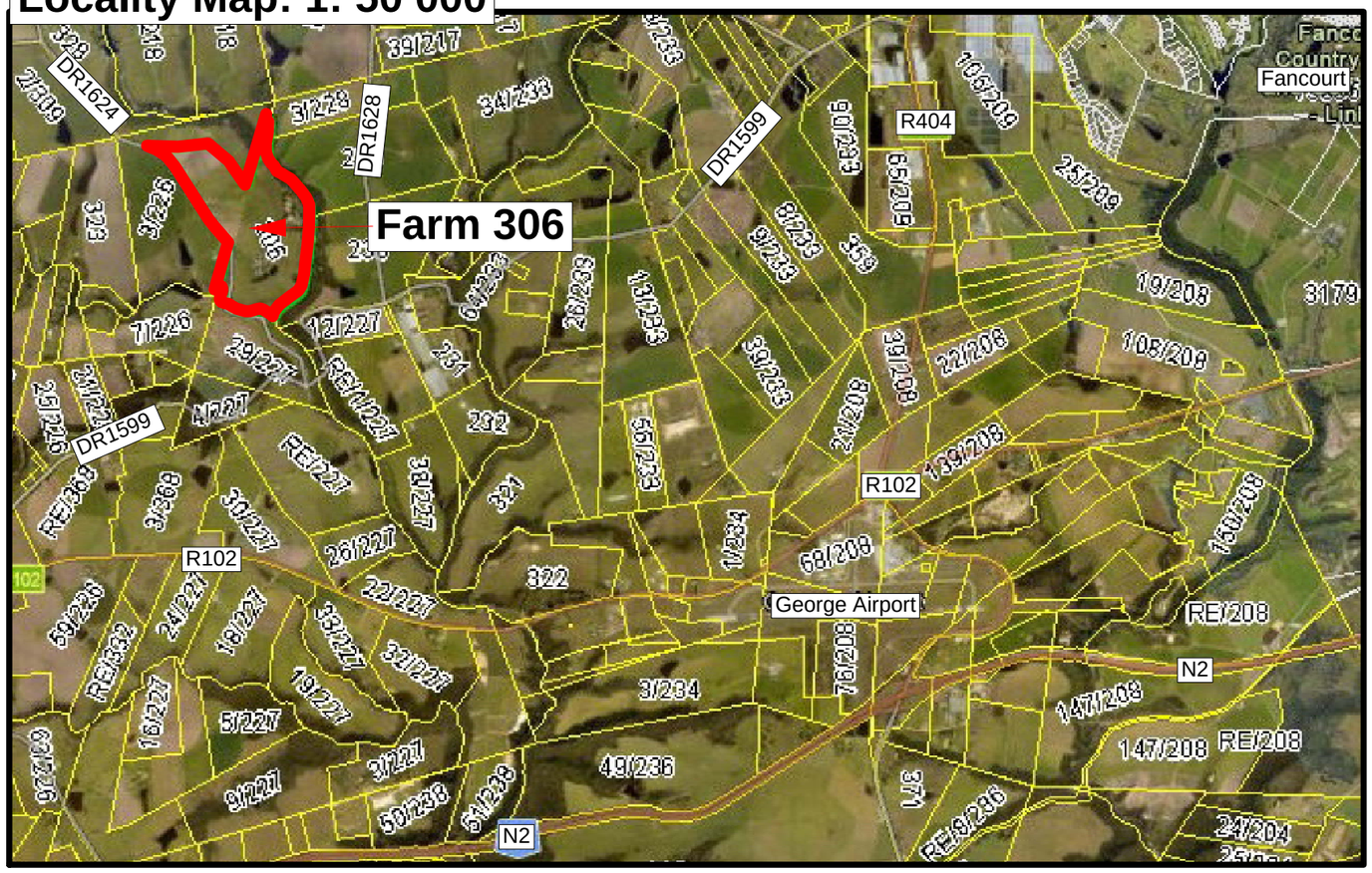
H' Planted stone projecting 150mm.



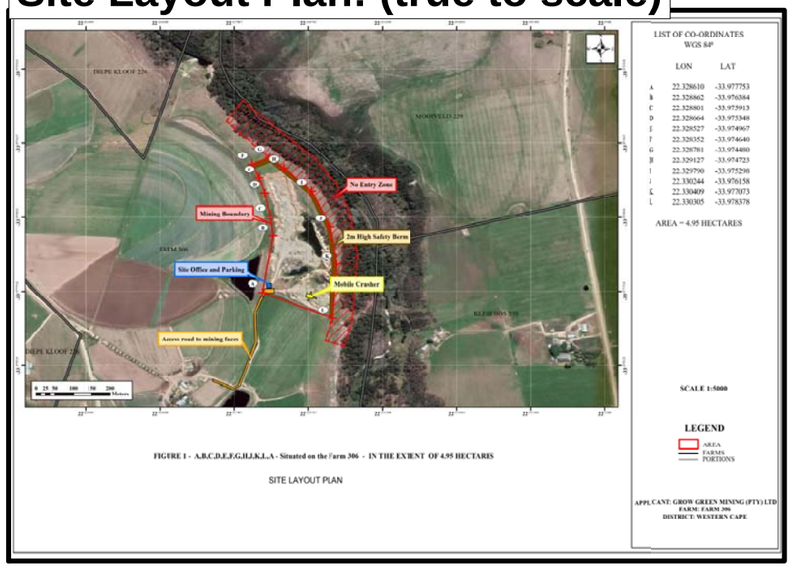
Annexure 5

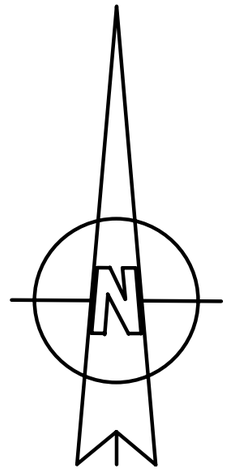
Annexure 6

Locality Map: 1: 50 000



Site Layout Plan: (true to scale)





PROPOSED CONSENT USE IN TERMS OF SECTION 15 OF THE BY-LAW ON MUNICIPAL LAND USE PLANNING OF GEORGE MUNICIPALITY, 2023, FOR FARM No. 306, GEORGE:

Application is being made for a consent use for a quarry in terms of Section 15.(2)(o) of the By-Law on Municipal Land Use Planning of George Municipality, 2023, in order to mine sand and G7 gravel from Farm No. 306, George.

Remarks:

1. An Environmental Authorisation was issued for the mining of sand and gravel on 26/09/2024 by the Department of Mineral Resources.
2. Site Layout Plan is attached hereto.
3. The subject property is accessed from DR1624.

Note:
Locality Map obtained from CapeFarmMapper.

FARM No. 306 GEORGE

Stads - en Streekbeplanners
Town and Regional Planners

Yorkstraat 56 York Street
Posbus 1186 / P.O. Box 1186
George 6530

Tel: (044) 874 5207
Fax: (044) 873 6354
E-pos / E-mail:neldek@mweb.co.za

SKAAL	**1:1500(A3)**	**SCALE**	
BEPLAN PLANNED	**D.N.**	**PLAN NO**	**G/I/213-1**
GETEKEN DRAWN	**A.H.**		
DATUM DATE	**October 2024**		

Annexure 7

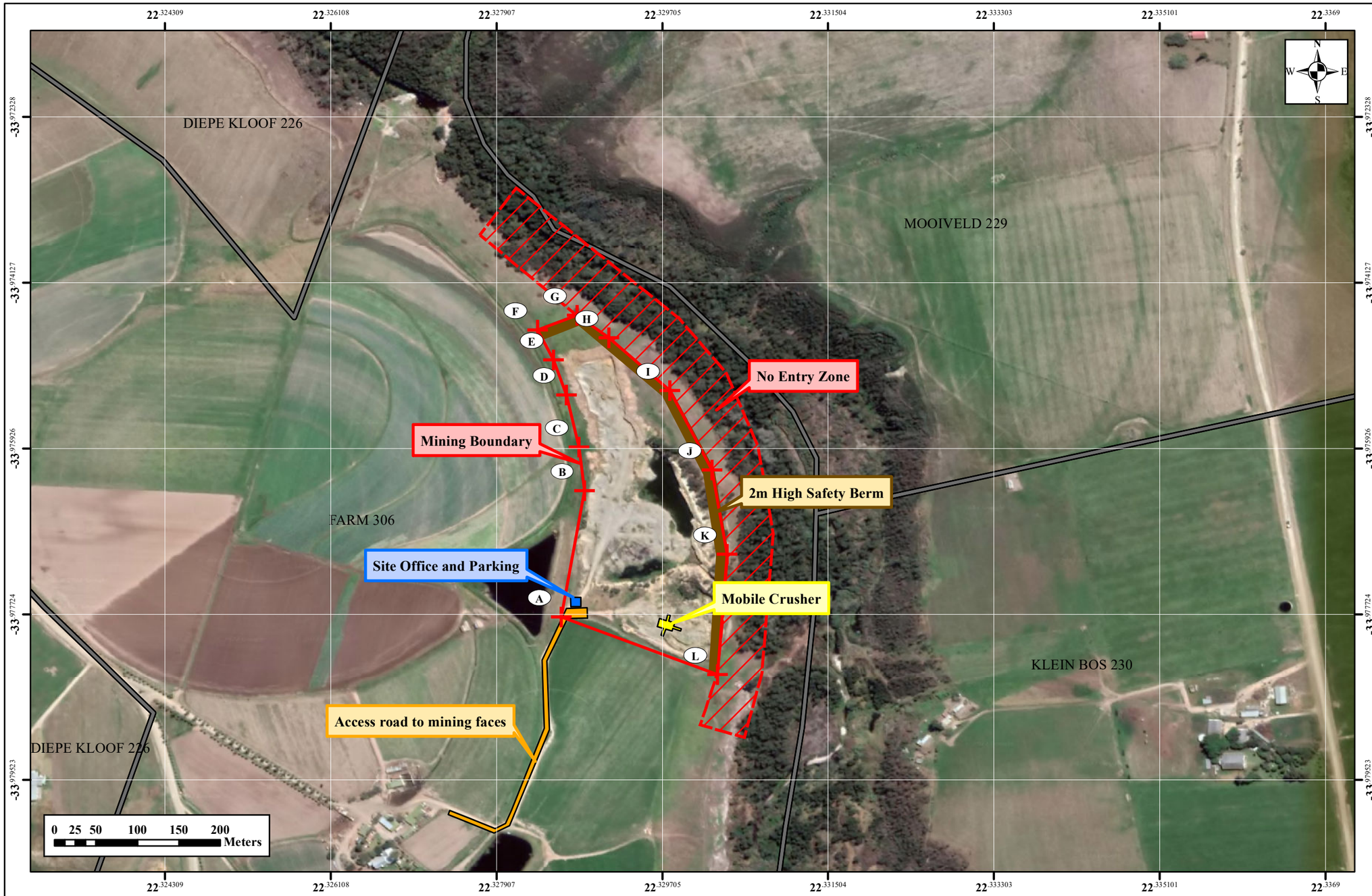


FIGURE 1 - A,B,C,D,E,F,G,H,J,K,L,A - Situated on the Farm 306 - IN THE EXTENT OF 4.95 HECTARES

SITE LAYOUT PLAN

LIST OF CO-ORDINATES
WGS 84º

	LON	LAT
A	22.328610	-33.977753
B	22.328862	-33.976384
C	22.328801	-33.975913
D	22.328664	-33.975348
E	22.328527	-33.974967
F	22.328352	-33.974640
G	22.328781	-33.974480
H	22.329127	-33.974723
I	22.329790	-33.975298
J	22.330244	-33.976158
K	22.330409	-33.977073
L	22.330305	-33.978378

AREA = 4.95 HECTARES

SCALE 1:5000

LEGEND

AREA
FARMS
PORTIONS

APPLICANT: GROW GREEN MINING (PTY) LTD
FARM: FARM 306
DISTRICT: WESTERN CAPE

One of the Global One money management products or services

Payment Notification

Capitec Bank

22/01/2025
Branch: 250655
Device: 9003

Validate this document using SkyQR

Dear Sir/Madam

Please take note that Melissa made a payment to your account. The payment details are as follows:

Notification number	694059
Payment date	22/01/2025 14:18
Payment details	
Beneficiary name	George Municipality Public Sector
Amount	R10 465.00
Payment reference	62869623150

IMPORTANT NOTES:

Immediate payments to non-Capitec banking clients and regular payments made to Capitec clients will reflect in the beneficiaries account immediately.

Regular payments made to non-Capitec banking clients BEFORE 02:00 PM Monday to Friday, or BEFORE 09:00 AM on a Saturday should reflect in the beneficiary account the following business (work) day.

Regular payments made to non-Capitec banking clients AFTER 02:00 PM Monday to Friday, or AFTER 09:00 AM on a Saturday, or on a Sunday, or on a public holiday should reflect in the beneficiary account within 2 business (work) days.

This is a notification that we received instruction to effect a payment and not a representation of any kind or guarantee that the amount has in fact been transferred or shall be available in the account. The processing of the payment may be delayed, which may impact on the timing of the availability of the funds.

Remote Banking Services

Annexure 9

[redacted]

Finance Logistics Administration
Melissa Murgatroyd

Ons Verw / Our Ref: EB/JHSTANDER
U Verw: / Your Ref:

25 August 2021

Dear Sir

RE: JH STANDER: FARM BUFFELSDRIFT 306, GEELHOUTBOOM

We confirm that we write this letter on instructions of our client Mr. JH Stander, the owner of the farm Buffelsdrift 306, Geelhoutboom, in the district of George, Western Cape.

Our instructions are that our client consents to the Applicant, Grow Green's continued mining on the said property. A copy of the title deed of the property is attached herewith as proof of ownership of the farm, for which the permission to continue mining is hereby specifically granted to Grow Green.

We trust you find the above to be in order.

Yours faithfully

BRAND & VAN DER BERGH PROKUREURS / ATTORNEYS

Per: E Brand

126 Cradock Street, PO Box 1079, George, 6530
Docex 9 | Tel: (044) 874 5244

Partners: E Brand (BA LL.B; Dip Auctioneering) A van der Bergh (B.Juris; LL.B)
Candidate Attorneys: Talitha Steenkamp (Bcom; LL.B) - Gerard le Roux (BSc, LL.B) | Consultant: Jaco Snyman (BA LLB; LLM – Corporate Law)

A

SEËLAEG DUTY R.....
FOOI FEE R 500,00

Opgestel deur my,

TRANSPORTBESORGER
MA ROSSOUW

BC 039838/08
GEKANSELLEER
CANCELLED
REGISTRATEUR/REGISTRAAR

VERBIND MORTGAGED 7 MAY 2008
VIR FOR R 1 250 000,00
B 000044157/2003
06 AUG 2003
REGISTRATEUR/REGISTRAAR

Bomman & Hayward Ing
Viii High Street
Rosenpark
Tygervallei
7536

AKTE VAN TRANSPORT

HIERMEE WORD BEKEND GEMAAK

T 000072732/2003

DAT HENDRIK PIERRE VAN DER MERWE

voor my die **REGISTRATEUR VAN AKTES** te KAAPSTAD verskyn het, die genoemde Komparant synde behoorlik daartoe gemagtig deur 'n Volmag aan hom/haar verleen deur

DIE TRUSTEES IN DER TYD VAN DIE TRUST GESKEP IN DIE BOEDEL VAN WYLE ANTHON MICHAEL MEYER – NO. 1999/91/6B

gedateer die 12DE MAART 2003

en geteken te BELLVILLE

TRN

VIR ENDOSSEMENTE KYK BLADSY 4
FOR ENDORSEMENTS SEE PAGE

EN die genoemde Komparant het verklaar dat die transportgewer die ondergemelde eiendom op waarlik en wettiglik per privaat ooreenkoms verkoop het en dat hy/sy in sy/haar voormelde hoedanigheid hierby sedeer en transporteer aan en ten gunste van:

JOHANNES HENDRIK STANDER
Identiteitsnommer 620129 5052 003
Getroud buite gemeenskap van goedere

hulle erfgename, eksekuteurs, administrateurs of regverkrygendes in volkome en vrye eiendom:

PLAAS NO. 306
in die Munisipaliteit en Afdeling van George, Provinsie Wes-Kaap

GROOT: 107.7185 (EEN HONDERD EN SEWE KOMMA SEWE EEN AGT VYF) Hektaar

EERSTE OORGEDRA en steeds gehou kragtens Sertifikaat van Verenigde Titel No. T2591/89 met kaart nr. 6575/88 daarby aangeheg.

I. WAT betref die figuur A B C D E J K L M N O P Q aangedui op aangehegte kaart nr. 6575/88:

ONDERHEWIG aan die voorwaardes waarna verwys word in Transportakte Nr. T17236/1958.

II. WAT betref die figuur f middel van Nosinokamarivier g middel van Brakkloof stroom h, aangedui op aangehegte kaart nr. 6575/88:

ONDERHEWIG aan die voorwaardes waarna verwys word in Transportakte Nr. T7100/1912.

WESHALWE die Komparant afstand doen van al die reg en titel wat die gesegde transportgewer voorheen in die genoemde eiendom gehad het en gevolglik ook erken dat hy geheel en al uit die besit daarvan onthef is en nie meer daartoe geregtig is en dat kragtens hierdie akte, die genoemde JOHANNES HENDRIK STANDER en AMANDA STANDER, hulle erfgename, eksekuteurs, administrateurs of regverkrygendes tans en voortaan daartoe geregtig is, ooreenkomstig plaaslike gebruik, behoudens die regte van die Staat en erken hy ten slotte dat die koopprys van die eiendom wat hiermee getransporteer word die bedrag van R1 250 000.00 (**EEN MILJOEN TWEE HONDERD EN VYFTIG DUISEND RAND**) is.

IN GETUIENIS WAARVAN EK, die genoemde Registrateur van Aktes tesame met die Komparant, q.q. hierdie Akte onderteken het en met my Ampseël bekragtig het.

ALDUS GEDOEN EN GETEKEN op die kantoor van die REGISTRATEUR VAN AKTES te KAAPSTAD op 6 Augustus 2003.

q.q.

In my teenwoordigheid

REGISTRATEUR VAN AKTES

VERBIND MORTGAGED

VIR
FOR R

B 0943082 7008

27 MAY 2008

REGISTRATEUR/REGISTRAR

DIE IDENTITEITSNOMMER VAN DIE THE IDENTITY NUMBER OF THE

IS VERANDER NA HAS BEEN CHANGED TO

27 MAY 2008

REGISTRATEUR/REGISTRAR

Annexure 10

CONVEYANCER'S CERTIFICATE

IN TERMS OF SECTION 15(2)b OF THE GEORGE MUNICIPALITY: LAND USE PLANING BY-LAW

APPLICATON DETAILS:

[Description of Land Development Application with specific reference to –

Date of Application: _____

In terms of Section 15(2)(b) of the Bylaw)

I, the undersigned

ABRAHAM VLOK VAN DER BERGH

a duly qualified and admitted Conveyancer, practicing at:

Brand & van der Bergh attorneys, 126 Cradock Street, George, 6530
[Firm name and Address],

do hereby certify as follows:

1 I have perused the following Title Deed/s and conducted a search behind the pivot of the said title deed/s at the Deeds Office, Cape Town:

T72732/2003 [Current Title Deed]

In respect of:

FARM NR 306
IN THE MUNICIPALITY AND DIVISION OF GEORGE
WESTERN CAPE PROVINCE

IN EXTENT: 107,7185 (ONE HUNDRED AND SEVEN, SEVEN ONE EIGHT FIVE) HECTARES

HELD BY DEED OF TRANSFER NUMBER T72732/2003

REGISTERED in the name of

JOHANNES HENDRIK STANDER,

IDENTITY NUMBER 620129 5052 003,

Married out of community of property

2. I have appraised myself with the details of the abovementioned Land Development Application.

3. The abovementioned Title Deed/s contains no conditions restricting the contemplated Land Uses of a quarry in terms of the abovementioned Land Development Application.

4.

SIGNED AT GEORGE on this 27th day of AUGUST 2024.

CONVEYANCER
ABRAHAM VLOK VAN DER BERGH

Annexure 11

mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

Private Bag X 9 Roggebaai, 8012; Tel: 021 427 1000; Fax: 021 427 1046
7th Floor, 44 Strand Street, Cape Town, 8012
Enquiries: Ms. Portia Seaba Reg. EAP (EAPASA) Reg. No. 2019/730
E-mail Address: Portia.Seaba@dmre.gov.za
Ms. Mathabo Pheme Email Address: Mathabo.Pheme@dmre.gov.za
Ref: (WC)30/5/1/3/2/ 10338MP
Sub-Directorate: Mine Environmental Management

Grow Green Mining (Pty) Ltd.
P O Box 2389
George
6530

Attention: Michael du Plessis
Cell: 083 444 3405
Email: michael@growgreengroup.co.za

APPROVED

Dear Sir

ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (NEMA) AS AMENDED, AND THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REGULATIONS, 2014 AS AMENDED FOR A MINING PERMIT APPLICATION IN RESPECT OF MINING BUILDING SAND (SILCA) AND GRAVEL ON PORTION OF THE FARM BUFFELSDRIFT 306 SITUATED IN THE MAGISTERIAL DISTRICT OF GEORGE, WESTERN CAPE.

With reference to the above-mentioned application, please be advised that the Department has decided to grant environmental authorisation in terms of the National Environmental Management Act (Act 107 of 1998). The environmental authorisation and reasons for the decision are attached herewith.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations of 2014, you are instructed to notify all registered interested and affected parties, in writing within 14 (fourteen) calendar days, from the date of the Department's decision in relation to your application and the relevant provisions regarding the lodgement of the appeal must be provided for in terms of the National Appeal Regulations of 2014.

Should you wish to appeal any aspect of the decision, you must submit the appeal to the Minister of Forestry, Fisheries and Environment and a copy of the appeal to the Department of Mineral Resources and Energy (Western Cape Regional Office) within 20 days from the date of notification. The appeal must be lodged as prescribed in by Chapter 2 of the National Appeal Regulations of 2014, in the manner described below:

Appeal to the Department of Forestry, Fisheries and Environment.

Attention	: Directorate Appeals and Legal Review
Email	: appeals@dffe.gov.za
By post	: Private Bag X 447, Pretoria, 0001
By hand	: Environmental House, Corner Steve Biko and Soutpansberg Street, Arcadia, Pretoria, 0083

Copy of the lodged appeal to the Department of Mineral Resources and Energy

Attention	: Regional Manager: Western Cape Region
By facsimile	: (021) 427 1046
E-mail	: Pieter.Swart@dmre.gov.za
By post	: Private Bag X 09, Roggebaai, 8012
By hand	: 7th floor, 44 Strand Street, Cape Town, 8012

Should you decide to appeal, you must comply with the National Appeal Regulation of 2014 in relation to notifying all registered interested and affected parties. A copy of the official appeal form can be obtained from the Department of Forestry, Fisheries and Environment.

Kind Regards

APPROVED

.....

REGIONAL MANAGER: MINERAL REGULATION
WESTERN CAPE REGIONAL OFFICE
DATE: 26/9/2024.

mineral resources
& energy
Department
Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

Private Bag X 9, Rogge Bay, 8012, Tel: 021 427 1000, Fax: 021 427 1046
7th floor, 44 Strand Street, Cape Town, 8012

Environmental Authorisation in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) as amended ("NEMA") and the 2014 EIA Regulations as amended for

Mining building sand (silica) and gravel on Portion of the Farm Buffelsdrift 306, situated in the Magisterial District of George, Western Cape.

Reference number:	WC)30/5/1/3/2 10338 MP
Last amended:	First issue
Holder of authorisation:	Grow Green Mining (Pty) Ltd
Location of activities:	Portion of the Farm Buffelsdrift 306, situated in the Magisterial District of George, Western Cape.

DECISION

APPROVED

ACRONYMS

BAR:	Basic Assessment Report
DEPARTMENT:	Department of Mineral Resources and Energy
ECO:	Environmental Control Officer
EA:	Environmental Authorisation
EIA(R):	Environmental Impact Assessment
EIA REGULATIONS:	EIA Regulations, 2014 as amended
EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape
I&AP:	Interested and Affected Parties
MPRDA:	Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), as amended
NEMA:	National Environmental Management Act, 1998 (Act 107 of 1998), as amended
NEMWA:	National Environmental Management: Waste Act, 2008 (Act 59 of 2008), as amended
SAHRA:	South African Heritage Resources Agency

Details regarding the basis on which the Department reached this granting decision are set out in Annexure 1 and 2 of this EA.

ACTIVITY APPLIED FOR

By virtue of the powers conferred on it by NEMA, the Department of Mineral Resources and Energy hereby **Grant** an Environmental Authorisation (EA) to **Grow Green Mining (Pty) Ltd** with the following contact details –

Grow Green Mining (Pty) Ltd.
P O Box 2389
George
6530

Attention: Michael du Plessis
Cell: 083 444 3405
Email: michael@growgreengroup.co.za

to undertake the following activities listed in the NEMA: EIA Regulations:

LISTED ACTIVITIES AUTHORISED:

Listed Activities.	Activity and/or Project description
Activity 21 of Government notice No. R 983 as amended by GN 501 of June 2021. *Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) as well as any other applicable activity contained in this Listing notice or Listing notice 3 required to exercise a mining permit, including —* *(a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or* *(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in Listing Notice 2 applies.*	The project and/or development involves an application for a Mining Permit in an area measuring 4.95 hectares. APPROVED

APPROVED

Description of the activities are as follows:

The holder is hereby authorised to undertake sand mining activities as it relates to the Development as follows:

- The proposed mining project is small scale, measuring 4.95 hectares, located on Portion of the Farm Buffelsdrift 306, about 15 km West of George along R102, R404 and Groot Brakrivier Road in the Magisterial District of George, Western Cape.
- Mining activities will take place within a footprint of a disturbed land where large-scale illegal sand and gravel mining has taken place over time.
- Mining operations will take place six days a week, from Monday to Saturday between 07h00 – 17h00. Access to the mining site will be via an existing farm road. No new roads or permanent infrastructure will be constructed for this project.
- The mining permit area will be divided into blocks in line with the Mine Works Plan, allowing for concurrent rehabilitation of mined-out areas and limiting exposed areas to avoid dust and sedimentation. Each block will be mined and rehabilitated before mining continues to the next block. Topsoil will be stripped to expose the desired sand or gravel, the excavated mineral will be crushed with a mobile crusher (only when needed) and loaded with a Front-end Loader onto tipper trucks and hauled to the various clients.
- Rehabilitation of the mining area shall entail landscaping, levelling, top dressing, land preparation and maintenance, and weed / alien clearing.

Site description and location

Points	Longitude	Latitude
A	22.328610	-33.977753
B	22.328862	-33.976384
C	22.328801	-33.975913
D	22.328664	-33.975348
E	22.328527	-33.974967
F	22.328352	-33.974640
G	22.328781	-33.974480
H	22.329127	-33.974723
I	22.329790	-33.975298
J	22.330244	-33.976158
K	22.330409	-33.977073
L	22.330305	-33.978378

APPROVED

The activities will be conducted on Portion of the Farm Buffelsdrift 306, situated in the Magisterial District of George, Western Cape.

The SG codes for the farm portion: C02700000000030600000

The granting of this EA is subject to the conditions set out below (site specific) and in **Annexure 2** (Departmental Standard Conditions).The EMPr attached as part of the reports for the above development submitted as part of the application for an EA complies with Section 24N of NEMA, Appendix 4 of the EIA Regulations, 2014 as amended and is hereby approved and must be adhered to throughout the life cycle of the operation.

ENVIRONMENTAL AUTHORISATION SITE SPECIFIC CONDITIONS

1. Mining activities must be conducted in accordance with the approved Environmental Management Programme and the attached layout plan.
2. Visible semi-permanent markers must be placed on the mining boundary before mining activities commence and must be kept for the duration of mining. Mining activities must be strictly conducted within the demarcated area.
3. Mining operations must take place from Monday to Saturday between 7:00 and 17:00. No operations must take place on Sundays.
4. Access to the site must be restricted to the existing access road as shown on the site layout plan. The construction of a new access road is strictly prohibited.
5. The mining permit area must be divided into blocks according to the Mine Works Plan. Each block must be mined and rehabilitated before mining continues to the next block.
6. Topsoil to a depth of at least 400mm must be removed before mining commences on mining blocks and replaced over mined out blocks. All topsoil stockpiles must not exceed 1.5m in height.
7. No pollution of surface or ground water resources may occur due to any activity taking place on the site.
8. A buffer area of at least 20 meters must be left between the mining area and the watercourses and must be maintained for the duration mining. No activities must occur within the watercourse or the prescribed 20-meter buffer zone.
9. No stormwater containing waste emanating from mining activities must be discharged into the water resource. Stormwater must be managed within the perimeter of the mining permit area. The existing channel from the mining permit area leading to the Maalgate River must be closed (through infilling of the channel and creating a berm) before mining activities commences, to prevent stormwater from the proposed mine from entering the river system.
10. The existing stormwater berm must be regularly inspected and maintained to ensure that stormwater is contained within the quarry.

11. Production material must be stockpiled outside the 1:100-year flood-line or more than a horizontal distance of 100 meters from any watercourse.

12. The entire mining permit area must be fenced off and access control must be established to reduce the risk of animals gaining access to the site.

13. The sand of leaving the site must be covered with tarpaulin cloth during transportation to prevent it from being blown away by wind and causing pollution nuisance to other road users and the public.

14. The rehabilitation of the site must ensure that the final condition of the site is environmentally acceptable and that there will be no adverse long-term effects on the surrounding environment, particularly the water resources.

15. A site-specific Alien Vegetation Management Plan must be compiled before mining activities commence. Alien vegetation must be cleared on an ongoing basis throughout all phases of mining and after rehabilitation. Records of removal of such vegetation must be kept at the mine site.

16. All vehicles and mobile machinery must be fitted with efficient and well-maintained silencers and must be regularly serviced and inspected daily for leaks. Refueling of mobile machinery, repairs and maintenance must be done at the applicant's existing workshop located offsite.

17. Drip trays must be available on site for emergency repairs. Hydrocarbon spills must be cleaned up immediately and contaminated waste must be disposed of at an authorised hazardous waste facility.

18. An integrated waste management approach which is based on waste minimisation and incorporates reduction, recycling, re-use and disposal where appropriate must be used.

19. Dust suppression measures must be implemented during mining activities. This may include spraying of the mining area and access road with an environmentally friendly dust-allaying agent. The use of portable water for dust suppression must be avoided.

20. Dust must be managed according to the National Dust Control Regulations (GN No. 827 of November 2013). The Usage of potable water for suppression must be avoided.

21. All mitigation measures, management of identified impacts, recommendations and conditions set out in the specialist reports and the approved EMPr must be strictly adhered to and implemented during construction and operational phases of the project.

APPROVED

APPROVED

ANNEXURE 1: REASONS FOR THE DECISION

1. Key factors considered in making the decision.

All the information presented to the Department was taken into account during the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

1.1. The information contained in the application form received by the Department on 03 March 2024;

1.2. The information contained in the final BAR/EMPr compiled by the Environmental Assessment Practitioner, Mr. Werner Nel of Environmental Consulting Services received by the Department on 13 June 2024 and uploaded on SAMRAD on 10 June 2024;

1.3. The objectives and requirements of the applicable and relevant legislation, frameworks and development plans, policies and guidelines, and the EIA Regulations of 2014 as amended by (GN 326);

1.4. The environmental impacts associated with the proposed activity outlined in the BAR and the proposed mitigation measures outlined in the EMPr prepared by Mr. Werner Nel of Environmental Consulting Services;

1.5. The Public Participation Process report attached as Annexure 4 and Annexure 5 of the BAR/EMPr received by the Department on 13 June 2024 and uploaded on SAMRAD on 10 June 2024.The Public Participation Process (PPP) undertaken by the Applicant has satisfied the minimum requirements prescribed in the EIA Regulations R982 of 2014 as amended by (GN 326). The results of the PPP show that the applicant has addressed the concerns raised by the I&APs and the authorities in the BAR & EMPr;

1.6. The Aquatic Compliance Statement prepared by Dr. J.M Dabrowski of Confluent Aquatic Consulting & Research attached as Annexure 6 of the final BAR&EMPr received by the Department on 13 June 2024 and uploaded on SAMRAD on 10 June 2024. The recommendations and mitigation measures set out in the Aquatic Compliance Statement will be implemented during the relevant phases within lifecycle of the project;

1.7. The Terrestrial Plant Species Impact Assessment prepared by Mr. Nicolaas Hanekom of Enviro-EAP Environmental Consultants is attached as Annexure 6 of the BAR & EMPr received by the Department on 13 June 2024 and uploaded on SAMRAD on 10 June 2024.The recommendations and mitigation measures set out in the Terrestrial Plant Species Impact Assessment will be implemented during the relevant phases within lifecycle of the project;

1.8. The Terrestrial Biodiversity Impact Assessment prepared by Mr. Nicolaas Hanekom of Enviro-EAP Environmental Consultants is attached as Annexure 6 of the BAR & EMPr received by the Department on 13 June 2024, uploaded on SAMRAD on 10 June 2024. The recommendations and mitigation measures

set out in the Terrestrial Biodiversity Impact Assessment will be implemented during the relevant phases within the lifecycle of the project;

1.9. The Terrestrial Animal Species Impact Assessment prepared by Mr. Nicolaas Hanekom of Enviro-EAP Environmental Consultants is attached as Annexure 6 of the BAR & EMPr received by the Department on 13 June 2024, uploaded on SAMRAD on 10 June 2024.The recommendations and mitigation measures set out in the Terrestrial Animal Species Impact Assessment will be implemented during the relevant phases within the lifecycle of the project;

1.10. The Rehabilitation Plan attached as Annexure 8 of the BAR & EMPr received by the Department on 13 June 2024 and uploaded on SAMRAD on 10 June 2024 includes the information that is required for successful decommissioning phase of the project.

1.11. The comments from Heritage Western Cape (HWC) on the Notice of Intent to Develop case Number 21081002B0830E stated that there is no reason to believe that the proposed sand mine will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.

1.12. The Comments from Mine Health and Safety are in support of the proposed project.

1.13. The Applicant has complied with Section 24P of the National Environmental Management Act, 1998 (Act 107 of 1998) and provided the Financial Provision for remediation of environmental damage.

1. Findings

After careful consideration of the information and factors listed above, the Department made the following findings.

1.1. The Environmental Impact Assessment identified and assessed potential environmental impacts on the subject properties and mitigation measures were proposed.

1.2. The need and desirability of the project was addressed and covered all the main factors.

1.3. The proposed site is located outside the urban edge of George and is surrounded by agricultural cropland used for pastures. The surrounding properties are mostly dairy farms or other agricultural units.

1.4. Mining will take place within a footprint of a disturbed land where large-scale illegal sand and gravel mining has taken place over time. There are several excavated areas within the parameter of the proposed mining site resulting from previous illegal mining activities.

1.5. The site is a designated "degraded" Terrestrial Critical Biodiversity Area (CBA 2: Terrestrial) in terms of the Western Cape Spatial Biodiversity Spatial Plan and supports ecological processes. The Terrestrial Biodiversity Impact assessment recorded areas of medium sensitivity within the site. According to the study, proposed mine will have relatively low terrestrial biodiversity and ecological impact on sensitivity areas and

surrounding terrestrial biodiversity features, provided that the appropriate mitigation measures included in the impact table are included in the EMPr and adhered to.

1.6. There are no wetlands within the proposed site, however the Maalgate River, a perennial river, is located within 25 m to the east of the mining area. The Maalgate River is Freshwater Ecosystem Priority Area wetland, FEPAs are important in achieving biodiversity targets for riverine ecosystems and have an important role in allowing plant and animal species movement within the landscape.

1.7. According to the Aquatic Compliance Statement, the riparian zone is seriously modified by dense stands of the invasive Acacia mearnsii (black wattle) and Solanum mauritianum (bugweed). The most part of the Maalgate river is bordered by cultivated farmland dominated by irrigated pastures for dairy herds. This land use may result in significant loads of nonpoint source nutrient pollution into the river. There are several instream dams upstream of the proposed mining area and throughout the catchment which, together with high abstraction rates for irrigation, result in significant changes to the natural flow of the river and the condition of the associated valley-bottom wetlands.

1.8. The vegetation on the site (Garden Route Granite Fynbos) is classified as Critically Endangered but has been significantly disturbed by past agricultural activities. The vegetation is commonly dominated by alien grasses (*Pennisetum clandestinum)*. The following pioneer species were recorded at the time of the specialist site survey: *Cynodon dactylon; Helichrysum petiolare, Eragrostis curvula, Paspalum dilatatum, Arctopus sp.*

1.9. The Terrestrial Animal Species Impact Assessment recorded no fauna Species of Conservation Concern. Due to previous, ongoing disturbances and transformation of the ecosystem on the site none are expected to breed there and may only occasionally visit the site i.e. when looking for food or temporary shelter. No significant habitat conditions were recorded during the field survey which can be deemed favourable for any fauna.

1.10. The comments from Heritage Western Cape (HWC) on the Notice of Intent to Develop case Number 21081002SB0830E states that there is no reason to believe that the proposed sand mine will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.

1.11. The Public Participation Process complied with Chapter 6 of the 2014 EIA Regulations as amended. The PPP included, inter-alia, the following:

1.11.1. A Background Information Document (BID) and a Notice of Intend to Develop (NID) was sent to the landowner, adjacent landowners, stakeholders and relevant of state departments with a direct interest in the project;

1.11.2. A newspaper advertisement informing the public about the application and inviting Interested and Affected Parties (I&APs) to register was published in the 'George Herald' local newspaper on 28 March 2024;

1.11.3. Site Notices were placed on the boundary fence of the surrounding neighbors to notify them of the proposed activities and giving them the opportunity to voice their concerns and submit per the public participation process.

1.11.4. Notifications were sent via email inviting all Interested and Affected parties (I&Aps) including relevant state Departments to comment on the attached draft BAR;

1.11.5. The draft BAR was subjected to 30 days period of Public Participation process for public comments;

1.11.6. Notices were sent to all key stakeholders and the registered interested and affected parties during Public Participation process. Proof of consultation is included in the BAR;

1.11.7. Comments and issues raised by interested and affected parties were addressed in the BAR. The register of interested and affected parties was included in the BAR.

ANNEXURE 2: DEPARTMENTAL STANDARD CONDITIONS

1 SCOPE OF AUTHORISATION

1.1 The holder of the EA must be responsible for ensuring compliance with the conditions contained in the EA. This includes any person acting on the holder's behalf, including but not limited to an agent, servant, contractor, subcontractor, employee, consultant or any person rendering a service to the holder of EA.

1.2 Any changes to, or deviation from the project description set out in this EA must be approved in writing by this Department before such changes or deviation may be affected. In assessing whether to grant such approval or not, the Department may request such information as is deemed necessary to evaluate the significance and impacts of such changes or deviation and it may be necessary for the holder of the EA to apply for further authorisation in terms of the EIA Regulations as amended.

1.3 The activities, which are authorised, must only be carried out at the property indicated in the EA and the approved EMPr.

1.4 When any of the holders of the EA contact details change including name of the responsible person, physical or postal address or telephonic details, the holder of the EA must notify the Department as soon as the new details become known to the holder of the EA.

1.5 The EA does not negate the responsibility of the holder to comply with any other statutory requirements that may be applicable to the undertaking of such activity (ies).

1.6 The holder of EA must ensure that all areas where the authorised activities occur have controlled access to ensure safety of people and animals.

APPROVED

2 APPEAL OF AUTHORISATION

2.1 The holder of the EA must in writing, within 14 (fourteen) calendar days from the date of this decision and in accordance with EIA Regulation 4(2) do the following:

2.2 Notify all registered I&APs of –

- 2.2.1 The outcome of the application;
- 2.2.2 The date of the decision;
- 2.2.3 The date of issue of the decision and;
- 2.2.4 The reasons for the decision as included in Annexure 1 and Departmental standard conditions in Annexure2.

2.3 Draw the attention of all registered I&APs to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulations.

2.4 Draw the attention of all registered I&APs to the manner in which they may access the decision.

2.5 Copy of the lodged appeal must be addressed to the Department of Mineral Resources on the address given on Page 2 of the EA.

2.6 Provide the registered I&APs with:

- 2.6.1 Name of the holder (entity) of this EA;
- 2.6.2 Name of the responsible person for this EA;
- 2.6.3 Postal address of the holder;
- 2.5.4 Telephonic and fax details of the holder and
- 2.5.5 E-mail address of the holder if any.

3 COMMENCEMENT OF THE ACTIVITY (IES)

3.1 In order to ensure safety, all employees must be given the necessary Personnel Protective Equipment (PPE) and any employee without PPE must not be allowed on site.

3.2 This EA must be provided to the site operator and the requirements thereof must be made fully known to him or her.

3.3 Hauling routes for mining vehicles and machinery must be clearly marked and appropriate signage must be posted to that effect. Furthermore, movement of vehicles and machinery must be restricted to the approved mining area.

3.4 Appropriate notification sign must be erected at the mining site, warning the public (residents, visitors etc.) about the hazard around the mining area and presence of mining vehicles and machinery.

APPROVED

3.5 Vegetation clearance must be limited to the actual mining footprint in accordance with the approved layout plan, and mitigation measures must be implemented to reduce the risk of erosion and alien species invasion.

3.6 Topsoil stripped before mining must be protected from erosion, contamination and/or pollution and stockpiling of topsoil must not take place in the drainage lines or areas where it will impede water runoff.

3.7 If any soil contamination is noted at any phase of the proposed activity (ies), the contaminated soil must be removed to a licensed waste disposal facility designed for such waste and the site must be rehabilitated to the satisfaction of the Department and Department of Water and Sanitation. The opportunity for the onsite remediation and re-use of contaminated soil must be investigated prior to the disposal and this Department must be informed in this regard.

3.8 An integrated waste management approach that is based on waste minimization (waste management hierarchy) must be implemented and must incorporate avoidance, reduction, recycling, treat, reuse and disposal where appropriate. Ensure that no refuse generated in the mining area is placed, buried, dumped or deposited on the adjacent properties or public places and open space.

3.9 Uncontaminated storm water must be prevented from coming into contact with the waste and must be diverted away from the storage site and mining area.

3.10 The waste generated during mining activities must be stored in animal proof containers and must be removed from site and disposed of at a registered disposal facility. Proof of disposal at a registered disposal facility must be kept and produced to any official of this Department on request.

3.11 In terms of sections 28 and 30 of NEMA, and sections 19 and 20 of the National Water Act, 1998 (Act No. 36 of 1998), any costs incurred to remedy environmental damage must be borne by the person responsible for the damage. It is therefore imperative that the holder of the EA reads through and understand the legislative requirements pertaining to the project. It is the Applicant's responsibility to take reasonable measures which include informing and educating contractors and employees about environmental risks of their work and training them to operate in an environmentally acceptable manner.

3.12 Vehicles and machineries must be maintained and serviced in the manner whereby excessive smoke and noise are reduced to acceptable levels and oil leaks are avoided.

3.13 Residents (if any) on the property and surrounding areas must be informed of any unusual noise activities are planned in the mining area.

3.14 Dust suppression measures must be implemented on all exposed surface and access road to minimize and control airborne dust.

3.15 The protection of all historical and pre-historical cultural resources must remain on site and no mining activity/-ies is/are allowed within 100 diameters from those resources. Should any heritage remains be exposed during operation or any actions on the site, the following shall be applied:

i. All work at the affected area must cease;
ii. These must immediately be reported to the South African Heritage Resource Agency (SAHRA) and or Western Cape Heritage Resource Agency (in accordance with the applicable legislation). Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from the South SAHRA and or Western Cape Heritage Resource Agency
iii. The area should be demarcated in order to prevent any further work there until an investigation has been completed;
iv. An archaeologist should be contacted immediately to provide advice on the matter;
v. Should it be a minor issue, the archaeologist will decide on future action. Depending on the nature of the find, it may include a site visit;
vi. If needed the necessary, permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist;
vii. The removal of such archaeological material will be done by the archaeologist in lieu of the approval given by SAHRA, including any conditions stipulated by the latter;
viii. Work on site will only continue after the archaeologist/ SAHRA has agreed to such a matter.

3.16 Heritage remains include; archaeological remains (including fossil bones and fossil shells); coins; maddens, indigenous and/or colonial ceramics; any articles of value or antiquity; marine shell heaps; stone articrafts and bone remains; structures and other built features; rock art and rock engravings; shipwrecks; and graves or unmarked human burials. A qualified archaeologist must be contracted where necessary (at the expense of the applicant and in consultation with the relevant authority) to remove any human remains in accordance with the requirements of the relevant authority.

3.17 Care must be taken to ensure that the material and excavated soil required for backfilling are free of contamination from hydrocarbons.

3.18 Hydraulic fluid or chemicals required must be stored in a concrete lined surface with bund walls, designed in such a manner that any spillage can be contained and reclaimed without any impact on the surrounding environment. Should any spills occur, it should be cleaned immediately by removing spillage together with the polluted solids and dispose it in the authorised disposal site permitted of such waste. The regional office of the Department of Water and Sanitation must be notified within 24 hours of an incident that may pollute surface and underground water resources.

3.19 Chemical sanitation facilities or system such as toilets that do not rely on the seepage of liquids must be provided with a ratio of 1 for every 15 workers. These must be placed such that they prevent spills or leaks to the environment and must be maintained according to the operating instructions and the content thereof must be disposed of at an authorised wastewater treatment works. Proof of disposal must be kept on site and be produced upon request.

3.20 The holder of EA must ensure that any water uses listed in terms of Section 21 of National Water Act must get authorisation from Department of Water and Sanitation prior to the commencement of such activity (ies).

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3.21 This EA does not purport to absolve the holder of EA from its common law obligations towards the owner of the surface of land affected.

3.22 The holder of EA must ensure that rehabilitation of the disturbed areas caused by operation at all times comply with the approved EMPr.

3.23 This EA may be amended or withdrawn at any stage for non-compliance and provides no relief from the provisions of any other relevant statutory or contractual obligations.

3.24 The holder of EA must note that in terms of Section 20 of the National Environmental Management: Waste Act, 2008 (Act No.59 of 2008), no person may commence, undertake or conduct a waste management activity, except in accordance, with the requirements of norms and standards determined in terms of Section 19 (3) for that activity or a waste management license is issued in respect of that activity if license is required.

3.25 An appeal under Section 43(7) of the National Environmental Management Act (NEMA), Act 107 of 1998 (as amended) suspend an EA or exemption or any provisions of conditions attached hereto, or any directive unless the Minister directs otherwise.

3.26 Should you be notified by the Minister of a suspension of the authorisation pending appeal procedure, you may not commence with the activity (ies) until such time that the Minister allows you to commence with such activity (ies) in writing.

3.27 The Department reserves the right to audit and/or inspect the activity (ies) without prior notification at any reasonable time and at such frequency as may be determined by the Regional Manager.

3.28 Subject to the commencement and duration of the requirements of the MPRDA, **this EA is valid for a period of 5 (five) years from the date on which the aforementioned permit is granted or the expiration date of the permit, whichever comes first.**

3.29 This EA will only be effective on the event that a corresponding Mining Permit is issued in terms of MPRDA as amended and none of the activities listed in this EA may commence without a Mining Permit.

3.30 The listed activity (ies), including site preparation, must not commence within 30 (thirty) calendar days of the date of the notification of the decision being sent to the registered I&APs. This is inclusive of the 10 days condonation in the event that an appeal is lodged with the appeal administrator, the effect of this environmental authorisation is suspended until such time as the appeal is decided.

3.31 Should there be any conflicting conditions between this EA and other approval granted by other authorities, it is upon the holder of EA to bring it to the attention of the Department for resolution.

APPROVED

4 MANAGEMENT OF ACTIVITY (IES)

4.1 A copy of the EA and EMPr must be kept at the property or on-site office where the activities will be undertaken. The EA and EMPr must be produced to any authorised officials of the Department who request to see it and must be made available for inspection by any employee or agent of the holder of the EA who works or undertakes work at the property (ies).

4.2 The contents of the EMPr and its objectives must be made known to all contractors, subcontractors, agent, and any other people working on the site, and any updates or amendments to the EMPr must be submitted to the Department for approval.

4.3 Any complaint received from the I&AP during all phases of the operation must be attended to as soon as possible and addressed to the satisfaction of all concerned interested and affected parties.

4.4 The holder of the EA must prevent nuisance conditions or health hazards, or the potential creation of nuisance conditions or health hazards.

4.5 The holder of the EA must ensure that all non-recyclable waste are disposed of at a waste management facilities licensed to handle such wastes and all recyclable waste are collected by licensed waste management facilities for recycling, reuse or treatment.

4.6 In order to prevent nuisance conditions, the holder of the EA must ensure that all storage skips and bins are not overfilled. The holder of the EA must also make sure that littering of waste within the mining area is prohibited.

4.7 Non-compliance with any condition of this EA and the approved EMPr is an offence in terms of section 49A(1)(c) of NEMA and may result in criminal proceedings and issuing of a directive in terms of Section 28 and or a compliance notice in terms of section 31L of NEMA.

4.8 Only listed activity (ies) that are expressly specified in the EA must be undertaken, any additional or new activities not specified herein must be applied for by the holder and authorised by the competent authority before such activities may be commenced with. This condition is also applicable in the case of the amendment, addition, substitution, correction, and removal or updating of any detail in the aforesaid EA.

4.9 Rehabilitation of the disturbed surface caused by operation must comply with the approved EMPr.

4.10 The Holder of EA must appoint the ECO when mining activities commences and ensure that the ECO is readily available on site to ensure that activities at all times comply with the issued EA and approved EMPr.

4.11 The ECO must:

4.11.1 Keep and maintain a detailed incidents register (including any spillages of fuels, chemicals or any other material).

4.11.2 Keep a complaint register on site indicating the complaint and how the issues were addressed, what measures were taken and what the preventative measures were implemented to avoid re-occurrence of complaints.
4.11.3 Keep records relating to monitoring and auditing on site and avail them for inspection to any relevant authorised officials.
4.11.4 Keep copies of all environmental reports submitted to the Department.
4.11.5 Keep the records of all permits, licences and authorisations required by the operation.
4.11.6 Compile a quarterly monitoring report and make it available to the Department if requested.
4.11.7 The duties and responsibility of the ECO must not be seen as exempting the holder of the EA from the legal obligations in terms of the NEMA.

4.12 The footprint of the activities must be limited on the areas authorised for the actual mining works and operational activities and all areas outside of the footprint must be regarded as a "no go" areas.

5 REPORTING TO THE DEPARTMENT

5.1 The holder of EA must:
5.1.1 Submit an Environmental Audit Report to this Department biennially and such report must be prepared by a qualified independent Environmental Assessment Practitioner. The audit report must specify whether conditions of this environmental authorisation and EMPr/closure plan are adhered to;
5.1.2 The audit report must be in accordance with appendix 7 of the 2014 EIA regulations as amended;
5.1.3 identify and assess any new impacts and risks as a result of undertaking the activities, if applicable;
5.1.4 Identify shortcomings in the EMPr/closure plan, if applicable;
5.1.5 Identify the need, if any, for any changes to the management, avoidance and mitigation measures provided for in the EMPr;
5.1.6 if applicable, specify that the corrective action/s taken for the previous audit's non-conformities, was adequate and must;
5.1.7 be submitted by the holder to the competent authority within 30 days from the date on which the auditor finalised the audit.

5.2 Should any shortcomings in terms of Regulation 34(4) be identified, the holder must submit recommendation to amend the EMPr/closure plan in order to rectify any shortcomings identified with the aforementioned audit report.

5.3 The holder of the EA must annually assess the environmental liabilities of the operation by using the master rates in line with the applicable Consumer Price Index (CPI) at the time and address the shortfall on the financial provision submitted in terms of section 24P of NEMA.

5.4 The holder of the EA must, within 24 hours of any incidents occurring, notify the Competent Authority of the occurrence or detection of any incident on the site, or incidental to the operation of the site, which has the

potential to cause, or has caused pollution of the environment, health risks, nuisance conditions or water pollution.

5.5 The holder of the EA must, within 14 days, or a shorter period of time, if specified by the Competent Authority from the occurrence or detection of any incident referred to in condition 5.4, submit an action plan, which must include a detailed time schedule, and resource allocation signed off by top management, to the satisfaction of the Competent Authority of measures taken to –

5.5.1 Correct the impact resulting from the incident;
5.5.2 Prevent the incident from causing any further impact; and
5.5.3 Prevent a recurrence of a similar incident.
5.5.4 In the event that measures have not been implemented within 21 days of the incident referred to in condition 5.4, or measures which have been implemented are inadequate, the Competent Authority may implement the necessary measures at the cost of the holder of the EA.

6 SITE SECURITY AND ACCESS CONTROL

6.1 The holder of the EA must ensure effective access control to the site to reasonably prevent unauthorised entry. Signs indicating the risks involved in unauthorised entry must be displayed at the entrance.

6.2 The mining area must be fenced off and lockable gates must be installed to restrict unauthorised access to the site.

6.3 Weatherproof, durable and legible notices in at least three official languages applicable in the area must be displayed at the entrance to the site. These notices must prohibit unauthorised entry and state the hours of operation, the name, address and telephone number of the holder of the EA and the person responsible for the operation of the site.

7 EMERGENCY PREPAREDNESS PLAN

7.1 The holder of the EA must draft, maintain and implement an emergency preparedness plan and review it annually when conducting audit and after each emergency and or major accident. The plan must, amongst others, include:

7.1.1 Site Fire
7.1.2 Spillage
7.1.3 Natural disasters such as floods
7.1.4 Industrial action
7.1.5 Contact details of police, ambulances and any emergency centre closer to the site.

7.2 The holder of EA must ensure that an up-to-date emergency register is kept during all phases of the operation. This register must be made available upon request by the Department.

8 INVESTIGATIONS

8.1 If, in the opinion of the Competent Authority, nuisances or health risks may be or is occurring on the site, the holder of the EA must initiate an investigation into the cause of the problem or suspected problem.

8.2 If, in the opinion of the Competent Authority, pollution may be or is occurring, the holder of the EA must initiate an investigation into the cause of the problem or suspected problem. Such investigation must include the monitoring of the water quality variables and air quality, at those monitoring points and such frequency as may be specified by the Competent Authority.

8.3 Investigations carried out in terms of conditions 8.1 and 8.2 above must include the monitoring of the relevant environmental pollution and/or degradation, nuisance and health risk variables, at those monitoring points and such frequency to be determined in consultation with the Competent Authority.

8.4 Should the investigation carried out as per conditions 8.1 and 8.2 above reveal any unacceptable levels of pollution, the holder of the EA must submit mitigation measures to the satisfaction of the Competent Authority.

8.5 The holder of the EA must comply with Section 28 of the NEMA and conduct mining activities in an environmentally friendly manner.

9 COMMISSIONING AND DECOMMISSIONING

9.1 The commissioning and decommissioning of individual activity within the overall listed mining activities must take place within the phases and timeframes as set out in EMPr

10 SITE CLOSURE

10.1 The holder of EA must apply for a closure certificate in terms of Section 43 of Mineral and Petroleum Resources Development Act (Act 28 of 2002), as amended within 180 days of occurrence of lapsing, abandonment, cancellation, cessation, relinquishment and completion of development.

10.1 The application for closure indicated above must be submitted together with all relevant documents as indicated in Section 43 of Mineral and Petroleum Resources Development Act (Act 28 of 2002), as amended.

10.2 No exotic but, only indigenous plants must be utilized for rehabilitation purposes.

10.3 The holder of EA remains responsible for any environmental liability, pollution or ecological degradation, the pumping and treatment of extraneous water, compliance with the conditions of EA, management and sustainable closure thereof until the Minister has issued a Closure Certificate in terms of Section 43 of Mineral and Petroleum Resources Development Act (Act 28 of 2002). Where necessary the Minister may retain certain portion of financial provision for residual, health or environmental impacts that might be known in future

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11 NEMA PRINCIPLES

The NEMA Principles (set out in Section 2 of NEMA, which apply to the actions of all Organs of State, serve as guidelines by reference to which any Organ of State must exercise any function when taking any decision, and which must guide the interpretation, administration and implementation of any other law concerned with the protection or management of the environment), inter alia, provides for:

- the effects of decisions on all aspects of the environment to be taken into account;
- the consideration, assessment and evaluation of the social, economic and environmental impacts of activities (disadvantages and benefits), and for decisions to be appropriate in the light of such consideration and assessment;
- the co-ordination and harmonisation of policies, legislation and actions relating to the environment; the resolving of actual or potential conflicts of interest between Organs of State through conflict resolution procedures; and
- the selection of the best practicable environmental option.

12 DISCLAIMER

The Department of Mineral Resources in terms of the conditions of this environmental authorisation shall not be responsible for any damages or losses suffered by the holder, developer or his/her successor in any instance where construction or operation subsequent to construction is temporarily or permanently stopped for reasons of non-compliance with the conditions as set out herein or any other subsequent document or legal action emanating from this decision.

13 RECOMMENDATIONS

In view of the above, the NEMA principles, compliance with the conditions stipulated in this EA, and compliance with the EMPr/closure plan, the competent authority is satisfied that the proposed listed activities will not conflict with the general objectives of Integrated Environmental Management stipulated in Chapter 5 of NEMA, and that any potentially detrimental environmental impacts resulting from the listed activities can be mitigated to acceptable levels. **The authorisation is accordingly granted.**

Your interest in the future of our environment is appreciated.

Kind Regards

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REGIONAL MANAGER: MINERAL REGULATION
WESTERN CAPE REGIONAL OFFICE
DATE: 26/9/2024

Annexure 12

Grow Green Mining (Pty) Ltd

Proposed Mining of Sand and Gravel, with Crushing activities on Portion of the Farm Buffelsdrift 306 , situated in the Magisterial District of George (WC)
(WC) 30/5/1/3/2/10338 MP

Rehabilitation Plan

PURPOSE & BACKGROUND

The purpose of the Rehabilitation Plan for the proposed Grow Green Mining (Pty) ltd Mine is to implement mitigation measures to reduce the impact of the development and associated infrastructure due to Mining Activities on the surrounding environment.

The overall closure objective is to leave the mine (and associated infrastructure) area in a condition that minimizes adverse impacts on the social and natural environment and with a legacy that makes a positive contribution to sustainable development.

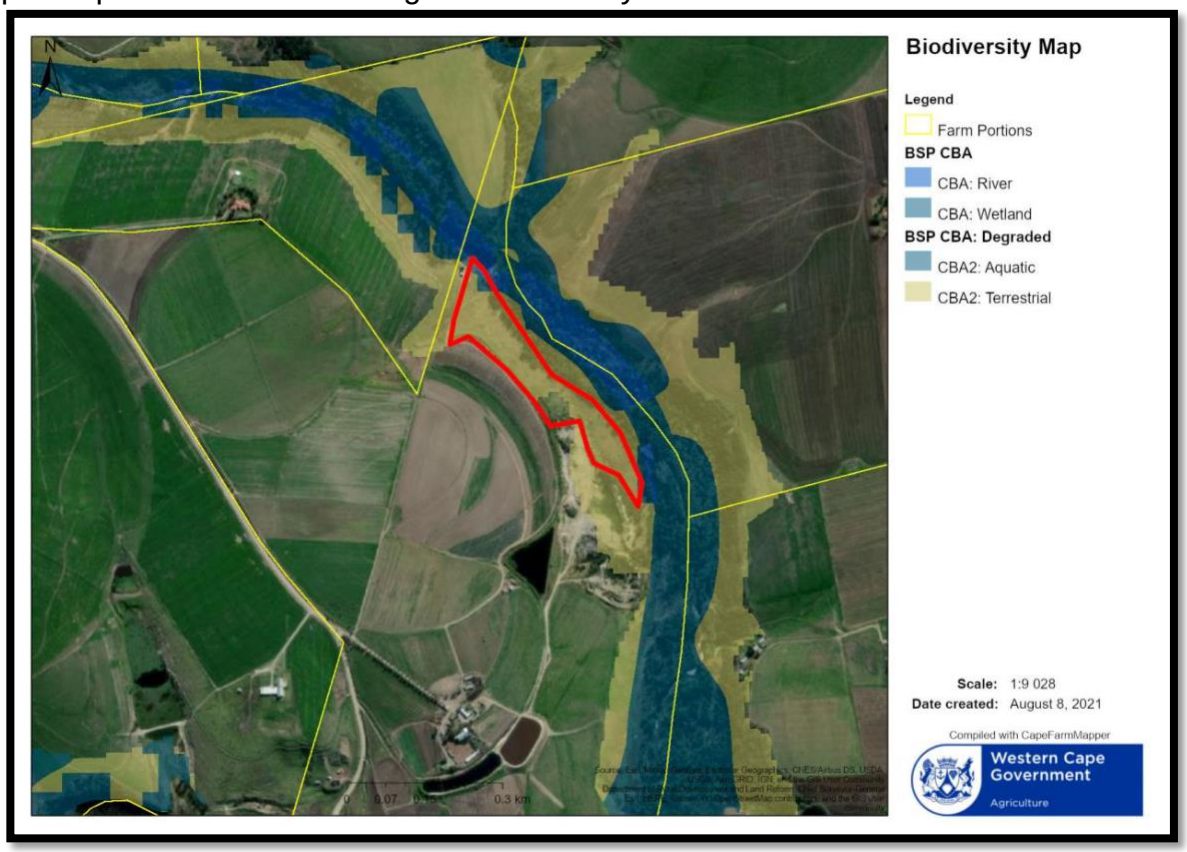
Note that this rehabilitation report should be read in conjunction with the Environmental Management Programme Report for the site.

DESCRIPTION OF ON-SITE VEGETATION

The proposed mining area is 4.95 Ha and is located within 100 m of the Maalgate River

Main Vegetation Types

The National Vegetation Map of South Africa (2012) identifies the remnants of natural vegetation occurring within the area as Garden Route Granite Fynbos with a critically endangered (CR) ecosystem status. During the site visit, it was evident that the area was heavily impacted by current and past agricultural activities and the plant species recorded during the site survey confirmed it.



DESCRIPTION OF THE WATERCOURSE

The watercourse adjacent to the quarry is the Maalgate River, a perennial river that falls within quaternary catchment K30A. The river originates in the Outeniqua mountains and flows through cultivated areas and farmlands before entering the sea between Herolds Bay and Glentana Bay. The river falls within a sub-quaternary reach (SQR) that is not categorised as a Freshwater Ecosystem Priority Area (Nel et al., 2011). Large parts of the Maalgate River are, however, classified as natural channelled valley-bottom wetlands - this includes portions of the river adjacent to the quarry. A dam located immediately to the west of the quarry is classified as an artificial wetland.

MITIGATION

The following mitigation measures have been proposed by the specialists:

Proposed mitigation:

- Mining activities must be controlled to ensure that the adjacent vegetated areas are not negatively impacted.
- Undertake mining activities only in identified and specifically demarcated areas.
- Proper and save storage of topsoil must be done per phase and the mine area mined in phases.
- Alien clearing must continue both in the mining area and during its rehabilitation as well as in the surrounding natural habitat
- Rehabilitation to the original vegetation type is recommended after mining is complete.
- Stormwater must be managed within the perimeter of the quarry. The existing channel leading from the quarry towards the Maalgate River must therefore be closed off through infilling of the channel and the placement of a berm that is continuous with the berm surrounding the rest of the quarry;
- Chemical toilets must be provided for staff personnel. Waste from chemical toilets must be disposed of regularly (at least once a week) in a responsible manner by a registered waste contractor;
- The existing berm must be regularly inspected and maintained to ensure that stormwater is contained within the quarry; and
- Excavators and all other machinery and vehicles that are to be used in the quarry should be regularly checked for oil and fuel leaks and routinely serviced.
- No stockpiles of soil or excavated material must be placed outside of the existing perimeter of the quarry.
- Waste that has been dumped in the quarry must be removed and disposed of at a suitable waste disposal facility. No materials must be dumped outside the perimeter of the quarry;
- No activities must occur within the buffer zone as specified in Section 4 below. Where there is overlap between the perimeter of the quarry and the buffer zone, the perimeter must be adjusted to accommodate the buffer zone.

RESCUE AND PROTECTION PLAN

Pre-Mining:

Identification of all listed species which may occur within the site.

The area outside the mining area should be a ‘no-go’ for heavy machinery.

Walk-through of the final development footprint by a suitably qualified botanist to locate and identify all indigenous plants and geophytes (bulbs) which fall within the

development footprint. These results should be used to inform pre-mining search and rescue at the site.

Prior to the onset of any clearing operations, the bulbs/indigenous plants must be transferred to rehabilitated sections of the site.

During plant search and rescue, as much seed as possible shall be removed from all indigenous plants in the affected area. Seed shall be:

- Stored in waterproof containers free of insects and away from rodents in a cool area; a mobile green house is recommended
- Sown directly into the desired area to allow for self-germination as the seasons dictate; or
- Sown at the storage site.
- Where possible, the seed collection programme shall be ongoing to allow for the sowing of seed directly into the newly prepared soil in the re-vegetation areas, as and when these areas are ready to receive seed.
- Sensitive areas and/or species that have been selected for conservation by the botanist, shall be demarcated with high visibility permanent poles.
- The borders of the approved mining area shall be demarcated with high visibility poles and may not be crossed by vehicles or personnel

MINING PHASE

Site Clearance:

All cleared areas shall be kept as small as possible. At all times the cleared area will be limited to the quarry floor and the 9m zone cleared in front of the advancing face.

Topsoil Removal and Stockpilling:

Prior to any earthmoving operations, the Mine Manager shall strip and stockpile all topsoil within the works (0.5 ha at a time) area for subsequent use in the rehabilitation and re-vegetation of the site.

Topsoil should be free of any litter, alien plant material or any other waste.

Topsoil shall be stored in areas demarcated by the Mine Manager and in piles not higher than 1.5m. The stockpiles shall not be compacted or disturbed, and shall be domed at the top to promote runoff. Should significant erosion of the stockpiled material occur, the stockpiles should be covered with shade cloth or Geo-fabrics or similarly suitable material to prevent such erosion.

Erosion

During operations the Mine Manager shall protect areas susceptible to erosion by installing necessary temporary and permanent drainage works as soon as possible and by taking other measures necessary to prevent the surface water from being concentrated in streams and from scouring the slopes, banks or other areas. The Mine Manager will suggest and approve erosion prevention measures where required as the pit area is on a slope.

Any runnels or erosion channels developed during the operational period shall and compacted, and the areas restored to a proper condition.

Stormwater

The Mine Manager shall take reasonable measures to control the erosive effects of stormwater runoff.

The Mine Manager shall ensure that the stormwater system is not polluted. Sand / soil stockpiles or any other source shall not be allowed to wash into the system where relevant, thus silting up receiving water bodies or systems.

No water may be abstracted from any surface water body or groundwater unless authorized by the Department of Water Affairs

REHABILITATION

The general aim of the implementation of a rehabilitation programme is to recreate a natural ecosystem. In this regard, the implementation of the programme has the following progressive steps:

- All vegetation and topsoil from mining block will be stripped and stockpiled as per the mining plan. Refer to site plan in environmental management programme (EMP) for the mine;
- As the mine face advances the area already mined will be landscaped and rehabilitated.
- Steep slopes should be smoothed to a moderate gradient to reduce erosion. All slopes shall be equipped with poles or sand filled hessian bags or “sausages” staked across the face of the rehabilitated slope to control wind and water erosion.
- Access through the rehabilitated sections will be restricted to a single road.
- The topsoil from the clearing operations will be used on the area to be rehabilitated. The area where the topsoil was stockpiled is to be ripped to negate any compaction as part of rehabilitation after topsoil replacement.
- Prevent alien plant invasion on site until the site is in a stable state, and
- Ensure that all areas are free draining and non-polluting.
- All slopes to be sloped at a gradient of 18 degrees.

- The floor of the excavation to be levelled and the slopes covered with topsoil not less than 300 cm thick.
- The whole area to be seeded with grass and maintained for a period of 2 years after the Mining Permit has lapsed.
- A stormwater trench 3m wide and 2m deep will be dug along the downslope section of the excavation to collect any potential stormwater from the mining area entering into the river or surrounding areas.

Alien and Invasive Plant Eradication

Alien and invasive plants will be cleared from the site as and when encountered. Once mining has ceased the landowner will utilize the rehabilitated areas and keep the area clear of invasive plant species. Manual clearance of the rehabilitated sections will need to take place on a quarterly basis.

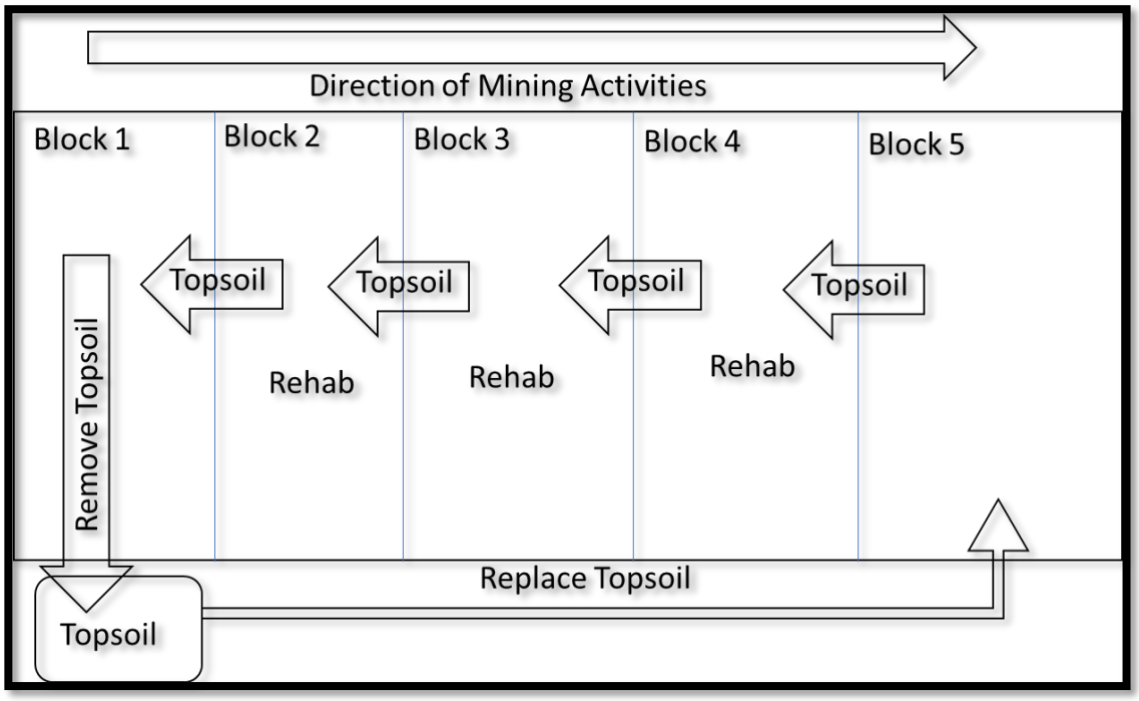
MONITORING & REPORTING REQUIREMENTS

The objective of monitoring during the actual mining and decommissioning and closure phases is to ensure that the agreed rehabilitation processes are successful and that the closure objectives prescribed are met. There is thus a need to carefully monitor the progress of the physical aspects of rehabilitation (soil stripping, overburden handling and landform development, and soil replacement) during the pre-mining, operational and closure phase, and the progress of reestablishment of the desired final land use.

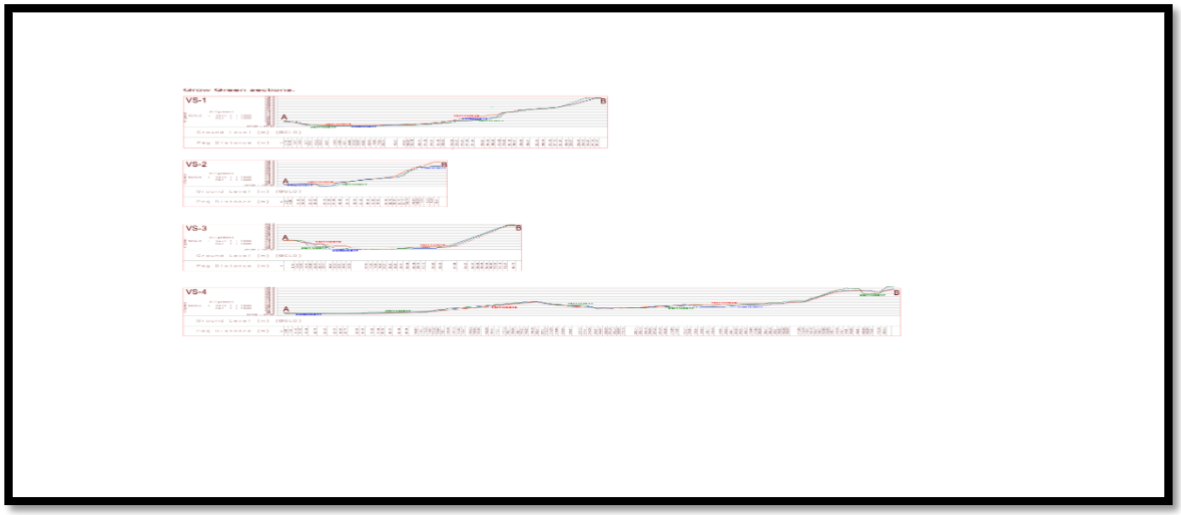
The Department of Minerals Resources requires holders of mining authorizations to submit an annual progress report on their activities. This report should take the form of an internal audit. The following monitoring protocols must be included in the report. The Mine Manager must keep an incident reporting book at his office on site in which all incidents must be reported and signed off.

The following monitoring, reporting and responsibilities for the specific components are applicable for the proposed site.

Graphical representation of the proposed mining and rehabilitation program.



Sections VS1 – VS4 through the excavation showing the slopes to be rehabilitated.



SOIL

The Mine Manager will monitor the removal of all topsoil. They will also monitor the placement of the soil stockpiles and potential erosion of the said stockpiles. Once mining is completed the Mine Manager will monitor the topsoil depth to ensure a minimum thickness of 200 mm.

MONITORING ACTIONS	RESPONSIBILITY:	TIMEFRAMES:
Survey the mined out sections annually to confirm final levels, area mined, the extent of the area rehabilitated and the location of access roads.	Mine Manager/ECO	Annually
A minimum of 300 mm topsoil is to be removed from all disturbed areas including roads, office locations and vehicle parking areas.	Mine Manager/ECO to check compliance	Throughout the operational lifespan
The topsoil is to be stored in low (no higher than 1.5m) berm on the designated stockpile areas.	Mine Manager/ECO to check compliance	Throughout the operational lifespan
Stockpiles must be inspected regularly for wind and water erosion. If need be mitigation measures must be implemented immediately	Mine Manager/ECO	Throughout the operational lifespan
Subsoil and spoil must be stored separately	Mine Manager/ECO to check compliance	Throughout the operational lifespan
The depth of topsoil on the rehabilitated sections must be monitored by digging test pits on a 25 meter grid.	Mine Manager/ECO check compliance	Throughout the operational lifespan
All vegetation, other than the plants identified for Search and Rescue, must be removed as part of the topsoil.	Mine Manager/ECO check compliance	When vegetation clearing takes place.

REPORTING:	RESPONSIBILITY:	TIMEFRAME:
Incorporate the survey results in the annual progress report to be submitted to DMR	**Mine Manager/ECO**	**Monitoring throughout operation lifespan** **Reporting annually**

VEGETATION

The Mine Manager will monitor the success of the re-vegetation program on an on-going basis. The evaluation will be based on the germination success and density of growing stands as well as the occurrence of alien and invasive plant species

MONITORING ACTIONS	RESPONSIBILITY:	TIMEFRAMES:
The Mine Manager must do a monthly inspection to assess the re-vegetation success on the re-vegetated areas.	Mine Manager	Monthly
The re-sprouting density of alien and invasive plant species in the rehabilitated sections must be monitored.	Mine Manager/ECO	Post rehabilitation
The status of the alien and invasive plant eradication program must be monitored.	Mine Manager /ECO	During and after rehabilitation
Monitoring during operation by the Mine Manager to ensure that listed species and sensitive habitats are avoided.	Mine Manager	Throughout lifespan of operation
Post operation monitoring of plants translocated during search and rescue to evaluate the success of the intervention	Mine Manager /ECO	Post rehabilitation
Monitoring for a one year post-transplant should be sufficient to gauge success.	Mine Manager /ECO	Post operation.
Alien and invasive plants must be eradicated.	Mine Manager/ECO to check compliance	Throughout lifespan of operation and rehabilitation
Landscaping: The slopes of the pit must be worked down to a slope angle conducive to plant establishment and erosion prevention.	Mine Manager/ECO to check compliance	Throughout the operational lifespan.
The floor of the pit must be sloped to be free flowing.	Mine Manager/ECO to check compliance	Throughout the operational lifespan.
The drainage of the pit must link up with natural drainage pattern of the area.	Mine Manager/ECO to check compliance	Throughout the operational lifespan.

Ponding of water is to be prevented.	Mine Manager/ECO to ensure compliance	Throughout the operational lifespan.
The overall landscaping of the borrow pit must strive to blend in with the general surrounding landscape.	Mine Manager/ECO to check compliance	On onset of rehabilitation
Mulching: The natural vegetation removed with the topsoil will act as mulch.	Mine Manager/ECO to ensure compliance	Once topsoil is removed
Straw stabilization is recommended at a rate of 1 - 2 tons per Ha. Overly thick applications will retard seed germination.	Mine Manager/ECO to ensure compliance	On onset of rehabilitation
Straw is to be spread evenly over the disturbed area and worked into the soil by discs or crimpers.	Mine Manager/ECO to ensure compliance	On onset of rehabilitation
Seeding and Seed Mixtures: Seeds can be harvested from the surrounding vegetation under the guidance of a botanist, treated and planted on the rehabilitated areas.	Mine Manager/ECO to ensure compliance	On Onset of rehabilitation

REPORTING:	**RESPONSIBILITY:**	**TIMEFRAME:**
The inspections findings to be recorded in the Incident Reporting Book kept at the Mine Manager's office. Remedial action must be reported.	Equipment Operators Mine Manager/ECO	Throughout lifespan of operation
A summary of the reports must be presented in the annual progress report.	Mine Manager/ECO	Annual

WATER AND EROSION MANAGEMENT

The Mine Manager will inspect the mining area on a regular basis to ensure no water accumulation points occur and to ensure that there is no pollution of water resources through spills etc. Erosion management is to be strictly monitored on site and remedial actions to be implemented

MONITORING ACTIONS	RESPONSIBILITY:	TIMEFRAMES:
The Mine Manager must do a visual inspection on a monthly basis to check for water accumulation on the mine site.	Mine Manager/ECO	Monthly
The soil content of run-off water must be monitored.	Mine Manager/ECO to check compliance	Throughout the operational lifespan
The topsoil stockpiles must be monitored for erosion.	Mine Manager/ECO to check compliance	Throughout the operational lifespan
The mining area and rehabilitation areas must be monitored for erosion.	Mine Manager/ECO to check compliance	Throughout the operational lifespan
Sheet erosion must be prevent by cut-off drains on the upper slope of the pit.	Mine Manager/ECO to check compliance	Throughout the operational lifespan
Drains must be equipped with rock walls at regular intervals (no more than 5m apart) to retard water flow.	Mine Manager/ECO check compliance	Throughout the operational lifespan
All drains must terminate with a flow arrestor consisting of rocks.	Mine Manager/ECO check compliance	Throughout the operational lifespan.
Slopes that cannot be worked down to a 1:3 slope must be equipped with either soil filled hessian tubes or poles stacked perpendicular to the slope angle. This must be done at 2m intervals.	Mine Manager/ECO check compliance	Throughout the operational lifespan
Existing tracks and access roads to be used must be inspected for erosion risk.	Mine Manager/ECO check compliance	Prior to mining of affected area.
Roads and tracks with erosion risk must be equipped with contour banks and side drains.	Mine Manager/ECO check compliance	Throughout the operational lifespan

New tracks and roads must be stripped of topsoil and the topsoil stockpiled.	Mine Manager/ECO check compliance	Throughout the operational lifespan
Upon decommissioning all roads must be ripped and scarified and covered with topsoil	Mine Manager/ECO check compliance	After mining is completed
REPORTING:	**RESPONSIBILITY:**	**TIMEFRAME:**
Any occurrence of standing water must be reported in an Incident Reporting Book kept at the Mine Manager's office. Remedial action must be implemented. A summary of the incidents must be presented in the annual progress report.	**Mine Manager/ECO**	**Throughout operation lifespan**

AIR

Dust monitoring will be the responsibility of the personnel working on site. Excessive dust generation must be reported to the Mine Manager as it occurs who will instigate appropriate action**.**

MONITORING ACTIONS	RESPONSIBILITY:	TIMEFRAMES:
The Equipment Operators must do a visual inspection on a daily basis to check for excessive dust pollution from the denuded areas and haul roads.	Equipment Operators Mine Manager/ECO	Daily throughout operation lifespan. Equipment Operators must instigate immediate actions to minimize the excessive dust pollution.
	Mine Manager/ECO to check compliance	
The Mine Manager must do spot checks during high wind conditions to assess the occurrence of dust pollution.		During high wind conditions. Severe dust conditions must be reported immediately to the Mine Manager. The Mine Manager must apply environmentally friendly dust suppression methods.
	Mine Manager/ECO to check compliance	
The neighbors must be consulted regularly on potential dust pollution occurrences.		The Mine Manager must audit the Incident Reporting Book monthly and sign off all incidents.

REPORTING:	RESPONSIBILITY:	TIMEFRAME:
Any occurrence of severe dust pollution must be reported in an Incident Reporting Book kept at the Mine Manager's office by the Loader Operator. Remedial action must also be reported. A summary of the incidents must be presented in the annual progress report.	Equipment Operators Mine Manager/ECO	On occurrence throughout operation lifespan. Annual Report
All dust related incidents as reported in the complaints register must be reported in the annual report	Mine Manager	Reporting on occurrence. Annual Report

Maintenance of rehabilitated sites is often the difference between the ultimate successes or failure of rehabilitation and monitoring of rehabilitation will determine whether rehabilitation objectives and requirements are being achieved.

The vegetation will be monitored for a period of 12 months after the closure of the mine and appropriate actions will be taken as needed.

GENERAL ACTIVITY MANAGEMENT

Toilet facilities, waste water and refuse disposal

- Chemical toilets must be sited away from any surface run-off water to ensure that the water is not polluted. The toilets must be cleaned regularly to promote the use thereof and to prevent spillage and possible pollution of the soil.
- Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from the site, either for resale or for disposal at a recognized facility.
- Spills should be cleaned up immediately to the depth of penetration into the soil (or to the satisfaction of the Regional Manager: Dept. of Minerals and Energy). The contaminants will be stored in containers with lids until they are full after which they must be disposed of at a suitably recognized facility.
- Emergency repairs to vehicles must be conducted with the necessary care and soil must be covered with plastic sheeting to ensure that pollutants to not leach into the soil. Spills should be removed with the soil to the depth of penetration immediately after they occur.
- All personnel, including contractors must ensure that waste is disposed of in the allocated containers on site.
- All waste containers must be labelled clearly to indicate the waste content.
- Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., shall be stored in a container at a collecting point and collected on a regular basis and disposed of at a recognized disposal facility.
- Precautions shall be taken to prevent refuse from being dumped on or in the vicinity of the mine.

GENERAL MANAGEMENT PROCEDURES

Fuel Storage Facilities:
Fuel will be stored at the office workshop in a bunded area 1.5 times the volume of the container. The bunded area will be equipped with lockable valve to drain any spillage.

Firebreaks :
A fire break will be constructed and maintained on the entire property boundary. A monthly inspection will be executed to ensure the continued effectiveness of the fire break.

Dust Suppression:
Dust suppression will be done as needed. All access roads will be covered with a layer of gravel or environmentally friendy polymer to prevent dust.

Al complaints register must be kept at the site office. All dust complaints must be signed off by the Mine Manager.

Air Emissions:
All vehicles used on site must be regularly services to ensure their emissions are within industry standards

Storm Water Management System:
A storm water management system will be constructed on the property to prevent any contaminated surface water to leave the site. The system will consist of a series of run-off ditches, with flow arrestors, along the boundaries of the property. All these ditches will drain towards the dry drainage area of the mine site.

EMERGENCY CONTINGENCY PLANS:

All emergencies will be communicated directly to the Mine Manager. The Mine Manager will react to the situation and will co-ordinate all actions pertaining to the crisis. All relevant contact numbers of authorities and crisis centers will be kept on file at the site Office.

Procedure for cleaning of spillages
This procedure specifies the guidelines as to how to handle and clean up any spill that may occur on site. The objective is to minimize and where possible prevent the pollution of land, water and air with spillages.

Definition: Hazardous Substance

A hazardous substance is defined as a chemical, (i.e. oil, diesel, paint, acids, sewerage and slimes) that poses a threat to human health and/or the natural environment when released into the water, land or air.

The principals of any clean-up operation are:

- Contain the spill – stop it spreading
- Remove the source of the polluting substance – i.e. close any taps or valves where necessary
- Clean up by removing the soil with the contaminant to the depth of penetration.
- Rehabilitate the area

Procedure:

- Any oil, diesel, petrol or hazardous chemical spill must be reported to the Mine Manager.
- The responsible person must take steps to prevent the spill from spreading and immediately begin with clean up procedures.
- Personal Protective Equipment must be worn when handling oil, diesel, solvents or other chemicals

Note: All diesel, oil and petrol contaminated fiber or soil must be handled as hazardous waste

General:

- Ensure that all efforts are taken to prevent the spread of the substance.
- Avoid the use of chemicals to absorb/emulsify oil.

- Use a biological degreaser (e.g. OT 8 or Deep clean for Hydrocarbons) to remove traces of oil left on the concrete surface (not applicable on the proposed sites).

Spills on Soil

- Use a bioremediation agent (e.g. Enretech 1) containing “oil/diesel eating bacteria” in the following manner:
- Remove the excess oil and/or diesel as quickly as possible to prevent further penetration into the ground by scooping up excess with shovels.
- Use plastic sheeting where necessary to divert and pick up the oil.
- Place any excess oil/diesel/chemical into a drum marked for that purpose.
- Add the bioremediating agent. The addition of soil to the contaminants will ensure that the microbes in the soil also aid in the break down process.

Large spills i.e. more than 100 litres of diesel, oil, acid or any other hazardous substance.

- Report spill immediately to the Operations Manager who must, when necessary, contacts a Pollution Control Specialist. This would be deemed an emergency.
- Pump/Scoop excess material or fluid into 210-liter drums immediately.

Place any contaminated ground/material into drums marked for that purpose.

TRAINING AND AWARENESS

All personnel will be subjected to basic environmental training and environmental sensitive mining practices.

Environmental Awareness Programme

1. Objective
The objective of this procedure is to increase environmental awareness as well as identify environmental training needs for employees and contractors to ensure that employees whose work impacts on the environment, receive training relevant to their level of responsibility.

2. Scope
Train employees and contractors whose work directly or indirectly impacts on the environment so as to enable them to conduct their work and manage the mine’s activities in an environmentally responsible manner.

3. Definitions

Responsible persons
Responsible persons are the persons responsible for the effective implementation and maintenance of the Environmental Management Programme.

Environmental Aspects
Components of the Mine’s activities, product or service that are likely to interact with the environment.

Environmental Impact
Any change to the environment, whether adverse or beneficial, wholly or partially resulting from the activities, products and services of the Mine.

Induction Training
Environmental induction targets new employees and contractor, with the intention of raising their environmental awareness.

General Environmental Awareness Training
The purpose of general environmental awareness training is to ensure that employees and contractors at each relevant function and level receive environmental training and are aware of:

- The importance of conformance with the environmental procedures and with the requirements of the environmental management programme (EMP) for the mine;
- The significant environmental impacts, actual or potential, of their work activities and the environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental procedures and with the requirements of the environmental management programme (EMP), including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures

Awareness training is further divided into two categories, namely:

Environmental awareness training – Operator level

General training sessions are used to make personnel aware of the environmental issues within their relevant area. The mine manager or nominated alternative is responsible for managing the training sessions in their relevant areas. The environmental awareness training works on the concept of making a connection between an activity/ aspect and an impact on the environment. By identifying the relevant impact environment, the potential negative impacts on the environment are identified and people are made aware of the environmental impacts of their activities, products and services.

Environmental awareness training – Management

Awareness training for management level includes an introduction to mine's Environmental Management Programme and an overview of general environmental awareness principles. It is the responsibility of the relevant mine manager or environmental management representative to schedule training as well as keeping records thereof.

Comprehension Training

The following are included in the comprehension training:

- Emergency preparedness and response
- Spills management
- Waste management
- Incident reporting

Competency/ Job Specific Training

Training on procedures applicable to each area of responsibility. Each mine manager or designated alternative is responsible to identify works instructions applicable to personnel, to train on these procedures, and for recording attendance.

Training for personnel performing tasks, which can cause significant environmental impacts, to be competent on the basis of appropriate education, training and/or experience, e.g. rehabilitation, spill management etc.

Each mine manager or designated alternative is accountable for environmental training in his/ her area of responsibility.

4. RESPONSIBLE PEOPLE

The responsibilities for the following people are defined in sections 3 and 5 of this procedure:

- Mine manager
- Environmental management representative

5. PROCEDURE

Induction training: New employees and contractors received induction training prior to commencing with their tasks. If a contractor's activities have a significant impact on the environment, competency training must be scheduled.

Training needs analysis: Training needs are identified for all employees and categorized into the following three levels:

- Awareness Training;
- Comprehension Training; and
- Competency/ On the job training (see definitions for detail).

Training needs are captured on training needs matrixes indicating both operational and EMP requirements.

Training material: The mine manager in consultation with an environmental consultant is responsible for the development and maintenance of training material. Training material will be revised using results from audits, incident reports, changes to plant/operation and new significant aspects.

Scheduling of training: Once training needs have been identified, the mine manager is responsible to ensure personnel and employees are scheduled according to the needs identified.

Training occurs: Two types of training are performed; formal training by external bodies and informal training by the mine manager or management representative. For both types of training, all records of attendance must be kept by the relevant person for the period of employment.

Attendance register/ certificates: This is used as evidence that personnel have received training. Further, it is a tool utilized in the determining of gaps.

Determine gaps in attendance: The mine manager has the responsibility to ensure that all employees, personnel and contractors under his responsibility undergo all training as identified (as per training needs analysis). He therefore needs to perform a reconciliation on all training attendance registers against the training schedules to identify any shortcomings in training performed and reschedule if necessary.

Competency assessment: The mine manager or designated alternative in each area of operation is responsible to perform an evaluation on all employees and personnel. The aim to identify both the effectiveness of training as well as the competence in performing the job. The mine manager must keep the results from these assessments for a period of employment. Any gaps identified must be used for rescheduling of training, amendments to training material, etc.

Internal/ External audits and incident reports: All of these mechanisms are used to continuous evaluate the effectiveness of the training system. It assists to identify new training needs and training material.

Performance Appraisal: During the annual performance appraisal, environmental training to develop skills is identified. These are incorporated into the training needs for the following cycle.

Training records:
Training records must be held for the period of employment plus an additional 1 year thereafter

-END-

Annexure 13

GROW GREEN MINING (PTY) LTD

ANNEXURE 6

Heritage Western Cape NID – Specialist Reports

ANNEXURE 6

APPLICATION FORM
NOTIFICATION OF INTENT TO DEVELOP (NID)
SECTION 38 (1) AND SECTION 38 (8)

Heritage Western Cape Reference No:
To be completed by the applicant

21081002

Completion of this form is required by Heritage Western Cape for the initiation of all impact assessment processes under Section 38 (1) & (8) of the National Heritage Resources Act (NHRA)

As per Section 38 (1) (e) of the NHRA, submission of the NID must be initiated at the earliest stage of development. Should the development trigger any other legislation, practitioners may submit the NID without formal submission to other statutory bodies in order to comply with the NHRA.

This form is to be read in conjunction with the HWC Notification of Intent to Develop, Heritage Impact Assessment, (Pre-Application) Basic Assessment Reports, Scoping Reports and Environmental Impact Assessments, Guidelines for Submission to HWC

Whilst it is not a requirement, it may expedite processes and in particular avoid calls for additional information if certain of the information required in this form is provided by a heritage specialist/s with the necessary qualifications, skills and experience. All sections of the form must be completed in order to deem the application to be complete.

Making an incorrect statement or providing incorrect information may result in all or part of the application having to be reconsidered by HWC in the future, or submission of a new application.

The following information is to be included upon submission to HWC:

1. Proof of payment with correct reference number
2. Completed and signed application form – the application form must be completed in full in order to be considered
3. Power of Attorney
4. Locality Map
5. Images of the site and its context
6. Additional information pertaining to the heritage of the site

Application and associated documentation to be emailed to ceoheritage@westerncape.gov.za

A. APPLICABILITY OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NEMA)

Department of Environmental Affairs Development Planning (Western Cape); Department of Mineral Resources (National); Department of Environmental Affairs (National);
Reference Number (if applicable):

Please tick the applicable section:

☐	This application is made in terms of Section 38(8) of the NHRA and an application under NEMA has been made to the following authority: **Department of Mineral Resources (DMR) is the decision-making authority in this application**
☐	This development will not require a NEMA application.

B. BASIC DETAILS

PROPERTY DETAILS:

Name of property: **PROPOSED EXPANSION OF AN EXISTING SAND MINE ON FARM BUFFELSDRIFT No. 306, NEAR GEORGE, WESTERN CAPE**	
Street address or location (eg: off R44): **North of the N2, near George (Figures 1-3)**	
Erf or farm number/s: **Farm No. 306**	Coordinates: **S 33°58'36.33"** **E 22°19'46.11"** (A logical centre point. Format based on WGS84.)
Town or District: **George**	Municipality: **George Municipality**
Extent of property: **4,99ha mining application area**	Current use: **Existing Buffelsdrift Sand Mine (Figures 4-11)**
Predominant land use/s of surrounding properties: **Agriculture – mostly grazing/pastures for dairy farming, some Wattle Plantation**	

REGISTERED OWNER OF PROPERTY:

Name and Surname:		
Address		
Telephone	Cell	E-mail
APPLICANT/ AUTHORISED AGENT:		
Name and Surname: **Michael Du Plessis**		
Address: **Go Green Mining Pty (Ltd)** **P.O Box 2389, George, 6530**		
Telephone **044 870 0839**	Cell **083 444 3405**	E-mail ceo@growgreenorganics.co.za

By the submission of this form and all material submitted in support of this notification (ie: 'the material'), all applicant parties acknowledge that they are aware that the material and/or parts thereof will be put to the following uses and consent to such use being made: filing as a public record; presentations to committees, etc; inclusion in databases; inclusion on and downloading from websites; distribution to committee members and other stakeholders and any other use required in terms of powers, functions, duties and responsibilities allocated to Heritage Western Cape under the terms of the National Heritage Resources Act. Should restrictions on such use apply or if it is not possible to copy or lift information from any part of the digital version of the material, the material will be returned unprocessed. All sections of the form have been completed.

Signature of Owner: Date:

_____

Should the owner not be able to sign, the applicants/ agents must attach copy of power of attorney to this form.

Signature of Applicant/ Authorised Agent: Date:

_____

Applicants/ agents must attach copy of power of attorney to this form.

C. DEVELOPMENT DETAILS:

Please indicate below which of the following Sections of the National Heritage Resources Act, or other legislation has triggered the need for notification of intent to develop.

☐	S38(1)(a) Construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.	S38(1)(c) Any development or activity that will change the character of a site -	
☐	S38(1)(b) Construction of a bridge or similar structure exceeding 50m in length.	☒	(i) exceeding 5 000m² in extent;
☐	S38(1)(d) Rezoning of a site exceeding 10 000m² in extent.	☐	(ii) involving three or more existing erven or subdivisions thereof;
		☐	(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years.
		If you have checked any of the three boxes above, describe how the proposed development will change the character of the site:	
	Other triggers, eg: in terms of other legislation, (ie: National Environment Management Act, etc.) Please set out details:	**The proposed development (expansion of an existing sand mine) will not change the character of the site**	
☐	**NEMA, and Section 22 of the Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA) (as amended**		

If an impact assessment process has also been / will be initiated in terms of other legislation please provide the following information:

Authority / government department (ie: consenting authority) to which information has been /will be submitted for final decision: **Department of Mineral Resources (DMR) is the decision-making authority in this application**
Present phase at which the process with that authority stands: **A Basic Assessment (BA) process will be followed, including implementation of an Environmental Management Plan (EMP).**

Enviro-EAP is the independent environmental practitioner responsible for facilitating environmental authorisation for the project.

Provide a full description of the nature and extent of the proposed development or activity including its potential impacts:

The deposits consists of soft, unconsolidated sands. The material is suitable for direct loading by excavator onto haul trucks for transport to the market. There is no processing, screening or washing of the deposit on site, although some temporary stockpiling and screening may take place. Invasive alien (Wattle) will need to be cleared from the area, thereafter, mining will be undertaken in mining blocks, with continuous rehabilitation taking place once each block is mined. Existing access roads and tracks will be used, and no new access roads will need to be constructed.

Estimated value cost of the project in South African Rands: **± R2m**

D. ANTICIPATED IMPACTS ON HERITAGE RESOURCES

Section 3 of the National Heritage Resources Act sets out the following categories of heritage resource as forming part of the national estate. Please indicate the known presence of any of these by checking the box alongside and then providing a description of each occurrence, including nature, location, size, type

Failure to provide sufficient detail or to anticipate the likely presence of heritage resources on the site may lead to a request for more detailed specialist information.

Provide a short history of the site and its environs (Include sources where available):

Existing Buffelsdrift Sand Mine

Otherwise mostly grazing/pastures/dairy farming, centre pivots

Please indicate which heritage resources exist on the site and in its environs, describe them and indicate the nature of any impact upon them:

☐	**Places, buildings, structures and equipment of cultural significance** Description of resource: Description of impact on heritage resource: **N/A**
☐	**Places to which oral traditions are attached or which are associated with living heritage** Description of resource: Description of impact on heritage resource: **N/A**
☐	**Historical settlements and townscapes** Description of resource: Description of impact on heritage resource: **N/A**

☐	**Landscapes and natural features of cultural significance** Description of resource: Description of impact on heritage resource: **N/A**
☐	**Geological resources of scientific or cultural importance** Description of resource: Description of impact on heritage resource: **N/A**
☐	**Archaeological resources** (Including archaeological sites and material, rock art, battlefields & wrecks)**:** Description of resource: **Stone tools** Description of impact on heritage resource: **Only two archaeological reports are available on SAHRIS, which are close to the study area.** **Dispersed ESA tools of low archaeological importance were recorded by Yates (2006) during a Heritage Scoping Survey for the proposed Geelhoutboom Residential Development on the Farm Geelhoutboom, about 6kms north east of Buffelsdrift 306.** **`Moderately dense ESA tools of low archaeological significance' were recorded in a sediment layer associated with or immediately above cobble alluvium during a HIA for a proposed gravel mine on the Farm Geelhoutboom (Wiltshire 2012). Isolated ESA resources and a few LSA tools were also recorded over the remainder of the property.** **In a follow up study on the Farm Geelhoutboom, no archaeological resources were encountered (CTS Heritage 2018).** **Source:** **Lavin, J., & Smuts, K. 2018. Heritage Impact Assessment, proposed extension of the George gravel mine. Report prepared for PHS Consulting. CTS Heritage, Cape Town** **Wiltshire, N. 2012. Proposed extension of the existing George Gravel Mine. CTS Heritage, Cape Town.** **Yates, R. 2006. Geelhoutboom Residential Development – Farm Geelhoutboom No. 318, including Portions 7/318, 2/318 and 16.217, George: Scoping Heritage Impact Assessment. Report prepared for Pieter Badenhorst Professional Services. MAPCRM, Mossel Bay**
☐	**Palaeontological resources** (ie: fossils)**:** Description of resource: **Fossils** Description of impact on heritage resource: **According to consulting palaeontologist John Pether (email correspondence dated 10 August, 2021), `The proposed quarry on Buffelsdrift Farm 306 is on the Maalgaten Granite – part of the George Pluton, Cape Granite Suite. Unfossiliferous. Grey on SAHRIS Palaeo-map – no PIA required'.**

☐	**Graves and burial grounds** (eg: ancestral graves, graves of victims of conflict, historical graves & cemeteries)**:** Description of Resource: Description of Impact on Heritage Resource: **N/A**
☐	**Other human remains:** Description of resource: **Unmarked Khoisan remains** Description of impact on heritage resource: **Highly unlikely**
☐	**Sites of significance relating to the history of slavery in South Africa:** Description of resource: Description of impact on heritage resource: **N/A**
☐	**Other heritage resources:** Description of resource: Description of impact on heritage resource: **N/A**

Describe elements in the environs of the site that could be deemed to be heritage resources:

Possibly a few isolated Early & Middle Stone Age tools of Low archaeological significance.

Description of impacts on heritage resources in the environs of the site:

Low

Summary of anticipated impacts on heritage resources:

Anticipated impact on heritage resources rated as being Low

E. ILLUSTRATIVE MATERIAL:

Attach to this form a minimum A4 sized locality plan showing the boundaries of the area affected by the proposed development, its environs, property boundaries and a scale. The plan must be of a scale and size that is appropriate to creating a clear understanding of the development.

Attach also other relevant graphic material such as maps, site plans, satellite photographs and photographs of the site and the heritage resources on it and in its environs. These are essential to the processing of this notification.

Please provide all graphic material on paper of appropriate size and on CD/ USB in JPEG format. It is essential that graphic material be annotated via titles on the photographs, map names and numbers, names of files and/or provision of a numbered list describing what is visible in each image.

F. RECOMMENDATION

In your opinion do you believe that a heritage impact assessment is required? ☐ Yes √ ☐ No

Recommendation made by: Name **Jonathan Kaplan (Agency for Cultural Resource Management)** Capacity **Heritage practitioner (archaeologist)**
PLEASE NOTE: No Heritage Impact Assessment should be submitted with this form or conducted until Heritage Western Cape has expressed its opinion on the need for such and the nature thereof.

G. INFORMATION TO BE PROVIDED AND STUDIES TO BE CONDUCTED AS PART OF THE HERITAGE IMPACT ASSESSMENT (HIA)

If it is recommended that an HIA is required, please complete this section of the form.

DETAILS OF STUDIES TO BE CONDUCTED IN THE INTENDED HIA

In addition to the requirements set out in Section 38(3) of the NHRA, indicate envisaged studies:	
☐	Heritage resource-related guidelines and policies.
☐	Local authority planning and other laws and policies.
☐	Details of parties, communities, etc. to be consulted.
☐	Specialist studies, eg: archaeology, palaeontology, architecture, townscape, visual impact, etc. Provide details:
☐	Other. Provide details:

PLEASE NOTE: Any further studies which Heritage Western Cape requires should be submitted must be in the form of a single, consolidated report with a single set of recommendations. Specialist studies must be incorporated in full, either as chapters of the report, or as annexures thereto.
Please refer to the *Guidelines for Heritage Impact Assessments required in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999)*

EXPANSION OF EXISTING SAND MINE, FARM BUFFELSDRIFT No. 306
NEAR GEORGE, WESTERN CAPE

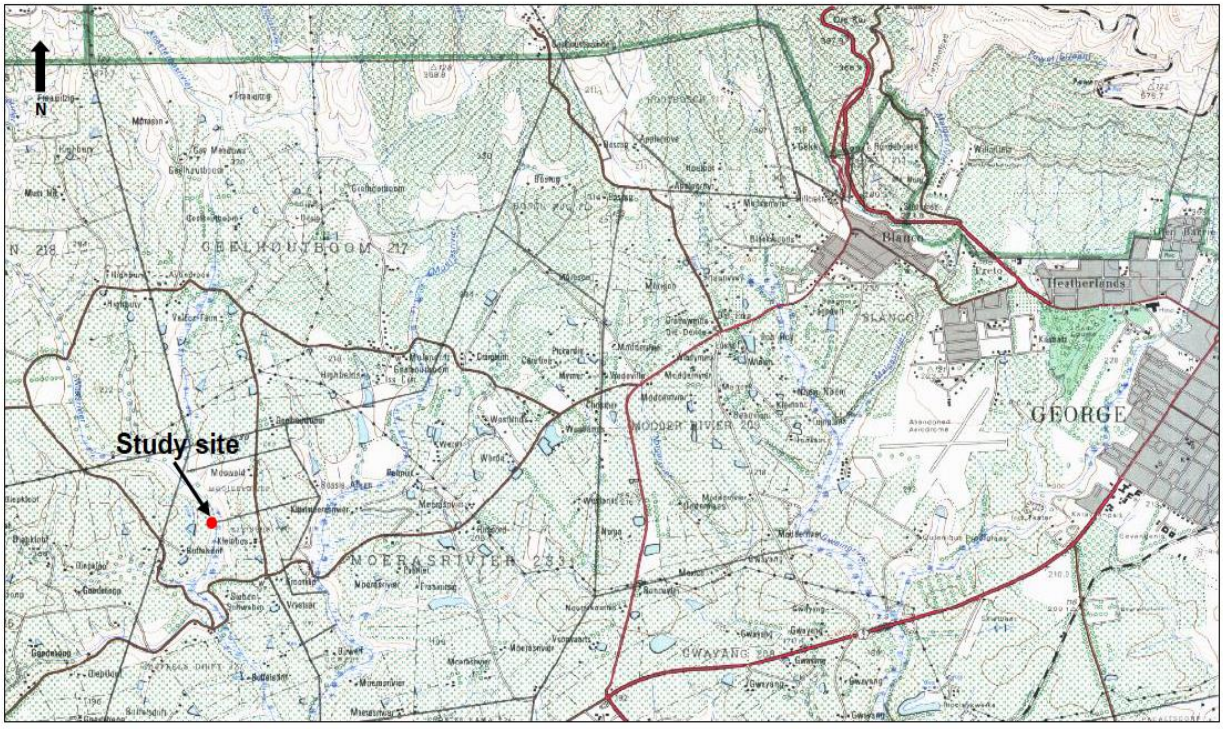


Figure 1. Locality Map (3322CD & 3422 AB George) indicating the location of the Buffelsdrift Sand Mine (red polygon) on Farm No. 306, near George

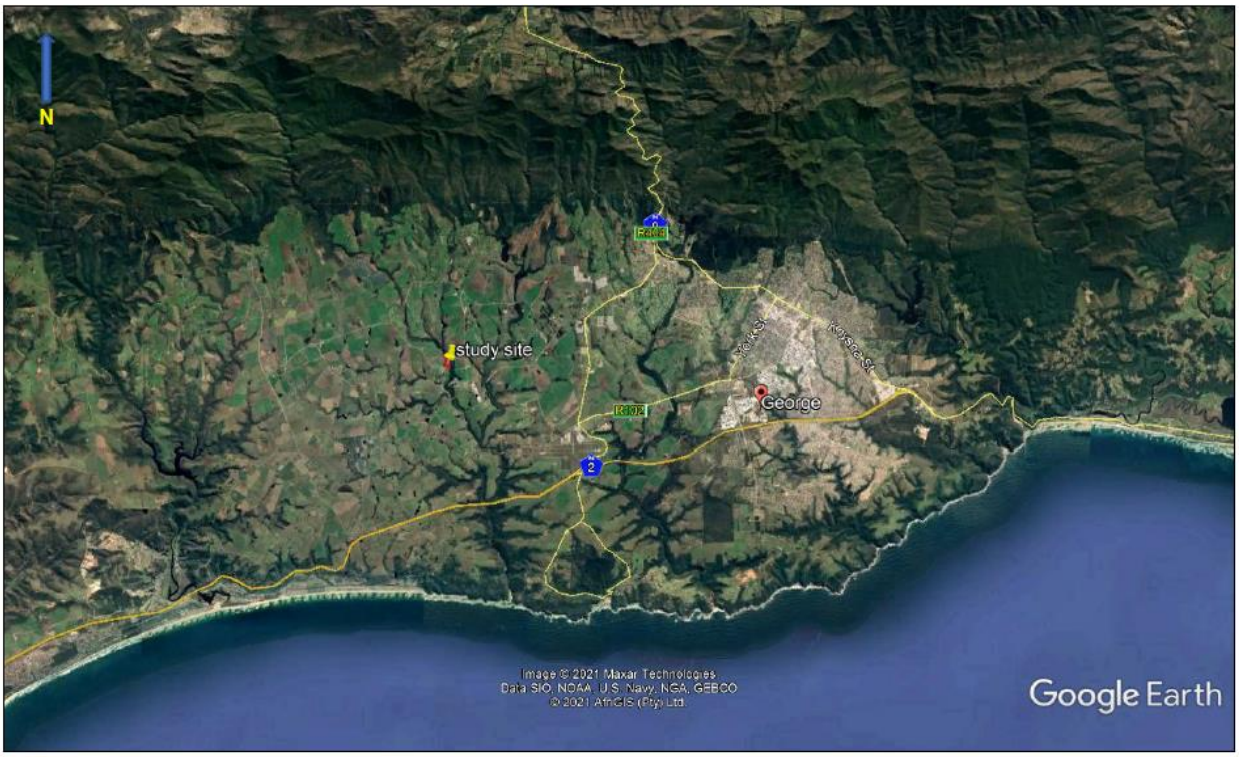


Figure 2. Google satellite map indicating the location of the study site (yellow pin), near George (red pin)

Figure 3. Google satellite map indicating the existing Buffelsdrift Sand Mine (red polygon) and surrounding land use

Figure 4. Close up Google Earth satellite map showing the existing sand mine on Farm Buffelsdrift No. 306


Figure 5. Long view of the Buffelsdrift Sand Mine on Farm No. 306

Figure 6. Buffelsdrift Sand Mine. View facing north east toward the Outeniqua Mountains

Figure 7. Buffelsdrift Sand Mine. View facing north east toward the Outeniqua Mountains

Figure 8. Buffelsdrift sand mine. View facing north east

Figure 9. Buffelsdrift Sand mine. View facing north east toward the Outeniqua Mountains

Figure 10. Buffelsdrift Sand mine and the proposed expansion area infested with Black Wattle. View facing north east

Figure 11. Buffelsdrift Sand mine and the proposed expansion area infested with Black Wattle. View facing north east.

Section 21 c & i Risk Assessment and Aquatic Compliance Statement for Proposed Mining Activities on Farm Buffelsdrift 306, George, Western Cape.

Prepared for Grow Green Mining (Pty) Ltd

by

Confluent Environmental

November 2022

confluent

aquatic consulting & research

Compiled by:

Dr. J.M. Dabrowski
james@confluent.co.za

DECALRATION OF SPECIALIST INDEPENDENCE

- I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);
- At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;
- Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;
- I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;
- I do not have any influence over decisions made by the governing authorities;
- I undertake to disclose all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by a competent authority to such a relevant authority and the applicant;
- I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;
- This document and all information contained herein is and will remain the intellectual property of Confluent Environmental. This document, in its entirety or any portion thereof, may not be altered in any manner or form, for any purpose without the specific and written consent of the specialist investigators.
- All the particulars furnished by me in this document are true and correct.

Specialist: Dr. James Dabrowski (Ph.D., Pr.Sci.Nat. Water Resources)

Date: 29 November 2022

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1. INTRODUCTION

Grow Green Mining (Pty) Ltd proposes to mine gravel and sand from a quarry for a maximum of two years (with an option to extend the activities for a total of 5 years) on a section of the Farm the Buffelsdrift 306, George, Western Cape. The proposed mining area is 4.95 Ha and is located within 100 m of the Maalgate River. The scope of work for this report is defined by the legislative requirements of the National Water Act (NWA) and the National Environmental Management Act (NEMA).

1.1 Key Legislation

1.1.1 National Water Act

The Department of Water & Sanitation (DWS) is the custodian of South Africa's water resources and therefore assumes public trusteeship of water resources, which includes watercourses, surface water, estuaries, or aquifers. The National Water Act (NWA) (Act No. 36 of 1998) aims to protect water resources, through:

- The maintenance of the quality of the water resource to the extent that the water resources may be used in an ecologically sustainable way;
- The prevention of the degradation of the water resource; and
- The rehabilitation of the water resource.

A watercourse means:

- A river or spring;
- A natural channel in which water flows regularly or intermittently;
- A wetland, lake or dam into which, or from which, water flows; and
- Any collection of water which the Minister may, by notice in the Gazette, declare to be
- A watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

No activity may take place within a watercourse unless it is authorised by the Department of Water and Sanitation (DWS). According to Section 21 (c) and (i) of the National Water Act, a Water Use License (WUL) is required for any activities that impede or divert the flow of water in a watercourse or alter the bed, banks, course or characteristics of a watercourse. The regulated area of a watercourse for section 21(c) or (i) of the Act means:

a) The outer edge of the 1 in 100-year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam;

b) In the absence of a determined 1 in 100-year flood line or riparian area the area within 100m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench (subject to compliance to section 144 of the Act); or

c) A 500 m radius from the delineated boundary (extent) of any wetland or pan.

Given that the proposed development will occur within 100 m of a watercourse, the proposed activity does fall within the regulated area of a watercourse. Any water use activities that do

occur within the regulated area of a watercourse should be assessed using the DWS Risk Assessment Matrix (GN 509) to determine whether activities may be generally authorised (Low Risk according to the Risk Assessment Matrix) or require a WUL (Medium or High Risk according to the Risk Assessment Matrix).

1.1.2 National Environmental Management Act

According to the protocols specified in GN 320 (Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when Applying for Environmental Authorisation), assessment and reporting requirements for aquatic biodiversity are associated with a level of environmental sensitivity identified by the national web-based environmental screening tool (screening tool). An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of:

- **Very High** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment; or
- **Low** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Compliance Statement.

According to the protocol, prior to commencing with a specialist assessment a site sensitivity verification must be undertaken to confirm the sensitivity of the site as indicated by the screening tool:

- Where the information gathered from the site sensitivity verification differs from the screening tool designation of **Very High** aquatic biodiversity sensitivity, and it is found to be of a **Low** sensitivity, an Aquatic Biodiversity Compliance Statement must be submitted.
- Similarly, where the information gathered from the site sensitivity verification differs from the screening tool designation of **Low** aquatic biodiversity sensitivity, and it is found to be of a **Very High** sensitivity, an Aquatic Biodiversity Specialist Assessment must be submitted.

The screening tool identified the site as being of **Very High** aquatic biodiversity based on the fact that the proposed activities occur within an area that has been designated as a Strategic Water Source Area (SWSA).

1.2 Scope of Work

Based on the key legislative requirements listed above, the scope of work for this report includes the following:

- Undertake a site verification to determine whether the sensitivity of the site is Low or Very High;
- Characterise aquatic ecosystems within the regulated area in relation to there current and reference condition using tools to determine the Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS);
- Identify and assess potential impacts that may result from the construction and future operation of the quarry;

- Recommend measures to mitigate against the identified impacts; and
- Undertake a Section 21 c & i Risk Assessment to determine whether the development can be generally authorised or will require a WUL.

2. DESCRIPTION OF THE WATERCOURSE

The watercourse adjacent to the quarry is the Maalgate River, a perennial river that falls within quaternary catchment K30A (Figure 1). The river originates in the Outeniqua mountains and flows through cultivated areas and farmlands before entering the sea between Herolds Bay and Glentana Bay. The river falls within a sub-quaternary reach (SQR) that is not categorised as a Freshwater Ecosystem Priority Area (Nel et al., 2011). Large parts of the Maalgate River are, however, classified as natural channeled valley-bottom wetlands - this includes portions of the river adjacent to the quarry (Figure 2). A dam located immediately to the west of the quarry is classified as an artificial wetland.

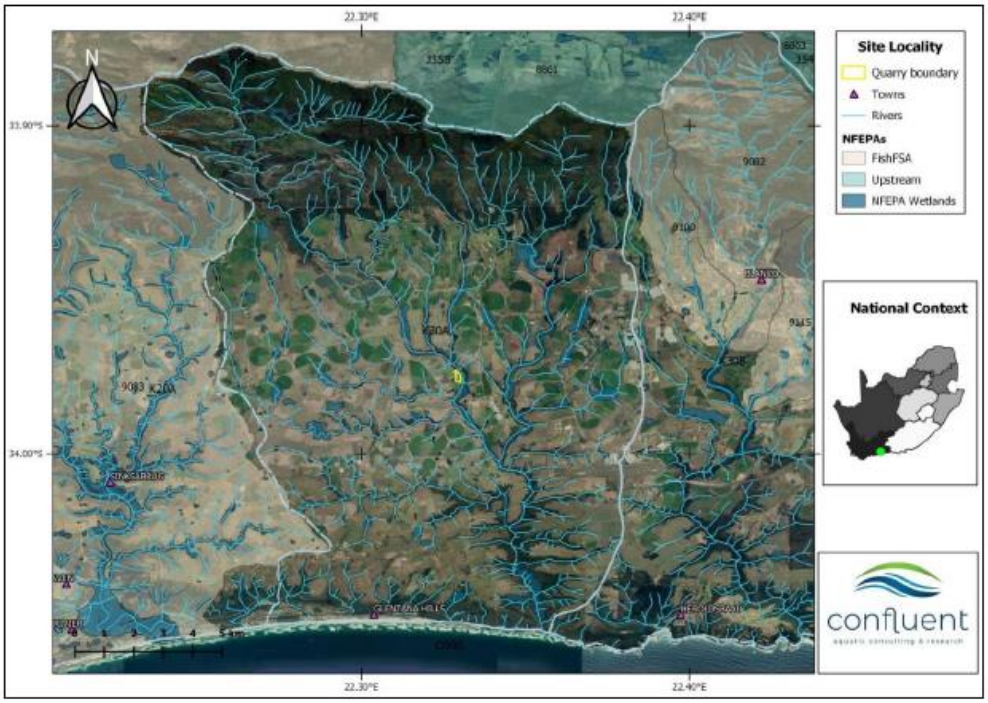

Figure 1: Map of the property in relation to NFEPA sub-quaternary reaches.

Figure 2: Map showing the location of the quarry in relation to NFEPA Wetlands.

2.1 Strategic Water Source Areas

Strategic Water Source Areas (SWSAs) are defined as areas of land that either:

a) Supply a disproportionate (i.e. relatively large) quantity of mean annual surface water runoff in relation to their size and so are considered nationally important; or

b) Have high groundwater recharge and where the groundwater forms a nationally important resource; or

c) Areas that meet both criteria (a) and (b).

The project area falls within the Outeniqua SWSA which is considered to be of national importance (Figure 3). SWSAs are vital for water and food security in South Africa and also provide the water used to sustain the economy. Given this context, management and implementation guidelines have been developed with the objective of facilitating and supporting well-informed and proactive land management, land-use and development planning in these nationally important and critical areas (Le Maitre, et al., 2018). The primary principle behind this objective is to protect the quantity and quality of the water they produce by maintaining or improving their condition. The proposed development footprint falls within an agricultural landscape and in this context the management objectives are:

- To maintain at least the present condition and ecological functioning of these landscapes;
- To restore where necessary; and

- To limit or avoid further adverse impacts on the sustained production of high-quality water.

Figure 3: Map showing the location of the quarry relative to the Outeniqua Strategic Water Source Area.

2.2 Present Ecological State

The Maalgate River is perennial and was flowing at the time of the site visit. The river has a well-defined riparian zone, the outer edge of which is approximately 25 m away from the proposed boundary of the quarry site. The riparian zone is seriously modified by dense stands of invasive *Acacia mearnsii* (black wattle) and *Solanum mauritianum* (bugweed) (Figure 4). The majority of the length of the river is bordered by cultivated farmlands which are dominated by irrigated pastures for dairy herds. This land use activity is likely to lead to significant loads of nonpoint source nutrient pollution into the river. Several instream dams are located upstream of the quarry and throughout the catchment area, which, together with high rates of abstraction for irrigation, lead to significant modifications in the natural flow of the river and the hydroperiod of associated channelled valley-bottom wetlands. Based on these impacts the PES of the Maalgate River is Largely Modified (D) (Table 1).

Figure 4: Photographs showing invasive alien plant species and debris in the riparian zone of the Maalgate River.

2.3 Ecological Importance and Sensitivity

While the number of fish and invertebrate taxa are relatively low the diversity of habitat is very high, mainly as a result of the of the presence of wetland and riverine habitat at varying altitudes over a relatively short distance from source to sea. The ecological sensitivity of the watercourse is very high due to the sensitivity of fish, macroinvertebrates and instream and riparian habitat to modifications in flow and water quality (Table 1).

Table 1: Desktop PES and EIS of the Maalgate River (DWS, 2014)

Present Ecological State		Ecological Importance		Ecological Sensitivity	
Largely Modified (D)		High (B)		Very High (A)	
Modification to Instream Habitat Continuity	Large	Fish Species per Sub Quaternary Catchment	3	Sensitivity of Fish to Modification in Physico-chemistry	Moderate
Modification to Riparian/Wetland Zone Continuity	Large	Invertebrate Taxa per Sub Quaternary Catchment	30	Sensitivity of Fish to No-Flow	Moderate
Modification to Potential Instream Habitat	Large	Habitat Diversity Class	Very High	Sensitivity of Invertebrates to Modification in Physico-chemistry	Very High
Modification to Riparian/Wetland Zone	Serious	Instream Migration Link Class	Moderate	Sensitivity of Invertebrates to Velocity	Very High
Potential Flow Modifications	Large	Riparian-Wetland Zone Migration Link	Moderate	Riparian/Wetland/Instream vertebrates (excl Fish) Intolerance to Water Level/Flow Changes	Very High
Potential Physico-Chemical Modifications	Moderate	Instream Habitat Integrity Class	Moderate	Stream Size Sensitivity to Modified Flow/Water Level Changes	Very High
		Riparian-Wetland Zone Habitat Integrity Class	Low	Riparian/wetland Vegetation Intolerance to Water Level Changes	Very High

3. SITE DESCRIPTION

The quarry will be located within a highly disturbed area, where large scale excavation of sand and gravel has already taken place over time (Figure 5 and Figure 6). There are a number of excavated areas that have filled with water, some of which have been colonised by *Typha capensis*. These have all clearly formed as a result of the previous excavations that have taken place. There was evidence of sporadic dumping throughout the quarry area (Figure 7). The entire eastern perimeter of the disturbed area is already surrounded by an earthen berm running along its eastern perimeter which separates the quarry from the adjacent watercourse. At one point, this berm has been intercepted by a trench that currently allows drainage to flow from the quarry towards the Maalgate River (Figure 5). The build-up of a 1.5 m high embankment (berm) along the boundary of the mining area will be maintained to avoid dust and aesthetic impacts from road users and neighbouring land-owners where possible. Mining will take place between the hours of 07h00–17h00 six days per week (Monday to Saturday).

Figure 5: Map illustrating the approximate position of the berm and trench through the berm.

Figure 6: Photographs showing the existing quarry and an excavated trench draining into the Maalgate River.

Figure 7: Photographs showing dumping in the existing quarry area.

3.1 Construction Phase Impacts

No infrastructure is planned for the quarry and activities will be limited to the existing quarry area. Access to the site is already serviced by existing roads. No additional excavation will occur outside of the existing disturbed area and construction phase activities are therefore not applicable to this assessment. There is some evidence of small-scale dumping having occurred throughout the quarry, which must be removed prior to the commencement of the operational activities.

3.2 Operational Phase

The proposed mining technique can be described as follows:

- The mining method that will be employed is mechanical mining;
- Extraction of sand and gravel will be facilitated through the use of an excavator and/or front-end loader;
- The excavated material will be deposited onto the stockpile area within the permit site and loaded onto tip trucks by the front-end loader for transport off the site;
- If and when larger pieces of material are present, a mobile crusher will be placed on site to crush the material to the preferred size;
- No steep slopes are expected to be formed during and/or when mining activities takes place; and

- Concurrent rehabilitation where mining has been completed will take place.

All operational activities will take place outside of the riparian zone of the Maalgate River and will be confined to the existing disturbed area. This area is mostly closed off from the watercourse by an earthen berm on all sides (Figure 5). There is only one small outlet channel that runs from the quarry and connects to the Maalgate River (Figure 5). Potential impacts affecting the watercourse are therefore largely related to the presence of this channel and are discussed in further detail below.

3.2.1 Impact on Water Quality

Mining vehicles will be operating on a regular basis within the quarry area and include an excavator or front-end loader, several 20-ton loaders and a water bowser truck (if needed). This could result in pollution of the Maalgate River through leakage of fuels, oils, and other pollutants from vehicles, or from washing of equipment and vehicles.

Mitigation measures

- Stormwater must be managed within the perimeter of the quarry. The existing channel leading from the quarry towards the Maalgate River must therefore be closed off through infilling of the channel and the placement of a berm that is continuous with the berm surrounding the rest of the quarry;
- Chemical toilets must be provided for staff personnel. Waste from chemical toilets must be disposed of regularly (at least once a week) in a responsible manner by a registered waste contractor;
- The existing berm must be regularly inspected and maintained to ensure that stormwater is contained within the quarry; and
- Excavators and all other machinery and vehicles that are to be used in the quarry should be regularly checked for oil and fuel leaks and routinely serviced.

3.2.2 Sedimentation and Erosion

Mining and stockpiling of sand and gravel will expose the soil profile which will result in the mobilisation of large quantities of sediment during rainfall events. This sediment can potentially enter the Maalgate River via the existing channel that leads into the Maalgate River.

Mitigation measures

- Stormwater must be managed within the perimeter of the quarry. The existing channel leading from the quarry towards the Maalgate River must therefore be closed off through infilling of the channel and the placement of a berm that is continuous with the berm surrounding the rest of the quarry;
- The existing berm must be regularly inspected and maintained to ensure that stormwater is contained within the quarry; and
- No stockpiles of soil or excavated material must be placed outside of the existing perimeter of the quarry.

3.2.3 Habitat & Biota

All activities will take place outside of the riparian zone of the Malgaate River and impacts to the habitat and biota of the watercourse are negligible or non-existent. The channel bed and banks are not impacted or impeded in anyway. There is no effect on the flow of the river and there is no loss of vegetation or displacement to fauna/biota in the area.

Mitigation measures

- Waste that has been dumped in the quarry must be removed and disposed of at a suitable waste disposal facility. No materials must be dumped outside the perimeter of the quarry;
- No activities must occur within the buffer zone as specified in Section 4 below. Where there is overlap between the perimeter of the quarry and the buffer zone, the perimeter must be adjusted to accommodate the buffer zone.

4. BUFFER ZONE

Buffer zones have been defined as a strip of land with a use, function or zoning specifically designed to act as barriers between human activities and sensitive water resources with the aim of protecting these water resources them from adverse negative impacts. Appropriate buffers were estimated based on buffer zone guidelines developed by Macfarlane and Bredin (2017). These guidelines estimate required buffer zone widths based on a combination of input parameters which include, *inter alia*, the nature of the activity and associated impacts, basic climatic and soil conditions, the PES and EIS of potentially affected watercourses and the implementation of appropriate mitigation measures. For the purposes of sensitivity mapping, the implementation of appropriate mitigation measures has been considered in the determination of buffer zone widths.

Important points that were considered in the determination of the buffer zone width included the following:

1. The buffer area between the quarry and the watercourse is comprised of dense grassland and pasture which is likely to act as a good buffer for filtering sediments and contaminants (Figure 8);
2. Operational phase activities will be confined to the quarry area and will be cordoned off from the watercourse by means of an earthen berm running along the perimeter of the quarry;
3. The determined buffer width assumes the implementation of all mitigation measures. In this respect closing off the existing channel that leads from the quarry is imperative; and
4. Activities are likely to present very low risk of impact to the watercourse, particularly when all mitigation measures are implemented (see Section 3).

Based on these and other criteria, a minimum buffer distance of 20 m was determined for the watercourse (Figure 9).

Figure 8: Area of land that comprises the buffer zone that separates the riparian zone of the Maalgate River from the perimeter of the quarry.

Figure 9: Map illustrating the prescribed buffer zone of 20 m in relation the watercourse and its delineated riparian zone and the quarry.

5. DWS RISK ASSESSMENT

The risk assessment matrix (Based on DWS 2015 publication: Section 21 (c) and (i) water use Risk Assessment Protocol) was implemented to assess risks for each activity associated with the operational phase of the quarry. The first stage of the risk assessment is the

identification of environmental activities, aspects and impacts. This is supported by the identification of receptors and resources, which allows for an understanding of the impact pathway and an assessment of the sensitivity to change. The definitions and methodology applied in the impact assessment are provided in Appendix 1 of this report.

Risks were assessed assuming the full implementation of recommended mitigation measures (see Section 3). Risk ratings for all activities fall within a Low Risk class (Table 2) and no deterioration in the PES or the EIS of the Maalgate River is anticipated as a result of the quarry operations.

Table 2: DWS Risk Assessment matrix for operational phase activities for the Grow Green quarry.

Phases	Activity	Aspect	Impact	Flow Regime	Water Quality	Habitat	Biota		Severity	Spatial scale	Duration		Consequence		Frequency of activity	Frequency of impact	Legal Issues	Detection		Likelihood	Significance	Risk Rating	Confidence level	Control Measures	PES AND EIS OF WATERCOURSE
Operational Phase	Operation of machinery within quarry	Spills and leakage of hydrocarbons and other pollutants	Toxicity to instream aquatic biota	1	1	1	1		1	1	1		3		1	1	5	1		8	24	Low	90	• Manage stormwater within the perimeter of the quarry and close of channel leading to Malgaate River. • Berm must be routinely inspected and maintained • Vehicles to be routinely inspected and serviced • All stockpiles to be located within the perimeter of the quarry	PES: D (Largely Modified) EIS: B (High)
	Stockpiling of excavated material	Erosion of bare, exposed soils	Sedimentation of watercourse	1	1	1	1		1	1	1		3		1	1	5	1		8	24	Low	90		
	Excavation of sand and gravel	Increased presence in riparian and instream habitat	Alteration of riparian and instream habitat	1	1	1	1		1	1	1		3		1	1	5	1		8	24	Low	95	• Excavation of sand and gravel must remain within the confines of the existing quarry • No activities must occur within the watercourse or the prescribed 20 m buffer.	

6. CONCLUSION

6.1 Site Sensitivity Verification

Assuming that the proposed mitigation measures are implemented the proposed project will not have any effect on the production of high-quality water and will therefore not compromise the management objectives of SWSAs. Furthermore, the operation will take place outside of natural watercourses **AND** their associated buffers. Therefore, there will be no impact on aquatic biodiversity. The sensitivity of the site is therefore considered to be **Low** and an aquatic compliance statement is applicable. This report meets the criteria for an aquatic compliance statement and it is recommended that the development be authorised subject to the implementation of the above-mentioned mitigation measures, most importantly being that the current trench through the berm is closed off and that stormwater is contained within the perimeter of the quarry.

6.2 Water Use Authorisation

Given the low impact associated with all activities highlighted in this report, and according to Government Notice 509 of August 2016 (RSA, 2016) of the National Water Act, the proposed quarry on Farm Buffelsdrift 306, may proceed under a Generally Authorisation and does not require a Water Use License.

While the development is generally authorised, it is important to note that the water use activity should still be registered with the DWS. In this respect the following steps, as highlighted in the General Authorisation for Section 21 (c) and (i) water uses, are relevant:

1. Subject to the provisions of the General Authorisation, the applicant must submit the relevant registration forms to the responsible authority via the online e-WULA system;
2. Upon completion of registration, the responsible authority will provide a certificate of registration to the water user within 30 working days of the submission; and
3. On written receipt of a registration certificate from the Department, the applicant will be regarded as a registered water user and can only then commence with the water use as contemplated in the General Authorisation.

7. REFERENCES

DWS (Department of Water and Sanitation) (2014) A Desktop Assessment of the Present Ecological State and Ecological Sensitivity per Sub-Quaternary Reaches for Secondary Catchments in South Africa. RQIS-RDM: http://www.dwa.gov.za/iwqs/rhp/eco/peseismodel.aspx accessed on 20 May 2019.

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Nel, J.L., Driver, A., Strydom, W.F., Maherry, A., Peterson, C., Hill, L., Roux, D.J., Nienaber, S., van Deventer, H., Swartz, E. and Smith-Adao, L.B. (2011) Atlas of freshwater ecosystem priority areas in South Africa: Maps to support sustainable development of water resources. Water Research Commission Report No. TT 500/11.

APPENDIX 1 – DWS RISK ASSESSMENT METHODOLOGY

Definitions:

- An activity is a distinct process or task undertaken by an organisation for which a responsibility can be assigned. Activities also include facilities or infrastructure that is possessed by an organisation;
- An aspect is an 'element of an organizations activities, products and services which can interact with the environment'. The interaction of an aspect with the environment may result in an impact;
- Environmental impacts are the consequences of these aspects on environmental resources or receptors of particular value or sensitivity;
- Resources are components of the biophysical environment and include the flow regime, water quality, habitat and biota of the affected watercourse; and
- Severity refers to the degree of change to the status of each of the receptors (Table 3). An overall severity score is calculated as the average of all scores receptor status in terms of the reversibility of the impact; sensitivity of receptor to stressor; duration of impact (increasing or decreasing with time); controversy potential and precedent setting; threat to environmental and health standards.
- Spatial extent refers to the geographical scale of the impact (Table 4).
- Duration refers to the length of time over which the stressor will cause a change in the resource or receptor (Table 5).
- Frequency of activity refers to how often the proposed activity will take place (Table 6).
- Frequency of impact refers to the frequency with which a stressor (aspect) will impact on the resource (Table 7).

Method:

The significance of the impact is then assessed by rating each variable numerically according to the defined criteria (refer to the table below). The purpose of the rating is to develop a clear understanding of influences and processes associated with each impact. The severity, spatial scope and duration of the impact together comprise the consequence of the impact and when summed can obtain a maximum value of 15. The frequency of the activity, impact, legal issues and the detection of the impact together comprise the likelihood of the impact occurring and can obtain a maximum value of 20. The values for likelihood and consequence of the impact are then read off a significance rating matrix and are used to determine whether mitigation is necessary. In accordance with the method stipulated in the risk assessment key, all impacts for flow regime, water quality, habitat and biota were scored as a 5 (i.e. average Severity score of 5) as all activities will occur within the delineated boundary of the wetland.

Table 3: Scores used to rate the impact of the aspect on resource quality (flow regime, water quality, geomorphology, biota and habitat)

Insignificant / non-harmful	1
Small / potentially harmful	2
Significant / slightly harmful	3
Great / harmful	4
Disastrous / extremely harmful and/or wetland(s) involved	5

Where "or wetland(s) are involved" it means that the activity is located within the delineated boundary of any wetland.

Table 4: Scores used to rate the spatial scale that the aspect is impacting on.

Area specific (at impact site)	1
Whole site (entire surface right)	2
Regional / neighbouring areas (downstream within quaternary catchment)	3
National (impacting beyond secondary catchment or provinces)	4
Global (impacting beyond SA boundary)	5

Table 5: Scores used to rate the duration of the aspects impact on resource quality

One day to one month, PES, EIS and/or REC not impacted	1
One month to one year, PES, EIS and/or REC impacted but no change in status	2
One year to 10 years, PES, EIS and/or REC impacted to a lower status but can be improved over this period through mitigation	3
Life of the activity, PES, EIS and/or REC permanently lowered	4
More than life of the organisation/facility, PES and EIS scores, a E or F	5

Table 6: Scores used to rate the frequency of the activity

Annually or less	1
Bi-annually	2
Monthly	3
Weekly	4
Daily	5

Table 7: Scores used to rate the frequency of the activity's impact on resource quality

Almost never / almost impossible / >20%	1
Very seldom / highly unlikely / >40%	2
Infrequent / unlikely / seldom / >60%	3
Often / regularly / likely / possible / >80%	4
Daily / highly likely / definitely / >100%	5

Table 8: Scores used to rate the extent to which the activity is governed by legislation

No legislation	1
Fully covered by legislation (wetlands are legally governed)	5

Table 9: Scores used to rate the ability to identify and react to impacts of the activity on resource quality, people and property.

Immediately	1
Without much effort	2
Need some effort	3
Remote and difficult to observe	4
Covered	5

Table 10: Rating classes

RATING	CLASS	MANAGEMENT DESCRIPTION
1 – 55	(L) Low Risk	Acceptable as is or consider requirement for mitigation. Impact to watercourses and resource quality small and easily mitigated.
56 – 169	(M) Moderate Risk	Risk and impact on watercourses are notable and require mitigation measures on a higher level, which costs more and require specialist input. Licence required.
170 – 300	(H) High Risk	Watercourse(s) impacts by the activity are such that they impose a long-term threat on a large scale and lowering of the Reserve. Licence required.

Table 11: Calculations used to determine the risk of the activity to water resource quality

Consequence = Severity + Spatial Scale + Duration
Likelihood = Frequency of Activity + Frequency of Incident + Legal Issues + Detection
Significance\Risk = Consequence x Likelihood

TERRESTRIAL PLANT SPECIES IMPACT ASSESSMENT

Grow Green Mining (Pty) Ltd
P.O Box 2389, George, 6530

on

PORTION OF FARM NUMBER 306, GEORGE.

Enviro-EAP
Environmental Consultants

Prepared by: Nicolaas Hanekom
Pri.Sci.Nat (Ecology) 400274/11
Contact details: Telephone: 0769636450
or email: nicolaas@enviro-eap.co.za

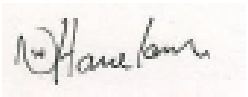
AUGUST 2021

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I **Nicolaas Willem Hanekom**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.



Nicolaas Hanekom

Pri.Sci.Nat (Ecology) 400274/11	**09 AUGUST 2021**
Signature of the ~~EAP~~/ Specialist:	Date:

Enviro-EAP (Pty) Ltd

Name of company (if applicable):

COMPLIANCE WITH THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS SCREENING TOOL (GOVERNMENT NOTICE NO. 320, GOVERNMENT GAZETTE 43110: 20 MARCH 2020)

Department of Environmental Affairs screening Tool	ADDRESSED IN SPECIALIST REPORT
Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise and their curriculum vitae	Page 1
A signed statement of independence by the specialist	Page 2 of report
Duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment	Section 1.8
A description of the methodology used to undertake the impact assessment and site inspection, including equipment and modelling used where relevant	Section 1.5
A description of the assumptions made and any uncertainties or gaps in knowledge or data as well as a statement of the timing and intensity of site inspection observations	Section 1.6
Areas not suitable for development, to be avoided during construction and operation (where relevant)	Section 5
Additional environmental impacts expected from the proposed development based on those already evident on the site and a discussion on the cumulative impacts	Section 6
Impact management actions and impact management outcomes proposed by the specialist for inclusion in the EMPr	Section 6
A motivation where the development footprint identified as per section 2.3 in this Table were not considered stating reasons why these were not being considered	Section 1 and 7
A reasoned opinion, based on the findings of the specialist assessment, regarding the acceptability or not of the development and if the development should receive approval or not, and any conditions to which the statement is subjected	Section 7

1. INTRODUCTION AND METHODOLOGY

The Department of Environmental Affairs screening report from the national web based environmental screening tool reported a "Very High for Terrestrial Biodiversity" sensitivity. The site sensitivity verification and the specialist assessment does differ from the designation of "very high" terrestrial biodiversity and did not agree with the findings of the national web based environmental screening tool. However, a terrestrial biodiversity impact assessment was conducted. This report presents the findings of the Terrestrial Biodiversity Impact Assessment that was prepared by Nicolaas Hanekom as part of the EIA for the proposed mine.

1.1. Background & Competency

Nicolaas Hanekom is a registered Professional Natural Scientist in the ecological science field with the South African Council for Natural Scientific Professions ("SACNASP"), (Ecology field) and a qualified registered Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology (Refer to Appendix A, CV). Nicolaas Hanekom is suitably qualified SACNASP registered specialist.

1.2. Conditions Relating to this Report

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information and knowledge of the area. Nicolaas Hanekom reserves the right to modify aspects of the report including the recommendations if and when new information may become available from on-going research or further work in this field, pertaining to this assessment.

This report may not be altered or added to without the prior written consent of the author. This restraint also refers to electronic copies of this report which are supplied as sub portion of other reports, including main reports. Similarly, any recommendations, statements, or conclusions drawn from or based on this report must specifically refer to this report. If such comments form part of a main report for this investigation, the report must be included in its entirety as an appendix or separate section to the main report.

1.3. Scope and Objectives

The assessments entailed both a literature review of the region, as well as on site evaluations, during which specific primary data will be collected and evaluated. In addition, the identification of key ecological features will be undertaken allowing for the interpretation of the prevailing habitat form and associated processes.

All data collected in the field and during the literature review will be evaluated and interpreted in order to provide an understanding of the nature of the prevailing environment at a landscape and habitat level. In addition, specific evaluation of data relating to habitat form and structure will be undertaken, aiding in the identification of bio-physical anomalies within the prevailing environment. Such variance may be considered to be indicative of differing habitat forms, which under consideration, may be of higher order ecological value in relation of the prevailing environment.

The protocol[1] provides the criteria for the reporting of requirements for the assessment and reporting of impacts on terrestrial biodiversity for activities requiring environmental authorisation.

General Information

An applicant intending to undertake an activity identified in the Scope of this Protocol, 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 Report. However, where the information gathered from the Initial Site Sensitivity Verification and 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. Should this apply, a Terrestrial Biodiversity Compliance Statement is to be provided.

1.4. Methodology Terms of Reference

The assessment must be undertaken by a suitably qualified and SACNASP registered specialist, within the preferred development site and on the preferred development footprint. The description of the preferred site must include the following aspects, as a minimum and must be considered in the baseline description:

- A description of the ecological drivers/processes of the system and how the proposed development will impact these;
- Ecological functioning and ecological processes (e.g. fire, migration, pollination, etc.) that operate within the proposed development site;
- The ecological corridors that the development would impede including migration and movement of flora and fauna;
- The description of any significant landscape features (including rare or important flora/faunal associations, presence of Strategic Water Source Areas (SWSAs) or Freshwater Ecosystem Priority Areas (FEPA) sub-catchments;
- The description of the terrestrial biodiversity and ecosystems on the proposed development site must include:
  - Main vegetation types;
  - Threatened ecosystems, including Listed Ecosystems as well as locally important habitat types identified;
  - Ecological connectivity, habitat fragmentation, ecological processes and fine-scale habitats; and
  - Species, distribution, important habitats (e.g. feeding grounds, nesting sites, etc.) and movement patterns identified.

The assessment must identify any alternative development footprints within the preferred mine site which would be of a "low" sensitivity as identified by the national web based environmental screening tool and verified through the Initial Site Sensitivity Verification. The

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1 Published in Government Notice No. 320 GOVERNMENT GAZETTE 43110 MARCH 2020.This gazette is also available free online at www.gpwonline.co.za

1. INTRODUCTION AND METHODOLOGY

The Department of Environmental Affairs screening report from the national web based environmental screening tool reported a "medium plant species sensitivity. The site sensitivity verification and specialist assessment does differ from the designation of "medium" plant species as identified in the national web based environmental screening tool. After the site sensitivity and verification, no species of Conservation Concern were recorded or are likely to occur on site. Refer to the Terrestrial Biodiversity Assessment study (Appendix G) for more detail on the ecological conditions of the area. The area is heavily disturbed as a result of previous and current agricultural activities. According to the protocols, Where SCC are found on site or have been confirmed to be likely present, a **Terrestrial Plant Species Specialist Assessment** must be submitted in accordance with the requirements specified for "very high" and "high" sensitivity in this protocol. Similarly, where no SCC are found on site during the investigation or if the presence is confirmed to be unlikely, a **Terrestrial Plant Species Compliance Statement** must be submitted.

However, a plant species impact assessment was conducted. This report presents the findings of the Plant Species Impact Assessment that was prepared by Nicolaas Hanekom as part of the EIA for the proposed mine area near George in the Western Cape.

1.1. Background & Competency

Nicolaas Hanekom is a registered Professional Natural Scientist in the ecological science field with the South African Council for Natural Scientific Professions ("SACNASP"), (Ecology field) and a qualified registered Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology (Refer to Appendix A, CV). Nicolaas Hanekom is suitably qualified SACNASP registered specialist.

1.2. Conditions Relating to this Report

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information and knowledge of the area. Nicolaas Hanekom reserves the right to modify aspects of the report including the recommendations if and when new information may become available from on-going research or further work in this field, pertaining to this assessment.

This report may not be altered or added to without the prior written consent of the author. This restraint also refers to electronic copies of this report which are supplied as sub portion of other reports, including main reports. Similarly, any recommendations, statements, or conclusions drawn from or based on this report must specifically refer to this report. If such comments form part of a main report for this investigation, the report must be included in its entirety as an appendix or separate section to the main report.

1.3. Scope and Objectives

The assessments entailed both a literature review of the region, as well as on site evaluations, during which specific primary data will be collected and evaluated. In addition,

the identification of plant species features will be undertaken allowing for the interpretation of the prevailing habitat form and associated processes.

All data collected in the field and during the literature review will be evaluated and interpreted in order to provide an understanding of the nature of the prevailing environment at a landscape and habitat level. In addition, specific evaluation of data relating to habitat form and structure will be undertaken, aiding in the identification of bio-physical anomalies within the prevailing environment. Such variance may be considered to be indicative of differing habitat forms, which under consideration, may be of higher order ecological value in relation of the prevailing environment.
The protocol[1] provides the criteria for the reporting of requirements for the assessment and reporting of impacts on plant species for activities requiring environmental authorisation.

General Information

An applicant intending to undertake an activity identified in the Scope of this Protocol, on a site identified as being of "medium sensitivity" for plant species on the national web based environmental screening tool must submit a plant species impact assessment report. Where the information gathered from the Initial Site Sensitivity Verification and the specialist assessment differs from the designation of "very high, high or medium" plant species sensitivity from the national web based environmental screening tool and it is found to be of a "low" sensitivity, then a plant species impact assessment is not required. Should this apply, a plant species Compliance Statement is to be provided.

1.4. Methodology Terms of Reference

The assessment must be undertaken by a suitably qualified and SACNASP registered specialist, within the preferred development site and on the preferred development footprint. The description of the preferred site must include the following aspects, as a minimum and must be considered in the baseline description:

- The assessment must be undertaken in accordance with the *Species Environmental Assessment Guideline*[2]; and must; identify the SCC which were found, observed or are likely to occur within the study area;
- provide evidence (photographs or sound recordings) of each SCC found or observed within the study area, which must be disseminated by the specialist to a recognized online database facility[3], immediately after the site inspection has been performed (prior to preparing the report contemplated in paragraph 3);
- identify the distribution, location, viability[4] and provide a detailed description of population size of the SCC, identified within the study area;
- identify the nature and the extent of the potential impact of the proposed development on the population of the SCC located within the study area;
- determine the importance of the conservation of the population of the SCC identified within the study area, based on information available in national and international

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[1] Published in Government Notice No. 1150. GOVERNMENT GAZETTE 43855 30 OCTOBER 2020.This gazette is also available free online at www.gpwonline.co.za
[2] Available athttps://bgis.sanbi.org/
[3] The preferred platform is iNaturalist.org but any other national or international virtual museum
[4] the ability to survive and reproduce in the long term

databases, including the IUCN Red List of Threatened Species, South African Red List of Species, and/or other relevant databases;

- determine the potential impact of the proposed development on the habitat of the SCC located within the study area;
- include a review of relevant literature on the population size of the SCC, the conservation interventions as well as any national or provincial species management plans for the SCC. This review must provide information on the need to conserve the SCC and indicate whether the development is compliant with the applicable species management plans and if not, include a motivation for the deviation;
- identify any dynamic ecological processes occurring within the broader landscape that might be disrupted by the development and result in negative impact on the identified SCC, for example, fires in fire-prone systems;
- identify any potential impact of ecological connectivity in relation to the broader landscape, resulting in impacts on the identified SCC and its long term viability;
- determine buffer distances as per the *Species Environmental Assessment Guidelines* used for the population of each SCC;
- discuss the presence or likelihood of additional SCC including threatened species not identified by the screening tool, *Data Deficient* or *Near Threatened Species*, as well as any undescribed species[5]; or roosting and breeding or foraging areas used by migratory species where these species show significant congregations, occurring in the vicinity; and
- identify any alternative development footprints within the preferred site which would be of "low" or "medium" sensitivity as identified by the screening tool and verified through the site sensitivity verification.

The findings of the Plant Species Impact Assessment must be written up in a Plant Species Impact Assessment Report. This report must include as a minimum the following information:

- Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise and their curriculum vitae;
- A signed statement of independence by the specialist;
- Duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
- A description of the methodology used to undertake the impact assessment and site inspection, including equipment and modelling used where relevant; a description of the mean density of observations/number of sample sites per unit area[6] and the site inspection observations;
- a description of the assumptions made and any uncertainties or gaps in knowledge or data;
- details of all SCC found or suspected to occur on site, ensuring sensitive species are appropriately reported;
- the online database name, hyperlink and record accession numbers for disseminated evidence of SCC found within the study area;
- the location of areas not suitable for development and to be avoided during construction where relevant;
- a discussion on the cumulative impacts;

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[5] Undescribed species are to be assessed as "High Sensitivity"
[6] Species Environmental Assessment Guideline

- impact management actions and impact management outcomes proposed by the specialist for inclusion in the Environmental Management Programme (EMPr);
- a reasoned opinion, based on the findings of the specialist assessment, regarding the acceptability or not of the development and if the development should receive approval or not, related to the specific theme being considered, and any conditions to which the opinion is subjected if relevant; and
- a motivation must be provided if there were any development footprints identified as above that were identified as having "low" or "medium" plant species sensitivity and were not considered appropriate.

1.5. Approach and Methodology

A literature review and desktop analysis were undertaken prior to the field investigation, utilizing various sources including the South African National Biodiversity Institute (SANBI) data and other relevant sources. Recent and historical aerial imagery of the site was reviewed in order to identify points for investigation during the field survey. Utilising the above information, a field investigation was undertaken whereby:

- Sites of geomorphological or topographic variance were identified and subjected to an evaluation of species present within line transects established across the selected site.
- Species were identified and collated.
- Additional random sample points were selected from other sites surrounding the proposed impacted areas for comparative purposes.
- Any additional species of significance, not identified within the sample sites were also noted.

As explained below, the ideal period for the assessment of habitat within this region is between August and end October months in terms of plant species. The sampling and analysis of the site during the optimum season (03 August 2021), provides suitable data and results to present an informed decision on the plant species.

All data was collated and subjected to evaluation using methods in order to:

- Give consideration to the overall structure of habitat within the subject site.
- Identify any habitat anomalies that may be identified in such analysis.
- Allow for the interpretation of such data in order to prioritise and evaluate habitat form and structure within the study area.

1.6. Assumptions and limitations

The assessment was undertaken using a comprehensive sampling method in the optimal season and as a result of this there is no limitations or assumptions.

1.7. Source of Information

This assessment was undertaken utilising:

- 1:50 000 topographic mapping sourced from the Surveyor General's office;
- Aerial imagery sourced from Google Earth.
- Aerial imagery sourced from ESRI.
- Vegetation types and their conservation status was extracted from the South African National Vegetation Map (Mucina and Rutherford 2006).

- Information on plant and animal species recorded for the Quarter Degree Squares (QDS) was extracted from the SABIF/SIBIS database hosted by SANBI.
- The IUCN conservation status of the species in the list was also extracted from the database and is based on the Threatened Species Programme, Red List of South African Plants (2011).
- Threatened Ecosystem data was extracted from the National List of Threatened Ecosystems 2010.
- Important catchments and protected areas expansion areas were extracted from the National Protected Areas Expansion Strategy 2008 (NPAES).
- The CapeNature Spatial Biodiversity Plan 2017 (Turner *et al* 2017)

In addition, use was made of the following data:
- SANBI veld types data; and
- Literature as referenced

1.8. Site Visit

The site surveys were conducted during noon on 03 August 2021. The survey was conducted in an ideal period for the assessment of plant species within this region. The sampling and analysis of the site during the optimal season provides suitable data and results to present an informed decision on the local plant species. During the site visit, the different biodiversity features, habitat, vegetation and landscape units present were identified and recorded in the field. Walk-through-surveys were conducted of representative habitats and areas of interest and all plant species observed were recorded. Searches for listed and protected plant species at the site were conducted and the location of all listed plant species observed was recorded (if present). The presence of sensitive habitats such as wetlands or pans and unique edaphic environments, such as rocky outcrops or quartz patches, were noted in the field if present and recorded and mapped using satellite imagery of the site.

1.9. Sensitivity Mapping and Assessment

A plant species sensitivity map of the site was produced by integrating the information collected on- site with the available ecological and biodiversity information available in the literature and various spatial databases. This includes delineating the different vegetation and habitat units identified in the field and assigning sensitivity values to the units based on their ecological properties, conservation value and the potential presence of species of conservation concern. The plant species sensitivity of the different units identified in the mapping procedure was rated according to the following scale:

Low - Units with a low sensitivity where there is likely to be a negligible impact on ecological processes and terrestrial biodiversity, as well as plant species. This category is reserved specifically for areas where the natural vegetation has already been transformed, usually for intensive agricultural purposes such as cropping. Most types of development can proceed within these areas with little to no plant species impact.

Medium - Areas of natural or previously transformed land where the impacts are likely to be largely local and the risk of secondary impact such as erosion low. Development within these areas can proceed with relatively little ecological and plant species impact provided that appropriate mitigation measures are taken.

High - Areas of natural or transformed land where a high impact is anticipated due to the high biodiversity value, sensitivity or important ecological role of the area. Development within these areas is undesirable and should only proceed with caution as it may not be possible to mitigate all impacts appropriately.

Very High - Critical and unique habitats that serve as habitat for rare/endangered species or perform critical ecological roles. These areas are essentially no-go areas from a developmental perspective and should be avoided at all costs.

2. APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

The proposed development within the study site is considered to elicit a requirement for possible compliance with the following legislation applicable to this assessment.

- The National Environmental Management: Biodiversity Act (Act 10 of 2004)
- The National Forest Act (Act 84 of 1998)
- Invasive species are controlled by the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) - Alien and Invasive Species (AIS) Regulations which became law on 1 October 2014

The potential applicability of the abovementioned acts to the subject site is provided below:

The National Environmental Management: Biodiversity Act (Act 10 of 2004)
This Act serves to control the disturbance and land utilisation within certain habitats, as well as the planting and control of certain exotic species. The effective disturbance and removal of species identified above, as well as possible other species (i.e. Threatened or Protected Species (TOPS) species), will require specific permission from the applicable authorities. In addition, the planting and management of exotic plant species on site, if and where required, will be governed by the Alien and Invasive Species (AIS) regulations, which were gazetted in 2014. These regulations compel landowners to manage exotic weeds on land under their jurisdiction and control. No Threatened or Protected Species were recorded that requires an permit for disturbance or removal.

The National Forest Act (Act 84 of 1998)
The National Forest Act (Act 84 of 1998) governs the removal, disturbance, cutting or damage and destruction of identified "protected trees". No listed species were encountered or recorded on site and an application for the "clearing of a *natural forest*", as defined within the Act, will not be required on the site in question.

Invasive species are controlled by the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) - Alien and Invasive Species (AIS) Regulations which became law on 1 October 2014.

Notably most listed alien invasive species are propagated and driven by the disturbance of land during and following construction. The planting and management of exotic plant species on site, if and where required, will be governed by the Alien and Invasive Species (AIS) regulations.

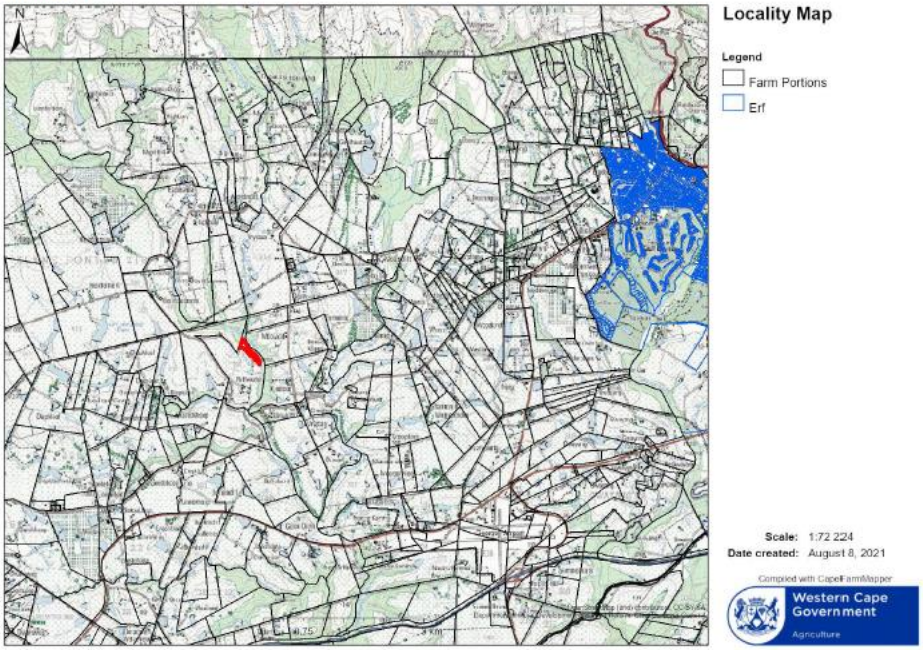
3. DESCRIPTION OF PROJECT ASPECTS RELEVANT TO PLANT SPECIES FEATURES

The proposed mine will consist of open cast gravel mine in phases and rehabilitated once mining is completed.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT.

4.1. Locality

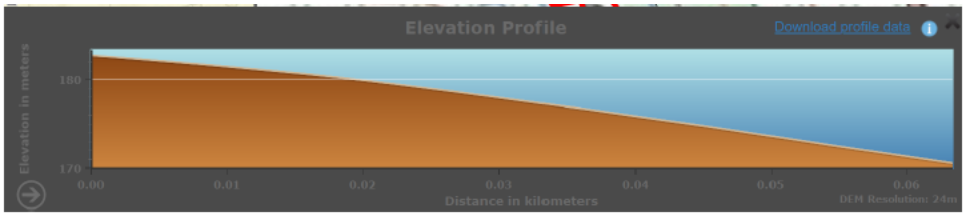
The subject site is situated west of George and north of the N2 on the western border of the Witels Rivier.



Source: Cape Farm Mapper
Figure 1: Locality Map

4.2. Topography

The site is located on easterly sloping ground with a moderate slope towards the Witels Rivier.



4.3. Geology and Soils

Lithostratigraphic: CAPE GRANITE SUITE
Lithology: Porphyritic, medium or fine-grained granite and granodiorite, with subordinate syenite, gabbro, diorite and quartz porphyry.

4.4. Description of the Plant (Flora) Species

4.4.1. Identify The SCC Which Were Found, Observed Or Are Likely To Occur Within The Study Area

No SCC were recorded or observed at the time of the survey or likely to occur on site due to habitat loss and the current ecological status of the properties and surrounding area.

4.4.2. Provide Evidence (Photographs Or Sound Recordings) Of Each SCC Found Or Observed Within The Study Area

No SCC were recorded or observed at the time of the survey or likely to occur on site due to habitat loss and the current ecological status of the properties and surrounding area.

4.4.3. Identify The Distribution, Location, Viability And Provide A Detailed Description Of Population Size Of The SCC

No SCC were recorded or observed at the time of the survey or likely to occur on site due to habitat loss and the current ecological status of the properties and surrounding area.

4.4.4. Identify The Nature And The Extent Of The Potential Impact Of The Proposed Development On The Population Of The SCC

No SCC were recorded or observed at the time of the survey or likely to occur on site due to habitat loss and the current ecological status of the properties and surrounding area.

4.4.5. Determine The Importance Of The Conservation Of The Population Of The SCC Identified Within The Study Area

No SCC were recorded or observed at the time of the survey or likely to occur on site due to habitat loss and the current ecological status of the properties and surrounding area.

4.4.6. List of Species, and/or other relevant databases

The property is not ecologically connected and does not support ecological processes and fine-scale habitats. The proposed mine site is however ecological connected and support

ecological processes associated with ecological corridor connectivity. The site was included as a Terrestrial Critical Biodiversity Area category in the Western Cape Biodiversity Spatial Plan. This indicates the very high conservation value of the property. There is an existing mine on the southern border of the proposed mine area. If the proposed mine activities are controlled in terms of the mitigation and rehabilitation measures to be included in the mine closure plan and EMPr are adhered to, then the terrestrial ecological processes and terrestrial animal species habitat will not be altered, and the mined area will continue to be ecologically connected.

The terrestrial area was significantly altered as a result of agricultural activities on this area in the past. The vegetation is commonly dominated by alien grasses (*Pennisetum clandestinum*), *and the following pioneer species were recorded at the time of the site survey: Cynodon dactylon; Helichrysum petiolare, Eragrostis curvula, Paspalum dilatatum, Arctopus sp,* and next to the non-perennial river the vegetation is dominated and invaded by *Acacia mearnsii*.

No SCC were identified during the survey. This survey did not identify the study area as a regionally important specific site from a plant species point of view, as it does not support typical vegetation communities and structures associated with Garden Route Granite Fynbos.

4.4.7. Determine The Potential Impact Of The Proposed Development On The Habitat Of The SCC Located Within The Study Area

No SCC were recorded or observed at the time of the survey or likely to occur on site due to habitat loss and the current ecological status of the properties and surrounding area.

4.4.8. Include A Review Of Relevant Literature On The Population Size Of The SCC, The Conservation Interventions As Well As Any National Or Provincial Species Management Plans For The SCC

No SCC were recorded or observed at the time of the survey or likely to occur on site due to habitat loss and the current ecological status of the properties and surrounding area.

4.4.9. Identify Any Dynamic Ecological Processes Occurring Within The Broader Landscape That Might Be Disrupted By The Development And Result In Negative Impact On The Identified SCC

No SCC were recorded or observed at the time of the survey or likely to occur on site due to habitat loss and the current ecological status of the properties and surrounding area.

4.4.10. Identify Any Potential Impact Of Ecological Connectivity In Relation To The Broader Landscape

The site was included as a Terrestrial Critical Biodiversity Area category in the Western Cape Biodiversity Spatial Plan.

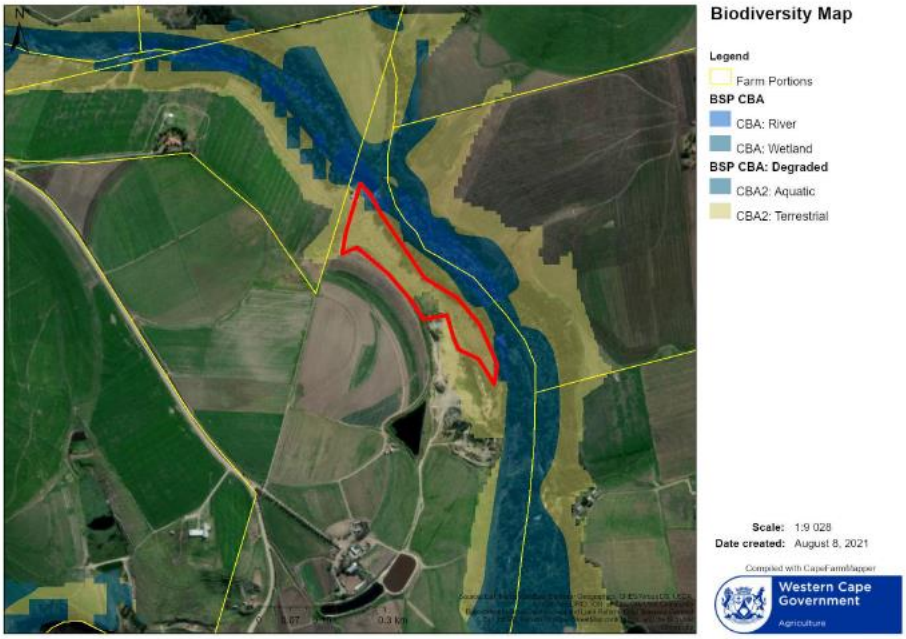


Figure 2: CBA Map
No protected area or priority areas for protected area expansion are inside or close to the study area. No indigenous forests are inside or close to the study area.

4.4.11. Discuss The Presence Or Likelihood Of Additional SCC Including Threatened Species Not Identified By The Screening Tool

No SCC were recorded or observed at the time of the survey or likely to occur on site due to habitat loss and the current ecological status of the properties and surrounding area.

4.4.12. Identify Any Alternative Development Footprints Within The Preferred Site Which Would Be Of "Low" Or "Medium" Sensitivity

The ecological sensitivity and plant species map for the site is depicted below. The area is suitable for the proposed mine. The proposed mine area have a medium sensitivity.

Figure 3. Ecological Sensitivity map. **Orange –** Medium sensitivity.

The whole area can be mined without any negative or unreversible impacts on plant species.

5. IMPACT ASSESSMENT

5.1. Assessment & Significance Criteria

The assessment criteria used in the assessment are drawn from the protocol for the specialist assessment and minimum report content requirements for environmental impacts (published in Government Notice **no. 320 in** Government Gazette **43110** 20 March 2020) were used.

5.2. Assessment of Potential Impacts

The impacts identified are assessed below, before and after mitigation as well as during construction.

The impact assessment which follows is based on the site sensitivity and any deviations from the site sensitivity map as provided may invalidate the results of the assessment.

5.3. Risk Assessment Criteria

Step 1: Determine the **PROBABILITY** of the impact by calculating the average between the Frequency of the Aspect, the Availability of a pathway to the receptor and the availability of the receptor (thus: Sum of the three column scores below ÷ 3)

Frequency of Aspect / Unwanted Event	Score	Availability of pathway from the source to the receptor	Score	Availability of receptor	Score
Never known to have happened, but may happen	1	A pathway to allow for the impact to occur is never available	1	The receptor is never available	1
Known to happen in industry	2	A pathway to allow for the impact to occur is almost never available	2	The receptor is almost never available	2
< once a year	3	A pathway to allow for the impact to occur is sometimes available	3	The receptor is sometimes available	3
Once per year to up to once per month	4	A pathway to allow for the impact to occur is almost always available	4	The receptor is almost always available	4
Once a month - Continuous	5	A pathway to allow for the impact to occur is always available	5	The receptor is always available	5

Step 2: Determine the **MAGNITUDE** of the impact by calculating the average of the factors below (thus: Sum of all six column ratings below ÷ 6)

Source								Receptor			
Duration of impact	**Score**	**Extent**	**Score**	**Volume / Quantity / Intensity**	**Score**	**Toxicity / Destruction Effect**	**Score**	**Reversibility**	**Score**	**Sensitivity of environmental component**	**Score**
Lasting days to a month	1	Effect limited to the site. (metres);	1	Very small quantities / volumes / intensity (e.g. < 50L or < 1Ha)	1	Nontoxic (e.g. water) / Very low potential to create damage or destruction to the environment	1	Bio-physical and/or social functions and/or processes will remain unaltered.	1	Current environmental component(s) are largely disturbed from the natural state. Receptor of low significance / sensitivity	1
Lasting 1 month to 1 year	2	Effect limited to the activity and its immediate surroundings. (tens of metres)	2	Small quantities / volumes / intensity (e.g. 50L to 210L or 1Ha to 5Ha)	2	Slightly toxic / Harmful (e.g. diluted brine) / Low potential to create damage or destruction to the environment	2	Bio-physical and/or social functions and/or processes might be negligibly altered or enhanced / Still reversible	2	Current environmental component(s) are moderately disturbed from the natural state. No environmentally sensitive components.	2
Lasting 1 – 5 years	3	Impacts on extended area beyond site boundary (hundreds of metres)	3	Moderate quantities / volumes / intensity (e.g. > 210 L < 5000L or 5 – 8Ha)	3	Moderately toxic (e.g. slimes) Potential to create damage or destruction to the environment	3	Bio-physical and/or social functions and/or processes might be notably altered or enhanced / Partially reversible	3	Current environmental component(s) are a mix of disturbed and undisturbed areas. Area with some environmental sensitivity (scarce / valuable environment etc.).	3
Lasting 5 years to Life of Organisation	4	Impact on local scale / adjacent sites (km's)	4	Very large quantities / volumes / intensity (e.g. 5000 L – 10 000L or 8Ha– 12Ha)	4	Toxic (e.g. diesel & Sodium Hydroxide)	4	Bio-physical and/or social functions and/or processes might be considerably altered or enhanced / potentially irreversible	4	Current environmental component(s) are in a natural state. Environmentally sensitive environment / receptor (endangered species / habitats etc.).	4

Source								Receptor			
Duration of impact	**Score**	**Extent**	**Score**	**Volume / Quantity / Intensity**	**Score**	**Toxicity / Destruction Effect**	**Score**	**Reversibility**	**Score**	**Sensitivity of environmental component**	**Score**
Beyond life of Organization / Permanent impacts	5	Extends widely (nationally or globally)	5	Very large quantities / volumes / intensity (e.g. > 10 000 L or > 12Ha)	5	Highly toxic (e.g. arsenic or TCE)	5	Bio-physical and/or social functions and/or processes might be severely/substantially altered or enhanced / Irreversible	5	Current environmental component(s) are in a pristine natural state. Highly Sensitive area (endangered species, wetlands, protected habitats etc.)	5

Step 3: Determine the **SEVERITY** of the impact by plotting the averages that were obtained above for Probability and Magnitude in the table below.

ENVIRONMENTAL IMPACT RATING / PRIORITY					
	MAGNITUDE				
PROBABILITY	**1 Minor**	**2 Low**	**3 Medium**	**4 High**	**5 Major**
5 Almost Certain	Low	Medium	High	High	High
4 Likely	Low	Medium	High	High	High
3 Possible	Low	Medium	Medium	High	High
2 Unlikely	Low	Low	Medium	Medium	High
1 Rare	Low	Low	Low	Medium	Medium

PLANT SPECIES IMPACTS

Proposed development of whole property	**Degradation / loss of naturally occurring / indigenous flora and habitats**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**Loss of plant species and habitat**
Nature of impact:	**Vegetation will be removed if the proposed mine is approved. This will result in loss of habitats and possible impact on plant species**
Extent and duration of impact:	**Extent 2 & Duration 5**
Consequence of impact or risk:	**Activities can disturb and impact on onsite and surrounding plant species.**
Magnitude	**3**
Probability of occurrence:	**5**
Degree to which the impact may cause irreplaceable loss of resources:	**Resource will be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Not reversible**
Indirect impacts:	**Disturbance to surface area can result in loss of habitat and impact on plant species.**
Cumulative impact prior to mitigation:	**Loss of plant species and their habitat.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**2**
Proposed mitigation:	**Mining activities must be controlled to ensure that the adjacent vegetated areas are not negatively impacted.** **Undertake mining activities only in identified and specifically demarcated areas.** **Proper and save storage of topsoil must be done per phase and the mine area mined in phases.**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**
OPERATIONAL PHASE	
Potential impact and risk:	**Loss of plant species and habitat**
Nature of impact:	**Vegetation will be removed if the proposed mine is approved. This will result in loss of habitats and possible impact on plant species**
Extent and duration of impact:	**Extent 2 & Duration 5**

Consequence of impact or risk:	**Activities can disturb and impact on surrounding plant species.**
Magnitude	**3**
Probability of occurrence:	**5**
Degree to which the impact may cause irreplaceable loss of resources:	**Resource will be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Not reversible**
Indirect impacts:	**Disturbance to surface area can result in erosion and dust generation which may affect surrounding plant species.**
Cumulative impact prior to mitigation:	**Loss of significantly impacted upon vegetation and plant species habitat.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**2**
Proposed mitigation:	**Operational activities must be controlled to ensure that the adjacent vegetated areas are not negatively impacted. The main impacts that must be controlled is dust. Undertake operational activities only in identified and specifically demarcated areas. Invasive vegetation to be removed.**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**

Cumulative Impacts

Cumulative impacts arise from the combined presence of several similar developments within an area which affect plant species. There is other mine on the southern border of the proposed mine which also presents a source of disturbance and habitat loss, which when combined with the proposed mine would result in some cumulative impact. However, when taken in context of the broader landscape, the cumulative impacts are not likely to be highly significant given the plant species known to occur in the broader area.

6. CONCLUSION AND RECOMMENDATIONS

The sampling and analysis of the site during the optimum season, provides suitable data and

results to present an informed decision on the local plant species. The lists of species for the site are based on those observed at the site as well as those likely to occur in the area based on their distribution and habitat preferences. This represents a sufficiently conservative and cautious approach. During the site visit, the different biodiversity features, habitat, vegetation and landscape units present were identified and recorded in the field. Walk-through-surveys were conducted of representative habitats and areas of interest and species observed were recorded. Searches for listed species of conservation concern at the site were conducted, but none were observed which required the recording of their location. The presence of sensitive habitats such as rocky outcrops or quartz patches, are not present and therefore was not recorded and mapped.

The study recorded medium sensitivity areas within the study area. The proposed mine on the whole site will have relatively little plant species impacts provided that appropriate mitigation measures included in the impact table above are included in the EMPr and adhered to.

No additional survey or further assessment is in the authors view recommended.

Provided that activities are restricted to the mine site and the mitigation measures to reduce the impacts of the activities are implemented, then the activities are not likely to result in long-term degradation of the receiving environment or significant net loss of SCC plant species. The current vegetation structure will not be altered.

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APPENDIX A
SPECIALIST CV

CURRICULUM VITAE – NICOLAAS WILLEM HANEKOM

Profession: Environmental Scientist and Environmental Assessment Practitioner
Date of Birth: 01/02/1967

BIOGRAPHICAL SKETCH

Nicolaas Hanekom is a qualified Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology. Nicolaas is certified in terms of section 20(3)(a) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003), as a Professional Natural Scientist (Ecological Science) Registration Number: 4008274/11. He further qualified in Environmental Management Systems ISO 14001:2004, at the Centre for Environmental Management, North-West University, as well as Environmental Management Systems ISO 14001:2004 Audit: Internal Auditors Course to ISO 19011:2003 level, from the Centre for Environmental Management, North-West University qualifying him to execute audits to ISO/SANS environmental compliance and EMS standards.

He has also completed the suite of Greener Governance courses with certificates in;

- An Overview of Environmental Management at the Local Government Level, Centre for Environmental Management, North-West University;
- Greener Governance for Local Authorities, Centre for Environmental Management, North-West University;
- Tools for Integrated Environmental Management and Governance, Centre for Environmental Management, North-West University.

He further attended and obtained a certificate on Integrated Protected Area Planning at the Centre for Environmental Development, University of Kwa Zulu Natal and a certificate in Project Management (Theory and Practical), through CS Holdings. Nicolaas has lectured in two subjects at the Cape Peninsula University of Technology. He has 26 years of environmental planning experience, working for Free State and Western Cape departments of environmental affairs, where he reviewed and commented on development (EIA) applications, in the West Coast Region.

He has, as practising EAP been responsible for many environmental impact assessments and EIA applications, waste license and atmospheric emission license applications.

He has also been involved in the implementation of several environmental management systems. He has engaged successfully with various clients as set out below.

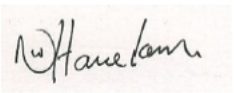
Areas of specialisation:	• Ecosystem (terrestrial and aquatic) monitoring and assessments • Design of monitoring programmes for ecosystems (terrestrial and aquatic) • Environmental Impact Assessments • River classification and environmental water requirements • Wetlands Delineation • River and Wetlands management • Water Use Authorization Applications • Water quality management • River Health Assessments
Countries of Work Experience:	South Africa (Northern Cape, Western Cape, Free State, Mpumalanga, Gauteng)
Employment Record	• Student at Bontebok National Park (1992) • Assistant Reserve Manager at Gariep Dam Nature Reserve, Free State (1993 - 1998) • Reserve Manager, Conservation Services Manager for Western Cape Nature Conservation Board (1998 - 2006) • External Lecturer at Cape Peninsula University of Technology (2003 - 2005) • Director: Environmental Management at Cape Lowlands Environmental Services (2006 – 2010) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Eco Impact (Pty) Ltd (2010 – to August 2019) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Enviro-EAP (Pty) Ltd (September 2019 – to date)
Professional membership, accreditations and courses	• South African Council for Natural Scientists Professions Pri.Sci.Nat (Ecological Science) • Riparian vegetation identification and health assessment. Internal Western Cape Nature Conservation short course presented by Dr C Boucher (Stellenbosch University) in 2000. • SASS5 Aquatic Biomonitoring Training Course. 2 to 5 September 2013. Ground Truth Water and Environmental Engineering consultancy in partnership with the Department of Water Affairs. • Workshop on "Section 21(c) and (i) Water Use Training: Understanding Watercourses and Managing Impacts to their Characteristics". 10 May 2017. Presented by Dr Wietsche Roets of the Department of Water and Sanitation (Sub-Directorate: Instream Water Use).
Summary of experience	1992: South African National Parks. Student at Bontebok National Park with management and monitoring actions related to the

	Breede River. 1993 -1998: Free State Nature Conservation. Ecological management and monitoring actions related to the Gariep Dam, Orange and Caledon Rivers. 1998 -2006: CapeNature. Ecological management and monitoring actions related to the Berg River Estuary, Verlorenvlei, Lamberts bay's Jackalsvlei, Wadrift Soutpanne, Oliphant's River mouth, Rocherpan Nature Reserve, etc. Review and assessment of EIA applications, inclusive of Freshwater ecology. Did some site visits with Department of Water Affairs and Forestry (Hester Lyons) to confirm the presence of aquatic ecological features during EIA water use registration applications. 2006 to date: Cape Lowland Environmental Services, Eco Impact Legal Consultant and Enviro-EAP. Ecological (Freshwater and aquatic) Specialist input, assessment, monitoring and reports.
Publications and assessment reports	Just to name a few. Was involved in many Ecological Assessments, monitoring and inputs in EIA applications. • Elandskloof Farm 475 Citrusdal Biodiversity Baseline Survey. August 2010. This Biodiversity Assessment Covering Terrestrial and Aquatic Aspects to Inform Decisions Regarding The Proposed Elandskloof Weir Flood Damage Project On Farm 475, In The Citrusdal Area. • Cape Solar Energy Electricity Generation Facility. Farm 187/3 & 187/13 Kenhardt. Biodiversity And Ecological Baseline Survey. January 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Prieska Photvoltaic Power Generation Project. Prieska Commonage Northern Cape. Biodiversity And Ecological Baseline Survey. July 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Witteklip Erf 123 Extension, Vredenburg. Biodiversity Baseline Survey. Updated - October 2012 (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Baseline Biodiversity Survey And Wetland Delineation for ECCA Holdings: Cape Bentonite Mine on Erf 1412 Near Heidelberg. Prepared for: Shangoni Management Services Pry (Ltd). October 2014. • Freshwater Impact Assessment Laingsburg Flood Damage Repairs & Storm Water Infrastructure. 18 February 2016. • Ecological Assessment for Swartland Municipality - Upgrades To Voortrekker/Bokomo Road And Voortrekker/Rozenburg Road Intersections and Upgrade to the Diep River Bridge, Malmesbury on A Portion Of Erf 327, Malmesbury (Road) Erf

	1530, Diep River Bridge Crossing, and Erf 1528, Property South of Diep River where Road Widening and Turning Circle Will Be Constructed. March 2016. (Freshwater Ecology Inputs and Water Use Registration) • Freshwater Impact Assessment. McGregor Bridge, Robertson Bridge and Willem Nels River Maintenance Management Plan. 24 June 2016. (Freshwater Ecology assessment and input as well as Water Use Registration) • Water Use Authorization Application Risk Matrix. Orange Grove Trust Vegetation Clearing and Agricultural Development on Portion 4 of Farm Glen Heatlie No 316, Worcester. 12 June 2017. (Freshwater ecological inputs in EIA process and Water Use Registration). • Water Use Authorization Application Risk Matrix Prepared For: Witzenberg Municipality Sand Mine Farm 1 Prince Alfred Hamlet. 28 March 2017. (Freshwater ecological inputs in EIA process and Water Use Registration). • Proposed Hartmanshoop Agri Vegetation Clearing Project and Irrigation on Erf 686, Laingsburg. 12 August 2017. (Freshwater ecological inputs in Water Use Registration). • County Fair: Hocraft Abattoir And Rendering Facility Waste Water Treatment Works "CF Hocraft WWTW" Mosselbank River Second Quarter 2018 Biomonitoring Report. June 2018. (Done quarterly biomonitoring for the last three years).

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe my qualifications, my experience, and me.



Nicolaas Hanekom Pri Sci Nat (Ecology).
Registration number 400274/11

TERRESTRIAL BIODIVERSITY IMPACT ASSESSMENT

Grow Green Mining (Pty) Ltd
P.O Box 2389, George, 6530

on

PORTION OF FARM NUMBER 306, GEORGE.

Enviro-EAP
Environmental Consultants

Prepared by: Nicolaas Hanekom
Pri.Sci.Nat (Ecology) 400274/11
Contact details: Telephone: 0769636450
or email: nicolaas@enviro-eap.co.za

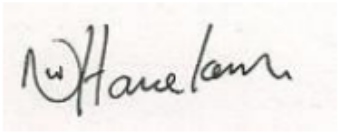
AUGUST 2021

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I **Nicolaas Willem Hanekom**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
    - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.



Nicolaas Hanekom
Pri.Sci.Nat (Ecology) 400274/11 **09 AUGUST 2021**

Signature of the ~~EAP~~/ Specialist: Date:

Enviro-EAP (Pty) Ltd

Name of company (if applicable):

COMPLIANCE WITH THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS SCREENING TOOL (GOVERNMENT NOTICE NO. 648, GOVERNMENT GAZETTE 45421: 10 MAY 2019)

Department of Environmental Affairs screening Tool (Government Notice No. 648, GOVERNMENT GAZETTE 45421: 10 MAY 2019)	**ADDRESSED IN SPECIALIST REPORT**
Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise and their curriculum vitae	Page 1
A signed statement of independence by the specialist	Page 2 of report
Duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment	Section 1.8
A description of the methodology used to undertake the impact assessment and site inspection, including equipment and modelling used where relevant	Section 1.5
A description of the assumptions made and any uncertainties or gaps in knowledge or data as well as a statement of the timing and intensity of site inspection observations	Section 1.6
Areas not suitable for development, to be avoided during construction and operation (where relevant)	Section 5
Additional environmental impacts expected from the proposed development based on those already evident on the site and a discussion on the cumulative impacts	Section 6
Impact management actions and impact management outcomes proposed by the specialist for inclusion in the EMPr	Section 6
A motivation where the development footprint identified as per section 2.3 in this Table were not considered stating reasons why these were not being considered	Section 1 and 7
A reasoned opinion, based on the findings of the specialist assessment, regarding the acceptability or not of the development and if the development should receive approval or not, and any conditions to which the statement is subjected	Section 7

TABLE OF CONTENT

1. INTRODUCTION AND METHODOLOGY

The Department of Environmental Affairs screening report from the national web based environmental screening tool reported a "Very High for Terrestrial Biodiversity" sensitivity. The site sensitivity verification and the specialist assessment does differ from the designation of "very high" terrestrial biodiversity and did not agree with the findings of the national web based environmental screening tool. However, a terrestrial biodiversity impact assessment was conducted. This report presents the findings of the Terrestrial Biodiversity Impact Assessment that was prepared by Nicolaas Hanekom as part of the EIA for the proposed mine.

1.1. Background & Competency

Nicolaas Hanekom is a registered Professional Natural Scientist in the ecological science field with the South African Council for Natural Scientific Professions ("SACNASP"), (Ecology field) and a qualified registered Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology (Refer to Appendix A, CV). Nicolaas Hanekom is suitably qualified SACNASP registered specialist.

1.2. Conditions Relating to this Report

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information and knowledge of the area. Nicolaas Hanekom reserves the right to modify aspects of the report including the recommendations if and when new information may become available from on-going research or further work in this field, pertaining to this assessment.

This report may not be altered or added to without the prior written consent of the author. This restraint also refers to electronic copies of this report which are supplied as sub portion of other reports, including main reports. Similarly, any recommendations, statements, or conclusions drawn from or based on this report must specifically refer to this report. If such comments form part of a main report for this investigation, the report must be included in its entirety as an appendix or separate section to the main report.

1.3. Scope and Objectives

The assessments entailed both a literature review of the region, as well as on site evaluations, during which specific primary data will be collected and evaluated. In addition, the identification of key ecological features will be undertaken allowing for the interpretation of the prevailing habitat form and associated processes.

All data collected in the field and during the literature review will be evaluated and interpreted in order to provide an understanding of the nature of the prevailing environment at a landscape and habitat level. In addition, specific evaluation of data relating to habitat form and structure will be undertaken, aiding in the identification of bio-physical anomalies within the prevailing environment. Such variance may be considered to be indicative of differing habitat forms, which under consideration, may be of higher order ecological value in relation of the prevailing environment.

The protocol[1] provides the criteria for the reporting of requirements for the assessment and reporting of impacts on terrestrial biodiversity for activities requiring environmental authorisation.

General Information

An applicant intending to undertake an activity identified in the Scope of this Protocol, 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 Report. However, where the information gathered from the Initial Site Sensitivity Verification and 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. Should this apply, a Terrestrial Biodiversity Compliance Statement is to be provided.

1.4. Methodology Terms of Reference

The assessment must be undertaken by a suitably qualified and SACNASP registered specialist, within the preferred development site and on the preferred development footprint. The description of the preferred site must include the following aspects, as a minimum and must be considered in the baseline description:

- A description of the ecological drivers/processes of the system and how the proposed development will impact these;
- Ecological functioning and ecological processes (e.g. fire, migration, pollination, etc.) that operate within the proposed development site;
- The ecological corridors that the development would impede including migration and movement of flora and fauna;
- The description of any significant landscape features (including rare or important flora/faunal associations, presence of Strategic Water Source Areas (SWSAs) or Freshwater Ecosystem Priority Areas (FEPA) sub-catchments;
- The description of the terrestrial biodiversity and ecosystems on the proposed development site must include:
  - Main vegetation types;
  - Threatened ecosystems, including Listed Ecosystems as well as locally important habitat types identified;
  - Ecological connectivity, habitat fragmentation, ecological processes and fine-scale habitats; and
  - Species, distribution, important habitats (e.g. feeding grounds, nesting sites, etc.) and movement patterns identified.

The assessment must identify any alternative development footprints within the preferred mine site which would be of a "low" sensitivity as identified by the national web based environmental screening tool and verified through the Initial Site Sensitivity Verification. The

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1 Published in Government Notice No. 648GOVERNMENT GAZETTE 4542110 MAY 2019.This gazette is also available free online at www.gpwonline.co.za

Terrestrial Biodiversity Impact Assessment must be based on the results of a site inspection undertaken on the preferred development site and must identify:

The assessment report must describe Terrestrial Critical Biodiversity Areas (CBAs), including:

- The reasons why an area has been identified as a CBA;
- An indication of whether or not the development is consistent with maintaining the CBA in a natural or near natural state or in achieving the goal of rehabilitation;
- The impact on species composition and structure of vegetation with an indication of the extent of clearing activities;
- The impact on ecosystem threat status;
- The impact on explicit subtypes in the vegetation;
- The impact on overall species and ecosystem diversity of the site; and
- The impact on populations of species of special concern in the CBA.

The assessment report must describe Terrestrial Ecological Support Areas, including:

- The impact on the ecological processes that operate within or across the site;
- The extent the development will impact on the functionality of the ESA; and
- Loss of ecological connectivity (on site, and in relation to the broader landscape) due to the degradation and severing of ecological corridors or introducing barriers that impede migration and movement of flora and fauna.

The assessment report must describe Protected Areas as defined by the National Environmental Management: Protected Areas Act, 2004 including an opinion on whether the proposed development aligns with the objectives/purpose of the Protected Area and the zoning as per the Protected Area Management Plan.

The assessment report must describe Priority Areas for Protected Area Expansion, including the way in which in which the development will compromise or contribute to the expansion of the protected area network.

The assessment report must describe Strategic Water Source Areas (SWSA) including:

- The impact(s) on the terrestrial habitat of a Strategic Water Source Area, and
- The impacts of the development on the SWSA water quality and quantity (e.g. describing potential increased runoff leading to increased sediment load in water courses).

The assessment report must describe Freshwater Ecosystem Priority Area (FEPA) sub catchments, including the impacts of the development on habitat condition and/or species in the FEPA sub catchment, including National wetland map 5.
The assessment report must describe Indigenous Forests, including:

- Impact on the ecological integrity of the forest;
- Extent of natural or near natural indigenous forest area lost.

The findings of the Terrestrial Biodiversity Impact Assessment must be written up in a Terrestrial Biodiversity Impact Assessment Report. This report must include as a minimum the following information:

- Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise and their curriculum vitae;
- A signed statement of independence by the specialist;

- Duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
- A description of the methodology used to undertake the impact assessment and site inspection, including equipment and modelling used where relevant;
- A description of the assumptions made and any uncertainties or gaps in knowledge or data as well as a statement of the timing and intensity of site inspection observations;
- Areas not suitable for development, to be avoided during construction and operation (where relevant);
- Additional environmental impacts expected from the proposed development based on those already evident on the site and a discussion on the cumulative impacts;
- Impact management actions and impact management outcomes proposed by the specialist for inclusion in the EMPr;
- A motivation why any alternative development footprints within the preferred development site which would be of a "low" sensitivity as identified by the national web based environmental screening tool were not considered stating reasons why these were not being not considered; and
- A reasoned opinion, based on the findings of the specialist assessment, regarding the acceptability or not of the development and if the development should receive approval or not, and any conditions to which the statement is subjected.

1.5. Approach and Methodology

A literature review and desktop analysis were undertaken prior to the field investigation, utilizing various sources including the South African National Biodiversity Institute (SANBI) data and other relevant sources. Recent and historical aerial imagery of the site was reviewed in order to identify points for investigation during the field survey. Utilising the above information, a field investigation was undertaken whereby:

- Sites of geomorphological or topographic variance were identified and subjected to an evaluation of species present within transects established across the selected site.
- Species were identified and collated.
- Additional random sample points were selected from other sites surrounding the proposed impacted areas for comparative purposes.
- Any additional species of significance, not identified within the sample sites were also noted.

As explained below, the ideal period for the assessment of habitat within this region is between August and end October months. The site surveys were conducted in early August 2021.

All data was collated and subjected to evaluation using methods in order to:

- Give consideration to the overall structure of habitat within the subject site.
- Identify any habitat anomalies that may be identified in such analysis.
- Allow for the interpretation of such data in order to prioritise and evaluate habitat form and structure within the study area.

1.6. Assumptions and limitations

The presence of fauna must be evaluated based on the literature and available databases but in many cases, these databases are not intended for fine-scale use and the reliability and

adequacy of these data sources relies heavily on the extent to which the area has been sampled in the past. Many areas have not been well sampled with the result that the species lists derived for the area do not always adequately reflect the actual fauna and flora present at the site. This is acknowledged as a limitation of the study, however it is substantially reduced through extracting the species lists for a substantially larger area than the site and through the inclusion of information from previous experience in the wider area. The assessment was undertaken using sampling methods appropriate to the protocols, terms of reference and methodologies described above. The timing of the survey is therefore regarded as optimal in terms of accurately assessing the flora and fauna of the site. The overall condition of the vegetation was determined with a high degree of confidence. An accurate idea of the priority conservation areas, animals and botanical species was gained, due to the use of a combined habitat and species-based approach, and confidence in the accuracy of the findings is high. The overall confidence in the completeness and accuracy of the terrestrial biodiversity findings at this point in time is considered to be good. A follow-up survey is not considered essential for decision-making.

1.7. Source of Information

This assessment was undertaken utilising:

- 1:50 000 topographic mapping sourced from the Surveyor General's office;
- Aerial imagery sourced from Google Earth.
- Aerial imagery sourced from ESRI.
- Vegetation types and their conservation status was extracted from the South African National Vegetation Map (Mucina and Rutherford 2006).
- Information on plant and animal species recorded for the Quarter Degree Squares (QDS) was extracted from the SABIF/SIBIS database hosted by SANBI.
- The IUCN conservation status of the species in the list was also extracted from the database and is based on the Threatened Species Programme, Red List of South African Plants (2011).
- Threatened Ecosystem data was extracted from the National List of Threatened Ecosystems 2010.
- Freshwater and wetland information was extracted from the National Freshwater Ecosystem Priority Areas assessment, NFEPA (Nel et al. 2011) and National Wetlands Map.
- Important catchments and protected areas expansion areas were extracted from the National Protected Areas Expansion Strategy 2008 (NPAES).
- The CapeNature Spatial Biodiversity Plan 2017 (Turner *et al* 2017)

In addition, use was made of the following data:

- Wetland and riparian habitat Geographic Information System (GIS) data sourced from the National Freshwater Ecological Priority Area Programme of South African National Biodiversity Institute (SANBI);
- SANBI veld types data; and
- Literature as referenced

1.8. Site Visit

The site surveys were conducted during noon on 3 August 2021. The survey was conducted in an ideal period for the assessment of terrestrial animal and plant species within this region.

The sampling and analysis of the site during the optimal season provides suitable data and results to present an informed decision on the local plant and animal species. During the site visit, the different biodiversity features, habitat, vegetation and landscape units present were identified and recorded in the field. Walk-through-surveys were conducted of representative habitats and areas of interest and all animal and plant species observed were recorded. Searches for listed and protected animal and plant species at the site were conducted and the location of all listed plant and animal species observed was recorded (if present).

The property is not ecologically connected and does not support ecological processes and fine-scale habitats. The proposed mine site is however ecological connected and support ecological processes associated with corridor connectivity. The site was included as a Terrestrial Critical Biodiversity Area category in the Western Cape Biodiversity Spatial Plan. There is an existing mine on the southern border of the proposed mine area. If the mine activities are controlled in terms of the mitigation and rehabilitation measures to be included in the mine closure plan and EMPr are adhered to, then the terrestrial ecological processes will not be altered, and the mined area will continue to be ecologically connected.

The terrestrial area was significantly altered as a result of agricultural activities on this area in the past. The vegetation is commonly dominated by alien grasses (*Pennisetum clandestinum*), *and the following pioneer species were recorded at the time of the site survey: Cynodon dactylon; Helichrysum petiolare, Eragrostis curvula, Paspalum dilatatum, Arctopus sp,* and next to the non-perennial river the vegetation is dominated and invaded by *Acacia mearnsii*.

Photograph 1: Ecological condition of the habitat. It is clear in the picture that the vegetation and habitat on site is degraded and consist mostly of op pioneer species.

Photograph 2: Ecological condition of the habitat. It is clear in the picture that the vegetation and habitat on site is degraded and consist mostly of op pioneer species.

Photograph 3: Ecological condition of the habitat. It is clear in the picture that the vegetation and habitat on site is degraded and consist mostly of op pioneer species.

It is clear from the pictures above that the vegetation structure on site does not represent typical Garden Route Granite Fynbos.

The information gathered from the site sensitivity verification does differs from the DEA Screen report. The development of the site would have a **Medium Negative** but if the mitigation measures as described below are implemented, then the impact status will not be altered as a result of the mining activities**.** Freshwater Ecology or Aquatic Biodiversity features were identified on the border of the site. Freshwater Ecology or Aquatic Biodiversity features (non-perennial river) will be assessed separately.

1.9. Sensitivity Mapping and Assessment

A terrestrial biodiversity and ecological sensitivity map of the site was produced by integrating the information collected on- site with the available ecological and biodiversity information available in the literature and various spatial databases. This includes delineating the different vegetation and habitat units identified in the field and assigning sensitivity values to the units based on their ecological properties, conservation value and the potential presence of species of conservation concern. The terrestrial biodiversity and ecological sensitivity of the different units identified in the mapping procedure was rated according to the following scale:

Low - Units with a low sensitivity where there is likely to be a negligible impact on ecological processes and terrestrial biodiversity. This category is reserved specifically for areas where the natural vegetation has already been transformed, usually for intensive agricultural purposes such as cropping. Most types of development can proceed within these areas with little to no ecological impact.

Medium - Areas of natural or previously transformed land where the impacts are likely to be largely local and the risk of secondary impact such as erosion low. Development within these areas can proceed with relatively little ecological impact provided that appropriate mitigation measures are taken.

High - Areas of natural or transformed land where a high impact is anticipated due to the high biodiversity value, sensitivity or important ecological role of the area. Development within these areas is undesirable and should only proceed with caution as it may not be possible to mitigate all impacts appropriately.

Very High - Critical and unique habitats that serve as habitat for rare/endangered species or perform critical ecological roles. These areas are essentially no-go areas from a developmental perspective and should be avoided at all costs.

2. APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

The proposed development within the study site is considered to elicit a requirement for possible compliance with the following legislation applicable to this assessment.

- The National Environmental Management: Biodiversity Act (Act 10 of 2004)
- The National Water Act (Act 36 of 1998)
- The National Forest Act (Act 84 of 1998)

- Invasive species are controlled by the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) - Alien and Invasive Species (AIS) Regulations which became law on 1 October 2014

The potential applicability of the abovementioned acts to the subject site is provided below:

The National Environmental Management: Biodiversity Act (Act 10 of 2004)
This Act serves to control the disturbance and land utilisation within certain habitats, as well as the planting and control of certain exotic species. The proposed development, taking place in the identified environment, may not necessitate any particular application for a change in land use from a terrestrial biodiversity and ecological perspective. However, the effective disturbance and removal of species identified above, as well as possible other species (i.e. Threatened or Protected Species (TOPS) species), will require specific permission from the applicable authorities. In addition, the planting and management of exotic plant species on site, if and where required, will be governed by the Alien and Invasive Species (AIS) regulations, which were gazetted in 2014. These regulations compel landowners to manage exotic weeds on land under their jurisdiction and control. The act is not applicable to this site.

The National Water Act (Act 36 of 1998)
The National Water Act controls activities in and around water resources, as well as the general management of water resources, including abstraction of groundwater and disposal of water. Authorisation for activities impacting on the land other than the current landuse, up to 500 m from a defined (water source) wetland system and 100m from a defined water sources (river) will require an application for a Water Use Licence from the Department of Water and Sanitation. A Water Use Licence will be required in respect of any activities under Section 21 (c) and (i), of the Act. As the recommended sites are not within 100m from a water course or 500m from a wetland (NWA regulated zones) the Act are not applicable to this site.

The National Forest Act (Act 84 of 1998)
The National Forest Act (Act 84 of 1998) governs the removal, disturbance, cutting or damage and destruction of identified "protected trees". No listed species were encountered or recorded on site and an application for the "clearing of a *natural forest*", as defined within the Act, will not be required on the site in question.

Invasive species are controlled by the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) - Alien and Invasive Species (AIS) Regulations which became law on 1 October 2014.

This Act is not applicable to the project as no such plants arise within or adjacent to the project area. Notably most listed alien invasive species are propagated and driven by the disturbance of land during and following construction.

As the recommended sites are not within protected areas, nor within 5 kilometres of a protected area, are not within 10 kilometres of a World Heritage site, the various regulations within the National Environmental Management Act and the NEM Protected Areas Act are not applicable to this site. It is also noted that the site does not fall within any expansion area in terms of a conservation strategy for the Western Cape.

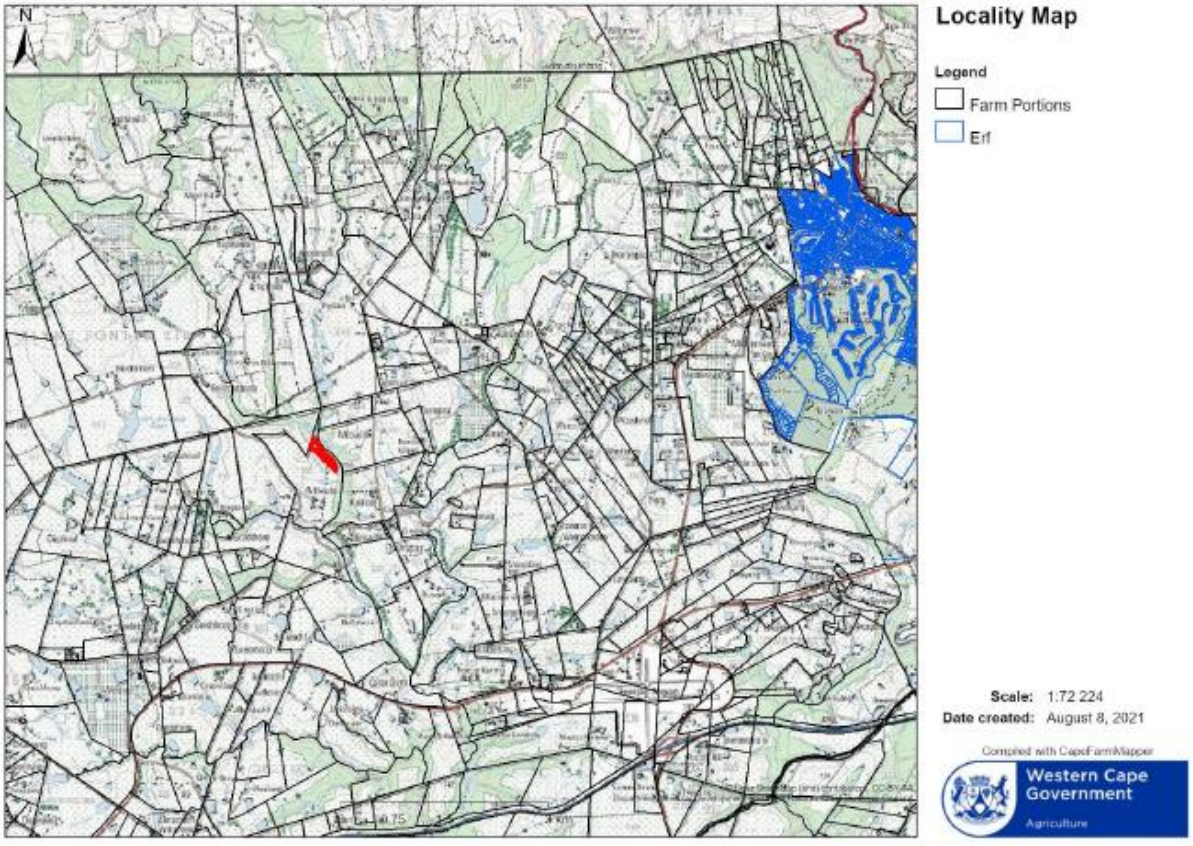
3. DESCRIPTION OF PROJECT ASPECTS RELEVANT TO TERRESTRIAL BIODIVERSITY FEATURES

The proposed mine will consist of open cast gravel mine in phases and rehabilitated once mining is completed.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT.

4.1. Locality

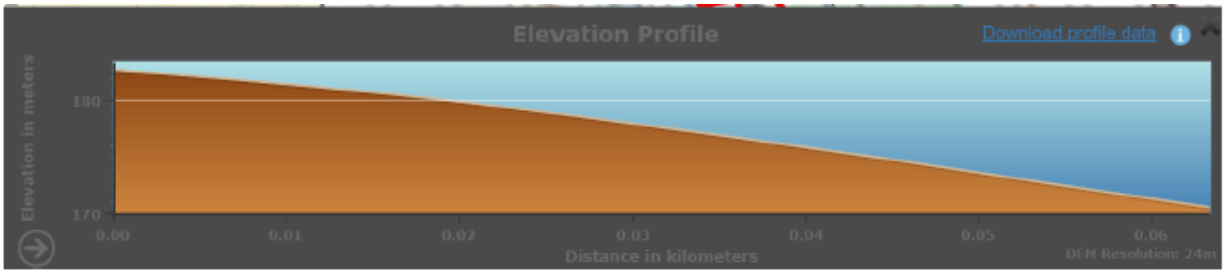
The subject site is situated west of George and north of the N2 on the western border of the Witels Rivier.



Source: Cape Farm Mapper
Figure 1: Locality Map

4.2. Topography

The site is located on easterly sloping ground with a moderate slope towards the Witels Rivier.



4.3. Geology and Soils

Lithostratigraphic: CAPE GRANITE SUITE
Lithology: Porphyritic, medium or fine-grained granite and granodiorite, with subordinate syenite, gabbro, diorite and quartz porphyry.

4.4. Description of The Ecological Drivers/Processes, Functioning, Ecological Corridors that the Development Would Impede Including Migration and Movement of Flora and Fauna, and Description of any Significant Landscape Features

Garden Route Granite Fynbos typically consists of moderately undulating plains and undulating hills on the coastal forelands. Dense proteoid and ericoid shrubby grassland. Proteoid and graminoid fynbos are dominant with ericaceous fynbos in seeps. In the west, most remnants of this type are dominated by proteas. Eastwards graminoid and ericaceous fynbos are dominant on the flat plateaus, with proteas confined to the steep slopes[2].

Fire and coastal-inland and connection corridors are important ecological drivers for this vegetation type. Connection corridors is present on site. Hence the reason it was classified as an CBA.

The Critical Biodiversity Areas map from the Western Cape Biodiversity Plan was overlaid on the most recently available Google Earth ™ image and it clearly shows that the site does fall within any Critical Biodiversity Area category.

4.5. Description of the Terrestrial Biodiversity and Ecosystems

4.5.1. Main Vegetation Types

The National Vegetation Map of South Africa (2012) identifies the remnants of natural vegetation occurring within the area as Garden Route Granite Fynbos with a critically endangered (CR) ecosystem status. During the site visit, it was evident that the area was heavily impacted by current and past agricultural activities and the plant species recorded during the site survey confirmed it.

4.5.2. Threatened Ecosystems, Including Listed Ecosystems

The vegetation type is classified as Critically Endangered and have been significantly impacted by transformation and agricultural activities.

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[2] Anthony G. Rebelo, Charles Boucher, Nick Helme, Ladislav Mucina and Michael C. Rutherford. 2006. Fynbos Biome. Strelitzia 19.

4.5.3. Ecological Connectivity, Habitat Fragmentation, Ecological Processes and Fine-Scale Habitats

Connection corridors is present on site. Hence the reason it was classified as an CBA. However, if the mitigation measures included below are adhered to and included in the closure plan and EMPr, then the area ecological connectivity and processes will not be impacted upon.

4.5.4. Species, Distribution, Important Habitats

Vegetation Characteristics and Description

Refer to plant species impact assessment report for more details on plant species impacts and the animal impact assessment report for more detail on animal species impacts. Animal and plant species impact assessment reports were done separated from this report due to the protocols published and the DEA screen report.

4.6. Terrestrial Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs)

The site was included as a Terrestrial Critical Biodiversity Area category in the Western Cape Biodiversity Spatial Plan. This indicates the very high conservation value of the property. There is an existing mine on the southern border of the proposed mine area. If the mine activities are controlled in terms of the mitigation and rehabilitation measures to be included in the mine closure plan and EMPr are adhered to, then the terrestrial ecological processes will not be altered, and the mined area will continue to be ecologically connected.

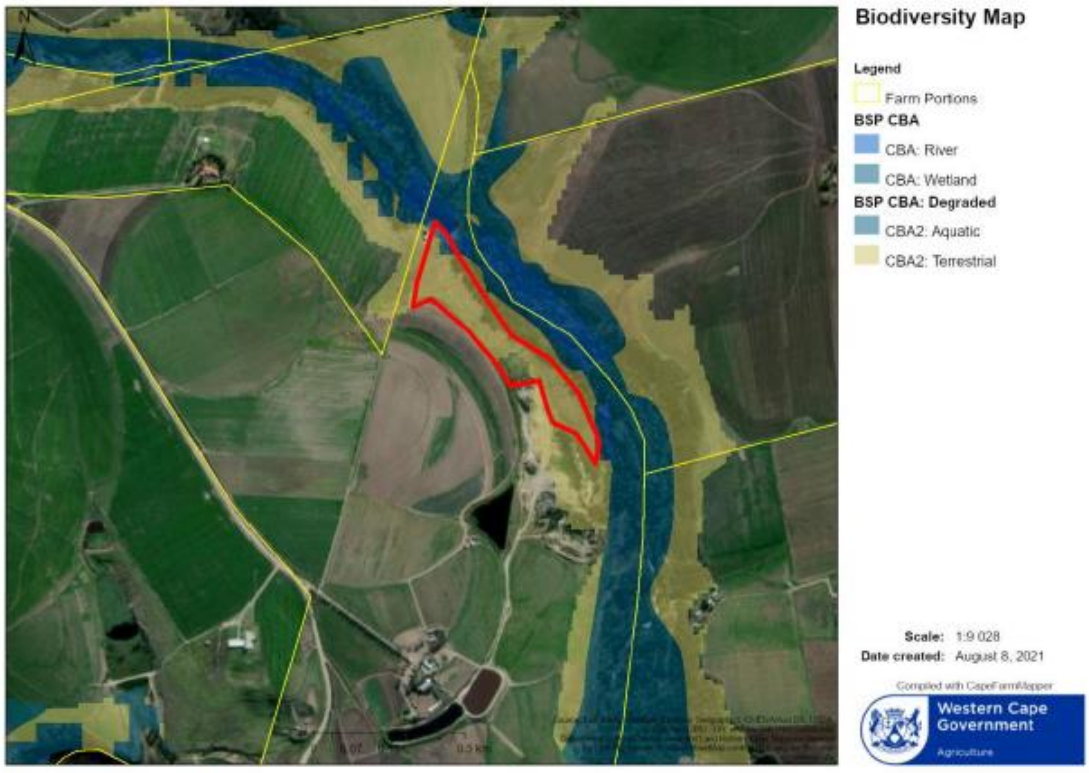

Figure 2: CBA Map

- The reasons why the area has been identified as a CBA;

CBA2: Terrestrial
Definition: Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.
Objective: Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land-uses are appropriate.

The proposed mine will not alter the reasons and is in line with the objectives of the CBA provided that the management and mitigation measures included in this report are included in the EMPr and closure plan and adhered to.

The proposed mine will not alter the ecosystem status. Once mining is completed, topsoil spread after the mine area are shaped and left to rehabilitated, the ecosystem status as a result of the mining will not be altered from its current state.

4.7. Protected Areas and Priority Areas for Protected Area Expansion

No protected area or priority areas for protected area expansion are inside the study area.

4.8. Strategic Water Source Areas (SWSA)

The property does fall in a strategic water source areas.
SWSA Surface Water
Name: Outeniqua
Criteria: National

4.9. Freshwater Ecosystem Priority Area (FEPA) and Freshwater Ecological features

A Freshwater Ecosystem Priority Area (FEPA) and Freshwater Ecological features are on the eastern border outside the proposed mine area.

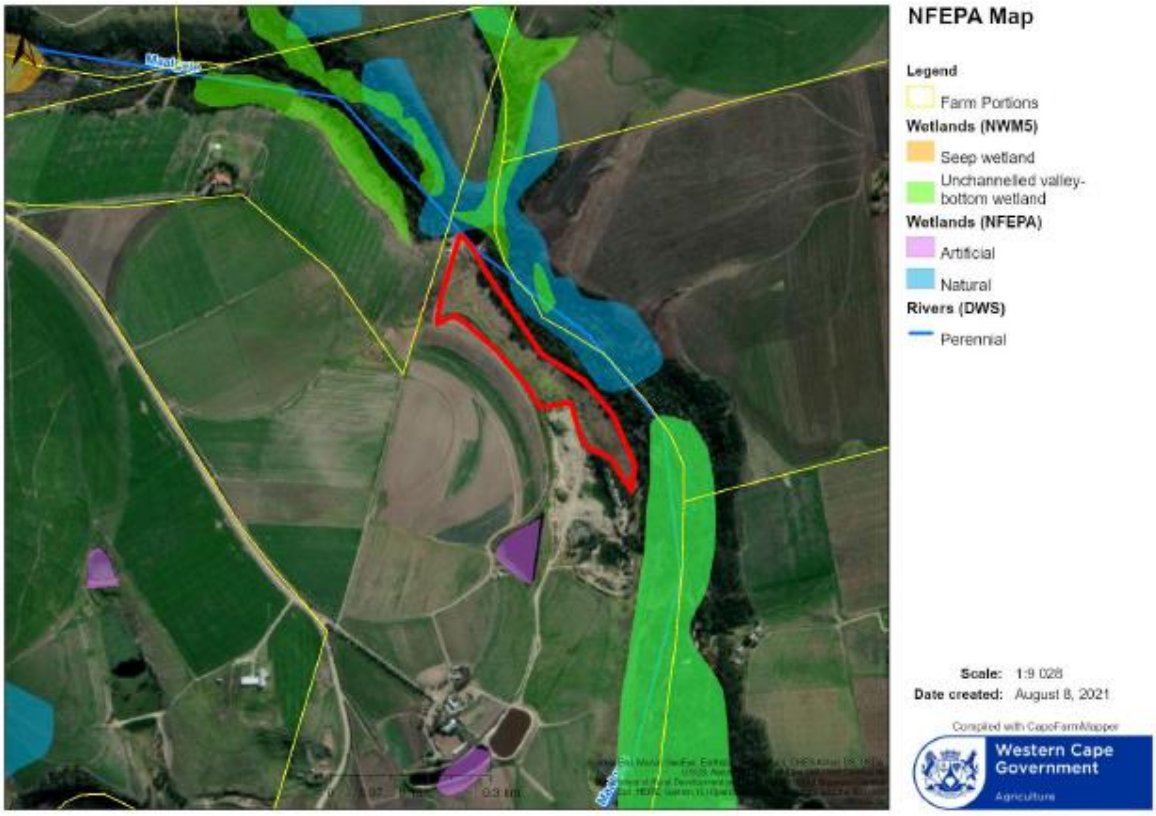

Figure 3: NFEPA Map

4.10. Indigenous Forests

No indigenous forests are inside or close to the study area.

5. SITE SENSITIVITY ASSESSMENT

The ecological sensitivity map for the site is depicted below. The area is suitable for the proposed mining activity.

Figure 4. Ecological Sensitivity map. **Orange** – Medium sensitivity

The whole area can be mined without any negative or unreversible impacts on terrestrial biodiversity features.

6. IMPACT ASSESSMENT

6.1. Assessment & Significance Criteria

The assessment criteria used in the assessment are drawn from the protocol for the specialist assessment and minimum report content requirements for environmental impacts (published in Government Notice **no. 320 in** Government Gazette **43110** 20 March 2020) were used.

6.2. Assessment of Potential Impacts

The impacts identified are assessed below, before and after mitigation as well as during construction.

The impact assessment which follows is based on the site sensitivity and any deviations from the site sensitivity map as provided may invalidate the results of the assessment.

6.3. Risk Assessment Criteria

Step 1: Determine the **PROBABILITY** of the impact by calculating the average between the Frequency of the Aspect, the Availability of a pathway to the receptor and the availability of the receptor (thus: Sum of the three column scores below ÷ 3)

Frequency of Aspect / Unwanted Event	Score	Availability of pathway from the source to the receptor	Score	Availability of receptor	Score
Never known to have happened, but may happen	1	A pathway to allow for the impact to occur is never available	1	The receptor is never available	1
Known to happen in industry	2	A pathway to allow for the impact to occur is almost never available	2	The receptor is almost never available	2
< once a year	3	A pathway to allow for the impact to occur is sometimes available	3	The receptor is sometimes available	3
Once per year to up to once per month	4	A pathway to allow for the impact to occur is almost always available	4	The receptor is almost always available	4
Once a month - Continuous	5	A pathway to allow for the impact to occur is always available	5	The receptor is always available	5

Step 2: Determine the **MAGNITUDE** of the impact by calculating the average of the factors below (thus: Sum of all six column ratings below ÷ 6)

Source								Receptor			
Duration of impact	**Score**	**Extent**	**Score**	**Volume / Quantity / Intensity**	**Score**	**Toxicity / Destruction Effect**	**Score**	**Reversibility**	**Score**	**Sensitivity of environmental component**	**Score**
Lasting days to a month	1	Effect limited to the site. (metres);	1	Very small quantities / volumes / intensity (e.g. < 50L or < 1Ha)	1	Nontoxic (e.g. water) / Very low potential to create damage or destruction to the environment	1	Bio-physical and/or social functions and/or processes will remain unaltered.	1	Current environmental component(s) are largely disturbed from the natural state. Receptor of low significance / sensitivity	1
Lasting 1 month to 1 year	2	Effect limited to the activity and its immediate surroundings. (tens of metres)	2	Small quantities / volumes / intensity (e.g. 50L to 210L or 1Ha to 5Ha)	2	Slightly toxic / Harmful (e.g. diluted brine) / Low potential to create damage or destruction to the environment	2	Bio-physical and/or social functions and/or processes might be negligibly altered or enhanced / Still reversible	2	Current environmental component(s) are moderately disturbed from the natural state. No environmentally sensitive components.	2
Lasting 1 – 5 years	3	Impacts on extended area beyond site boundary (hundreds of metres)	3	Moderate quantities / volumes / intensity (e.g. > 210 L < 5000L or 5 – 8Ha)	3	Moderately toxic (e.g. slimes) Potential to create damage or destruction to the environment	3	Bio-physical and/or social functions and/or processes might be notably altered or enhanced / Partially reversible	3	Current environmental component(s) are a mix of disturbed and undisturbed areas. Area with some environmental sensitivity (scarce / valuable environment etc.).	3
Lasting 5 years to Life of Organisation	4	Impact on local scale / adjacent sites (km's)	4	Very large quantities / volumes / intensity (e.g. 5000 L – 10 000L or 8Ha– 12Ha)	4	Toxic (e.g. diesel & Sodium Hydroxide)	4	Bio-physical and/or social functions and/or processes might be considerably altered or enhanced / potentially irreversible	4	Current environmental component(s) are in a natural state. Environmentally sensitive environment / receptor (endangered species / habitats etc.).	4

Source								Receptor			
Duration of impact	Score	Extent	Score	Volume / Quantity / Intensity	Score	Toxicity / Destruction Effect	Score	Reversibility	Score	Sensitivity of environmental component	Score
Beyond life of Organization / Permanent impacts	5	Extends widely (nationally or globally)	5	Very large quantities / volumes / intensity (e.g. > 10 000 L or > 12Ha)	5	Highly toxic (e.g. arsenic or TCE)	5	Bio-physical and/or social functions and/or processes might be severely/substantially altered or enhanced / Irreversible	5	Current environmental component(s) are in a pristine natural state. Highly Sensitive area (endangered species, wetlands, protected habitats etc.)	5

Step 3: Determine the **SEVERITY** of the impact by plotting the averages that were obtained above for Probability and Magnitude in the table below.

ENVIRONMENTAL IMPACT RATING / PRIORITY					
	MAGNITUDE				
PROBABILITY	1 Minor	2 Low	3 Medium	4 High	5 Major
5 Almost Certain	Low	Medium	High	High	High
4 Likely	Low	Medium	High	High	High
3 Possible	Low	Medium	Medium	High	High
2 Unlikely	Low	Low	Medium	Medium	High
1 Rare	Low	Low	Low	Medium	Medium

TERRESTRIAL BIODIVERSITY IMPACTS

Proposed development of whole property	**Degradation / loss of naturally occurring / indigenous flora and habitats**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**Loss of Terrestrial Biodiversity and ecological functioning**
Nature of impact:	**Some vegetation will be removed if the proposed mine is approved.**
Extent and duration of impact:	**Extent 2 & Duration 5**
Consequence of impact or risk:	**Activities can disturb and impact on surrounding terrestrial biodiversity features.**
Magnitude	**3**
Probability of occurrence:	**5**
Degree to which the impact may cause irreplaceable loss of resources:	**Resource will be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Not reversible**
Indirect impacts:	**Disturbance to surface area can result in erosion and dust generation which may affect surrounding terrestrial biodiversity features.**
Cumulative impact prior to mitigation:	**Loss of significantly impacted upon vegetation and habitat.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**High**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**2**
Proposed mitigation:	**Mine operations must be controlled inside the mine area. Top soil must be stripped and stored. Mining must occur in phases and blocks. The topsoil must be spread over the mined area and allow to rehabilitate. The mine site must be followed up and all *Acacia mearsii* and other alien invasive plants must be removed until the mine is completed and the whole area rehabilitated.**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**

OPERATIONAL PHASE	
Potential impact and risk:	**Not applicable to operational phase.**
Nature of impact:	**Some vegetation will be removed if the proposed development is approved.**
Extent and duration of impact:	**Extent 2 & Duration 5**
Consequence of impact or risk:	**Activities can disturb and impact on surrounding terrestrial biodiversity features.**
Magnitude	**3**
Probability of occurrence:	**5**
Degree to which the impact may cause irreplaceable loss of resources:	**Resource will be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Not reversable**
Indirect impacts:	**Disturbance to surface area can result in erosion and dust generation which may affect surrounding terrestrial biodiversity features.**
Cumulative impact prior to mitigation:	**Loss of significantly impacted upon vegetation and habitat.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**2**
Proposed mitigation:	**Mine operations must be controlled inside the mine area. Top soil must be stripped and stored. Mining must occur in phases and blocks. The topsoil must be spread over the mined area and allow to rehabilitate. The mine site must be followed up and all *Acacia mearsii* and other alien invasive plants must be removed until the mine is completed and the whole area rehabilitated.**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**

Cumulative Impacts

Cumulative impacts arise from the combined presence of several similar developments within

an area which affect terrestrial biodiversity. The existing mine on the southern border must be rehabilitated. The mine area must be leveled and shaped and the topsoil spread on the mine area in order for it to recover.

7. CONCLUSION AND RECOMMENDATIONS

The sampling and analysis of the site, provides suitable data and results to present an informed decision on the local ecology and terrestrial biodiversity features. The lists of species for the site are based on those observed at the site as well as those likely to occur in the area based on their distribution and habitat preferences. This represents a sufficiently conservative and cautious approach. During the site visit, the different biodiversity features, habitat, vegetation and landscape units present were identified and recorded in the field. Walk-through-surveys were conducted of representative habitats and areas of interest and species observed were recorded. Searches for listed species of conservation concern at the site were conducted, but none were observed which required the recording of their location. Active searches for reptiles and amphibians were also conducted within habitats likely to harbour or be important for such species.

The study recorded medium sensitivity areas within the study area. The proposed mine on the whole property will have relatively little terrestrial biodiversity and ecological impact on sensitivity areas and the surrounding terrestrial biodiversity features provided that appropriate mitigation measures included in the impact table above are included in the EMPr and adhered to.

No additional survey or further assessment is in the authors view recommended.

Provided that activities are restricted to the property and the mitigation measures to reduce the impacts of the activities are implanted, then the activities are not likely to result in long-term degradation of the receiving environment or significant net loss of terrestrial biodiversity.

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APPENDIX A
SPECIALIST CV

CURRICULUM VITAE – NICOLAAS WILLEM HANEKOM

Profession: Environmental Scientist and Environmental Assessment Practitioner
Date of Birth: 01/02/1967

BIOGRAPHICAL SKETCH

Nicolaas Hanekom is a qualified Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology. Nicolaas is certified in terms of section 20(3)(a) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003), as a Professional Natural Scientist (Ecological Science) Registration Number: 4008274/11. He further qualified in Environmental Management Systems ISO 14001:2004, at the Centre for Environmental Management, North-West University, as well as Environmental Management Systems ISO 14001:2004 Audit: Internal Auditors Course to ISO 19011:2003 level, from the Centre for Environmental Management, North-West University qualifying him to execute audits to ISO/SANS environmental compliance and EMS standards.

He has also completed the suite of Greener Governance courses with certificates in;

- An Overview of Environmental Management at the Local Government Level, Centre for Environmental Management, North-West University;
- Greener Governance for Local Authorities, Centre for Environmental Management, North-West University;
- Tools for Integrated Environmental Management and Governance, Centre for Environmental Management, North-West University.

He further attended and obtained a certificate on Integrated Protected Area Planning at the Centre for Environmental Development, University of Kwa Zulu Natal and a certificate in Project Management (Theory and Practical), through CS Holdings. Nicolaas has lectured in two subjects at the Cape Peninsula University of Technology. He has 26 years of environmental planning experience, working for Free State and Western Cape departments of environmental affairs, where he reviewed and commented on development (EIA) applications, in the West Coast Region.

He has, as practising EAP been responsible for many environmental impact assessments and EIA applications, waste license and atmospheric emission license applications.

He has also been involved in the implementation of several environmental management systems. He has engaged successfully with various clients as set out below.

Areas of specialisation:	• Ecosystem (terrestrial and aquatic) monitoring and assessments • Design of monitoring programmes for ecosystems (terrestrial and aquatic) • Environmental Impact Assessments • River classification and environmental water requirements • Wetlands Delineation • River and Wetlands management • Water Use Authorization Applications • Water quality management • River Health Assessments
Countries of Work Experience:	South Africa (Northern Cape, Western Cape, Free State, Mpumalanga, Gauteng)
Employment Record	• Student at Bontebok National Park (1992) • Assistant Reserve Manager at Gariep Dam Nature Reserve, Free State (1993 - 1998) • Reserve Manager, Conservation Services Manager for Western Cape Nature Conservation Board (1998 - 2006) • External Lecturer at Cape Peninsula University of Technology (2003 - 2005) • Director: Environmental Management at Cape Lowlands Environmental Services (2006 – 2010) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Eco Impact (Pty) Ltd (2010 – to August 2019) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Enviro-EAP (Pty) Ltd (September 2019 – to date)
Professional membership, accreditations and courses	• South African Council for Natural Scientists Professions Pri.Sci.Nat (Ecological Science) • Riparian vegetation identification and health assessment. Internal Western Cape Nature Conservation short course presented by Dr C Boucher (Stellenbosch University) in 2000. • SASS5 Aquatic Biomonitoring Training Course. 2 to 5 September 2013. Ground Truth Water and Environmental Engineering consultancy in partnership with the Department of Water Affairs. • Workshop on "Section 21(c) and (i) Water Use Training: Understanding Watercourses and Managing Impacts to their Characteristics". 10 May 2017. Presented by Dr Wietsche Roets of the Department of Water and Sanitation (Sub-Directorate: Instream Water Use).
Summary of experience	1992: South African National Parks. Student at Bontebok National Park with management and monitoring actions related to the Breede River.

	1993 -1998: Free State Nature Conservation. Ecological management and monitoring actions related to the Gariep Dam, Orange and Caledon Rivers. 1998 -2006: CapeNature. Ecological management and monitoring actions related to the Berg River Estuary, Verlorenvlei, Lamberts bay's Jackalsvlei, Wadrift Soutpanne, Oliphant's River mouth, Rocherpan Nature Reserve, etc. Review and assessment of EIA applications, inclusive of Freshwater ecology. Did some site visits with Department of Water Affairs and Forestry (Hester Lyons) to confirm the presence of aquatic ecological features during EIA water use registration applications. 2006 to date: Cape Lowland Environmental Services, Eco Impact Legal Consultant and Enviro-EAP. Ecological (Freshwater and aquatic) Specialist input, assessment, monitoring and reports.
Publications and assessment reports	Just to name a few. Was involved in many Ecological Assessments, monitoring and inputs in EIA applications. • Elandskloof Farm 475 Citrusdal Biodiversity Baseline Survey. August 2010. This Biodiversity Assessment Covering Terrestrial and Aquatic Aspects to Inform Decisions Regarding The Proposed Elandskloof Weir Flood Damage Project On Farm 475, In The Citrusdal Area. • Cape Solar Energy Electricity Generation Facility. Farm 187/3 & 187/13 Kenhardt. Biodiversity And Ecological Baseline Survey. January 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Prieska Photvoltaic Power Generation Project. Prieska Commonage Northern Cape. Biodiversity And Ecological Baseline Survey. July 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Witteklip Erf 123 Extension, Vredenburg. Biodiversity Baseline Survey. Updated - October 2012 (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Baseline Biodiversity Survey And Wetland Delineation for ECCA Holdings: Cape Bentonite Mine on Erf 1412 Near Heidelberg. Prepared for: Shangoni Management Services Pry (Ltd). October 2014. • Freshwater Impact Assessment Laingsburg Flood Damage Repairs & Storm Water Infrastructure. 18 February 2016. • Ecological Assessment for Swartland Municipality - Upgrades To Voortrekker/Bokomo Road And Voortrekker/Rozenburg Road Intersections and Upgrade to the Diep River Bridge, Malmesbury on A Portion Of Erf 327, Malmesbury (Road) Erf 1530, Diep River Bridge Crossing, and Erf 1528, Property South of Diep River where Road Widening and Turning Circle Will Be

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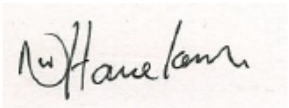
CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe my qualifications, my experience, and me.



Nicolaas Hanekom Pri Sci Nat (Ecology).
Registration number 400274/11

TERRESTRIAL ANIMAL SPECIES IMPACT ASSESSMENT

Grow Green Mining (Pty) Ltd
P.O Box 2389, George, 6530

on

PORTION OF FARM NUMBER 306, GEORGE.

Enviro-EAP
Environmental Consultants

Prepared by: Nicolaas Hanekom
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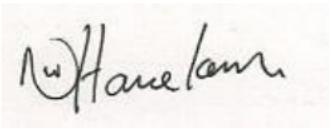
AUGUST 2021

DECLARATION OF THE SPECIALIST

I **Nicolaas Willem Hanekom**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
    - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.



Nicolaas Hanekom
Pri.Sci.Nat (Ecology) 400274/11 **10 August 2021**
Signature of the Specialist: Date:

Enviro-EAP (Pty) Ltd
Name of company (if applicable):

COMPLIANCE WITH THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS SCREENING TOOL PROTOCOLS (GOVERNMENT NOTICE NO.1150, GOVERNMENT GAZETTE 43855: 30 OCTOBER 2020)

Department of Environmental Affairs screening Tool (Government Notice No. 648, GOVERNMENT GAZETTE 45421: 10 MAY 2019)	**ADDRESSED IN SPECIALIST REPORT**
Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise and their curriculum vitae	Page 1
A signed statement of independence by the specialist	Page 2 of report
Duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment	Section 1.8
A description of the methodology used to undertake the impact assessment and site inspection, including equipment and modelling used where relevant	Section 1.5
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Details of all Species of Conservation Concern (SCC) found or suspected to occur on site, ensuring sensitive species are appropriately reported	Section 4.4
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A discussion on the cumulative impacts	Section 5
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The Department of Environmental Affairs screening report from the national web based environmental screening tool reported a "high sensitivity for animal species. The site sensitivity verification and specialist assessment does differ from the designation of "high" animal species as identified in the national web based environmental screening tool. After the site sensitivity and verification, no species of Conservation Concern were recorded or are likely to occur on site. Refer to the Terrestrial Biodiversity Assessment study for more detail on the ecological conditions of the area. The area was previously heavily disturbed as a result of existing mine operations and agricultural activities which impacted and severely altered the habitat for animal species on site. The mine of the site would have a **Low Negative** impact on terrestrial animal species. This report presents the findings of the Animal Species Impact Assessment that was prepared by Nicolaas Hanekom as part of the mine application on the site.

1.1. Background & Competency

Nicolaas Hanekom is a registered Professional Natural Scientist in the ecological science field with the South African Council for Natural Scientific Professions ("SACNASP"), (Ecology field) and a qualified registered Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation, Animal, Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology (Refer to Appendix A, CV). Nicolaas Hanekom is suitably qualified SACNASP registered specialist.

1.2. Conditions Relating to this Report

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information and knowledge of the area. Nicolaas Hanekom reserves the right to modify aspects of the report including the recommendations if and when new information may become available from on-going research or further work in this field, pertaining to this assessment.

This report may not be altered or added to without the prior written consent of the author. This restraint also refers to electronic copies of this report which are supplied as sub portion of other reports, including main reports. Similarly, any recommendations, statements, or conclusions drawn from or based on this report must specifically refer to this report. If such comments form part of a main report for this investigation, the report must be included in its entirety as an appendix or separate section to the main report.

1.3. Scope and Objectives

The assessments entailed both a literature review of the region, as well as on site evaluations, during which specific primary data will be collected and evaluated. In addition, the identification of animal species features will be undertaken allowing for the interpretation of the prevailing habitat form and associated processes.

All data collected in the field and during the literature review will be evaluated and interpreted in order to provide an understanding of the nature of the prevailing environment at a landscape and habitat level. In addition, specific evaluation of data relating to habitat

form and structure will be undertaken, aiding in the identification of bio-physical anomalies within the prevailing environment. Such variance may be considered to be indicative of differing habitat forms, which under consideration, may be of higher order ecological value in relation of the prevailing environment. The protocol[1] provides the criteria for the reporting of requirements for the assessment and reporting of impacts on animal species for activities requiring environmental authorisation.

General Information

An applicant intending to undertake an activity identified in the Scope of this Protocol, on a site identified as being of "high sensitivity" for animal species on the national web based environmental screening tool must submit an animal species impact assessment report. Where the information gathered from the Initial Site Sensitivity Verification and the specialist assessment differs from the designation of "very high, high or medium" animal species sensitivity from the national web based environmental screening tool and it is found to be of a "low" sensitivity, then an animal species impact assessment is not required. Should this apply, an animal species Compliance Statement is to be provided.

1.4. Terms of Reference

The assessment must be undertaken by a suitably qualified and SACNASP registered specialist, within the preferred development site and on the preferred development footprint. The description of the preferred site must include the following aspects, as a minimum and must be considered in the baseline description:

- The assessment must be undertaken in accordance with the *Species Environmental Assessment Guideline*[2]; and must; identify the SCC which were found, observed or are likely to occur within the study area;
- provide evidence (photographs or sound recordings) of each SCC found or observed within the study area, which must be disseminated by the specialist to a recognized online database facility[3], immediately after the site inspection has been performed (prior to preparing the report contemplated in paragraph 3);
- identify the distribution, location, viability[4] and provide a detailed description of population size of the SCC, identified within the study area;
- identify the nature and the extent of the potential impact of the proposed development on the population of the SCC located within the study area;
- determine the importance of the conservation of the population of the SCC identified within the study area, based on information available in national and international databases, including the IUCN Red List of Threatened Species, South African Red List of Species, and/or other relevant databases;
- determine the potential impact of the proposed development on the habitat of the SCC located within the study area;
- include a review of relevant literature on the population size of the SCC, the conservation interventions as well as any national or provincial species management plans for the SCC. This review must provide information on the need to conserve the

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[1] Published in Government Notice No. 1150. GOVERNMENT GAZETTE 43855 30 OCTOBER 2020.This gazette is also available free online at www.gpwonline.co.za

[2] Available athttps://bgis.sanbi.org/

[3] The preferred platform is iNaturalist.org but any other national or international virtual museum

[4] the ability to survive and reproduce in the long term

SCC and indicate whether the development is compliant with the applicable species management plans and if not, include a motivation for the deviation;
- identify any dynamic ecological processes occurring within the broader landscape that might be disrupted by the development and result in negative impact on the identified SCC, for example, fires in fire-prone systems;
- identify any potential impact of ecological connectivity in relation to the broader landscape, resulting in impacts on the identified SCC and its long term viability;
- determine buffer distances as per the *Species Environmental Assessment Guidelines* used for the population of each SCC;
- discuss the presence or likelihood of additional SCC including threatened species not identified by the screening tool, *Data Deficient* or *Near Threatened Species*, as well as any undescribed species[5]; or roosting and breeding or foraging areas used by migratory species where these species show significant congregations, occurring in the vicinity; and
- identify any alternative development footprints within the preferred site which would be of "low" or "medium" sensitivity as identified by the screening tool and verified through the site sensitivity verification.

The findings of the Animal Species Impact Assessment must be written up in an Animal Species Impact Assessment Report. This report must include as a minimum the following information:
- Contact details and curriculum vitae of the specialist including SACNASP registration number and field of expertise and their curriculum vitae;
- A signed statement of independence by the specialist;
- Duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
- A description of the methodology used to undertake the impact assessment and site inspection, including equipment and modelling used where relevant; a description of the mean density of observations/number of sample sites per unit area[6] and the site inspection observations;
- a description of the assumptions made and any uncertainties or gaps in knowledge or data;
- details of all SCC found or suspected to occur on site, ensuring sensitive species are appropriately reported;
- the online database name, hyperlink and record accession numbers for disseminated evidence of SCC found within the study area;
- the location of areas not suitable for development and to be avoided during construction where relevant;
- a discussion on the cumulative impacts;
- impact management actions and impact management outcomes proposed by the specialist for inclusion in the Environmental Management Programme (EMPr);
- a reasoned opinion, based on the findings of the specialist assessment, regarding the acceptability or not of the development and if the development should receive approval or not, related to the specific theme being considered, and any conditions to which the opinion is subjected if relevant; and

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[5] Undescribed species are to be assessed as "High Sensitivity"
[6] Species Environmental Assessment Guideline

- a motivation must be provided if there were any development footprints identified as above that were identified as having “low” or “medium” animal species sensitivity and were not considered appropriate.

1.5. Approach and Methodology

A literature review and desktop analysis were undertaken prior to the field investigation, utilizing various sources including the South African National Biodiversity Institute (SANBI) data and other relevant sources. Recent and historical aerial imagery of the site was reviewed in order to identify points for investigation during the field survey. Utilising the above information, a field investigation was undertaken whereby:

- Sites of geomorphological or topographic variance were identified and subjected to an evaluation of species present within line transects established across the selected site.
- Species were identified and collated.
- Additional random sample points were selected from other sites surrounding the proposed impacted areas for comparative purposes.
- Any additional species of significance, not identified within the sample sites were also noted.

As explained below, the ideal period for the assessment of habitat within this region is between August and end October months in terms of plant species. The sampling and analysis of the site was conducted during the optimum season in terms of terrestrial plant species during noon on 3 August 2021which is an optimum time in terms of terrestrial animal species and provides suitable data and results to present an informed decision on the species.

All data was collated and subjected to evaluation using methods in order to:

- Give consideration to the overall structure of habitat within the subject site.
- Identify any habitat anomalies that may be identified in such analysis.
- Allow for the interpretation of such data in order to prioritise and evaluate habitat form and structure within the study area.

1.6. Assumptions and limitations

The presence of fauna must be evaluated based on the literature and available databases but in many cases, these databases are not intended for fine-scale use and the reliability and adequacy of these data sources relies heavily on the extent to which the area has been sampled in the past. Many areas have not been well sampled with the result that the species lists derived for the area do not always adequately reflect the actual fauna and flora present at the site. This is acknowledged as a limitation of the study, however it is substantially reduced through extracting the species lists for a substantially larger area than the site and through the inclusion of information from previous experience in the wider area. The assessment was undertaken using sampling methods appropriate to the protocols, terms of reference and methodologies described above. The timing of the survey is therefore regarded as optimal in terms of accurately assessing the fauna of the site. The overall condition of the vegetation and terrestrial animal species habitat can still be determined with a high degree of confidence. An accurate idea of the priority conservation areas, animals and botanical species was gained, due to the use of a combined habitat and species-based approach, and confidence in the accuracy of the findings is high. The overall confidence in the completeness and accuracy of the animal species findings at this point in

time is considered to be good. A follow-up survey is not considered essential for decision-making.

1.7. Source of Information

This assessment was undertaken utilising:

- 1:50 000 topographic mapping sourced from the Surveyor General's office;
- Aerial imagery sourced from Google Earth.
- Aerial imagery sourced from ESRI.
- Vegetation types and their conservation status was extracted from the South African National Vegetation Map (Mucina and Rutherford 2006).
- Information on plant and animal species recorded for the Quarter Degree Squares (QDS) was extracted from the SABIF/SIBIS database hosted by SANBI.
- The IUCN conservation status of the species in the list was also extracted from the database and is based on the Threatened Species Programme, Red List of South African Plants (2011).
- Threatened Ecosystem data was extracted from the National List of Threatened Ecosystems 2010.
- Important catchments and protected areas expansion areas were extracted from the National Protected Areas Expansion Strategy 2008 (NPAES).
- The CapeNature Spatial Biodiversity Plan 2017 (Turner *et al* 2017)

In addition, use was made of the following data:

- SANBI veld types data; and
- Literature as referenced

1.8. Site Visit

The site surveys were conducted during noon on 3 August 2021. The survey was conducted in an ideal period for the assessment of terrestrial animal species within this region. The sampling and analysis of the site during the optimal season provides suitable data and results to present an informed decision on the local animal species. During the site visit, the different biodiversity features, habitat, vegetation and landscape units present were identified and recorded in the field. Walk-through-surveys were conducted of representative habitats and areas of interest and all animal species observed were recorded. Searches for listed and protected animal species as well as the species listed in the DEA screen tool report at the site were conducted and the location of all listed animal species observed was recorded (if present).

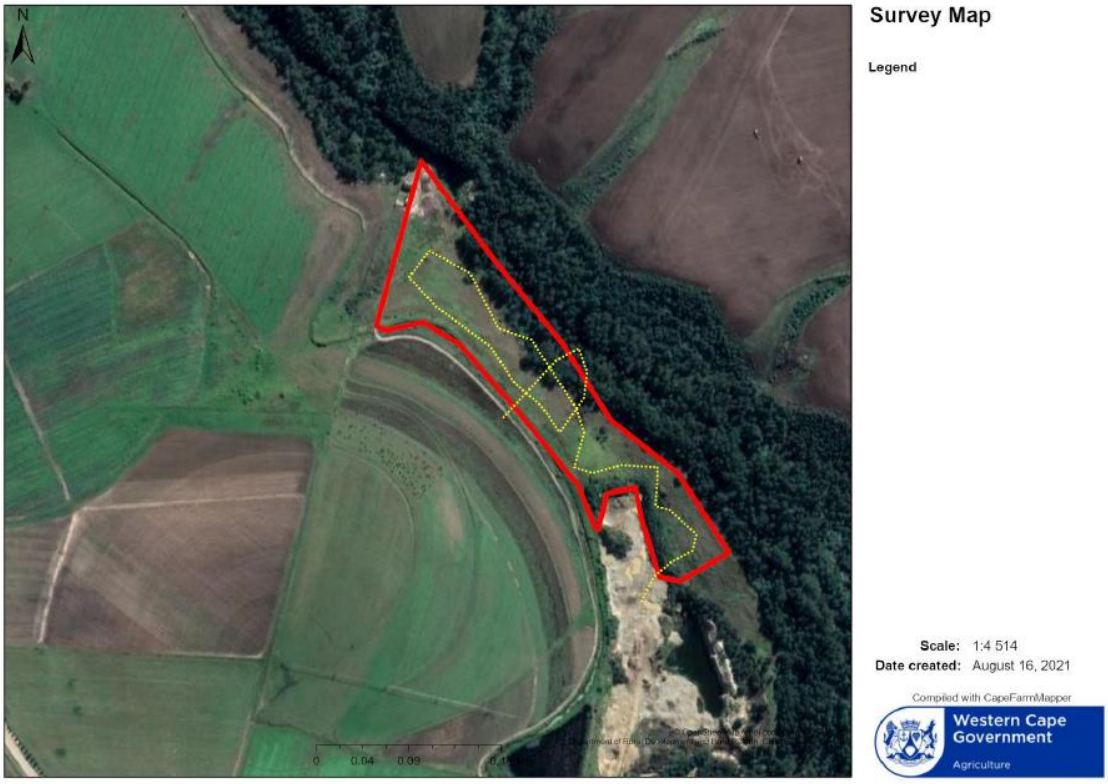


Figure 1: Site Survey Map

The following sensitive species were list in the DEA screen report and special focus was placed on these species, their habitat, presence and signs of their existence on the site during the site survey:

- Aves-*Bradypterus sylvaticus* – Knysna Warbler
- *Aneuryphymus montanus*
- Aves-*Circus ranivorus*-African marsh harrier
- *Neotis denhami*- Denham's bustard, Stanley bustard or Stanley's bustard

The property is not ecologically connected and does not support ecological processes and fine-scale habitats. The proposed mine site is however ecological connected and support ecological processes associated with ecological corridors. The site was included as a Terrestrial Critical Biodiversity Area category in the Western Cape Biodiversity Spatial Plan. This indicates the very high conservation value of the property. There is an existing mine on the southern border of the proposed mine area. If the proposed mine activities are controlled in terms of the mitigation and rehabilitation measures to be included in the mine closure plan and EMPr are adhered to, then the terrestrial ecological processes and terrestrial animal species habitat will not be altered, and the mined area will continue to be ecologically connected.

The terrestrial area was significantly altered as a result of agricultural activities on this area in the past. The vegetation is commonly dominated by alien grasses (*Pennisetum clandestinum*), *and the following pioneer species were recorded at the time of the site survey: Cynodon dactylon; Helichrysum petiolare, Eragrostis curvula, Paspalum dilatatum,*

Arctopus sp, and next to the non-perennial river the vegetation is dominated and invaded by *Acacia mearnsii*.

1.9. Sensitivity Mapping and Assessment

An animal species sensitivity map of the site was produced by integrating the information collected on- site with the available ecological and biodiversity information available in the literature and various spatial databases. This includes delineating the different vegetation and habitat units identified in the field and assigning sensitivity values to the units based on their ecological properties, conservation value and the potential presence of species of conservation concern. The animal species sensitivity of the different units identified in the mapping procedure was rated according to the following scale:

Low - Units with a low sensitivity where there is likely to be a negligible impact on ecological processes and terrestrial biodiversity, as well as animal species. This category is reserved specifically for areas where the natural vegetation has already been transformed, usually for intensive agricultural purposes such as cropping. Most types of development can proceed within these areas with little to no animal species impact.

Medium - Areas of natural or previously transformed land where the impacts are likely to be largely local and the risk of secondary impact such as erosion low. Development within these areas can proceed with relatively little ecological and animal species impact provided that appropriate mitigation measures are taken.

High - Areas of natural or transformed land where a high impact is anticipated due to the high biodiversity value, sensitivity or important ecological role of the area. Development within these areas is undesirable and should only proceed with caution as it may not be possible to mitigate all impacts appropriately.

Very High - Critical and unique habitats that serve as habitat for rare/endangered species or perform critical ecological roles. These areas are essentially no-go areas from a developmental perspective and should be avoided at all costs.

2. APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

The proposed development within the study site is considered to elicit a requirement for possible compliance with the following legislation applicable to this assessment.

- The National Environmental Management: Biodiversity Act (Act 10 of 2004)

The potential applicability of the abovementioned acts to the subject site is provided below:

The National Environmental Management: Biodiversity Act (Act 10 of 2004)
This Act serves to control the disturbance and land utilisation within certain habitats, as well as the planting and control of certain exotic species. The effective disturbance and removal of species identified above, as well as possible other species (i.e. Threatened or Protected Species (TOPS) species), will require specific permission from the applicable authorities. No Threatened or Protected Species were recorded that requires a permit for disturbance or removal.

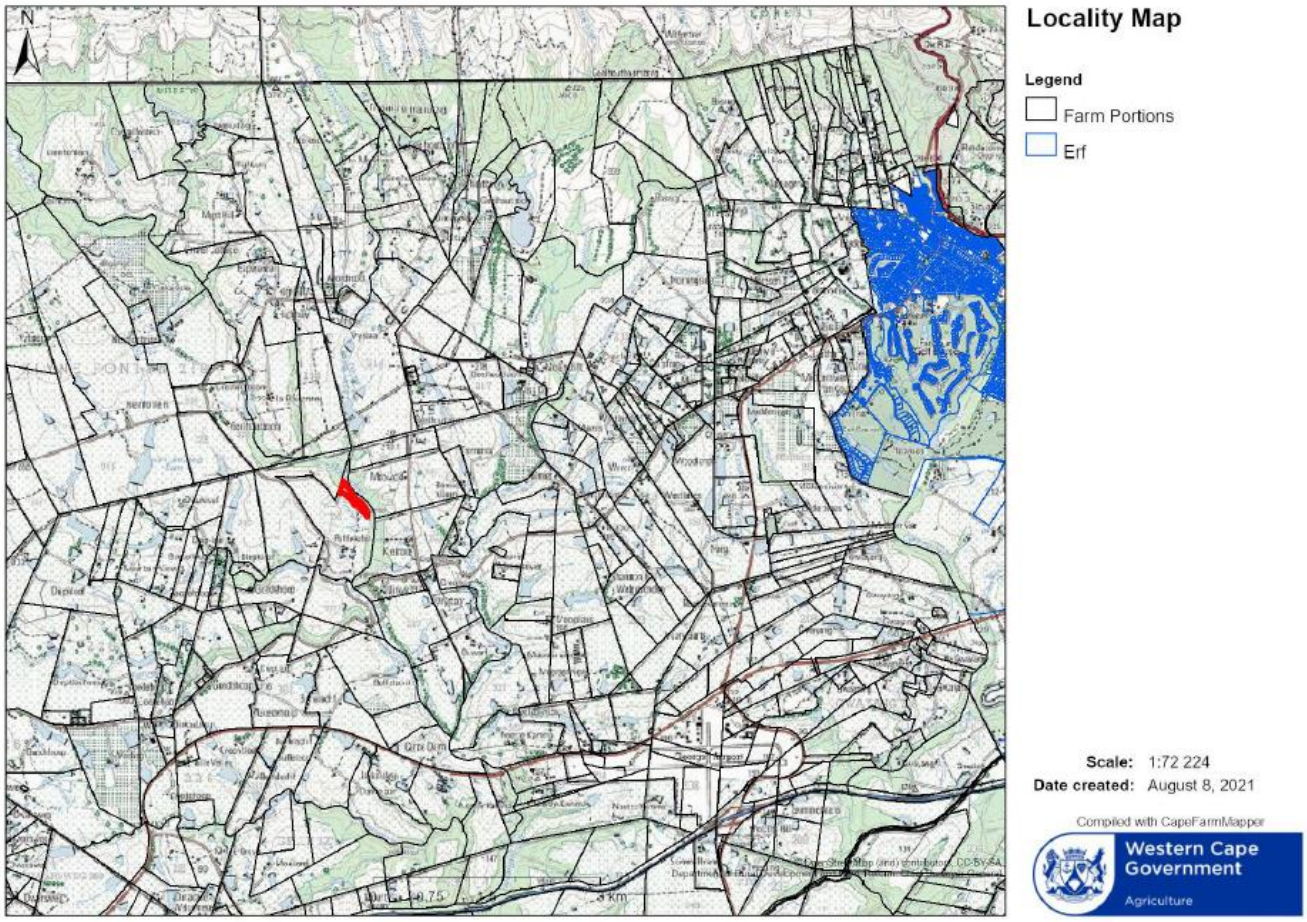
3. DESCRIPTION OF PROJECT ASPECTS RELEVANT TO ANIMAL SPECIES FEATURES

The proposed mine will consist of open cast gravel mine in phases and rehabilitated once mining is completed.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT.

4.1. Locality

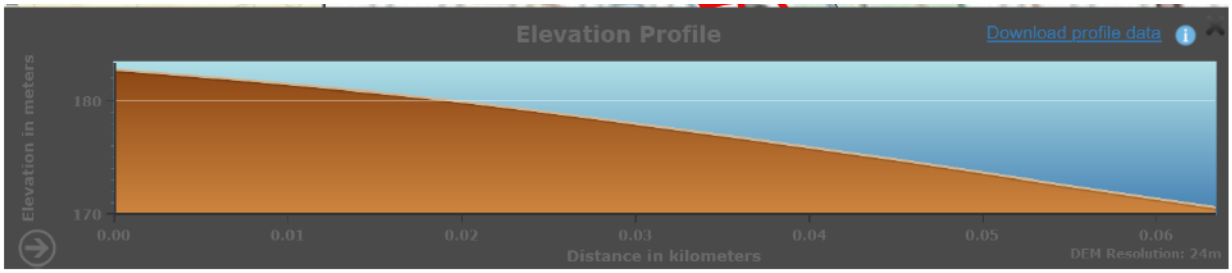
The subject site situated west of George and north of the N2 on the western border of the Witels Rivier.



Source: Cape Farm Mapper
Figure 2: Locality Map

4.2. Topography

The site is located on easterly sloping ground with a moderate slope towards the Witels Rivier.



4.3. Geology and Soils

Lithostratigraphic: CAPE GRANITE SUITE
Lithology: Porphyritic, medium or fine-grained granite and granodiorite, with subordinate syenite, gabbro, diorite and quartz porphyry.

4.4. Description of the Animal (Fauna) Species

Fauna occurring on site include assemblages within the terrestrial ecosystem and these includes mammals, birds, reptiles, amphibians, fish and invertebrates.

4.4.1. Identify The SCC Which Were Found, Observed Or Are Likely To Occur Within The Study Area

No fauna SCC were recorded on the site and due to previous and ongoing disturbances and transformation of the ecosystem on the proposed mine site none are expected to breed there and may only occasionally visit the site i.e. when looking for food or temporary shelter. No significant habitat conditions were recorded during the field survey which can be deemed favorable for any SCC. Even if any animal SCC occasionally visit the site the potential impacts of the proposed mining activities on this species, will not result in the loss or significant impacts on the population size of this species and change the conservation status of this species nor lead to its extinction. This is because the impacted area and habitat loss is very small (and temporary) in relation to the total remaining viable and less disturbed habitat adjacent to the proposed mining areas.

Avifauna:
Red Listed SCC of avifauna which may be visiting the area could include the following:

- Giant Eagle Owl *Bubo lacteus* (vulnerable and vagrant species)
- Stanley's Bustard *Neotis denhami* (Vulnerable)
- Blue Crane *Anthropoides paradiscus* (Vulnerable)
- Chestnut Banded Plover *Charadrius pallidus* (Near Threatened)
- Cape Vulture *Gyps coprotheres* (vulnerable)
- African Marsh Harrier *Circus ranivorus* (Vulnerable)
- Black Harrier *Circus maurus* (Near Threatened)
- Martial Eagle *Polemaetus bellicosus* (Vulnerable)
- Lesser Kestrel *Falco naumanni* (Vulnerable)
- Lanner Falcon *Falco biarmicus* (Near Threatened)
- Peregrine falcon *Falco peregrinus* (Near Threatened)

(Barnes 2000)

Observations and Findings:
None of the above species were observed on or near site the proposed mining areas during the survey and are more likely to only occasionally visit the site if present in the area and do not breed there.

Our confidence in predictions based on the availability of information and specialist knowledge is High - 90%.

Reptiles and Amphibians:
No SCC amphibian or reptile species are known and expected to occur within the site or immediate surrounds and no rare or localized species were recorded at the time of the survey.

Observations and Findings:
No rare and localized species were recorded at the time of the survey, and none are expected in viable numbers.

Our confidence in predictions based on the availability of information and specialist knowledge is High - 90%.

Mammals:
The following table gives the Red listed mammal and SCC species and their status which are predicted, or confirmed to occur in the general area, and possibly within the study area: (The Endangered Wildlife Trust and the South African National Biodiversity Institute 2016 Red List of Mammals of South Africa, Lesotho and Swaziland).

RED DATA MAMMAL SPECIES				
	COMMON NAME	**SCIENTIFIC NAME**	**RED DATA CATEGORY**	**PREDICTED OCCURENCE**
1	Lesueur's Wing-gland Bat	Cistugo lesueuri	Near threatened	Unlikely
2	Long-tailed Serotine Bat	*Eptesicus hottentotus*	Least Concern	Unlikely
3	Schreibers' Long-fingered Bat	*Miniopterus schreibersii*	Near Threatened	Unlikely
4	Temminck's Hairy Bat	*Myotis tricolor*	Near Threatened	Unlikely
5	Cape Serotine Bat	*Neoromicia capensis*	Least Concern	Possible
6	Egyptian Split Faced Bat	*Nycteris thebaica*	Near threatened	Possible
7	Cape horseshoe bat	*Rhinolophus capensis*	Near threatened	Possible
8	Geoffroy's horseshoe bat	*Rhinolophus clivosus*	Near threatened	Possible
9	Egyptian Fruit Bat	*Rousettus aegyptiacus*	Least Concern	Possible
10	Egyptian Free-tailed Bat	*Tadarida aegyptiaca*	Least Concern	Possible
11	Rock Hyrax	*Procavia capensis*	Least Concern	Unlikely
12	Cape Clawless Otter	*Aonyx capensis*	Least Concern	Likely
13	Water Mongoose	*Atilax paludinosus*	Least Concern	Likely
14	Black-backed Jackal	*Canis mesomelas*	Least Concern	Unlikely
15	Caracal	*Caracal caracal*	Least Concern	Likely
16	Yellow Mongoose	*Cynictis penicillata*	Least Concern	Likely

17	African Wild Cat	*Felis silvestris*	Least Concern	Likely
18	Small Grey Mongoose	*Galerella pulverulenta*	Least Concern	Possible
19	Small-spotted Genet	*Genetta genetta*	Least Concern	Likely
20	Large-spotted Genet	*Genetta tigrina*	Least Concern	Likely
21	Large Grey Mongoose	*Herpestes ichneumon*	Least Concern	Likely
22	Striped Polecat	*Ictonyx striatus*	Least Concern	Unlikely
23	Honey badger	*Mellivora capensis*	Near threatened	Likely
24	Bat-eared Fox	*Otocyon megalotis*	Least Concern	Likely
25	Leopard	*Panthera pardus*	Least Concern	Unlikely
26	African Weasel	*Poecilogale albinucha*	Data deficient	Unlikely
27	Aardwolf	*Proteles cristatus*	Least Concern	Possible
28	Cape Fox	*Vulpes chama*	Least Concern	Possible
29	Red Hartebeest	*Alcelaphus buselaphus*	Least Concern	Unlikely
30	Springbok	*Antidorcas marsupialis*	Least Concern	Unlikely
31	Klipspringer	*Oreotragus oreotragus*	Least Concern	Unlikely
32	Grey Rhebok	*Palea capreolus*	Least Concern	Unlikely
33	Steenbok	*Raphicerus campestris*	Least Concern	Likely
34	Cape Grysbok	*Raphicerus melanotis*	Least Concern	Unlikely
35	Common Duiker	*Sylvicapra grimmia*	Least Concern	Likely. Droppings recorded
36	Eland	*Taurotragus oryx*	Least Concern	Unlikely
37	Bushbuck	*Tragelaphus scriptus*	Least Concern	Possible
38	Fynbos golden mole	*Amblysomus corriae*	Near threatened	Possible
39	Cape golden mole	*Chrysochloris asiatica*	Data deficient	Possible
40	Reddish-grey Musk Shrew	*Crocidura cyanea*	Data Deficient	Unlikely
41	Greater Musk Shrew	*Crocidura flavescens*	Data Deficient	Unlikely
42	Forest shrew	*Myosorex varius*	Data deficient	Unlikely
43	Lesser Dwarf Shrew	*Suncus varilla*	Data Deficient	Unlikely
44	Cape Hare	*Lepus capensis*	Least Concern	Likely
45	Scrub Hare	*Lepus saxatilis*	Least Concern	Possible
46	Chacma Baboon	*Papio ursinus*	Least Concern	Unlikely
47	Cape Spiny Mouse	*Acomys subspinosus*	Least Threatened	Possible
48	Namaqua Rock Mouse	*Aethomys namaquensis*	Least Threatened	Unlikely
49	Cape Dune Mole Rat	*Bathyergus suillus*	Least Concern	Unlikely
50	Common Mole Rat	*Cryptomys hottentotus*	Least Concern	Unlikely
51	Grey Climbing Mouse	*Dendromus melanotis*	Least Concern	Possible
52	Brant's Climbing Mouse	*Dendromus mesomelas*	Least Concern	Unlikely
53	Short-tailed Gerbil	*Desmodillus auricularis*	Least Concern	Possible
54	Cape Mole Rat	*Georychus capensis*	Least Concern	Unlikely
55	Hairy Footed Gerbil	*Gerbillurus paeba*	Least Concern	Possible
56	Spectacled Dormouse	*Graphiurus ocularis*	Least Concern	Possible
57	Porcupine	*Hystrix africaeaustralis*	Least Concern	Likely
58	Pygmy Mouse	*Mus minutoides*	Least Concern	Unlikely
59	Verreaux's Mouse	*Myomyscus verreauxi*	Least Concern	Unlikely
60	White-Tailed Rat	*Mystromys albicaudatus*	Endangered	Unlikely

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27	Aardwolf	*Proteles cristatus*	Least Concern	Possible
28	Cape Fox	*Vulpes chama*	Least Concern	Possible
29	Red Hartebeest	*Alcelaphus buselaphus*	Least Concern	Unlikely
30	Springbok	*Antidorcas marsupialis*	Least Concern	Unlikely
31	Klipspringer	*Oreotragus oreotragus*	Least Concern	Unlikely
32	Grey Rhebok	*Palea capreolus*	Least Concern	Unlikely
33	Steenbok	*Raphicerus campestris*	Least Concern	Likely
34	Cape Grysbok	*Raphicerus melanotis*	Least Concern	Unlikely
35	Common Duiker	*Sylvicapra grimmia*	Least Concern	Likely. Droppings recorded
36	Eland	*Taurotragus oryx*	Least Concern	Unlikely
37	Bushbuck	*Tragelaphus scriptus*	Least Concern	Possible
38	Fynbos golden mole	*Amblysomus corriae*	Near threatened	Possible
39	Cape golden mole	*Chrysochloris asiatica*	Data deficient	Possible
40	Reddish-grey Musk Shrew	*Crocidura cyanea*	Data Deficient	Unlikely
41	Greater Musk Shrew	*Crocidura flavescens*	Data Deficient	Unlikely
42	Forest shrew	*Myosorex varius*	Data deficient	Unlikely
43	Lesser Dwarf Shrew	*Suncus varilla*	Data Deficient	Unlikely
44	Cape Hare	*Lepus capensis*	Least Concern	Likely
45	Scrub Hare	*Lepus saxatilis*	Least Concern	Possible
46	Chacma Baboon	*Papio ursinus*	Least Concern	Unlikely
47	Cape Spiny Mouse	*Acomys subspinosus*	Least Threatened	Possible
48	Namaqua Rock Mouse	*Aethomys namaquensis*	Least Threatened	Unlikely
49	Cape Dune Mole Rat	*Bathyergus suillus*	Least Concern	Unlikely
50	Common Mole Rat	*Cryptomys hottentotus*	Least Concern	Unlikely
51	Grey Climbing Mouse	*Dendromus melanotis*	Least Concern	Possible
52	Brant's Climbing Mouse	*Dendromus mesomelas*	Least Concern	Unlikely
53	Short-tailed Gerbil	*Desmodillus auricularis*	Least Concern	Possible
54	Cape Mole Rat	*Georychus capensis*	Least Concern	Unlikely
55	Hairy Footed Gerbil	*Gerbillurus paeba*	Least Concern	Possible
56	Spectacled Dormouse	*Graphiurus ocularis*	Least Concern	Possible
57	Porcupine	*Hystrix africaeaustralis*	Least Concern	Likely
58	Pygmy Mouse	*Mus minutoides*	Least Concern	Unlikely
59	Verreaux's Mouse	*Myomyscus verreauxi*	Least Concern	Unlikely
60	White-Tailed Rat	*Mystromys albicaudatus*	Endangered	Unlikely

61	Vlei Rat	*Otomys irroratus*	Least Concern	Likely. Droppings recorded during survey
62	Laminate Vlei Rat	*Otomys laminatus*	Least Concern	Likely
63	Saunders Vlei Rat	*Otomys saundersiae*	Least Concern	Likely
64	Karoo Bush Rat	*Otomys unisulcatus*	Least Concern	Unlikely
65	Striped Mouse	*Rhabdomys pumilio*	Least Concern	Likely
66	Pouched Mouse	*Saccostomus campestris*	Least Concern	Unlikely
67	Kreb's Fat Mouse	*Steatomys krebsii*	Least Concern	Possible
68	Cape Gerbil	*Tatera afra*	Least Concern	Unlikely
69	Cape Rock Elephant-shrew	*Elephantulus edwardii*	Least Concern	Unlikely
70	Aardvark	*Orycteropus afer*	Least Concern	Unlikely

Observations and Findings:
No SCC mammal species as listed were observed during the survey of the proposed mining activities areas at the time of the survey and if they are present on the property they are expected to only occasionally visit the proposed activities areas.

Our confidence in predictions based on the availability of information and specialist knowledge is High - 90%.

4.4.2. Provide Evidence (Photographs Or Sound Recordings) Of Each SCC Found Or Observed Within The Study Area

No fauna SCC were recorded on the site and due to previous and ongoing disturbances and transformation of the ecosystem on the site none are expected to breed there and may only occasionally visit the site i.e. when looking for food or temporary shelter. No significant habitat conditions were recorded during the field survey which can be deemed favorable for any SCC. Even if any animal SCC occasionally visit the site the potential impacts of the proposed mining activities on this species, will not result in the loss or significant impacts on the population size of this species and change the conservation status of this species nor lead to its extinction. This is because the impacted area and habitat loss is very small (and temporary) in relation to the total remaining viable and less disturbed habitat adjacent to the proposed mining areas. The proposed mining area is to be rehabilitated to a similar condition than its current low sensitivity ecological state.

Refer to the Terrestrial Biodiversity Impact Assessment for relevant maps and site photographs and more detailed description of the current ecological state of the site.

4.4.3. Identify The Distribution, Location, Viability And Provide A Detailed Description Of Population Size Of The SCC

No fauna SCC were recorded on the site and due to previous and ongoing disturbances and transformation of the ecosystem on the site none are expected to breed there and may only occasionally visit the site i.e. when looking for food or temporary shelter. No significant habitat conditions were recorded during the field survey which can be deemed favorable for any SCC. Even if any animal SCC occasionally visit the site the potential impacts of the proposed mining activities on this species, will not result in the loss or significant impacts on

the population size of this species and change the conservation status of this species nor lead to its extinction. This is because the impacted area and habitat loss is very small (and temporary) in relation to the total remaining viable and less disturbed habitat adjacent to the proposed mining areas. The proposed mining area is to be rehabilitated to a similar condition than its current low sensitivity ecological state.

4.4.4. Identify The Nature And The Extent Of The Potential Impact Of The Proposed Development On The Population Of The SCC

No fauna SCC were recorded on the site and due to previous and ongoing disturbances and transformation of the ecosystem on the site none are expected to breed there and may only occasionally visit the site i.e. when looking for food or temporary shelter. No significant habitat conditions were recorded during the field survey which can be deemed favorable for any SCC. Even if any animal SCC occasionally visit the site the potential impacts of the proposed mining activities on this species, will not result in the loss or significant impacts on the population size of this species and change the conservation status of this species nor lead to its extinction. This is because the impacted area and habitat loss is very small (and temporary) in relation to the total remaining viable and less disturbed habitat adjacent to the proposed mining areas. The proposed mining area is to be rehabilitated to a similar condition than its current low sensitivity ecological state.

4.4.5. Determine The Importance Of The Conservation Of The Population Of The SCC Identified Within The Study Area

No fauna SCC were recorded on the site and due to previous and ongoing disturbances and transformation of the ecosystem on the site none are expected to breed there and may only occasionally visit the site i.e. when looking for food or temporary shelter. No significant habitat conditions were recorded during the field survey which can be deemed favorable for any SCC. Even if any animal SCC occasionally visit the site the potential impacts of the proposed mining activities on this species, will not result in the loss or significant impacts on the population size of this species and change the conservation status of this species nor lead to its extinction. This is because the impacted area and habitat loss is very small (and temporary) in relation to the total remaining viable and less disturbed habitat adjacent to the proposed mining areas. The proposed mining area is to be rehabilitated to a similar condition than its current low sensitivity ecological state.

4.4.6. List of Species, and/or other relevant databases

Fish
No fish species are present on the site nor within close proximity to the site.

Invertebrates
It is expected that the area is not rich and diverse invertebrate life. The proposed mining, if restricted to recommended area of is not expected to have a significant detrimental impact on the expected rich diversity status of the invertebrate species populations within the area.

Amphibians and Reptiles:
Although no reptile species were recorded at the time of the survey it is expected that the area does not have a rich and diverse reptile life. The proposed mining, if restricted to recommended area is not expected to have a significant detrimental impact on the

expected rich diversity status of the reptile species populations within the area. If any tortoises are encountered during mining activities they can simply be moved to adjacent areas not to be mined within a similar and less transformed state.

No permanent natural water bodies with wetland characteristic occurs on the proposed mine site. Amphibians will be present in the close by Witels river, but will not be affected by the mine.

Mammals:
Sylvicapra grimmia and *Otomys irroratus* droppings were the only signs of terrestrial animal live recorded on the site during the survey. The proposed mining, if restricted to recommended area is however not expected to have a significant detrimental impact on the expected diversity status of the mammal species populations within the area.

Birds (Avifauna):
Bird species known to occur on the property will be temporarily impacted upon by the proposed mining activities, but they could simply fly away and move out to the surrounding veld and will return after rehabilitation. No breeding or roosting sites were observed on site during the survey.

No SCC were identified during the survey. This survey did not identify the study area as a regionally important site from an animal species point of view, as it does not lie within a high sensitivity ecological or botanical area.

4.4.7. Determine the Potential Impact Of The Proposed Development On The Habitat Of The SCC Located Within The Study Area

No fauna SCC were recorded on the site and due to previous and ongoing disturbances and transformation of the ecosystem on the site none are expected to breed there and may only occasionally visit the site i.e. when looking for food or temporary shelter. No significant habitat conditions were recorded during the field survey which can be deemed favorable for any SCC. Even if any animal SCC occasionally visit the site the potential impacts of the proposed mining activities on this species, will not result in the loss or significant impacts on the population size of this species and change the conservation status of this species nor lead to its extinction. This is because the impacted area and habitat loss is very small (and temporary) in relation to the total remaining viable and less disturbed habitat adjacent to the proposed mining areas. The proposed mining area is to be rehabilitated to a similar condition than its current low sensitivity ecological state.

4.4.8. Include A Review Of Relevant Literature On The Population Size Of The SCC, The Conservation Interventions As Well As Any National Or Provincial Species Management Plans For The SCC

No fauna SCC were recorded on the site and due to previous and ongoing disturbances and transformation of the ecosystem on the site none are expected to breed there and may only occasionally visit the site i.e. when looking for food or temporary shelter. No significant habitat conditions were recorded during the field survey which can be deemed favorable for any SCC. Even if any animal SCC occasionally visit the site the potential impacts of the proposed mining activities on this species, will not result in the loss or significant impacts on the population size of this species and change the conservation status of this species nor

lead to its extinction. This is because the impacted area and habitat loss is very small (and temporary) in relation to the total remaining viable and less disturbed habitat adjacent to the proposed mining areas. The proposed mining area is to be rehabilitated to a similar condition than its current low sensitivity ecological state.

4.4.9. Identify Any Dynamic Ecological Processes Occurring Within the Broader Landscape That Might Be Disrupted By The Development And Result In Negative Impact On The Identified SCC

No fauna SCC were recorded on the site and due to previous and ongoing disturbances and transformation of the ecosystem on the site none are expected to breed there and may only occasionally visit the site i.e. when looking for food or temporary shelter. No significant habitat conditions were recorded during the field survey which can be deemed favorable for any SCC. Even if any animal SCC occasionally visit the site the potential impacts of the proposed mining activities on this species, will not result in the loss or significant impacts on the population size of this species and change the conservation status of this species nor lead to its extinction. This is because the impacted area and habitat loss is very small (and temporary) in relation to the total remaining viable and less disturbed habitat adjacent to the proposed mining areas. The proposed mining area is to be rehabilitated to a similar condition than its current low sensitivity ecological state.

4.4.10. Identify Any Potential Impact of Ecological Connectivity in Relation To The Broader Landscape

The property is not ecologically connected and does not support ecological processes and fine-scale habitats. The proposed mine site is however ecological connected and support ecological processes associated with Freshwater Ecology. The site was included as a Terrestrial Critical Biodiversity Area category in the Western Cape Biodiversity Spatial Plan. This indicates the very high conservation value of the property. There is an existing mine on the southern border of the proposed mine area. If the mine activities are controlled in terms of the mitigation and rehabilitation measures to be included in the mine closure plan and EMPr are adhered to, then the terrestrial ecological processes will not be altered, and the mined area will continue to be ecologically connected.

The terrestrial area was significantly altered as a result of agricultural activities on this area in the past. The vegetation is commonly dominated by alien grasses (*Pennisetum clandestinum*), *and the following pioneer species were recorded at the time of the site survey: Cynodon dactylon; Helichrysum petiolare, Eragrostis curvula, Paspalum dilatatum, Arctopus sp,* and next to the non-perennial river the vegetation is dominated and invaded by *Acacia mearnsii*.

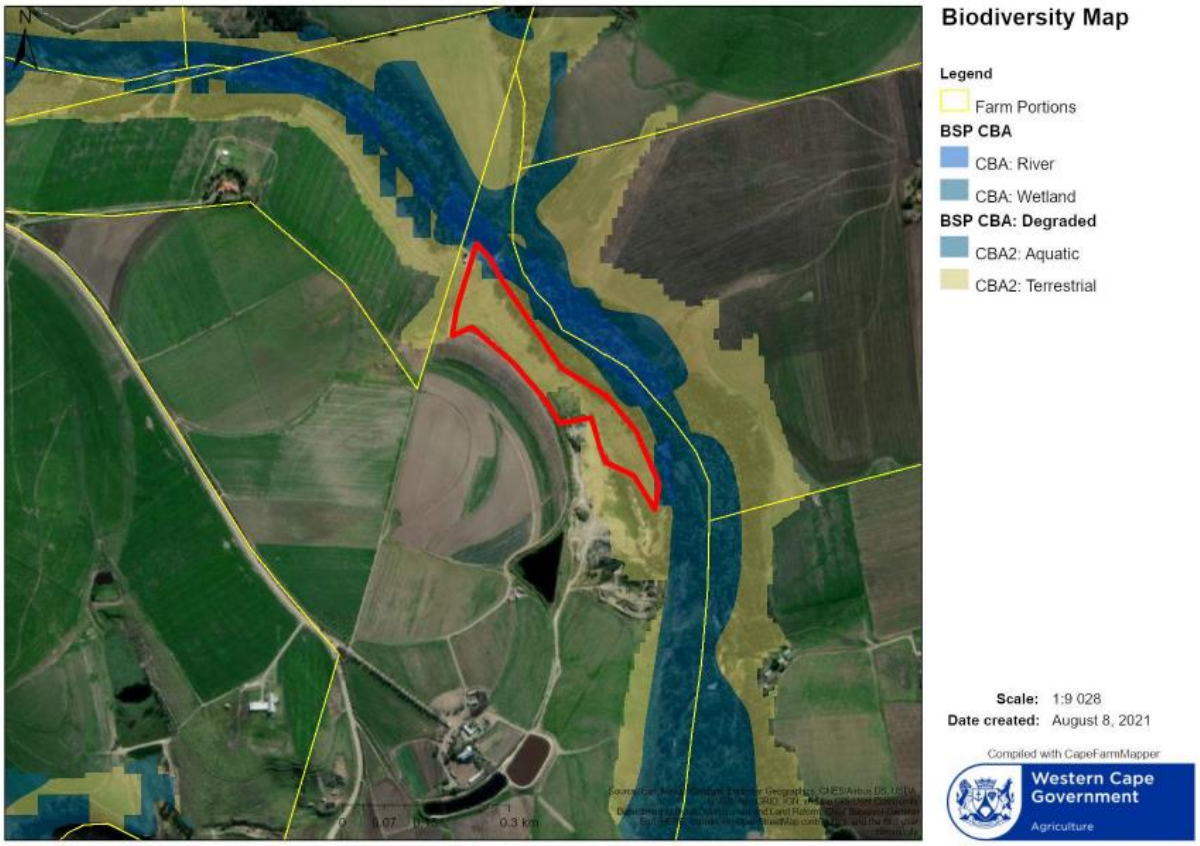

Figure 3: CBA Map

No animal movement or important corridors were mapped for the study area as well as immediate surrounds areas. The surveyed site is not within a Protected Area, nor within 5 kilometres of a Protected Area, are not within 10 kilometres of a World Heritage Site nor an Ecological Support Area (ESA), the various related regulations within the National Environmental Management Act and the NEM Protected Areas Act are therefore not applicable to this site. It is also noted that the site does not fall within any expansion area in terms of a conservation strategy for the Western Cape.

4.4.11. Discuss The Presence Or Likelihood Of Additional SCC Including Threatened Species Not Identified By The Screening Tool

No SCC were recorded at the time of the survey nor are expected to occur on site.

4.4.12. Identify Any Alternative Development Footprints Within The Preferred Site Which Would Be Of "Low" Or "Medium" Sensitivity

The ecological, plant and animal species sensitivity map for the site is depicted below.

The site is considered suitable for the proposed mining activities as it falls within the medium sensitivity area mapped for the property.

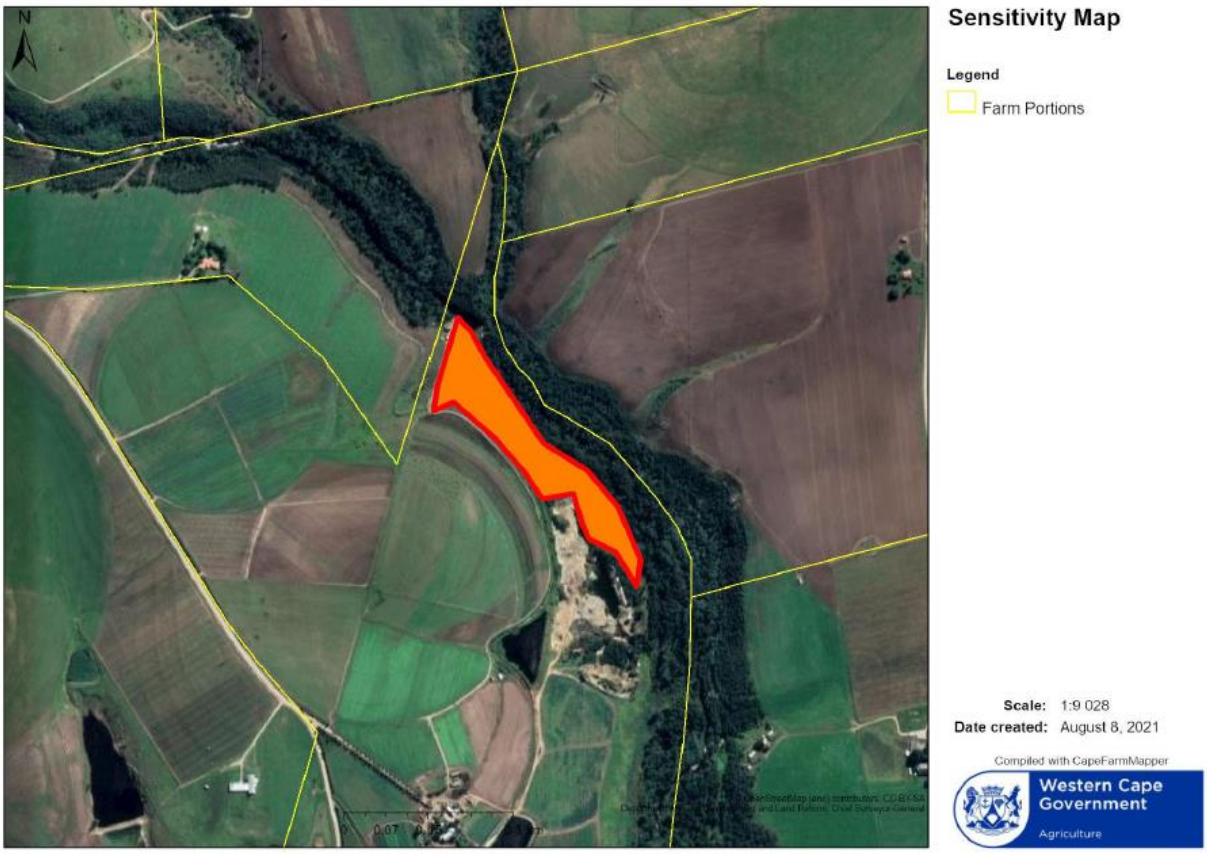

Figure 4. Ecological Sensitivity map. **Orange** – Medium sensitivity

The ecological sensitivity of the mining area is classified as of **low animal sensitivity** due to the following reasons:

- The surveyed site is not within a Protected Area, nor within 5 kilometres of a Protected Area, are not within 10 kilometres of a World Heritage Site.
- No flora or fauna Species of Conservation Concern (SCC) were recorded on the site and due to previous and ongoing disturbances the site is not expected to be used by any fauna SCC as breeding habitat.

Therefore, it is recommended that if mitigation measures as proposed within this report are implemented the proposed mining area is preferred from an indigenous fauna species impact point of view and can be mined without any significant negative or irreversible impacts on indigenous animal species of the site and surrounds.

5. IMPACT ASSESSMENT

5.1. Assessment & Significance Criteria

The assessment criteria used in the assessment are drawn from the protocol for the specialist assessment and minimum report content requirements for environmental impacts (published in Government Notice **no. 1150 in** Government Gazette **43855** 30 October 2020) were used.

5.2. Assessment of Potential Impacts

The impacts identified are assessed below, before and after mitigation as well as during construction.

The impact assessment which follows is based on the site sensitivity and any deviations from the site sensitivity map as provided may invalidate the results of the assessment.

5.3. Risk Assessment Criteria

Step 1: Determine the **PROBABILITY** of the impact by calculating the average between the Frequency of the Aspect, the Availability of a pathway to the receptor and the availability of the receptor (thus: Sum of the three column scores below ÷ 3)

Frequency of Aspect / Unwanted Event	Score	Availability of pathway from the source to the receptor	Score	Availability of receptor	Score
Never known to have happened, but may happen	1	A pathway to allow for the impact to occur is never available	1	The receptor is never available	1
Known to happen in industry	2	A pathway to allow for the impact to occur is almost never available	2	The receptor is almost never available	2
< once a year	3	A pathway to allow for the impact to occur is sometimes available	3	The receptor is sometimes available	3
Once per year to up to once per month	4	A pathway to allow for the impact to occur is almost always available	4	The receptor is almost always available	4
Once a month - Continuous	5	A pathway to allow for the impact to occur is always available	5	The receptor is always available	5

Step 2: Determine the **MAGNITUDE** of the impact by calculating the average of the factors below (thus: Sum of all six column ratings below ÷ 6)

Source								Receptor			
Duration of impact	**Score**	**Extent**	**Score**	**Volume / Quantity / Intensity**	**Score**	**Toxicity / Destruction Effect**	**Score**	**Reversibility**	**Score**	**Sensitivity of environmental component**	**Score**
Lasting days to a month	1	Effect limited to the site. (metres);	1	Very small quantities / volumes / intensity (e.g. < 50L or < 1Ha)	1	Nontoxic (e.g. water) / Very low potential to create damage or destruction to the environment	1	Bio-physical and/or social functions and/or processes will remain unaltered.	1	Current environmental component(s) are largely disturbed from the natural state. Receptor of low significance / sensitivity	1
Lasting 1 month to 1 year	2	Effect limited to the activity and its immediate surroundings. (tens of metres)	2	Small quantities / volumes / intensity (e.g. 50L to 210L or 1Ha to 5Ha)	2	Slightly toxic / Harmful (e.g. diluted brine) / Low potential to create damage or destruction to the environment	2	Bio-physical and/or social functions and/or processes might be negligibly altered or enhanced / Still reversible	2	Current environmental component(s) are moderately disturbed from the natural state. No environmentally sensitive components.	2
Lasting 1 – 5 years	3	Impacts on extended area beyond site boundary (hundreds of metres)	3	Moderate quantities / volumes / intensity (e.g. > 210 L < 5000L or 5 – 8Ha)	3	Moderately toxic (e.g. slimes) Potential to create damage or destruction to the environment	3	Bio-physical and/or social functions and/or processes might be notably altered or enhanced / Partially reversible	3	Current environmental component(s) are a mix of disturbed and undisturbed areas. Area with some environmental sensitivity (scarce / valuable environment etc.).	3
Lasting 5 years to Life of Organisation	4	Impact on local scale / adjacent sites (km's)	4	Very large quantities / volumes / intensity (e.g. 5000 L – 10 000L or 8Ha– 12Ha)	4	Toxic (e.g. diesel & Sodium Hydroxide)	4	Bio-physical and/or social functions and/or processes might be considerably altered or enhanced / potentially irreversible	4	Current environmental component(s) are in a natural state. Environmentally sensitive environment / receptor (endangered species / habitats etc.).	4

Source								Receptor			
Duration of impact	Score	Extent	Score	Volume / Quantity / Intensity	Score	Toxicity / Destruction Effect	Score	Reversibility	Score	Sensitivity of environmental component	Score
Beyond life of Organization / Permanent impacts	5	Extends widely (nationally or globally)	5	Very large quantities / volumes / intensity (e.g. > 10 000 L or > 12Ha)	5	Highly toxic (e.g. arsenic or TCE)	5	Bio-physical and/or social functions and/or processes might be severely/substantially altered or enhanced / Irreversible	5	Current environmental component(s) are in a pristine natural state. Highly Sensitive area (endangered species, wetlands, protected habitats etc.)	5

Step 3: Determine the **SEVERITY** of the impact by plotting the averages that were obtained above for Probability and Magnitude in the table below.

ENVIRONMENTAL IMPACT RATING / PRIORITY					
	MAGNITUDE				
PROBABILITY	1 Minor	2 Low	3 Medium	4 High	5 Major
5 Almost Certain	Low	Medium	High	High	High
4 Likely	Low	Medium	High	High	High
3 Possible	Low	Medium	Medium	High	High
2 Unlikely	Low	Low	Medium	Medium	High
1 Rare	Low	Low	Low	Medium	Medium

ANIMAL SPECIES IMPACTS

Proposed development of whole property	**Degradation / loss of naturally occurring / indigenous fauna and habitats**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**Loss of animal species and habitat**
Nature of impact:	**The ousting of fauna through anthropogenic activities, disturbance of refugia and general change in habitat.**
Extent and duration of impact:	**Extent 2 & Duration 5**
Consequence of impact or risk:	**Activities can disturb and impact on onsite and surrounding animal species.**
Magnitude	**3**
Probability of occurrence:	**5**
Degree to which the impact may cause irreplaceable loss of resources:	**Resource will be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Not reversible**
Indirect impacts:	**Disturbance to surface area can result in loss of habitat and impact on animal species.**
Cumulative impact prior to mitigation:	**Loss of animal species and their habitat.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**2**
Proposed mitigation:	**Construction activities must be controlled to ensure that the non development areas are not negatively impacted.** **Undertake construction activities only in identified and specifically demarcated areas.** **Search and rescue for animal species be conducted prior to construction and animal species captured (where possible) and relocated to surrounding non-impacted areas.**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**
OPERATIONAL PHASE	
Potential impact and risk:	**Loss of animal species and habitat**
Nature of impact:	**The ousting of fauna through anthropogenic activities, disturbance of refugia and general change in habitat.**

Extent and duration of impact:	**Extent 2 (On site or within 100 m of the site) & Duration 4 (>15 years)**
Consequence of impact or risk:	**Loss impacted on indigenous vegetation and habitat.**
Magnitude	**3**
Probability of occurrence:	**3 (Probable)**
Degree to which the impact may cause irreplaceable loss of resources:	**Resource will be partly destroyed (PR)**
Degree to which the impact can be reversed:	**Not reversible**
Indirect impacts:	**Disturbance to surface area can result in erosion and dust generation which may affect surrounding animal species.**
Cumulative impact prior to mitigation:	**Loss of significantly impacted upon vegetation and animal species habitat.**
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**
Degree to which the impact can be avoided:	**High**
Degree to which the impact can be managed:	**High**
Degree to which the impact can be mitigated:	**2**
Proposed mitigation:	**Operational activities must be controlled to ensure that the adjacent vegetated areas are not negatively impacted. The main impacts that must be controlled is dust. Undertake operational activities only in identified and specifically demarcated areas. Invasive vegetation to be removed.**
Residual impacts:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Cumulative impact post mitigation:	**It is not anticipated that the impact will be high if the mitigation measures are adhered to.**
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**

Cumulative Impacts

Cumulative impacts arise from the combined presence of several similar developments within an area which affect animal species. There are other developments that also represents a source of disturbance and habitat loss, which when combined with the proposed development would result in some cumulative impact. However, when taken in context of the broader landscape, the cumulative impacts are not likely to be highly significant given the animal species known to occur in the broader area.

6. CONCLUSION AND RECOMMENDATIONS

The sampling and analysis of the site during the optimum season, provides suitable data and results to present an informed decision on the local animal species. The lists of species for the site are based on those observed at the site as well as those likely to occur in the area based on their distribution and habitat preferences. This represents a sufficiently conservative and cautious approach. During the site visit, the different biodiversity features, habitat, vegetation and landscape units present were identified and recorded in the field. Walk-through-surveys were conducted of representative habitats and areas of interest and species observed were recorded. Searches for listed species of conservation concern at the site were conducted, but none were observed which required the recording of their location. The presence of sensitive habitats such as SCC habitats are not present and therefore was not recorded and mapped.

The study recorded medium sensitivity areas within the study area. The development of the site would have a **Low Negative** impact on terrestrial animal species. The proposed development on the whole property will have relatively little animal species impacts provided that appropriate mitigation measures included in the impact table above are included in the EMPr and adhered to.

No additional survey or further assessment is in the authors view recommended.

Provided that activities are restricted to the property and the mitigation measures to reduce the impacts of the activities are implemented, then the activities are not likely to result in long-term degradation of the receiving environment or significant net loss of SCC animal species.

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APPENDIX A
SPECIALIST CV

CURRICULUM VITAE – NICOLAAS WILLEM HANEKOM

Profession: Environmental Scientist and Environmental Assessment Practitioner
Date of Birth: 01/02/1967

BIOGRAPHICAL SKETCH

Nicolaas Hanekom is a qualified Environmental Assessment Practitioner ("EAP") who holds a Masters Technologiae, Nature Conservation ("Vegetation Ecology and Biodiversity Assessment") degree from the Cape Peninsula University of Technology. Nicolaas is certified in terms of section 20(3)(a) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003), as a Professional Natural Scientist (Ecological Science) Registration Number: 4008274/11. He further qualified in Environmental Management Systems ISO 14001:2004, at the Centre for Environmental Management, North-West University, as well as Environmental Management Systems ISO 14001:2004 Audit: Internal Auditors Course to ISO 19011:2003 level, from the Centre for Environmental Management, North-West University qualifying him to execute audits to ISO/SANS environmental compliance and EMS standards.

He has also completed the suite of Greener Governance courses with certificates in;

- An Overview of Environmental Management at the Local Government Level, Centre for Environmental Management, North-West University;
- Greener Governance for Local Authorities, Centre for Environmental Management, North-West University;
- Tools for Integrated Environmental Management and Governance, Centre for Environmental Management, North-West University.

He further attended and obtained a certificate on Integrated Protected Area Planning at the Centre for Environmental Development, University of Kwa Zulu Natal and a certificate in Project Management (Theory and Practical), through CS Holdings. Nicolaas has lectured in two subjects at the Cape Peninsula University of Technology. He has 26 years of environmental planning experience, working for Free State and Western Cape departments of environmental affairs, where he reviewed and commented on development (EIA) applications, in the West Coast Region.

He has, as practising EAP been responsible for many environmental impact assessments and EIA applications, waste license and atmospheric emission license applications.

He has also been involved in the implementation of several environmental management systems. He has engaged successfully with various clients as set out below.

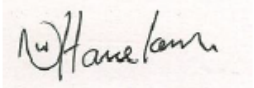
Areas of specialisation:	• Ecosystem (terrestrial and aquatic) monitoring and assessments • Design of monitoring programmes for ecosystems (terrestrial and aquatic) • Environmental Impact Assessments • River classification and environmental water requirements • Wetlands Delineation • River and Wetlands management • Water Use Authorization Applications • Water quality management • River Health Assessments
Countries of Work Experience:	South Africa (Northern Cape, Western Cape, Free State, Mpumalanga, Gauteng)
Employment Record	• Student at Bontebok National Park (1992) • Assistant Reserve Manager at Gariep Dam Nature Reserve, Free State (1993 - 1998) • Reserve Manager, Conservation Services Manager for Western Cape Nature Conservation Board (1998 - 2006) • External Lecturer at Cape Peninsula University of Technology (2003 - 2005) • Director: Environmental Management at Cape Lowlands Environmental Services (2006 – 2010) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Eco Impact (Pty) Ltd (2010 – to August 2019) • Director, Environmental Management and lead Environmental Impact Assessment Practitioner at Enviro-EAP (Pty) Ltd (September 2019 – to date)
Professional membership, accreditations and courses	• South African Council for Natural Scientists Professions Pri.Sci.Nat (Ecological Science) • Riparian vegetation identification and health assessment. Internal Western Cape Nature Conservation short course presented by Dr C Boucher (Stellenbosch University) in 2000. • SASS5 Aquatic Biomonitoring Training Course. 2 to 5 September 2013. Ground Truth Water and Environmental Engineering consultancy in partnership with the Department of Water Affairs. • Workshop on "Section 21(c) and (i) Water Use Training: Understanding Watercourses and Managing Impacts to their Characteristics". 10 May 2017. Presented by Dr Wietsche Roets of the Department of Water and Sanitation (Sub-Directorate: Instream Water Use).
Summary of experience	1992: South African National Parks. Student at Bontebok National Park with management and monitoring actions related to the

	Breede River. 1993 -1998: Free State Nature Conservation. Ecological management and monitoring actions related to the Gariep Dam, Orange and Caledon Rivers. 1998 -2006: CapeNature. Ecological management and monitoring actions related to the Berg River Estuary, Verlorenvlei, Lamberts bay's Jackalsvlei, Wadrift Soutpanne, Oliphant's River mouth, Rocherpan Nature Reserve, etc. Review and assessment of EIA applications, inclusive of Freshwater ecology. Did some site visits with Department of Water Affairs and Forestry (Hester Lyons) to confirm the presence of aquatic ecological features during EIA water use registration applications. 2006 to date: Cape Lowland Environmental Services, Eco Impact Legal Consultant and Enviro-EAP. Ecological (Freshwater and aquatic) Specialist input, assessment, monitoring and reports.
Publications and assessment reports	Just to name a few. Was involved in many Ecological Assessments, monitoring and inputs in EIA applications. • Elandskloof Farm 475 Citrusdal Biodiversity Baseline Survey. August 2010. This Biodiversity Assessment Covering Terrestrial and Aquatic Aspects to Inform Decisions Regarding The Proposed Elandskloof Weir Flood Damage Project On Farm 475, In The Citrusdal Area. • Cape Solar Energy Electricity Generation Facility. Farm 187/3 & 187/13 Kenhardt. Biodiversity And Ecological Baseline Survey. January 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Prieska Photvoltaic Power Generation Project. Prieska Commonage Northern Cape. Biodiversity And Ecological Baseline Survey. July 2011. (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Witteklip Erf 123 Extension, Vredenburg. Biodiversity Baseline Survey. Updated - October 2012 (Included Terrestrial and aquatic ecological assessments and water use authorization applications) • Baseline Biodiversity Survey And Wetland Delineation for ECCA Holdings: Cape Bentonite Mine on Erf 1412 Near Heidelberg. Prepared for: Shangoni Management Services Pry (Ltd). October 2014. • Freshwater Impact Assessment Laingsburg Flood Damage Repairs & Storm Water Infrastructure. 18 February 2016. • Ecological Assessment for Swartland Municipality - Upgrades To Voortrekker/Bokomo Road And Voortrekker/Rozenburg Road Intersections and Upgrade to the Diep River Bridge, Malmesbury on A Portion Of Erf 327, Malmesbury (Road) Erf

	1530, Diep River Bridge Crossing, and Erf 1528, Property South of Diep River where Road Widening and Turning Circle Will Be Constructed. March 2016. (Freshwater Ecology Inputs and Water Use Registration) • Freshwater Impact Assessment. McGregor Bridge, Robertson Bridge and Willem Nels River Maintenance Management Plan. 24 June 2016. (Freshwater Ecology assessment and input as well as Water Use Registration) • Water Use Authorization Application Risk Matrix. Orange Grove Trust Vegetation Clearing and Agricultural Development on Portion 4 of Farm Glen Heatlie No 316, Worcester. 12 June 2017. (Freshwater ecological inputs in EIA process and Water Use Registration). • Water Use Authorization Application Risk Matrix Prepared For: Witzenberg Municipality Sand Mine Farm 1 Prince Alfred Hamlet. 28 March 2017. (Freshwater ecological inputs in EIA process and Water Use Registration). • Proposed Hartmanshoop Agri Vegetation Clearing Project and Irrigation on Erf 686, Laingsburg. 12 August 2017. (Freshwater ecological inputs in Water Use Registration). • County Fair: Hocraft Abattoir And Rendering Facility Waste Water Treatment Works "CF Hocraft WWTW" Mosselbank River Second Quarter 2018 Biomonitoring Report. June 2018. (Done quarterly biomonitoring for the last three years).

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe my qualifications, my experience, and me.



Nicolaas Hanekom Pri Sci Nat (Ecology).
Registration number 400274/11

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Nicolaas Willem Hanekom

Registration Number: 400274/11

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following fields(s) of practice (Schedule 1 of the Act)

Ecological Science (Professional Natural Scientist)

Effective **27 July 2011** Expires **31 March 2022**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

Annexure 14

GROW GREEN MINING
ANNEXURE 8
SITE SENSITIVITY REPORT
(WC) 30/5/1/3/2/10338 MP

W Nel Environmental Consulting Services (Pty) Ltd
10 Regiment Road, Door de Kraal
Welgemoed, Cape Town
7530, South Africa

April 2023

SITE SENSITIVITY VERIFICATION (SSV) REPORT

PROJECT DESCRIPTION: PROPOSED DEVELOPMENT OF A SAND AND GRAVEL MINE ON A PORTION OF THE FARM BEFFELSDRIFT 306, GEORGE, WESTERN CAPE.

INTRODUCTION:

This Site Sensitivity Verification (SSV) Report was undertaken in terms of the *Protocols for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes* (referred to "the Protocols" hereafter) as per Government Notice No. 320 (published in Government Gazette No. 43110 on 20 March 2020)1. These Protocols, effected as of the 9th May 2020, must be complied with for every new application submitted after the effective date. According to the Protocols, the EAP must verify the current use of the proposed site for development as well as the site's environmental sensitivity, in accordance with the DEA Screening Tool (Appendix 2 – DEA Screening Tool), to determine the applicability of the National Environmental Management Act, 19998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) to the development proposal.

METHODOLOGY:

The Site Sensitivity Verification (SSV) report was compiled based on a site visit and desktop studies including the Western Cape Biodiversity Spatial Plan, vegetation maps (Vegetation map of SA (Mucina & Rutherford, 2006), land-use map, google earth imagery, historical imagery, and Cape Farm Mapper to determine the applicability of the National Environmental Management Act, 19998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) to the development proposal. The Site Sensitivity Verification report was compiled by the EAP (Mr. Werner Nel).

Aim of the Site Sensitivity Verification Report:

The SSV Report aims to;

- Verify land use and theme sensitivities as identified by the DEA Screening Tool;
- Confirm or disconfirm the need for a particular specialist assessment(s) as indicated by the DEA Screening Tool; and
- Should the need for a specialist assessment be challenged, motivate as to why the proposed theme(s) does not apply to the proposed development.

Please note: that this SSV report must be read in combination with the DEA Screening Tool (Annexure 3), comments received from Identified I&APs (Annexure 5).

Site Description:

Grow Green Mining (Pty) Ltd, applied for environmental authorization (EA) and a mining permit to mine sand and G7 on Portion of Farm Buffelsdrift 306 situated in the Magisterial District of George, Western Cape. The proposed site is located approximately 15km west from George along the R102 (Figure 2). The proposed quarry/mine is located in a highly disturbed area where large scale excavation of sand and gravel has already taken place over time due to illegal mining activities. Due to these illegal mining activities the applicant followed a S24G process whereafter the DMR requested that an Environmental Impact Assessment be completed to assess the impacts of a proposed mine on the environment.

The proposed mining area will be 4.95ha and the proposed mining operation `will be representative of the small-scale mining industry. The mineral (sand & gravel) will be excavated, crushed (when needed) and loaded onto tipper trucks that will transport the material to clients on order/appointment only. Mining will require the removal of topsoil which will be set aside for rehabilitation purposes in line with the mine work plan and rehabilitation procedures.

All associated activities like the refueling of plant machines and equipment, repairs and maintenance will be done at the existing workshop of the applicant which is located off-site from the proposed mine. Due to the small scale of the operation no further infrastructure will be established within the mining footprint. Existing access roads will be used, and no new roads will be constructed.

Upon completion of mining activities in the final stage, the haul road area will be ripped and covered with topsoil in a phased process and the area would be seeded with grass species suitable for grazing.

Please see the proposed site layout in Figure 3 below.

The site had various excavated areas that had filled with water within the proposed mining boundary (Figure 1). There was also evidence of sporadic dumping throughout the quarry area. The eastern boundary of the disturbed area was already, along its entire length, surrounded by an earthen berm that separates it from the adjacent watercourse, the Maalgate River. The berm was at one point intercepted by a trench that currently allows for drainage to flow towards the adjacent watercourse.

The surrounding area have been heavily degraded due to agricultural practices and the presence of pastures.

Figure 1: Photographs showing the current level of degradation in the proposed quarry on the Farm Buffelsdrift 306

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Welgemoed, Cape Town
7530, South Africa

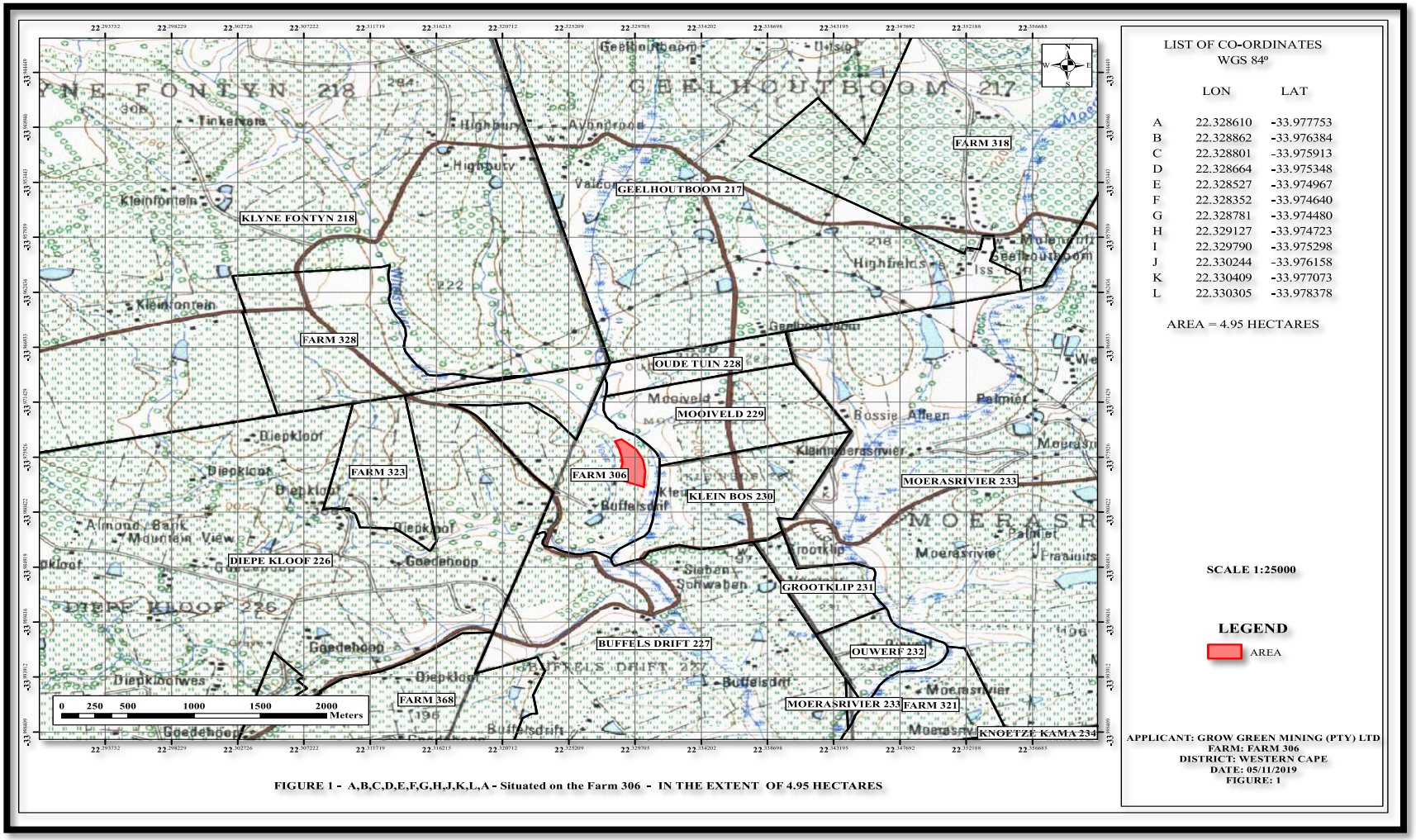

FIGURE 1 - A,B,C,D,E,F,G,H,J,K,L,A - Situated on the Farm 306 - IN THE EXTENT OF 4.95 HECTARES

Figure 2: Locality map showing the proposed site (Red polygon) 15 km's South West of George on the Farm Buffelsdrift 306.

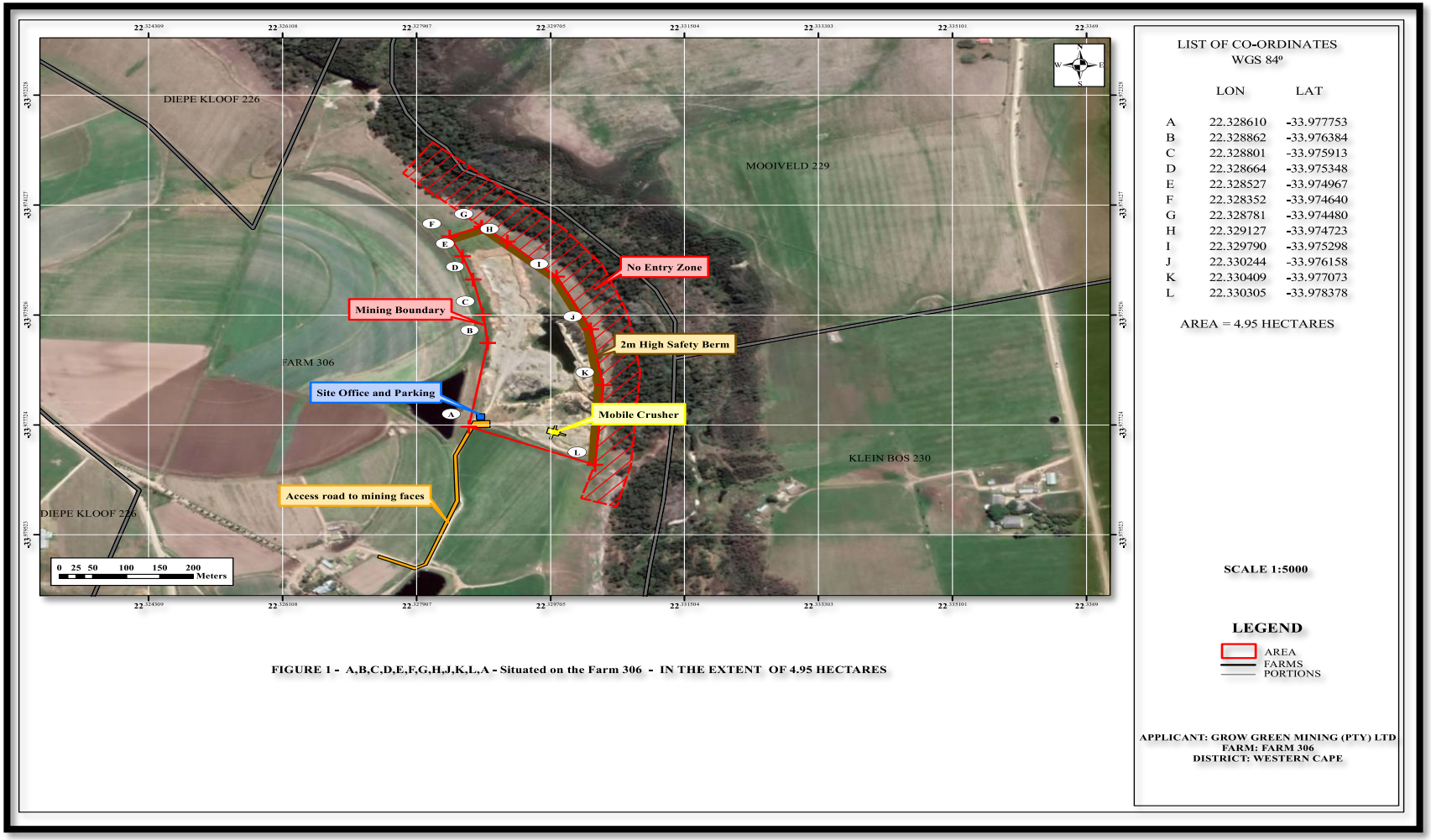

FIGURE 1 - A,B,C,D,E,F,G,H,J,K,L,A - Situated on the Farm 306 - IN THE EXTENT OF 4.95 HECTARES

Figure 3: Proposed mining layout and location of associated features and buffer zones on the Farm Buffelsdrift 306.

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Welgemoed, Cape Town
7530, South Africa

Table 1. Themes and associated sensitivity as per the DEA Screening Tool.

No	Theme	DEA Sensitivity	Agree / Disagree	Proposed Sensitivity	Motivation
1	**Agriculture**	High	Disagree	Low	The proposed mining activities will be located within the footprint of the previously disturbed area. The high agricultural potential associated with rotational crops and pastures as indicated in the Screening Report, superimposed over the proposed mining footprint was observed to have already been disturbed due to historical activities. Please see the site photographs in Figure 1 for reference.
2	**Animal Species**	High	Disagree	Medium	The proposed mining activities will be located within the footprint of the previously disturbed area. The proposed high sensitivity as indicated in the DEA Screening Report is associated with the Eastern boundary of the proposed mining area. Although this area is degraded from previous mining activities, it is still possible that the edges towards the watercourse may have potential animal species and habitats present. The presence of water in the excavated areas and current banks may provide specialised habitat to various animal species that move through the area
3	**Aquatic Biodiversity**	Very High	Agree	Very High	The proposed mining activities will not be conducted in the water course. The mine is located within close proximity to it, but has a earthen berm separating the mine area from the adjacent water course. The presence of an excavated outlet channel, allowing for storm water to enter the Maalgate River from the mining area pose a concern of how the proposed mining activities may affect the river system including the water quality.
4	**Archaeological and Cultural**	Low	Agree	Low	The proposed mining activities will be located within an already disturbed area. Based on the current state of the site, the likelihood of archaeological and cultural artefacts present within the boundary of the proposed development is highly unlikely. The surrounding areas have further been disturbed through agriculture that may have further limited the possibility of artefacts through the practices used to prepare fields for pastures.

5	**Civil Aviation**	Very High	Disagree	Low	Although the Screening Report indicates that proposed site is in close proximity to a civil aviation route, radar and aerodrome it is not believed that the proposed development of a small-scale opencast mine would have any effect on air traffic or radars. No structures of any height will be constructed for the purposes of the proposed mine. The mine is not envisaged to have any permanent infrastructure and all activities will be limited to the proposed mining footprint.
6	**Defence**	Low	Agree	Low	The proposed mining area is not located near any areas of defence concern.
7	**Plant Species**	Medium	Agree	Medium	The proposed site is already heavily disturbed due to previous illegal mining activities and the transformation of surrounding areas to pastures for grazing. During the site inspection alien vegetation was present in areas that were not disturbed through the historical mining activities. The location and proximity of the site to the Maalgate River and the associated ecological corridor associated with a water course still allow for an increased sensitivity of the whole area. The effects of the proposed mine should therefor be assessed.
8	**Terrestrial Biodiversity**	Very High	Disagree	Medium	The site is included as a Terrestrial CBA in the Western Cape Biodiversity Plan, however, no protected area or priority areas for protected area expansion are inside or near to the proposed mining development. The site have been previously disturbed and the presence of animal activity was minimal during the site inspection.

Table 2. Specialist assessments identified as per the DEA Screening Tool.

No	Proposed Specialist Assessment	Verification of Site Sensitivity And Motivation On The Need For Specialist Investigation	Will the specialist study be conducted?
1	**Agricultural Impact Assessment**	The proposed development will be in the already disturbed footprint. No additional excavation and activities will be conducted outside the proposed footprint areas that may potentially impact on agricultural activities.	No
2	**Archaeological and Cultural Heritage Impact Assessment**	The proposed development has a Low Site Sensitivity and only limited archaeological reports were available. However, the previous studies in the area only yielded dispersed Early Stone Age tools of low importance. The first was during a Heritage Scoping Survey (2012) for the proposed Geelhoutboom Residential Development and with follow-up study yielded no archaeological resources (2018).	A NID was submitted to Heritage Western Cape, No additional Impact Assessments were required.
3	**Palaeontological Impact Assessment**	According to email correspondence with consulting palaeontologist, the proposed quarry on Buffelsdrift Farm 306 is on Maalgaten Granite, part of George Pluton, Cape Granite Suite and shown to be unfossiliferous.	A NID was submitted to Heritage Western Cape, No additional Impact Assessments were required.
4	**Terrestrial Biodiversity Impact Assessment**	Based on the presence of the adjacent watercourse and possible corridor properties associated with the river, a Terrestrial Biodiversity Assessment was requested.	Yes, a Terrestrial Biodiversity Assessment was completed by Enviro-EAP
5	**Aquatic Biodiversity Impact Assessment**	The proximity of the proposed mine to the Maalgate River and the associated water uses required an Aquatic Biodiversity Risk Assessment and Compliance Statement.	Yes, an Aquatic Biodiversity Risk Assessment and Compliance Statement was requested.
6	**Hydrology Assessment**	It is not envisaged that the proposed mining activities will impact on the hydrology of the area.	No Hydrology Assessment was requested.
7	**Noise Impact Assessment**	The proposed mining activities will be located away from any residential dwellings and will only be operated during normal office hours. The location within the larger area and the presence and operation of farm equipment and machines already present in the area negates the need for a Noise Impact Assessment.	No

8	**Radioactivity Impact Assessment**	It is highly unlikely that the proposed development will produce any material that may have any traces of radioactivity present.	No
9	**Traffic Impact Assessment**	The proposed development will make use of existing farm road and would not need the modification or realignment of any existing access routes to the mine. Due to this along with the low predicted numbers of heavy vehicles (based on the proposed production plan and life of mine) accessing the mine, the EAP is of the opinion that a Traffic Impact Assessment is not required.	No
10	**Geotechnical Impact Assessment**	The proposed mining activities will be located within the existing mine footprint and boundaries, utilising only mechanical extraction (using an excavator and dozer). Due to current nature of the site and the location of the proposed development within the existing mining footprint it is not envisaged that a geotechnical impact assessment will be required.	No
11	**Socio Economic Assessment**	Due to the nature, size and proposed lifespan of the proposed mining development it is envisaged that a SEA will not be required.	No
12	**Plant Species Assessment**	Even though the proposed development is located in an already disturbed footprint and the presence of alien vegetation in and around the site, it was still thought prudent to request a Terrestrial Plant Assessment.	Yes, a Terrestrial Plant Assessment was completed by Enviro-EAP.
13	**Animal Species Assessment**	Please see Table 1 above for the factors influencing lowering of the proposed site's Animal Species Theme to Medium. Even though the proposed development is located in an already disturbed footprint and the presence of alien vegetation in and around the site, it was still thought prudent to request a Terrestrial Animal Assessment.	Yes, A Terrestrial Animal Species assessment was completed by Enviro-EAP.

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Please do not hesitate to contact me should you require any further information or clarity on the above.

Best regards

Werner Nel

Phone: +27 82 447 5255 | Email: info@wnecs.co.za
Company Registration Number: 2016/256204/07

Annexure 15

GROW GREEN MINING ANNEXURE 3 SCREENING REPORT & RISK ASSESSMENT REPORT

(WC) 30/5/1/3/2/10338 MP

SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE ENVIRONMENTAL SENSITIVITY

EIA Reference number: WC30/5/1/3/2/ MP

Project name: Grow Green Mining (Pty) Ltd

Project title: Portion of Farm Buffelsdrift 306

Date screening report generated: 22/07/2021 10:43:23

Applicant: Grow Green Mining (Pty) Ltd

Compiler: Melissa Murgatroyd

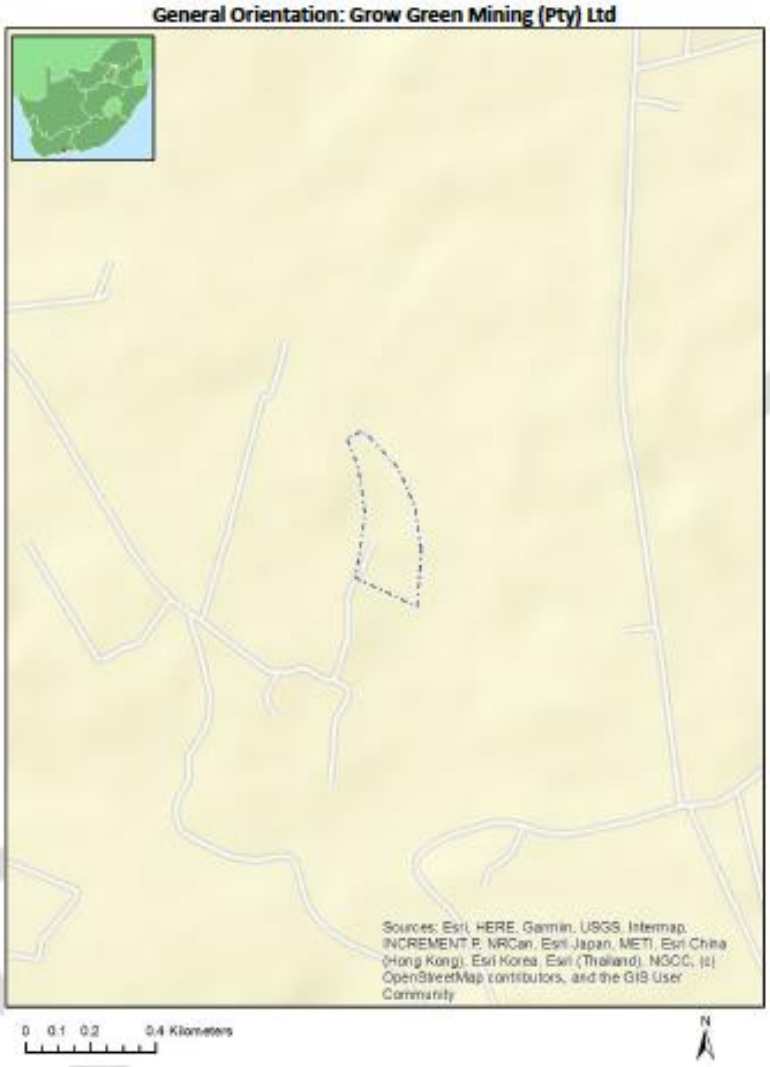
Compiler signature:

Application Category: Mining|Mining Permit

Table of Contents

Proposed Project Location

Orientation map 1: General location



Map of proposed site and relevant area(s)

Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1		306	0	33°58'38.62S	22°19'34.05E	Farm
2		306	0	33°58'38.62S	22°19'34.05E	Farm Portion

Development footprint[1] vertices:
No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	14/12/16/3/3/1/1292	Solar PV	Approved	6.9

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is: **Mining|Mining Permit**.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Gas Pipeline Corridors- Phase 2: Mossel Bay to Coega	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Notice_411_Gazette_44551_07May2021_Strategic_Gas_Pipeline_Corridors.pdf
South African Conservation Areas	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/SACAD_OR_2021_Q1_Metadata.pdf

Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme		X		

Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme	X			
Defence Theme				X
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the environmental sensitivities of the proposed development footprint, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Agriculture_Assessment_Protocols.pdf
2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
5	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
6	Hydrology Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf

7	Noise Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Noise_Impacts_Assessment_Protocol.pdf
8	Radioactivity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
9	Traffic Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
11	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
12	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
13	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

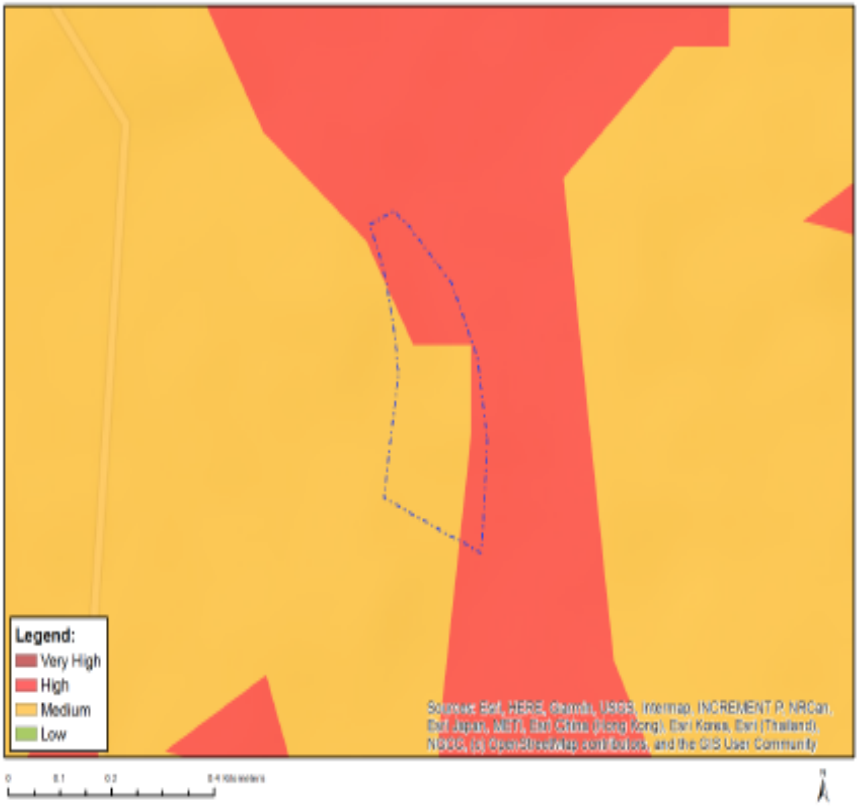
MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Bradypterus sylvaticus
Medium	Invertebrate-Aneuryphymus montanus
Medium	Aves-Circus ranivorus
Medium	Aves-Neotis denhami
Medium	Sensitive species 7

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Strategic water source area

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 15 km of a civil aviation radar
Medium	Within 5 km of an air traffic control or navigation site
Very High	Within 8 km of a major civil aviation aerodrome

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY

Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Lampranthus pauciflorus
Medium	Erica unicolor subsp. mutica
Medium	Sensitive species 268
Medium	Sensitive species 1024
Medium	Sensitive species 1032
Medium	Euchaetis albertiniana
Medium	Sensitive species 516
Medium	Sensitive species 800
Medium	Sensitive species 500
Medium	Diosma passerinoides

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Ecological Support Area 2
Very High	Critical Biodiversity Area 2
Very High	Strategic Water Source Area
Very High	Critically endangered ecosystem
Very High	Endangered ecosystem

Note: Use in conjunction with scorecard report sheet EIA-RS01 Source Ref: GrowGreen/BAR&EMPr/24022020

Environmental Impact Assessment (EIA) Quantum Scorecard

PAGE 1-TA1

Grow Green Mining Assessment Scoring Profile

DOC: EIA-QS01

Ref: GrowGreen/BAR&EMPr/24022020

Quantum Scorecard Sequence:

Page 1 - TA1 / Test Page with maximum values

Page 2 - SA1 / Baseline Assessment for Current Status Only - No Mitigation (NM) Measures included (HIRA* included but without Mining Component)

Page 3 - SA2 / Baseline Assessment + Mining Component under HIRA* - No Mitigation (NM) measures included

Page 4 - SA3 / Baseline Assessment + Mining Component under HIRA* - Mitigation Measures (MM) included

Page 5 - SA4 / Post Rehabilitation Closing Assessment with Mining Component Removed - Mitigation Measures (MM) included under HIRA*

IMPACT RATING

100%

POTENTIAL IMPACTS PER TYPE

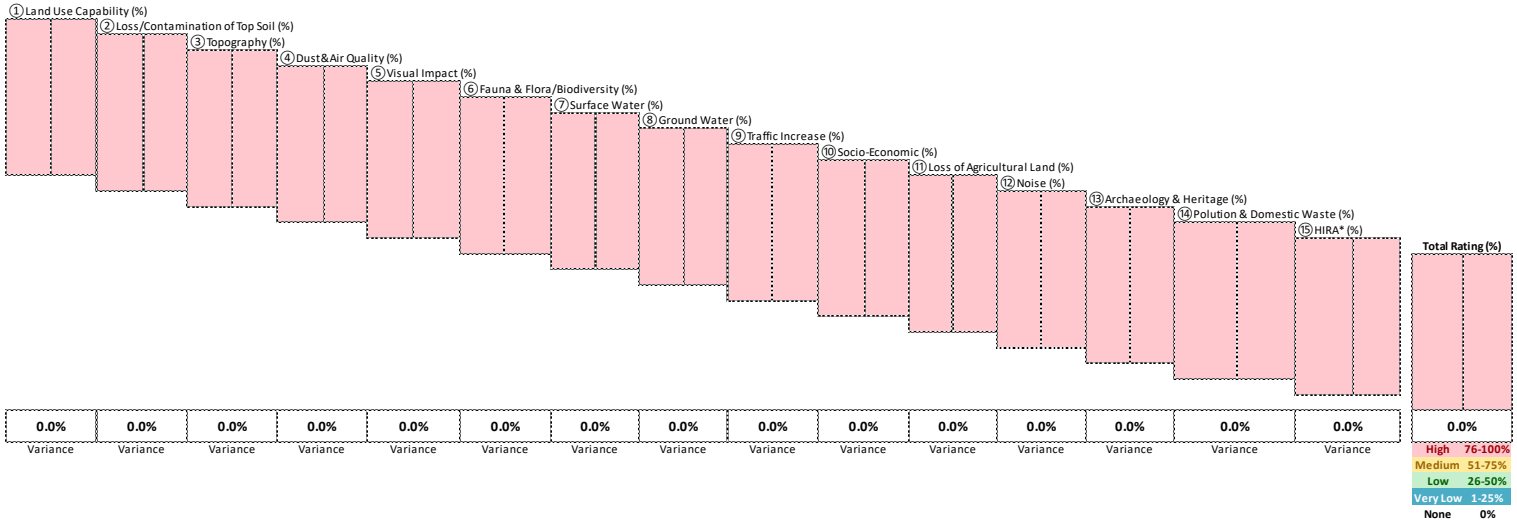
		① Land Capability		② Loss of Top Soil		③ Topography		④ Dust		⑤ Visual		⑥ Fauna & Flora		⑦ Surface Water		⑧ Ground Water		⑨ Traffic		⑩ Socio-Economic		⑪ Loss of Land		⑫ Noise		⑬ Heritage		⑭ Polution		⑮ HIRA*		Total Score	
		NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM	NM	MM
A	Extent of Impact	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	45	45
B	Duration of Impact	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	45	45
C	Magnitude of Impact	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	60	60
D	Significance of Impact	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	60	60
E	Probability of Impact	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	60	60
	Total Score (18/270)	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	270	270
	Impact per Type (%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Potential Impact Rating / Scoring Table

A	Extent of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
B	Duration of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
C	Magnitude of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
D	Significance of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
E	Probability of Impact	Definate	4
		Probable	3
		Possible	2
		Improbable	1
		No Impact	0

Maximum Total Score Per Impact Type 18

Maximum Sum Total Score per Scorecard 270



0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Variance	Variance	Variance	Variance	Variance	Variance	Variance	Variance	Variance	Variance	Variance	Variance	Variance	Variance	Variance

High	76-100%
Medium	51-75%
Low	26-50%
Very Low	1-25%
None	0%

Note: Use in conjunction with scorecard report sheet EIA-RS01 Source Ref: GrowGreen/BAR&EMPr/24022020

Environmental Impact Assessment (EIA) Quantum Scorecard

PAGE 2-SA1

Grow Green Mining Assessment Scoring Profile

DOC: EIA-QS01

Ref: GrowGreen/BAR&EMPr/24022020

Quantum Scorecard Sequence:

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Page 4 - SA3 / Baseline Assessment + Mining Component under HIRA* - Mitigation Measures (MM) included

Page 5 - SA4 / Post Rehabilitation Closing Assessment with Mining Component Removed - Mitigation Measures (MM) included under HIRA*

IMPACT RATING

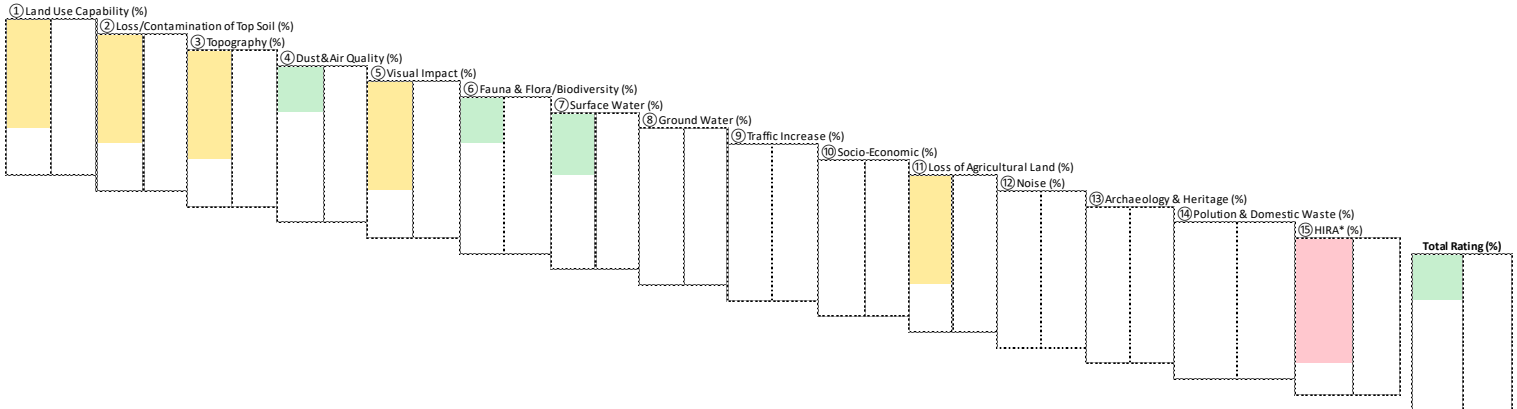
35%

POTENTIAL IMPACTS PER TYPE

		① Land Capability	② Loss of Top Soil	③ Topography	④ Dust	⑤ Visual	⑥ Fauna & Flora	⑦ Surface Water	⑧ Ground Water	⑨ Traffic	⑩ Socio-Economic	⑪ Loss of Land	⑫ Noise	⑬ Heritage	⑭ Pollution	⑮ HIRA*	Total Score
		NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
A	Extent of Impact	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	9
B	Duration of Impact	2	2	3	1	3	1	1	0	0	0	2	0	0	0	3	18
C	Magnitude of Impact	2	2	2	1	2	1	1	0	0	0	2	0	0	0	4	17
D	Significance of Impact	2	3	3	1	3	1	2	0	0	0	2	0	0	0	4	21
E	Probability of Impact	4	4	4	2	4	2	2	0	0	0	4	0	0	0	3	29
	Total Score (18/270)	11	12	13	6	13	6	7	0	0	0	11	0	0	0	15	94
	Impact per Type (%)	61%	67%	72%	33%	72%	33%	39%	0%	0%	0%	61%	0%	0%	0%	83%	34.8%

Potential Impact Rating / Scoring Table

A	Extent of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
B	Duration of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
C	Magnitude of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
D	Significance of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
E	Probability of Impact	Definate	4
		Probable	3
		Possible	2
		Improbable	1
		No Impact	0
Maximum Total Score Per Impact Type			18
Maximum Sum Total Score per Scorecard			270



	① Land Capability	② Loss of Top Soil	③ Topography	④ Dust	⑤ Visual	⑥ Fauna & Flora	⑦ Surface Water	⑧ Ground Water	⑨ Traffic	⑩ Socio-Economic	⑪ Loss of Land	⑫ Noise	⑬ Heritage	⑭ Pollution	⑮ HIRA*	Total Score
	61.1%	66.7%	72.2%	33.3%	72.2%	33.3%	38.9%	0.0%	0.0%	0.0%	61.1%	0.0%	0.0%	0.0%	83.3%	34.8%
Mitigation Variance																
	4.07%	4.44%	4.81%	2.22%	4.81%	2.22%	2.59%	0.00%	0.00%	0.00%	4.07%	0.00%	0.00%	0.00%	5.56%	
Contribution																

High	76-100%
Medium	51-75%
Low	26-50%
Very Low	1-25%
None	0%

Note: Use in conjunction with scorecard report sheet EIA-RS01 Source Ref: GrowGreen/BAR&EMPr/24022020

Environmental Impact Assessment (EIA) Quantum Scorecard

PAGE 3-SA2

Grow Green Mining Assessment Scoring Profile

DOC: EIA-QS01

Ref: GrowGreen/BAR&EMPr/24022020

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Page 4 - SA3 / Baseline Assessment + Mining Component under HIRA* - Mitigation Measures (MM) included

Page 5 - SA4 / Post Rehabilitation Closing Assessment with Mining Component Removed - Mitigation Measures (MM) included under HIRA*

IMPACT RATING

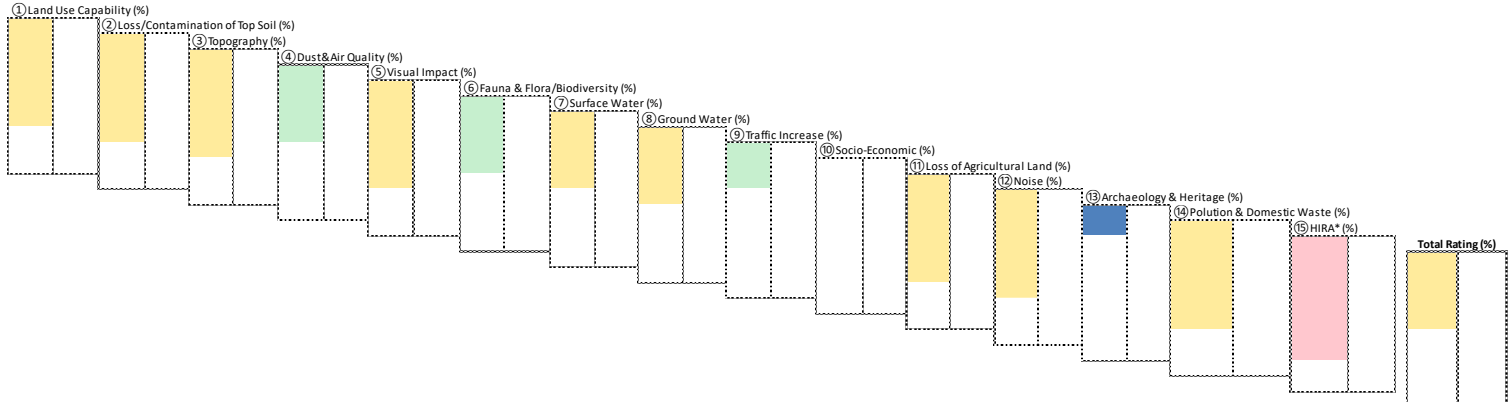
56%

POTENTIAL IMPACTS PER TYPE

	① Land Capability	② Loss of Top Soil	③ Topography	④ Dust	⑤ Visual	⑥ Fauna & Flora	⑦ Surface Water	⑧ Ground Water	⑨ Traffic	⑩ Socio-Economic	⑪ Loss of Land	⑫ Noise	⑬ Heritage	⑭ Pollution	⑮ HIRA*	Total Score
	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
A Extent of Impact	1	1	1	1	1	1	1	2	1	0	1	1	1	1	1	15
B Duration of Impact	2	3	3	2	3	2	2	1	2	0	3	2	1	2	3	31
C Magnitude of Impact	2	2	2	2	2	2	2	1	1	0	2	2	1	2	4	27
D Significance of Impact	2	3	3	2	2	2	2	2	1	0	2	3	1	3	4	32
E Probability of Impact	4	4	4	3	4	2	3	2	3	0	4	4	1	4	3	45
Total Score (18/270)	11	13	13	10	12	9	10	8	8	0	12	12	5	12	15	150
Impact per Type (%)	61%	72%	72%	56%	67%	50%	56%	44%	44%	0%	67%	67%	28%	67%	83%	55.6%

Potential Impact Rating / Scoring Table

A	Extent of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
B	Duration of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
C	Magnitude of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
D	Significance of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
E	Probability of Impact	Definate	4
		Probable	3
		Possible	2
		Improbable	1
		No Impact	0
Maximum Total Score Per Impact Type			18
Maximum Sum Total Score per Scorecard			270



	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	Total Rating (%)
	61.1%	72.2%	72.2%	55.6%	66.7%	50.0%	55.6%	44.4%	44.4%	0.0%	66.7%	66.7%	27.8%	66.7%	83.3%	55.6%
Mitigation Variance	4.07%	4.81%	4.81%	3.70%	4.44%	3.33%	3.70%	2.96%	2.96%	0.00%	4.44%	4.44%	1.85%	4.44%	5.56%	
Contribution																

High	76-100%
Medium	51-75%
Low	26-50%
Very Low	1-25%
None	0%

Note: Use in conjunction with scorecard report sheet EIA-RS01 Source Ref: GrowGreen/BAR&EMPr/24022020

Environmental Impact Assessment (EIA) Quantum Scorecard

PAGE 4-SA3

Grow Green Mining Assessment Scoring Profile

DOC: EIA-QS01

Ref: GrowGreen/BAR&EMPr/24022020

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Page 4 - SA3 / Baseline Assessment + Mining Component under HIRA* - Mitigation Measures (MM) included

Page 5 - SA4 / Post Rehabilitation Closing Assessment with Mining Component Removed - Mitigation Measures (MM) included under HIRA*

IMPACT RATING

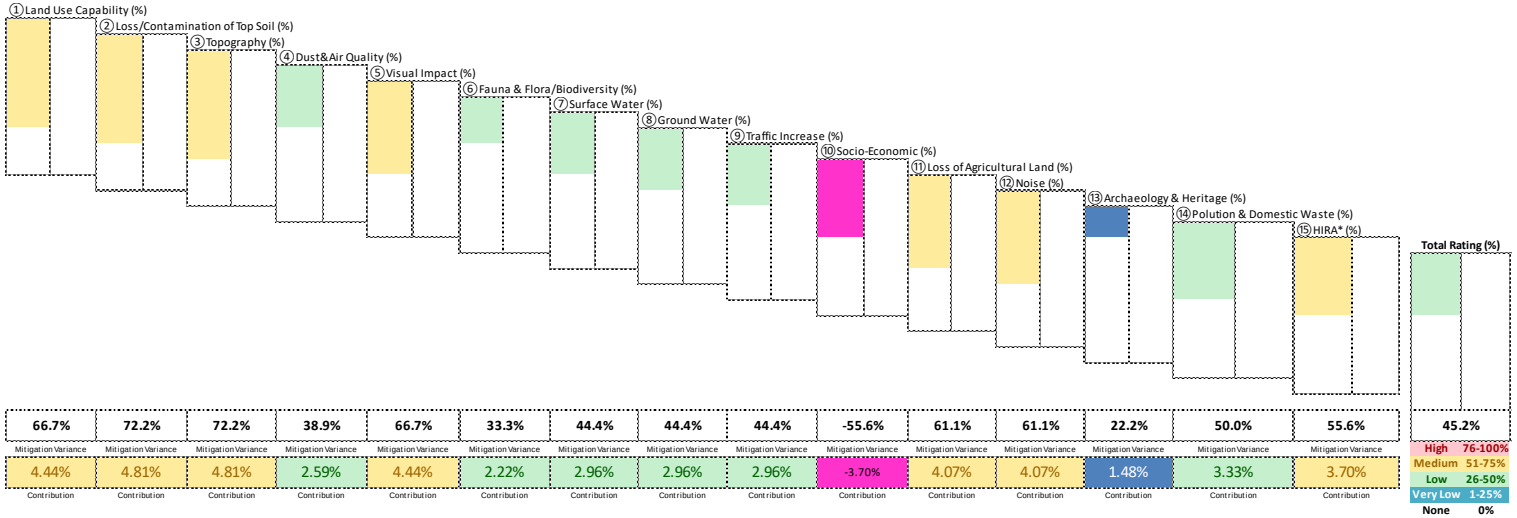
45%

POTENTIAL IMPACTS PER TYPE

	① Land Capability	② Loss of Top Soil	③ Topography	④ Dust	⑤ Visual	⑥ Fauna & Flora	⑦ Surface Water	⑧ Ground Water	⑨ Traffic	⑩ Socio-Economic	⑪ Loss of Land	⑫ Noise	⑬ Heritage	⑭ Pollution	⑮ HIRA*	Total Score
	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM
A Extent of Impact	1	1	1	1	1	1	1	2	1	-2	1	1	1	1	1	13
B Duration of Impact	3	3	3	1	3	1	2	2	2	-2	3	2	1	2	2	28
C Magnitude of Impact	2	2	2	1	2	1	1	1	1	-2	1	1	1	1	2	17
D Significance of Impact	2	3	3	1	2	1	1	1	1	-2	2	3	0	2	3	23
E Probability of Impact	4	4	4	3	4	2	3	2	3	-2	4	4	1	3	2	41
Total Score (18/270)	12	13	13	7	12	6	8	8	8	-10	11	11	4	9	10	122
Impact per Type (%)	67%	72%	72%	39%	67%	33%	44%	44%	44%	-56%	61%	61%	22%	50%	56%	45.2%

Potential Impact Rating / Scoring Table

A	Extent of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
B	Duration of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
C	Magnitude of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
D	Significance of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
E	Probability of Impact	Definate	4
		Probable	3
		Possible	2
		Improbable	1
		No Impact	0
Maximum Total Score Per Impact Type			18
Maximum Sum Total Score per Scorecard			270



	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	Total
Mitigation Variance	66.7%	72.2%	72.2%	38.9%	66.7%	33.3%	44.4%	44.4%	44.4%	-55.6%	61.1%	61.1%	22.2%	50.0%	55.6%	45.2%
Contribution	4.44%	4.81%	4.81%	2.59%	4.44%	2.22%	2.96%	2.96%	2.96%	-3.70%	4.07%	4.07%	1.48%	3.33%	3.70%	

High	76-100%
Medium	51-75%
Low	26-50%
Very Low	1-25%
None	0%

Note: Use in conjunction with scorecard report sheet EIA-RS01 Source Ref: GrowGreen/BAR&EMPr/24022020

Environmental Impact Assessment (EIA) Quantum Scorecard

PAGE 5-SA4

Grow Green Mining Assessment Scoring Profile

DOC: EIA-QS01

Ref: GrowGreen/BAR&EMPr/24022020

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Page 3 - SA2 / Baseline Assessment + Mining Component under HIRA* - No Mitigation (NM) measures included

Page 4 - SA3 / Baseline Assessment + Mining Component under HIRA* - Mitigation Measures (MM) included

Page 5 - SA4 / Post Rehabilitation Closing Assessment with Mining Component Removed - Mitigation Measures (MM) included under HIRA*

IMPACT RATING

31%

POTENTIAL IMPACTS PER TYPE

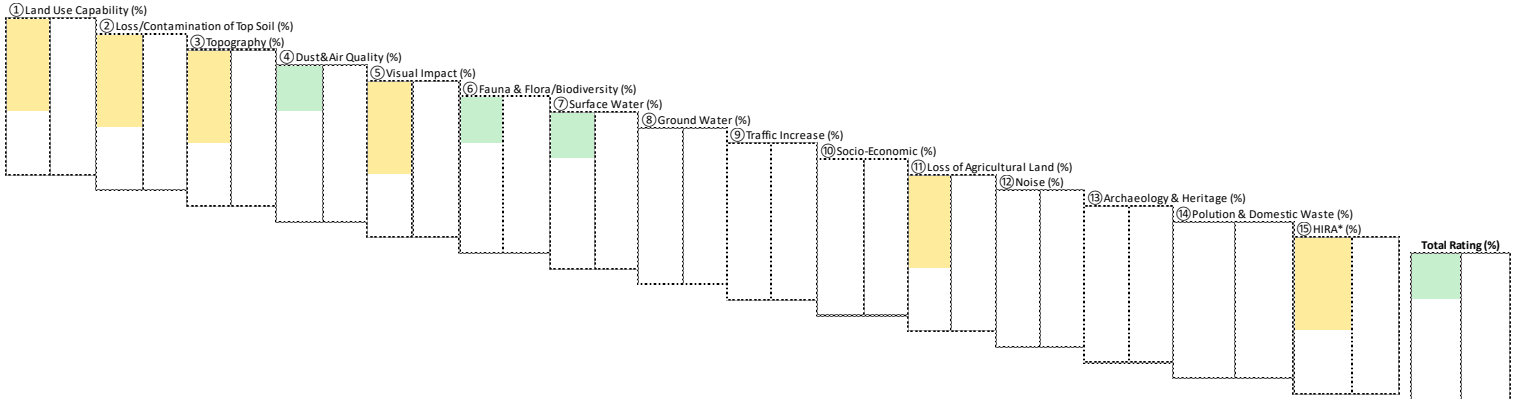
	① Land Capability	② Loss of Top Soil	③ Topography	④ Dust	⑤ Visual	⑥ Fauna & Flora	⑦ Surface Water	⑧ Ground Water	⑨ Traffic	⑩ Socio-Economic	⑪ Loss of Land	⑫ Noise	⑬ Heritage	⑭ Pollution	⑮ HIRA*	Total Score
	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM
A Extent of Impact	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	9
B Duration of Impact	3	3	3	1	3	1	1	0	0	0	3	0	0	0	3	21
C Magnitude of Impact	1	1	1	1	1	1	1	0	0	0	2	0	0	0	2	11
D Significance of Impact	2	2	2	1	2	1	1	0	0	0	1	0	0	0	3	15
E Probability of Impact	4	4	4	1	4	2	2	0	0	0	4	0	0	0	2	27
Total Score (18/270)	11	11	11	5	11	6	6	0	0	0	11	0	0	0	11	83
Impact per Type (%)	61%	61%	61%	28%	61%	33%	33%	0%	0%	0%	61%	0%	0%	0%	61%	30.7%

Potential Impact Rating / Scoring Table

A	Extent of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
B	Duration of Impact	High	3
		Medium	2
		Low	1
		No Impact	0
C	Magnitude of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
D	Significance of Impact	High	4
		Medium	3
		Low	2
		Very Low	1
		No Impact	0
E	Probability of Impact	Definate	4
		Probable	3
		Possible	2
		Improbable	1
		No Impact	0

Maximum Total Score Per Impact Type 18

Maximum Sum Total Score per Scorecard 270

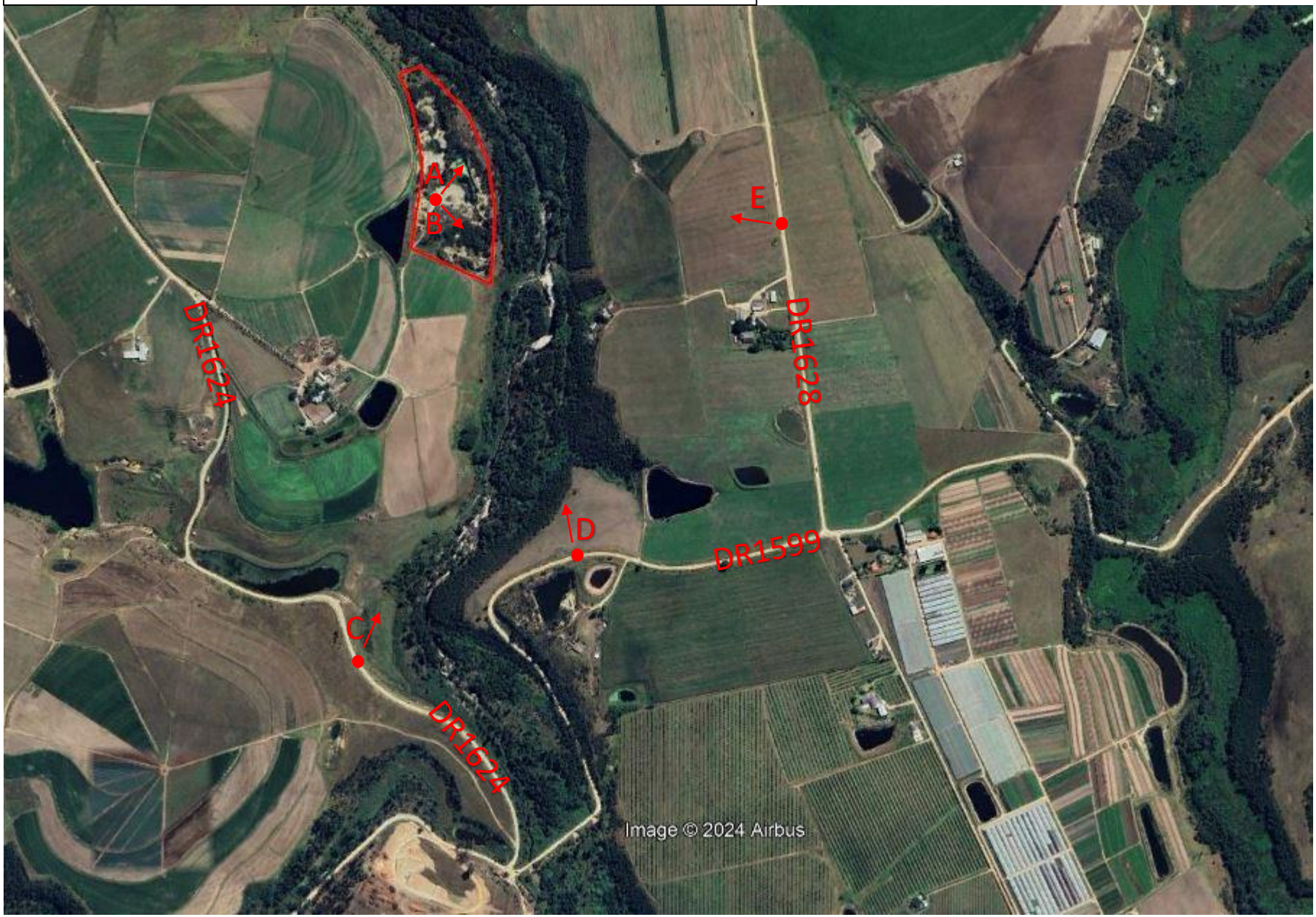


	① Land Capability	② Loss of Top Soil	③ Topography	④ Dust	⑤ Visual	⑥ Fauna & Flora	⑦ Surface Water	⑧ Ground Water	⑨ Traffic	⑩ Socio-Economic	⑪ Loss of Land	⑫ Noise	⑬ Heritage	⑭ Pollution	⑮ HIRA*	Total Score
	61.1%	61.1%	61.1%	27.8%	61.1%	33.3%	33.3%	0.0%	0.0%	0.0%	61.1%	0.0%	0.0%	0.0%	61.1%	30.7%
Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	Mitigation Variance	
Contribution	4.07%	4.07%	4.07%	1.85%	4.07%	2.22%	2.22%	0.00%	0.00%	0.00%	4.07%	0.00%	0.00%	0.00%	4.07%	
Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	Contribution	

High	76-100%
Medium	51-75%
Low	26-50%
Very Low	1-25%
None	0%

ANNEXURE 15

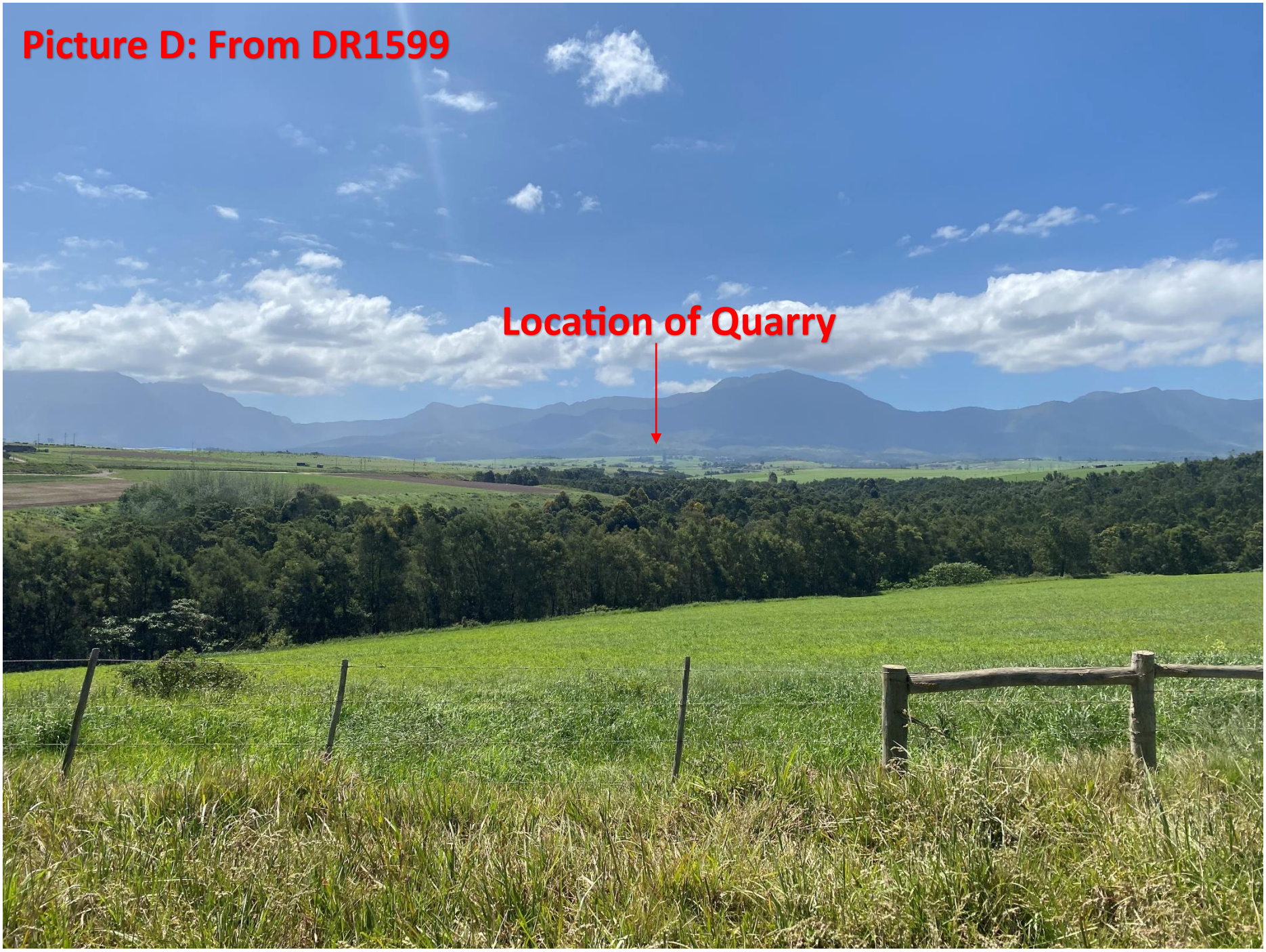
Pictures illustrating visual impact of proposed quarry:



Picture A: From Site

Picture B: From Site


Picture C: From DR1624
Location of Quarry


Picture D: From DR1599
Location of Quarry


Picture E: From DR1628
Location of Quarry

Annexure 17

Planning and Development
E-mail: town.planning.application@george.gov.za
Tel: +27 (0)44 801 9477

LAND USE PLANNING PRE-APPLICATION CONSULTATION FORM

PLEASE NOTE:

Pre-application consultation is an advisory session and is required prior to submission of an application for rezoning, consent use, temporary departure and subdivision. It does not in any way pre-empt the outcome of any future application which may be submitted to the Municipality.

PART A: PARTICULARS

Reference number: **Collab Ref. No.: 3451061**

Purpose of consultation: **Consult municipal town planner on the proposed development**

Brief proposal: **Consent Use for a Quarry**

Property(ies) description: **Remaining Extent of Farm No. 306, George**

Date: **14 October 2024**

Attendees:

	Name & Surname	Organisation	Contact Number	E-mail
Official	**Khuliso Mukhovha**	**George Municipality**	**044 801 9477**	**kjmukhovha@george.gov.za**
	Naudica Swanepoel	**George Municipality**	**044 801 9477**	**Nswanepoel@george.gov.za**
Pre-applicant	**Alexander Havenga**	**Nel & de Kock Town and Regional Planners**	**044 874 5207**	**neldek@mweb.co.za**

Documentation provided for discussion:

(Include document reference, document/plan dates and plan numbers where possible and attach to this form)

- **Title Deed No. T72732/2003;**
- **SG Diagram No. 6575/88;**
- **Locality Map;**
- **Site Development Plan;**
- **Environmental Authorisation; and**
- **Administrative fine appeal decision**

Has pre-application been undertaken for a Land Development application with the Department of Environmental Affairs & Development Planning (DEA&DP)?

YES	NO

(If so, please provide a copy of the minutes)

Comprehensive overview of proposal:

Application is being made for a consent use in terms of Section 15.(2)(o) of the By-Law on Municipal Land Use Planning of George Municipality, 2023, for a quarry in order to permit the owner to extract sand and G7 gravel from Farm No. 306, George.

PART C: QUESTIONNAIRES

SECTION A:
DETERMINATION OF APPLICATION TYPES, PRESCRIBED NOTICE AND ADVERTISEMENT PROCEDURES

Tick if relevant		**What land use planning applications are required?**	**Application fees payable**
	2(a)	a rezoning of land;	R
	2(b)	a permanent departure from the development parameters of the zoning scheme;	R
	2(c)	a departure granted on a temporary basis to utilise land for a purpose not permitted in terms of the primary rights of the zoning applicable to the land;	R
	2(d)	a subdivision of land that is not exempted in terms of section 24, including the registration of a servitude or lease agreement;	R
	2(e)	a consolidation of land that is not exempted in terms of section 24;	R
	2(f)	a removal, suspension or amendment of restrictive conditions in respect of a land unit;	R
	2(g)	a permission required in terms of the zoning scheme;	R
	2(h)	an amendment, deletion or imposition of conditions in respect of an existing approval;	R
	2(i)	an extension of the validity period of an approval;	R
	2(j)	an approval of an overlay zone as contemplated in the zoning scheme;	R
	2(k)	an amendment or cancellation of an approved subdivision plan or part thereof, including a general plan or diagram;	R
	2(l)	a permission required in terms of a condition of approval;	R
	2(m)	A determination of a zoning;	R
	2(n)	A closure of a public place or part thereof;	R
X	**2(o)**	**a consent use contemplated in the zoning scheme;**	**R 9 100, 00**
	2(p)	an occasional use of land;	R
	2(q)	to disestablish a home owner's association;	R

	2(r)	to rectify a failure by a home owner's association to meet its obligations in respect of the control over or maintenance of services;	R
	2(s)	a permission required for the reconstruction of an existing building that constitutes a non-conforming use that is destroyed or damaged to the extent that it is necessary to demolish a substantial part of the building	R
Tick if relevant		**What prescribed notice and advertisement procedures will be required?**	**Advertising fees payable**
Y	N	Serving of notices (i.e. registered letters etc.)	R
Y	N	Publication of notices (i.e. Provincial Gazette, Local Newspaper(s) etc.)	R
Y	N	Additional publication of notices (i.e. Site notice, public meeting, local radio, website, letters of consent etc.)	R
Y	N	Placing of final notice (i.e. Provincial Gazette etc.)	R
		TOTAL APPLICATION FEE* (VAT excluded):	**To Be Confirmed.**

PLEASE NOTE: * *Application fees are estimated on the information discussed and are subject to change with submission of the formal application and/or yearly application fee increase.*

SECTION B:

PROVISIONS IN TERMS OF THE RELEVANT PLANNING LEGISLATION / POLICIES / GUIDELINES

QUESTIONS REGARDING PLANNING POLICY CONTEXT	YES	NO	TO BE DETERMINED	COMMENT
Is any Municipal Integrated Development Plan (IDP)/Spatial Development Framework (SDF) and/or any other Municipal policies/guidelines applicable? If yes, is the proposal in line with the aforementioned documentation/plans?			**X**	**Motivate George Municipal Spatial Development Framework, 2023**
Any applicable restrictive condition(s) prohibiting the proposal? If yes, is/are the condition(s) in favour of a third party(ies)? [List condition numbers and third party(ies)]			**X**	**A conveyancer certificate required to confirm.**
Any other Municipal by-law that may be relevant to application? (If yes, specify)		**X**		
Zoning Scheme Regulation considerations: Which zoning scheme regulations apply to this site? **George Integrated Zoning Scheme, 2023** What is the current zoning of the property? **Agricultural Zone I** What is the proposed zoning of the property?				

Agricultural Zone I with Consent Use for Quarry Does the proposal fall within the provisions/parameters of the zoning scheme? **TBD** Are additional applications required to deviate from the zoning scheme? (if yes, specify) **TBD**	

QUESTIONS REGARDING OTHER PLANNING CONSIDERATIONS	YES	NO	TO BE DETERMINED	COMMENT
Is the proposal in line with the Provincial Spatial Development Framework (PSDF) and/or any other Provincial bylaws/policies/guidelines/documents?			**X**	**Motivate PSDF, 2014**
Are any regional/district spatial plans relevant? If yes, is the proposal in line with the document/plans?		**X**		

SECTION C:

CONSENT / COMMENT REQUIRED FROM OTHER ORGANS OF STATE

OUESTIONS REGARDING CONSENT / COMMENT REQUIRED	YES	NO	TO BE DETERMINED	OBTAIN APPROVAL / CONSENT / COMMENT FROM:
Is/was the property(ies) utilised for agricultural purposes?	**X**			**Western Cape Provincial Department of Agriculture**
Will the proposal require approval in terms of Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970)?		**X**		National Department of Agriculture
Will the proposal trigger a listed activity in terms of National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA)?	**X**			**Western Cape Provincial Department of Environmental Affairs & Development Planning (DEA&DP)**
Will the proposal require authorisation in terms of Specific Environmental Management Act(s) (SEMA)? (National Environmental Management: Protected Areas Act, 2003 (Act 57 of 2003) (NEM:PAA) / National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004) (NEM:BA) / National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) (NEM:AQA) / National Environmental Management: Integrated Coastal Management Act, 2008 (Act 24 of 2008) (NEM:ICM) / National Environmental Management: Waste Act, 2008 (Act 59 of 2008) (NEM:WA)			**X**	National Department of Environmental Affairs (DEA) & DEA&DP

OUESTIONS REGARDING CONSENT / COMMENT REQUIRED	YES	NO	TO BE DETERMINED	OBTAIN APPROVAL / CONSENT / COMMENT FROM:
(strikethrough irrelevant)				
Will the proposal require authorisation in terms of the National Water Act, 1998 (Act 36 of 1998)?			**X**	**National Department of Water & Sanitation (DWS)**
Will the proposal trigger a listed activity in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?			**X**	South African Heritage Resources Agency (SAHRA) & Heritage Western Cape (HWC)
Will the proposal have an impact on any National or Provincial roads?		**X**		National Department of Transport / South Africa National Roads Agency Ltd. (SANRAL) & Western Cape Provincial Department of Transport and Public Works (DTPW)
Will the proposal trigger a listed activity in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993): Major Hazard Installations Regulations		**X**		National Department of Labour (DL)
Will the proposal affect any Eskom owned land and/or servitudes?		**X**		Eskom
Will the proposal affect any Telkom owned land and/or servitudes?		**X**		Telkom
Will the proposal affect any Transnet owned land and/or servitudes?		**X**		Transnet
Is the property subject to a land / restitution claims?		**X**		National Department of Rural Development & Land Reform
Will the proposal require comments from SANParks and/or CapeNature?		**X**		SANParks / CapeNature
Will the proposal require comments from DEFF?			**X**	Department of Environment, Forestry and Fishery
Is the property subject to any existing mineral rights?	**X**			National Department of Mineral Resources
Does the proposal lead to densification to such an extent that the number of schools, healthcare facilities, libraries, safety services, etc. In the area may be impacted on? (strikethrough irrelevant)		**X**		Western Cape Provincial Departments of Cultural Affairs & Sport (DCAS), Education, Social Development, Health and Community Safety

SECTION D:

SERVICE REQUIREMENTS

DOES THE PROPOSAL REQUIRE THE FOLLOWING ADDITIONAL INFRASTRUCTURE / SERVICES?	YES	NO	TO BE DETERMINED	OBTAIN COMMENT FROM: (list internal department)
Electricity supply:			**X**	Directorate: Electro-technical Services
Water supply:			**X**	Directorate: Civil Engineering Services
Sewerage and waste water:			**X**	Directorate: Civil Engineering Services
Stormwater:			**X**	Directorate: Civil Engineering Services
Road network:			**X**	Directorate: Civil Engineering Services
Telecommunication services:			**X**	
Other services required? Please specify.			**X**	
Development charges:			**X**	

PART D: COPIES OF PLANS / DOCUMENTS TO BE SUBMITTED AS PART OF THE APPLICATION

COMPULSORY INFORMATION REQUIRED:						
Y	N	Power of Attorney / Owner's consent if applicant is not owner (if applicable)		**Y**	N	S.G. noting sheet extract / Erf diagram / General Plan
Y	N	Motivation report / letter		**Y**	N	Full copy of the Title Deed
Y	N	Locality Plan		**Y**	N	Site Layout Plan
Y	N	Proof of payment of fees		Y	**N**	Bondholder's consent
MINIMUM AND ADDITIONAL REQUIREMENTS:						
Y	N	Site Development Plan		**Y**	N	Conveyancer's Certificate
Y	N	Land Use Plan		Y	**N**	Proposed Zoning plan
Y	**N**	Phasing Plan		Y	**N**	Consolidation Plan
Y	**N**	Abutting owner's consent		**Y**	N	Landscaping / Tree Plan
Y	**N**	Proposed Subdivision Plan (including street names and numbers)		Y	**N**	Copy of original approval letter
Y	**N**	Services Report or indication of all municipal services / registered servitudes		Y	**N**	Homeowners' Association consent
Y	N	Copy of Environmental Impact Assessment (EIA) / Heritage Impact Assessment (HIA) / Traffic Impact Assessment (TIA) / Traffic Impact Statement (TIS) / Major Hazard Impact Assessment (MHIA)/ Environmental Authorisation (EA) / Record of Decision (ROD)		**Y**	N	1 : 50 / 1:100 Flood line determination (plan / report)
Y	**N**	Other (specify)		Y	**N**	Required number of documentation copies

PART E: DISCUSSION

- The pre-application was submitted with a Site Plan, SG diagram and Locality Plan as indicated below.

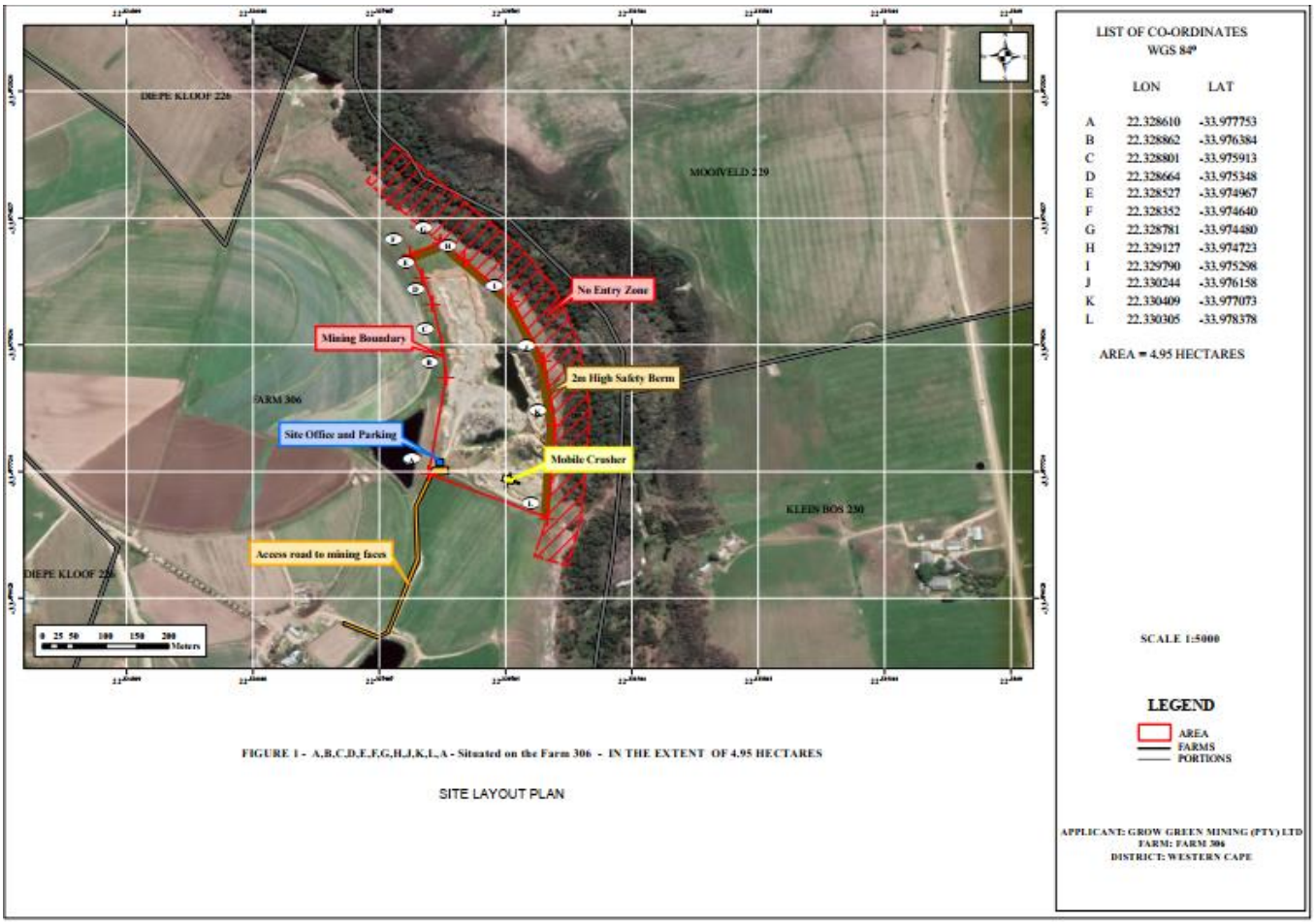
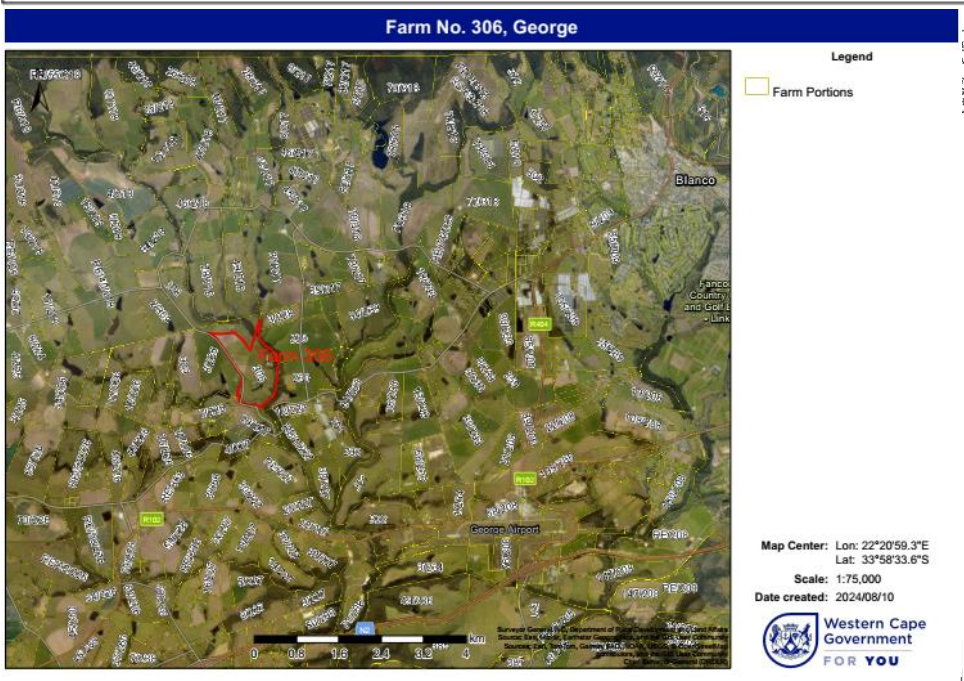
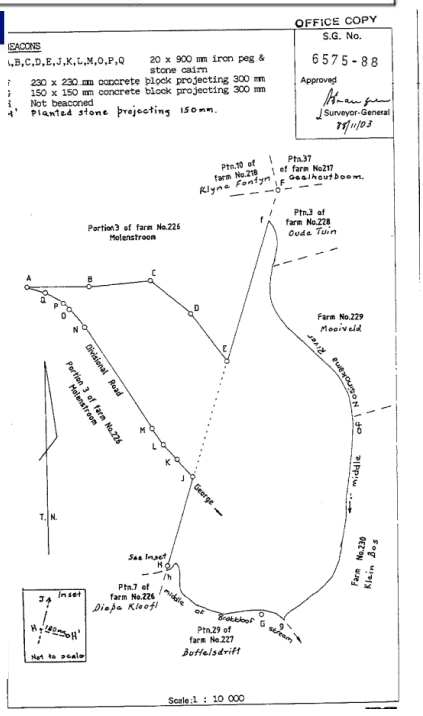


FIGURE 1 - A,B,C,D,E,F,G,H,J,K,L,A - Situated on the Farm 306 - IN THE EXTENT OF 4.95 HECTARES

SITE LAYOUT PLAN





Town Planning

- Motivate the application in terms of SPLUMA, LUPA, and the MSDF.
- Application to be circulated to the Department of Environmental Affairs and Development Planning, the Western Cape Department of Infrastructure and the Western Cape Department of Agriculture for comment on land use change and stormwater to be addressed if not noted in Authorization.
- A Notification of Intend to Develop must be submitted to Heritage Western Cape, or a Record of Decision be provided if the process was concluded with the environmental process.
- The Environmental Authorization / Authorization from the Department of Mineral Resources must be submitted with the application.
- Applicant to address Western Cape Rural Development Guidelines.
- The visual impact to be discussed.

PART F: SUMMARY / WAY FORWARD

- Application may be submitted for consideration**.**

OFFICIAL: KHULISO MUKHOVHA

SIGNED: 

DATE: **23 OCTOBER 2024**

PRE-APPLICANT: ALEXANDER HAVENGA

SIGNED: 

DATE: **16 OCTOBER 2024**

OFFICIAL: NAUDICA SWANEPOEL

SIGNED: 

DATE: **23 OCTOBER 2024**

**Please note that the above comments are subject to the documents and information available to us at the time of the pre-application meeting and we reserve our rights to elaborate on this matter further and/or request more information/documents should it be deemed necessary.*

Annexure 18

DMRE 58

mineral resources & energy

Department:
Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

DEPT. OF MINERAL RESOURCES AND ENERGY
PRIVAATSAK / PRIVATE BAG X9
03 DEC 2024
Official Office Stamp
ROGGEBAAI 8012
REGIONAL MANAGER
WESTERN CAPE REGION

MINING PERMIT

[issued in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)]

Permit No.	12/2024	Region	Western Cape
Office reference	WC/30/5/1/3/2/10338MP		

Permission is hereby granted under and subject to the provisions of the Mineral and Petroleum Resources Development Act, 2002 to [full name] GROW GREEN MINING (PTY) LTD

Identity number in case of a natural person

In the case of a person other than a natural person please indicate:

Co [X] Cc [ ] Partnership/Joint venture [ ] Other * [ ]

* If other, specify

Registration number of Co. or Cc. 2019/547166/07

To mine for [name of mineral] BUILDING SAND (SILICA),GRAVEL

On [full name of farm and subdivision, registration division and no.] PORTION OF BUFFELSDRIFT 306 IN THE MAGISTERIAL DISTRICT OF GEORGRE

as indicated on the attached plan No. 12/2024 signed by the Regional Manager on 03/12/2024

Unless this permit is suspended, cancelled, abandoned or lapses, it shall be valid for a period (not more than two years) which shall extend from the date of issuing to 02/12/2026 and may be renewed for three periods each which may not exceed one year.

This permit does not exempt the holder from the requirements of any provision of any other law or from any restrictive provisions or conditions contained in the title deed of the land concerned, nor does it encroach upon the rights of any person who may have an interest in the land concerned.

Signed at Cape Town this 03RD day of DECEMBER 2024

MINISTER OF MINERAL RESOURCES AND ENERGY

RENEWALS

Official
Office Stamp

First renewal approved for the period from to [not more than one year].

AS WITNESSES

1. _____
(Signature)

_____
MINISTER OF MINERAL RESOURCES AND ENERGY

2._____
(Signature)

DATE: _____

Official
Office Stamp

Second renewal approved for the period to [not more than one year].

AS WITNESSES

1. _____
(Signature)

_____
MINISTER OF MINERAL RESOURCES AND ENERGY

2._____
(Signature)

DATE:_____

Official
Office Stamp

Third renewal approved for the period to [not more than one year].

AS WITNESSES

1. _____
(Signature)

_____
MINISTER OF MINERAL RESOURCES AND ENERGY

2._____
(Signature)

DATE:_____