

APPENDIX 7:

CLOSURE PLAN

(in terms of NEMA Appendix 5)



**mineral resources
& energy**

Department:
Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

CLOSURE PLAN

Driefontein Quarry

SUBMITTED IN TERMS OF APPENDIX 5 of the NATIONAL ENVIRONMENTAL
MANAGEMENT ACT, 1998 (AS AMENDED).

NAME OF APPLICANT: Afrimat Aggregates Operations (Pty) Ltd

TEL NO: 021 917 8840

FAX NO: 021 914 1174

POSTAL ADDRESS: PO Box 768, Bellville, 6850

PHYSICAL ADDRESS: Tyger Valley Office Park No. 2, Cnr.
Willie van

Schoor Avenue & Old Oak Road,
Bellville, 7530

FILE REFERENCE NUMBER SAMRAD: WC 30/5/31/2/2/134 MR

February 2023

Driefontein/Draft BAR/Closure Report

Table of Contents

1	Details of EAP-	1
1.1	The EAP who prepared the closure plan.	1
1.2	<i>Details of the EAP (independent Reviewer)</i>	1
1.3	The expertise of the EAP.	1
2	Introduction	4
3	Closure objectives.	4
4	Proposed mechanisms for monitoring compliance with & performance assessment against the closure plan and reporting thereon.	4
5	Measures to rehabilitate the environment affected by activities and associated closure to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development (including a handover report).	5
6	Information on any proposed avoidance, management and mitigation measures that will be taken to address the environmental impacts resulting from the undertaking of the closure activity. .	6
7	Description of the manner in which it intends to-	10
7.1	Modify, remedy, control or stop any action, activity or process which causes pollution or degradation during closure.....	10
7.1.1	Demarcation of excavation extent	10
7.1.2	Topsoil handling methodology	10
7.1.3	Revegetation and animal life	11
7.1.4	Excavation perimeter shaping and rehabilitation	12
7.1.5	Decommissioning / Closure Hydrocarbon Management and Domestic and Industrial Waste Management Protocol	12
7.1.6	Dust management of decommissioning activities)	14
7.1.7	Noise management and impact.....	15
7.2	Remedy the cause of pollution or degradation and migration of pollutants during [after] closure;..	15
7.3	Comply with any prescribed environmental management standards or practices; and	15
7.4	Comply with any applicable provisions of the Act regarding closure;	15
8	Time periods within which the measures contemplated in the closure plan must be implemented;.....	15
9	The process for managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of closure.....	16
10	Details of all public participation processes conducted in terms of regulation 41 of the Regulations:	16
10.1	Copies of any representations and comments received from registered interested and affected parties; 16	
10.2	A summary of comments received from, and a summary of issues raised by registered interested and affected parties, the date of receipt of these comments and the response of the EAP to those comments;	16
10.3	The minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants;.....	16

10.4	Where applicable, an indication of the amendments made to the plan as a result of public participation processes conducted in terms of regulation 41 of these Regulations	16
10.5	Where applicable, details of any financial provisions for the rehabilitation, closure and on-going post decommissioning management of negative environmental impacts.....	16

1 Details of EAP-

1.1 The EAP who prepared the closure plan.

Name of the Practitioner : Siphumelelo Mbali assisted by Asavela Siqangwe
Company : Afrimat Shared Services (Pty) Ltd
Tel No. : 021 917 8840
Cell : 063 409 4998
Fax No. : 021 914 1174
E-mail address : Siphumelelo.mbali@afrimat.co.za

1.2 Details of the EAP (independent Reviewer)

Name : Victor Manavhela
Company : Biogeotech Environmental Consultance
Address : 01 Goldengroove
Cnr Oosthuizen and Leiphodt
Germiston
1401
Cell : 072 130 2932
E-mail : info@biogeotech.co.za

1.3 The expertise of the EAP.

CURRICULUM VITAE OF SIPHUMELELO MBALI

PERSONAL DETAILS

Name: Siphumelelo Mbali
Date of Birth: 12 November 1990
Nationality: South African
Email: Siphumelelo.mbali@afrimat.co.za
Cell: 062 920 2525
Gender: Male
Driver's License: Code 10
Race: African

ACADEMIC QUALIFICATIONS AND SHORT COURSES

1. Master of Science (Cum Laude) Environmental and Water Science
2. Bachelor of Science (Honours): Environmental and Water Science
3. Bachelor of Science: Environmental and Water Science
4. 3 day course on water governance and water use authorisations in South Africa

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

- South African Council for Natural Scientific Professions (SACNASP)(Professional Natural Scientist)

KEY SKILLS AND CORE COMPETENCIES

- Design, undertake and manage Environmental Impact Assessments under NEMA, MPRDA and SEMA relating to national, provincial legislations towards approval.
 - Undertake water balancing and hydrological modelling studies.
 - Auditing and researching environmental management, compliance with conditions and regulations
 - Surface water and Groundwater quantity and quality determination and monitoring
 - Research with scientific and technical report writing
 - Undertake data collection, data analysis and reporting
 - Conducting public presentation and Stakeholder Engagement
 - Project Management and budgeting
 - Advanced use of Geographic Information Systems (GIS), CorelDraw, Microsoft Office, Excel, Statistica, R2 in environmental analysis scenarios.
-

WORK EXPERIENCE

Afrimat Shared Services (Pty) Ltd

Aug 2021 – Present

Environmental Specialist

- Provide advice, technical support and guidance on Environmental Management aspects
- Ensure compliance with conditions of environmental authorisations, waste and other relevant permits including implementation of best practices guidelines
- Ensure the implementation of relevant environmental policies and practices.
- Conduct Environmental Performance/Audit Reports for improved environmental management and provide corrective measures for any deficiencies found
- Lead and manage Environmental Authorisations (EA) and Environmental Management Plan (EMP) Amendments/Updates of the company
- Determine and prescribe site specific appropriate environmental management and mitigation measures for implementation.
- Strategise and manage GIS database to improve management of Afrimat Mining Rights, Permits and Prospecting Rights.
- Train and manage interns

Site Plan Consulting: Jan 2016-July 2021

Environmental Scientist/GIS technician

- Undertake and manage Environmental Impact Assessments for Full EIA/EMP and Basic Assessment Reports for Environmental Authorisation under NEMA/MPRDA and integration with Specific Environmental Management Acts (SEMA), WULA, SDFs, and Heritage Act.
- Undertake and manage Environmental Audit Reporting to assess compliance with Conditions and Regulations.
- Design and conduct field investigations to quantify, analyse, verify environmental data
- Design Mine Plans and Rehabilitation Plans
- Undertake and manage application for closure of Permits and Rights.
- Technical report writing on noise, dust, groundwater and surface water quantity and quality, hydrocarbon monitoring.
- Conducting and management of Public participation

- Engagement with other specialist, give specialist briefs.
- Use GIS and CorelDraw in compilation of maps and analysis.
- Determine mine rehabilitation for Aggregates, Diamonds, Foundry Sand for Mercedes Benz, Dimension Stone mines.
- Responding to compliance notices and rectification of environmental transgressions.

NRF/DST intern- University of the Western Cape (June 2014- June 2015)

Hydrogeology Assistant

- Organise pumping test equipment,
- Conduct pumping test in the cape flats aquifer and TMG fractured rock aquifers to determine aquifer properties,
- Analyse pumping test for aquifer properties,
- Writing research proposals,
- Assist honours and Masters Students in data collection
- Assist administering groundwater modules.
- Groundwater and surface water quality monitoring

2 Introduction

This Closure Plan has been compiled using the stipulated content as per Appendix 5 of NEMA. It has been compiled from the content of the EMP to which this plan is attached as well as two site visits.

The public participation will be conducted as part of the application for Amendment of an existing Mining Right and all of the aspects in this closure plan will be subject to public participation in the Basic Assessment process.

3 Closure objectives.

The closure objectives are as follows:

The overall objective is to limit the impact of operational mining and residual post mining impacts.

The overall closure objective is to return the disturbed environment into a grazing land. Fencing will be erected to prevent trespassing into the quarry. The pit of the quarry will continue to collect rainwater which will be used for birdlife as there are currently birds breeding in the quarry pit. The rehabilitation of the quarry will entail buttress blasting of the entire bench with a rocky slope and the topsoil as well as overburden will be scarified over the sloped area.

As part of the closure objective, access road will be kept to access the quarry after closure.

4 Proposed mechanisms for monitoring compliance with & performance assessment against the closure plan and reporting thereon.

It is estimated that decommissioning rehabilitation may take between two to three years.

The following is required in terms of monitoring, management actions taken and reporting of the decommissioning rehabilitation toward closure:

- 1) Post operational phase Environmental Audit Report (EAR) (before implementing decommissioning rehabilitation): The aim of this audit is to ensure that the measures as proposed in the EMP and this closure plan are still valid for the site. This audit must be internal and is not compulsory for it to be distributed to the competent authority
- 2) Such post operation EAR will inform any additional measures or specifics not contemplated in detail in the EMP.
- 3) Decommissioning rehabilitation is then conducted
- 4) A final Environmental Audit must then be undertaken and any shortcomings be addressed. Thereafter, a final EAR must be included as part of the Closure Application as lodged.

5 Measures to rehabilitate the environment affected by activities and associated closure to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development (including a handover report).

As the main objective is to retain the site for grazing for future use by the landowner, following items are not to be decommissioned but retained:

main objective is to retain the site for later consideration by others the following disturbances are currently not to be rehabilitated in the decommissioning phase but retained to allow ease of any possible future use:

- i. The quarry pit will be kept for bird breezing in the area
- ii. The access road to be kept for access to the farm
- iii. The haul road will be kept to access the excavation area
- iv. All facilities will be removed including infrastructure

Closure plan to be drawn up.

Decommissioning is based on the activities listed in the Draft BAR-EMP, this section lists the actions that must take place at decommissioning phase as follows:

4. DECOMMISSIONING PHASE ACTIVITIES	
4.1 Removed all logistical facilities and chemical toilet	
4.1.1	Noise
4.1.2	Air Quality
4.1.3	Hydrocarbon
4.2 Finalise sloping of final pit edges	
4.2.1	Noise
4.2.2	Air Quality
4.2.3	Hydrocarbon
4.3 Rip/scarify hardened/compacted surface of plant and stockpiling area.	
4.3.1	Noise
4.3.2	Air Quality
4.3.3	Hydrocarbon
4.4 Spread topsoil from berms over ripped area (not excavation)	
4.4.1	Noise
4.4.2	Air Quality
4.4.3	Hydrocarbon
4.5 Construct safety berm and trench around excavation perimeter and install livestock proof fence and danger signpost.	
4.5.1	Noise
4.5.2	Air Quality
4.5.3	Hydrocarbon
4.6 Grass seed re-top soiled areas.	
4.7 Either retain or remove delivery road (to landowner's decision) by scarification, top soiling and grass seeding (retain bell-mouth)	
4.8 Conduct final Environmental Audit Report (EAR) for closure	
4.9 Apply for closure (submit closure application)	
5. Aftercare and maintenance activities (2 years)	
5.1	Monitor revegetation success and continue hand seeding when necessary annually.

The landowner will be involved in the closure process to have an input to ensure that the land is retained in a sustainable manner which will also benefit him in the future.

6 Information on any proposed avoidance, management and mitigation measures that will be taken to address the environmental impacts resulting from the undertaking of the closure activity.

The impacts (and proposed mitigation measures required) that will arise out the undertaking of the closure activities are as follows:

4. DECOMMISSIONING PHASE ACTIVITIES								
4.1 Removed all logistical facilities and chemical toilet								
4.1.1 Noise	Noise generated by earthmoving equipment	Local	Decommissioning	Definite	Insignificant	No	No	Managed/mitigated through ensuring silencers are in operation
4.1.2 Air Quality	Dust generated by earthmoving equipment	Local	Decommissioning	Definite	Insignificant	If required, wetting of affected areas could take place	No	Dust could be allayed by wetting.
4.1.3 Hydrocarbon	Potential Hydrocarbon leaks	Local	Decommissioning	Possible	Insignificant	Fully reversible	No	Hydrocarbon management plan must be put in place to prevent occurrence
4.2 Finalise sloping of final pit edges								

4.2.1	Noise	Noise generated by earthmoving equipment	Local	At closure	Definite	Insignificant	No	No	Managed/mitigated through ensuring silencers are in operation
4.2.2	Air Quality	Dust generated by earthmoving equipment	Local	At closure	Definite	Insignificant	If required, wetting of affected areas could take place	No	Dust could be allayed by wetting.
4.2.3	Hydrocarbon	Potential Hydrocarbon leaks	Local	At closure	Possible	Insignificant	Fully reversible	No	Hydrocarbon management plan must be put in place to prevent occurrence
4.3	Rip/scarify hardened/compact d surface of plant and stockpiling area.								
4.3.1	Noise	Noise generated by earthmoving equipment	Local	At closure	Definite	Insignificant	No	No	Managed/mitigated through ensuring silencers are in operation
4.3.2	Air Quality	Dust generated by earthmoving equipment	Local	At closure	Definite	Insignificant	If required, wetting of affected areas could take place	No	Dust could be allayed by wetting.
4.3.3	Hydrocarbon	Potential Hydrocarbon leaks	Local	At closure	Possible	Insignificant	Fully reversible	No	Hydrocarbon management plan must be put in place to prevent occurrence
4.4	Spread topsoil from berms over ripped area (not excavation)								

4.4.1 Noise	Noise generated by earthmoving equipment	Local	At closure	Definite	Insignificant	No	No	Managed/ mitigated through ensuring silencers are in operation
4.4.2 Air Quality	Dust generated by earthmoving equipment	Local	At closure	Definite	Insignificant	If required, wetting of affected areas could take place	No	Dust could be allayed by wetting.
4.4.3 Hydrocarbon	Potential Hydrocarbon leaks	Local	At closure	Possible	Insignificant	Fully reversible	No	Hydrocarbon management plan must be put in place to prevent occurrence
4.5 Construct safety berm and trench around excavation perimeter and install livestock proof fence and danger signpost.								
4.5.1 Noise	Noise generated by earthmoving equipment	Local	At closure	Definite	Insignificant	No	No	Managed/ mitigated through ensuring silencers are in operation
4.5.2 Air Quality	Dust generated by earthmoving equipment	Local	At closure	Definite	Insignificant	If required, wetting of affected areas could take place	No	Dust could be allayed by wetting.
4.5.3 Hydrocarbon	Potential Hydrocarbon leaks	Local	At closure	Possible	Insignificant	Fully reversible	No	Hydrocarbon management plan must be put in place to prevent occurrence
4.6 Grass seed re-top soiled areas.								

4.7	Either retain or remove delivery road (to landowner's decision) by scarification, top soiling and grass seeding (retain bell-mouth)								
4.8	Conduct final Environmental Audit Report (EAR) for closure								
4.9	Apply for closure (submit closure application)								
5. Aftercare and maintenance activities (2 years)									
5.1	Monitor revegetation success and continue hand seeding when necessary annually.								

7 Description of the manner in which it intends to-

7.1 Modify, remedy, control or stop any action, activity or process which causes pollution or degradation during closure

The management of environmental damage because of the undertaking of decommissioning and closure activities at this site consists of the following with detail description below:

- 1) Demarcate excavation extent refer 7.1.1 below
- 2) Topsoil handling methodology refer 7.1.2 below
- 3) Vegetation and animal life management refer 7.1.3 below
- 4) Excavation perimeter shaping and rehabilitation refer 7.1.4 below
- 5) Hydrocarbon pollution prevention must take place in accordance with the Hydrocarbon pollution prevention protocol refer 7.1.5
- 6) Dust management protocol refer 7.1.6
- 7) Drilling and blasting management
- 8) Noise management and impact

7.1.1 Demarcation of excavation extent

Beacons must be securely placed to demarcate the Mining Right extension area. These beacons must be visible from one another. Employees /operators must be informed of this maximum extent and absolutely no access is permitted beyond these beacons. The no go areas must form part of the Environmental Induction Training (which forms part of the Environmental Awareness Programme refer Appendix 5).

7.1.2 Topsoil handling methodology

The management of topsoil is of utmost importance. Without topsoil management, the disturbed area is subject to several other potential long-term impacts such as lack of revegetation or extended revegetation time, dust generated off denuded areas and potential visual scarring. Given the locality of this operation within a CBA, it is of utmost importance that all topsoil return is maximized to enable the eventual rehabilitation /restoration of all areas. Topsoil in the extension area ranges from 200-400mm in depth.

Topsoil removal

Topsoil removal will take place as follows:

- The topsoil in all virgin disturbance areas shall be removed to between 200 and 400mm depending on the soil horizon for storage and reuse
- All dozed or graded topsoil shall be stored in adjacent perimeter topsoil berms not exceeding 1.5m in height to retain aeration of such soil for the seed bank preservation

Topsoil reuse

Majority of topsoil reuse will take place during decommissioning phase of the mining project. Therefore, topsoil reuse will be conducted as follows:

- Topsoil/subsoil combination in the excavation perimeter berms will be spread over the 3m wide upper safety bench to provide growing medium. The remaining portion of the berm will be retained as a safety berm with both the topsoiled and retained areas being hand seeded with selected indigenous species seed.
- Any other remaining topsoil will be hauled and used in rehabilitation of the stockpile areas, plant area and logistical areas as per the need requirements.

7.1.3 Revegetation and animal life

Vegetation in this application area is described as Agulhas Sand Fynbos and Agulhas Limestone Fynbos vegetation types (Mucina and Rutherford, 2012). However, as revealed by the site visit and Site Verification report, the application area is heavily infested by alien plants particularly Port Jackson. Based on the current status of the site, vegetation impact on indigenous vegetation is expected to be insignificant compared to current alien infestation.

Vegetation management: in this site should entail the following to ensure that revegetation can have an improved success rate:

- Remove topsoil and/or seedbearing plant material from the fynbos-covered areas perimeter topsoil berms for use in the rehabilitation of disturbed areas after mining.
- Cuttings from plants can also be collected, but advice should rather be sought from a restoration specialist in this regard.
- It is recommended that seed be collected from at least four indigenous pioneer species on site. This seed must be stored in a suitable, dry dark storage facility and be re-sown (raked) into the topsoil as part of the rehabilitation process following mining closure.
- Engage in periodic alien clearing, focussing on invasive species such as port jackson (*Acacia saligna*), blackwood (*A. melanoxylon*) and gums.
- Allow at least 12 months for the monitoring of rehabilitation success and alien infestation post mining.

Animal Management: Vast expanses of the same vegetation which surround the site provide a habitat suitable for species typical of the area. The large scale of the habitat type when compared to the extent of the proposed activities negates any significance of any impact in this regard. Thus, a “chase and rescue” operation before a new area is established would be adequate to limit adverse impact.

7.1.4 Excavation perimeter shaping and rehabilitation

Rehabilitation shaping and re-top soiling of all disturbance areas will be conducted post-mining. At final closure of the quarry, the following activities will have to be undertaken to ensure that adequate rehabilitation takes place:

- Perimeter berm of 0.5m height and where possible 0,5m deep trench,
- Upper safety bench of maximum 3m height, minimum 5m width
- Lower bench faces at 18° from vertical, 11m maximal height, and 5m width
- Excavation perimeter to be subject to buttress blasting to break up edges and allow formation of naturalistic cliff-face habitats (The entire first bench will be blasted at a slope to create a scree slope).
- A fence around the excavation should be considered at closure as further safety measure.

7.1.5 Decommissioning / Closure Hydrocarbon Management and Domestic and Industrial Waste Management Protocol

Domestic Waste handling

At present, there are two waste bins on site for domestic waste. The bins used need to be labelled according to each waste stream. 1 x Additional waste bins will be placed at the ready -mix plant. Currently, the domestic waste produced on site is transported to the Municipality's landfill site.

Sewage handling

Presently, there are ski cabin toilets on site. This ablution facility should be well maintained and is to be serviced regularly under contract. No use of the veld for ablutions is permitted and staff should be strongly cautioned in this regard.

Industrial Waste Handling

Industrial waste on site is stored in oil drums for collection by the Afrimat Worcester team and then be disposed of at an appropriate waste disposal facility. Employees are to be made aware of the industrial waste disposal procedure regularly.

Hydrocarbon Management:

Fuel is currently stored in a bunded diesel tank with a carrying capacity of 110% (See photo 7 below). Inside the bunded diesel tank there is also a fuel pump. The diesel tank is now having its concrete apron upgraded for adequate fuel management. The site also has a diesel treatment product from Spill Tech which is kept at the Workshop at all times.



Photo 1: Steel banded diesel tank with a carrying capacity of 110%

a) Vehicle /pump leaks:

Vehicles and equipment are to be checked on a daily basis for oil/diesel/hydraulic fluid leaks on a daily basis. Drip trays must be available on site and should any oil/fuel/lubricant leak from the equipment. All used or leaked fluid is to be collected using drums for transport to Afrimat' Worcester Workshop from which it will be disposed of at a registered site.

b) On-site repairs:

All repairs minor repairs are done at the workshop on site and major repairs are conducted by the Afrimat's Worcester Workshop.

c) Emergency repairs on site:

In the event of a breakdown repair being required on site, the staff are trained and will again be instructed during environmental induction training (Appendix 5) in the use of drip trays and suitable funnels (not to drain oil into the sand) for filling and draining of lubricants and the staff shall be provided with such equipment to prevent oil contamination.

d) Reporting of an incident:

In the event of large spillages, the Mine Manager will be informed and the relevant authorities will be informed as such the spill will be investigated to find ways to avoid having another spill occurring.

e) General hydrocarbon management protocol

- All operation equipment should be checked daily every morning before work commences.
- No used oils should be used as dust suppressants on manoeuvring areas.
- If spills do occur on the sand, the spill kit should be used to remove the spill and will be placed hazardous waste drums and then collected by Afrimat Worcester site for disposal in a suitable landfill site.
- All contaminated soil/material must also be removed and disposed of or treated with a suitable treatment process.

- There will be an incident management system, including procedures and training, for dealing with incidents.
- Used oil drums are to be suitably sealed and sited within bund trays to prevent spillage.
- Should any pollution of water resources be detected during the mining operation, the Department of Water and Sanitation must be informed immediately and appropriate remediation processes must take place in consultation with Department of Water and Sanitation.

7.1.6 Dust management of decommissioning activities)

The current Driefontein existing site, the dust is constantly monitored to be able to detect the fallout dust levels and this is done through external consultants. It is important that dust levels are monitored, reported on and understood that so that if allowed amount of dust levels has been exceeded it can be detected and eliminated at source.

currently, dust sources on site are:

- Limited drilling dust as the drill rigs employed are all fitted with dust extraction systems
- Haul road dust from the haul vehicle tyre powdering of haul road surface
- Haul vehicle tipping into primary crusher hopper
- Crushing and screening
- Stockpiling and stockpile dispatch loading
- Delivery vehicle road dust
- Delivery vehicle load if uncovered
- Cement unloading into silos.
- Vehicle movement on site.
- Aggregate bins
- Truck loading from the loading bin

As the above sources are common to all hard rock quarrying sites, the quarry industry has developed appropriate dust attenuation measures which include:

- Prescription of dust extraction systems on drills
- Water cart wetting of haul roads with consideration of armouring such roads in fresh crushed hard material to limit powdering of haul road surfaces
- Dozing of topsoil and overburden on wind-still days
- Shade cloth surrounding of the tipping into primary hopper
- Enclosing material transfer points on the plant
- Covering delivery vehicle loads
- Movement of trucks to be controlled
- The extension area will have the same impacts as current activities.

The measures will be continue to be used.

7.1.7 Noise management and impact

Blasting may impact farmstead that is about 700m northwest of the Mining Right extension area. However, to date no blasting impacts have been reported by the landowner and should correct blasting designs be maintained as is the case then impact should remain negligible.

Consequently, the following measures are prescribed to limit blasting impact (ground vibration and noise):

- a) The mine manager must notify the landowner of the intended date and times of the next blast in order that the residents and personnel outside the danger area can expect the blast, and
- b) All personnel must avoid entering the danger radius during the period of the blast.
- c) the blasting engineer shall design the blast so that ground vibration does not cause significant vibrations

In accordance with the blasting code:

- i. The blaster shall drive along the perimeter fences to inspect the adjacent lands to ensure that there are no persons or livestock within the blast radius
- ii. a hooter/siren will alert all persons in proximity of the pending blast

7.2 Remedy the cause of pollution or degradation and migration of pollutants during [after] closure;

The main potential pollutant which is likely to be encountered during closure will be hydrocarbons such as diesel fuel, hydraulic oils and other greases. Refer para 7.1.4 for handling methodology.

7.3 Comply with any prescribed environmental management standards or practices; and

As described in part 4, the holder is bound by a sequence of environmental audits during and after closure which will ensure compliance with this closure plan and EMP.

7.4 Comply with any applicable provisions of the Act regarding closure;

The holder will comply with all aspects of the legislation in respect of closure and will be guided in such by EAP.

8 Time periods within which the measures contemplated in the closure plan must be implemented;

The decommissioning rehabilitation / closure plan will be implemented in a period of two to three years from the date upon which decommissioning is proposed to be initiated.

9 The process for managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of closure

Not applicable.

10 Details of all public participation processes conducted in terms of regulation 41 of the Regulations:

The content of this closure plan is based on measures proposed in the EIA/EMP. Such document will/has been widely distributed for public comment. Full details of such public participation will/be are contained in Part 8.2 of the BAR.

10.1 Copies of any representations and comments received from registered interested and affected parties;

Refer part 8 of BAR for details of comments once received as they relate to closure.

10.2 A summary of comments received from, and a summary of issues raised by registered interested and affected parties, the date of receipt of these comments and the response of the EAP to those comments;

Refer Part 8 of the BAR.

10.3 The minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants;

Refer Part 8 of the BAR

10.4 Where applicable, an indication of the amendments made to the plan as a result of public participation processes conducted in terms of regulation 41 of these Regulations

None yet.

10.5 Where applicable, details of any financial provisions for the rehabilitation, closure and on-going post decommissioning management of negative environmental impacts

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

R 511 275.72

A site specific and site condition of the DMRE template adaptation for calculating the Quantum for Financial Provision and the resultant table is as shown below.

CALCULATION OF THE QUANTUM							
Applicant :		Afrimat Aggregates Operations (Pty) Ltd			Location:		
Evaluator:		Siphumelelo Mbali			Date:		
Reference :		WC 30/5/1/2/2/ 134MR			Bredasdorp		
		Environmental Parameters			Dec 2022		
Risk Class		C					
Area sensitivity		Medium					
Nature of terrain		Flat					
Proximity to Urban Area		Urban					
No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and power lines)	m3	0	R 6.82	1	1	R 0.00
2 (A)	Demolition of steel buildings and structures	m2	0	R 95.00	1	1	R 0.00
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	R 140.00	1	1	R 0.00
3	Rehabilitation of access roads	m2	0	R 17.00	0.5	1	R 0.00
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	R 165.00	1	1	R 0.00
4 (B)	Demolition and rehabilitation of non-electrified railway lines	m	0	R 90.00	1	1	R 0.00
5	Demolition of housing and/or administration facilities	m2	0	R 190.00	1	1	R 0.00
6	Open cast rehabilitation including final voids and ramps	ha	0	R 96 700.00	0.52	1	R 0.00
7	Sealing of shaft adits and inclines	m3	0	R 51.00	1	1	R 0.00
8 (A)	Rehabilitation of overburden and spoils	ha	0	R 66 400.00	1	1	R 0.00
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	R 82 700.00	1	1	R 0.00
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	R 240 200.00	0.66	1	R 0.00
9	Rehabilitation of subsided areas	ha	0	R 55 600.00	1	1	R 0.00
10	General surface rehabilitation	ha	11.6759	R 52 600.00	0.5	1	R 307 076.17
11	River diversions	ha	0	R 52 600.00	1	1	R 0.00
12	Fencing	m	0	R 60.00	1	1	R 0.00
13	Water management	ha	0	R 20 000.00	0.25	1	R 0.00
14	maintenance and aftercare	ha	0	R 7 000.00	1	1	R 0.00
15 (A)	Specialist study	Sum	1	R 28 669.94	1	1	R 28 669.94
15 (B)	Specialist study	Sum	1	R 28 669.94	1	1	R 28 669.94
					Sub Total 1		R 364 416.05
1	Preliminary and General	R 43 729.93		weighting factor 2		R 43 729.93	
				1			
2	Contingencies	R 36 441.60					R 36 441.60
					Subtotal 2		R 444 587.58
					VAT (15%)		R 66 688.14
					Grand Total		R 511 275.72