APPENDIX G:

ENVIRONMENTAL MANAGEMENT PROGRAMME

Environmental Management Group (Pty) Ltd

Specialists in Environmental Management Integrating Industry and Infrastructure with the Environment

ENVIRONMENTAL MANAGEMENT PROGRAMME

THE PROPOSED EXPANSION OF DJ POTGIETER CATTLE FEEDLOT, FREE STATE PROVINCE.

Environmental Management Group (Pty) Ltd

Specialists in Environmental Management Integrating Industry and Infrastructure with the Environment

Prepared For:
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REPORT DETAILS

DARDEA reference number:	**EMB/39(i)/26/20**
Project title	The Proposed Expansion of DJ Potgieter Cattle Feedlot
Prepared by	Environmental Management Group (Pty) Ltd
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Submission Date	July 2026
Development type	Cattle Feedlot

ENVIRONMENTAL MANAGEMENT PROGRAMME

in terms of the

National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended &
Environmental Impact Assessment Regulations 2014

Submitted for:

Stakeholder Review & Comment

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LIST OF ACRONYMS AND ABBREVIATIONS

AIS	Alien and Invasive Species
BA	Basic Assessment (as provided for in NEMA (Act 107 of 1998) and EIA Regulations (2014)
BAR	Basic Assessment Report
CA	Competent Authority
CBA	Critical Biodiversity Area
DARDEA	Department of Agriculture, Rural Development and Environmental Affairs
DEA	Department of Environmental Affairs
DFFE	Department of Forestry, Fisheries and the Environment
DM	District Municipality
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMPr	Environmental Management Programme
ESA	Ecological Support Area (Biodiversity)
ESA	Early Stone Age (Heritage)
FSPHRA	Free State Provincial Heritage Resources Authority
GN	Government Notice
IEM	Integrated Environmental Management
I&APs	Interested and Affected Parties
MLM	Metsimaholo Local Municipality
MSA	Middle Stone Age
NEMA	National Environmental Management Act (No. 107 of 1998) (as amended)
NHRA	National Heritage Resources Act (No. 25 of 1999)
NWA	National Water Act (Act 36 of 1998)
PPP	Public Participation Process
SACNASP	South African Council for Natural Scientific Professions
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SDF	Spatial Development Framework
SE	Site Engineer
SEI	Site Ecological Importance
ToR	Terms of Reference
WULA	Water Use License Application

DEFINITIONS:

1. **Alien Vegetation:** alien vegetation is defined as undesirable plant growth which shall include, but not be limited to; all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.
2. **Aspect:** Element of an organisation's activities, products or services that can interact with the environment.
3. **Auditing:** A systematic, documented, periodic and objective evaluation of how well the environmental management plan is being implemented and is performing with the aim of helping to safeguard the environment by: facilitating management control which would include meeting regulatory requirements. Results of the audit help the organisation to improve its environmental policies and management systems.

4. **Built environment:** Physical surroundings created by human activity, e.g. buildings, houses, roads, bridges and harbours.
5. **Contamination:** Polluting or making something impure.
6. **Corrective (or remedial) action:** Response required addressing an environmental problem that conflicts with the requirements of the EMPR. The need for corrective action may be determined through monitoring, audits or management review.
7. **Degradation:** The lowering of the quality of the environment through human activities, e.g. river degradation, soil degradation.
8. **Ecology:** The scientific study of the relationship between living things (animals, plants and humans) and their environment.
9. **Ecosystem:** The relationship and interaction between plants, animals and the non-living environment.
10. **Environment:** environment means the surroundings within which humans exist and that could be made up of -
    - 10.1. the land, water and atmosphere of the earth;
    - 10.2. micro-organisms, plant and animal life;
    - 10.3. any part or combination of (10.1) and (10.2) and the interrelationships among and between them; and
    - 10.4. the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.
11. **Environmental aspect:** an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.
12. **Environmental impact:** an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.
13. **Environmental authorisation:** an environmental authorisation is a written statement from the Department of Agriculture, Rural Development and Environmental Affairs (DARDEA) that records its approval of a planned development.
14. **Hazardous waste:** Waste, even in small amounts that can cause damage to plants, animals, their habitat and the well-being of human beings, e.g. waste from factories, detergents, pesticides, hydrocarbons, etc.
15. **Land use:** The use of land for human activities, e.g. residential, commercial, industrial use.
16. **Mitigation:** Measures designed to avoid, reduce or remedy adverse impacts.

1. INTRODUCTION AND BACKGROUND:

1.1. SCOPE:

Environmental Management Group (Pty) Ltd has been appointed by **Mr. David Potgieter**, as the independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment (BA) process for the proposed expansion of DJ Potgieter Cattle Feedlot within the Free State Province. The BA process is being conducted in accordance with the requirements of the Environmental Impact Assessment Regulations, 2014 (as amended), promulgated under the National Environmental Management Act, 1998 (Act No. 107 of 1998).

This document is compiled in accordance with the Integrated Environmental Management (IEM) philosophy, which aims to achieve a desirable balance between conservation and development (DEAT, 1992). IEM is a key instrument of the National Environmental Management Act (NEMA) (Act No. 107 of 1998). NEMA promotes integrated environmental management of activities that may have a significant environmental impact, while IEM prescribes a methodology to ensure that environmental management principles are fully integrated across all stages of the expansion process. It advocates the use of several environmental management tools that are appropriate for the various levels of decision-making. One such tool is an Environmental Management Programme (EMPr). The IEM guidelines encourage a pro-active approach to sourcing, collating and presenting information in a manner that can be interpreted at all levels. The basic principles underpinning IEM are that there be:

- informed decision-making;
- accountability for information on which decisions are taken;
- accountability for decisions taken;
- a broad meaning given to the term environment (i.e. one that includes physical, biological, social, economic, cultural, historical and political components);
- an open, participatory approach in the planning of proposals;
- consultation with interested and affected parties;
- due consideration of alternative options;
- an attempt to mitigate negative impacts and enhance positive aspects of proposals;
- an attempt to ensure that the 'social costs' of development proposals (those borne by society, rather than the developers) be outweighed by the 'social benefits' (benefits to society as a result of the actions of the developers);
- democratic regard for individual rights and obligations;
- compliance with these principles during all stages of the planning, implementation and decommissioning of the proposals (i.e. from 'cradle to grave'); and
- the opportunity for public and specialist input in the decision-making process.

The Environmental Impact Assessment Regulations, which took effect in December 2014, regulate the procedures and criteria for the submission, processing, consideration, and decision on applications for environmental authorisation of listed activities.

1.2. LEGAL REQUIREMENTS OF AN EMPr

Appendix 4 of the NEMA Environmental Impact Assessment (EIA) Regulations 2014 (as amended) specifies the requirements of an EMPr. The table below serves as a map of how the requirements detailed in Appendix 4 have been adhered to.

Table 1 Requirements of an Environmental Management Programme as detailed in Appendix 4 of the NEMA EIA Regulations 2014 (as amended)

Requirements	Reference
Details of the Environmental Assessment Practitioner (EAP) who prepared the EMPr and evidence of that EAP's expertise to prepare the EMPr, including a curriculum vitae	**APPENDIX A**
A detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description.	**SECTION 1 & 2**
A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers.	**APPENDIX B**
A description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed, and mitigated as identified through the environmental impact assessment process for all phases of the expansion, including: *(i) Planning and design* *(ii) Pre-construction activities* *(iii) Construction activities* *(iv) rehabilitation of the environment,* *(v) where relevant, operational activities* *(vi) and if applicable, post-closure*	**SECTION 6**
A description of proposed impact management actions, identifying the specific manner in which the impact management outcomes will be achieved, and must, where applicable, include actions to: *(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation* *(ii) comply with any prescribed environmental management standards or practices* *(iii) comply with any applicable provisions of the Act regarding closure, if applicable*	**SECTION 8**
An indication of the persons who will be responsible for the implementation of the impact management actions	**SECTION 3 & 8**
The time periods within which the impact management actions must be implemented	**SECTION 8**
The frequency of monitoring the implementation of the impact management actions	**SECTION 7 & 8**
The mechanism for monitoring compliance with the impact management actions	**SECTION 7 & 8**
A program for reporting on compliance, taking into account the requirements prescribed by the regulations	**SECTION 8**
An environmental awareness plan describing the manner in which: *i. the applicant intends to inform his or her employees of any environmental risk which may result from their work* *ii. risks must be dealt with in order to avoid pollution or the degradation of the environment*	**SECTION 7**

This EMPr addresses the legal requirements outlined in Table 1 above. This document should be considered in an iterative context, permitting amendments throughout the project's lifecycle. Adjustments may be made as new information arises, unforeseen circumstances occur, or as conditions necessitate adaptation.

1.3. RELEVANT LEGISLATION:

There are several legal and policy documents that govern the planning, development, operation, and maintenance of the proposed expansion. These instruments establish the environmental, water-use, land-use, heritage, and occupational health and safety requirements applicable to the project. An overview of the primary legislation applicable to the project, along with its relevance to the proposed activities, is provided in Table 2 below.

Table 2 Relevant Legislation and its applicability to the expansion

Listing Notice 1 of the EIA Regulations, 2014, as amended	**Description of project activity**
Activity 39(i): *The expansion and related operation of facilities for the concentration of animals in densities that will exceed* *(i) 20 square metres per large stock unit, where the expansion will constitute more than 500 additional units.*	The proponent proposes to expand the existing feedlot by an additional 2 504 LSUs. The total of the existing 1550 LSU and the proposed 2 504 LSU accumulates to a total 4054 LSU. Moreover, the surface area of the feedlot is 75 000 square metres, as such the stocking density of the feedlot is **18.5 square metres per LSU.**

2. PROJECT DESCRIPTION:

2.1. BACKGROUND:

Environmental Management Group (Pty) Ltd has been appointed as independent environmental practitioners by Mr David Potgieter to undertake the Environmental Authorisation application for the proposed cattle feedlot expansion. The existing cattle feedlot on site currently has the capacity to accommodate approximately 1,550 Large Stock Units (LSUs) across 16 feedlot blocks. These blocks are arranged into two separate camps, with the first camp comprising of 10 blocks and the second camp consisting of 6 blocks. The existing feedlot together with the supporting infrastructures occupies a total surface area of approximately 99 000 m². Refer to Figures 1 and 2 below. The existing supporting infrastructure includes:

- 2 holding camps and 1 informal holding area
- 2 sorting camps
- Silage storage area
- Manure drying and composting area
- Evaporation pond

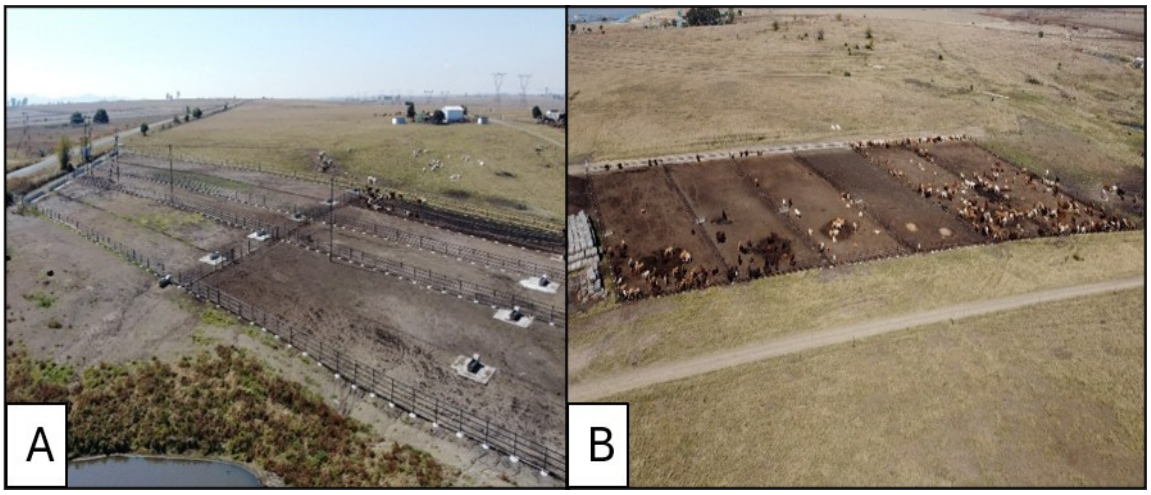

Figure 1 *Aerial photographs of the current feedlot facilities. Image (A) illustrates Camp A, as depicted in Figure 2 in the brown-filled area, while Image (B) represents Camp B, indicated by the blue-filled area in* Figure 2.

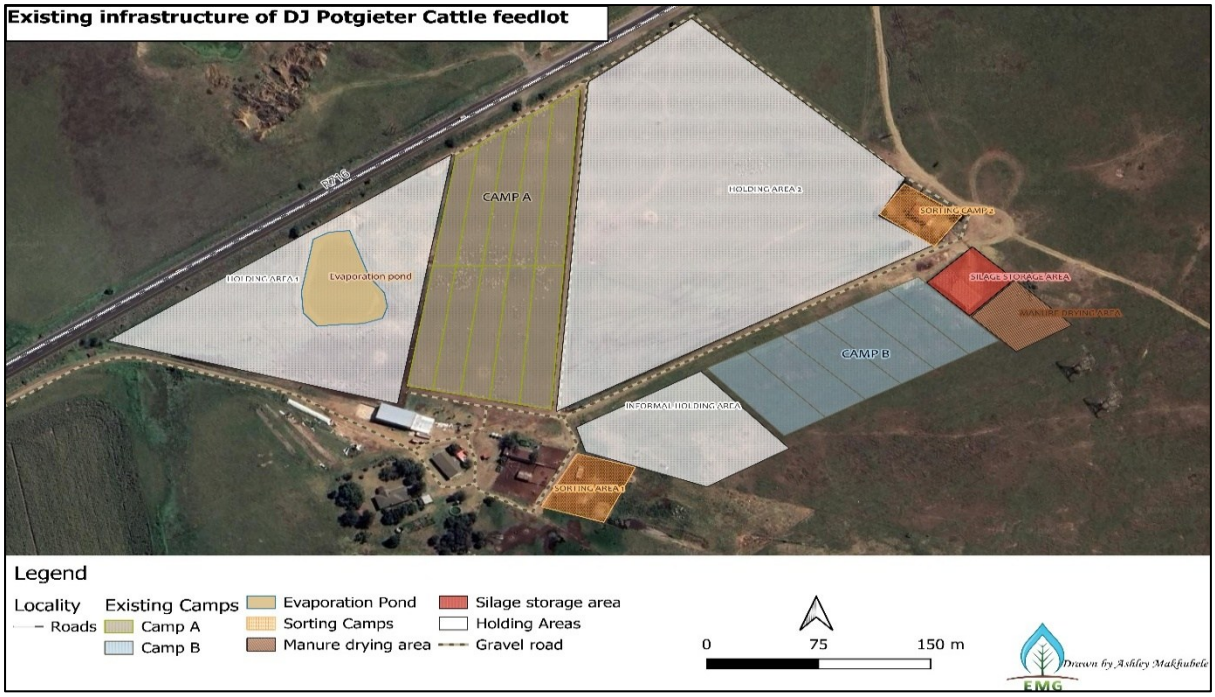

Figure 2 *This map illustrates the existing infrastructure and operational zones of the Potgieter feedlot. The current feedlot areas are depicted in brown and blue, designated as Camp A and Camp B. The holding areas are represented in white, while the silage storage area is indicated in red. The composting area is shown in dark brown, and the evaporation pond is marked in cream. Additionally, sorting areas are illustrated in orange*

An assessment was undertaken to determine whether the existing operation triggers any listed activities under the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the EIA Regulations, as amended.

Listing Notice 1, Activity 4 applies to facilities for the concentration of animals at densities exceeding 20 m² per Large Stock Unit (LSU) and that accommodate more than 500 units. The stocking density of the existing feedlot was calculated as depicted in Equation 1.

$$\frac{\boldsymbol{Surface\ area\ (m^2)}}{\boldsymbol{LSU}} = \boldsymbol{m^2\ per\ LSU}$$

Equation 1 *Calculation of the available surface area per livestock unit (LSU) to assess the facility's current stocking density*.

The calculated stocking density is 63.87 m² per LSU. This figure does not exceed the 20 m² per LSU threshold stipulated in Listing Notice 1, Activity 4. Consequently, the existing feedlot does not trigger this listed activity. A confirmation letter from DARDEA that supports this conclusion is included in **Appendix J.**

Furthermore, Listing Notice 1, Activity 27, has not been recognised as a triggered activity. This activity relates to the clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation. The feedlot is situated on land that has been historically utilised for agriculture and is already extensively transformed and disturbed. Since the development does not involve the clearance of indigenous vegetation in a natural or undisturbed state, Activity 27 is not applicable. The ecological specialist report supporting this finding is provided in **Appendix D**.

2.2. LOCATION:

The proposed expansion is located on Brak Dam No. 700/1, Brak Dam No. 700/Re and Vaaldam Settlement No. 1777/26, within the jurisdiction of Metsimaholo Local Municipality, under Fezile Dabi District Municipality, Free State Province. The proposed site is located near the town of Oranjeville and traverses three farm portions, as indicated below:

Figure 3 *The locality map illustrates the locality of the proposed expansion alongside current infrastructure. The properties are distinctly marked in green, yellow, and pink, while the adjacent town of Oranjeville is also depicted. In the right-hand corner, a larger-scale map highlights the location of the proposed development relative to the surrounding towns.*

2.3. PROJECT COMPONENTS:

The proponent proposes to repurpose the existing Holding Area 2 (refer to Figure 2 above) to facilitate the expansion of the existing feedlot. This involves the expansion by an additional 2 504 LSUs, increasing the total holding capacity to approximately 4054 LSUs. The existing feedlot capacity will be increased by 161 LSUs, while the newly constructed feedlot will accommodate 2343 LSUs across 2 camps and 18 blocks. The expansion will be accommodated within the existing 99,000 m² active agricultural footprint through the reconfiguration and optimisation of the existing facility, and no increase in the overall feedlot surface area is proposed.

To support the increased livestock capacity, additional infrastructure will be constructed, including a feeding trough (feeding pan). The feeding infrastructure will be designed to provide 20 cm of feeding space per LSU, resulting in a total feeding length of 50 080 cm (500.8 m), ensuring adequate access to feed for all animals within the expanded facility. Moreover, newly

constructed stormwater management channels and berm is proposed to manage the stormwater runoff.

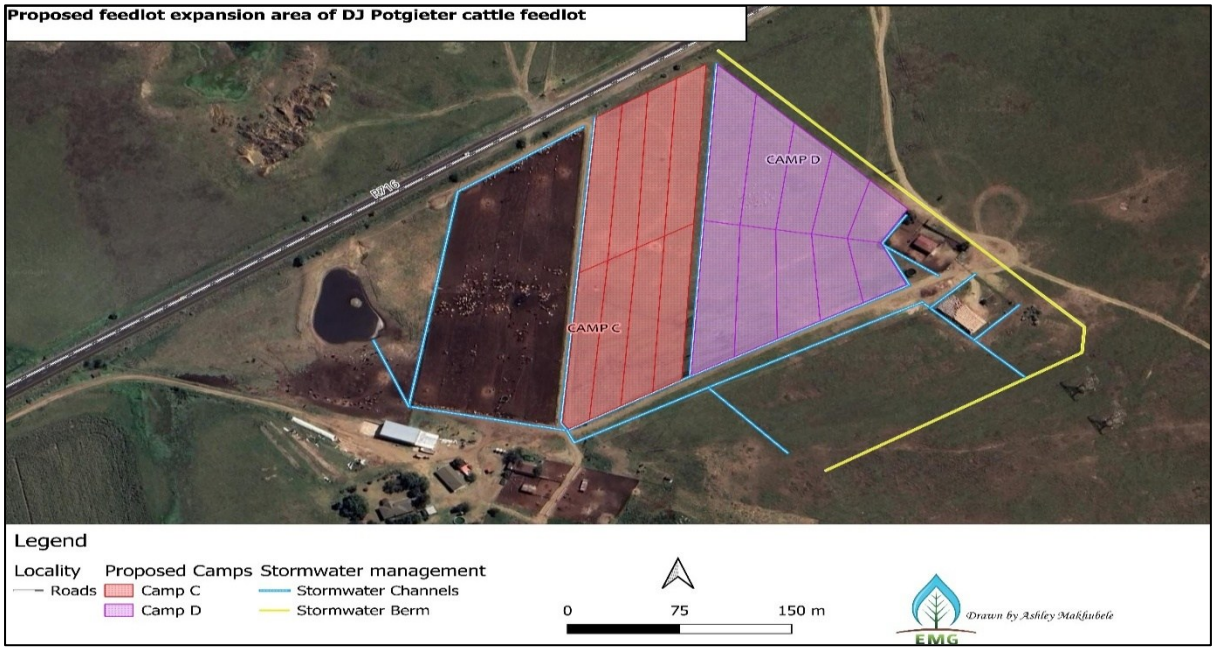

Figure 4 *The map illustrates the proposed new feedlot areas, indicated in red (Camp C) and purple (Camp D), along with the stormwater channels depicted in blue and the stormwater berm represented in yellow.*

The proposed expansion will make use of the existing infrastructure currently available on site. Existing sorting camps, the silage storage area, the manure drying and composting area, holding area 1 and evaporation pond will continue to support the operation. In addition, the existing informal holding area will be repurposed to a formal Holding Area 2. Figure 5 below illustrates the proposed site layout.

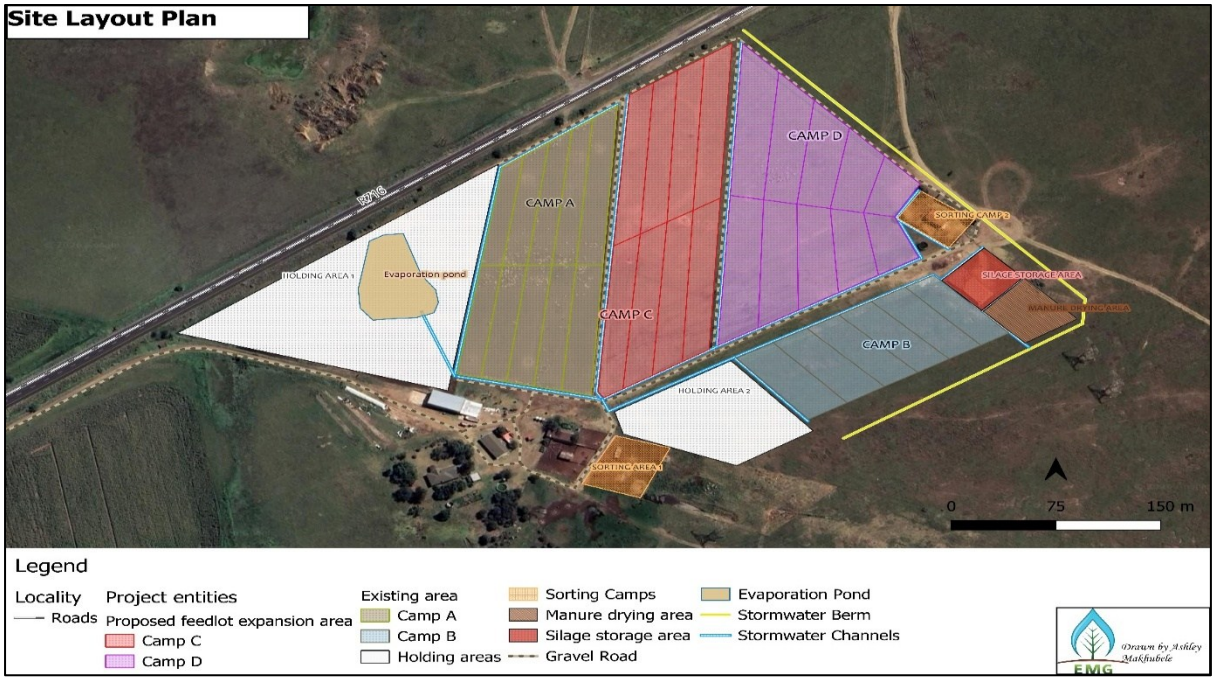

Figure 5 *The site layout plan for the proposed expansion, including the existing feedlot. All current and proposed camps are distinguished by various colours: the holding areas are represented in white, the silage storage area is indicated in red, sorting camps are depicted in orange, the manure storage area is depicted in dark brown, the evaporation ponds are illustrated in cream, and the stormwater infrastructure is shown in yellow and blue.*

Waste and Stormwater Management:

Cattle produce an estimated 5-6% of their body weight in waste daily. To account for the differences in cattle sizes, it can be estimated that their weight at the introduction is to be 250 kg, at the growing stage to be 375 kg, and at the exit stage to be 500 kg. After analysing the data, the total manure production of all three weight categories of cattle is 2685.9 tons per month. The manure will be deposited in a composting and drying area, which will reach 1 meter in height and 44.77 meters in length and width, respectively. The composting area (0.2004 ha) will have a capacity of 2 004 cubic meters, which will be sufficient to accommodate all the manure produced by the cattle. The farmer intends to utilise the dehydrated manure, which is essentially compost, to fertilise his crop production.

Effluent generated by the cattle feedlot consists primarily of runoff contaminated with animal manure, urine, feed residues, and stormwater from the feedlot pens. Pens will be cleaned on a cyclical basis, with manure removed and transferred to the designated manure handling area as required. In addition, it is proposed that a berm be constructed around the feedlot area to improve separation and containment. Stormwater channels will also be provided alongside the road as part of the overall site drainage arrangement. Proposed stormwater channels will run towards the effluent pond through utilising the existing topography, refer to figure 6 below:

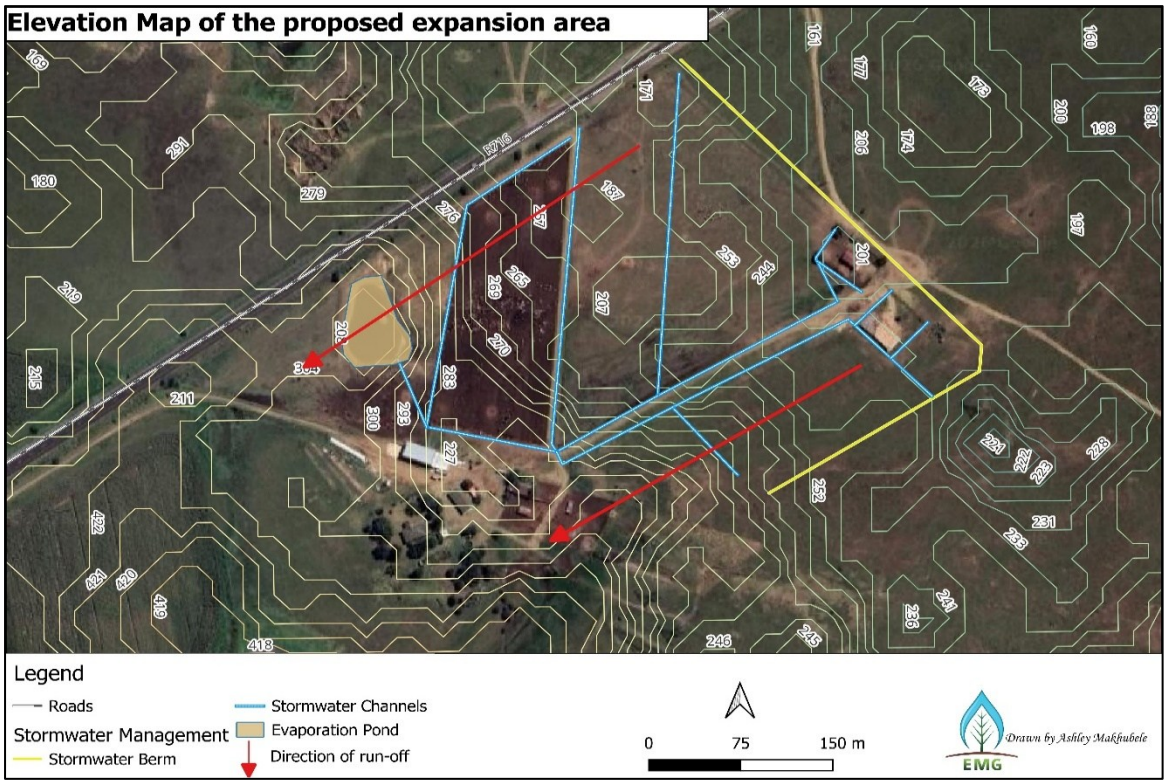

Figure 6 *The map illustrates the area's topographical features, highlighting the stormwater channels in blue, the stormwater berm in yellow, and the evaporation pond in cream. Additionally, the diagram depicts the direction of runoff flow, as determined by the topography, using red arrows.*

The pond serves as the primary effluent storage facility, where contaminated runoff is collected and contained. Within the pond, natural settling of suspended solids occurs, allowing sediment and organic matter to accumulate while the liquid fraction is retained within the storage facility. The water accumulated in the dam will be utilised by the farmer for wetting manure during the composting process.

Feedlot Water Management

In the context of feedlot water management, it is imperative to accurately estimate and provide the requisite water volume to ensure livestock's well-being and productivity. According to recommended guidelines, the daily water requirement for cattle can be estimated based on their live weight, with a standard ratio of 5 litres per 50 kilograms of LSU. Table 3 presents a breakdown of the estimated water requirements per LSU on a daily basis.

Table 3 *Quantity of water needed per LSU per day for each weight class.*

Water needs per day/L	
LSU 250kg	25
LSU 375kg	37.5
LSU 500kg	50
Average	**37.5**

The cumulative water demand for the entire cattle population can be calculated by extrapolating these daily requirements to an annual scale, Equation 2 was used to calculate the annual requirements:

$$H_2O \backslash LSU \backslash Day \; x \; LSU \; x \; 365 = H_2O \; \mathrm{m}^3 / \; \mathrm{per\; year}$$

Equation 2 *Annual Water calculation for an operational cattle feedlot*

The amount of water needed to sustain the feedlot operation, including current and proposed expansion, works out to 5 412.09 m^3 per year. It is paramount that the water supplied to the cattle meets stringent quality standards and is clean, cool, and of high purity. Adequate water provision is indispensable for sustaining high-density cattle production and ensuring optimal health and performance outcomes. Four existing boreholes will be utilised to supply water for the cattle. At a later stage, surface water (from the Vaal Dam) will be utilised.

Practical measures, such as supplying drinking water via elevated troughs, are advocated to minimise contamination from livestock excretions, thereby maintaining water integrity and hygiene standards. The operational activities of the proposed feedlot facility will require authorisation under Section 21 of the National Water Act. The proponent is in the process of submitting a water use licence application to the catchment management agency (Vaal Orange Catchment Management Agency - VOCMA).

2.4. RECEIVING ENVIRONMENT:

Environment: The project site traverses the Frankfort Highveld Grassland vegetation type, which is a grassland vegetation type found in the eastern Highveld of South Africa. It is classified as part of the country's Grassland Biome and is characterized by rolling plains dominated by grasses, with very few trees except along rivers, drainage lines, or rocky outcrops. This vegetation type is classified as Least Concern (LC). The expansion area falls within Ecological Support Areas (ESA 2), which provide moderate ecological support to nearby Critical Biodiversity Areas (CBAs) or protected areas, and contributes to ecological functions.

2.5. SOCIO-ECONOMIC BENEFITS

The cattle feedlot expansion provides significant agricultural and socio-economic benefits to the surrounding area and contributes positively to the local and regional economy. The facility supports efficient livestock production by providing a controlled environment for feeding and managing cattle, resulting in improved productivity, animal health, and food security.

The feedlot contributes to the agricultural value chain through the creation of direct and indirect employment opportunities, including livestock management, feed supply, transport services, veterinary services, maintenance, and related agricultural activities. These employment opportunities support local livelihoods and contribute to economic growth within the region.

The feedlot further contributes to the reliable supply of beef products to local and regional markets, supporting food production and helping to meet increasing consumer demand. Through structured management practices, animal nutrition, health monitoring, and production efficiencies are improved, resulting in consistent product quality and reduced production risks.

2.6. SPECIALIST STUDIES

The following specialists have been consulted for the site as follows:

- **Phase 1 Heritage Impact Assessment** – Dr L Rossouw (Paleo Field Services)
- **Terrestrial Ecological Impact Assessment** – Mr J Giddy (Environmental Management Group).

3. ROLE PLAYERS AND RESPONSIBILITY MATRIX:

In order for the EMPr to be successfully implemented, all the role players involved in the project need to cooperate. For this to happen, role players must clearly understand their roles and responsibilities in the project, must be professional, form respectful and transparent relationships, and maintain open lines of communication.

Table 4 Functions and Responsibilities of Project Team

Key	Function	Responsibility
P	Proponent	Proponent is ultimately accountable for ensuring compliance to the EMPr. The ECO must be contracted by the Proponent (full time or part time depending on the size of the project) as an independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of the EMPr for the project. The Proponent is further responsible for providing and giving mandate to enable the ECO to perform responsibilities. The developer must ensure that the ECO is integrated as part of the project team.
CE	Consulting Engineer	Contracted by the developer to design and specify the project engineering aspects. Generally, the engineer runs the works contract. The CE may also fulfil the role of Project Manager on the proponent's behalf (See PM).
PM	Project Manager	The Project Manager has over-all responsibility for managing the project, contractors, and consultants and for ensuring that the environmental management requirements are met. The CE may also act as the PM. All decisions regarding environmental procedures must be approved by the PM. The PM has the authority to stop any decommissioning activity in contravention of the EMPr in accordance with an agreed warning procedure.
ER	Engineer's Representative	The consulting engineer's representative on site. Has the power/mandate to issue site instructions and in some instances, variation orders to the contractor, following request by the EO or ECO. The ER oversees site works, liaison with Contractor and ECO.
EO/EM	Environmental Officer / Environmental Manager	Appointed by the Consulting Engineers as their environmental representative on site. The EO is not independent but must rather act on behalf of the consulting engineers with the mandate to enforce compliance under the project contract, which must include the EMPr. The EO has the directive to issue non-conformance and hazard certificates. Further, in terms of accepted industry practice the EO could issue the equivalent of a "cease works" instruction only in exceptional circumstances where serious environmental harm has been or is about to be caused i.e. in cases of extreme urgency and then only when the ER is absent. The EO must form part of the project team and be involved in all aspects of project planning that can influence environmental conditions on the site. On certain types of projects, such as linear

		developments (fences, pipelines, etc), the EO must also be the liaison between the contractor and landowners. The EO must attend relevant project meetings, conduct daily inspections to monitor compliance with the EMPr, and be responsible for providing reports and feedback on potential environmental problems associated with the expansion to the project team and ECO. The EO must convey the contents of this EMPr to the Contractor site team and discuss the contents in detail with the Contractor as well as to conduct an induction and an environmental awareness training session prior to site handover to all contractors and their workforce. The EO must be suitably experienced with the relevant qualifications and preferably competent in construction-related methods and practices.
ECO	Environmental Control Officer	An independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of Environmental Authorisations (EA's), and the EMPr for the project. The ECO must be on site prior to any site establishment and must endeavour to form an integral part of the project team. The ECO must be proactive and have access to specialist expertise as and when required, these include botanists, ecologists, etc. Further, the ECO must also have access to expertise such as game capture, snake catching, etc. The ECO must conduct audits on compliance to relevant environmental legislation, conditions of EA, and the EMPr for the project. The size and sensitivity of the expansion, based on the EIA, will determine the frequency at which the ECO will be required to conduct audits. (A minimum of a monthly site inspection must be undertaken). The ECO must be the liaison between the relevant authorities and the project team. The ECO must communicate and inform the developer and consulting engineers of any changes to environmental conditions as required by relevant authoritative bodies. The ECO must ensure that the registration and updating of all relevant EMPr documentation is carried out. The ECO must be suitably experienced with the relevant environmental management qualifications and preferably competent in construction related methods and practices. The ECO must handle information received from whistle blowers as confidential and must address and report these incidences to the relevant Authority as soon as possible. On small projects, where no EO is appointed, the ECO must convey the contents of this EMPr to the Contractor site team and discuss the contents in detail with the Contractor as well as undertake to conduct

		an induction and an environmental awareness training session prior to site handover to all contractors and their workforce.
C	Contractor	The principal contractor, hereafter known as the 'Contractor', is responsible for implementation and compliance with the requirements of the EMPr and conditions of the EA's, contract and relevant environmental legislation. The Contractor must ensure that all sub-contractors have a copy of and are fully aware of the content and requirements of this EMPr. The contractor is required, where specified, to provide Method Statements setting out in detail how the management actions contained in the EMPr will be implemented.
ESO	Environmental Site Officer	The ESO is employed by the Contractor as his/her environmental representative to monitor, review and verify compliance with the EMPr by the contractor. This is not an independent appointment; rather the ESO must be a respected member of the contractor's management team. Dependent on the size of the expansion the ESO must be on site one week prior to the commencement of construction. The ESO must ensure that he/she is involved at all phases of the constriction (from site clearance to rehabilitation).
A	Lead Authority	The authorities are the relevant environmental department that has issued the Environmental Authorisation. The authorities are responsible for ensuring that the monitoring of the EMPr and other authorisation documentation is carried out, this will be achieved by reviewing audit reports submitted by the ECO and conducting regular site visits.
OA	Other Authorities	Other authorities are those that may be involved in the approval process of an EMPr. Their involvement may include reviewing EMPrs to ensure the accuracy of the information relevant to their specific mandate. Other authorities may be involved in the development, review or implementation of an EMPr. For example, if a specific development requires a water use licence for the relevant national authority, then that authority should review and comment on the content of the particular section pertaining to that mandate.
EAP	Environmental Assessment Practitioner	The definition of an environmental assessment practitioner in Section 1 of NEMA is "*the individual responsible for the planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management plans or any other appropriate environmental instruments introduced through regulations".*

4. PROJECT PHASING

In order for this EMPr to be effective, a pro-active route must be taken by addressing potential problems before they occur. This should limit corrective measures required during later phases of the expansion. In particular, this EMPr deals with the following phases as detailed below. From a practical perspective, the project lifecycle will likely be phased as follows:

4.1. PLANNING AND FINAL DESIGN PHASE

The EMPr presents an invaluable opportunity to implement proactive environmental management measures aimed at achieving sustainable development. By adopting these proactive measures, the likelihood of adverse impacts occurring during both the construction and operational phases can be significantly reduced. While there remains a possibility of accidental impacts, the establishment of contingency plans, such as this EMPr, during the planning phase allows for the implementation of corrective actions to further mitigate potential issues. This phase also encompasses the planning of detailed designs.

The project details would be finalised to allow financing and agreements with all affected stakeholders. If the project completes this phase, it will then proceed to the next phase.

4.2. PRE-CONSTRUCTION

The pre-construction phase comprises all activities required to prepare the site for construction and to establish the environmental and social management controls that must guide the works. This period is critical to ensuring that planning processes are finalised, risks are minimised, and that both environmental and social safeguards are embedded before any physical works commence. Effective pre-construction preparation reduces the likelihood of delays, non-compliance, and unnecessary environmental degradation during construction.

Detailed design undertaken by the Engineer must remain fully consistent with the project description and approved layout assessed as part of the environmental authorisation process. Where deviations are required, such changes must be addressed through the appropriate amendment pathway under the NEMA EIA Regulations. The design must also integrate all specialist recommendations and mitigation measures arising from the environmental assessment.

Before the main contractor mobilises to the site, the boundaries of the authorised expansion footprint must be clearly demarcated. Similarly, all no-go areas, including sensitive ecological features, watercourses, heritage areas, and any buffers recommended by specialists, must be identified, mapped, and fenced off. Once demarcation has been completed to the satisfaction of the Environmental Control Officer (ECO), the contractor may establish the construction camp and commence mobilisation of personnel, equipment, and temporary facilities.

Management of social risk is a key requirement during this period. An appropriate grievance mechanism must be established at the outset to allow community members, affected stakeholders, and workers to raise concerns safely and effectively. All contractor staff must undergo environmental and social induction training, facilitated by the ECO, to ensure awareness of site sensitivities, compliance obligations, and behavioural

Typical pre-construction activities include:

- Appointment of the ECO and establishment of environmental governance systems.
- Pre-construction induction training/workshops led by the ECO for all site personnel.
- Finalisation and demarcation of approved working areas and no-go areas.
- Establishment of the construction camp, laydown areas, materials handling zones, and site offices.
- Demarcation and preparation of fuel storage areas, hazardous materials stores, and waste management facilities.
- Identification and rescue of protected or sensitive plant species, *where applicable* and as recommended by specialists, Flora and Fauna Permit.
- Establishment of erosion and stormwater controls prior to ground-breaking.
- Preparation of site access routes and transport plans.
- Final confirmation of emergency response procedures and communication protocols.

4.3. CONSTRUCTION

The construction phase includes all activities required to establish the authorised infrastructure, construct associated services, and manage temporary facilities needed for the works. All activities must be undertaken in compliance with the EMPr, method statements, and specialist recommendations, with continual oversight by the ECO.

Typical construction phase activities include the following:

- Access Roads
  - Where feasible, existing access routes will be utilised to minimise disturbance. Permanent, existing operational gravel roads will be maintained. All access routes must be clearly demarcated, compacted where necessary, and maintained to prevent erosion and dust generation.
- Site Preparation
  - Vegetation clearing will be undertaken within the approved expansion footprint and laydown areas, and work zones. Clearing must be limited to the minimum area required for construction. Topsoil removed during site preparation must be stripped, stockpiled separately, protected against erosion, and reserved for rehabilitation of disturbed areas. Sensitive areas, no-go zones, and buffers must remain demarcated and undisturbed throughout the construction phase.
- Transportation of Equipment and Components
  - Construction equipment, mechanical components, structural materials, and ancillary items will be transported to the site via existing public roads and the existing access routes. The delivery of excavators, graders, compactors, trucks, cranes, and other heavy machinery must follow approved transport management procedures. Measures must be put in place to prevent damage to public roads, manage traffic safety, and minimise dust and noise impacts.
- Establishment of Workshops, Laydown Areas, and Construction Camps
  - Dedicated temporary facilities, including workshops, storage yards, laydown areas, and equipment camps, will be established within the demarcated construction footprint. These areas must include appropriate bunded zones for fuel storage, hazardous materials containment, waste handling areas, and secure storage for construction materials. All fuel storage and refuelling points

must incorporate spill-prevention measures, drip trays, fire-fighting equipment, and emergency response procedures to prevent contamination of soil or water resources.

- Construction of Infrastructure
    - The approved infrastructure, including feedlot, foundations, structural elements, and associated civil works, will be constructed in accordance with the detailed design and method statements. Activities include excavation, trenching, concrete works, mechanical installation, structural assembly, and associated testing and commissioning. Erosion control, stormwater diversion, and sediment traps must be in place throughout.
- Site Rehabilitation
    - Upon completion of construction activities, all temporary infrastructure, including construction camps, laydown areas, and waste stockpiles, must be dismantled and removed. Disturbed areas must be re-shaped where necessary, covered with stockpiled topsoil, and re-vegetated using locally appropriate species to promote site stabilisation. All waste, excess materials, and contaminated soils must be removed to licensed facilities. Rehabilitation must be undertaken to ensure the site is left in a stable, safe, and environmentally compliant condition.

4.4. OPERATION

By implementing proactive measures during the planning and construction phases, it is possible to mitigate potential environmental impacts that may occur during the operational phase. This strategy not only reduces risks but also decreases the required monitoring efforts. However, it is important to note that monitoring will still remain a necessary component of the overall process.

5. OBJECTIVES OF THE EMPR:[1]

The specific objectives of this EMPr are to:

- To provide explicit operational guidelines and environmental monitoring requirements during the construction phases so that activities are done in an environmentally responsible and sustainable manner.
- To benefit the host communities, minimise the impacts on the environment and to ensure the health and safety of the community by creating a development that eliminates unacceptable health hazards and ensures public and animal safety.
- To enable the proponent and its contractors to use resources efficiently and effectively during the project lifecycle in order to reduce wastage and thereby reduce associated negative environmental impacts. In addition, the aim is also to handle waste streams responsibly and apply the 'reduce, re-use and recycle' principle, wherever possible.
- To leave areas disturbed by construction in a rehabilitated, stable, non-polluting and tidy condition.

6. IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS:

The contractor shall identify likely aspects before commencing with any construction activity. Examples of environmental aspects include:

- Vegetation clearance
- Altering historical structures of significance
- Noise and vibration generation
- Ecological disturbance
- Landscape alteration
- Waste generation

Thereafter, the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified, and the activity planned to prevent any impacts from happening. If prevention is not practicable, or in the event of a mishap or misapplication, the contractor shall provide plans and measures for the engineer's approval that will limit and contain the magnitude, duration, and intensity of the impact. The contractor shall demonstrate that he can carry out any repair and reinstatement of the damaged environment. Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction and operational activities:

- Pollution of atmosphere, soil or water
- Destruction or removal of fauna and flora and effect on biological diversity
- Deformation of the landscape
- Soil erosion
- Water contamination
- Effect on the built environment

[1] The implementation of the EMPr is not an additional or "add on" requirement. The EMPr is legally binding through NEMA.

The table below outlines both potential and existing impacts, their nature, and the associated project phases in which they are expected to occur

Table 5 Potential anticipated impacts of the expansion on the environment.

Environmental Aspect	Potential Anticipated Impact	Phase	Status	Significance *pre-mitigation*	Significance *post-mitigation*
Ecological impacts					
Habitat loss	*Loss of habitat and species diversity as a result of construction and the removal of natural elements.* *Destruction of flora and fauna*	Planning	N/A	N/A	N/A
		Construction	Negative	Low	Low
		Operation	Negative	Low	Low
Invasive plant species	*Encroachment, increase, and spread of alien invasive species*	Planning	N/A	N/A	N/A
		Construction	Negative	Low-Medium	Low
		Operation	Negative	Low	Low
Heritage impacts					
Artefacts, fossils and historic structures of significance	*Destruction of archaeological and heritage resources such as remains and graves.*	Planning	N/A	N/A	N/A
		Construction	Negative	Low	Low
		Operation	Negative	Low	Low
Watercourse impacts					
Ground Water quality	*Deterioration of the groundwater quality*	Planning	N/A	N/A	N/A
		Construction	Negative	Low-Medium	Low
		Operation	Negative	Medium	Low
Soil Erosion					
Soil erosion	*Erosion of topsoil due to construction and operational activities.*	Planning	N/A	N/A	N/A
		Construction	Negative	Low-Medium	Low
		Operation	Negative	Low-Medium	Low
Aesthetics					
Visual impact	*The alteration of landscape appreciation, visual deterioration, and visual impacts from the feedlot*	Planning	N/A	N/A	N/A
		Construction	Negative	Low-Medium	Low
		Operation	Negative	Low	Low
3.1.6 Noise and Air Quality					
Air quality		Planning	N/A	N/A	N/A

	Air pollution introduced due to construction activities and the smell of cattle manure	Construction	Negative	Low-Medium	Low
		Operation	Negative	Medium	Low-Medium
Noise and Vibrations	*Vehicles, machinery and equipment movement, and noises associated with cattle*	Planning	N/A	N/A	N/A
		Construction	Negative	Low-Medium	Low
		Operation	Negative	Low	Low
Waste Impact					
General Solid and Hazardous Waste	*Improper handling, storage, or disposal of general and hazardous waste.*	Planning	N/A	N/A	N/A
		Construction	Negative	Low-Medium	Low
		Operation	Negative	Low-Medium	Low
Socio-economic impacts					
Job creation	*Impacts associated with the need for locally appointed construction/ operation workers.*	Planning	N/A	N/A	
		Construction	Positive	Medium-High	
		Operation	Positive	Medium-High	

7. LEGAL REQUIREMENTS:

7.1. GENERAL:

Construction activities will be done according to the best environmental practices identified in the project approvals and designs. This EMPr, which forms an integral part of the contract documents, informs the contractor of his duties in fulfilling the project objectives, with reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project.

The contractor should note that obligations imposed by the EMPr are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications, then the latter shall prevail.

To further ensure compliance, the Duty of Care principles outlined in Section 28 of NEMA (Act no. 107 of 1998) are integrated into this EMPr. These principles mandate that all individuals and organisations involved in the project take reasonable measures to prevent, minimise, and rectify significant environmental pollution or degradation. This includes historical pollution and future potential impacts. Key responsibilities under the Duty of Care include:

- Investigating and assessing potential environmental impacts.
- Informing and educating employees about environmental risks and safe practices.
- Modifying activities to prevent environmental harm.
- Containing pollutants and preventing their spread.
- Eliminating sources of pollution and degradation.
- Remediating any damage caused to the environment.

7.2. STATUTORY AND OTHER APPLICABLE LEGISLATION:

The contractor and applicant/manager are deemed to have made themselves conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

7.3. ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

7.3.1 APPOINTMENT OF AN ESO

For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the ESO for the contract. The request shall be given, in writing, at least fourteen days before the start of any work, clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject, or call for more information on the nomination. Once a nominated representative of the contractor has been approved, he/she shall be the ESO and shall be the responsible person for ensuring that the provisions of the EMPr are complied with during the life of the contract. The engineer will be responsible for issuing instructions to the contractor where environmental considerations call for action to be taken. The ESO shall submit regular

written reports to the engineer at least once a month. The engineer shall have the authority to instruct the contractor to replace the ESO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMPr or this specification. Such instruction will be in writing and shall clearly set out the reasons for a replacement.

Before the contractor begins each construction activity, the ESO shall give to the engineer a written statement setting out the following:

- The type of construction activity.
- Locality where the activity will take place.
- Identification of the environmental aspects and impacts that might result from the activity.
- Methodology for impact prevention for each activity or aspect.
- Methodology for impact containment for each activity or aspect.
- Emergency/disaster incident and reaction procedures.
- Treatment and continued maintenance of the impacted environment.

The contractor may provide such information in advance of any or all construction activities, provided that new submissions shall be given to the engineer whenever there is a change or variation to the original.

The engineer may provide comments on the methodology and procedures proposed by the ESO, but he shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

7.3.2 COMMUNICATION PROCEDURES ON SITE

Each of the books described below must be available in duplicate, with copies for the Engineers Representative (ER), Environmental Site Officer (ESO) and Environmental Controlling Officer (ECO), or alternatively, an agreement could be reached to use a single system. These books should be available to the authorities for inspection or on request. Contractor's meeting minutes must reflect environmental queries, agreed actions and dates of eventual compliance. These minutes form part of the official environmental record.

7.3.3 SITE INSTRUCTION ENTRIES

The Site Instruction Book entries will be used to record general site instructions related to the works on site. It will also be used to issue stop-work orders to immediately halt any particular contractor activities in light of the environmental risks they may pose.

7.3.4 ESA DIARY ENTRIES

The purpose of these entries will be to record the comments of the ESA as they relate to activities on the site.

7.4. TRAINING

The designated ESO must be conversant with all legislation pertaining to the environment applicable to this contract, must be appropriately trained in environmental management, and must possess the skills necessary to impart environmental management skills to all personnel involved in the contract. The contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- The importance of conformance with all environmental policies;
- The environmental impacts, actual or potential, of their work activities;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirements of the Agency's environmental management systems, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures;
- The mitigation measures required to be implemented when carrying out their work activities.

In the case of permanent staff, the contractor shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how he intends to conclude his environmental training obligations.

7.5. RECORD KEEPING:

All records related to the implementation of this management plan (e.g., site instruction book and method statements) must be kept together in an office where it is safe and can be retrieved easily. These records should be kept for a minimum of two years during the construction phase and inevitably during the operational phase, and should at any time be available for scrutiny by any relevant authorities.

It is recommended that photographs be taken of the site **prior to**, **during,** and **immediately after construction** as a visual reference. These photographs should be stored with other records related to this EMPr.

7.6. COMPLIANCE AND PENALTIES:

The contractor shall act immediately upon receiving a notice of non-compliance and correct whatever is the cause of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register, and the response shall be noted with the date and action taken. Any non-compliance with the agreed procedures of the EMPr is a transgression of the various statutes and laws that define how the environment is managed; therefore, any avoidable non-compliance, depending on severity, shall be considered sufficient grounds for contact to be made with relevant provincial or national authorities. The responsible provincial or national authorities shall ensure

compliance and impose penalties relevant to the transgression as allowed for within their statutory powers.

7.7. REPORT AVAILABILITY:

Copies of this EMPr must be kept at the construction site office and will be accessible to all senior contract personnel. All personnel working on the project shall be required to familiarise themselves with the contents of this document.

8. ENVIRONMENTAL MITIGATION SPECIFICATIONS FOR IMPACTS:

8.1. DESIGN PHASE

Impact management outcome: Potential environmental impacts are reduced through appropriate design and planning.						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance**
	Planning	**Construction**	**Operation**			
8.1.1 Assimilate the requirements of the EMPr into the design and construction process, with particular consideration of specialist recommendations and identified impacts.	**X**			ECO ESO	Once-off	Environmental audits by the ECO should be conducted and filed on-site
8.1.2 Ensure all necessary permits and licenses are in place before site establishment commences.	**X**	**X**		ECO ESO	Once-off	Permits and licences register; copies of permits/licences in environmental file ECO verification note/audit record Site establishment sign-off
Comments:						

8.2. SITE ESTABLISHMENT

Impact management outcome: It is important to ensure that the setup of the construction area does not result in excessive environmental degradation and that construction activity is carried out in a manner that minimises environmental impact.							
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance**
	Planning	**Construction**	**Operation**			
8.2.1 Site establishment area shall be approved by the ECO prior to finalisation.	**X**	**X**		ECO	Once off / prior to establishment	ECO approval of site placement
8.2.2 A securely fenced construction camp shall, where practicable, be established on previously disturbed land within the approved site boundaries, located at least 100 m from watercourses and away from sensitive habitats.	**X**			Contractor ECO (monitoring and verification)	Once off / prior to establishment The fencing of the construction yard should be established before the commencement of construction and be maintained throughout the project	ECO approval of site placement
8.2.3 The planning and design for the construction camp must ensure that there is a minimum impact on the environment.	**X**			Contractor ECO (monitoring and verification)	Once off / prior to establishment	ECO approval of site placement
8.2.4 The contractor is responsible for providing all sanitary arrangements for their contractors and the sub-contractor's team. At least one toilet must be provided for every 15	**X**	**X**		Contractor ECO (monitoring and verification)	Continuously	The toilet service agreement and a regularly updated register of sanitary waste disposal should be kept in the environmental file

	persons. Where facilities are available, the contractor may use them when it is viable and possible.						
8.2.5	The Contractor shall inform all site staff of the use of supplied ablution facilities, and under no circumstances shall indiscriminate excretion and urinating be allowed other than in supplied facilities. If mobile chemical toilets become required, the following must be ensured: • Toilets are located no closer than 100 m to any watercourse or water body. • Toilets have an external closing mechanism and are closed and secured from the outside when not in use to prevent toilet paper from being blown out. • Toilets are secured to the ground to prevent them from toppling due to wind or any other cause. • Toilets are placed on the flat ground. • No spillage occurs when the toilets are cleaned or emptied, and the contents are managed in accordance with the EMPr. • Toilets are emptied before long weekends and workers' holidays, and must be locked after working hours.	**X**	**X**		Contractor EO/ESO ECO (monitoring and verification)	Continuously, the on-site EO/ESO's site visit should take place bi-weekly Any environmental incidents should be recorded as soon as they are encountered	ECO approval of site placement The toilet service agreement and a regularly updated register of sanitary waste disposal should be kept in the environmental file The environmental incidents register should be kept in the environmental file
8.2.6	Suitable waste collection bins shall be provided where required. All solid waste shall be collected and disposed of at a registered waste		**X**		Contractor ECO (monitoring and verification)	Continuously, the on-site EO/ESO's site visit should take place bi-weekly	Environmental file containing all relevant documentation Waste disposal register should be kept

	disposal facility. Copies of waste disposal certificates shall be obtained and retained in the environmental file.						
8.2.7	The surface area of the working corridor must be kept as small as possible and should be contained to the construction area. All sensitive areas outside the working corridor are to be considered No-Go areas. Any unnecessary intrusion into these areas is prohibited. Where intrusion is required, the working corridor must be kept to a minimum and clearly identified and demarcated before any construction commences, to minimise impact.	**X**	**X**		Contractor ECO (monitoring and verification)	Throughout the project The on-site EO/ESO's site visit should take place bi-weekly	Environmental monthly audits by the ECO. Photographic records
8.2.8	The edges of the construction/rehabilitation areas should be clearly demarcated using highly visible material (e.g., fencing poles 5 m apart) prior to construction commencing.		**X**		Contractor ECO (monitoring and verification)	Throughout the project The on-site EO/ESO's site visit should take place bi-weekly	Environmental monthly audits by the ECO Photographic records
8.2.9	All construction activities should be restricted to the authorised areas, and no disturbance shall occur outside of these areas.	**X**	**X**		Contractor ECO (monitoring and verification)	Throughout the project The on-site EO/ESO's site visit should take place bi-weekly	Environmental monthly audits by the ECO Photographic records.
8.2.10	Access to and from the expansion area should be either via existing roads or within the construction servitude.	**X**	**X**		Contractor ECO (monitoring and verification)	Throughout the project The on-site EO/ESO's site visit should take place bi-weekly	Environmental monthly audits by the ECO. Photographic records
8.2.11	Adequate signage must be provided in construction areas and be appropriately secured to prevent	**X**	**X**		Contractor	Throughout the project	Environmental monthly audits by the ECO

	livestock movement and casual access as far as possible.				ECO (monitoring and verification)	The on-site EO/ESO's site visit should take place bi-weekly	Photographic records
8.2.12	All formal documentation should be kept at the site office and be made available during monthly audits. This includes: • All environmental induction/ awareness training documents. • Environmental complaints register/ I&AP register. • Environmental emergency procedures. • Records of all environmental incidents. • A formal agreement with a toilet service provider. • Waste management plan and disposal register. • Stormwater action plan. • The environmental management plan (EMPr). • Approved Environmental Authorisation • Method Statements.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the project The on-site EO/ESO's site visit should take place bi-weekly. Environmental audits by the independent ECO should take place monthly	Environmental monthly audits by the ECO Photographic records
Comments:							

8.3. SOCIAL ENVIRONMENTAL ISSUES:

Impact management outcome: It is essential to minimise negative perceptions by taking proactive measures to prevent social conflicts or gaps and to develop a positive attitude in the community in close proximity to, and potentially involved with, the project, as well as minimising environmental harm or degradation that might be prevented through training. The following management strategies are to be implemented:						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance**
	Planning	**Construction**	**Operation**			
8.3.1 Ensure that all site personnel have a basic level of environmental awareness training.	**X**	**X**		Contractor EO/ESO ECO	Any new staff shall receive the same relevant training before they commence their duties	A register of trained personnel and training content must be kept in the environmental file
8.3.2 Environmental training must include, at a minimum, the following: • The conditions and controls linked to the EA and within the EMPr were made aware of their individual roles and responsibilities in achieving compliance with the EA and EMPr. • Description of significant environmental impacts, actual or potential, related to their work activities. • Mitigation measures to be implemented when carrying out specific activities. E.g., cleanup procedures in the event of chemical spills.	**X**	**X**		Contractor EO/ESO ECO (monitoring and verification)	Any new staff shall receive the same relevant training before they commence their duties In the case of inactivity of greater than 1 month, re-induction training shall be provided	A register of trained personnel and training content must be kept in the environmental file

	• Emergency preparedness and response procedures. • Procedures to be followed when working near or within sensitive areas. • No-go areas. • Water usage and conservation. • Solid waste management procedures. • Fire prevention. • Identifying dangerous snakes and reptiles. • Procedures when encountering dangerous animals. • Mitigation measures for the most common spills. • The need for a “clean site” policy • Energy conservation practises- such as minimizing diesel consumption by turning off construction vehicles when not in use. • Stockpile maintenance.						
8.3.3	In order to optimise the opportunities for local businesses to supply goods and services to the project, the contractor will do a survey of the capabilities of the goods and services that are locally available that are of an acceptable standard and quality, and a survey of the capabilities of local construction companies and identify opportunities for local suppliers.	**X**	**X**	**X**	○ Contractor ○ ECO (monitoring and verification) ○ Proponent	○ Prior to procurement and as required during construction and operational phase. Verify that local supplier and contractor opportunities	○ Local supplier and contractor survey/report, procurement records, list of identified local suppliers and service providers, and records of local procurement

					have been assessed	where applicable
8.3.4	Transparent fair recruitment and procurement practices should be implemented. The contractor chosen and the proponent should maximise local community involvement in construction and operational phases, and support activities, to the extent possible, based on available skills. Whenever possible, training programmes should be developed that address both construction-stage skills requirements and long-term employment demand.	**X**	**X**	**X**	Contractor ECO (monitoring and verification) Proponent	Fair recruitment practices and prioritisation should be made to competent individuals within the local community As required, based on operational needs and staff turnover	Recruitment and procurement records demonstrating fair and transparent practices. Records of local employment and procurement Training records, attendance registers, and training material (where applicable). Employment records indicating local community participation
8.3.5	Staff operating equipment (such as excavators, loaders, etc.) shall be adequately trained and sensitised to any potential hazards associated with their tasks.	**X**	**X**		Contractor ECO (monitoring and verification)	Any new staff shall receive the same relevant training before they commence with duties	Training records, attendance registers, and training material (where applicable).
8.3.6	Adequate notification should be provided to people residing close to where construction activities are taking place, especially if they are to be affected by them.	**X**	**X**		Contractor ECO (monitoring and verification)	Prior to commencing construction activities in affected areas and as required when construction progresses to new areas	Copies of community notices, notification letters, public notices, attendance registers (where applicable), and a record of stakeholder notifications
8.3.7	Public complaints register and system to ensure that community complaints are clearly investigated and adequate remedial action taken should be instituted.	**X**	**X**	**X**	Contractor EO/ESO ECO (monitoring and verification) Proponent	A public complaints register must be compiled, printed out, and kept in the environmental file on site	The public complaints register should be kept in the environmental file

					in case of any public complaints.	
8.3.8 Good housekeeping practices should be implemented in both the construction yard and at the construction site.		**X**	**X**	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the project life The on-site EO/ESO's site visit should take place bi-weekly	Environmental monthly audits by the ECO Photographic records
8.3.9 If Blasting is to occur, proper notification and record of blasting should occur. All adjacent landowners should be notified 2 weeks in advance.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Prior to any blasting activities and for each blasting event	Copies of notifications issued to adjacent landowners, blasting records/logs, proof of notification at least two weeks in advance, and blasting permits (where applicable)
Comments:						

8.4. HANDLING OF EMERGENCIES

Impact management outcome: Emergency incidents, while inherently risky, can result in greater secondary impacts. The following mitigation measures must be implemented to prevent these impacts.						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance**
	Planning	**Construction**	**Operation**			
8.4.1 All situations that can lead to emergency situations should be identified, and response strategies should be provided. The situations should include fire, first aid, and a major chemical spill.	**X**			Contractor EO/ESO ECO (monitoring and verification) Proponent	Prior to the commencement of construction, and reviewed as required throughout the construction phase Prior to the commencement of operational phase	The environmental incidents register should be kept in the environmental file Environmental audits by the ECO Photographic record
8.4.2 Emergency and contact numbers of the contractors must be available and prominently displayed on a signage board that is clearly visible.		**X**		Contractor EO/ESO ECO (monitoring and verification)	The contact details of all relevant departments should be obtained before the commencement of construction	Clearly visible and in the environmental file containing all relevant documentation
8.4.3 An Emergency Response Action Plan (ERAP). This must address accidents, potential spillages, and fires in line with relevant legislation.	**X**			Contractor EO/ESO ECO (monitoring and verification)	Prior to the commencement of construction and maintained throughout the construction phase. Review and update as required	All files must be kept in the environmental file Environmental audits by the ECO Photographic record

8.4.4	All staff must be made aware of emergency procedures as part of environmental awareness training.	X			Contractor EO/ESO ECO (monitoring and verification)	Any new staff shall receive the same relevant training before they commence their duties	A signed register of attendance must be kept for proof
8.4.5	All emergencies/ incidents should be reported and distributed to the relevant parties.		X		Contractor EO/ESO ECO (monitoring and verification)	As required, following every emergency or incident	Incident reports, records of notification to the relevant local authority, correspondence or communication logs, and records of actions taken
8.4.6	In the event of an emergency, necessary mitigation measures to contain the spill or leak must be implemented.		X		Contractor EO/ESO ECO (monitoring and verification)	As required, immediately following any spill or leak incident	Spill/incident reports Records of mitigation and clean-up actions Photographic evidence (where applicable) Records of disposal of contaminated materials
8.4.7	Equipment for dealing with emergencies, such as spill kits, firefighting equipment, first aid boxes, etc., shall be made available and personnel properly trained in their use.	X	X	X	Contractor ECO (monitoring and verification)	Prior to the commencement of construction and throughout the construction phase. Inspect equipment regularly and ensure personnel are trained	Inspection records of emergency equipment Training records, attendance registers Photographic evidence confirming the availability of spill kits, firefighting equipment, and first aid kits
8.4.8	Any spills that enter a watercourse or have the potential to cause harm must be reported to the Department of Water and Sanitation immediately.		X		Contractor ECO (monitoring and verification)	As required, immediately following any spill that enters or has the potential to enter a watercourse	Incident reports Records of notification to the Department of Water and Sanitation Correspondence or communication logs

						Records of corrective actions implemented
Comments:						

8.5. CLEARING AND GRUBBING

Impact management outcome: It is important to minimise unnecessary environmental degradation and destruction resulting from vegetation clearance to make space for construction.						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance**
	Planning	**Construction**	**Operation**			
8.5.1 The machinery for certain tasks should be carefully considered to minimise the extent of environmental damage.	**X**	**X**		Contractor ECO (monitoring and verification)	Prior to the commencement of construction activities and throughout the construction phase, as required	Plant and equipment selection records Site inspection records Photographic evidence confirming the use of appropriate machinery
8.5.2 Habitat disturbance and vegetation clearance should be restricted to the authorised area, retaining as much natural vegetation as possible to stabilise soil and limit erosion.	**X**	**X**		Contractor EO/ESO ECO (monitoring and verification)	Inspect daily to ensure that the limits of clearing and grubbing are not exceeded The boundaries of the expansion area should be demarcated	The environmental incidents register should be kept in the environmental file Environmental audits by the ECO should be kept in the environmental file

					Environmental audits by the ECO should take place monthly	Photos taken of the expansion area before, during, and after expansion
8.5.3	Cleared indigenous vegetation should be mulched for use in rehabilitation.		**X**		Contractor ECO (monitoring and verification)	During vegetation clearing and rehabilitation activities	Site inspection records Photographic evidence of mulching and reuse of cleared indigenous vegetation, and ECO monitoring reports
8.5.4	The rate of vegetation clearance shall not exceed the rate of construction.		**X**		Contractor ECO (monitoring and verification)	Throughout vegetation clearing and construction activities. Monitor regularly to ensure clearing does not exceed the active construction front	Site inspection records Construction progress records Photographic evidence ECO monitoring reports confirming that vegetation clearing is limited to the active work area
8.5.5	All barren/unvegetated spaces cleared during construction, which also includes the creation of topsoil stockpiles, should be kept clear of vegetation.		**X**		Contractor ECO (monitoring and verification)	Throughout the construction phase. Monitor cleared areas and topsoil stockpiles regularly to prevent vegetation establishment	Site inspection records Photographic evidence ECO reports
8.5.6	Open fires are not permitted in the construction footprint.		**X**		Contractor ECO (monitoring and verification)	Throughout the construction phase. Monitor the construction footprint during routine site inspections	Site inspection records ECO monitoring reports
8.5.7	No new roads or tracks may be created except where such routes are specifically approved and within the existing servitude.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction phase. Monitor access routes during routine site inspections	Site inspection records Photographic evidence ECO monitoring reports

8.5.8	No personnel or construction materials will be allowed to move outside the designated / demarcated site during construction activities.		X		• Contractor • EO/ESO • ECO (monitoring and verification)	• Throughout the construction phase. Monitor access routes during routine site inspections	• Site inspection records • Photographic evidence • ECO monitoring reports
8.5.9	Vegetation clearance must be restricted to the proposed expansion footprint, as far as practicably possible/feasible.	X	X		• Contractor • EO/ESO • ECO (monitoring and verification)	• Prior to and during vegetation clearing activities • Daily monitoring during clearing activities	• Site inspection reports • ECO audit reports • Photographic records of cleared areas • Approved site layout plans indicating the expansion footprint
Comments:							

8.6. STOCKPILE AND SOIL MANAGEMENT

Impact management outcome:
Topsoil is conserved, maintained, and reused. It is imperative that careful attention is given to the handling of soils from trenching, to stockpiling and backfilling. This would ensure minimal soil loss through erosion, reduced deterioration of soil quality and would subsequently assist in rehabilitative measures.

Management activity / Control measure	Phase of expansion			Responsible party	Monitoring frequency / requirement	Evidence of Compliance Planning
	Planning	Construction	Operation			
8.6.1 Stabilisation measures of stockpiles shall be implemented to prevent erosion. This can include the use of erosion blankets or mulch.		x		Contractor ECO (monitoring and verification)	Throughout the construction phase.	Site inspection records Photographic evidence ECO reports
8.6.2 Immediately after any section of trench is backfilled or any earthworks are completed, the area must be stabilised.		x		Contractor EO/ESO ECO (monitoring and verification)	Following completion of backfilling or earthworks in each work section Daily during active construction Verified during routine ECO site inspections	Site inspection reports ECO audit reports Photographic records (before and after stabilisation) Completed rehabilitation checklists Contractor site records confirming stabilisation measures implemented
8.6.3 Replace topsoil after backfilling to allow re-vegetation and prevent prolonged exposure of subsoil.		x		Contractor EO/ESO ECO (monitoring	Within two weeks of backfilling for each completed section Monitored during daily construction activities	Site inspection reports ECO audit reports Photographic records (before and after stabilisation)

				and verification)		Completed rehabilitation checklists Contractor site records confirming stabilisation measures implemented
8.6.4	Topsoil (upper 200 – 300 mm) must be stripped, stockpiled (< 2 metres) and re-spread		**X**	Contractor EO/ESO ECO (monitoring and verification)	Within 3 months, to maintain seed-bank integrity Stockpiles inspected regularly during construction	Site inspection reports ECO audit reports Photographic records of topsoil stripping, stockpiling Contractor site records confirming compliance with stockpile height and re-spreading timeframe
8.6.5	Topsoil shall be cleared of woody and invasive vegetation before stripping and removed under dry conditions, where practicable, to minimise compaction.		**X**	Contractor EO/ESO ECO (monitoring and verification)	Prior to and during topsoil stripping activities. Monitor during vegetation clearing and topsoil removal	Site inspection records Photographic evidence of vegetation clearing and topsoil stripping ECO monitoring reports confirming compliance with topsoil management requirements
8.6.6	Topsoil should not accidentally be mixed with waste contaminated with oil, diesel, petrol, garbage, or any other material, which may inhibit the later growth of vegetation.		**X**	Contractor EO/ESO ECO (monitoring and verification)	Continuously during topsoil stripping, stockpiling, handling and re-spreading activities Monitored daily during construction	Site inspection records Photographic evidence of vegetation clearing and topsoil stripping ECO monitoring reports confirming compliance with topsoil management requirements Spill incident reports
8.6.7	Soil stockpiles shall not be higher than 2m or stored for a period longer than 6 months.		**X**	Contractor EO/ESO ECO (monitoring	Stockpiles to be inspected weekly during construction and after significant rainfall events	Site inspection records Photographic evidence of vegetation clearing and topsoil stripping

				and verification)	Compliance with stockpile height and storage duration verified during routine ECO site inspections	ECO monitoring reports confirming compliance with topsoil management requirements
8.6.8	Dust and erosion of topsoil from runoff must be minimised through appropriate watering and the avoidance of transporting and placing topsoil in areas exposed to high wind or excessively rainy conditions		**X**	Contractor EO/ESO ECO (monitoring and verification)	Daily during topsoil handling activities During high wind, rainfall events, and other adverse weather conditions	Site inspection records Photographic evidence of vegetation clearing and topsoil stripping ECO monitoring reports confirming compliance with topsoil management requirements
8.6.9	Topsoil stockpiles should be protected, located in flat areas where run-off will be minimised and sediment recoverable, stored out of drainage pathways and all no-go areas.		**X**	Contractor EO/ESO ECO (monitoring and verification)	Daily during topsoil handling activities	Site inspection records Photographic evidence of vegetation clearing and topsoil stripping ECO monitoring reports
8.6.10	A photographic record must be kept of the topsoil stockpiles		**X**	Contractor EO/ESO ECO (monitoring and verification)	Photographs to be taken upon establishment of each stockpile Periodically throughout storage, and prior to re-spreading	Dated and geo-referenced photographic records should be kept in the environmental file
8.6.11	The contractor shall apply soil conservation measures to the stockpiles to prevent erosion. This could include the use of erosion control fabric or grass seeding.		**X**	Contractor EO/ESO ECO (monitoring and verification)	Upon establishment of stockpiles and throughout the storage period Inspected weekly and after significant rainfall events	Site inspection records Photographic evidence of vegetation clearing and topsoil stripping ECO monitoring reports
8.6.12	Alien vegetation growing on stockpiles must be eradicated. Herbicides shall not be used to remove alien vegetation unless approved by the ECO.		**X**	Contractor EO/ESO ECO (monitoring	Stockpiles to be inspected weekly and prior to topsoil re-spreading Alien vegetation removed as soon as identified	Site inspection reports ECO audit reports Photographic records before and after alien vegetation removal

				and verification)	Any herbicide application requires prior ECO approval and verification during routine site inspections	Alien invasive species control records ECO approval records for herbicide use
Comments:						

8.7. EROSION & SEDIMENT MANAGEMENT

Impact management outcome: Construction activities will require the removal of vegetation cover, potentially resulting in soil erosion and subsequent impacts on groundwater quality due to uncontrolled rainwater run-off. The following measures are necessary to minimise the effects						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance Planning**
	Planning	**Construction**	**Operation**			
8.7.1 Where possible, soil movement activities should be conducted during the drier months of the year to minimise the possibility of erosion, sedimentation and transport of suspended solids associated with disturbed areas and rainfall events. Planning for such a situation must be undertaken.	**X**	**X**		Contractor ECO (monitoring and verification)	During construction planning and scheduling, prior to commencement of soil movement activities, and throughout construction Activities and weather conditions to be monitored daily	ECO audit reports Method statements and planning documents demonstrating consideration of seasonal conditions Contractor site records Environmental audits by the ECO Photographic records
8.7.2 Regular inspection of the footprint and access routes is required to		**X**		Contractor	Weekly during construction.	Site inspection reports

	identify erosion, sediment build-up, or preferential flow pathways; corrective actions should be implemented immediately to maintain surface stability.				• EO/ESO • ECO (monitoring and verification)	• After significant rainfall events. • Corrective actions to be implemented immediately where erosion, sediment build-up, or preferential flow pathways are identified	• ECO audit reports • Photographic records
8.7.3	Sedimentation must be avoided and minimised with appropriate measures.		**X**		• Contractor • EO/ESO • ECO (monitoring and verification)	• Throughout construction activities. • Weekly during construction. • After significant rainfall events	• Site inspection reports • ECO audit reports • Photographic records
8.7.4	Adequate measures must be implemented to manage storm water runoff and clean/dirty water separation to prevent significant groundwater contamination and soil erosion.		**X**	**X**	• Contractor • EO/ESO • ECO (monitoring and verification) • Proponent	• Prior to the commencement of construction activities • Throughout the construction period • Weekly during construction • Throughout the operational phase	• Site inspection reports • ECO audit reports • Photographic records
8.7.5	Implement adequate stormwater and erosion management measures during the construction- and subsequent operational phases of the proposed expansion. This must be done to sufficiently manage stormwater runoff and clean/dirty water separation, in order to prevent any significant groundwater contamination of the local and broader surrounding landscape as well as prevent any significant soil erosion from occurring within and around the proposed expansion	**X**	**X**	**X**	• Contractor • EO/ESO • ECO (monitoring and verification) • Proponent	• Prior to commencement of construction activities • Throughout construction and operational phases • Weekly inspections during construction • After significant rainfall events • Routine monitoring of stormwater controls, erosion measures and clean/dirty water separation systems • Corrective actions to be implemented immediately where issues are identified	• Stormwater management plan/designs • Erosion and sediment control plans • Site inspection reports • ECO audit reports • Photographic records

footprint and to attempt to maintain the ecological connectivity, functionality and integrity.						
Comments:						

8.8. GROUND WATER QUALITY

Impact management outcome:
Poor chemical storage, poor waste management practices, and poor material management processes may lead to the contamination of water sources. Sewage, sanitary effluent, and manure runoff can adversely affect the quality of receiving water bodies unless properly managed. To eliminate the risk of contamination, the following measures have to be instituted.

Management activity / Control measure	Phase of expansion			Responsible party	Monitoring frequency / requirement	Evidence of Compliance Planning
	Planning	Construction	Operation			
8.8.1 Responsible water use shall be promoted among all personnel.	X	X	X	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction and operational phases During site inductions and toolbox talks Routine monitoring during daily site activities	Induction and toolbox talk attendance registers ECO audit reports
8.8.2 Washing of equipment shall be done in a container to prevent any runoff of contaminated washing water.	X	X		Contractor EO/ESO ECO (monitoring	Throughout the construction period whenever equipment washing is undertaken	Site inspection reports ECO audit reports

				and verification)	Daily monitoring during active construction	Photographic records of designated equipment washing areas and containers
8.8.3 Grey water should be recycled: • Used for dust suppression • Used (reused) to clean equipment.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period where grey water is generated Daily monitoring of water reuse practices during active construction activities	Site inspection reports ECO audit reports Water management records
8.8.4 The wash water (grey water) collected from the cleaning of equipment on-site should not be left standing for long periods of time as this promotes parasite and bacterial proliferation.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period where grey water is generated Daily monitoring of water reuse practices during active construction activities	Site inspection reports ECO audit reports Water management records
8.8.5 The final volume of water after cleaning cement mixing equipment for the last time, should be left for a day (not more) to allow the solids to settle out. Once the solids have settled out the water can be decanted and used as grey water. The remaining cementitious sludge should be left to dry out before being disposed of with other solid waste.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period where grey water is generated Daily monitoring of water reuse practices during active construction activities	Site inspection reports ECO audit reports Water management records
8.8.6 All used oils, grease or hydraulic fluids should be placed in appropriate impervious containers.	X	X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period where hazardous substances and maintenance activities occur. Daily monitoring of storage areas during active construction.	Site inspection reports ECO audit reports Photographic records of storage areas and containers Hazardous substance/waste management records

					Weekly inspections of storage facilities.	
8.8.7	Any construction material with leachable material must be covered and secured with an impermeable tarp in the event of rainfall.		X		Contractor EO/ESO ECO (monitoring and verification)	Prior to forecasted rainfall events and throughout the construction period Daily monitoring of material storage areas After rainfall events to confirm covers remain secure and effective	Site inspection reports ECO audit reports Photographic records of storage areas and containers Contractor site records confirming implementation of rain protection measures
8.8.8	Appropriate drainage facilities must be constructed to ensure water runs smoothly downstream without causing erosion.	X	X	X	Contractor EO/ESO ECO (monitoring and verification) Proponent	Prior to and during construction activities requiring drainage management Regular inspections during construction After significant rainfall events to assess functionality and identify erosion	Site inspection reports ECO audit reports Photographic records of drainage facilities Stormwater management plan
8.8.9	Maintain natural drainage patterns and avoid concentrated discharge points.		X	X	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction and operational phases During planning and execution of earthworks and drainage-related activities Inspected weekly and after significant rainfall events	Site inspection reports ECO audit reports Photographic records of drainage facilities Stormwater management plan
8.8.10	Construction must have contingency plans for high rainfall events during construction. Even in the operational phase, measures to contain impacts caused during high		X	X	Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of construction activities. Throughout the construction and operational phases	Stormwater and high rainfall contingency plans Emergency response procedures Site inspection reports ECO audit reports

rainfall events must be planned for and available for use.				Proponent	Contingency measures reviewed periodically and before periods of anticipated high rainfall	
Comments:						

8.9. FUANA & FLORA MANAGEMENT

Impact management outcome:
Fauna and flora are negatively impacted by the clearance of vegetation, noise from construction activities (disturbance) and gathering/ hunting of flora and fauna by workers. Physical removal and transformation of habitat, as well as the resultant establishment of Exotic and legally declared alien invasive species and spreading throughout the local and broader surrounding aquatic landscape The following measures are necessary to mitigate impacts.

Management activity / Control measure	Phase of expansion			Responsible party	Monitoring frequency / requirement	Evidence of Compliance Planning
	Planning	Construction	Operation			
8.9.1 Vegetation removal shall be limited to areas where it is essential for the continuation of the project.		X		Contractor ECO (monitoring and verification)	Prior to and during vegetation clearing activities Daily monitoring during active clearing activities Verified during routine ECO site inspections to ensure clearing is restricted to approved areas only	Site inspection reports ECO audit reports Photographic records of cleared areas Approved site layout plans indicating clearing limits

					Any unnecessary vegetation removal must be addressed immediately	
8.9.2 The area should be monitored for newly established alien species during the contract, establishment and operational periods period, which, if present, must be removed. Removal of these species shall be undertaken in a way that prevents any damage to the remaining vegetation and inhibits the re-infestation of the cleaned areas	X	X	X	Contractor ECO (monitoring and verification) Proponent	Regular inspections of disturbed areas and rehabilitation zones Alien vegetation to be removed as soon as identified Follow-up inspections to confirm prevention of re-infestation	Site inspection reports ECO audit reports Photographic records before and after alien species removal Alien invasive species monitoring and removal records Rehabilitation monitoring records
8.9.3 All staff should be trained on SCC/protected species, observations of SCC/protected species, and the reporting procedure		X		Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of construction activities During site inductions and toolbox talks Refresher training where required or when new personnel are appointed Ongoing monitoring during construction to ensure reporting procedures are followed	Environmental induction records Toolbox talk attendance registers Training material/presentations SCC/protected species awareness records Incident and observation reports ECO audit reports Site inspection reports
8.9.4 Should any SCC be located during construction activities, construction should be halted, and a qualified specialist should be contacted		X		Contractor EO/ESO ECO (monitoring and verification)	As required, whenever a Species of Conservation Concern (SCC) is encountered during construction	Incident records ECO reports Records of work stoppages Photographic evidence
8.9.5 Educate all staff undertaking the work on the best practice methods and environmentally sensitive areas (general dos and don'ts).		X		Contractor EO/ESO ECO (monitoring	Any new staff shall receive the same relevant training before they commence with duties In the incidence in which there is a period of inactivity	Environmental induction records Toolbox talk attendance registers Training material/presentations

				and verification)	of greater than 1 month, re-induction training shall be provided	Environmental awareness records Site inspection reports ECO audit reports
8.9.6 If any protected plant species are located, they should be demarcated.		X		Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of vegetation clearing and construction activities Continuous monitoring during construction activities in areas with potential protected species Protected plant species to be demarcated immediately upon identification	Site inspection reports ECO audit reports Photographic records
8.9.7 Removal or relocation of the SCC is prohibited without the appropriate permits.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout construction activities Verification prior to any removal or relocation of SCC	Applicable permits/authorisations for SCC removal or relocation ECO audit reports Photographic records SCC monitoring records
8.9.8 Removal or transplant permits from DARDEA must be obtained for all provincially protected fauna/flora.		X		Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of any removal or transplant activities involving provincially protected fauna/flora Verification before construction commences in affected areas	DARDEA removal/transplant permits Site inspection reports. ECO audit reports Protected species records Photographic records
8.9.9 No illegal harvesting or collecting of plant material is allowed.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily supervision of site personnel Routine ECO site inspections	Site inspection reports ECO audit reports Environmental induction and toolbox talk records Incident and non-conformance reports

					Immediate investigation and corrective action if illegal harvesting is identified	Corrective action records Photographic records
8.9.10 An alien invasive species management plan must be drafted if the need for such management emerges.		**X**	**X**	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction, operational and rehabilitation periods	Alien Invasive Species Management Plan Site inspection reports ECO audit reports Alien invasive species monitoring records Photographic records
8.9.11 Vehicle movement shall be restricted to the authorised construction footprint and designated access routes. Off-road driving is strictly prohibited.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily monitoring of vehicle movements	Site inspection reports ECO audit reports Photographic records
8.9.12 Wildlife elements such as nests and burrows should be carefully inspected, and animals should be responsibly removed by a relevant specialist.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Removal or relocation to be undertaken only by a qualified specialist before works continue	Site inspection reports ECO audit reports Faunal specialist reports Photographic records
8.9.13 A comprehensive fire management plan needs to be drafted prior to construction.	**X**			Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of construction activities	Approved Fire Management Plan All files should be filed in the on-site environmental file
8.9.14 It is recommended that a temporary wire fence be installed around excavations to prevent faunal access of the area. Should any fauna become trapped in excavations, a qualified		**X**		Contractor ECO (monitoring and verification)	Prior to and throughout excavation activities Daily inspections of open excavations to ensure	Site inspection reports ECO audit reports Photographic records of temporary fencing and excavations

individual must be responsible for their safe relocation and release					fencing is intact and to check for trapped fauna Immediate rescue and relocation of any trapped fauna by a suitably qualified individual	Daily excavation inspection checklists Faunal rescue and relocation records
8.9.15 No hunting, trapping, or killing of fauna is allowed.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily supervision of site personnel Routine ECO site inspections	Site inspection reports ECO audit reports Environmental induction and toolbox talk records
8.9.16 Open fires are not permitted.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily supervision of site personnel Routine ECO site inspections	Site inspection reports ECO audit reports Environmental induction and toolbox talk records
8.9.17 Equipment used should be washed down before coming on site, and before leaving to avoid transporting seeds (invasive species) or plant diseases to or from the site.		**X**		Contractor ECO (monitoring and verification)	Throughout the construction period	Site inspection reports ECO audit reports Equipment wash-down records/checklists Photographic records
8.9.18 It is recommended that no bright light from any spotlights or perimeter lights or loud/excessive noise should be emitted into the surrounding landscape during the nighttime. As little light emissions as practicably/reasonably possible from the construction phase should occur during nighttime, as this could lure birds and other nocturnal avifaunal species individuals towards		**X**		Contractor ECO (monitoring and verification)	Throughout the construction period, particularly during any nighttime activities Daily monitoring of lighting and noise levels during night work	Site inspection reports ECO audit reports Photographic records

the permitter fences and potentially result in collisions and mortality.						
8.9.19 Holding areas for plants must be demarcated and utilised.		**X**		Contractor ECO (monitoring and verification)	Throughout vegetation clearing, plant rescue and transplantation activities	Site inspection reports ECO audit reports Photographic records of demarcated holding areas and rescued plants Plant rescue/translocation records
Comments:						

8.10. WASTE MANAGEMENT

Impact management outcome: It is important to manage waste production and handling to prevent environmental contamination strategically.						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance Planning**
	Planning	**Construction**	**Operation**			
8.10.1 The contractors must provide and maintain a method statement for "solid waste management". The method statement must provide information on the proposed licensed facility to be	**X**	**X**		Contractor ECO (monitoring and verification)	Prior to commencement of construction activities Method Statement to be maintained and updated as required throughout the construction period	Approved Solid Waste Management Method Statement Waste disposal/recycling facility licence details Waste disposal manifests and weighbridge tickets Waste transfer notes

utilised, and details must be kept for record-keeping for auditing purposes.						• Site inspection reports • ECO audit reports • Waste management records and audit documentation
8.10.2 Waste must be separated into recyclable and non-recyclable waste. Hazardous waste (e.g. old oil, sealants etc.,) must be separated form general waste (construction rubble).		X		• Contractor • EO/ESO • ECO (monitoring and verification)	• Throughout the construction period • Daily monitoring of waste segregation practices • Weekly inspections of waste storage areas	• Site inspection reports • ECO audit reports • Photographic records • Waste disposal manifests and hazardous waste disposal certificates
8.10.3 General waste is to be disposed of at a licensed landfill.		X	X	• Contractor • ECO (monitoring and verification) • Proponent	• Throughout the construction period • Each time general waste is removed from site • Waste disposal records to be maintained continuously	• Waste disposal manifests • Licensed landfill disposal receipts • ECO audit reports • Waste management records
8.10.4 Any illegal dumping of waste will not be tolerated.		X		• Contractor • EO/ESO • ECO (monitoring and verification)	• Throughout the construction period • Daily monitoring of waste handling and disposal activities	• Site inspection reports • ECO audit reports • Photographic records • Waste disposal records and manifests
8.10.5 Waste receptacles should be provided on site, for the disposal of general waste produced by the construction workers.		X		• Contractor • ECO (monitoring and verification)	• Prior to commencement of construction activities • Throughout the construction period • Daily monitoring to ensure waste receptacles are available, serviceable and not overflowing	• Site inspection reports • ECO audit reports • Photographic records of waste receptacles • Waste management records
8.10.6 Reduce, reuse and recycle strategy needs to be implemented.		X	X	• Contractor • EO/ESO • ECO (monitoring	• Prior to commencement of construction activities • Throughout the construction period	• Waste Management Plan/Method Statement • Site inspection reports • ECO audit reports

				and verification) Proponent	Daily implementation of waste minimisation practices	Photographic records
8.10.7 Keep records of all waste disposed of, reused, or recycled and ensure proper documentation for regulatory reporting.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Records maintained each time waste is disposed of, reused or recycled	Waste registers Recycling records and certificates ECO audit reports
8.10.8 Waste may not be burned or buried.				Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily monitoring of waste handling and disposal practices	Site inspection reports ECO audit reports Photographic records Waste management records
8.10.9 Receptacle bins must be clearly marked for ease of management in terms of the type of waste disposed of, e.g., paper, plastic, glass, etc.		X		EO/ESO ECO (monitoring and verification)	Throughout the construction period	Site inspection reports ECO audit reports Photographic records Waste management records
8.10.10 All refuse bins must have a lid secured so that animals or unauthorised individuals cannot gain access.		X		EO/ESO ECO (monitoring and verification)	Throughout the construction period	Site inspection reports ECO audit reports Photographic records Waste management records
8.10.11 Subcontractor(s) contracts must contain a clause to the effect that the disposal of all construction-generated refuse / waste to an officially approved dumping site is the responsibility of the subcontractor in question and that the subcontractors are bound to the management activities stipulated in this EMPr.	X	X		EO/ESO ECO (monitoring and verification)	Throughout the construction period	Site inspection reports ECO audit reports Photographic records Waste management records

8.10.12 All solid and chemical waste that is generated must be removed and disposed of at a licensed waste disposal site on at least a monthly basis.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily monitoring of waste handling and disposal practices	Site inspection reports ECO audit reports Photographic records Waste management records
8.10.13 Chemical containers and packaging brought onto the site must be removed for disposal at a suitable site.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily monitoring of waste handling and disposal practices	Site inspection reports ECO audit reports Photographic records Waste management records
8.10.14 Building material, hydrocarbon and other chemical storage areas must be adequately bunded in order to be able to contain a minimum of 150 % of the capacity of storage tanks/units		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period	Site layout plans showing designated storage areas Site inspection reports ECO audit reports Photographic records
8.11.15 A comprehensive stormwater management network should be implemented and regularly inspected for faults.			X	Proponent	Throughout the construction period	Stormwater management plan
8.11.16 To prevent seepage, the stormwater channels should be lined with clay or any other suitable impermeable material. The temporary storage/drying area should also be lined.			X	Proponent	Throughout the construction period	Photographic records
8.11.17 Dried manure should not be unutilised for more than four months. Unutilised manure stockpiles should be sold or, at the very least, be given away to other farmers for secondary use. The			X	Proponent	Throughout the operational phase	Photographic records Manure management records

last option would be to transport the manure to an appropriate waste-handling facility.						
8.11.18 Mortalities should be removed immediately from the pens and can be donated to the nearest wildlife/ predatory farm.			X	Proponent	Throughout the operational phase	Photographic records Mortalities management records
8.11.19 Pen should be cleaned every 3 months when manure is moist to ensure easy removal of manure and minimum disruption to pen layer surface. Manure should be deposited in designated dry manure storage areas.			X	Proponent	Throughout the operational phase	Photographic records Records of the date of each manure deposit
8.11.20 Spoilt silage should be removed and deposited at the composting area			X	Proponent	Throughout the operational phase	Photographic records Records of the date of each silage deposit
8.11.21 Composted manure must be used as fertiliser for crops on site			X	Proponent	Throughout the operational phase	Records of the date of manure composted and used
Comments:						

8.11. AIR QUALITY, NOISE & VIBRATION MANAGEMENT

Impact management outcome: The main sources of impact on air quality, noise and vibration are mobilisation of equipment, land clearing and earthworks during the construction phase and the handling of cattle during the operational phase. To ensure air quality characteristics of the project area are maintained near the baseline conditions, the following measures shall be implemented:						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance Planning**
	Planning	**Construction**	**Operation**			
8.11.1 Only well-maintained vehicles and equipment should be operated on-site, and all machinery should be serviced regularly during the construction stage.		**X**	**X**	Contractor ECO (monitoring and verification) Proponent	Throughout the construction and operational phases Daily pre-start inspections of vehicles and equipment Routine servicing in accordance with manufacturer recommendations	Vehicle and equipment inspection checklists Preventative maintenance and servicing records Site inspection reports ECO audit reports
8.11.2 Unnecessary simultaneous noisy activities should be avoided.		**X**	**X**	Contractor ECO (monitoring and verification) Proponent	Throughout the construction and operational phases Daily monitoring of construction activities and equipment operation	Site inspection reports. ECO audit reports Construction programme/work schedules Environmental induction and toolbox talk records
8.11.3 No amplified music should be allowed at the site.		**X**		Contractor EO/ESO ECO (monitoring	Throughout the construction period Daily supervision of site activities	Site inspection reports ECO audit reports Environmental induction and toolbox talk records

				and verification)		
8.11.4 Regular inspection and scheduled maintenance of all equipment must be held to ensure that construction vehicles (and operating equipment such as the scrapers) are in good condition, are utilising fuel efficiently and do not smoke.	**X**	**X**		Contractor ECO (monitoring and verification)	Prior to mobilisation of equipment Throughout the construction period Daily monitoring of equipment operation and work practices	Equipment selection and maintenance records Site inspection reports ECO audit reports Environmental induction and toolbox talk records
8.11.5 The contractor must keep noise levels within acceptable limits. The use of sound amplification equipment should be restricted for communication and emergencies only.		**X**	**X**	Contractor Proponent	Throughout the construction and operational phases Noise monitoring to be undertaken where required or in response to complaints Immediate corrective action if excessive noise is identified	Site inspection reports Incident and complaint records ECO audit reports
8.11.6 Any complaints received regarding noise must be recorded and communicated. Where possible, provide daily transport to and from the site for construction workers.		**X**	**X**	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction and operational phases Record and communicate all noise-related complaints immediately upon receipt	Noise complaints register Complaint investigation and corrective action records Site inspection reports ECO audit reports
8.11.7 A Code of Conduct must be developed for the construction phase in terms of behaviour of construction staff.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of construction activities Code of Conduct to be communicated during site induction	Approved Code of Conduct Signed employee acknowledgements Environmental induction and toolbox talk records Site inspection reports ECO audit reports

8.11.8 Consider grouping cattle based on behaviour and size to reduce vocalisations and stress-related noise.			X	Proponent	Throughout the operational phase	Site inspection reports
8.11.9 Bare surfaces and excavations must be periodically watered during construction to keep the level down if it becomes apparent that excessive dust is being generated by construction activities.		X	X	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction period Daily monitoring of dust-generating activities and weather conditions Site inspection with focus on the environmental conditions should be conducted regularly by the EO/ESO, which should be timed with construction activities to ensure that the EO/ESO remains aware of the general conditions during construction	Site inspection reports ECO audit reports Dust suppression records/logs Photographic records
8.11.10 Enforce a strict speed limit of 20 km/h for all vehicles along the construction route to reduce dust and vehicle emissions.		X	X	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction and operational phases Daily monitoring of vehicle movements and compliance with speed limits	Site inspection reports ECO audit reports Photographic records of speed limit signage
8.11.11 Optimise the construction schedule to minimise the number of vehicles mobilised at any given time, further reducing airborne pollutants.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily monitoring of vehicle movements	Site inspection reports ECO audit reports Photographic records of speed limit signage
8.11.12 Ensure that all construction personnel are trained in dust mitigation practices and the importance of maintaining air quality.		X		Contractor EO/ESO ECO (monitoring	Prior to commencement of construction activities During site inductions and toolbox talks	Environmental induction records Toolbox talk attendance registers Dust mitigation training records

				and verification)	Refresher training provided where required or when new personnel are appointed Ongoing monitoring during construction to ensure dust mitigation measures are correctly implemented	Training material/presentations Site inspection report. ECO audit reports
8.11.13 Where required, provide dust masks for specific construction activities.		X		Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of dust-generating activities Throughout the construction period Daily monitoring to ensure appropriate personal protective equipment (PPE) is available and used where required	PPE issue registers. Site inspection reports ECO audit reports Photographic records
8.11.14 All forms of dust pollution must be managed in terms of the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965).		X		Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of construction activities Throughout the construction period Daily monitoring of dust-generating activities and implementation of dust suppression measures	Site inspection reports ECO audit reports Dust suppression records
8.11.15 Construction activities should be limited to between the hours of 7:00 and 17:00.	X	X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily monitoring of construction working hours	Site inspection reports ECO audit reports Daily site diary/work records
8.11.16 Promptly remove and properly manage manure to minimise its contact with air. Frequent manure removal			X	Proponent	Throughout the operational phase	Records of the date of each manure removal and deposit

reduces the production of odorous gases.						
8.11.17 Maintain an even pen floor surface to ensure rapid drying of manure, as wet manure releases more odour.			X	Proponent	Throughout the operational phase	Photographic records
8.11.18 Clean stormwater channels regularly to prevent manure and sediment buildup, which could lead to increased odours.			X	Proponent	Throughout the operational phase	Photographic records Site inspection records Records of clean-up
8.11.19 Ensure the composting area is maintained and has sufficient runoff to ensure sufficient drying.			X	Proponent	Throughout the operational phase	Photographic records Site inspection records
8.11.20 In the event of precipitation, it is advisable to remove manure from pens to prevent further odour accumulation.			X	Proponent	Throughout the operational phase	Photographic records Site inspection records Records of manure removal
Comments:						

8.12. CONTAMINATION OF THE ENVIRONMENT

Impact management outcome: The primary source of impact on the contamination of land is associated with the potential of spills of chemicals and leachable construction materials as well as the improper disposal of general waste. To ensure that the land is not contaminated during such activities the following procedures should be implemented.						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance Planning**
	Planning	**Construction**	**Operation**			
8.12.1 Material Safety Data Sheets should be kept for all hazardous materials on site.	**X**	**X**		Contractor EO/ESO Health and Safety Officer ECO (monitoring and verification)	Prior to hazardous materials being brought onto site Throughout the construction period Regular inspections to ensure current MSDS/SDS are available and accessible for all hazardous materials	Material Safety Data Sheets (MSDS/SDS) Hazardous materials register Site inspection reports ECO audit reports
8.12.2 All hazardous substances and stocks such as diesel, oils, detergents, etc., shall be stored in areas with impervious flooring such as concrete and properly bunded out.		**X**		Contractor EO/ESO Health and Safety Officer ECO (monitoring and verification)	Prior to hazardous substances being brought onto site Throughout the construction period Daily inspections of hazardous substance storage areas	Site inspection reports ECO audit reports Health and Safety inspection records Hazardous substances register Photogrphic records

8.12.3 All construction machinery and vehicles must be inspected daily for fuel, oil, or hydraulic leaks.	**X**	**X**		Contractor EO/ESO	Daily, prior to the commencement of construction activities Throughout the construction period Routine ECO site inspections to verify inspection records and equipment condition	Daily vehicle and equipment inspection checklists Maintenance and repair records Site inspection reports ECO audit reports
8.12.4 Drip trays must be placed under machinery when parked overnight or during refuelling to catch any drips.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Daily inspections of parked machinery and refuelling areas	Site inspection reports ECO audit reports Photographic records
8.12.5 Concrete should be mixed on impermeable sheeting with runoff contained and may not take place on bare ground.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of concrete works Throughout all concrete mixing activities Daily inspections of designated concrete mixing areas Immediate corrective action if spills or non-compliance are identified	Site inspection reports ECO audit reports Photographic records
8.12.6 The visible remains either of concrete, solid, or from washings, must be physically removed immediately or disposed of as waste at a registered landfill site.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period, particularly during and after concrete works Daily inspections of work areas to identify concrete residues, solid waste or washings	Site inspection reports ECO audit reports Photographic records Waste disposal register

					• Immediate removal and appropriate disposal when identified	
8.12.7 Cement batching areas must be located in an area where residues are contained.		**X**		• Contractor • EO/ESO • ECO (monitoring and verification)	• Prior to establishment of cement batching areas • Throughout all cement mixing activities during the construction period	• Site inspection reports • ECO audit reports • Photographic records
8.12.8 Spill kits must be readily available on site at all times. All site personnel must be trained in their use. In the event of any spill, immediate action is required: stop the source, contain the spread, and notify the ECO.		**X**		• Contractor • EO/ESO • ECO (monitoring and verification)	• Prior to commencement of construction activities • Throughout the construction period • Daily inspections to ensure spill kits are available, accessible and adequately stocked • Spill response training conducted during induction and toolbox talks • Immediate response required for any spill incident, including containment, reporting and corrective action	• Photographic records of spill kits • Environmental induction and toolbox talk records • Spill response training records • Spill incident reports • ECO notification records • Corrective action reports
8.12.9 Soil contaminated by fuel/oil/cement must be promptly excavated and removed to an approved hazardous waste facility. Absorbent materials used in cleanup must be disposed of similarly.		**X**		• Contractor • EO/ESO • ECO (monitoring and verification)	• Immediately following identification of contamination • Throughout the construction period • Daily monitoring of work areas for evidence of spills or contamination	• Spill incident reports • Contaminated soil removal records • Hazardous waste disposal manifests • Approved hazardous waste facility receipts/certificates • Photographic records before and after remediation • ECO audit reports

						Corrective action reports
8.12.10 Volatile waste items such as plastic bags, cement bags, etc., should be temporarily stored in a suitable manner to prevent them from being dispersed via wind.		**X**	**X**	EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction period Daily inspections of waste storage areas to ensure lightweight waste is adequately contained	Site inspection reports ECO audit reports Photographic records of waste storage areas Waste management records
8.12.11 All waste management strategies should comply with environmental / waste management legislation.		**X**	**X**	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction period Regular review of waste management practices to ensure compliance with applicable legislation	Approved Waste Management Plan Waste registers Recycling records Licensed disposal facility documentation ECO audit reports
8.12.12 No burning of waste material on site.		**X**	**X**	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction and operational phases Daily monitoring of waste management activities Immediate corrective action if waste burning is identified	Site inspection reports ECO audit reports Photographic records Environmental induction and toolbox talk record. Waste management records Incident and non-conformance reports
8.12.13 No littering may take place on site.		**X**	**X**	Contractor EO/ESO ECO (monitoring and verification) Proponent	Throughout the construction and operational phases Daily monitoring of waste management activities Immediate corrective action if littering is identified	Site inspection reports ECO audit reports Photographic records Environmental induction and toolbox talk records Waste management records Incident and non-conformance reports
Comments:						

8.13. ARCHAEOLOGICAL & HERITAGE MANAGEMENT

Impact management outcome: It is not anticipated that the proposed construction activities will impact any heritage, archaeological, or palaeontological resources, provided that they do not extend beyond the approved expansion area.						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance Planning**
	Planning	**Construction**	**Operation**			
8.13.1 If potential fossil material, stone artefacts, historical-period objects (e.g., glass, ceramics, metal), human skeletal remains or unmarked grave features are encountered during construction, all activity within the immediate vicinity of the find must cease immediately	**X**	**X**		Contractor EO/ESO ECO (monitoring and verification)	Immediately upon identification of a potential archaeological exposure Throughout excavation and earthworks activities No further excavation or disturbance until the discovery has been assessed and clearance provided by the relevant specialist /authority	Environmental induction and toolbox talk records Site inspection reports ECO audit reports Incident notification records Archaeological assessment reports Photographic records
8.13.2 The specialist must submit a Chance Find Report to SAHRA or the relevant PHRA documenting the nature, significance and disposition of the material. Construction within the affected area may only resume once written authorisation has been received from the heritage authority or the appointed specialist	**X**	**X**		Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of construction activities Throughout the construction period All personnel to be informed of the Chance Find Protocol during environmental induction	Environmental induction and toolbox talk records Site inspection reports ECO audit reports Chance find incident reports Specialist assessment reports

					• Continuous monitoring during excavation and earthworks • Immediate implementation of the protocol if any archaeological, heritage or palaeontological material is discovered	
8.13.3 Developers must follow a strict protocol if anomalous or irregular shapes are identified in the rock or sediments		**X**		• Contractor • EO/ESO • ECO (monitoring and verification)	• Throughout excavation and earthworks activities • All personnel must be informed of the required protocol during environmental induction • Continuous monitoring during trenching and excavation activities	• Environmental induction and toolbox talk records • Site inspection reports • ECO audit reports • Photographic records • Specialist assessment reports
8.13.4 Demarcate a no-go buffer zone of at least 15 m around the find to prevent further disturbance by personnel, vehicles or machinery. No material may be removed, washed, cleaned or otherwise handled until a professional palaeontologist can confirm the discovery.		**X**		• EO/ESO • ECO (monitoring and verification)	• Throughout excavation and construction activities • Immediate compliance required upon identification of any potential find • All personnel to be informed of this requirement during environmental induction	• Environmental induction and toolbox talk records • Site inspection reports • ECO audit reports • Photographic records of the find (without disturbance) • Specialist assessment reports • GPS coordinates
8.13.5 If archaeological material has already been inadvertently removed or newly excavated material is clearly portable and vulnerable to loss or damage, it should be placed in a safe, secure location pending specialist inspection. Such material must remain unwashed, uncleaned, and clearly		**X**		• EO/ESO • ECO (monitoring and verification)	• Throughout excavation and construction activities • Immediate compliance required upon identification of any potential find • All personnel to be informed of this requirement during environmental induction	• Environmental induction and toolbox talk records • Site inspection reports • ECO audit reports • Photographic records of the find • Specialist assessment reports • GPS coordinates

labelled with the date and precise location of recovery.						
8.13.6 SAHRA and a qualified archaeologist to be consulted immediately in the event of accidental archaeological exposure.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Immediately following any accidental archaeological exposure Throughout the construction period, particularly during excavation and earthworks Continuous monitoring of excavation activities for potential archaeological material No further disturbance of the exposed material until assessment and guidance have been provided by the relevant specialists	Incident notification records Communication records with SAHRA and archaeologist Archaeological assessment report Site inspection reports ECO audit reports Photographic records of the discovery area
8.13.7 Should the material prove to be of archaeological or palaeontological significance, a Phase 2 rescue excavation or systematic collection may be required subject to permits issued by the South African Heritage Resources Agency (SAHRA) or the relevant Provincial Heritage Resources Authority (PHRA). In such cases, the developer must, upon permit approval, appoint a suitably qualified professional archaeologist or palaeontologist to excavate, remove and curate the material in accordance with the conditions of the permit.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Immediately following identification of potential palaeontological material Throughout construction activities involving excavation and earthworks No further disturbance of the material until assessed by a qualified palaeontologist Implementation of approved mitigation/rescue measures where required	Specialist palaeontological assessment report SAHRA correspondence and issued permits Phase 2 mitigation/rescue excavation report Site inspection reports ECO audit reports Photographic records

8.13.8 No loose chance finds, such as stone age artefacts (arrowheads, stone flake blades, etc.), may be collected.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period, particularly during excavation and earthworks Personnel to be informed of the prohibition on collecting chance finds during environmental induction	Environmental induction and toolbox talk records Site inspection reports ECO audit reports Photographic records of identified finds Specialist assessment reports
8.13.9 Regular site inspections and toolbox talks should be conducted to raise awareness among construction personnel about the potential for heritage finds and the importance of reporting them.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Prior to commencement of construction activities Throughout the construction period Toolbox talks conducted regularly to reinforce heritage awareness and reporting requirements Routine site inspections to monitor compliance and identify potential heritage risks	Toolbox talk attendance registers Environmental induction records Heritage awareness training material Site inspection reports ECO audit reports
Comments:						

8.14. REHABILITATION AND SITE CLOSURE

Impact management outcome: In order to mitigate the inevitable direct and indirect impacts associated with the construction of the proposed expansion it is necessary to ensure that a practice of constant minimisation of negative impacts and active rehabilitation of completed or affected areas or resources is implemented and monitored.						
Management activity / Control measure	**Phase of expansion**			**Responsible party**	**Monitoring frequency / requirement**	**Evidence of Compliance Planning**
	Planning	**Construction**	**Operation**			
8.14.1 Rehabilitation should take place wherever possible throughout the construction phase, to prevent sedimentation and protect against erosion.		**X**		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period Rehabilitation activities to commence as soon as areas are no longer required for construction purposes Regular monitoring of rehabilitated areas to assess progress and identify areas requiring corrective action	Rehabilitation plan/method statement Site inspection reports ECO audit reports Photographic records before, during and after rehabilitation Rehabilitation monitoring records Revegetation records
8.14.2 On completion of operations, all buildings, structures, or objects on the camp/office site shall be demolished and removed.		**X**		Contractor EO/ESO ECO (monitoring and verification)	At the end of construction/operations and prior to site closure Inspection following removal activities to confirm all temporary structures and associated	Site closure/demobilisation records Site inspection reports. ECO close-out audit reports Photographic records before and after removal Waste disposal records/manifests

					materials have been removed	Rehabilitation completion records Final environmental compliance report
8.14.3 Topsoil previously stored shall be spread evenly to its original depth over the whole area.		X		Contractor EO/ESO ECO (monitoring and verification)	During rehabilitation activities and prior to site closure Topsoil replacement must be undertaken once construction activities are completed in an area	Rehabilitation plan/method statement Site inspection reports ECO close-out audit reports Photographic records before, during and after topsoil replacement Topsoil stockpile and spreading records
8.14.4 Where soils have been compacted owing to traffic (including foot traffic), the surfaces shall be scarified or ripped to aerate and promote infiltration of water		X		Contractor EO/ESO ECO (monitoring and verification)	During rehabilitation activities and prior to site closure	Rehabilitation plan/method statement Site inspection reports ECO close-out audit reports Photographic records
8.14.5 On completion of construction, the areas shall be cleared of any contaminated soil, which must be disposed of as per the waste management plan, which must be provided in the environmental file.		X		Contractor EO/ESO ECO (monitoring and verification)	During rehabilitation activities and prior to site closure	Rehabilitation plan/method statement Site inspection reports ECO close-out audit report Photographic records
8.14.6 Waste material of any description, including receptacles, scrap, construction waste rubble, and tires, will be removed entirely from the area and disposed of at a registered waste disposal facility. It will not be permitted to be buried or burned on the site.		X		Contractor EO/ESO ECO (monitoring and verification)	Throughout the construction period and during site rehabilitation/closure Regular inspections of the construction footprint to identify and remove waste materials	Waste management plan Waste registers Registered landfill receipts/weighbridge tickets Site inspection reports ECO close-out audit report
8.14.7 Proliferation of alien and invasive species is expected in disturbed areas,	X	X		Contractor EO/ESO	Prior to commencement of construction activities or	Alien and invasive species management plan

particularly as these species are already noted to be present within the study site. An alien and invasive management plan should be drafted and implemented.				ECO (monitoring and verification)	when the need for management is identified Throughout the construction and rehabilitation periods Regular monitoring of disturbed areas for alien and invasive species establishment	Alien species monitoring records Site inspection reports Photographic records of affected areas and control activities ECO close-out audit report
8.14.8 Alien and invasive species monitoring and eradication must take place quarterly and continue for one year after the completion of the expansion.	**X**	**X**	**X**	Contractor ECO (monitoring and verification) Proponent	Quarterly monitoring during the construction and post-construction period Monitoring and eradication activities must continue for at least one year after completion of the expansion	Alien and invasive species monitoring reports Eradication/control activity records Site inspection reports Photographic records of affected areas and control activities ECO close-out audit report
8.14.9 Complete earthworks and seeding within 30 days of practical completion.		**X**	**X**	Contractor ECO (monitoring and verification)	Upon practical completion of construction activities Earthworks and seeding to be completed within 30 days after the relevant area becomes available for rehabilitation Regular monitoring of rehabilitation progress during the 30-day period	Rehabilitation plan/method statement Site inspection reports Photographic records of affected areas and control activities ECO close-out audit report
8.14.10 At least 80% vegetative cover should be achieved on all rehabilitated surfaces within 1 year of completion of construction, with a preference for indigenous species dominance.		**X**	**X**	Contractor ECO (monitoring and verification)	During rehabilitation and throughout the first year following completion of construction Regular monitoring of rehabilitated areas to assess vegetation establishment and species composition	Rehabilitation monitoring reports Vegetation assessment records Site inspection reports ECO audit reports

					Corrective rehabilitation measures to be implemented where vegetation cover targets are not achieved	
8.14.11 If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, there may be a need for the soil to be analysed and any deleterious effects on the soil arising from the construction operation to be corrected, and the area to be seeded with a seed mix to the EAP's specifications.		**X**	**X**	Contractor ECO (monitoring and verification)	During rehabilitation monitoring and within the first year following completion of construction Assessment of vegetation establishment progress at regular intervals Soil analysis to be undertaken where poor vegetation establishment is identified Implementation of soil remediation and reseeding measures where required	Rehabilitation monitoring reports Soil analysis reports Corrective rehabilitation plans Seed mix specifications and application record. Site inspection reports ECO audit reports
Comments:						

9. METHOD STATEMENTS:

The Contractor shall submit written Method Statements for all environmentally sensitive aspects of the work. It should be noted that Method Statements must contain sufficient information and detail to mitigate the potential environmental impacts of the works. The Contractor will also need to thoroughly understand what is required of him / her in order to undertake the works. Work shall not commence until Method Statements have been put in place.

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APPENDIX A – EAP CV

CURRICULUM VITAE

Mhloti Ashley Makhubele

Environmental Assessment Practitioner
(EAPASA 2021/4347)

Personal Information

ID:	1998/07/02
Nationality:	South African
Gender:	Female
Health:	Excellent
Vehicle License:	Code C1
Language:	English, Xitsonga
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Skills and Responsibilities

- Project management
- Use of Geographical Information Systems
- Conduct Environmental Impact Assessments and other Environmental Technical Investigations
- Environmental Screening
- Use different GIS datasets in order to create new information or investigate patterns for projects;
- Microsoft Office, Microsoft Word, Microsoft Excel, Microsoft PowerPoint and QGIS

Professional Experience

Date	10/2025 - Present
Organisation	Environmental Management Group
Position	Environmental Assessment Practitioner
Accreditations	EAPASA 2021/4347

Date	2022-2025
Organisation	Westleigh Environmental Services
Position	Junior Environmental Assessment Practitioner
Responsibilities	Lead Environmental Impact Assessments, Compile Environmental Management Programmes and Biosecurity Plans, Environmental Screening, Specialist Coordination, Compliance Monitoring and Compliance

Date	2021-2022
Organisation	Great Warthog Environmental
Position	EAP mentorship
Responsibilities	Environmental Impact Assessments, Environmental Screening, Screening Tool Reports

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Date	2020-2021
Organisation	Gauteng Department of Agriculture and Rural Development
Position	Environmental graduate
Responsibilities	Environmental Audits; Environmental Education and Public Participation

Education

Institution	Degree(s) or Diploma(s) obtained
University of South Africa	BA Hons. Environmental Management
University of Kwazulu-Natal	BSs. Geography and Environmental Management

Environmental Impact Assessment Projects

Environmental Management Group (Parys, Free State)- Environmental Assessment Practitioner 2025-Present

Professional Skills and Responsibilities:

- Applications for Environmental Authorisation
- Environmental Impact Assessments
- Environmental Management Programmes/Plans
- GIS Applications
- Environmental Risk Assessment
- Environmental Screening
- Stakeholder Engagement
- Environmental Law and Compliance
- Water-Use License Applications

Project type	Client	Scope of work	Role
Infrastructure Development	Khâi-ma Local Municipality	Basic Assessment for Wastewater Treatment Works Facilities	EAP
	Assmang Khumani Iron Ore	Screening Report and Environmental Management Programme for High Mast Lights installation	EAP
	North West Department of Public Works and Roads	Basic Assessment for a road development	EAP

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Westleigh Environmental Services (Pretoria, Gauteng)- Junior Environmental Assessment Practitioner 2022-2025

Professional Skills and Responsibilities:

- Environmental Impact Assessments
- GIS Applications
- Project Management
- Environmental Risk Assessment
- Environmental Screening
- Stakeholder Engagement
- Environmental Law and Compliance

Project type	Client	Scope of work	Role
Agricultural	Heavy Feather 2 (Pty) Ltd	Section 24G rectification for Broiler chicken houses	Candidate EAP
	GIA Agri (Pty) Ltd	Basic Assessment for Broiler Chicken houses and an abattoir	Lead EAP
	Thiel Farming (Pty) Ltd	Basic Assessment for Broiler chicken houses	Lead EAP
	Kgodisho Holdings (Pty) Ltd	Basic Assessment for a layer chicken hatchery	Lead EAP
	Boom Farm	Basic Assessment for an aquaculture facility, chicken hatchery and crop production	Lead EAP
	Waterlock SA (Pty) Ltd	Scoping and EIR for broiler chicken houses and crop production	Lead EAP
	Farmers Prime Chicken Wholesalers	Basic Assessment for broiler chicken houses and an abattoir	Lead EAP
	Doringrant Boerdery	Scoping and EIR for crop production	Lead EAP
	Dikgosi Holdings	Scoping for broiler chicken houses, abattoir, piggery facility, crop production and solar PV	Lead EAP
	Ledig Chickens (Pty) Ltd	Section 24G Rectification for Broiler chicken houses and an abattoir	Lead EAP
Infrastructure Development	Kaydale Extension	Scoping for a township development	Lead EAP

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List of References

1. **Managing Director**

   Mr. Sampie van Rooyan
   Senior Environmental Assessment Practitioner and Terrestrial Ecologist
   EAPASA and SACNASP Registered
   Environmental Management Group Pty Ltd
   Work contact/s: +27 51 412 6350
   Cellphone No: +27 83 678 3032
   Work Email: svr@envmgp.com

2. **Managing Director**

   Ms Esther Mampane
   Senior Environmental Assessment Practitioner
   EAPASA Registered
   Westleigh Environmental Services
   Cellphone No: +27 76 561 6891

3. **Managing Director**

   Mr Caiphus Mukwevho
   Senior Environmental Assessment Practitioner
   EAPASA Registered
   Great Warthog Environmental
   Cellphone No: +27 82 269 4524

ENVIRONMENTAL MANAGEMENT GROUP
Specialists in Environmental Management
EMG *Integrating Industry and Infrastructure with the Environment*

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CURRICULUM VITAE

Salmon E. van Rooyen (Sampie)

Environmental Assessment Practitioner & Ecologist
(MSc. PR Nat Sci 116554; IAIA Reg No. 5901)

Personal Information

ID:	9205095047086
Nationality:	South African
Gender:	Male
Health:	Excellent
Vehicle License:	Code A&B
Language:	English/Afrikaans
Contact number:	083 678 3032
Email:	svr@envmgp.com

Skills and Responsibilities

- Use of Geographical Information Systems;
- Conduct Environmental Impact Assessments and other Environmental Technical Investigations;
- Apply and obtain, water licenses, mining permits and environmental authorisations for clients;
- Use different GIS datasets in order to create new information or investigate patterns for projects;
- Conduct environmental compliance and other environmental audits;
- Microsoft Office and Planet GIS;
- Project Management;
- Biodiversity Assessments;
- Agricultural advisory.

Professional Experience

Date	5/2017 - Present
Organisation	Environmental Management Group
Position	Director; EAP; Ecologist

Date	8/ 2016 - 5/2017
Organisation	Terra Works Environmental
Position	Environmental scientist/ Office Manager

Date	1/2016 - 8/2016
Organisation	Bokamoso Environmental
Position	Environmental Specialist (Fauna and Flora), Water Use License Application Consultant, General Environmental Consultant.
Responsibilities	Conducting specialist Faunal and Flora assessments. Applying for Water Use Licenses. GIS Mapping. Environmental Impact Assessments.

Date	1/2015 – 6/2015
Organisation	Agreenco
Position	Flora and Fauna Specialist
Responsibilities	Rehabilitation and Alien eradication on game farm in the Magaliesburg region, Rustenburg.

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Date	2014 - 2015
Organisation	NWU Potchefstroom
Position	Practical demonstrator
Responsibilities	Responsible for laboratory preparation for NWU and UNISA Botany practical sessions, assistant facilitator of the practical syllabus, invigilating practical exams.

Date	1/2015 – 11/2015
Organisation	NWU Potchefstroom
Position	Practical Post-Graduate Student Assistant
Responsibilities	Assisting Post-Graduate students in veld surveying methods and technologies.

Date	1/2014 – 6/2014
Organisation	E-Tek Consultants
Position	Contract, Monitoring specialist on De Beers Mining, Kimberley.
Responsibilities	Monitoring rehabilitated tailings on De Beers mines.

Date	2008 - 2016
Organisation	Monswario Boerdery
Position	Assistant Farm Manager
Responsibilities	Farming experience of Bonsmara cattle and Meat-master sheep, as well as veld management practices.

Education

Institution	Degree(s) or Diploma(s) obtained
North West University Potchefstroom 2011 – 2013	BSc. Environmental and Biological Sciences and Tourism
North West University Potchefstroom 2014 – 2015	Hons BSc. Environmental Sciences (*Ecology: Ecological Remediation & Sustainable development*)
North West University Potchefstroom 2015 – 2016	MSc BSc. Environmental Sciences (*Ecological Remediation & Sustainable Management*)
North West University Potchefstroom 2015	Short Course at CEM (Centre for Environmental Management) in Basic Principles of Ecological Rehabilitation and Mine closure.

Research and Conferences

Masters degree research project (2015 January-2016 November)

Ecological Remediation and Sustainable Management
Supervisors: Prof. Klaus Kellner and Dr. Niels Dreber
Title: Composition and structure of woody vegetation in thickened and controlled bushveld savanna in the Molopo, South Africa

Honours degree research project (2014 January-2014 November)

Ecological Remediation and Sustainable Management
Supervisors: Prof. Klaus Kellner and Dr. Niels Dreber
Title: Comparison of plant diversity of shrub thickened and chemically controlled savannas in the Molopo district, North-West Province, South Africa

Conference presentations (2014-2015)

- Comparison of plant diversity of shrub thickened and chemically controlled savannas in the Molopo district, North-West Province, South Africa. Biological Sciences Symposium, Potchefstroom, 2014. Presentation.
- Comparison of plant diversity of shrub thickened and chemically controlled savannas in the Molopo district, North-West Province, South Africa. Poster presentation: Arid-Zone Ecology and Thicket Fusion Form in 2014.
- Attending the Third Annual LaRSSA Conference (Land Rehabilitation Society of Southern Africa) (2015).

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Experience of Academic Introductory Modules

Introduction to Environmental Management

Introduction to Landscape Ecology

Conservation Ecology

Introduction to GIS Applications
Restoration of degraded ecosystems
Microbial Ecology

Short Course at CEM (Centre for Environmental Management) in Basic Principles of Ecological Rehabilitation and Mine closure 28 September – 2 October 2015

Environmental Impact Assessment Projects

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Type	Client	Project
Waste	**Metsimaholo Local Municipality**	Scoping/EIA; WULA application for the development of a new landfill site in Sasolburg
	Joe Morolong Local Municipality	Scoping/EIA application for the development of a new landfill site in Hotazel
Mining Permits or Rights	**Danoher Contracting (PTY) Ltd**	Mining Right application for a gravel BP in Bloemfontein
	Michael Gutter	Mining Permit in Theunissen, Free State Province
	Department of Rural Development and Land Reform	Mining Permit application for a sandstone Quarry in Zastron
Road Construction	**Free State Department of Police, Roads and Transport**	BAR/IWUL/Mining Permit applications/ECO for the Deneysville - Jim Fouché road rehabilitation
	Free State Department of Police, Roads and Transport	BAR/IWUL/Mining Permit applications/ECO for the Deneysville - Heilbron road upgrading
	Free State Department of Police, Roads and Transport	BAR/IWUL applications/ECO for the Schonkenville - Koppies road upgrading
	SANRAL	BAR/IWUL/ECO applications for the N1 Section 16 road upgrade
	SANRAL	ECO Periodic Maintenance on National Route N6 Sec 8 from Reddersburg (km 0.00) to Rustfontein (km37.8)
	Department of Roads and Public Works, Northern Cape	BAR/IWUL/Mining Permit applications for the MR 938 Mamatwan road upgrade

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	Free State Department of Police, Roads and Transport	ECO for the internal road upgrades in Thumahole, Free State Province.
	Department of Roads and Public Works, Northern Cape	Environmental Screening/BAR/IWUL/ DAFF Permit applications/ECO for the BK126 Magobing to Bathlaros road upgrade.
	Department of Roads and Public Works, Northern Cape	Environmental Screening/BAR/IWUL/ DAFF Permit applications/ECO for the Tsineng to Washington road upgrade.
	Department of Roads and Public Works, Northern Cape	BAR/IWUL/ DAFF Permit applications/ECO for the Hotazel to Maipeng road upgrade.
	Joe Morolong Municipality	BAR Application for Proposed upgrading of existing stormwater crossing during the upgrading of the access road between Kokfontein and Ellendale, Northern Cape Province.
	Ga-Segonyana Local Municipality	BAR Application for Proposed upgrade of the existing stormwater crossing and access paved road in Batlharos, Kuruman,Northern Cape Province.
Infrastructure Developments	**Amatola Water**	IWUL application/ECO for the installation of a bulk water pipeline, Herschel
	Maluti A Phofung Local Municipality	IWUL application/ECO for the installation of a bulk water pipeline, Kestell to Qwa Qwa
	Dr. Ruth Segomotsi Mompati District Municipality	BAR and IWUL applications for the upgrading of the Waste Water Treatment Works in Stella
	Dr. Ruth Segomotsi Mompati District Municipality	Environmental Screening/EMP/IWULA/ECO for the construction of a water provision project for the village of Reivilo, Shaleng, Madipelesa, Karelstad, Mothlako, Molelema, Lykso, Pitsong and Kameelputs, North-West Province.
	Dr. Ruth Segomotsi Mompati District Municipality	Environmental Screening/ EMP/IWULA/ECO for the construction of a water provision project for the village of Schweizer-reneke, Piet Plessis, Konke, Broedersput, Geduldspan, Louwna, Mabone and Maeng, North-West Province.

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	Department of Rural Development and Land Reform	Scoping EIA, WULA and Air Emission License for the development of a Brick factory in Thaba-Nchu
	Dr. Ruth Segomotsi Mompati District Municipality	Section 24G for the development of a pump station in the Wentzel Dam, Schweizer-reneke, North-West Province.
	AURECON	ECO for the upgrading of 12 Bridges in the De Aar and Upington Areas,
	EUROMID AFRICA Development	EIA/Scoping/IWULA and ECO for MATJHABENG PRECINCT IDP PROJECT 201621, Free State Province.
	Umfundu Professional Services CC.	IWULA and EIA/Scoping for the Mmamahabane cemetery establishment, Free State
	LMV (PTY) LTD.	Environmental Screening for the school developmentin Maokeng (Kroonstad) - Erwe 1500 & 24628, Free State Province
	AURECON	Environmental Screening/BAR/WULA/ECO for Lindley Water Treatment Works and Pipeline route, Free State Province
	JB Marks Local Municipality	Proposed township establishment on portion 1 of holding 4, holding 46 and holding 47, Vyfhoek agricultural holdings, Potchefstroom, North-West Province
	Joe Morolong Local Municipality	BAR Application for Proposed construction of a low-level culvert bridge between Ga-Hohuwe to Dithakong, Northern Cape Province
	Dr Ruth Segomotsi Mompati District Municipality	BAR Application for Upgrade of Bulk Water Supply Pipeline from Ga-Moduana to Modutung Village, Dr Ruth Rural Water Supply Program, North West Province.
Residential Developments	**Greater Taung Local Municipality**	BAR application for Boipela Residential Development Extension in Reivilo
Agriculture	**VS Kunsmis**	Scoping/EIA application for expansion of storage of a dangerous good at Vrede
	Linheim	BAR/ECO for the expantion of the Linheim Sheep Feedlot, Free State Province
	Wildeklawer	BAR application for the expansion of pivot systems near Barkley West

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	Department of Rural Development and Land Reform	Environmental Screening/BAR and WULA application for the development of an Agri-Park in Parys, Free State
	Department of Rural Development and Land Reform	Environmental Screening/S24G and WULA application for the development of an Agri-Park in Springfontein, Free State
	Department of Rural Development and Land Reform	S24G and WULA application for the development of an Agri-Park in Thaba-Nchu, Free State
	Department of Rural Development and Land Reform	Environmental Screening for the development of an Agri-Park in Tsiame, Free State
	Department of Rural Development and Land Reform	Environmental Screening/BAR and WULA application for the development of an Agri-Park in Wesselsbron, Free State
	Department of Rural Development and Land Reform	Environmental Screening/BAR and WULA application for the development of a Farmer Production Support Unit in Koffiefontein, Free State
	Department of Rural Development and Land Reform	Environmental Screening/BAR and WULA application for the development of a Farmer Production Support Unit in Odendalsrus, Free State
	Department of Rural Development and Land Reform	Environmental Screening for the development of a Farmer Production Support Unit in Sediba, Free State
	Department of Rural Development and Land Reform	Environmental Screening/BAR application for the development of a Farmer Production Support Unit in Kroonstad, Free State
	Orange River Solar Facility	BAR Application 50 MW PV orange river solar facility 1, Groblershoop, Northern Cape Province
	LW Boerdery Trust	Proposed development of a cattle feedlot on Farm Doornkop No. 148 Parys, Free State Province.

*EIA	*Environmental Impact Assessment*
*BAR	*Basic Assessment Report*
*EMP	*Environmental Management Plan*
*S24G	*Section 24G (Application for rectification)*
*IWULA	*Integrated Water Use License Application*
*ECO	*Environmental Control Officer*

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Ecological Specialist Reports

Fauna Habitat Assessment Specialist Reports:

- **Johannesburg**
  - Clubview extention 95 & 91: Mixed use Development
  - Fairlands: Road Interchange
- **Pretoria**
  - Knoppieslaagte: Industrial Development
  - Lanseria: Mixed Use Development
  - Lanseria extension 56: Mixed Use Development
  - Pretoria Gardens: Residential Development
  - Wattle Springs: Residential Development
  - PWV 17: Proposed Road Construction
  - Sunderland Ridge extention 24: Industrial Development
- **Boksburg**
  - Leeuwpoort: Residential Development
- **Randburg**
  - Land Parcel 9: Mixed Use Development
  - Land Parcel 10: Mixed Use Development
  - Waterfall Kikuyu: Mixed Use Development
- **Brits**
  - Winterveld: Residential Development

Flora Habitat Assessment Specialist Reports:

- **Johannesburg**
  - Clubview extention 95 & 91: Mixed use Development
  - Fairlands: Road Interchange
- **Pretoria**
  - Knoppieslaagte: Industrial Development
  - Lanseria extention 51 & 53: Mixed Use Development
  - Mogale extention 5: Mixed Use Development
  - Lanseria extension 56: Mixed Use Development
  - Pretoria Gardens: Residential Development
  - Wattle Springs: Residential Development
  - PWV 17: Proposed Road Development
  - Sunderland Ridge extention 24: Industrial Development
  - Randjiesfontein: Residential Development
  - Rooihuiskraal: Mixed Use Development
  - Garsfontein: Residential Development
  - Knoppieslaagte extention 73: Industrial Development
  - Knoppieslaagte extention 95: Industrial Development
  - Swartkoppies: Mixed Use Development
  - Waterfall fields: Residential Development
  - Waterfall Ridge: Mixed Use Development
- **Boksburg**
  - Leeuwpoort: Residential Development

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- **Randburg**
  - Land Parcel 9: Mixed Use Development
  - Land Parcel 10: Mixed Use Development
  - Waterfall Kikuyu: Mixed Use Development
  - Greystone: Mixed Use Development
- **Brits**
  - Winterveld: Residential Development
- **Vereeniging**
  - K 47: Proposed Road Development
  - K 77: Proposed Road Development
- **Limpopo**
  - Steelpoort: Industrial Development
- **Bloemfontein**
  - Section 16 N1 Road: Road Development
- **Kimberley**
  - Erf 11920: Residential Development
  - Wildeklaver: Agricultural Development

Environmental Assessment Practitioners Association of South Africa

Registration No. 2021/4347

Herewith certifies that

MHLOTI ASHLEY MAKHUBELE

is registered as an

Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 April 2026

Expires: 31 March 2027

Chairperson

Registrar

SAQA

Environmental Assessment Practitioners Association of South Africa

Registration No. 2019/309

Herewith certifies that

SALMON (SAMPIE) VAN ROOYEN

is registered as an

Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 April 2026

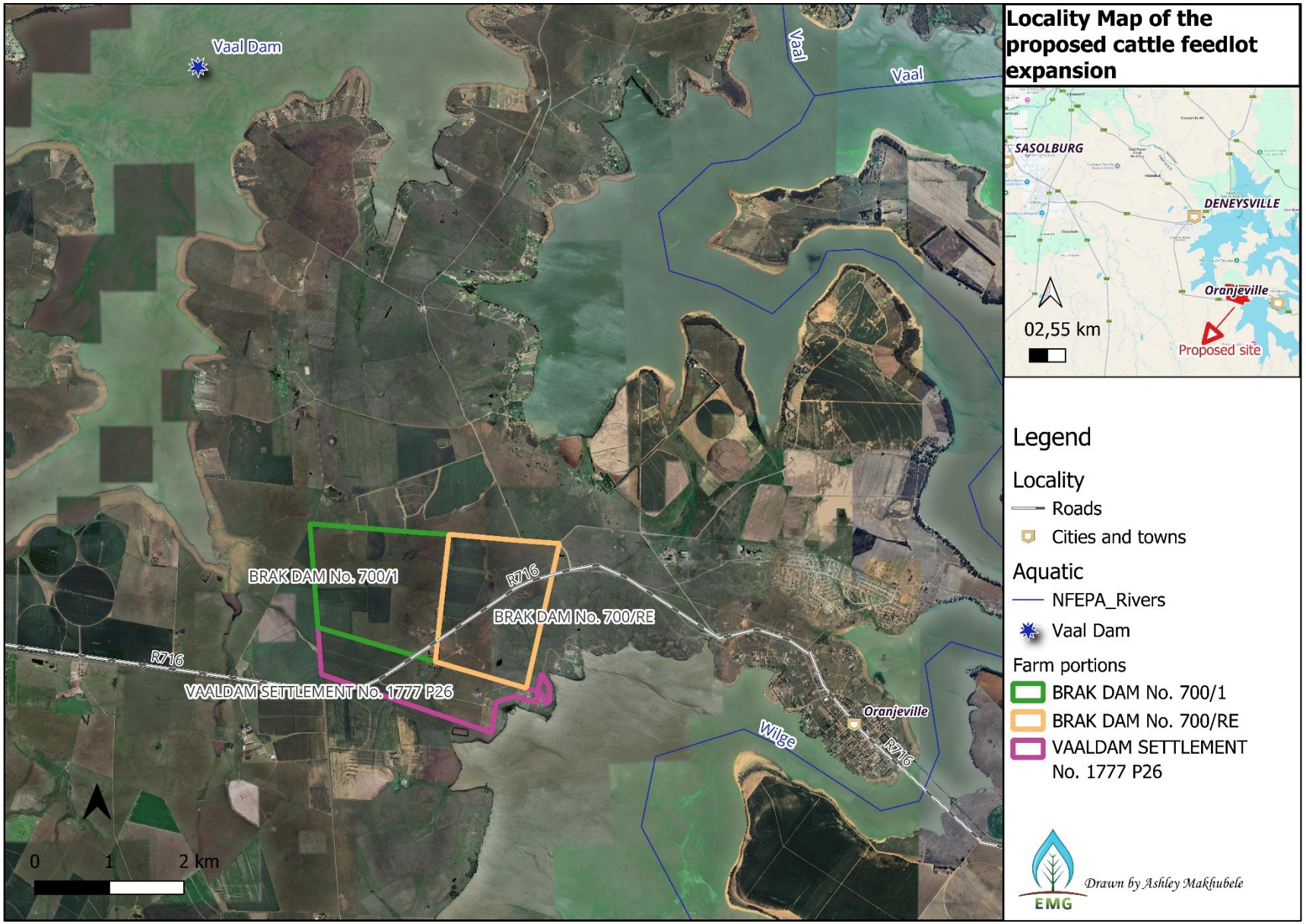
Expires: 31 March 2027

Chairperson

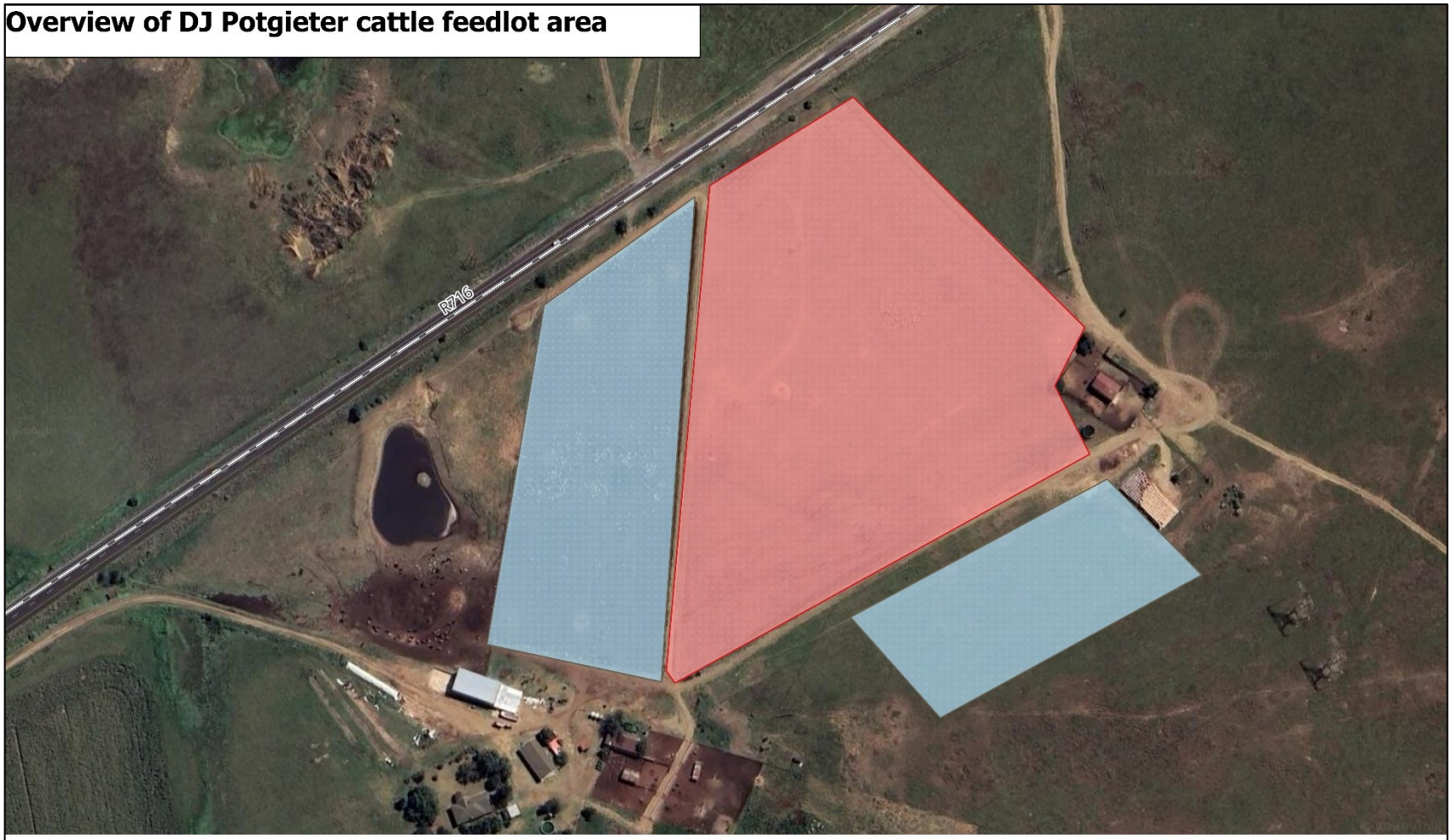
Registrar

SAQA

APPENDIX B – MAPS


Locality Map of the proposed cattle feedlot expansion
Vaal Dam
Vaal
Vaal
SASOLBURG
DENEYSVILLE
Oranjeville
02,55 km
Proposed site
BRAK DAM No. 700/1
BRAK DAM No. 700/RE
VAALDAM SETTLEMENT No. 1777 P26
R716
R716
R716
Oranjeville
Wilge
0
1
2 km
Legend
Locality
Roads
Cities and towns
Aquatic
NFEPA_Rivers
Vaal Dam
Farm portions
BRAK DAM No. 700/1
BRAK DAM No. 700/RE
VAALDAM SETTLEMENT No. 1777 P26
EMG
Drawn by Ashley Makhubele

Overview of DJ Potgieter cattle feedlot area



Legend

Locality
Roads

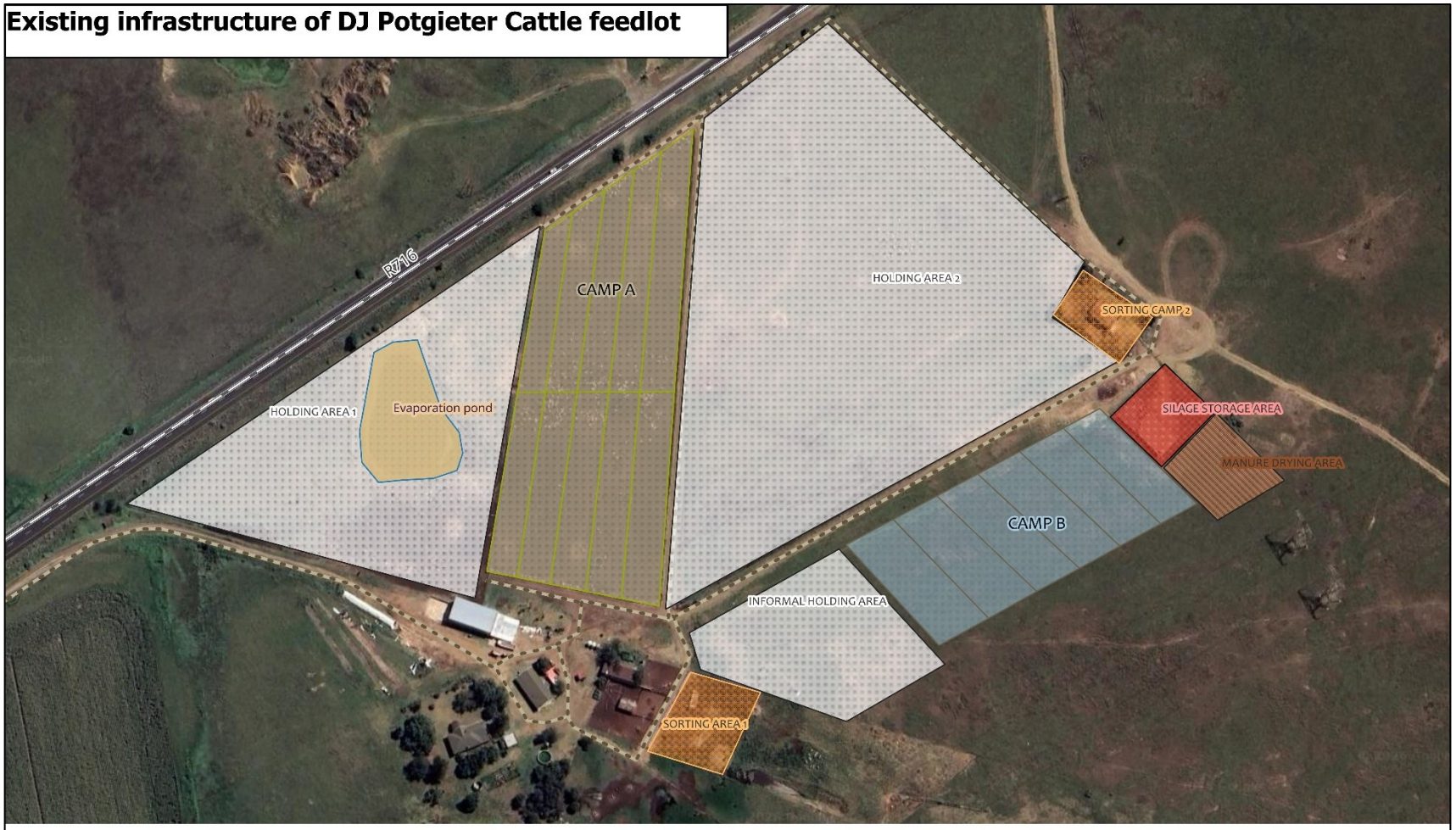
Feedlot areas
Existing feedlot area
Proposed feedlot expansion area

0 75 150 m

EMG

Drawn by Ashley Makhubele

Existing infrastructure of DJ Potgieter Cattle feedlot



Legend

Locality
- Roads

Existing Camps
- Camp A
- Camp B

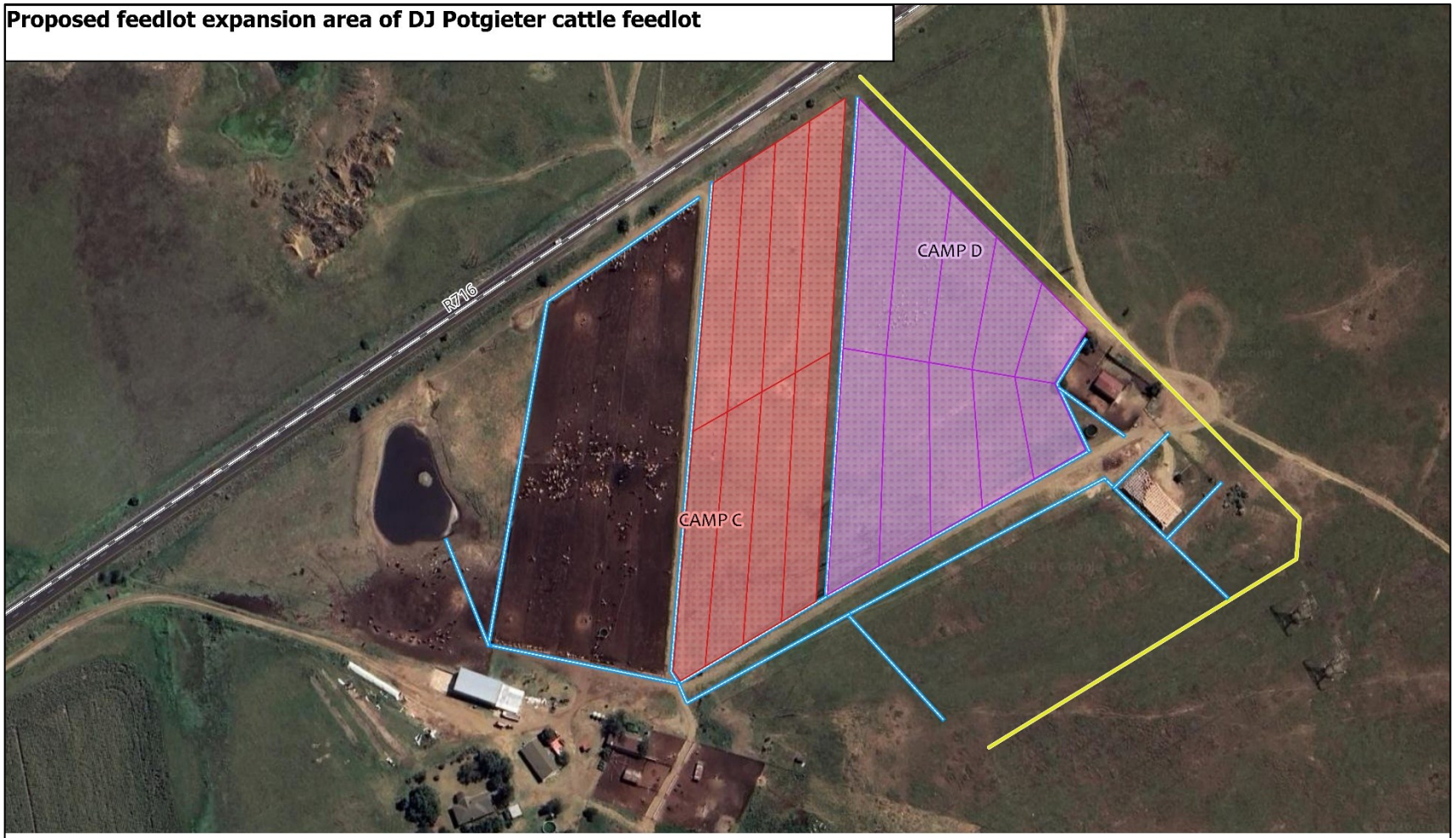
- Evaporation Pond
- Sorting Camps
- Manure drying area
- Silage storage area
- Holding Areas
- Gravel road

0 75 150 m

Drawn by Ashley Makhubele

EMG

Proposed feedlot expansion area of DJ Potgieter cattle feedlot



Legend

Locality
Roads

Proposed Camps
Camp C
Camp D

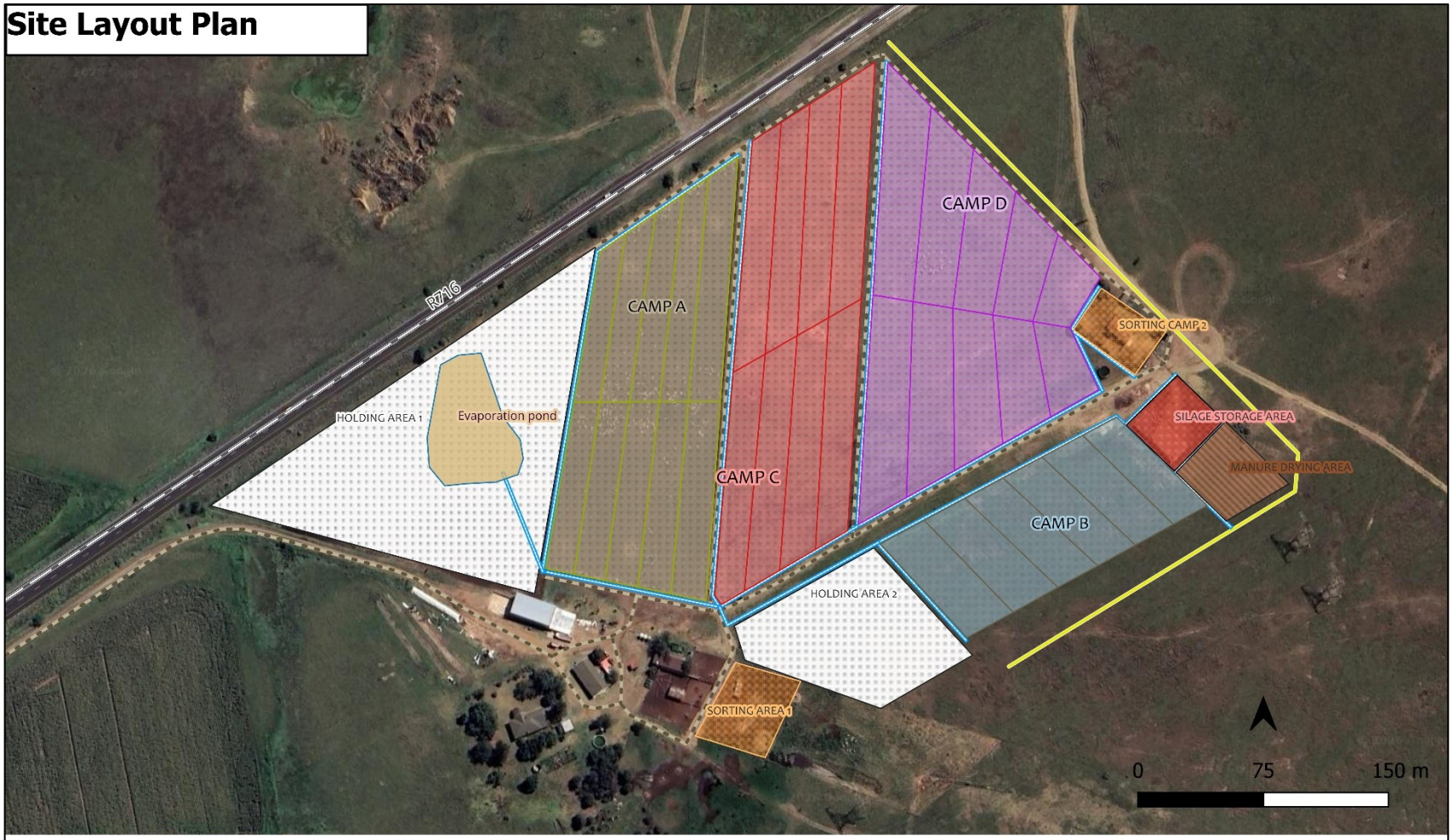
Stormwater management
Stormwater Channels
Stormwater Berm

0 75 150 m

Drawn by Ashley Makhubele

EMG

Site Layout Plan



Legend

Locality
- Roads

Project entities
- Proposed feedlot expansion area
  - Camp C
  - Camp D

Existing area
- Camp A
- Camp B
- Holding areas

Sorting Camps

Manure drying area

Silage storage area

Gravel Road

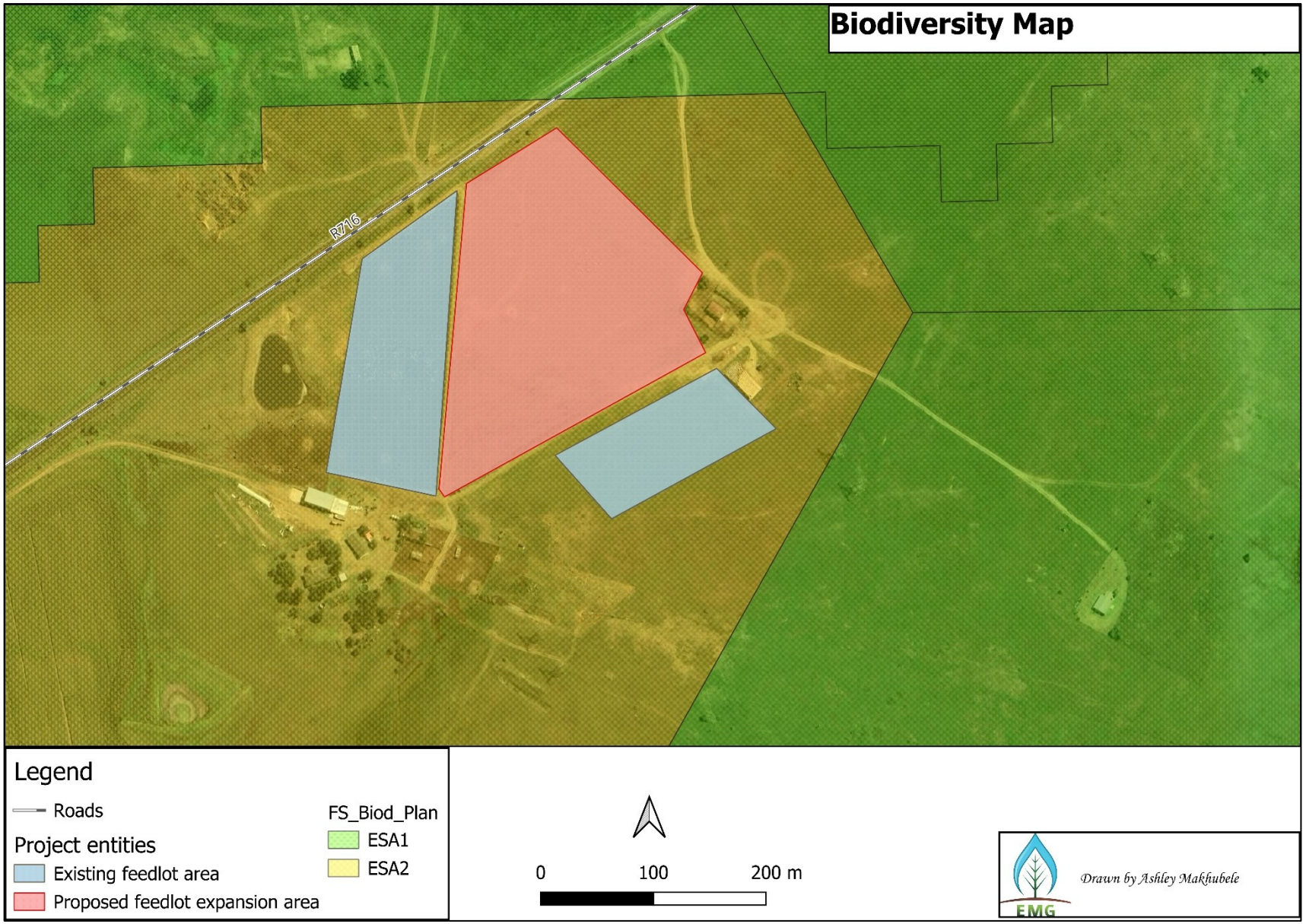
Evaporation Pond

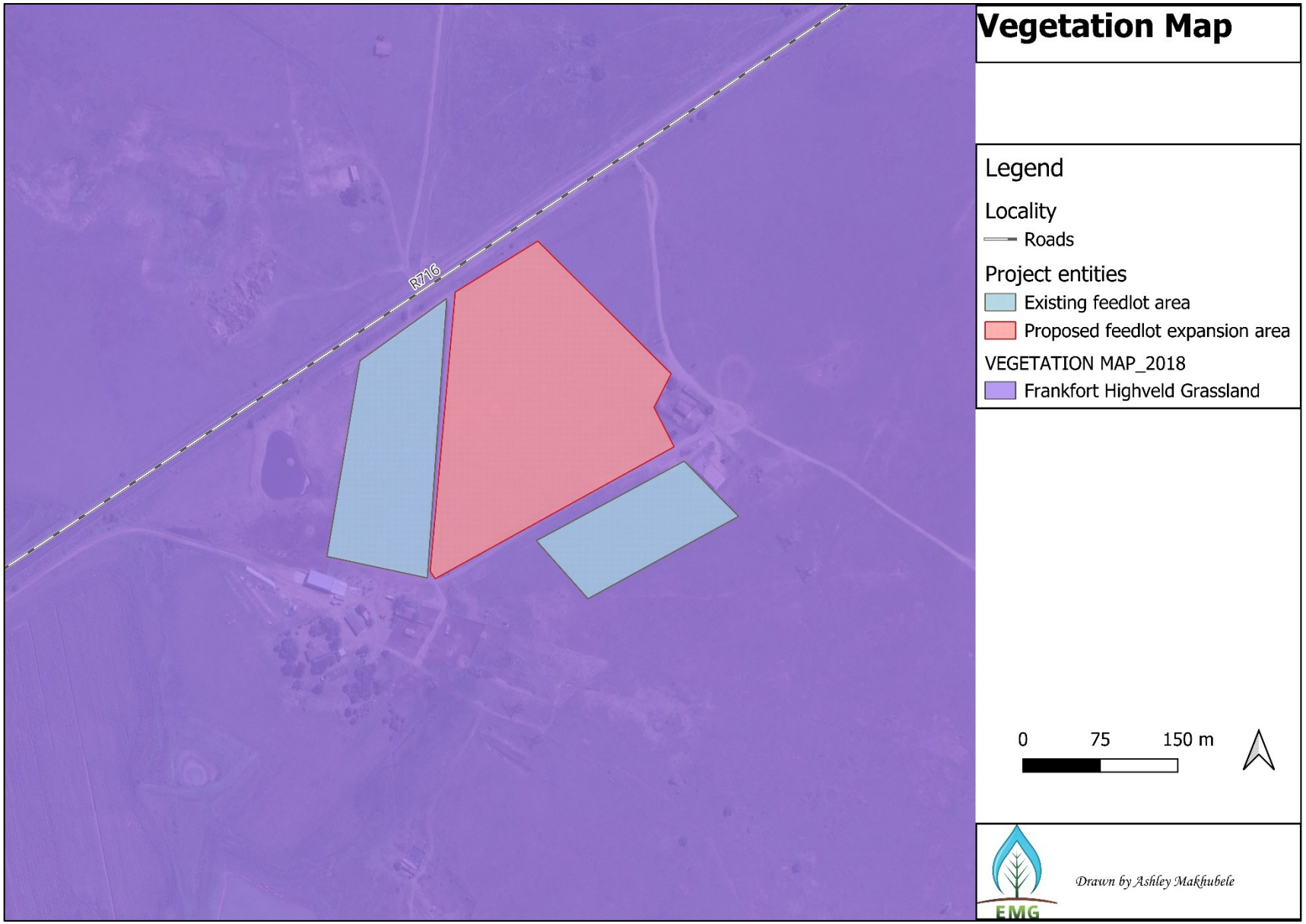
Stormwater Berm

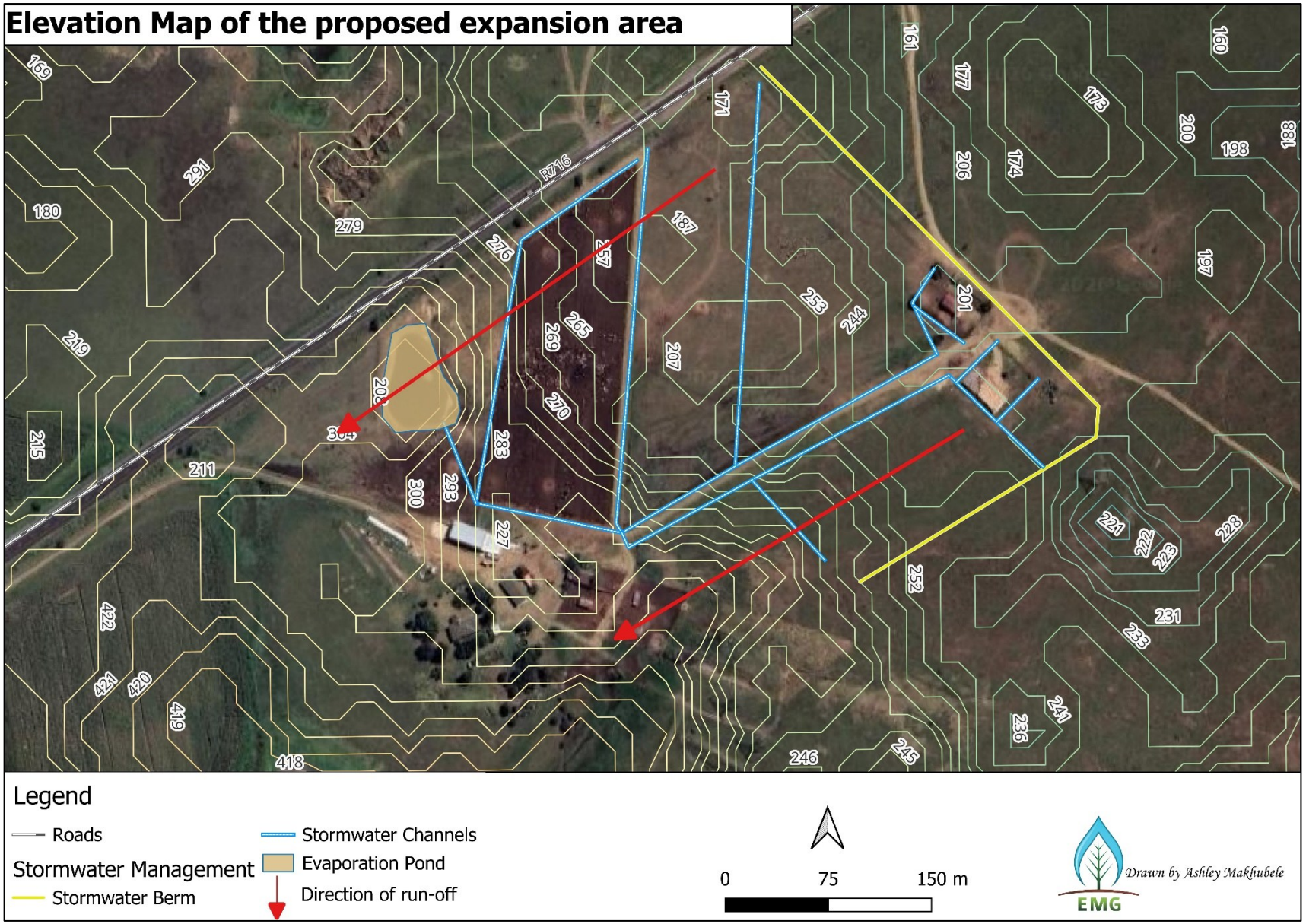
Stormwater Channels

Drawn by Ashley Makhubele

EMG


Biodiversity Map
R716
Legend
Roads
Project entities
Existing feedlot area
Proposed feedlot expansion area
FS_Biod_Plan
ESA1
ESA2
0
100
200 m
EMG
Drawn by Ashley Makhubele


Vegetation Map
R716
Legend
Locality
Roads
Project entities
Existing feedlot area
Proposed feedlot expansion area
VEGETATION MAP_2018
Frankfort Highveld Grassland
0
75
150 m
EMG
Drawn by Ashley Makhubele


Elevation Map of the proposed expansion area
R716
Legend
Roads
Stormwater Management
Stormwater Berm
Stormwater Channels
Evaporation Pond
Direction of run-off
0
75
150 m
Drawn by Ashley Makhubele
EMG

APPENDIX C – CHANCE FIND PROTOCOL

Although the likelihood of encountering archaeological heritage resources during the construction and operational phases of this expansion is considered very low, a precautionary chance find procedure should be implemented in the event that previously unrecorded material is exposed. This protocol applies if any suspected archaeological material is uncovered during earthmoving, maintenance, excavation, vehicle movement, trenching, or any other surface- or subsurface-disturbing activity. Such material may include stone artefacts, pottery, bone, shell, ash concentrations, historical debris, foundations, or any other cultural material of possible heritage significance.

Procedural Steps:

1. **Stop work immediately**

   All activity in the immediate vicinity of the find must cease as soon as potentially significant material is identified.

2. **Secure and avoid the area**

   The find spot must be demarcated and treated as a temporary no-go area to prevent further disturbance until it has been assessed by a qualified heritage specialist.

3. **Record the find**

   The Environmental Control Officer (ECO), Site Manager, or other responsible site representative should photograph the material in situ; record the GPS coordinates and location details; and document the nature of the exposure and the activity that led to its discovery.

4. **Do not disturb, clean, or collect material unless necessary for protection**

   As far as possible, the find must be left in situ and undisturbed. Material must not be washed, cleaned, or handled unnecessarily.

5. **Protect exposed remains**

   If the material is exposed and at risk of damage, it should be protected using a light but rigid cover such as a box, bucket, board, or metal sheet, provided this can be done without further disturbance.

6. **Temporary storage of portable material**

   If archaeological material has already been inadvertently removed or newly excavated material is clearly portable and vulnerable to loss or damage, it should be placed in a safe, secure location pending specialist inspection. Such material must remain

unwashed, uncleaned, and clearly labelled with the date and precise location of recovery.

7. **Obtain specialist confirmation**

   The South African Heritage Resources Agency (SAHRA) must be informed immediately (Tel. 021 462 4502) and a qualified archaeological or heritage specialist must inspect the find as soon as reasonably possible in order to confirm whether the material is of heritage significance and to recommend the appropriate course of action.

8. **Implement further mitigation if required**

   If the material is confirmed to be significant, further work in the affected area must remain suspended until the required mitigation has been determined. This may include a Phase 2 rescue or sampling operation, subject to any permits or approvals that may be required from SAHRA.

9. **Removal only by an appointed specialist**

   Where authorised mitigation is required, the developer must appoint an appropriately qualified heritage specialist to undertake the recovery, recording, and transport of the material in accordance with the relevant permit conditions and heritage requirements.