Draft Basic Assessment Report

13 April 2026

AHB Logistix (Pty) Ltd, truck stop and logistics center expansion portion of Erf 28410, Upington, Northern Cape (DAERL Ref: NC/BA/07/ZFM/KEI/UPI2/2026)

GREEN-BOX CONSULTING

agriculture, environmental affairs,
rural development and land reform

Department:
agriculture, environmental affairs,
rural development and land reform .
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

SASKO Building, 90 Long Street, Private Bag X6102, Kimberley 8300 Tel. 053-8077300 Fax: 053-8077328

Project applicant:	AHB Logistix Bulk Carriers		
Business reg. no. /ID. no.:	2012/177648/07		
Contact person:	Andries Brand		
Postal address:	P.O. Box 3206, Upington, 8800		
Telephone:	-	Cell:	083 6409 471
E-mail:	andries@ahblogistix.co.za	Fax:	-

Prepared by:

Environmental Assessment Practitioner/Firm:	Green-Box Consulting		
Business reg. no. /ID. no.:	2011/087408/23		
Contact person:	Danie Krynauw (EAPASA 2019/1348)		
Postal address:	P.O. Box 37738, Langenhovenpark		
Telephone:	-	Cell:	082 435 2108
E-mail:	danie@green-box.co.za	Fax:	-

(For official use only)

File Reference Number:	
Application Number:	
Date Received:	

Basic Assessment Report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of07 April 2017. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section? YES
If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. ACTIVITY DESCRIPTION

a) Describe the project associated with the listed activities applied for

The applicant, AHB Logistix (Pty) Ltd, owns and operates an existing truck stop and logistics centre located on the eastern portion of Erf 28410 in Upington, Northern Cape. The facility is situated east of the established urban area (Keidebees/Oosterville), in close proximity to the N14 and Upington Airport, within an area characterised by a mixture of industrial, transport, agricultural and residential land uses.

The applicant intends to expand the existing truck stop and logistics operations onto the adjoining western portion (Erf 28400) of the property. The intention of the applicant is to obtain the necessary industrial land use rights over the ±3.5 hectare portion located to the west of the existing truck stop and logistics facility, in order to facilitate the future expansion of operations (Refer to Figure 1 and Appendix A: Locality Map).

Given the conceptual nature of the proposal, detailed engineering designs are not yet available. However, it is anticipated that water will be supplied from the existing municipal bulk water line, with confirmation of availability to be obtained from the Municipality. Sanitation will initially be provided by two sealed septic tanks, which will be regularly emptied by a registered service provider. Stormwater will be managed in accordance with natural drainage patterns, with appropriate erosion control and attenuation measures to be incorporated during the detailed design phase.

Figure 1: Locality Map

The proposed expansion is strategically motivated by anticipated growth in freight and logistics activity in the region, as well as the proposed future Upington Bypass Road, which is expected to run past the site and enhance accessibility and economic opportunity. The expansion will enable the applicant to secure land for phased operational growth in response to these anticipated developments. The local municipality has already considered and approved the applicant's intention to expand in principle, subject to compliance with all applicable statutory approvals.

It must be noted that Green-Box is currently undertaking a Township Establishment Application for Erf 1, Upington, on the property located west of the proposed expansion footprint. The township establishment process is however separate from the proposed truck stop expansion application.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 983, 984 and 985, as amended	Description of project activity
GN 983, Listing Notice 1 – Activity 27: The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	The project entails the clearance of approximately 3.5 hectares of indigenous vegetation to enable the proposed expansion of the existing facility. The proposed development footprint exceeds the 1 hectare vegetation clearance threshold.

2. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014.Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
This site alternative is preferred because it is an expansion of the existing facility, allows for efficient operational integration, and maximises the use of existing infrastructure. Expansion in this location also aligns with municipal planning intentions and future developments such as the Upington Bypass Road. **No additional site alternatives were identified** as the proposed expansion is spatially constrained by the presence of the existing facility and surrounding land use context. The activity is intended to expand operational capacity by utilising the land directly adjacent to the current development footprint. Relocating the activity to another site would not be practical due to the need for integration with existing infrastructure, operational efficiency, security considerations, and economic feasibility. Furthermore, suitable undeveloped land within the immediate operational context that could reasonably meet the purpose and need of the activity was not available for assessment.	28° 26' 45" S	21° 15' 12" E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
No other Site Alternatives Identified.		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
No other Site Alternatives Identified.		

In the case of linear activities: **Not Applicable**

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative S1 (preferred)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		
Alternative S2 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		
Alternative S3 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The applicant proposes clearing and securing the western ±3.5 hectares adjacent to the existing facility. No detailed internal layout has been determined at this stage, allowing flexibility for the future placement of truck stop and logistics facilities, circulation routes, parking, and support areas. The focus is on securing the land use rights and enabling phased development in response to future operational needs and market demand. Seeing that no detailed layout alternative has been developed for the proposed activity, the primary objective of the application is to secure land use rights for the expansion of operational logistics facilities rather than to finalise internal engineering or architectural design at this stage of the development planning. The specialist biodiversity assessment conducted by AJH Lamprecht confirms that the study area is of overall low ecological sensitivity, comprising largely degraded Kalahari Karroid Shrubland with limited conservation value features. Given the low sensitivity context, the absence of Critical Biodiversity Areas, and the lack of significant Species of Conservation Concern populations within the development footprint, imposing rigid internal layout constraints would not yield meaningful additional environmental protection benefits. Internal spatial configuration will therefore be determined during later detailed design and construction planning phases, allowing operational requirements, market demand, and standard environmental management practices to guide infrastructure placement. Accordingly, a formal layout alternative is not considered necessary or practically meaningful at this stage of assessment.	28° 26' 45" S	21° 15' 12" E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
No other Layout Alternatives Identified.		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
No other Layout Alternatives Identified.		

c) Technology alternatives

Alternative 1 (preferred alternative)
Standard logistics and truck stop construction, and operational technologies will be utilised. These include conventional paved operational surfaces, standard drainage and stormwater management systems, and approved wastewater disposal solutions where required. This technology approach is appropriate for the proposed development scale and is consistent with existing facility operations. No additional technology alternatives were assessed as the proposed development represents a basic logistics support expansion that does not involve complex industrial, chemical, or high risk operational processes requiring specialised technological substitution. The activity will utilise standard, proven construction and operational technologies appropriate for truck stop and logistics facilities. The specialist biodiversity assessment conducted by AJH Lamprecht confirmed that the study area is of overall low ecological sensitivity, with no Critical Biodiversity Areas, priority ecosystems, or confirmed populations of Species of Conservation Concern within the proposed development footprint. As a result, introducing specialised or advanced environmental technologies would not provide a measurable additional environmental benefit relative to the scale and nature of the activity. Furthermore, the implementation of complex or non-standard technological systems is not warranted given the operational simplicity of the proposal, the disturbed condition of the site, and the requirement to maintain economically feasible development without introducing unnecessary design or cost burdens on the applicant. Accordingly, standard technology appropriate to the facility type is considered the most reasonable and practical option.
Alternative 2
No Technology Alternatives Identified.
Alternative 3
No Technology Alternatives Identified.

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
The preferred Alternative 1 represents a basic logistics expansion proposal aimed at securing land use rights for phased development of truck stop and support infrastructure on an already disturbed portion of the site. The purpose of the proposal is not to introduce complex production processes, but rather to enable operational flexibility for a simple service-oriented facility that responds to future market and demand conditions. Given the nature of the proposed activity, additional alternatives relating to scheduling, input materials, operational demand control, scale limitation, or detailed design configuration were not identified. The development does not involve industrial manufacturing, resource extraction, or environmentally sensitive processing activities where such alternatives would typically result in measurable environmental benefit. Furthermore, the specialist biodiversity assessment confirmed that the study area is of generally low ecological sensitivity, as documented in the ecological verification work by AJH Lamprecht. The site is characterised by previously disturbed Kalahari Karroid Shrubland with limited conservation significance

features. Under these conditions, imposing additional operational or design alternatives would not substantially improve environmental outcomes and could unnecessarily restrict feasible development of the facility. Accordingly, no additional "Other alternatives" were identified as being relevant or reasonably practical for assessment.
Alternative 2
No 'Other' Alternatives identified.
Alternative 3
No 'Other' Alternatives identified.

e) No-go alternative

The No-Go alternative represents the scenario in which the proposed logistics expansion is not implemented, and the site remains in its current state. Under this alternative, no additional land clearing, construction activities, or expansion of operational logistics infrastructure would occur on the property. The existing disturbed and partially modified environmental condition of the site would remain unchanged, and the small, fragmented remnant vegetation patches identified during the ecological assessment would continue to exist under current site management conditions.

From an environmental perspective, the No-Go alternative would result in the avoidance of potential incremental disturbance associated with the proposed development footprint. The biodiversity specialist assessment conducted by AJH Lamprecht confirmed that the study area is already characterised by degraded Kalahari Karroid Shrubland with low ecological sensitivity, absence of Critical Biodiversity Areas, and no confirmed populations of Species of Conservation Concern within the proposed development area. Therefore, maintaining the site in its current condition would not provide significant additional conservation benefit beyond the current state.

However, the No-Go alternative would also prevent the applicant from achieving the intended operational and economic objectives associated with expanding logistics service capacity in response to future market demand. The existing land would remain underutilised relative to its approved zoning and surrounding land use context, which includes infrastructure development and urban expansion influences in the broader area.

In addition, the No-Go alternative may limit potential socio-economic benefits associated with the proposed development, including improved logistics service availability and potential support for regional transportation activity. From a planning perspective, the No-Go option does not contribute to the optimisation of existing disturbed land for compatible commercial use.

While environmentally conservative, the No-Go alternative is not considered the preferred option as it does not support the applicant's operational requirements or the sustainable utilisation of already modified land.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	**Size of the activity:**
Alternative A1[1] (preferred activity alternative)	35 000 m²
Alternative A2 (if any)	m²
Alternative A3 (if any)	

or, for linear activities: **Not Applicable**

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	m
Alternative A2 (if any)	m
Alternative A3 (if any)	m

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	53 000 m²
Alternative A2 (if any)	m²
Alternative A3 (if any)	m²

4. SITE ACCESS

Does ready access to the site exist?	YES
If NO, what is the distance over which a new access road will be built	

Describe the type of access road planned:

The site has existing ready access from the adjacent N14, providing direct connection to the regional road network and facilitating movement of heavy vehicles. No new access road construction is planned as part of this application. In the future, internal circulation roads and site entrances will be designed to suit operational needs, ensuring safe and efficient truck and staff movements, but these details will be determined during the detailed design phase.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

[1] "Alternative A.." refer to activity, process, technology or other alternatives.

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s;)
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?		NO	Please explain
The proposed expansion is not currently permitted under the existing land use rights, which are limited to the eastern portion of the site where the existing facility operates. The applicant intends to apply for the necessary industrial land use rights over the ±3.5 hectare western portion to enable future expansion. In principle, the local municipality has indicated support for the proposed expansion, subject to compliance with all statutory approvals and environmental regulations.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES		Please explain
The Provincial Spatial Development Framework (PSDF) (2020) for the Northern Cape identifies priority areas for economic activities, transport corridors and nodes that support logistics and industrial development. The subject property's location, in proximity to the N14 and Upington, aligns with the PSDF's strategic objectives to leverage transport infrastructure for regional economic growth.			
(b) Urban edge / Edge of Built environment for the area	YES		Please explain
The site is located immediately north of the existing built-up areas of Upington (Blydeville, Oosterville, Keidebees). While the land is currently undeveloped, it lies directly at the periphery of the urban edge, allowing for potential future expansion of the truck stop and logistics facility without encroaching on sensitive rural areas. Access is available via existing roads connecting to the N14. This location is consistent with municipal principles for controlled expansion at the urban fringe.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES		Please explain
The proposed expansion aligns with the Dawid Kruiper Local Municipality Integrated Development Plan (IDP) 2023/24 and the Dawid Kruiper Local Municipality Spatial Development Framework (SDF) 2022. Both documents identify the area surrounding the site as suitable for industrial and logistics development, supporting economic growth along key transport corridors. The expansion is directly adjoining the existing facility, utilises existing infrastructure, and the municipality has indicated support for the proposed development. This ensures that the activity does not compromise the integrity or objectives of the approved municipal plans.			

(d) Approved Structure Plan of the Municipality	YES		Please explain
The proposed expansion is in line with the Dawid Kruiper Local Municipality Spatial Development Framework (SDF) 2022, which functions as the municipality's approved structure plan. The SDF identifies the western portion of the property as suitable for industrial and logistics related development, supports controlled expansion at the urban edge, and promotes economic growth along key transport corridors such as the N14. The development is directly adjoining the existing facility, utilises existing infrastructure, and will not encroach on environmentally sensitive or residential areas, ensuring consistency with the objectives and land use designations of the approved municipal SDF.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES		Please explain
The proposed expansion will not compromise the integrity of existing environmental priorities for the area as identified in the Environmental Management Framework (EMF) applicable to the ZF Mgcawu District (within which Dawid Kruiper Local Municipality falls). The municipality's EMF, as integrated into its planning instruments and referenced in the Dawid Kruiper IDP, provides strategic environmental guidance, including environmental control zones and sustainability considerations to inform decision making on land uses and development patterns in the district. The proposed development is located outside environmentally sensitive or high constraint areas identified in the EMF and supports sustainable land use by utilising existing infrastructure, maintaining appropriate setbacks from sensitive features, and aligning with broader environmental management goals. As such, it is consistent with the principles and environmental priorities set out in the EMF and can be justified in terms of sustainability considerations.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES		Please explain
The proposed expansion is consistent with the Dawid Kruiper Local Municipality Spatial Development Framework (SDF) 2022, which is integrated into and approved as part of the municipal IDP 2023/24. The SDF identifies the area as suitable for industrial and logistics related land uses and prioritises development along key transport corridors, including the N14, within the planning of the current IDP. The proposed development aligns with these priorities, is located directly adjoining the existing facility, and supports the municipality's strategic objectives for economic growth, job creation, and infrastructure utilisation within the timeframe set out by the credible municipal IDP/SDF.			

4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES		Please explain
The proposed expansion addresses both strategic and local development priorities. At a national and provincial level, logistics and transport infrastructure are recognised as essential for supporting trade, freight movement, and regional economic growth. Within the local context of Upington and the Dawid Kruiper Local Municipality, the expansion supports the increasing demand for freight and logistics services, optimises the use of existing transport infrastructure (including the N14 corridor), and creates opportunities for local employment and economic activity. The development aligns with municipal objectives identified in the IDP 2023/24 and SDF 2022, including the promotion of industrial growth at the urban edge and support for economic nodes. Therefore, the activity represents a societal priority at both strategic and local levels.			
5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES/ Partially		Please explain
The existing truck stop and logistics facility is currently serviced by the municipal bulk water supply, and sanitation is provided via septic tanks. For the proposed expansion onto the western ±3.5 hectares, it is anticipated that water will be supplied from the existing municipal bulk water line, subject to confirmation from the municipality, and sanitation will initially continue via septic tanks, emptied by a registered service provider. Stormwater management will follow natural drainage patterns, with appropriate erosion control and attenuation measures incorporated during the detailed design phase. Internal roads and site entrances will be designed in the future to accommodate truck movements safely and efficiently. Additional capacity required: While the expansion is expected to leverage existing infrastructure, the municipality will need to confirm that bulk water capacity is sufficient for the expanded operations. Any upgrades or additional services required will be implemented in consultation with the municipality to ensure full compliance with service standards.			
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES		Please explain
The proposed expansion is consistent with the Dawid Kruiper Local Municipality Integrated Development Plan (IDP) 2023/24 and associated sector and service delivery plans, which anticipate industrial and logistics growth along the N14 corridor. The development is directly adjoining the existing facility and is expected to make use of existing bulk water, sanitation, and road infrastructure, minimising the need for extensive new services.			

7. Is this project part of a national programme to address an issue of national concern or importance?		NO	Please explain
The proposed expansion is not directly part of a formal national programme. However, it contributes to broader national priorities related to transport, logistics, and economic development. By improving the capacity for freight movement along the N14 corridor and supporting industrial/logistics growth in Upington, the development indirectly advances national objectives for efficient goods movement, regional economic growth, and employment creation.			
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES		Please explain
The location of the proposed expansion is well suited due to several strategic factors: - Proximity to major transport routes: The site is adjacent to the N14, providing direct access to regional and national freight corridors, facilitating efficient goods movement. - Adjacent land uses: The expansion area is directly adjoining the existing truck stop and logistics facility, with surrounding land characterised by a mix of transport, agricultural, and low density residential uses, making it compatible with the proposed land use. - Urban edge location: The site lies immediately at the periphery of the built-up area of Upington (Keidebees/Oosterville), allowing controlled expansion without encroaching on sensitive rural or residential zones. - Infrastructure availability: Existing water, sanitation, and road infrastructure can be accessed, reducing the need for new bulk services. - Future strategic developments: The planned Upington Bypass Road and regional freight initiatives further enhance the strategic advantage of this location for logistics operations. Overall, these locational attributes make the site highly suitable for the proposed land use, optimising operational efficiency, infrastructure utilisation, and alignment with municipal and regional development priorities.			
9. Is the development the best practicable environmental option for this land/site?	YES		Please explain
The development represents the best practicable environmental option for the site as it is located directly adjacent to existing urban development and is supported by the municipality for rezoning to industrial use. The proposal promotes the logical consolidation and expansion of the urban edge, makes use of land already connected to established infrastructure and services, and aligns with local spatial planning objectives. Provided that appropriate environmental mitigation measures are implemented, the development is a practical and environmentally justified use of the land.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES		Please explain
The benefits of the proposed development are expected to outweigh the potential negative impacts. The development will support local economic growth, create employment opportunities, and expand industrial land in a manner supported by the municipality and aligned with spatial planning objectives. While there may be some short term impacts associated with construction and land transformation, these can be effectively mitigated through appropriate environmental management measures. No significant or irreversible environmental impacts are anticipated. The socio-economic and planning benefits of the development outweigh the potential negative environmental effects.			

11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES		Please explain
The expansion may set a precedent for similar industrial and logistics developments along the N14 corridor and at Upington's urban edge. However, any future developments would still need to comply with municipal planning frameworks, statutory approvals, and environmental requirements, ensuring controlled and sustainable growth.			
12. Will any person's rights be negatively affected by the proposed activity/ies?		NO	Please explain
The proposed expansion is directly adjacent to the existing facility, on land currently undeveloped and not used for residential purposes. Surrounding properties are primarily agricultural, or low-density residential, so no neighbouring landowners' rights are expected to be negatively impacted. Any potential impacts, such as noise or traffic, will be mitigated through standard operational and environmental management measures.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?		NO	Please explain
The expansion is immediately adjacent to the existing facility and lies at the periphery of the built up area of Upington. It represents a controlled extension of the urban edge in line with municipal planning principles, without encroaching on rural or environmentally sensitive areas.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?		NO	Please explain
The expansion is not directly part of any of the 17 SIPS. However, it indirectly supports broader transport and logistics efficiency in the region by improving freight handling capacity along the N14 corridor.			
15. What will the benefits be to society in general and to the local communities?			Please explain
The proposed expansion will support local economic growth, create employment opportunities, and enhance logistics and transport efficiency in Upington. It will optimise the use of existing infrastructure, support regional freight movement along the N14 corridor, and provide opportunities for skills development and business activity in the local community			
16. Any other need and desirability considerations related to the proposed activity?			Please explain
The expansion ensures the applicant can respond to anticipated growth in freight and logistics demand, including future developments like the Upington Bypass Road. It allows for phased operational growth, efficient use of existing infrastructure, and aligns with municipal and regional planning objectives, making the development both strategically and operationally desirable.			
17. How does the project fit into the National Development Plan for 2030?			Please explain
The project supports the National Development Plan's goals of infrastructure led economic growth, job creation, and improved logistics efficiency. By expanding freight and transport capacity in Upington, the development contributes to regional economic development, supports industrial growth, and strengthens South Africa's transport and trade networks, aligning with NDP objectives.			
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.			
The project applies IEM principles by considering ecological, social, and economic impacts from the outset. Potential impacts on vegetation, stormwater, and surrounding land uses have been identified, with mitigation measures proposed. The development promotes sustainable land use by utilising existing infrastructure, avoiding sensitive areas, and aligning with municipal and provincial planning, ensuring informed, accountable, and environmentally responsible decision making.			

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.
The development follows NEMA principles by avoiding environmentally sensitive areas, promoting sustainable use of land and resources, and integrating environmental considerations into planning. It supports the precautionary approach, minimises potential impacts through mitigation measures, and ensures public and municipal interests are considered, balancing economic, social, and environmental sustainability in decision making.

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	**Applicability to the project**	**Administering authority**	**Date**
National Environmental Management Act (NEMA), No. 107 of 1998 (as amended)	Provides the overarching framework for environmental assessment, management, and authorisation of development activities.	Department of Environment, Forestry and Fisheries (DEFF)	1998
EIA Regulations, GN R983, R984, R985 (as amended)	Lists activities requiring environmental authorisation, including clearance of indigenous vegetation for industrial expansion.	DEFF	2014 (as amended)
Northern Cape Provincial Spatial Development Framework (PSDF)	Guides provincial spatial planning and identifies areas suitable for industrial and logistics development	DAERDL	2020
Environmental Management Framework (EMF) – ZF Mgcawu District	Identifies environmental sensitivities and recommended land uses to guide sustainable development.	DAERDL	2021
Dawid Kruiper Local Municipality Integrated Development Plan (IDP)	Identifies local development priorities and infrastructure planning, supporting industrial and logistics growth.	Dawid Kruiper Local Municipality	2023/24
Dawid Kruiper Local Municipality Spatial Development Framework (SDF)	Provides guidance on urban edge, industrial land use, and land use planning approvals.	Dawid Kruiper Local Municipality	2022
National Water Act (NWA), No. 36 of 1998	Protects water resources and manages stormwater; ensures compliance where required.	Department of Water and Sanitation	1998
National Heritage Resources Act (NHRA), No. 25 of 1999	Protects cultural and heritage resources; requires	SAHRA	1999

	assessment if any heritage resources are affected.		
Spatial Planning and Land Use Management By-law	Regulates rezoning, land use rights, and development approvals within the municipality.	Dawid Kruiper Local Municipality	2018
Occupational Health and Safety Act, No. 85 of 1993	Ensures safety of workers and public during construction and operation.	Department of Employment and Labour	1993

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES [redacted]
If YES, what estimated quantity will be produced per month?	20 to 30 m^3

How will the construction solid waste be disposed of (describe)?

All solid waste generated during the construction and initiation phase of the proposed expansion will be managed responsibly to minimise environmental impacts. Waste will be segregated on site into recyclables (such as metals, timber, and cardboard), non-recyclables, and any hazardous materials. Designated and clearly marked storage areas will be provided for temporary storage, ensuring that waste does not scatter or contaminate the surrounding environment.

A licensed waste removal service provider will regularly collect all waste from the site and transport it to approved municipal or licensed landfill sites for proper disposal. Recyclable materials will be directed to appropriate recycling facilities wherever feasible. Waste generation will also be minimised through careful planning, efficient construction practices, and the reuse of materials where possible. These measures ensure that construction solid waste is managed in compliance with environmental regulations and best practice standards.

Where will the construction solid waste be disposed of (describe)?

All solid waste generated during the construction phase will be disposed of at approved municipal or licensed landfill sites in the Upington area. Recyclable materials, such as metal, timber, and cardboard, will be separated on-site and transported to registered recycling facilities. Hazardous materials, if any, will be handled in accordance with legal requirements and disposed of at specialised hazardous waste facilities. This ensures that all construction waste is managed in an environmentally responsible manner, preventing contamination of the site and surrounding areas.

Will the activity produce solid waste during its operational phase?	YES [redacted]
If YES, what estimated quantity will be produced per month?	10 to 15 m^3

How will the solid waste be disposed of (describe)?

During operation, the truck stop and logistics facility will generate solid waste from daily activities, including food and packaging waste from the truck stop, office and administrative waste, and minor maintenance debris from logistics operations.

All operational waste will be managed through segregation, collection, and disposal by a registered municipal or private waste service provider, with recyclables directed to recycling facilities where feasible. Designated waste storage areas will be maintained on-site to prevent environmental contamination and ensure compliance with municipal waste management regulations.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

The operational solid waste will be disposed of at the Upington Landfill Site, which is the primary municipal waste disposal facility serving the Upington area. The Upington (De Duine) Landfill site is located approximately 8 km south-west of Upington and is operated by the Dawid Kruiper Local Municipality as a permitted municipal landfill.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

Any solid waste that does not enter the municipal waste stream will be managed separately to ensure environmental compliance. Recyclable materials, such as metals, cardboard, and plastics, will be segregated on site and transported to licensed recycling facilities in the Upington area.

Hazardous or special waste generated during operations, including batteries, oils, and chemicals from maintenance activities, will be handled in accordance with legal requirements and disposed of at specialised hazardous waste facilities licensed to accept such materials. All non-municipal waste will be stored in clearly marked and secure areas on site until collection, preventing contamination, odours, or littering. These measures ensure that all operational solid waste is managed responsibly and sustainably.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA? [redacted] NO
If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility? [redacted] NO
If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? [redacted] NO
If YES, what estimated quantity will be produced per month? [redacted]
Will the activity produce any effluent that will be treated and/or disposed of on site? [redacted] NO
If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	[redacted]

During the initial expansion phase, effluent from toilets, ablution facilities, and staff amenities will be collected in sealed septic tanks on-site. These tanks will be regularly emptied by a registered service provider and the effluent will be transported to an approved sewage treatment facility for safe disposal and treatment in accordance with municipal and environmental regulations. This ensures that all effluent is managed responsibly, preventing contamination of soil, groundwater, or surrounding areas.

If YES, provide the particulars of the facility:

Facility name:	Central Wastewater Treatment Works (Upington)		
Contact person:	Technical Services – Water & Sanitation Department, Dawid Kruiper Local Municipality		
Postal address:	Private Bag X6003, Upington, 8800, Northern Cape, South Africa		
Postal code:	8800		
Telephone:	054 338 7000	**Cell:**	054 338 7350
E-mail:	info@dkm.gov.za	**Fax:**	-

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

During the initial expansion phase, wastewater from ablution facilities and staff amenities will be collected in sealed septic tanks and transported by a registered service provider to an approved municipal treatment facility. Measures will be implemented to optimise water use and minimise waste, including the use of water efficient fixtures, regular maintenance to prevent leaks or overflows, and the potential segregation of greywater for non-potable uses such as irrigation. Licensed service providers will ensure that treated effluent is managed responsibly.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities? If YES, is it controlled by any legislation of any sphere of government? If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. If NO, describe the emissions in terms of type and concentration:	[redacted]	NO

Not Applicable

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?	[redacted]	NO

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	YES
If YES, is it controlled by any legislation of any sphere of government?	NO

Describe the noise in terms of type and level:

The construction and operation of the facility will generate typical industrial and transport related noise. During construction, intermittent noise will arise from earthworks, vehicle movement, machinery operation, and material handling, limited to normal working hours. During operation, noise will originate from truck movements, loading and unloading activities, vehicle engines, and general facility operations. All noise will comply with the Noise Control Regulations under the National Environmental Management: Air Quality Act (NEMAQA, Act 39 of 2004) and relevant municipal by-laws. Mitigation measures, including restricting construction to daytime hours, using noise reducing equipment, and maintaining vehicles and machinery in good condition, will be implemented to minimise disturbance to nearby residential or sensitive areas.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	NO

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

The design and operation of the proposed facility will incorporate measures to optimise energy efficiency. Where feasible, energy efficient lighting, such as LED fixtures, will be used for both internal and external areas. Equipment and machinery will be selected and maintained to operate efficiently, minimising unnecessary energy consumption. The facility layout will consider operational efficiency to reduce fuel use from vehicle idling and internal movements. In addition, opportunities for incorporating renewable energy sources, such as solar panels for lighting or office facilities, will be considered during the detailed design phase. These measures aim to reduce overall energy demand, operational costs, and the facility's environmental footprint.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

The proposed facility has considered the use of alternative energy sources to reduce reliance on the municipal electricity supply and minimise environmental impact. Opportunities for incorporating solar energy, such as solar panels for lighting, office facilities, and other low demand electrical systems, will be explored during the detailed design phase. Energy efficient appliances and equipment will also be prioritised to complement the use of alternative energy. While no alternative energy systems are currently installed, the design allows for future integration of renewable energy technologies to support sustainable operations and reduce the facility's carbon footprint.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A): **A**

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? YES

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Northern Cape
District Municipality	ZF Mgcawu District Municipality
Local Municipality	Dawid Kruiper Local Municipality
Ward Number(s)	Ward 8
Farm name and number	Erf 28400, Upington
Portion number	N/A
SG Code	C02800070002840000000

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

The portion of the property where the existing truck stop and logistics facility operated by AHB Logistix is located is currently zoned for commercial/industrial or transport-related use under the Dawid Kruiper Local Municipality's spatial planning and land use management system (LUMS) / zoning scheme. This zoning permits activities such as transport logistics, truck stops, service and industrial operations, which accommodate the existing facility's functions.

This zoning is consistent with the property's established use as a truck stop and logistics centre and reflects its position along the N14 transport corridor and proximity to Upington Airport.

Rezoning or an amendment to the zoning conditions is being sought for the adjoining western portion of the property to extend this industrial/logistics land use for future expansion.

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required? YES

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat

Alternative S2 (if any):

Alternative S3 (if any):

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline		2.4 Closed valley		2.7 Undulating plain / low hills	
2.2 Plateau		2.5 Open valley		2.8 Dune	
2.3 Side slope of hill/mountain		2.6 Plain	x	2.9 Seafront	
2.10 At sea					

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):
Shallow water table (less than 1.5m deep)	NO		
Dolomite, sinkhole or doline areas	NO		
Seasonally wet soils (often close to water bodies)	NO		
Unstable rocky slopes or steep slopes with loose soil	NO		
Dispersive soils (soils that dissolve in water)	NO		
Soils with high clay content (clay fraction more than 40%)	NO		
Any other unstable soil or geological feature	NO		
An area sensitive to erosion	*NO		

***** Although the site is generally stable, standard erosion control measures will be implemented during construction to protect disturbed areas and drainage channels.

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition[E]	Natural veld with scattered aliens[E]

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River		NO
Non-Perennial River		NO
Permanent Wetland		NO
Seasonal Wetland		NO
Artificial Wetland		NO
Estuarine / Lagoonal wetland		NO

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

Not Applicable

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station [H]
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant[A]	Nature conservation area
Medium industrial [AN]	Train station or shunting yard [N]	Mountain, Koppie or ridge
Heavy industrial [AN]	Railway line [N]	Museum
Power station	Major road (4 lanes or more) [N]	Historical building
Office/consulting room	Airport [N]	Protected Area
Military or police base/station/compound	Harbour	Graveyard

Spoil heap or slimes dam[A]	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

If any of the boxes marked with an "[N] "are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

The proposed expansion is located adjacent to the N14 major road and in proximity to Upington Airport, providing strategic access for freight and transport operations. These features will not be negatively impacted by the development; rather, they enhance the operational efficiency of the facility by facilitating the movement of trucks and goods. The site does not encroach upon or interfere with any railway lines or train stations/shunting yards, and no construction or operational activities will affect these transportation assets. Overall, the proposed development is fully compatible with these nearby transport and infrastructure features, and appropriate measures will be implemented to ensure safe interactions with vehicle and airport operations, such as controlled site access and adherence to traffic and aviation safety regulations.

If any of the boxes marked with an "[An]" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

Not Applicable

If any of the boxes marked with an "[H]" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

The proposed expansion is directly adjacent to the current filling station and other operational infrastructure. The expansion will complement and integrate with existing services, enhancing operational efficiency by providing additional space for truck circulation, parking, and support services. The existing filling station will continue to function as part of the overall facility, and no negative impacts are anticipated. Construction and operational activities will be managed to ensure safe access to the filling station and maintain uninterrupted service for both trucks and public users, while optimising the synergies between all components of the expanded logistics hub.

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)		NO
Core area of a protected area?		NO
Buffer area of a protected area?		NO
Planned expansion area of an existing protected area?		NO
Existing offset area associated with a previous Environmental Authorisation?		NO
Buffer area of the SKA?		NO

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	NO
Not Applicable	

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

According to the Palaeontological Compliance Statement (Paleo Field Services, 2025) the chances of palaeontological impact resulting from the proposed expansion are improbable. As far as palaeontological heritage is concerned, anticipated impact will have negligible negative effects on heritage resources and will require no further mitigation.

Will any building or structure older than 60 years be affected in any way?	NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	NO

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

Although recent official unemployment statistics are not published annually at the municipal level, available data from the municipality indicate that the unemployment rate was approximately 26.2 % in 2017, reflecting persistent labour market challenges in the local area. This rate was somewhat lower than the provincial average at that time, but still shows a high proportion of residents unable to secure work, particularly among youth and vulnerable groups.

Economic profile of local municipality:

Dawid Kruiper Local Municipality, with Upington as its administrative seat, functions as a regional economic hub in the Northern Cape. The local economy is diverse, with key sectors including transport and logistics, trade and retail, agriculture and agro-processing, manufacturing, tourism, hospitality, and services. The municipality's transport advantages (road, rail, and air) underpin its role in freight and trade, while agriculture and associated manufacturing provide employment and economic activity.

Level of education:

Educational attainment in the municipality is moderate: about 68.3 % of residents aged 20 and older have completed Grade 9 or higher, and approximately 38.1 % have completed matric (Grade 12) or higher. These figures are slightly above the averages for the broader ZF Mgcawu District and the Northern Cape Province, indicating a relatively better basic educational profile within the municipality.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 35,000,000 (estimated for expansion of ±3.5 ha including infrastructure, paving, and logistics facilities)
What is the expected yearly income that will be generated by or as a result of the activity?	R 5,000,000 – R 6,000,000 (from logistics operations, truck services, and ancillary commercial activities)
Will the activity contribute to service infrastructure?	NO
Is the activity a public amenity?	NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Approx. 25–35 temporary jobs (labourers, operators, supervisors, and technical staff)
What is the expected value of the employment opportunities during the development and construction phase?	Approximately R 2,000,000 over the construction period
What percentage of this will accrue to previously disadvantaged individuals?	60–70 % (reflecting municipal B-BBEE and local labour policies)
How many permanent new employment opportunities will be created during the operational phase of the activity?	Approx. 30–40 permanent jobs (administration, drivers, maintenance, security, facility management)
What is the expected current value of the employment opportunities during the first 10 years?	Approx. R 12,000,000
What percentage of this will accrue to previously disadvantaged individuals?	60–70 %

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	40 %	Portions of the site retain relatively intact natural veld with indigenous vegetation, mostly undisturbed.
Near Natural (includes areas with low to moderate level of alien invasive plants)	30 %	Areas where scattered alien plants occur, but natural veld structure and function largely remain; minimal impact from previous land use.
Degraded (includes areas heavily invaded by alien plants)	10 %	Small patches showing significant invasion by alien species and minor erosion; some areas impacted by previous grazing and land management practices.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	20 %	Existing truck stop infrastructure to the east of the site, paved areas, internal roads, and associated facilities; western expansion area largely untransformed.

c) Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site; and

(ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems					
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical Endangered Vulnerable	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)		Estuary		Coastline	
	Least Threatened		NO		NO		NO

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

According to the Terrestrial- and Aquatic Biodiversity as well as Plant- and Animal Species Themes Site Sensitivity Verification and Compliance Statement compiled by AJH Lamprecht (Pr.Sci.Nat), EcoFocus Consulting (July 2025) for the AHB Logistix Upington Truckstop Expansion, the ecological assessment confirms that the study area is of overall **low** sensitivity across all biodiversity themes.

Vegetation Type and Ecological Context:

The site falls within the Kalahari Karroid Shrubland (NKb5) vegetation type. This vegetation type is classified as Least Concern nationally and is characterised by low, open karroid shrubland occurring on deep Kalahari sands and calcrete substrates (Figure 2).

Figure 2: Vegetation type map illustrating the vegetation type associated with the study area

Provincially, the majority of the site is mapped as Degraded, with only a small north-western portion categorised as Other Natural Area (ONA) (Figure 3). The site is located north-east of Upington within an area that is already influenced by existing infrastructure and urban expansion.

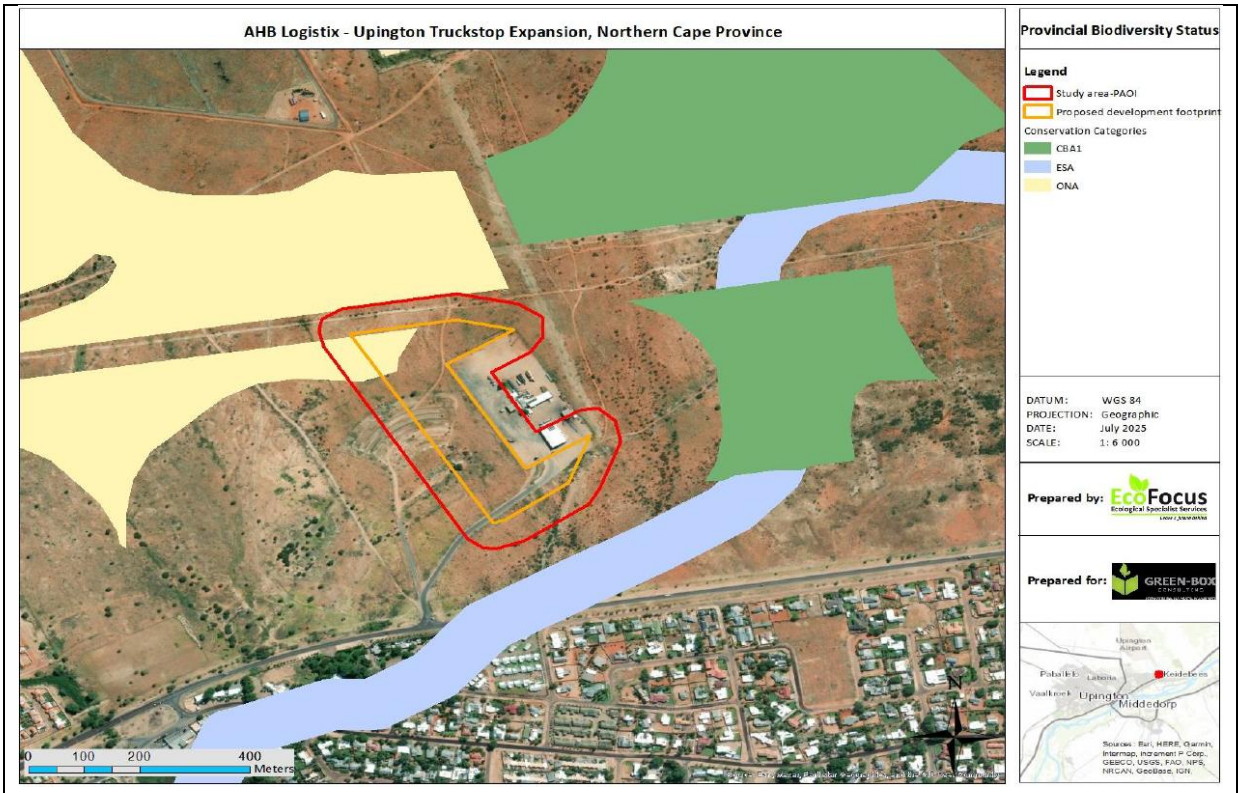


Figure 3: Provincial biodiversity status map illustrating the provincial biodiversity statuses/categories associated with the study area

Lamprecht (2025) notes that the majority of the study area has been subject to extensive historical excavation and earthmoving activities. These disturbed areas now support re-established, medium height karroid grassland in a highly disturbed and degraded pioneer ecological state, dominated by resilient increaser grass species. The vegetation is not representative of the natural climax state of Kalahari Karroid Shrubland.

A small, fragmented portion of remaining undeveloped natural shrubland persists in the northern part of the study area. However, this remnant is limited in extent, moderately disturbed, and lacks strong ecological connectivity to intact regional habitat.

<u>Plant Species and Biodiversity Features:</u>
The Plant Species Theme is confirmed as Low sensitivity (Figure 4).
During the winter site inspection (14 July 2025), Lamprecht (2025) recorded:

- Provincially protected *Mesembryanthemum guerichianum* (well represented)
- Provincially protected *Aloe hereroensis* (single individual)
- Provincially protected *Aloe claviflora* (three clusters)
- Two small individuals of the nationally protected tree *Vachellia erioloba*

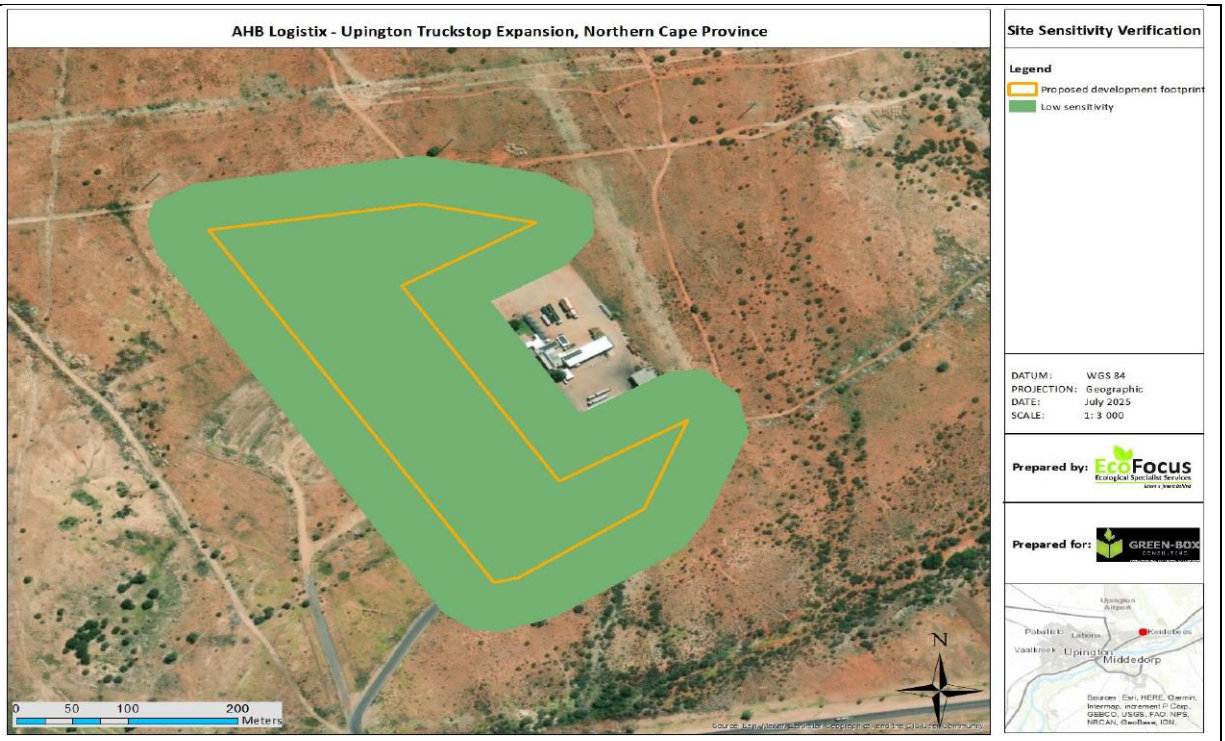


Figure 4: Site sensitivity verification map illustrating the combined sensitivities of the Terrestrial- and Aquatic Biodiversity- as well as Plant- and Animal Species Themes associated with the study area

No Red Data Listed plant species or other floral Species of Conservation Concern (SCC) were confirmed (Figure 5). Although the winter timing of the assessment was not optimal for detecting geophytes, the specialist concludes that, given the fragmented and degraded state of the site, the presence of significant threatened plant populations is unlikely. Importantly, the site does not contain Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs), Indigenous Forests, or other formally recognised biodiversity priority areas.

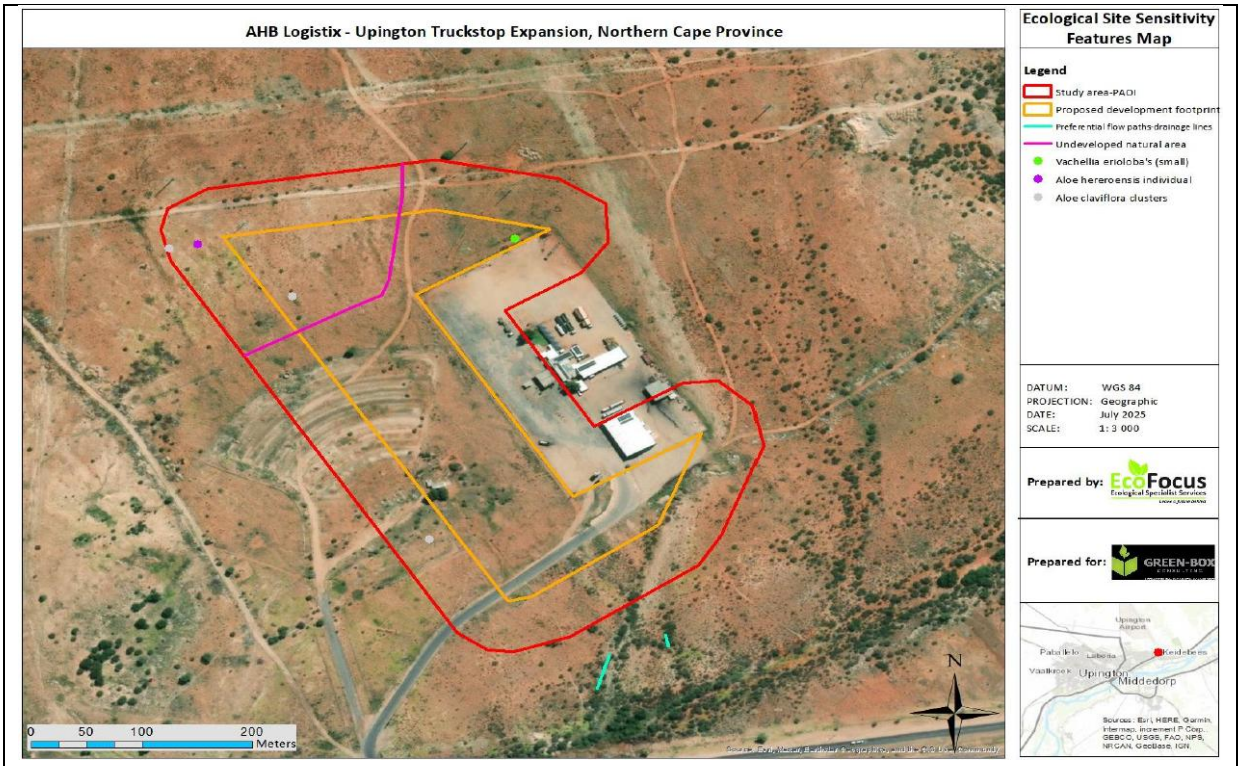


Figure 5: Ecological site sensitivity features map illustrating the locations of the remaining undeveloped natural area and identified conservational significant plant species individuals as well as the aquatic ecological features associated with the study area

Faunal Species:

The Animal Species Theme was initially flagged as medium to high sensitivity by the national screening tool; however, the specialist verification downgraded the entire study area to Low sensitivity (Figures 4).

Desktop screening identified potential regional occurrence of:

- *Falco biarmicus* (Nationally Vulnerable)
- *Neotis ludwigii* (Endangered)

However no individuals, nests, burrows, spoor, or other evidence of faunal SCC were recorded during field assessment. The disturbed nature of the site, proximity to infrastructure, and absence of suitable nesting or breeding habitat significantly reduce the likelihood of sustained utilisation by these species.

Lamprecht (2025) further notes that the broader surrounding landscape comprises vast, relatively homogenous undeveloped karroid shrubland. The small size and disturbed condition of the study area render it negligible in terms of regional faunal conservation importance.

Aquatic Ecosystem:

The study area falls within the Lower Orange Water Management Area associated with the Orange River catchment (Figure 6).

No perennial rivers, wetlands, or pans occur within the development footprint. Two small first-order ephemeral preferential drainage lines occur within 100 m of the site. These drainage features:

- Possess very small upstream catchments
- Are shallow and ephemerally active
- Lack distinct riparian or wetland vegetation

- Are moderately to highly disturbed

They are not classified as Freshwater Ecosystem Priority Areas (FEPAs) and do not support threatened aquatic species. Lamprecht (2025) concludes that these features have very low long-term aquatic ecological value and do not warrant buffering from a biodiversity perspective, provided natural flow regimes are maintained.The Aquatic Biodiversity Theme is therefore confirmed as Low sensitivity.

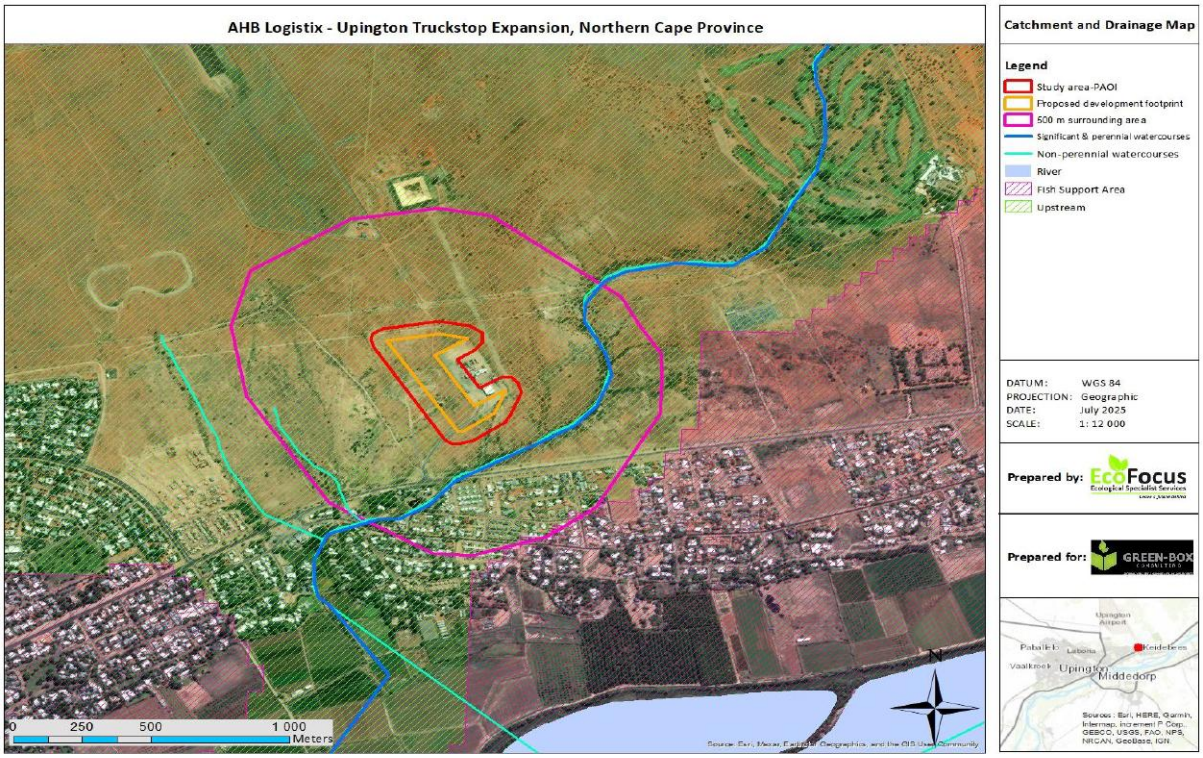


Figure 6: Desktop water catchment and drainage data map illustrating the main watercourses and wetlands/pans as well as the Upstream Management Area associated with the study area.

Overall Ecological Significance:

Based on the field assessment, desktop analysis, and sensitivity verification, Lamprecht (2025) confirms that the study area is of Low ecological sensitivity across:

- Aquatic Biodiversity Theme
- Terrestrial Biodiversity Theme
- Plant Species Theme
- Animal Species Theme

The site largely comprises degraded Kalahari Karroid Shrubland with limited remnant natural habitat, minor protected plant occurrences of local significance, and low-value ephemeral drainage features. No threatened ecosystems, Critical Biodiversity Areas, priority freshwater systems, or confirmed populations of Species of Conservation Concern were identified within the proposed development footprint.

In conclusion, the specialist study finds that the ecological condition and biodiversity features present on site do not represent significant constraints from a terrestrial or aquatic biodiversity perspective, provided recommended mitigation and management measures are implemented (Lamprecht, 2025).

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Gemsbok	
Date published	08 May 2026	
Site notice position	**Latitude**	**Longitude**
	28º 26' 9.6623" S	21º 16' 58.81133" E
Date placed	29 September 2025	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Willtho Developers, Willie Fortuin	Surrounding landowner	Williefortuin81@gmail.com
Tshahitsi, Jean Lambrechts	Surrounding business	nclodge@webmail.co.za
David Kruiper Local Municipality	Surrounding landowner	manager@kharahais.gov.za

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&Aps	Summary of response from EAP
To be included in the final BAR.	

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	e-mail
David Kruiper Local Municipality	Mr. Setimela Sebashe	054-338 7000	manager@kharahais.gov.za
ZF Mgcawu District Municipality	Ms. Samantha Aumaureen Tatas-Titus	054-337 2800	-
Provincial Department of Agriculture, Environmental Affairs, Rural Development (Northern Cape)	Mr. H. Roux	053-807 7300 / 071 860 7550	hroux@ncpg.gov.za
Department of Water and Sanitation	Ms. Lerato Maropong	054-338 5800, 076 435 5456	warmsorange@dws.gov.za
Northern Cape Department of Roads and Public Works	Regional Manager	054-332 4473	enquiries@ncrpw.ncpg.goc.za
David Kruiper LM, Upington Ward 8 Counsellor	Cllr. Solly Abel	054-338 7000	info@dkm.gov.za

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
Planning Phase			
Project Design, Layout Finalisation and Land Use Application	***Direct impacts:*** No physical disturbance occurs during planning.	Neutral	N/A
	Indirect impacts: Poor layout design could result in unnecessary loss of the small undeveloped northern fragment (ONA portion) and disturbance to minor drainage features.	Low (risk-based)	Align layout to avoid remaining natural shrubland; incorporate stormwater design that maintains natural southward flow; integrate specialist recommendations into final site plan.
	Cumulative impacts: Long-term influence on spatial development pattern in expanding industrial node north of Upington.	Low	Ensure alignment with municipal SDF and biodiversity planning frameworks.
Excavation into Subsurface Geological Formations (Impact on Palaeontological/ Heritage features)	***Direct impacts:*** None	Neutral	N/A
	Indirect impacts: Identification of potential regional fossil occurrence in late Neogene Orange River terrace gravels and late Pleistocene alluvial deposits. However, site-specific geology comprises Quaternary Gordonia Formation aeolian sands and bedrock-derived eluvium overlying ~1000 Ma intrusive	Negligible	No further palaeontological studies required.

Activity	Impact summary	Significance	Proposed mitigation
	granitic rocks with no palaeontological significance.		
	Cumulative impacts: None anticipated.	Neutral	N/A
Alternative 1 (preferred alternative)			
Construction Phase			
Vegetation Clearance	***Direct impacts:*** Loss of degraded Kalahari Karroid Shrubland (NKb5); removal of provincially protected succulents (*Mesembryanthemum guerichianum*, *Aloe hereroensis*, *Aloe claviflora*) and two small *Vachellia erioloba* individuals; habitat loss for small fauna.	Low	Pre-construction walk-through; search and rescue of protected plants; demarcate no-go areas; restrict clearing to approved footprint.
	Indirect impacts: Faunal displacement; increased erosion susceptibility; dust deposition on adjacent vegetation.	Low	Phased clearing; stabilise exposed soils; dust suppression measures.
	Cumulative impacts: Incremental habitat transformation within industrial expansion area.	Low (regional context)	Compliance with EMPr and spatial planning frameworks.
Earthworks, Excavation and Soil Compaction	***Direct impacts:*** Soil disturbance, compaction, erosion risk; alteration of micro-topography.	Low–Moderate (without mitigation)	Limit disturbance footprint; erosion control; phased earthworks.
	Indirect impacts: Increased sediment runoff into nearby ephemeral drainage lines.	Low	Install stormwater and silt control measures.
	Cumulative impacts: Progressive soil sealing in broader industrial area.	Low	Integrate attenuation and rehabilitation of temporary areas
Construction Machinery Operation and Material Handling	***Direct impacts:*** Noise, vibration, localised air emissions; hydrocarbon spill risk.	Low	Maintain machinery; spill kits; bunded fuel storage.
	Indirect impacts: Temporary disturbance to fauna; reduced local air quality (dust and exhaust emissions).	Low	Limit working hours; dust suppression; vehicle speed control.
	Cumulative impacts: Minor contribution to regional construction emissions.	Very Low	Ensure good housekeeping and maintenance.

Activity	Impact summary	Significance	Proposed mitigation
Installation of Stormwater and Bulk Infrastructure	***Direct impacts:*** Localised modification of runoff pathways; potential disturbance to minor ephemeral drainage lines.	Low	Maintain natural flow regime; engineered attenuation structures.
	Indirect impacts: Erosion if poorly designed or maintained**.**	Low–Moderate (without mitigation)	Design to municipal standards; regular inspection during construction.
	Cumulative impacts: Increased hardened surfaces contributing to catchment runoff changes	Low	Incorporate attenuation and controlled discharge.
Excavation into Subsurface Geological Formations (Palaeontological Heritage)	***Direct impacts:*** Excavation during earthworks may expose subsurface sediments. However, these comprise low-sensitivity Gordonia Formation sands and underlying granitic bedrock of no palaeontological significance.	Negligible	No mitigation required.
	Indirect impacts: Extremely low probability of encountering fossil material; unlikely due to geological context.	Negligible	No monitoring required.
	Cumulative impacts: None anticipated due to negligible fossil potential of substrate.	Neutral	N/A
Alternative 1 (preferred alternative)			
Operational Phase			
Truckstop Operations (Traffic, Lighting, Noise)	***Direct impacts:*** Increased noise; artificial lighting; air emissions from heavy vehicles.	Low	Downward-directed, shielded lighting; equipment maintenance; traffic flow management.
	Indirect impacts: Disturbance to mobile fauna; increased greenhouse gas emissions.	Low	Maintain paved surfaces; efficient site circulation design.
	Cumulative impacts: Contribution to regional traffic growth and emissions.	Low	Strategic planning alignment.
Wash Bay and Wastewater Management	***Direct impacts:*** Generation of contaminated wash water.	Low	Oil-water separators; closed drainage system.

Activity	Impact summary	Significance	Proposed mitigation
	Indirect impacts: Soil or drainage contamination if systems fail.	Low	Routine maintenance and inspection.
	Cumulative impacts: Minor contribution to industrial effluent load.	Low	Compliance with discharge standards.
Solid and General Waste Management	***Direct impacts:*** Waste accumulation; litter.	Low	Waste management plan; regular removal to licensed facilities.
	Indirect impacts: Attraction of scavengers or pests.	Low	Secure waste storage.
	Cumulative impacts: Increased municipal waste stream.	Low	Recycling and waste minimisation measures.
Alternative 1 (preferred alternative)			
Decommissioning Phase			
Decommissioning and Infrastructure Removal	***Direct impacts:*** Temporary vegetation disturbance; soil disturbance during infrastructure removal.	Low	Controlled dismantling; restrict disturbance footprint.
	Indirect impacts: Dust and noise similar to construction phase.	Low	Dust suppression; limit working hours
	Cumulative impacts: Minimal if site rehabilitated.	Low	Rehabilitation plan implementation.
Excavation into Subsurface Geological Formations (Palaeontological Heritage)	***Direct impacts:*** Limited excavation during removal of underground infrastructure may expose the same low-sensitivity geological materials.	Negligible	No mitigation required.
	Indirect impacts: Extremely low probability of fossil discovery.	Negligible	No monitoring required.
	Cumulative impacts: *None anticipated.*	Neutral	N/A
Alternative 2			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		

Activity	Impact summary	Significance	Proposed mitigation
Alternative 3	***Direct impacts:*** ***Indirect impacts:*** ***Cumulative impacts:*** ***Direct impacts:*** ***Indirect impacts:*** ***Cumulative impacts:***		
No-go option (No development to occur)			
Under the No-Go option, no development would occur and therefore: • No vegetation clearing or habitat loss would take place. • No soil disturbance, erosion, or stormwater alteration would occur. • No additional dust, noise, traffic, lighting, or air emissions would be generated. • No risk of hydrocarbon spills, groundwater contamination, or waste generation would arise. • No faunal displacement or disturbance would occur. • No subsurface excavation would take place, and therefore no impact on palaeontological heritage resources	***Direct impacts:*** No direct biophysical or heritage impacts would occur. The site would remain in its current degraded but stable ecological condition, with protected plant species, minor drainage features and underlying geological formations remaining undisturbed.	Neutral to Slightly Positive	No mitigation is required, as no impacts would occur. However, if environmental enhancement is desired, optional measures could include: • Alien invasive species control (e.g., *Prosopis* removal). • Rehabilitation of previously disturbed patches. • Informal dumping control and site management. These measures would improve site condition but are not required under the No-Go scenario
	Indirect impacts: No indirect impacts associated with construction or operation (e.g., dust, noise, pollution, traffic or runoff changes) would occur. Existing baseline disturbances in the broader industrial area would continue independently of the project.	Neutral to Slightly Positive	
	Cumulative impacts: The No-Go option would not contribute to cumulative habitat loss, pollution risk, hydrological alteration, traffic growth, or heritage disturbance within the expanding industrial node near Upington. Cumulative environmental pressures in the region would continue due to other developments	Neutral to Slightly Positive	

Activity	Impact summary	Significance	Proposed mitigation
would occur (noting the site has negligible fossil sensitivity).	but would not be exacerbated by this project.		

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

The assessment of potential environmental impacts associated with the proposed development indicates that the site is located within a disturbed landscape characterised by low overall ecological sensitivity. The study area is predominantly composed of degraded Kalahari Karroid Shrubland with limited ecological conservation value. Specialist ecological verification confirmed that no Critical Biodiversity Areas, priority ecosystems, or confirmed populations of Species of Conservation Concern occur within the proposed development footprint, as documented in the biodiversity assessment by AJH Lamprecht.

The preferred alternative involves the phased expansion of a basic logistics and truck stop facility on approximately ±3.5 hectares of land adjacent to the existing operational facility. The purpose of the development is to secure land use rights for future expansion and to provide flexible infrastructure capacity in response to market demand.

Potential environmental impacts associated with the preferred Alternative are expected to occur primarily during the construction phase and are largely limited to localised vegetation clearance, soil disturbance, dust generation, construction noise, and temporary disturbance to mobile fauna. Construction activities may also result in minor modification of surface runoff patterns; however, the site does not contain significant hydrological features, with only small ephemeral drainage lines occurring in the broader vicinity.

Protected plant species recorded during the specialist survey include small individuals or populations of provincially protected species such as *Mesembryanthemum guerichianum*, *Aloe hereroensis*, *Aloe claviflora*, and two small *Vachellia erioloba* individuals. Where feasible, pre-construction botanical walk-through surveys and search-and-rescue relocation measures should be implemented, and construction boundaries should be clearly demarcated to avoid unnecessary disturbance to remnant natural vegetation patches.

Erosion risk will be managed through phased clearing, soil stabilisation, and appropriate stormwater management design consistent with municipal engineering requirements. Operational phase impacts are expected to be low in significance and may include traffic-related noise, artificial lighting, dust generation, and general facility waste management. These impacts can be effectively mitigated through standard good housekeeping practices, equipment maintenance, controlled lighting design, and proper waste storage and disposal.

Cumulative environmental impacts are expected to be low and are mainly associated with incremental development within an expanding industrial and logistics zone north-east of Upington. The development is consistent with surrounding land use patterns and regional spatial planning trends.

Alternative B

No additional Alternative B scenario was identified as the proposed activity represents a simple logistics service expansion with no meaningful technological, design, or operational substitutions that would result in significantly different environmental outcomes. The preferred alternative is considered environmentally acceptable, subject to implementation of the recommended mitigation measures.

Alternative C

No additional Alternative C scenario was identified as the proposed activity represents a simple logistics service expansion with no meaningful technological, design, or operational substitutions that would result in significantly different environmental outcomes. The preferred alternative is considered environmentally acceptable, subject to implementation of the recommended mitigation measures.

No-go alternative (compulsory)

The No-Go alternative represents the scenario in which the proposed logistics expansion development is not implemented and the site remains in its current baseline condition. Under this option, no additional land clearing, construction activities, infrastructure installation, or operational expansion would occur on the western portion of the property. The site would continue to exist in its current disturbed and partially modified ecological state, which is characterised by degraded Kalahari Karroid Shrubland vegetation and fragmented remnant natural patches.

From an ecological perspective, the No-Go alternative would avoid any project-related disturbance to the small remaining natural shrubland fragment identified in the northern portion of the study area, as well as potential disturbance to the few protected plant individuals recorded during specialist verification work. The biodiversity specialist assessment confirms that the site is of generally low ecological sensitivity, with no Critical Biodiversity Areas, priority ecosystems, or confirmed populations of Species of Conservation Concern within the proposed development footprint. These findings are consistent with the ecological verification study conducted by AJH Lamprecht.

The likelihood of additional environmental degradation under the No-Go alternative is considered low, as the site is already subject to historical disturbance and is located within an area influenced by existing infrastructure and expanding industrial and urban development patterns. No construction-related impacts such as vegetation removal, soil compaction, erosion risk, dust generation, noise disturbance, or hydrological alteration would occur under this scenario.

However, the No-Go alternative would also mean that the proposed logistics expansion and associated operational benefits would not be realised. The applicant would be unable to secure additional land use capacity required for future market-driven growth of the facility. The broader planning objective of utilising disturbed land for compatible commercial logistics activity would therefore not be achieved.

From a socio-economic perspective, the No-Go option may result in continued underutilisation of land that is already situated within an expanding industrial development corridor. While the No-Go alternative is environmentally conservative, it does not contribute to the optimisation of existing disturbed land for sustainable commercial use.

Overall, the environmental significance of the No-Go alternative is assessed as neutral to slightly positive in terms of biophysical preservation; however, it provides limited strategic development benefit and is therefore not considered the preferred option.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	YES	[redacted]

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

Not Applicable

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

Based on the specialist assessments and impact evaluation conducted, the environmental assessment practitioner is of the opinion that the information contained in this report and the supporting documentation is sufficient to enable a decision to be made regarding the proposed activity. Should authorisation be granted, the following conditions and mitigation measures are recommended for inclusion in any environmental authorisation:

General Environmental Management:

- The development must be undertaken in accordance with the approved Environmental Management Programme (EMPr).
- Construction activities must be limited to the approved development footprint.
- Good housekeeping practices must be maintained throughout the construction and operational phases.

Dust, Noise, and Pollution Control:

- Dust suppression measures must be applied during construction activities.
- Construction machinery must be properly maintained to minimise emissions and noise disturbance.
- Fuel storage and handling must occur in bunded or contained areas to prevent contamination.

Waste Management:

- Waste generated during construction and operation must be disposed of at authorised waste management facilities.
- Littering on site must be strictly controlled.
- Any hazardous waste must be handled in accordance with applicable legislation.

Heritage and Palaeontological Resource Management:

- In the unlikely event that fossil material or heritage artefacts are uncovered during earthworks, work must cease immediately and a qualified specialist must be notified.

Biodiversity and Vegetation Resource Management:

- The proposed development footprint must be kept as small as practicably possible to reduce the surface impact on surrounding vegetation and no unnecessary/unauthorised footprint expansion into the surrounding undeveloped landscape outside the proposed development footprint may take place.
- No temporary or permanent site construction basecamps may be established within the surrounding undeveloped landscape outside the proposed development footprint.
- Adequately cordon off the proposed development construction footprint and ensure that no construction activities, machinery or equipment operate or impact within the surrounding undeveloped landscape outside the cordoned off area.

- Adequate operational procedures for construction machinery and equipment must be developed in order to strictly govern and restrict movement of machinery only within the proposed development construction footprint and to ensure environmentally responsible construction practices and activities.
- Existing roads and farm tracks in close proximity to the proposed development construction footprint, must be used during the construction phase. No new temporary roads or tracks may be constructed or implemented through the surrounding undeveloped landscape outside the proposed development footprint.
- Disturbed areas within and immediately surrounding the proposed development construction footprint must be adequately rehabilitated concurrently with- or as soon as practicably possible after the construction processes. A Rehabilitation Management Plan must be compiled by a suitably qualified and experienced SACNASP registered ecologist.
- It is recommended that an additional ecological walkthrough as well as faunal and floral search, rescue and relocation exercise be conducted for the study area, during the flowering period of underground bulb-plant species (geophytes) prior to the commencement of construction activities. This will ensure that no faunal and floral Species of Conservation Concern (SCC) or any other conservationally significant species have potentially been omitted or will be destroyed/killed.
- A Nationally Protected Tree License has to be obtained from the Department of Forestry, Fisheries and the Environment (competent authority), prior to the commencement of any construction activities and the subsequent potential removal/destruction of any identified nationally protected tree species individuals.
- Provincial Flora- and Nest Removal Permits have to be obtained from the Northern Cape Department: Agriculture, Environmental Affairs, Rural Development and Land Reform (competent authority), prior to the commencement of any construction activities and the subsequent removal/destruction of any identified indigenous- and provincially protected flora and/or trees containing bird nests.
- It is however recommended that the individuals/clusters of each of the provincially protected species Aloe hereroensis (individual) and Aloe claviflora (three clusters) as well as a representative number of the provincially protected species Adenium oleifolium must be adequately relocated to another suitable and similar area as to where they were removed from. This relocation process must be completed prior to the commencement of any vegetation clearance- and/or construction activities. A Protected Plant Species Relocation Management Plan must be compiled by a suitably qualified and experienced SACNASP registered ecologist.
- Implement adequate alien invasive species management and prevention measures during the construction- and subsequent operational phases of the proposed development. An Alien Invasive Species Management Plan must be compiled by a suitably qualified and experienced SACNASP registered ecologist.
- Implement adequate stormwater and erosion management measures during the construction- and subsequent operational phases of the proposed development. This must be done to sufficiently manage storm water runoff and clean/dirty water separation, in order to prevent any significant surface water contamination of the local and broader surrounding landscape as well as prevent any significant soil erosion from occurring within and around the proposed development footprint and to attempt to maintain the ecological functionality and -integrity of the local watershed and broader quaternary surface water catchment and drainage area.
- It is recommended that the development design layouts for the proposed infrastructure must include adequate stormwater management measures to ensure that sufficient volumes and

quality of surface water runoff from the study area during seasonal rainfall events, continue to be channelled through the local catchment towards south.

- Water flow-breaks and dispersal infrastructure should be installed at the water release-points of the of the design layouts. This infrastructure must be able to adequately reduce the water flow velocity and disperse the water over a larger surface area, prior to entering into the surrounding landscape. This is necessary to prevent any potential localised erosion, which could occur at the water release-points due to high water volume concentration and flow velocity build-up. The water flow-breaks and dispersal infrastructure are to be adequately maintained and regularly cleaned out, as and when necessary.
- The detailed design layouts including the slope- and measurement/capacity parameters of the water flow-breaks and dispersal infrastructure, must be calculated and determined by a suitably qualified and experienced engineer, in order to achieve this objective.
- Adequate hydrocarbon and other chemical storage, handling, usage and spillage clean-up procedures must be developed, and all relevant employees must be sufficiently trained on- and apply these procedures during the construction- or subsequent operational phases.
- Spill kits must be readily available at the construction- and subsequent operational site. All relevant employees must be adequately trained on the correct procedure and use of the spill kits
- Adequate leakage detection and prevention systems must be installed for the filling station and truckstop in order to detect any potential leakages and subsequent contamination of groundwater resources.
- Adequate dirty water collection and containment sumps/drains or other measures must be constructed as part of the truck wash bay designs. These sumps/drains or other measures must assist with- and manage clean/dirty water separation by preventing contaminated water runoff from leaving the truck wash bay and entering the surrounding natural landscape.
- If any leakages or overflows of the proposed underground fuel storage tanks occur, the competent authority must immediately be notified and the necessary steps must be followed by the applicant to locate and remediate the source of contamination, as soon as practicably possible/feasible.
- A Geo-hydrological assessment must be conducted of the study area, in order to determine the direct impacts of the proposed development on groundwater resources/aquifers, if deemed necessary by the competent authority.
- The two very small first-order ephemeral preferential water flow paths/drainage lines associated with the study area possess very low, if any overall long-term aquatic ecological/conservational value/significance. It is consequently not deemed necessary for these flow paths/drainage lines to be buffered out of the proposed development footprint from a hydrological- or aquatic biodiversity perspective. It is however still recommended that the natural flow regimes of the flow paths/drainage lines should not be significantly and/or permanently contaminated or impacted by the proposed development, if practicably possible/feasible.
- A Water Use License Application (WULA)/General Authorisation (GA) must be submitted to the Department of Water and Sanitation for the proposed development within 100 m of the two very small first-order ephemeral preferential water flow paths/drainage lines, as required in accordance with the National Water Act (Act 36 of 1998).
- Implement suitable dust management and prevention measures during the construction- and subsequent operational phases of the proposed development.
- Construction areas and -roads to be sufficiently wetted down during the construction phase of the proposed development, in order to prevent significant fugitive dust generation, emissions and fallout.

- Adequate operational procedures for machinery and equipment must be developed to strictly govern and restrict movement of machinery, in order to avoid unnecessary fugitive dust generation, emissions and fallout and ensure environmentally responsible operational practices and activities.
- If building materials, hydrocarbons or other chemicals are to be stored on site during the construction- or subsequent operational phases, the storage areas must be situated as far away as practicably possible/feasible from the identified aquatic ecological features.
- 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 night time. As little light emissions as practicably/reasonably possible from the established development, should occur during night time as this could lure aquatic bird- and other nocturnal avifaunal species individuals towards the permitter fences and potentially result in collisions and mortality.
- Lighting and illumination infrastructure technology and layout designs must be done in an environmentally friendly and responsible manner.
- The minimum amount of lighting and illumination infrastructure which is practicably/feasibly possible for the established development to function at, must be utilised during night time.
- Lighting and illumination infrastructure must as far as practicably possible be directed at low shining angles towards the ground and towards the inner portions of the established development, in order to reduce the amount of bright light being emitted into the surrounding natural landscape.
- Lower shining intensity environmentally friendly lighting products must be utilised in order to reduce the brightness of light being emitted into the surrounding natural landscape. An adequate sewage management system must be installed for the proposed development within the study area.
- Adequate leakage detection and prevention systems must be installed into the sewage management system in order to detect any potential leakages and subsequent contamination of soil and groundwater resources.
- If any leakages or overflows of the sewage management system occur, the competent authority must immediately be notified and the necessary steps must be followed by the applicant to locate and remediate the source of contamination, as soon as practicably possible/feasible.
- The integrity of the sewage management system must be inspected on a regular basis and adequately maintained over time, in order to ensure its continued functionality and prevent any leakages or failures.
- Water saving initiatives must be implemented for the established development.
- Environmentally responsible water-use practices and activities must be adopted for the construction- and subsequent operational phases of the proposed development.
- Provide training interventions for the relevant employees on correct environmentally responsible water use practices and activities.

Is an EMPr attached?	YES	

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

Danie Krynauw

NAME OF EAP

SIGNATURE OF EAP

13 April 2026

DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

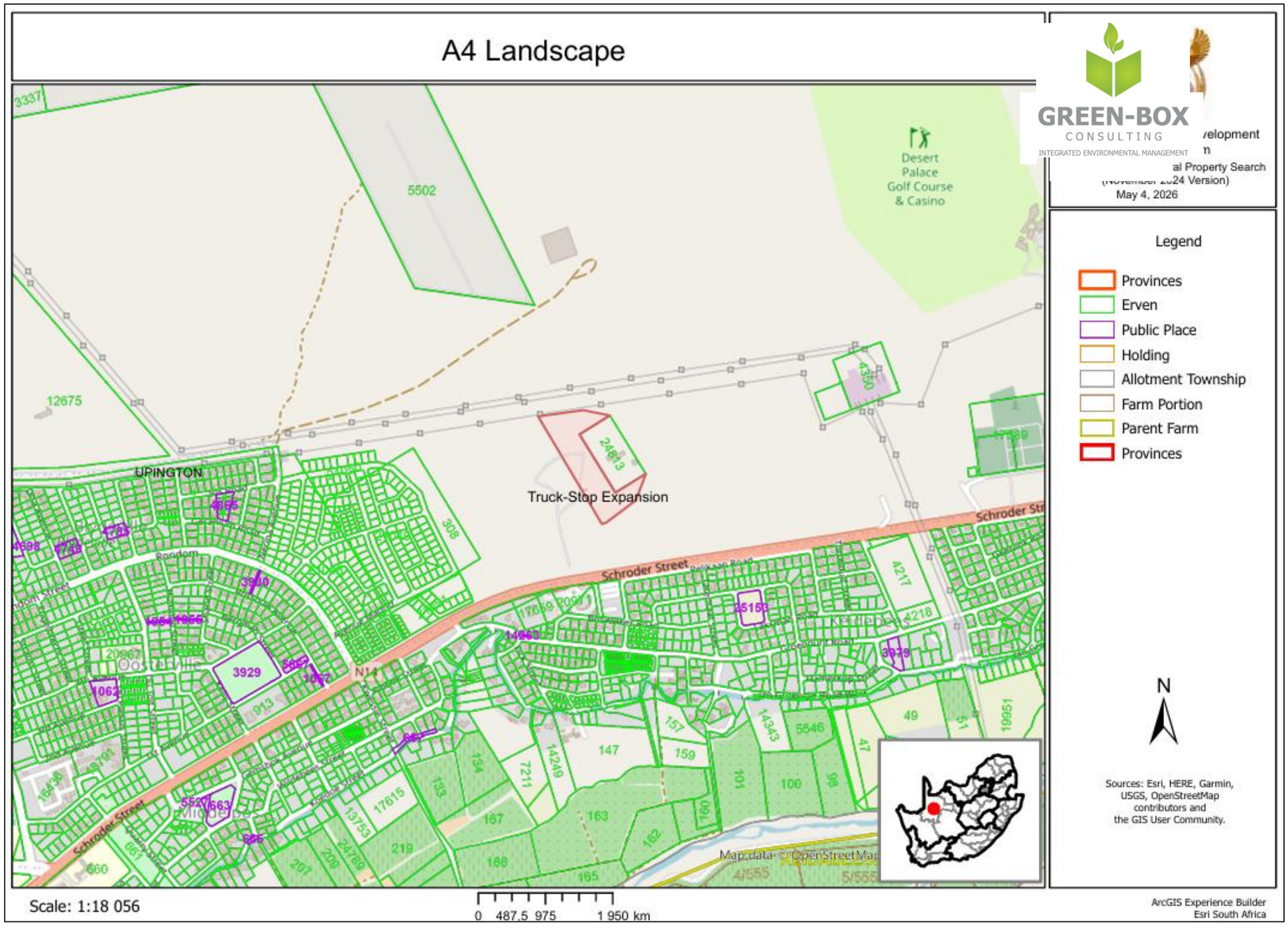
Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information

Appendix A: Maps



Locality Map: Truck-Stop expansion, Upington

Site Image Map: Truck-Stop expansion, Upington (Google Earth, Feb. 2025)

Appendix B: Photographs

Photo 01: Image of the site on the southern portion with the existing Truck-Stop on the horizon

Photo 02: Centre image of the expansion site

Photo 03: Image towards the west, the access road leading to the site

Photo 04: Image of the passing road (N14) towards the east

Appendix C: Facility illustration(s)

Expansion Layout

Appendix D: Specialist reports (including terms of reference)

1. **Ecological site verification and compliance statement**
2. **Paleontological site verification and compliance statement**

(See separate reports)

Appendix E: Public Participation

Notice for public participation provided to Stakeholders and Interested and Affected Parties

The following was also conducted:

Publication name	Gemsbok	
Date published	08 May 2026	
Site notice position	**Latitude**	**Longitude**
	28º 26' 9.6623" S	21º 16' 58.81133" E
Date placed	29 September 2025	

Key stakeholders:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Willtho Developers, Willie Fortuin	Surrounding landowner	Williefortuin81@gmail.com
Tshahitsi, Jean Lambrechts	Surrounding business	nclodge@webmail.co.za
David Kruiper Local Municipality	Surrounding landowner	manager@kharahais.gov.za

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	e-mail
David Kruiper Local Municipality	Mr. Setimela Sebashe	054-338 7000	manager@kharahais.gov.za
ZF Mgcawu District Municipality	Ms. Samantha Aumaureen Tatas-Titus	054-337 2800	-
Provincial Department of Agriculture, Environmental Affairs, Rural Development (Northern Cape)	Mr. H. Roux	053-807 7300 / 071 860 7550	hroux@ncpg.gov.za
Department of Water and Sanitation	Ms. Lerato Maropong	054-338 5800, 076 435 5456	warmsorange@dws.gov.za
Northern Cape Department of Roads and Public Works	Regional Manager	054-332 4473	enquiries@ncrpw.ncpg.goc.za
David Kruiper LM, Upington Ward 8 Counsellor	Cllr. Solly Abel	054-338 7000	info@dkm.gov.za

Site Notices

Site notice: Placed along the entrance to the Truck Stop

Site notice: Sote notice zoomed image

Appendix F: Impact Assessment

Impact Assessment Methodology

Table 1: Criteria used to determine the consequence of an impact

Rating	Definition of Rating	Score
A. Extent– the area over which the impact will be experienced		
Site	Within the construction site	1
Local	Within a radius of 2 km of the construction site	2
Regional	Provincial and parts of neighbouring provinces	3
National	The whole of South Africa	4
B. Intensity– the magnitude of the impact in relation to the sensitivity of the receiving environment, taking into account the degree to which the impact may cause irreplaceable loss of resources		
Low	Site-specific and wider natural and/or social functions and processes are negligibly altered	1
Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way	2
High	Site-specific and wider natural and/or social functions or processes are severely altered	3
C. Duration– the timeframe over which the impact will be experienced and its reversibility		
Short-term	Up to 2 years and reversible	1
Medium-term	2 to 15 years and reversible	2
Long-term	More than 15 years and irreversible	3

The combined score of these three criteria corresponds to a *consequence rating*, as set out in Table 2.

Table 2: Method used to determine the consequence rating.

Combined score (A+B+C)	**3-4**	**5**	**6**	**7**	**8-9**
Consequence rating	Very Low	Low	Medium	High	Very High

Once the consequence is derived, the probability of the impact occurring is considered, using the probability classifications presented in Table 3 below.

Table 3: Probability classification

Probability – the likelihood of the impact occurring	
Improbable	<40% chance of occurring
Possible	40% - 70% chance of occurring
Probable	>70% - 90% chance of occurring
Definite	>90% chance of occurring

The overall significance of an impact is determined by considering the consequence rating and the probability classification using the rating system prescribed in Table 4 below.

Table 4: Impact significance rating

		Probability			
		Improbable	**Possible**	**Probable**	**Definite**
Consequence	**Very Low**	INSIGNIFICANT	INSIGNIFICANT	VERY LOW	VERY LOW
	Low	VERY LOW	VERY LOW	LOW	LOW
	Medium	LOW	LOW	MEDIUM	MEDIUM
	High	MEDIUM	MEDIUM	HIGH	HIGH
	Very High	HIGH	HIGH	VERY HIGH	VERY HIGH

Finally, the impact is also considered in terms of its status (positive or negative) and the confidence in the ascribed impact significance rating.

The prescribed system for considering impact status and confidence (in the assessment) is laid out in Table 5 below.

Table 5: Impact status and confidence classification

Status of Impact	
Indication whether the impact is adverse (negative) or beneficial (positive).	**+ ve (positive – a 'benefit')**
	– ve (negative – a 'cost')
Confidence in the assessment	
The degree of confidence in predictions based on available information, Green-Box Consulting judgment and/or specialist knowledge.	**Low**
	Medium
	High

The impact significance rating should be considered by authorities in their decision-making process based on the implications of ratings ascribed below:

- **INSIGNIFICANT: the potential impact is negligible and will not have an influence on the decision regarding the proposed activity/development.**
- **VERY LOW: the potential impact is very small and should not have any meaningful influence on the decision regarding the proposed activity/development.**
- **LOW: the potential impact may not have any meaningful influence on the decision regarding the proposed activity/development.**
- **MEDIUM: the potential impact should influence the decision regarding the proposed activity/development.**
- **HIGH: the potential impact will affect the decision regarding the proposed activity/development.**
- **VERY HIGH: The proposed activity should only be approved under special circumstances.**

Practicable mitigation and optimization measures are recommended, and impacts are rated in the prescribed way both without and with the assumed effective implementation of the recommended mitigation (and/or optimization) measures. Mitigation and optimization measures are either:

- **Essential: measures that must be implemented and are non-negotiable; or**
- **Best Practice: recommended to comply with best practice, with adoption dependent on the proponent's risk profile and commitment to adhere to best practice, and which must be shown to have been considered and sound reasons provided by the proponent if not implemented.**

Impacts will then be collated into the EMPr and these will include the following:

- **Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure their ongoing effectiveness.**
- **Identifying negative impacts and prescribing mitigation measures to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.**
- **Positive impacts will be identified and augmentation measures will be identified to potentially enhance positive impacts where possible.**

Other aspects to be taken into consideration in the assessment of impact significance are:

- **Impacts will be evaluated for the construction and operation phases of the development. The assessment of impacts for the decommissioning phase will be brief, as there is limited understanding at this stage of what this might entail. The relevant rehabilitation guidelines and legal requirements applicable at the time will need to be applied;**
- **Impacts will be evaluated with and without mitigation in order to determine the effectiveness of mitigation measures on reducing the significance of a particular impact;**
- **The impact evaluation will, where possible, take into consideration the cumulative effects associated with this and other facilities/projects which are either developed or in the process of being developed in the local area; and**

- **The impact assessment will attempt to quantify the magnitude of potential impacts (direct and cumulative effects) and outline the rationale used. Where appropriate, national standards are to be used as a measure of the level of impact.**

Appendix G: Environmental Management Programme (EMPr)

AHB Logistix (Pty) Ltd, truck stop and logistics centre expansion portion of Erf 28410, Upington, Northern Cape

ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

April 2026

TITLE	AHB Logistix (Pty) Ltd, truck stop and logistics center expansion portion of Erf 28410, Upington, Northern Cape
REPORT TYPE	Environmental Management Programme (EMPr)
REPORT STATUS	DRAFT
REVISION	1
REVISION DATE	13 April 2026
AUTHOR	Danie Krynauw

COMMISSIONED BY

AHB Logistix (Pty) Ltd

P.O. Box 3206
Upington
8800
andries@ahblogistix.co.za

CONSULTANT

Green-Box Consulting

PO Box 37738
Langenmhovenpark
Bloemfontein, 9330
Tel: 082 435 2108
danie@green-box.co.za

Disclaimer

This report has been prepared for the exclusive use of AHB Logistix (Pty) Ltd and is subject to and issued in accordance with the agreement between AHB Logistix (Pty) Ltd and Green-Box Consulting.

Green-Box Consulting accepts no liability or responsibility whatsoever for it in respect of any use of or reliance upon this report by any third party.

Letter of Undertaking and Statement of Independence

The Author / Environmental Assessment Practitioner (EAP) herewith confirms the correctness of the information provided in this Report, including supporting documents and reports, to the best of his/ her knowledge.

Neither Green-Box Consulting nor any of the authors of this Report have any material present or contingent interest in the outcome of this Project, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of Green-Box Consulting.

Green-Box Consulting has no beneficial interest in the outcome of the assessment which is capable of affecting its independence.

Danie Krynauw
(Environmental Assessment Practitioner)

Signature of the Environmental Assessment Practitioner

Green-Box Consulting.

Name of the Company

13 April 2026

Date

Table of Contents

Terminology ..... …… vii

1 ACTIVITY INFORMATION 3

1.1 Introduction 5

1.2 Property Description 5

1.3 Project Description / Components (Scope) 6

2 PURPOSE OF THE EMPr 6

2.1 Scope of the EMPr 6

2.2 Legal Requirements 7

2.2.1 Statutory and other applicable legislation 7

2.3 Impact Management Outcomes and Impact Management Actions 7

2.4 Fundamental Principles of the EMPr 8

2.5 Structure of the EMPr 9

3 GENERAL SITE MANAGEMENT ..... ……11

3.1 Project and Environmental Management Team 11

3.2 Communication, Responsibilities and Complaints Management 11

3.2.1 General Public 11

3.2.2 Duty of Care 12

3.2.3 Contractors 12

3.2.4 Project Applicant / Holder of the Environmental Authorisation 12

3.2.5 Local Authority 13

3.2.6 Project (Construction) Site Manager / Principal Agent 13

3.2.7 Environmental Control Officer 13

3.2.8 Communication and Record Keeping Procedures on Site 15

3.3 External Auditing Requirements 15

3.4 Environmental Awareness 15

3.5 Financing of Environmental Control 15

4 ENVIRONMENTAL MANAGEMENT: PRE-CONSTRUCTION PHASE ..... ……16

4.1 Description of the Impact Management Outcomes for the Pre-Construction Phase 16

4.2 Environmental Specifications: Pre-Construction 16

4.2.1 Prepare Recommended Plans and Strategies 16

5 ENVIRONMENTAL MANAGEMENT: CONSTRUCTION PHASE ..... ……17

5.1 Description of the Impact Management Outcomes for the Construction Phase ..17
5.2 Environmental Specifications: Construction ..18
6 ENVIRONMENTAL MANAGEMENT: OPERATIONAL PHASE ..41
6.1 Description of the Impact Management Outcomes for the Operational Phase ..41
6.2 Environmental Specifications: Operation ..41
7 MONITORING AND MANAGEMENT MEASURES ..45
7.1 Monitoring Procedures ..45
7.2 Document Control ..46
7.3 Management Review ..46
8 TOLERANCE ..83
8.1 Fines ..83
8.2 Penalties ..48
9 ENVIRONMENTAL AWARENESS AND TRAINING ..49
9.1 Environmental Awareness Plan ..49
9.1.1 Fostering Environmental Awareness ..50
9.1.2 Training and environmental awareness ..50
9.1.3 The environmental awareness training course ..50
9.1.4 Course content ..50
10 DETAILS OF THE PERSON / COMPANY WHO PREPARED THE EMPr ..55

Appendix List

Appendix A: Construction Guidelines

Terminology

The following abbreviations are used in this report:

Abbreviations	Description
BPEO	Best Practical Environmental Option
CA	Competent authority
CBA	Critical Biodiversity Area
CBD	Convention on Biological Diversity
C&RT	Comments and Responses Table
DFFE	Department of Forestry, Fisheries, and the Environment
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioners Association of South Africa
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMC	Environmental Management Consulting
EMPr	Environmental Management Programme
ESA	Ecological Support Area
GDPR	Gross Domestic Product
ha	Hectare
IAIAsa	International Association for Impact Assessment South Africa
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standards
NEMA	National Environmental Management Act, 1998 (Act No 107 of 1998), as amended
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEM:AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 29 of 2004), as amended
NWA	National Water Act, 1998 (Act No. 36 of 1998), as amended
NFEPA	National Freshwater Ecosystems Priority Area
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999), as amended
NWA	National Water Act
PSDF	Provincial Spatial Development Framework

PPP	Public Participation Process
SACNASP	South African Council for Natural Scientific Professions
SANS	South African National Standards
SDP	Spatial Development Plan
SDF	Spatial Development Framework

1 ACTIVITY INFORMATION

1.1 Introduction

The Environmental Management Programme (EMPr) outlines the procedures that control the way the Applicant[1], AHB Logistix (Pty) Ltd, the Project Manager and the Contractors appointed for the construction phase activities and the operational phase activities of the proposed Truck Stop expansion site (hereafter referred to as 'the site'), shall conduct himself/ herself/ themselves.

The EMPr covers the spectrum of pre-construction, construction (including post-construction and rehabilitation), and operation phases, and incorporates the recommendations of the Basic Assessment Report (BAR) and specialist studies in respect of the various actions that need to be taken to avoid / minimize / mitigate potential adverse impacts and enhance potential beneficial impacts of the project.

The EMPr describes impact management outcomes and impact management actions that need to be implemented during the various phases of the proposed project, including the careful implementation and management of the various proposed activities on the site from conception to implementation. The focus is usually placed on the activities to occur on the application property, i.e., the site; however, consideration of the adjacent or receiving environment (socially and ecologically) is equally important.

The impact management actions represented in this EMPr should not be regarded as static measures, but rather as procedures that can be adapted, as and when site conditions require. This EMPr sufficiently serves to provide the most practicable methods to promote sound environmental management during the construction and operational phases of the development. The EMPr subsequently is an on-site working and dynamic document.

This EMPr must be read in conjunction with the BAR, and the conditions of authorisation that the Authorising Authority is likely to put forward should authorisation be granted. In the unlikely event of any conflicting responsibilities or procedures, the precautionary principle must be adopted. Hard copies of the aforementioned documents should be kept on site along with the EMPr.

The EMPr is a fundamental element of the management process that is aimed at ensuring the environmental sustainability of the proposed development. The implementation of the EMPr will also aim to ensure that the conditions of approval laid down by the competent authority will be met. It is imperative for the EMPr to be actively implemented and used at all management levels as an integral part of the project. It is equally important to revise the EMPr in accordance with information that becomes available from the monitoring processes during the construction and operational phases and any new management practices that may be developed in the future.

1.2 Property Description

The Applicant, AHB Logistix (Pty) Ltd, operates an existing truck-stop and logistics facility on Erf 28410 in Upington. The proposed expansion involves extending operations onto the adjacent western portion (Erf 28400), covering approximately 3.5 hectares. The expansion will require the clearance of indigenous vegetation, the establishment of paved operational surfaces, circulation routes, parking areas, and support infrastructure.

Refer to the locality map attached as Figure 1 to this section. The property details are as follows:

Figure 1: Site location

1.3 Project Description / Components (Scope)

The proposed expansion is strategically motivated by anticipated growth in freight and logistics activity in the region, as well as the proposed future Upington Bypass Road, which is expected to run past the site and enhance accessibility and economic opportunity. The expansion will enable the applicant to secure land for phased operational growth in response to these anticipated developments. The local municipality has already considered and approved the applicant's intention to expand in principle, subject to compliance with all applicable statutory approvals.

The expansion portion will house an office, storing facilities and paved parking to serve as a logistical facility portion of the existing Truck-Stop.

[1]The term 'Applicant' and 'Holder of the Environmental Authorisation' are interchangeable.

2 PURPOSE OF THE EMPr

2.1 Scope of the EMPr

The aim of the EMPr is to ensure that proper controls are in place to address the potential environmental and social impacts of the proposed pre-construction, construction, and operation phases of the development. The key activities to be undertaken in each phase are elaborated below.

The **pre-construction (or planning/ design)** phase of the proposed development will include, amongst other activities, the following:

- Undertaking the various application processes for the required/retrospective authorisations (permits) from the relevant competent authorities to implement the proposed development. This phase also involves planning for and preparing/ refining the site layout plan for the proposed asphalt plant.
- Appointment of a suitably experienced project team, including a Project Manager, Consulting Engineer (if required), Environmental Control Officer (ECO), External Auditor and an Occupational Health and Safety (H&S) Officer (if required).
- If required, refine the Site Development Plan.
- If required, prepare a Rehabilitation Plan for the remaining vegetation and clearance of the expansion area.
- Preparation of a 'staff procurement policy' to encourage the use of local labour/ staff.

The **construction** of the proposed development will include the following primary activities:

- The establishment of a construction yard/ office on the application site in non-environmentally sensitive area(s), to be ratified on-site by the ECO.
- Site clearance, including the demolition of existing structures and disposal of building rubble/ spoil to landfill.
- Site preparation by the Applicant/ Developer's contractor(s), including creation of building platforms on the development site, installation of services infrastructure, stormwater detention pond[8].
- Training for members of the project team, contractors, and subcontractors in accordance with the provisions of the EMPr and the implementation of all safety measures in accordance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), as amended (OHSA).
- The appointed ECO is to undertake site inspections at the frequency stipulated in the EMPr.

The **operational** phase of the proposed development will include the following primary activities:

- Undertake continuous air quality impact and hazardous risk reduction activities.

2.2 Legal Requirements

The provisions of the EMPr are binding on the Applicant and all Contractors during the life of the project and the lives of all contracts. If any conflict occurs between the terms of the EMPr and the project specifications, or pending Environmental Authorisation, the terms in the EMPr shall be subordinate.

The EMPr is a dynamic document subject to similar influences and changes as are wrought by variations to the provisions of the project specification. Any substantial changes must be submitted to the relevant authorities in writing for approval, in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended (NEMA), and the Environmental Impact Assessment (EIA) Regulations (2014), as amended.

The construction and operational phase aspects of this development must be undertaken according to best industry practice, as identified in the EMPr and any relevant project documentation. This EMPr, which forms an integral (**and compulsory**) part of all Contract Documents, informs the Contractors/ Responsible Persons as to his/ her/ their duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of potential negative environmental impacts caused by the activities associated with the project.

All Contractors must note that obligations imposed by the EMPr are legally binding in terms of environmental statutory legislation. If any rights and obligations contained in this document contradict those specified in the standards or project specifications, then the latter will prevail.

2.2.1 Statutory and other applicable legislation

It is expected that the Contractor(s) is conversant with all environmental legislation pertaining to the project. In addition,

the Contractor must also take cognizance of Provincial and Local Government Ordinances and by-laws, which may be applicable to the project.

2.3 Impact Management Outcomes and Impact Management Actions

Impact management outcomes, and proposed impact management actions to achieve these outcomes, have been determined for the project based on the impact assessment undertaken and recommendations made by the EAP and specialist practitioners. The impact management actions include measures to avoid, manage and/or mitigate the identified impacts.

2.4 Fundamental Principles of the EMPr

The EMPr is based on fundamental principles[9] derived from applicable government policy statements contained in various government documents and legislation (e.g., NEMA). The following principles contained in these documents and laws will be used in the EMPr to guide the various phases of the proposed development, namely:

- Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural, and social interests equitably.
- Development must be socially, environmentally, and economically sustainable, i.e., meet the "triple bottom line" criteria for development.
- Sustainable development requires the consideration of all relevant factors including the following:
  - that the disturbance of ecosystems and loss of biological diversity are avoided, are minimised and remedied;
  - that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
  - that the development, use and exploitation of renewable resources and the ecosystems of which they are a part do not exceed the level beyond which their integrity is jeopardised;
  - that a risk-averse and cautious approach is applied (also called the Precautionary Approach), which takes into account the limits of current knowledge about the consequences of decisions and actions;
- Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.
- Community well-being and Empowerment (e.g., of the construction personnel) must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.
- Capacity building and education: The EMPr must play a dynamic role in developing the understanding, skills, and capacity of the Employees (e.g., construction personnel) in order to promote sustainable development.
- Consider all alternatives: Considering all alternatives results in making the best decisions. The BAR and EMPr must therefore ensure that all alternatives are considered in all decision-making. Developmental and environmental planning, problem solving, and decision-making is often complex. Possible consequences of conflicting interest as well as the consequences of not acting need careful consideration.
- Co-ordination: Various concerns and issues cut across the key sectors and functions in the area. Sustainability and integrated planning and management (including monitoring) therefore will depend on co-ordination and integration of the relevant role players in the construction and operational phases of the proposed development.

[8] The civils contract, which will include the following activities: site clearance, creation of platforms, installation of services infrastructure, incl. roads, boundary wall/fence and stormwater pond and landscaping of communal open spaces, will be the responsibility of the Developer; and that the construction of individual dwellings will be the responsibility of each property owner.

- Due process: Due process must be applied in all integrated management activities. This includes adherence to the provisions in the Constitution and statutes dealing with just administration and public participation in regional and local governance.
- Duty of care: Every person (e.g., the Applicant and the contract workers) associated with the development and its associated infrastructure has a duty to act with due care to avoid damage to the environment, or pollution of the environment or waste a precious resource. Also called the Environmental Responsibility Principle.
- Equity: The EMPr is to ensure equitable access to natural resources, benefits, and services to meet basic needs and ensure human wellbeing. Each generation has a duty to avoid impairing the ability of future generations to ensure their wellbeing.
- Full cost accounting: Decisions must be based on an assessment of the full social and environmental costs.
- Good governance: Good governance depends on mutual trust and reciprocal relations between the various groups and sectors of the area and the controlling officials. This must be based on the fulfilment of constitutional, legislative, and executive obligations, and the maintenance of transparency and accountability.
- Prevention: The EMPr must be flexible enough to be adapted to take into account any potential problems that may arise in the future and thereby prevent any negative impacts on the environment, and on people's rights.
- Polluter Pays: Those responsible for environmental damage must pay the repair costs both to the environment and human health and must carry the costs of preventative measures to reduce or prevent further pollution or degradation.
- Subsidiary: Regulatory responsibilities belong at the most local level at which the tasks can be carried out effectively. Environmental management structures must match the ecological scale of the managed resource.
- Waste management: Waste management must minimise and avoid the creation of waste at source. The EMPr is to encourage waste recycling, separation at source and safe disposal of unavoidable waste.

[9] **Principles** are shared assumptions and truths that policy and action can be based upon.

2.5 Structure of the EMPr

Appendix 4 of the NEMA EIA Regulations, 2014 as amended, specifies the information that is to be included in an EMPr. These information requirements are summarised below in Table 1 and are cross-referenced with the contents of this report, where relevant.

Table 1: Content of EMPr as required by the 2014 EIA Regulations, as amended

Regulation	Description	Reference in the Report
(1)	An EMPr must comply with section 24N of the Act and include:	
(a)	(a) details of; (i) the EAP who prepared the EMPr; and (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae	Section 11 and Appendix A
(b)	a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description	Section 1.3 and Section 2.1
(c)	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	Figure 1
(d)	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 development including; (i) planning and design; (ii) pre-construction activities; (iii) construction activities; (iv) rehabilitation of the environment after construction and where applicable post closure; and (v) where relevant, operation activities	Section 4.1, Section 5.1, and Section 6.1
(f)	a description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraphs (d) 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, where applicable; and (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable.	Section 4.2, Section 5.2, and Section 6.2

Regulation	Description	Reference in the Report
	degradation; (ii) comply with any prescribed environmental management standards or practices; (iii) comply with any applicable provisions of the Act regarding closure, where applicable; and (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable	
(g)	the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 3.2.7
(h)	the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 3.2.7
(i)	an indication of the persons who will be responsible for the implementation of the impact management actions	Section 3.2
(j)	the time periods within which the impact management actions contemplated in paragraph (f) must be implemented	In most cases ongoing during the particular phase of development, except where otherwise specified in the EMPr.
(k)	the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 3.2.7 and Section 8
(l)	a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations	Section 3.2.7 and Section 8.1
(m)	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; and (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	Section 10
(n)	any specific information that may be required by the competent authority	Sections 4 – 6 (incorporated, as relevant)
(2)	Where a government notice gazetted by the Minister provides for a generic EMPr, such generic EMPr as indicated in such a notice will apply	N/A

3 GENERAL SITE MANAGEMENT

3.1 Project and Environmental Management Team

The Project Management Team will consist of the Applicant (Developer), Project/ Site Manager (Resident Engineer/ Site Agent), Environmental Control Officer (ECO), External Environmental Auditor, Health and Safety Officer, Contractors and associated sub-contractors.

The specific names and contact details of the persons responsible within these positions and the sub- contractors involved are tabulated below.

The daily on-site activities will be controlled by the Project/ Site Manager.

Table 2: Site Management Contact Details

Designation	Name	Contact Details
Applicant / Developer / Holder of EA	AHB Logistix (Pty) Ltd	Andries Brand Tel: 083 6409 471 andries@ahblogistix.co.za
Project / Construction Site Manager / Principal Agent	To be appointed	
Environmental Control Officer (ECO)	To be appointed	
External Environmental Auditor	To be appointed	
Occupational Health and Safety Officer	To be appointed	
Contractor(s)	To be appointed	

3.2 Communication, Responsibilities and Complaints Management

3.2.1 General Public

It is the responsibility of the **Applicant** to facilitate interaction with the public. This responsibility includes:

- Informing the neighbouring residents of the intent to commence with the activities and in doing so provide background information as to the duration of the project, the working hours, and necessary contact details;
- Responding to all public complaints or queries whether such complaints are received by the Project/Site Manager, ECO and/or the appointed Contractors;
- Develop and maintain a register of all public complaints/ queries, as well as the Applicant's response to these complaints and queries; and
- Respond to the media and prepare media reports should such requests be received.

3.2.2 Duty of Care

The Applicant, Project Manager and Contractors have a *Duty of Care* towards the environment in terms of Section 28 of NEMA. Section 28 states that "E*very person who causes, has caused, or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by Law or cannot reasonably be avoided or stopped, to minimise and rectify pollution or degradation of the environment*."

The EMPr requires all involved with the development to act in the spirit of "Duty of Care" throughout the various phases of the project.

3.2.3 Contractors

It is the responsibility of the Contractor(s) to:

- Undertake all work on site in accordance with the requirements of the EMPr and Environmental Authorisation;
- Undertake all work on site in accordance with the requirements of the applicable legislation, including the Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997), as amended and the OHSA.
- Undertake regular (at least weekly) "tool-box talks" with personnel, the contents of which must include reference to the EMPr (with a focus on any issues raised by the ECO). Personnel to be made aware of the dangers associated with the work and that they have the right to refuse work that is harmful to human health or the environment;
- Liaise directly with the Applicant, Project/ Site Manager regarding any queries concerning the EMPr or complaints received from the public;
- Liaise directly with the Project/ Site Manager should any environmental problems be identified or actions in breach of the objectives set, take place e.g., littering, oil spill;
- Keep on file proof of safe/ lawful disposal of all wastes generated during the construction phase
- Carry out instructions issued by the Project/ Site Manager; and
- Implementation of / Adherence to the Procurement Strategy.

3.2.4 Project Applicant / Holder of the Environmental Authorisation

The Project Applicant's (Holder of the Environmental Authorisation) responsibilities include the following:

- Attain all necessary approvals and ensure that they are acted on within their validity period and that the conditions of approval are adhered to;
- Appoint a project team capable of implementing the requirements of the EMPr and EA, including an ECO and Landscape Architect (if necessary);
- Fulfil all public relations responsibilities in conjunction with the Municipality;
- Inform the relevant authorities of any site-related problems that may occur during the various phases of the project;
- Attend site meetings when appropriate;
- Liaise with the Project/ Site Manager regarding environmental management on site; and
- Assist the Project/ Site Manager in making decisions and finding solutions to environmental problems that may arise during the operation and closure phases.

NOTE: The Holder of the Environmental Authorisation is ultimately **responsible for ensuring compliance** with the conditions of authorisation by any person acting on its behalf, including, but not limited to, an agent, sub-contractor, employee, or any person rendering a service to the holder of the authorization.

3.2.5 Local Authority

The Local Authority's responsibilities include the following:

- Attend site meetings when appropriate;
- Liaise with the Project/ Site Manager regarding environmental management on site; and
- Assist the Applicant, Project/ Site Manager in making decisions and finding solutions to environmental problems that may arise.

3.2.6 Project (Construction) Site Manager / Principal Agent

The Project/ Site Manager's responsibilities include the following:

- Oversee the day-to-day activities on the site and keep an up-to-date diary of site activities;
- Ensure that the requirements as set out in the EMPr and the conditions of EA are adhered to throughout the lifecycle of the project;
- Direct the Contractors, whenever necessary, to comply with the conditions of the EMPr and EA and recommend corrective action where there is non-compliance with the EMPr;
- The Project/ Site Manager must attend site meetings where required to be able to report on, and respond to any environmental issues, and be issued with copies of minutes of such meetings;
- The Project/ Site Manager must obtain, examine, and approve method statements where applicable;
- Advise the project team on environmental issues within the defined work and surrounding areas;
- Collect and record all waste manifest data sheets;
- Maintain the public complaints register on the site; and
- Review the results of the ECO site visits (Reports) and facilitate any corrective actions that may be necessary.

The Project/ Site Manager has the authority to **stop works** if in his/ her opinion there is a serious threat to, or impact on the natural and/or social environment because of construction activities. This authority is to be limited to emergency situations where consultation with the applicant and/or contractor is not immediately possible. In all such work stoppage situations the Project/ Site Manager is to inform the applicant and contractor of the reasons for the stoppage as soon as possible. The necessary instructions should be issued verbally and followed up with written instruction (e.g., via email).

Upon failure by the contractor to show adequate consideration to the environmental aspects of this contract, the Project/ Site Manager may recommend having the contractor's representative or any employee(s) removed from the site or suspend work until the matter is remedied. No extension of time will be considered in the case of such suspensions, and all costs will be borne by the responsible contractor.

3.2.7 Environmental Control Officer

The Environmental Control Officer's (ECO) responsibilities (if required by the Environmental Authorisation conditions) include the following:

- The ECO must submit written notification of the commencement of work on site to the competent authority;
- The ECO must monitor and report on the level of compliance by the Applicant, Project Manager and Contractors with the approved EMPr and the conditions stipulated in the Environmental Authorisation for the proposed development at the frequency(ies) as stipulated in Section 3.2.7.2 below;
- The ECO must meet with the Project Manager and Contractor(s) before construction begins to present the environmental education training and to go through the contents of the EMPr and EA. The ECO must explain to the Contractors, their environmental responsibilities whilst employed on the site, in particular their Duty of Care towards the environment;
- The ECO will issue an ECO Report/ Checklist after each site visit (or at a minimum once per month) which provides a summary of project progress in general and the findings of the site visit and the level of compliance with the EMPr and EA. The ECO Report must be circulated to the DEA&DP and the Municipality.
- The ECO must be contacted to attend to environmental problems, should they arise on site, and shall recommend corrective action where there is partial- or non-compliance with the EMPr and/or EA;
- The ECO must attend site meetings where required to be able to report on, and respond to, any environmental issues, and be issued with copies of minutes of such meetings;
- The ECO must obtain, examine, and approve method statements where applicable;
- The ECO must manage and keep an up-to-date diary of site activities and a detailed photo record of all site visits;

- The ECO must advise the applicant, Project/ Site manager and Contractors on environmental issues within the defined work areas;
- The ECO shall liaise with the local authority's environmental officer on an as required basis.

The ECO has the authority to **stop works** if in his/ her opinion there is a serious threat to or impact on the environment because of construction activities. This authority is to be limited to emergency situations where consultation with the Project/ Site Manager or Applicant is not immediately available. In all such work stoppage situations the ECO is to inform the Project/ Site Manager and Applicant of the reasons for the stoppage as soon as possible. The necessary instructions should be issued verbally and followed up with written instruction (e.g., via email).

Upon failure by the Contractor or his employee to show adequate consideration to the environmental aspects of this contract, the ECO may recommend to the Project/ Site Manager to have the Contractor's representative, or any employee(s) removed from the site or work suspended until the matter is remedied. No extension of time will be considered in the case of such suspensions and all costs will be borne by the responsible Contractor.

3.2.7.1 Level and Type of Competency of ECO

A suitably experienced environmental practitioner(s), with at least 3 years relevant site supervision experience, will need to act as the ECO.

3.2.7.2 Frequency of ECO Site Visits

The frequency of ECO site visits during the construction phase of civils infrastructure should be as follows:

- Once during the first month of the construction works.
- Thereafter once per month for the duration of the construction phase, based on the level of compliance with the EMPr and EA.

The monthly site visits should, as far as possible, coincide with the monthly site meetings [with the Project Manager and contractor(s)].

An ECO checklist must be completed once per month and must be forwarded to the Project Manager, Contractor(s) and Applicant (developer) within 5 days of the site visit and meeting. *Any environmental problems noted during a site inspection should, however, be brought to the attention of the Project Manager and Contractor as soon as reasonably possible.*

The ECO should undertake *ad hoc* site inspections should environmental problems arise during the construction phases, or when certain milestones have been reached.

The ECO will carry out a final site inspection at the end of the civils construction phase, to undertake an environmental 'close-out' inspection/ audit, to assess compliance with the EA, EMPr and the construction guidelines, and to ensure that satisfactory rehabilitation of any disturbed areas and access roads around the construction sites have been carried out.

Should any environmental problems arise during the construction phase, the RE and/or contractor must immediately inform the ECO to undertake a site visit to assess and attend to the potential environmental problem(s). All works where problems exist are to be stopped until the ECO has been to site and assessed the situation and rectified the problem(s).

3.2.7.3 Reporting on Compliance

The ECO is required to report on compliance in writing to the Project Manager, Applicant, and relevant authorities monthly during the construction phase. The construction phase of the new permanent cold mix asphalt manufacturing plant is anticipated to take place over a period of 3 to 4 months.

Refer to **Section 3.3** with respect to external auditing requirements.

3.2.8 Communication and Record Keeping Procedures on Site

All records related to the implementation of this EMPr (e.g., site instruction book, Site Manager Diary, method statements, environmental authorisation) must be kept together on site where it is safe and can be retrieved easily. These records should be kept for submission to the relevant authorities, if so requested.

3.2.8.1 Site Instruction Entries

An instruction book/ file should be kept on site by the appointed Contractor for the purposes of recording specific important site instructions that need immediate attention. The site instruction book will also be used for issuing "stop work" orders for the purposes of immediately stopping any activities on site due to the environmental risk or impact that may result.

Site inspections will be conducted by an ECO appointed by Applicant/ Developer. The ECO Checklists will serve as a general record of compliances and non-compliances in accordance with the content of the EMPr and EA that need to be addressed during the construction or operational phases of the development. The Project Manager must give immediate attention to any environmental issues that need to be dealt with.

3.2.8.2 Environmental Incidents and External Complaints Register

A register should be maintained by the Project Manager of all environmental incidents occurring on site. The register should record the following information for each incident: date, time, type of incident, person responsible for the incident, corrective action required, immediate corrective action implemented, and whether the incident was reported to the ECO and/or other parties. A register should also be maintained of any complaints and/or comments received from external parties (such as from neighbours and members of the surrounding community or staff of the proposed development site). The register should record the following information for each complaint and/or comment received: date, time, details of the person who lodged the complaint/ comment, details of the complaint/ comment, action required, immediate action implemented, whether the complaint/ comment was reported to the ECO and/or other parties.

3.2.8.3 Minutes of the Site Meetings

The Minutes of each monthly site meeting must be forwarded to the ECO, Contractor, and the Applicant within one week of the meeting taking place. The minutes of the meeting must record any environmental issues that have been raised by the ECO, and that need to be addressed or rectified.

3.2.8.4 Photographs

It is recommended that photographs are taken of the site regularly by the Project Manager and during site visits by the ECO as a visual reference. These photographs should be filed with other records related to this EMPr.

3.2.8.5 Method Statements

Method Statements

Written submissions by the Contractor(s) must be prepared prior to any activity occurring on site if requested by the Applicant, Project/ Site Manager or ECO, or for activities not addressed in this EMPr. The submission will include the plant or equipment to be used as well as materials, labour, and methods to be used to undertake the activity.

The method statement must be completed in such detail that the Project/ Site Manager is enabled to assess whether the Contractor's proposal is in accordance with the environmental objectives set. The format for such a method statement should follow the following format and include the following information:

- **What**? A brief description of the project;
- **How**? A detailed description of the process of work, methods and materials; and where material will be stored;
- **Where**? A description/sketch map of the locality of work (if applicable); and compliance/ noncompliance with the specifications;
- **When**? The sequencing of actions with due commencement and completion date estimates (duration of the activity);
- **Who**? The names of the person/s or companies who are going to undertake the work; and
- **Why**? An explanation of the reason why the work needs to be carried out.

Copies of all approved Method Statement must be kept on site as required in **Section 3.2.8** above.

3.3 External Auditing Requirements

Auditing of compliance with the EA and EMPr needs to be undertaken in accordance with Section 34 of the EIA Regulations 2014 (as amended from time to time). Audit Reports need to meet the objectives and content requirements as

laid out in Appendix 7 to the EIA Regulations 2014 (GNR326) (as amended from time to time). The Authorizing Authority is likely to include conditions relating to auditing in the EA.

3.4 Environmental Awareness

All Contractor teams involved in work on the development are to be briefed on their obligations towards environmental controls and methodologies in terms of this EMPr and conditions of the EA prior to work commencing.

3.5 Financing of Environmental Control

Financing all control measures is the direct responsibility of the Applicant, or each contractor appointed by the Applicant. It is therefore accepted that the costs incurred for implementing the required environmental controls to ensure compliance with local authority By-laws, Provincial and National legislation, the EA and the objectives or requirements specified in this EMPr would be provided for in the specific tender documents.

All responsibilities not defined in the EMPr, or which fall outside of the tender specifications will be the responsibility of the Applicant.

4 ENVIRONMENTAL MANAGEMENT: PRE-CONSTRUCTION PHASE

4.1 Description of the Impact Management Outcomes for the Pre- Construction Phase

The impact management outcomes for the pre-construction phase include the following:

- To ensure that the recommended plans and strategies are prepared and implemented timeously to maximise the benefits of the proposed development and manage the anticipated negative impacts prior to the construction phase commencing.

4.2 Environmental Specifications: Pre-Construction

4.2.1 Prepare Recommended Plans and Strategies

Responsible Entity: The Applicant must take responsibility for ensuring that the required plans and strategies as recommended by the specialist practitioners are timeously prepared and implemented.

The appointed **ECO** is to monitor compliance with the required actions below.

NOTE: The required actions below must be prepared **prior to** commencement of construction.

Required Actions:

- Guidelines should be prepared, where relevant, for the implementation of a Procurement and Communication Strategy that includes the following:
  - Initiate the activity during the first phase of the development after which the implementation of the strategy becomes the responsibility of the contractor(s) collectively under the guidance of the developer;
  - Develop a database of local contractors who are competitive and possess the required skills and capacity to obtain contracts; and
  - Local contractors are invited to tender for work in the context of the terms and conditions that should be included in Request for Proposal (RFP) documentation.
  - Inform local people that enquire about employment opportunities of the procurement strategy and the terms of conditions that are applicable to procurement and employment.
- Define/ determine the performance criteria for the project and institute a monitoring programme of construction performance.

5 ENVIRONMENTAL MANAGEMENT: CONSTRUCTION PHASE

5.1 Description of the Impact Management Outcomes for the Construction Phase

The impact management outcomes for the construction phase include the following:

- To control all aspects of the construction phase by implementing the necessary impact management actions and recommendations to manage any temporary or permanent negative environmental impacts.
- To ensure the conservation of the natural resource base on the site, and institute measures to prevent the degradation of the natural resource base from taking place, including:
  - To protect and conserve animal life, including birds and snakes which may occur within the development area.
  - To prevent fires from arising from the construction site.
- To ensure the conservation and sustainable use of scarce water resources by instituting measures to minimise water use during the construction phase of the project.
- To ensure waste minimisation and recycling of all waste at source and ensure that recyclables enter the waste stream by engendering an ethic of waste management amongst construction staff.
- To ensure that no stormwater is discharged to the working areas and further to ensure that the stormwater leaving the footprint of the proposed development area is not contaminated by any substance.
- To prevent any impacts on air quality, such as dust and smoke pollution, that could result during the construction phase of the project.
- To minimise the visual (aesthetic) impact of the development, during the construction phase, on the surrounding environment.
- To ensure the conservation of the archaeological and heritage resources on the site, by checking for such resources in any excavations undertaken.
- To optimise the social benefits of the development, local builders and contractors should enjoy preferential appointments to install infrastructure.
- To maintain and/or enhance security levels around the development site, during the construction phase of the development.

5.2 Environmental Specifications: Construction

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
E.1 GENERAL CONSTRUCTION MANAGEMENT				
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E.1.1 Establish appropriate partnerships and good relationships with local authorities, local community (including adjacent landowners), and contractors**				
Potential Impact: Poor relations with project stakeholders and the negative implications for project support, such as *developer interest*, and for project implementation, such as *authority approval*. **Target Outcome:** Appropriate partnerships and good relationships with local authorities, the local community (including adjacent landowners) and contractors established for the duration of the project life-span.	1. Ensure appropriate communication with all local authorities, local communities, and contractors.	To be undertaken by professional team and ECO, project manager (consulting engineer and/or site agent) as an ongoing process.	The **Project Manager** must take responsibility for establishing good relations.	The appointed **ECO** is to monitor environmental contractual obligations of contractors on an ongoing basis and must undertake the required environmental inductions and training of contractors. **Monitoring Frequency**: Monthly ECO Checklists
	2. Contractors to be fully informed by the ECO as to their environmental contractual obligations.	ECO to monitor environmental contractual obligations of contractors on an ongoing basis.		
	3. The ECO to give a presentation to contractor and site staff to familiarise them with the environmental aspects of the contract. The Contractor and staff must attend this meeting.	ECO and RE to meet with Contractor and staff before construction commences to initiate the EMPr.		
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E.1.2 Set-up of construction site and site offices:**				
Potential Impact: Deterioration of environment surrounding construction site. **Target Outcome:** Undertake construction works without adversely affecting the environment through the implementation of appropriate management measures.	1. Communicate with Contractor to ensure that all the environmental specifications are understood and carried out.	To be undertaken by ECO and site agent before construction commences.	The **Project Manager** must take responsibility for the setting up of the construction site and site offices and must ensure that construction activities are undertaken in such a manner as to not adversely affect the environment.	The appointed **ECO** is to ratify the areas designated for the below uses and must monitor compliance with the required actions.

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
	2. The Contractor must point out and demarcate the construction site and site offices. This area is to be fenced off and must be locked outside working hours.	To be sanctioned by the site agent before construction commences.		**Monitoring Frequency**: Monthly ECO Checklists
	3. Control all construction in terms of the EMPr.	ECO to inform and educate the construction staff and RE of the *Construction Guidelines* and the *Recommendations for Clearing of Invasive Alien Vegetation* prior to commencement of construction. ECO to monitor compliance.		
	4. Construction material (concrete and raw materials) must be stored in designated areas in a neat and orderly manner.	Area for construction material to be designated by the ECO and to be in a secure area. ECO to monitor compliance.		
	5. Contractor to store building rubble in a suitable designated area, with rubble removed from the site on a weekly basis (if not to be used as fill).	Area for building rubble storage to be designated by the ECO. Contractor to remove builder's rubble on a weekly basis. ECO to monitor compliance.		

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
	6. The Contractor must indicate the storage area for all spoil from the site. Trucks removing spoil must remain on designated access road/s. Access Road/s must be well maintained.	ECO to assess spoil storage areas and to monitor the condition of the road.		
	7. All other solid waste is to be kept in appropriate containers with lids and removed from the site on a weekly basis to a licensed waste disposal facility. The burning of solid waste and paper on site will not be allowed. Recyclable waste (e.g., paper, glass, tin, plastic) should be recycled if possible.	Contractor to remove the solid waste on a weekly basis. ECO to monitor compliance.		
	8. Only one refuelling area should be provided at the stores/site office. A bunded pit (large enough to contain 110% of the fuel volume to be stored) must be built beneath the fuel container. A concrete apron must be cast on the outside of the bunded area to contain diesel spills and drips. A sand layer, ± 150 mm thick, can be placed on top of the floor of the bunded pit. The sand layer must be replenished from time to time according to the degree of contamination. The contaminated soil must be removed to a licensed waste disposal facility that accepts such toxic waste.	ECO to supervise and monitor. Contractor to report all fuel and oil spills to the ECO immediately and to remove contaminated soil to a licensed waste disposal facility.		

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
	9. Concrete mixing must be restricted to a designated area on site and cement residues to be removed from site as soon as possible. Two wastewater catch pits must be constructed in series for the capture of cement residues from cleaning of the cement mixer. Residues are to be removed from site from time to time.	ECO to monitor compliance. Contractor to remove cement residues from site as directed or at the end of contract.		
	10. Prevent cement spills or clear such accidental spills on any exposed soil on/near the site as soon as possible as cement powder has a high alkalinity pH rating that can contaminate and affect both soil and water pH dramatically. This will have negative impacts on surrounding vegetation.	Contractor to remove any spilt cement on exposed soil as soon as possible.		
	11. All parked mechanical vehicles must have a drip tray present to prevent spillage of oils and fuels. Used oil (from servicing of vehicles) should be recycled or disposed of at a hazardous waste disposal facility. All spills are to be addressed immediately to prevent seeping into the ground.	ECO to monitor compliance. Contractor to recycle or dispose of used oils at hazardous WDF. Contractor is also to dispose of contaminated soil at a hazardous waste disposal site and to ensure that spillage of hazardous substances on site is addressed immediately and appropriately.		
	12. All spills are to be addressed immediately to prevent seeping into the ground.	Safety, Health & Environmental Officer to monitor the generation of any dust and advise the Contractor to mitigate accordingly.		
	13. A hydrocarbon spill kit must be provided on-site, and personnel must be trained in its use.			
	14. Disturbed areas where dust can arise should be kept moist by spraying with water from a bowser or by using other suitable means such as straw stabilisation. Water use for wetting of roads should not be potable water. It can be obtained from dams or the use of treated effluent.			

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E.1.3 Prevent possible negative impacts of construction personnel on the environment**				
Potential Impact: Deterioration of environment surrounding construction site. **Target Outcome:** Preserve conditions of surrounding natural environment.	1. Contractors will be responsible for the conduct of their personnel on site, as it pertains to trespassing, littering, and unacceptable social behaviour.	Contractor responsible for social management. ECO to monitor for duration of contract.	The **Project Manager** and responsible **Contractor(s)** must take responsibility for regular Staff training and education regarding the environmental implications of construction activities to prevent / minimise the impacts of construction activities on the environment.	The **appointed ECO** is to monitor compliance with the required actions below for the duration of the contract(s). ECO must inform construction personnel of environmental rules, which apply during the construction period. This includes informing personnel of the environmental sensitivities of the receiving environment as well as how they should conduct themselves on site. **Monitoring Frequency**: Monthly ECO Checklists
	2. ECO must inform construction personnel of environmental rules to apply during construction period.	ECO to meet with Contractor prior to commencement of construction in new areas to inform workers of the sensitivities of the site and how they should conduct themselves.		
	3. Maintain strict supervision over all construction activities.	ECO to monitor construction activities and if any adverse impacts occur, he must inform the Site Agent, RE and client of such conduct on an ongoing basis.		
	4. All construction workers must stay within the development area demarcation and no personnel will be allowed beyond the demarcated area.	Contractor responsible for ensuring that personnel do not move beyond the demarcated areas of the site. ECO to monitor for duration of contract.		
	5. The contractor must provide temporary chemical toilet facilities at the stores/ site office area, and work sites, where possible.	Contractor responsible for the functionality of the toilet facilities on site. ECO to monitor		

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
	A minimum of one toilet and one handwash basin shall be provided per 15 persons at each working area or as stipulated by the local authority. In addition, at least one urinal should be provided for every 40 males on site or as stipulated by the local authority. The toilets and urinal(s) must be kept in a clean and sanitary condition and must be regularly serviced (on at least a weekly basis).	Condition of such facilities.		
	6. Contractors must be informed of the efficient energy (electricity) use during construction. When not in use lights, angle grinders, motors etc. must be switched off.	Contractor to ensure energy used on site is conserved wherever possible.		
	7. Designated eating areas must be provided for staff. Lidded bins must be provided for any waste.	Contractor to indicate areas suitable for eating on/off site. Safety, Health & Environmental Officer to monitor cleanliness of such area/s.		
	8. Construction staff will not be allowed to stay on site and must be bussed to site each day.	ECO to monitor for duration of contract.		

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY):				
CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
E.1.4 Ensure that the construction phase meets the required performance criteria				
Potential Impact: Sub-standard contractor work during the construction work could lead to several negative impacts, such as delayed deadlines, financial implications and unnecessary harm to the natural environment and/or surrounding the site. **Target Outcome:** Contractor compliance with the EMPr and hence, minimal environmental damage due to construction works.	1. Inform all contractors and their staff of the performance criteria.	To be undertaken by ECO prior to Commencement of construction.	The **Project Manager** must ensure that the construction phase meets the required performance criteria and inform the Client of any time delays or non-performance during the contract period.	The appointed **ECO** is to monitor compliance with the required actions below for the duration of the contract(s). **Monitoring Frequency**: Monthly ECO Checklists
	2. Institute and maintain a monitoring programme of construction performance.	Site Agent to supervise worker behaviour on a daily basis and to be monitored by ECO.		
	3. Monitor construction work.	Project Engineer to monitor progress and impacts and inform client of any time delays or non-performance during contract period.		
	4. Ensure that contractors adhere to the guidelines in respect of littering, sanitation, spills of toxic substances and general behaviour.	ECO to monitor significant impacts.		

E2 BIOPHYSICAL MANAGEMENT PROGRAMMES				
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E2.1 Fauna and Flora**				
E2.1.1 Alien plant management				
CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
Potential Impact: Alien vegetation infestation on the site and ecosystem implications thereof. **Target Outcome:** Effective management of the terrestrial habitat and vegetation present on the site.	1. Any alien vegetation present on the site must be removed by appropriate means according to national legislation requirement.	Alien plant management is a long- term commitment and must be continued by the holder of the EA.	The **Project Manager** and **Contractor(s)** must ensure that the terrestrial habitat and vegetation present on and around the development site is effectively managed.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists
E2.1.2 Fire Management Plan				
Potential Impact: Fire outbreak due to construction activity. **Target Outcome:** No incidents of fire outbreak on site due to effective fire management.	1. Utmost caution must be taken not to make any fires on the site (e.g., burning of removed brushwood or for heating of food), especially during summer.	Contractor to reduce fire risk on site. ECO to monitor for duration of contract	The **Project Manager** and **Contractor(s)** must take the necessary measures to reduce the risk of fire on the property. The **Project Manager** must ensure that the required insurance(s) is in place.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists
	2. The contractor(s) must have the appropriate insurance for fires caused by their personnel.	Contractor to ensure that insurance against fire outbreak due to activity of their construction personnel on site is established, to ensure recovery can be undertaken in the aftermath of any fire outbreak.		
	3. Fire safety equipment (fire beaters and extinguishers) should be kept on site and fire training should be provided to personnel.	Contractor to provide fire safety equipment on site. ECO to monitor for duration of the contract.		

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
E2.1.3 Minimise disturbance to fauna				
Potential Impact: Disturbance to and displacement of fauna on and/or surrounding site and/or poor handling of such instances. **Target Outcome:** Minimise incidents of fauna disturbance/displacement and/or surrounding site due to construction works and appropriate intervention where such cases occur.	1. Contractors must not harm or disturb any wildlife, especially snakes, tortoises, lizards, and birds.	ECO/Contractor to monitor. The Contractor must report all incidents of harm to any fauna to the ECO who will report such incidents to the authorities.	The **Project Manager** and **Contractor(s)** must ensure that harm to fauna and avifauna is prevented, and disturbance is minimised. All incidents must be recorded and reported to the ECO on an ongoing basis.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists
	2. Snakes, tortoises, and other animals must be physically removed from the construction site without harming them and taken to an appropriate location (e.g., a nature reserve). Only competent snake handlers must be Employed to move snakes, should it be necessary.	ECO/Contractor to monitor on a going basis.		
	3. Care must be taken when driving on site to not accidentally drive over tortoises or other animals.	ECO/Contractor to monitor. The Contractor must report all incidents of harm to any fauna to the ECO who will report such incidents to the authorities.		

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): E2.2 Water				
E2.2.1 Institute measures to minimise potable water use during construction phases of project				
CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
Potential Impact: Wastage of potable water during the construction phase. **Target Outcome:** Ensure that the necessary measures to reduce potable water use are undertaken during the construction phase, where possible.	1. No abstraction of any use of surface water or groundwater may be done without prior authorisation from the Department of Water and Sanitation unless it is a Schedule 1 Use or an Existing Lawful Use.	Project Manager to take note. ECO to monitor if any water is extracted from any surface- or ground-water source.	The **Project Manager** and **Contractor(s)** must institute the necessary measures to minimise the use of water during the construction phase of the project.	The appointed **ECO** is to monitor compliance with the required actions below throughout the construction period. **Monitoring Frequency**: Monthly ECO Checklists
	2. No pollution of surface or ground water may occur due to any activity on the property. The relevant requirements of the National Water Act, 1998 (Act No. 36 of 1998), as amended (NWA) must be complied with at all times.	The ECO or Project Engineer to monitor use of water during construction and advise accordingly. Appropriate training of staff in water management will be given by the ECO. No potable water is to be used for wetting of roads. Water from dams or treated sewerage effluent should be used.		
	3. Contractors must use water sparingly during the construction phase (e.g., for mixing of concrete and washing of equipment). Should dust become a nuisance to surrounding industries, efficient use of non-potable water to wet dusty surfaces should be employed.			
	4. The necessary ablution facilities must be provided (one chemical toilet per 15 workers), if not already existing on site and available for use by construction personnel.	Project Manager to provide necessary amount of toilet facilities on site, if not already existing and available. ECO to monitor for duration of contract.		

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E2.4. Waste and Effluent Management**				
E2.3.4 Institute measures to reduce waste and effluent management				
Potential Impact: Pollution of the surrounding environment due to poor waste and effluent management. **Target Outcome:** Appropriate waste and effluent management.	1. An integrated waste management approach must be used that is based on waste minimisation and must include reduction, recycling, re-use, and disposal where appropriate. Recycled waste (cement packets, paper, and cardboard) should be separately stored for inclusion into the waste stream.	ECO to advise on the integrated waste management approach undertaken and the implementation thereof for the duration of the contract.	The **Project Manager** and **Contractor(s)** must institute measures to minimise the generation of waste and to implement the sorting (at source) or recyclables materials out of the waste stream.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists
	2. Solid waste must be properly disposed of at a licensed waste disposal facility and must comply with the relevant legislation.	Solid waste to be removed from the site to a licensed WDF on a regular basis to be determined in consultation with the ECO, for the different phases of construction.		
	3. Waste bins must be used on site. The bins must have lids and an external closing mechanism to prevent scavenging and/or the contents from blowing out. Access to the temporary storage area should be controlled.	ECO to monitor the maintenance of the waste bins and the conditions of the temporary storage area on site for duration of contract.		

	4. All waste must be deposited in the waste bins for removal. The bins must not be used for any other purpose than waste collection and must be emptied on a regular basis by the contractor at a suitably licensed waste disposal facility. Proof of disposal slips must be kept on site.	Site Agent to ensure that waste is correctly deposited into the waste bins on site and that all waste disposal slips are kept on file. ECO to monitor for duration of contract.		
	5. No domestic waste should be stored on site for longer than two (2) weeks.	Site Agent to ensure that domestic waste is removed from site regularly, as and when needed – but no longer than two weeks.		
	6. No solid waste is to be burnt on site.	Site Agent to ensure that personnel are aware that no solid waste is to be burnt on site.		
	7. Portable toilets to be placed further than 15 m from the closest industry, if not already existing on site and available for use by construction personnel.	ECO to advise on placement of portable toilets, if necessary, with Site Agent and to monitor the placement and condition of these toilets for duration of contract.		
	8. Building rubble generated during the construction phase should be diverted from landfill where possible for re-use in the construction of internal roads or taken to the nearest drop-off facility for crushing.	Site Agent should attempt to reduce waste sent to landfill through the re-purposing of builder's rubble in road construction for the site, where possible. ECO to advise Site Agent on rubble disposal where relevant for duration of contract.		
	9. All general and hazardous waste generated, during all project phases must be recorded and records of applicable documentation are to be filed and kept on-site including safe disposal certificates from a registered service provider. The service provider must dispose of all general and hazardous waste at a registered waste disposal facility. All records of waste generated, and any waste related complaints must be kept on site.	ECO to monitor the record of waste generated and disposed of kept on site for all phases of construction, and throughout the duration of contract.		

	10. Waste storage must comply with the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended (NEM:WA), National Norms and Standards for Storage of Waste, 2013, if the storage of general waste exceeds 100 m^3 or that of hazardous waste exceeds 80 m^3.	Site Agent to be aware of the relevant waste legislation applicable to waste storage for the construction phase. ECO to monitor the compliance of waste storage on site with the relevant legislation for duration of contract.		

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E2.5 Traffic Management Plan**				
E2.3.5 Institute measures to reduce traffic				
Potential Impact: Increased traffic for existing motorist movement in the surrounding areas due to the influx of vehicle movement on and off site for the duration of the construction period and during peak traffic hours. **Target Outcome:** Minimise risk of construction related traffic on existing motorists within the vicinity of the site, specifically within peak traffic hours.	1. Road construction signs to be erected along appropriate roads, warning motorists of construction related activities and heavy vehicles. The use of flagmen should be considered, if necessary.	Site Agent to institute measures such as signs and other traffic signals to assist and notify existing motorists of construction activity around the site. ECO to assess the appropriateness of attempts by the Site Agent to warn motorists of construction activity.	The **Project Manager** and **Contractor(s)** must institute measures to minimise the risk of construction related activities on motorists using the roads in the vicinity of the site.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists
	2. Large construction vehicles and trucks must travel outside of typical weekday peak hours in the vicinity of the site.	Contractors to be instructed by Site Agent to ensure large construction vehicles travel during off-peak traffic hours.		
	3. Promote carpooling among construction staff to reduce the number of individual vehicles on the road.	Contractors must encourage personnel to carpool to site daily to reduce pressure placed on existing traffic.		
	4. Structural damage to roads in the vicinity of the construction site must immediately be repaired by the contractor responsible (in accordance with Provincial/ Municipal Road standards).	Site Agent to liaise and communicate responsibility for structural road damage with Contractors. Project Manager to hold Contractors responsible for any structural road damage caused. ECO to monitor response to structural road damage caused by construction vehicles for duration of contract		
	5. Roads must be kept clear of sediment due to construction activities.	Site Agent to commission personnel to sweep the adjacent roads off-site where they are affected by sediment deposition due to construction		

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
		work. ECO to monitor the condition of adjacent off-site roads for duration of contract.		
	6. Store construction materials and equipment in a way that minimizes interference with traffic flow.	Site Agent to ensure that construction materials storage does not hinder traffic flow. ECO to monitor for duration of contract.		
	7. Continuously monitor traffic patterns and adjust mitigation measures as needed to address any changing conditions and issues that arise.	ECO to communicate with Site Agent regarding any regarding any changing conditions in surrounding traffic that demand a change in the current traffic management plan approach.		
	8. Store construction materials and equipment in a way that minimizes interference with traffic flow.	Site Agent to ensure that construction materials storage does not hinder traffic flow. ECO to monitor for duration of contract.		
	9. Continuously monitor traffic patterns and adjust mitigation measures as needed to address any changing conditions and issues that arise.	ECO to communicate with Site Agent regarding any regarding any changing conditions in surrounding traffic that demand a change in the current traffic management plan approach.		

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E2.6 Energy Management**				
E2.6.1 Use electricity sparingly during construction				
Potential Impact: Waste of energy (electricity) sources on site. **Target Outcome:** Save energy (electricity) use on site, wherever possible.	1. The contractors must be informed of the efficient use of energy (electricity) during construction. When not in use appliances (lights, electrical machinery, motors etc) must be switched off.	ECO and site agent to monitor for the duration of the contract period.	**Engineers** to acknowledge the required actions regarding energy saving and to incorporate into their designs. The Municipality should only approve energy efficient designs.	**ECO** and site agent to monitor for the duration of the contract period. **Monitoring Frequency**: Monthly ECO Checklists
	2. Electrical and electronic installations to be undertaken in accordance with the specifications of the appointed electrical engineers.	Municipality to ensure that such specifications are incorporated in the plans.		
	3. Solar generated lighting should be used where possible, to reduce the developments dependence on electricity from the municipal supply grid.	Project Engineer/s to acknowledge the required actions with regard to energy saving. The Municipality to only approve energy efficient designs.		
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E2.7.1. Dust and Air Quality Management**				
E2.7.1. Prevent Dust and other Air Quality impacts through effective management				
Potential Impact: Increased dust and air pollution due to poor management of dust on and off site caused by construction activities. **Target Outcome:** Minimise dust pollution during the construction phase of the project.	1. Any stored building material from which dust could be generated, such as stockpiled building sand, should be covered or kept moist during windy periods to prevent dust from being generated.	Site Agent to source covering material/methods for exposed stockpiles on site during windy periods and when not in use. ECO to monitor provision and use of Stockpile covering material, particularly during windy periods.	The **Project Manager** and **Contractor(s)** must institute measures to minimise dust pollution during the construction phase of the project.	The appointed **ECO** is to monitor compliance with the required actions.

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
	2. The excavation, handling and transport of erodible materials must be avoided under high wind conditions.	Contractors should avoid the movement of erodible materials during windy conditions unless absolutely necessary. Site Agent to commission personnel to address any sediment deposition post- movement. ECO to monitor measures undertaken to reduce dust by Contractors.		
	3. Dust generated from the construction activities must comply with the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), as amended (NEM:AQA), National Dust Control Regulation (GN No. R. 827) of 1 November 2013. These regulations prohibit a person from conducting any activity in such a way as to give rise to dust i such quantities and concentrations that the dust, or dust fall, has a detrimental effect on the environment and nearby receptors.	Contractors and Site Agent to take note of applicable dust legislation and to ensure compliance with such for duration of contract - ECO to monitor.		
	4. Staff may only be allowed to smoke within demarcated areas. Cigarette butts must be disposed of in the lidded waste bins provided.	Site Agent to demarcate dedicated smoking areas for Contractors and their personnel in consultation with the ECO. ECO to monitor smoking and signs of smoking in areas outside of this demarcated zone.		

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
	5. No fires will be allowed on site. The burning of solid waste and paper on site will therefore also not be allowed.	Contractors to take note of the prohibition of fires on site. ECO to monitor the management of waste on site and to record any signs of burning of waste on site.		
	6. All vehicles and motorised equipment used on site must be maintained in a good condition to prevent and/or minimise excessive diesel fumes from such vehicles and equipment.	Contractors to ensure construction vehicles are regularly serviced and in good-working order. ECO to record any construction equipment or vehicles spewing excessive diesel fumes and to address the relevant vehicles' service requirements with Contractors.		
	7. Use dust suppression techniques (e.g., spraying bare surfaces with non-potable water and limiting driving speeds).	Site Agent to Commission dust suppression techniques on site – such as the spraying of water on erodible material surfaces that have the potential to generate dust. Contactors to instruct personnel to limit driving speeds so as to reduce dust creation.		

E.3 SOCIO-ENVIRONMENTAL MANAGEMENT PROGRAMMES				
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E3.1 Noise Management Plan**				
E.3.1.1 Institute measures to minimise noise pollution during construction phase of the project				
Potential Impact: Increased noise pollution developing a nuisance for the surrounding communities and/or affecting the workable conditions for neighbours. **Target Outcome:** Minimise noise pollution from construction activity wherever possible.	1. All plant equipment, including vehicles, must be properly maintained to minimise noise generation.	Contractors to ensure all plant equipment is in good working order and are fitted with silences, where necessary.	The **Project Manager** and **Contractor(s)** must institute measures to minimise noise pollution during the construction phase of the project.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists
	2. Any complaints regarding noise must be investigated, sources identified, and mitigation measures implemented. Feedback on resolution of the issue must be provided to the complainant and the noise control officer of the Local Authority.	Site Agent to ensure a complaints register is kept on file and the ECO is liaised with regarding noise complaints and the addressal of these with the complainant and the Local Authority.		
	3. Limit working hours to daylight hours.	Contractors to ensure work only takes place after daylight hours if absolutely necessary and communicates such after-hour intentions with the ECO before-hand so as to ensure such works are managed for noise generation.		
	4. Ensure silencers are installed on all vehicles.	Contractors to install silencers on all vehicles – ECO to monitor sound generation from vehicles on site.		

CONSTRUCTION PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
	5. Cover exposed waste daily to limit odours.	Site Agent to ensure that covering materials are available on site to cover exposed waste. ECO to monitor the covering of exposed waste and the significance of odours from waste on site.		
	6. Noise generated from construction activity(ies) must comply with the Western Cape Noise Control Regulations P.N. 200/2013.	Contractors and Site Agent to take note of relevant noise legislation applicable to construction work. ECO to ensure construction work compliance with relevant noise legislation.		
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E3.1 Archaeological and Heritage Resources**				
E.3.1.1 Conserve all archaeological settings and artefacts				
Potential Impact: Damage and/or the loss of valuable archaeological settings and artefacts. **Target Outcome:** All archaeological settings and artefacts are reported and conserved.	1. If any unmarked human remains are uncovered or exposed during construction activities, these must immediately be reported to HWC.	ECO to monitor excavated materials and inform HWC of any finds.	The **Project Manager** and **Contractor(s)** must ensure that all archaeological settings and artefacts are reported and conserved.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): E3.2 Aesthetics (Visual) Impacts				
E.3.2.1 Institute measures to minimise the visual impacts of the development.				
Potential Impact: Change in visual character of the site from a predominantly open area to a developed industrial area. **Target Outcome:** No negative effect on the character of the landscape and enhanced scenic experience.	1. For security and operational lighting to result in minimal visual impact to the immediate context, the Contractor should use lighting only where necessary, and lighting should be positioned at a lower level i.e., bollard height.	Contractors to reduce lighting exposure where possible. ECO to monitor how Contractors have Minimized light exposure for the construction works.	The **Project Manager** and **Contractor(s)** must institute measures to minimise the visual impacts of the development.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists
	2. For the reduction of potential negative impacts during the construction phase, the following management procedures should be implemented: • Reduce the construction period through proper planning and management, in addition to the productive implementation of resources; • Restrict the activities and movement of construction workers and vehicles to the immediate construction site as • much as possible; Ensure that rubble, litter, and disused construction materials are managed and removed regularly; • Ensure that all infrastructure and the site are maintained in a neat manner; • Reduce and control construction dust using approved dust suppression techniques; Rehabilitate all disturbed and construction areas to acceptable visual standards.	ECO to monitor the visual condition of the site due to construction activity to ensure that measures have been instituted to reduce visual impacts where possible.		

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): E3.2 Socio-Economic Benefits of the Development: Procurement Strategy (Job Opportunities)				
E.3.2.1 Institute measures to ensure a fair procurement strategy is maintained				
Potential Impact: Employment opportunity for locals through the construction phase of the project would be lost. **Target Outcome:** Maintenance of a fair procurement policy and the empowerment of local/surrounding communities through employment.	1. Contractors need to show a commitment to employ people from the immediate area whenever possible.	Contractors to ensure compliance with and monitor the local Procurement strategy.	The **Project Manager** and **Contractor(s)** must institute measures to ensure a fair procurement strategy is maintained. The **Applicant** or **Project Manager** is to report on compliance with the respective strategies.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists
	2. Implementation of the Procurement Strategy referred to in Section 4.2.1 above. The temporary job opportunities during the construction phase should be allocated to persons from the local community (e.g., Worcester Municipal Area) as far as possible.	ECO to include the Procurement and Communication Strategies in the induction session with Contractors.		
	3. Implementation of the Communication Strategy referred to in **Section 4.2.1** above.			

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): E3.4 Security				
E.3.4.1 Minimise security risk during the construction phase				
Potential Impact: Theft and damage to construction site and/or equipment and vehicles as well as harm to any persons on site due to poor security on site and misconduct of personnel. **Target Outcome:** Minimise security risk on site during the construction phase.	1. The Contractor(s) will be responsible for the security of their builder's site and the conduct of their personnel for the duration of the services and building contracts.	The Contractor and developer will need to monitor security issues.	The Project Manager and Contractor(s) must institute measures to minimise security risk during the construction phase. **Contractor(s)** are responsible for the behaviour of their personnel on site and is to assume financial and functional responsibility for any theft undertaken by their personnel.	The appointed **ECO** is to monitor compliance with the required actions. **Monitoring Frequency**: Monthly ECO Checklists

6 ENVIRONMENTAL MANAGEMENT: OPERATIONAL PHASE

6.1 Description of the Impact Management Outcomes for the Operational Phase

The impact management outcomes for the operational phase include the following:

- To control all aspects of the operational phase of the development by implementing the necessary impact management actions and recommendations to prevent any temporary or permanent negative environmental impacts from occurring in the future.
- To ensure the conservation and sustainable use of scarce water resources by instituting measures to minimise potable water use during the operational phase of the project.
- To minimise the atmospheric impact and the hazardous risk of the development, during the operational phase, on the surrounding environment.

6.2 Environmental Specifications: Operation

OPERATIONAL PHASE MANAGEMENT				
POTENTIAL IMPACT	**REQUIRED ACTIONS**	**SPECIFIC TARGETS AND RESPONSIBILITY**	**RESPONSIBLE ENTITY (TO IMPLEMENT REQUIRED ACTIONS/MITIGATION)**	**MONITORING: RESPONSIBLE PARTY, ACTION AND FREQUENCY**
E.1 GENERAL OPERATIONAL MANAGEMENT				
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E.1.1 Terrestrial Habitat Offsite**				
Potential Impact: The potential facilitation of alien vegetation invasion and the disturbance of the terrestrial habitat off-site due to the operation of the site. **Target Outcome:** Manage edge effects of the asphalt plant on the various biological aspects	1. Removal of listed alien invasive species on the site according to national legislation requirement, where applicable. 2. Ensure no exotic species spread into the surrounding vegetation.	To be undertaken by Applicant / project manager (consulting engineer and/or site agent), also referred to as the 'Management Entity', on an ongoing process.	The **Management Entity** of the site must ensure that the edge effects of the Truck Stop on the various biological aspects are effectively managed.	**Management Entity** to monitor on an ongoing basis.

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E.1.3 Water Use and Prevention of Water Pollution**				
Potential Impact: Wastage of water resources and the pollution of surface and groundwater through poor water management practices. During the operational phase. **Target Outcome:** Wise and efficient water use and the prevention of water pollution.	1. Water conservation measures must be implemented within the site. Ensure that water is sparingly used during the operational phase.	The Management Entity should ensure that all developers and/or buyers of the operational industrial development site are made aware of the importance of water conservation measures.	The **Management Entity** of the Truck Stop must engender an ethic of responsible water use on site.	Management Entity to monitor on an ongoing basis.
	2. No pollution of surface or ground water may occur due to any activity on the site. The relevant requirements of the NWA must always be complied with.	The Management Entity must take note that a no pollution tolerance should be tolerated with regards to surface and ground water pollution from any activity on site, and in such cases, appropriate measures should be taken to rectify the pollution.		

ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E.1.4 Air Quality Impacts** ***Fugitive dust, combustion products, and VOC emissions from the following operations: transport, storage, and; vehicle exhaust emissions.***				
Potential Impact: Fugitive dust, combustion products, and VOC emissions from the operation. **Target Outcome:** Manage and monitor the atmospheric impact during the operational activities.	1. Minimise site surface silt loading through sweeping, vacuuming, or washing to reduce vehicle entrained dust. Theorical calculations indicate the silt loading should be kept below 20 g/m^2.	Management Entity to commission routine sweeping, vacuuming, or washing to address vehicle entrained dust and other site surface loading.	The **Management Entity** of the site must manage and monitor the atmospheric impact of the operation of the Truck Stop.	Management Entity to implement and monitor on an ongoing basis.
ENVIRONMENTAL ASPECTS (PROJECT ACTIVITY): **E3.5 Archaeological and Heritage Resources**				
E.3.5.1 Conserve all archaeological settings and artefacts				
Potential Impact: Damage and/or the loss of valuable archaeological settings and artefacts. **Target Outcome:** All archaeological settings and artefacts are reported and conserved.	1. All finds of human remains must be reported to the nearest police station. Furthermore, the South African Heritage Resources Agency (SAHRA) must be contacted if any human remains are found during the operational phase of the project.	The Management Entity must ensure that any finds of human remains are reported immediately to the appropriate channels, i.e., nearest police station, SAHRA.	Should the **Management Entity** of the site find any archaeological objects of any nature (including fossils, graves, or remains of structures), the Management Entity must notify the appointed ECO. South African Heritage Resources Agency (SAHRA) must be consulted for further investigation and clarification.	Management Entity to monitor on an ongoing basis.
	2. Human remains or any burial ground or part thereof that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed, or removed from their original positions without a permit from HWC.	Management Entity to ensure that all developers and/or buyers within the operational industrial site are made aware, during the contractual process, that the finding of any human burial remains on the site are not removed without the respective heritage authority permit.		

	3. Under no circumstances must the Management Entity, his/ her employees, his/ her subcontractors, or his/ her sub-contractors' employees remove, destroy or interfere with archaeological artefacts. Any person who causes intentional damage to Archaeological or historical sites and/or artefacts could be penalised or legally prosecuted in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), as amended (NHRA).	The Management Entity must furthermore ensure that all developers and/or buyers within the operational industrial site are made aware, during the contractual process, of the legislative seriousness of the damage to any heritage resource found on site.		

7 MONITORING AND MANAGEMENT MEASURES

In keeping with current environmental and associated legislation, all environmental management procedures and actions should be reviewed and refined on an on-going basis. This is in accordance with the dynamic nature of environmental management and allows for the timeous identification and mitigation of issues as they come to light. The process of review and refinement, built into the requirements of the EMPr, is known as Monitoring and Auditing.

7.1 Monitoring Procedures

Environmental Monitoring is the continuous evaluation of the status and condition of environmental elements. Its purpose is to detect changes that takes place in the environment over time and involves the measuring and recording of physical, social, and economic variables associated with development impacts.

To these ends, the ECO will monitor the site for compliance (i.e., Compliance Monitoring) with the EMPr and EA. Many techniques for Environmental Monitoring have been proposed, each detailing a specific protocol. Regardless of which technique is used, the aim is that each environmental management specification (and associated impact management actions) be checked by means of a system in which a score may be allocated for:

- Full compliance;
- Satisfactory performance;
- Unsatisfactory performance; and,
- No action.

Monitoring will take place regularly (to coincide with safety inspections, where relevant). Completed ECO Monitoring Reports will be submitted to the Project Manager and Contractor(s), who will attend to issues/ rectify non-compliances and report back to the ECO. These ECO reports must be kept on record and be made available upon request by the Applicant and the Competent Authority.

The EMPr and EA conditions of authorisation apply as follows:

- All persons employed by the Applicant, Contractor(s) and/or Management Entity must abide by the requirements of these EMPr and EA conditions as they apply to the site.
- Any employees of the Applicant, Contractor(s) and/or Management Entity found to be in breach of any of the Environmental Specifications may be ordered to leave the site forthwith. The order may be given orally or in writing by the Project Manager or ECO. Confirmation of an oral order will be given as soon as practicable but lack of confirmation in writing shall not be a cause for the offender to remain on site.
- Supervisory staff of the Applicant, Contractor(s) and/or Management Entity may not direct any person to undertake any activities that would place such person in contravention of the environmental management specifications.

The Applicant, Contractor(s), Project Manager, and/or Management Entity are deemed not to have complied with the Performance Specifications if:

- There is evidence of willful or accidental contravention of any specification included in the EMPr and EA.
- There is evidence of the Applicant, Contractor(s), Project Manager and/or Management Entity carrying out activities not permitted in terms of the Specification.
- There is evidence of environmental negligence and/or mismanagement resulting in negative impacts on the environment.

The Applicant, Project Manager, Contractor(s) and/or Management Entity will be informed via ECO Reports as well as by means of direct instruction as to what corrective actions are required in terms of Environmental Compliance:

- Disregard for instruction, and failure to respond adequately to complaints from the public will be construed as non-compliance.
- Non-compliance may lead to the Contractor(s) and/or Management Entity Employee(s) being blacklisted, or, in more serious cases, the Contractor(s) and/or Management Entity Employee(s) may be evicted from site. Only the Project Manager may issue such instruction, claiming any costs required to remedy situations perpetuated by environmental negligence, mismanagement and / or non-compliance.

7.2 Document Control

The EMPr is a basic planning framework, guiding the various phases of the project. It is important for the EMPr to be revised (improved), if need be, by documenting all actions and management results in a structured format, and especially in accordance with the results of any external audits. It will be important for the EMPr and its supporting documents to be accessible to all the implementing and management members responsible for implementing its actions.

The content and results of the ECO checklist to be submitted after each site meeting can be used for compiling audits and making the necessary changes to the EMPr.

A dated photographic record of site works must be kept by the ECO and Site Agent/ RE.

7.3 Management Review

The EMPr should be a **dynamic document**, which depends on continual revision to maintain its relevance. It is therefore imperative for the EMPr to be updated and revised in accordance with information and data that emerges from the monitoring processes (such as ECO checklists), and any new management techniques and technology that may become available in the future.

To maintain continual revision, appropriateness, and effectiveness of the EMPr, and thereby enhance its performance, the ECO/ Auditor (as appropriate) should review and evaluate the EMPr at defined intervals. The reviews should include the following:

- review the results of the monitoring undertaken during ECO site inspections and audits;
- review the extent to which the impact management outcomes originally set in the EMPr have been met;
- review the applicability of the EMPr in relation to changing conditions, circumstances, and information; and
- obtain and review any concerns amongst relevant I&APs, property owners and relevant authorities that may arise during the construction phase and operational phase in the future.

8 TOLERANCE

8.1 Fines

Fines will be issued for the transgressions listed below. Fines may be issued per incident at the discretion of the Project Manager. Such fines will be issued in addition to any remedial costs incurred because of non- compliance with this document (where applicable). The Project Manager will inform the responsible Contractor of the contravention and the amount of the fine and will deduct the amount from monies due under the Contract.

Fines for the activities detailed below, will be imposed by the Project Manager on the responsible Contractor and/or his Subcontractors.

A	Any person, vehicles, plant, or thing related to the Contractors operations within the designated boundaries of a "no-go" area	R 4 000
B	Any vehicle driving in excess of designated speed limits	R 1 000
C	Any vehicle being driven, and items of plant or material being parked or stored outside the demarcated boundaries of the site	R 2 000
D	Any person walking outside the demarcated boundaries of the site	R 500
E	Persistent and un-repaired oil leaks from machinery. The use of inappropriate methods of refueling such as the use of funnel rather than a pump.	R 1 000
F	Litter of site	R 500
G	Deliberate lighting of illegal fires on site	R 5 000
H	The eating of meals on site outside the defined eating areas. Individuals not making use of the site ablution facilities.	R 500
I	Dust or excess noise on or emanating from the site.	R 1 000
J	Any person, vehicle, item of plant, or anything related to the Contractors operation causing a public nuisance.	R 2 000

For each subsequent similar offence, the fine may, at the discretion of the Project Manager, be doubled in value to a maximum value of R50 000.00. All fine values are excluding VAT.

All fines and penalties must be made out to an environmental organisation to be determined in consultation with the developer, ECO, and the competent authority.

8.2 Penalties

Penalties for the activities detailed below, will be imposed by the Project Manager/ Site Manager on the responsible Contractor and/or his Sub-contractors.

The following penalties are suggested for transgressions:

A	Erosion	A penalty equivalent in value to the cost of rehabilitation plus 20%
B	Oil spills plus 20%	A penalty equivalent in value to the cost of cleanup operations
C	Damage to indigenous vegetation, including the landscaped areas	A penalty equivalent in value to the cost of restoration plus 20%
D	Damage to sensitive environments	A penalty equivalent in value to the cost of restoration plus 20%
E	Damage to cultural sites	A penalty to a maximum of R100 000 shall be paid for any damage to any cultural/historical sites

9 ENVIRONMENTAL AWARENESS AND TRAINING

Site training must be provided for all Contractors and Workers/ Personnel/ Employees in accordance with the provisions of this document.

Ensure that the relevant Environmental Awareness training is presented before the commencement of activities. Ensure that a Health and Safety Officer (compulsory) are appointed before the commencement of activities.

The Contractor must arrange that all of his/her employees receive a degree of environmental training during orientation. Such training should be compulsory for all employees, structured in accordance with their relevant rank, level and responsibility, in order that these employees:

- acquire a basic understanding of the environment and the environmental features pertaining to the site and its environs;
- are familiar with the requirements of the EMPr and EA as they apply to the site.

9.1 Environmental Awareness Plan

The following training programmes will be presented:

- Occupational Health and Safety (OHS) – Done internally by Health Officer;
- Personal Protection Equipment (PPE) – Done internally by Safety Officer; and
- Environmental training - Done internally by ECO.

The training is done either annually or bi-annually depending on the need identified by management of the development, as well as training for any new personnel. The environmental training and awareness will be implemented as close as possible to the commencement of the works on site and the training materials will be provided to the Contractor/ Project Manager for environmental induction of new staff.

The Environmental Awareness Plan will serve as the basis for the induction of all new employees (as well as contractors pending the nature of their work on site) on matters as described herein. The Plan will also be used to hone awareness for all employees on a continuous basis.

Specific environmental awareness performance criteria will also form part of the job descriptions of employees, to ensure diligence and full responsibility at all levels of the organizational work force.

9.1.1 Fostering Environmental Awareness

General environmental awareness will be fostered among the project's workforce to encourage the implementation of environmentally sound practices throughout its duration. This will ensure that environmental accidents are minimised and environmental compliance maximised.

Environmental awareness will be fostered in the following manner:

- Induction course for all workers on site, before commencing work on site;
- Refresher courses as and when required.

9.1.2 Training and environmental awareness

The Applicant/ Management Entity accepts that environmental awareness training is critical for the workforce to understand how they can play a role in achieving the objectives specified in the EMPr and ensure that the actions specified in the EMPr are implemented effectively and efficiently. Training needs will be identified based on the available and existing capacity of site and project personnel to undertake the required EMPr management actions and monitoring activities. Environmental awareness training, conducted by the ECO prior to construction, will be in addition to any specific detailed training required to implementing the EMPr. It is vital that all personnel are adequately trained to perform their designated tasks to an acceptable standard.

9.1.3 The environmental awareness training course

All employees should attend the course, regardless of position, status, or level of responsibility. With a background of basic environmental awareness and an understanding of basic environmental issues and sensitivities, personnel may be motivated and empowered to do their share in helping to maintain the integrity of the environment on the site through environmental impact management. The goal of this course is therefore to enable a shared understanding and common vision of the environment, the impact of the development on the environment (and why this is important) and the role of personnel in terms of environmental management and compliance. The induction course will comprise of the following steps:

- The first step will include background discussion of the environment concept: of what it comprises and how we interact with it;
- The second step will be a description of the components and phases of the operation;
- The third step will be a general account of how the operation and its associated activities can affect the environment, giving rise to what we call Environmental Impacts;
- The fourth and most important step will be a discussion of what staff can do in order to help prevent the negative environmental impacts from degrading our environment. This is known as Environmental Impact Management.
- Lastly the consequences of non-compliance will be explained.

9.1.4 Course content

The following can be seen as draft course content as it will be building on as specific needs as it arises and will be supplemented with the handout of reading material and extracts of the EMPr on which the course will be based.

9.1.4.1 The Environment

The environment consists essentially of the living environment, the non-living environment, and the man- made environment.

The living environment consists of our plant and animal resources. The non-living environment includes the soil, water, and geological resources.

The man-made environment comprises our infrastructure, social, cultural, and archaeological resources.

These aspects of the living and man-made environment depend on one another, and man depends on them all for his survival. Damage to one will be felt by others so an effort must be made to try and protect the environment as well as their interactions with one another as they occur in nature. When undertaking an operation or any other form of development this concept must be kept in mind. Development must be implemented in such a way that we benefit today without compromising the ability of future generations to benefit as well. Employees should understand this concept of sustainability and sustainable development. The specific environment should also be explained as part of the induction course.

9.1.4.2 Description of the components and phases of the operation

The project description as set out in the BAR should be explained as part of induction together with the main components or activities that can affect the environment, giving rise to what we call Environmental Impacts. The operation consists of several different components including the following:

- Atmospheric Emissions Management;
- Hazardous Risk Management;
- Waste Management; and,
- Security.

9.1.4.3 Description of Environmental impacts

A general account of how the operation and its associated activities can affect the environment must be explained. This is basically a description of the concept of environmental impacts.

a) What is an Environmental impact?

An environmental impact is the result, either good or bad of man's actions on the natural environment This results in one or many changes in the environment and may also affect the availability of resources and the environment's capacity to function.

Impacts can occur either because of:

- The use of a resource;
- Or the pollution of a resource.

In addition, impacts can be categorised as the following:

- Foreseen: such as the necessary clearing of the vegetation before works on site begin; or
- Unforeseen: such as the flooding of an area following heavy rains;
- Avoidable: such as the unnecessary spillage of diesel or oil;
- Unavoidable: such as the disturbance created during works;
- Simple: such as litter untidying the site; or
- Cumulative: such as the pollution of water upstream, which then makes downstream users sick.

b) Types of Environmental Impacts

Typical environmental impacts anticipated include the following:

- The loss of indigenous plants;
- The loss of animals;
- Dust liberation;
- Soil compaction and erosion;
- Litter and waste;
- Fire;
- Water pollution.

c) Causes of environmental impacts

These environmental impacts are caused primarily by inadequate planning and not adhering to the EMPr Specifications, e.g.:

- The injudicious removal / disturbance of vegetation and habitat;
- The unnecessary loss of soil;
- Uncontrolled vehicular movement and circulation;
- The haphazard storage of vehicles, equipment and material;
- The uncontrolled servicing, repair and refuelling of vehicles;
- Unclear policy on solid waste management;
- Unclear policy on waste water;
- The uninformed use, storage and disposal of hazardous material;
- The erosive power of storm water and runoff;
- Unintentional and/or uncontrolled fires.

The specific significant impacts of the operation as described in the BAR must be explained.

9.1.4.4 Description of Environmental Mitigation

The fourth and most important step of an induction course will be a discussion of what staff can do to help prevent the negative environmental impacts from degrading their environment. This is known as Environmental Impact Management and is described in the EMPr. The course discussion should also include general environmental code of conduct practices that are not listed as a significant impact or as a mitigation measure such as:

Impact management: Health & Safety (general)

- Always use the toilet and hand washing facilities provided;
- Only use the water provided on site - do not collect water from or dispose water into a natural water course;
- Make use of the specified protective gear for noisy and dusty conditions;
- Always wear proper protective head and foot gear while on site;
- Know where to find a list of emergency numbers in the event of one;
- Report accidents, injuries and unsafe site conditions to the Project Manager or Safety Officer;
- Adhere to the posted speed limits of construction vehicles whilst driving on the access roads.

Impact management: Storage of vehicles, equipment, and materials (general)

- Store machinery, vehicles and materials only in demarcated areas, and within drip trays;
- Do not leave machinery and equipment standing around if not in use;
- Only park vehicles in designated areas;
- Do not park heavy vehicles or store equipment under or near trees;
- Do not store machinery, vehicles, or materials in undisturbed or rehabilitating areas.

Impact management: Servicing, repair and refuelling of vehicles (general)

- No machinery and vehicles will be serviced on site;
- Regularly check your vehicle for fuel and oil leaks;
- Inform the foreman/ environmental manager of leaking vehicles and machinery so that it can be scheduled for repairs;
- Immediately clean any accidental fuel and oil spills using a hydrocarbon spill kit – do not hose spills into the natural environment;
- Dispose of contaminated soil as hazardous waste in the correct location on site;
- Explain the negative consequences of oil and diesel pollution.

Impact management: Solid waste management (general)

- Do not litter – make use of refuse bins provided;
- Do not hose spills into the natural environment – inform the foreman / project manager of spills you are unable to clean yourself;
- Do not bury, hide or burn any waste of any nature;
- Inform the foreman / project manager of any illegal litter or dumping site that you encounter.

Impact management: Waste water management (general)

- Do not use any natural watercourse to wash machinery, vehicles or equipment;
- Only wash machinery, vehicles or equipment in designated areas;
- Conserve water and report any leaks and overflow to the foreman / project manager.

Impact management: Management of hazardous material (general)

- Make sure that you know how to handle all hazardous substances;
- Do not access stores for hazardous substances without permission;
- Immediately clean any minor accidental spills and leaks using an appropriate hydrocarbon spill kit;
- Do not hose any leaks or spills into the natural environment;
- Dispose of all hazardous waste in specified storage areas - if in doubt, ask;
- Immediately report any major leaks and spills to the foreman / project manager.

Impact management: Fire management (general)

- Do not make open fires except in permitted areas and at permitted times;
- Do not leave any fires unattended. Extinguish fires before you leave the area;
- All cooking is to be done on gas / electric stoves and only in the areas provided;
- No burning of waste;
- Smoking only allowed in designated areas and cigarette butts must be disposed of in a bin;
- Ensure that you know where firefighting equipment is located.

Impact management: Wildlife Management (general)

- Any wildlife encountered during earthworks and construction must not be harmed;
- Snakes especially must be treated with care and should be left alone to escape from the construction area. If they do not escape by themselves, a competent person should remove them to a safe area;
- Snares may not be set to catch hares and small buck;
- Tortoises, lizards and other wildlife may not be harmed or collected and must be removed from the construction area or be allowed to escape from the construction area.

Impact management: Soil Erosion (general)

- Prevent erosion from diversion, restriction or increase in stormwater;
- Rainwater should be appropriately channelled to prevent erosion or flooding;
- If erosion or any damage caused by construction vehicles occurs (e.g. on access roads and tracks), appropriate measures will need to be undertaken to prevent erosion, and to rehabilitate any damage caused.

Impact management: Dust Abatement (general)

- Reasonable measures to minimise the generation of dust should be undertaken (e.g., removal of the bare minimum of vegetation);
- Areas where earth is moved should be kept wet with water in order to reduce dust.

Impact management: Pollution (general)

- Engender an ethic of waste pollution management and how plastic bags and paper waste cause, not only visual pollution, but can lead to animal deaths if ingested by them;
- All solid waste must be stored in wind – proof bins to prevent waste being blown around the site;
- Explain also that burning of waste, especially PVC can cause toxic air pollution that is harmful to man, and unsupervised fires can lead to run-away fires;
- The importance of the use of chemical or other toilets will also be emphasised.

9.1.4.5 Consequences of non-compliance

- Explain the consequences of not complying with the conditions of approval and the content of the EMPr, which can include the issuing of fines and/or a stop works order and/or result in dismissal.

10 DETAILS OF EAP

DETAILS OF PERSON PREPAIRING THE SCOPING REPORT

REPORT PREPARED BY:	Danie Krynauw
CONTACT DETAILS:	Email: danie@green-box.co.za
ENVIRONMENTAL CONSULTING COMPANY:	Green Box Consulting P.O. Box 37738 Langenhovenpark Tel: 082 435 2108
QUALIFICATIONS OF EAPs:	Danie Krynauw has a master's degree in Town and Regional Planning (UFS) and completing his dissertation to obtain a master's degree in Environmental Management (UFS). D. Krynauw has over 25 years' experience in the environmental management field. He is registered with EAPASA (2019/1348) and is a member of the International Association of Impact Assessments South Africa.

CURRICULUM VITAE – DANIE KRYNAUW

1. Family name: Krynauw
2. First name: Daniël
3. Date of birth: 14/12/1971
4. Nationality: South African
5. Contacts: Cell: 082 435 2108
   Email: danie@green-box.co.za

6. Education:

Institution	Degree(s) or Diploma(s) obtained
University of the Free State 2001 – 2002	Master in Environmental Management – Dissertation pending
University of the Free State 1996 – 1998	Masters in Urban and Regional Planning
University of the Free State 1993 – 1995	BA Geography and Sociology

7. Membership of professional bodies:
   - EAPASA – 2019/1348
   - International Association of Impact Assessment South Africa (IAIAsa)

8. Present position:
   - Environmental Scientist / Director – Green-Box Consulting

9. Current Responsibilities:
   - Liaising with clients in both the private and public sectors.
   - Conduct Environmental Impact Assessments and other Environmental Technical Investigations.
   - Apply and obtain waste licenses, 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.
   - Provide technical-level support for environmental remediation and mitigation projects, including remediation system design and determination of regulatory applicability for incoming projects.
   - Collaborate with other environmental scientists, planners, engineers, and other specialists, and experts in law and

business etc. to address environmental problems for clients.
- Conduct Environmental training.

10. Years within the organization:
- 16 years

11. Other skills (e.g. computer literacy, etc.):
- All suits of Microsoft Office, Arc View, ReGIS, and Project Professional.

12. Professional experience:

Date	2011 – Current
Organisation	Green-Box Consulting (Environmental Consultants)
Position	Environmental Scientist (Owner and Director)

Date	2009 – 2016
Organisation	Terra Works Environmental Consultants
Position	Senior Environmental Scientist and COO

Date	2001 – 2009
Organisation	Department of Economic Development, Tourism and Environmental Affairs, Free State
Position	Principal Environmental Officer
Description of duties	• Review Environmental Impact Assessments • Review Environmental Management Programmes • Issuing Environmental Authorisations

APPENDIX A to the EMP GENERIC CONSTRUCTION GUIDELINES

1. INTRODUCTION

Construction is potentially one of the most destructive phases of the development process that can harm the environment permanently if it is not appropriately planned and the necessary mitigation correctly applied and managed.

Construction implies certain inevitable levels of change to the affected environment or 'place'. A certain degree of change to the environment, within acceptable environmental norms, nevertheless has to be accepted. It is, however, important for such inevitable change to be limited within confined boundaries, so as to protect ecological, social, and cultural characteristics (i.e. the 'sense of place') of the affected environment, by pursuing the best practicable environmental option(s) or practices.

A primary environmental objective is, therefore, to limit the unavoidable disturbance or fragmentation of the environment to the *'limits of acceptable change'*.

The EMP, together with these Construction Guidelines, is to form part of the construction contractual documentation, i.e. the appointed contracts must be fully aware of the environmental management programmes that need to be carried out as part of the construction programmes.

The construction programme is to be implemented by the appointed contractors, on behalf of the Implementing Agent, in accordance with the EMPs and these Construction Guidelines.

Compliance with the Construction Guidelines will be monitored by the ECO (Environmental Control Officer), to be appointed, who will also monitor compliance of the conditions of contract and conditions of approval (Environmental Authorisation).

This Construction Guideline document forms part of the Contractor's contractual documentation entered into between the Developer and the Contractor and must be signed by the appointed Contractor as acknowledgement of its content.

2. PRE-CONSTRUCTION PHASE

This phase is to be based on the following principles and guidelines:

- A construction contract must be established between the Implementing Agent and the appointed Contractor(s). The contract should include a penalty clause for both environmental and construction transgressions.
- The construction site office, stores, temporary storage of diesel and concrete batching equipment is to be located on an appropriate, non-environmentally sensitive site and must be accessible to large trucks and be large enough for the secure storage of equipment, pipes and fittings, and mechanical machinery and the delivery of raw materials.
- Construction personnel should not be housed on the site and will need to be transported to work on a daily basis. Only security personnel may live on site to maintain a security presence, should this be necessary.
- The Contractor should provide the necessary training of staff to fill certain construction jobs on site. The Contractor will also be obliged to apply a Stellenbosch first policy when employing staff.
- The ECO must inform all contractors and their personnel in respect of the environmental code of conduct prior to the commencement of any construction work.

- The Contractor must demarcate the boundaries of the construction sites with danger tape or fencing. Construction workers must remain in close proximity to the construction site.
- If a mobile fuel bowser is to be used it must be checked for leaks and efficient operation and must have a drip tray under it when parked. All oils diesel and release oils used in the construction process must be kept within the bunded area. Access to the bunded area must be controlled at all times and must be locked at all times.
- The parking and service area (if required) for construction vehicles should be well- compacted earth or concrete to prevent oil and diesel spills contaminating the soils of the site. Should oil or diesel spills occur, they should be treated with a suitable hydrocarbon absorption or remediation product. Absorbent spill mop-up products need to be on hand - Products to be investigated should include sunsorb absorbents.
- A suitable leak proof container for the storage of oiled equipment (filters, drip tray contents and oil changes etc.) must be provided if servicing of vehicles takes place at stores/site office. Fuels and oils must be safely located out of harms way from the elements (preferably within the bunded area) and safety and fire prevention must be strictly adhered to. The necessary fire hydrants should be on site.
- Alien vegetation should be cleared according to the directives contained in the EMP and MMP.
- Felled alien plant material must be removed from the property by appropriate means to reduce fire risk.
- Any removed topsoil is to be temporarily stockpiled in suitable designated areas for later use in the rehabilitation of the sites, if needed. It may be necessary for the Contractor to stabilise the exposed sandy areas to prevent erosion and dust by spreading straw or chipped vegetation (removed from the site) over the surface or by covering the stockpile with shade cloth. All soil stockpiles shall not exceed 2m in height. The access roads may also require wetting to suppress dust.
- The Contractor must provide temporary chemical toilet facilities at the stores/site office area. A minimum of **one toilet shall be provided per 15 persons at each working area** or as stipulated by the local authority. The toilets must be kept in a clean and sanitary condition, and must be regularly serviced (at least once per week). Toilet paper and potable water (for washing hands) is to be provided by the Contractor.

3. CONSTRUCTION PHASE

This phase is to be undertaken in accordance with the following principles and guidelines:

- The construction area must be clearly demarcated and no construction activity will be allowed outside of this area. All linear alignments of infrastructure must be appropriately demarcated.
- Construction and delivery vehicles must not be allowed to leave the demarcated areas and should only use the existing access road/s in and out of the construction area. All temporary access points to the river must be ratified by the ECO and rehabilitated after use).
- Any cultural-historic artefacts unearthed during excavations/ earth works must be reported to the ECO as soon as possible and all earthworks should be curtailed in those areas until such time as the ECO and/or a consulting archaeologist has surveyed the site(s) and made his/her recommendations. SAHRA must immediately be informed if the consulting archaeologist deems the finds to be significant. All vehicles, equipment, fuel and petroleum services and tanks must be maintained in a good condition that prevents leakage and possible contamination of soil or ground water supplies.
- All emergency servicing of vehicles must be conducted over a drip tray present to prevent accidental spillage of oils and fuels. Used oil should be recycled or disposed of at a hazardous waste disposal facility.

- All fuel/ oil spills must be reported to the ECO.
- Construction material must be stored in areas designated by the Site Agent and in a neat and orderly manner.
- The Contractor must store any building rubble in a suitable area designated by the ECO and should ideally be removed from site on a weekly basis (if not to be used as fill). The crushing of building rubble must be undertaken at a suitable site. Should dust become a problem, spraying of a water mist may be required. Stormwater controls may be required for diverting stormwater away from sensitive areas where erosion can take place.
- All other solid waste must be kept in appropriate containers and must be removed from the site by the Contractor on a weekly basis to a licensed waste disposal facility. The **burning of solid waste and paper will not be allowed on site**. Recyclable waste should be recycled if at all possible (metal, paper, cardboard, bottles, tins and plastic).
- Concrete mixing and the subsequent cement residues must be restricted to a designated area on the site. Such residues are to be removed from the site within one week of completing each phase of the construction period.
- **Used cement bags are to be stored in a wind and rainproof container for disposal**. Used bags may not lie around on site nor may they be burnt on site.
- Excess or spilled concrete should be confined within the works area and then removed to a waste site.
- Cement powder has a high alkalinity pH rating that can contaminate and affect both soil and water pH dramatically. Cement spills must therefore be prevented or cleared as soon after the spill as possible.
- All excavations (especially within deep unconsolidated sand) deeper than 1.5m must be shored up to prevent collapse of the sides and possible injury to workers or even loss of life.
- All open excavations must be protected with danger tape / danger fencing.
- The seeding or planting of indigenous grass or fynbos species may be considered over exposed soil surfaces to act as a quick binder of the soil in order to speed up the rehabilitation process of disturbed areas.
- Disturbed areas around the building sites, where dust can arise, may need to be kept moist by spraying with water from a water bowser or other suitable means, or alternatively straw can be worked into the surface to bind the soil and prevent windblown dust.
- The Contractor will be responsible for security on the site of works and will ensure that his staff do not trespass onto other properties.
- The Contractor must provide dedicated eating areas for staff. Waste bins with lids must be provided at such areas. Such eating areas are to be maintained in a neat condition.
- No fires will be permitted within the project area.
- The ECO/RE must monitor the contractors' compliance with the construction and progress in terms of the above environmental guidelines on a regular basis. The ECO will issue an ECO Checklist within 5 days after each site visit to provide a record of instructions given to the Contractor/Site Agent for environmental work that needs to be done or where problems have been noted.

4. POST-CONSTRUCTION PHASE

This phase is to be undertaken in accordance with the following principles and guidelines:

- All temporary structures must be removed from the site within three weeks after completion of a particular phase of the project.
- The Contractor must remove all oil and cement spills as soon as possible. Alternatively spills may be picked up and stored in appropriate containers/waste skips prior to removal.

- All rubble and other forms of waste must be removed from the site, within one week after completing a particular phase.
- The Contractor must repair disturbed areas (e.g. ripping of deep tracks left by construction vehicles) within one week after completing each phase of the project.
- The rehabilitation/landscaping of disturbed areas can commence as soon as disturbed areas become available and once climatic conditions allow for it.
- Topsoil and and/or wood chips/straw are to be evenly spread over disturbed areas to facilitate the rehabilitation.
- The ECO must make sure that all the environmental stipulations put forward in the construction contracts and/or ECO Checklists have been complied with, and must advise the Developer/RE if the penalty clause needs to be applied for any environmental impacts that may have occurred.

The Contractor must accept the above Construction Guidelines. **It is expected that the Contractor sign this document as part of the main contract with the Implementing Agent.** The main Contractor will also be solely responsible for the conduct of all subcontractors that may be used in this contract.

Signed by: _____ on behalf of: _____

Name: _____

Signed by: _____on behalf of: _____

Name: _____

Witness: _____

Name: _____

Date: _____

Appendix H: Details of EAP and expertise

DETAILS OF PERSON PREPAIRING THE BAR AND EMP

REPORT PREPARED BY:	Danie Krynauw
CONTACT DETAILS:	Email: danie@green-box.co.za
ENVIRONMENTAL CONSULTING COMPANY:	Green Box Consulting P.O. Box 37738 Langenhovenpark Tel: 082 435 2108
QUALIFICATIONS OF EAPs:	Danie Krynauw has a master's degree in Town and Regional Planning (UFS) and completing his dissertation to obtain a master's degree in Environmental Management (UFS). D. Krynauw has over 25 years' experience in the environmental management field. He is registered with EAPASA (2019/1348) and is a member of the International Association of Impact Assessments South Africa.

CURRICULUM VITAE – DANIE KRYNAUW

1. Family name: Krynauw
2. First name: Daniël
3. Date of birth: 14/12/1971
4. Nationality: South African
5. Contacts: Cell: 082 435 2108
   Email: danie@green-box.co.za

6. Education:

Institution	Degree(s) or Diploma(s) obtained
University of the Free State 2001 – 2002	Master in Environmental Management – Dissertation pending
University of the Free State 1996 – 1998	Masters in Urban and Regional Planning
University of the Free State 1993 – 1995	BA Geography and Sociology

7. Membership of professional bodies:
   - EAPASA – 2019/1348
   - International Association of Impact Assessment South Africa (IAIAsa)

8. Present position:
   - Environmental Scientist / Director – Green-Box Consulting

9. Current Responsibilities:
   - Liaising with clients in both the private and public sectors.
   - Conduct Environmental Impact Assessments and other Environmental Technical Investigations.
   - Apply and obtain waste licenses, 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.
   - Provide technical-level support for environmental remediation and mitigation projects, including remediation system design and determination of regulatory applicability for incoming projects.
   - Collaborate with other environmental scientists, planners, engineers, and other specialists, and experts in law and business etc. to address environmental problems for clients.
   - Conduct Environmental training.

10. Years within the organization:
    - 16 years

11. Other skills (e.g. computer literacy, etc.):
    - All suits of Microsoft Office, Arc View, ReGIS, and Project Professional.

12. Professional experience:

Date	2011 – Current
Organisation	Green-Box Consulting (Environmental Consultants)
Position	Environmental Scientist (Owner and Director)

Date	2009 – 2016
Organisation	Terra Works Environmental Consultants

Position	Senior Environmental Scientist and COO

Date	2001 – 2009
Organisation	Department of Economic Development, Tourism and Environmental Affairs, Free State
Position	Principal Environmental Officer
Description of duties	• Review Environmental Impact Assessments • Review Environmental Management Programmes • Issuing Environmental Authorisations

Appendix I: Specialist's declaration of interest

To be obtained

Appendix J: Additional Information

1. DFFE Screening tool report
   (See separate Report)