

In terms of Regulation 19(3) of GN R.326 of the NEMA Environmental Impact Assessment Regulations, 2014, as amended (07 April 2017), the impact assessment for the proposed Pig Abattoir Development is as follows:

Construction phase:

Potential impacts on geographical and physical aspects:	Potential impact on freshwater ecosystems
Nature of impact:	There are no watercourses (streams or wetlands) on the property, or within 32m of the property. The closest watercourse is a canal which runs adjacent to the property border, located approximately 90m north of the site, and the Orange River, which is approximately 230m to the north of the site. The proposed development is therefore expected to have no direct impacts on this watercourse.
Extent and duration of impact:	Local, during construction and operation
Probability of occurrence:	Unlikely
Degree to which the impact can be reversed:	High
Degree to which the impact may cause irreplaceable loss of resources:	Negligible
Cumulative impact prior to mitigation:	None expected
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Negligible
Degree to which the impact can be mitigated:	High
Proposed mitigation:	<ul style="list-style-type: none"> All construction and operation of the site must be done in accordance with an approved construction and operational phase Environmental Management Plan (EMP), which must be developed by a suitably experienced Environmental Assessment Practitioner. Particular importance must be given to emergency preparedness with regards to any spillages or leakage of hydrocarbons on site. The control of construction waste water, any contaminated water and/or stormwater must be properly controlled, as per the EMP. No wastewater is allowed to be released into any watercourses
Cumulative impact post mitigation:	Negligible
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Negligible

Potential impact on biological aspects:	
Nature of impact:	Loss of vegetation <ul style="list-style-type: none"> Direct loss of vegetation type and associated habitat due to construction and operational activities.
Extent and duration of impact:	Local, temporary
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	Low
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely
Cumulative impact prior to mitigation:	Insignificant
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Very-Low negative

Degree to which the impact can be mitigated:	Low
Proposed mitigation:	<ul style="list-style-type: none"> - All invasive alien plant species encountered on the property should be removed responsibly and follow-up work must be done during the construction period. - The Witgat and Camelthorn Tree on site must be protected and demarcated as a “no-go area” during the construction phase
Cumulative impact post mitigation:	Very-Low to Insignificant
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Very-Low to Insignificant

Potential impacts on socio-economic aspects:	
Nature of impact:	Temporary jobs will be created in the construction industry during the construction phase.
Extent and duration of impact:	Local. During the construction phase of the activity
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	NA. This is a positive impact
Degree to which the impact may cause irreplaceable loss of resources:	NA
Cumulative impact prior to mitigation:	Low - positive
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low - positive
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	No mitigation measures are required. Temporary jobs will be created during the construction phase
Cumulative impact post mitigation:	Low - positive
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low - positive

Potential impacts on cultural-historical aspects:	
Nature of impact:	The loss of cultural or historic aspects during construction
Extent and duration of impact:	Local, during construction phase
Probability of occurrence:	Possible, however, the proposed development site is almost completely transformed. No heritage resources were observed or are expected on the site.
Degree to which the impact can be reversed:	N/A
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely
Cumulative impact prior to mitigation:	Low – Negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Very Low – Negative
Degree to which the impact can be mitigated:	Limited
Proposed mitigation:	<ul style="list-style-type: none"> - No archaeological mitigation is required. - Should any unmarked human burials/remains or ostrich eggshell water flask caches be uncovered, or exposed during preparation of the lands for cultivation, these must immediately be reported to the South African Heritage Resources Agency Burials, etc. must not be removed or disturbed until inspected by an archaeologist.

Cumulative impact post mitigation:	Negligible
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Negligible
Potential noise impacts:	
Nature of impact:	Noise impact from machinery and plant on the neighbouring properties during construction
Extent and duration of impact:	Local, Duration of construction phase
Probability of occurrence:	Probable
Degree to which the impact can be reversed:	Low
Degree to which the impact may cause irreplaceable loss of resources:	Negligible
Cumulative impact prior to mitigation:	Low – negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium Low – negative
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	<p>The following measures should be implemented amongst others:</p> <ul style="list-style-type: none"> • The Contractor shall endeavour to keep noise generating activities to a minimum. • Construction only to take place during normal working hours • Compliance with the appropriate legislation with respect to noise shall be mandatory.
Cumulative impact post mitigation:	Low – negative
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low – negative

Potential visual impacts:	
Nature of impact:	Unightly views due to construction site.
Extent and duration of impact:	Local, during duration of construction
Probability of occurrence:	Probable
Degree to which the impact can be reversed:	Possible
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Cumulative impact prior to mitigation:	Low - negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low - negative
Degree to which the impact can be mitigated:	Probable
Proposed mitigation:	<p>Visual impact mitigation measures will be dealt with in the EMP The EMP must be enforced and monitored by the ECO.</p> <ul style="list-style-type: none"> • The Contractor shall restrict all his activities, materials, equipment and personnel to within the area specified. • Construction material must be stored in areas designated by the site agent and in a neat and orderly manner. • The Contractor must ensure that all structures, equipment, materials and facilities used or created on site for or during construction activities are removed once the project has been completed. The construction site must be cleared and cleaned

	to the satisfaction of the ECO. Immediately after the demolition of the camp site, the contractor shall restore the site to its original state, paying particular attention to its appearance relative to the general landscape.
Cumulative impact post mitigation:	Very low - negative
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Very Low - negative

Operational phase:

Potential impacts on the geographical and physical aspects:	Potential impact on freshwater ecosystems and underground water resources from wastewater and liquid waste
Nature of impact:	Wastewater as a result of the cleaning of the facility and carcasses, including blood and manure, may potentially impact on water resources if not properly managed.
Extent and duration of impact:	Local, during operational phased
Probability of occurrence:	Possible
Degree to which the impact can be reversed:	High
Degree to which the impact may cause irreplaceable loss of resources:	Very low - Negative
Cumulative impact prior to mitigation:	Low - Negative
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Low - Negative
Degree to which the impact can be mitigated:	High
Proposed mitigation:	<p>As per Section 7.4 of the Environmental Management Plan (EMP) (Appendix G):</p> <ul style="list-style-type: none"> • Wash-water used for cleaning of carcasses, instruments or equipment must not contain any chemicals or hazardous materials that will increase the risk of soil and water contamination. • The waste water used to clean the facility and carcasses, as well as blood and manure is to be pumped into a solid, leak-proof drain. From there, the contents will be pumped to a tank and/or mobile tanker and will then be transported to a facility in Upington for the purposes of compost production. Measures must be taken to prevent spillage during the transfer of the wastewater from the drains to the tanks. • Drains must be inspected on a regular basis to ensure there are no leakages. • Tankers must be road-worthy and in proper working order. • Measures to prevent spillages must be implemented, and an emergency management plan must be compiled to deal with any spillages or leaks that occur • A wastewater monitoring program may be required, which must include monitoring of quantities disposed of (on a monthly basis).
Cumulative impact post mitigation:	Negligible
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Negligible

Potential impact biological aspects:	
Nature of impact:	No biological aspects are expected to be impacted during the operational phase
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Potential impacts on the socio-economic aspects:	
Nature of impact:	<p>The project is expected to:</p> <ul style="list-style-type: none"> - provide job opportunities during the construction and the operational phase. - Help upcoming farmers especially previously disadvantaged groups to be able to produce pig meat for the community which is more affordable. - By supporting local farmers, employment will increase - It will keep money in the local community and boost the economy of Upington - It will reduce the carbon footprint, eliminating the long-distance transport of the pigs and meat. - It will be easier for the Department of Health to track the production of meat which is sold in the community and which means they have more control over unsafe meat which could pose a health risk.
Extent and duration of impact:	Local, Permanent
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	NA
Degree to which the impact may cause irreplaceable loss of resources:	NA, the impact is a positive impact
Cumulative impact prior to mitigation:	NA
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	NA
Degree to which the impact can be mitigated:	NA, the impact is a positive impact
Proposed mitigation:	No mitigation measures are required
Cumulative impact post mitigation:	Medium - Positive
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Medium - Positive

Potential impacts on the cultural-historical aspects:	
Nature of impact:	No cultural or historic impacts are expected during the operational phase of this activity.
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Potential noise impacts:	
Nature of impact:	No significant noise impacts are expected during the operational phases
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Potential visual impacts:	
Nature of impact:	The activity is not expected to have a visual impact during the operational phase as the development is rather small and fitting with the surrounding land-uses.
Extent and duration of impact:	
Probability of occurrence:	
Degree to which the impact can be reversed:	
Degree to which the impact may cause irreplaceable loss of resources:	
Cumulative impact prior to mitigation:	
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	
Degree to which the impact can be mitigated:	
Proposed mitigation:	
Cumulative impact post mitigation:	
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	

Decommissioning:

The project as proposed does not require 'decommissioning' or 'closure', as such the potential impacts thereof is considered irrelevant.