

In terms of Regulation 19(3) of GN 733 of the NEMA Environmental Impact Assessment Regulations, 2014, the impact assessment for the proposed development are as follows:

Construction phase:

Potential impacts on geographical and physical aspects:	Potential impact on freshwater ecosystems
Nature of impact:	Pollution of Surface water resources. Goob se Laagte River is located approximately 265m east of the proposed site. However, given the nature and location of the site, the proposed development will have no impact on any watercourse.
Extent and duration of impact:	Local (site-specific), during construction phase (short-term)
Probability of occurrence:	Highly Unlikely
Degree to which the impact can be reversed:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	Very low
Cumulative impact prior to mitigation:	Negligible
Significance rating of impact prior to mitigation (Low, Medium, Medium-High, High, or Very-High)	Negligible
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	<ul style="list-style-type: none"> • Excess material should not be dumped on site and must be removed from site; • No development to take place within 32m of any surface water body. • No dumping of any building materials or effluent must be disposed into Goob se Laagte River which is located approximately 265m east of the proposed site.
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 - Direct loss of vegetation type and associated habitat due to construction and operational activities.
Extent and duration of impact:	Local (site specific), during construction phase (short-term)
Probability of occurrence:	Definite
Degree to which the impact can be reversed:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely
Cumulative impact prior to mitigation:	Very 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:	Very Low negative
Proposed mitigation:	<ul style="list-style-type: none"> • Vegetation clearance must be confined to the footprint of the proposed housing development. • The use of arboricides for the clearing of vegetation is not recommended.

	<ul style="list-style-type: none"> • The position of each dwelling should be micro-sited to accommodate the individuals of <i>Vachellia erioloba</i> where possible. • Vegetation clearance should be confined to the footprint of the proposed housing development and unnecessary clearance should be avoided • Permit applications should be done as required by DAFF for the removal of <i>Vachellia erioloba</i> and by DENC for <i>Jamesbrittenia maxii</i>. • Indiscriminate clearing of areas must be avoided (all remaining areas to remain as natural as possible). • All topsoil (at all excavation sites) must be removed and stored separately for re-use for rehabilitation purposes. The topsoil and vegetation should be replaced over the disturbed soil to provide a source of seed and a seed bed to encourage re-growth of the species removed during construction. • Once the construction is completed all further movement must be confined to the access tracks to allow the vegetation to re-establish over the excavated areas. • Rehabilitation must be done after construction. • All construction must be done in accordance with an approved construction and operational phase Environmental Management Programme (EMPr), which must be developed by a suitably experienced Environmental Assessment Practitioner. • A suitably qualified Environmental Control Officer (ECO) must be appointed to monitor the construction phase in terms of the EMPr and the Biodiversity study recommendations as well as any other conditions which might be required by the Department of Environmental and Nature Conservation (DENC). • An integrated waste management system must be implemented during the construction phase. • All rubble and rubbish (if applicable) must be collected and removed from the site to a suitable registered waste disposal site. • All alien vegetation should be removed from all associated footprints within the various construction sites.
Cumulative impact post mitigation:	Negligible
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Very low negative

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 (site specific), during construction phase
Probability of occurrence:	Probable, In the development footprint are no archaeological, historical or cultural sites, or paleontological resources apart from the cemetery, that will be impacted negatively by the proposed development.
Degree to which the impact can be reversed:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	Unlikely
Cumulative impact prior to mitigation:	Very 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:	Limited
Proposed mitigation:	<ul style="list-style-type: none"> • The cemetery on site is of High Significance and must be protected. It is recommended that a perimeter buffer zone of 50m must be maintained and impact on the cemetery to be monitored frequently. • If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, Archaeology, Palaeontology and Meteorites (APM) Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted. • If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately. • A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; • Note that the Contractor may not, without a permit issued by the responsible heritage resource authority; destroy, damage, excavate, alter, deface or otherwise disturb any archaeological resources. • The implementation of the EMPr.
Cumulative impact post mitigation:	Very-low negative
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low negative

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:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Negligible
Cumulative impact prior to mitigation:	Very 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:	Medium
Proposed mitigation:	<p>The following measures should be implemented amongst others:</p> <ul style="list-style-type: none"> • The SANS noise standards must be adhered. • Compliance with the appropriate legislation with respect to noise shall be mandatory. • The Contractor shall endeavour to keep noise generating activities to a minimum. • Construction only to take place during normal working hours. • Construction related activities must comply with all relevant building regulations. • By keeping vehicles in good condition, loud noise can be prevented.
Cumulative impact post mitigation:	Very 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:	Definite
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:	Very 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:	<ul style="list-style-type: none"> • The EMPr must be enforced and monitored by the ECO. • 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,

	<p>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.</p> <ul style="list-style-type: none"> • 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. • Existing speed limits should be adhered to. • The potential impacts associated with construction related activities and heavy vehicles can be effectively mitigated. • The proposed development should be phased and site clearing confined to the specific areas under construction; • Dust suppression measures must be implemented when site clearing takes place, such as wetting of exposed areas and access roads; • Construction related activities should comply with all relevant building regulations. • Construction only to take place during normal working hours. • No work must be permitted on Sundays or Public Holidays; • Drivers should be made aware of the potential dust and noise impacts. All drivers must ensure that a maximum speed limit of 60 km per hour is enforced along Pella Road; • The movement of heavy construction vehicles along Pella Road must be timed to avoid peak traffic hours; • All vehicles must be road-worthy and drivers must be qualified, made aware of the potential road safety issues, and need for strict speed limits.
Cumulative impact post mitigation:	Low – negative
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low – negative

Potential dust impacts:	
Nature of impact:	Increased dust during construction (earth moving equipment)
Extent and duration of impact:	Local, Duration of construction phase
Probability of occurrence:	Probable
Degree to which the impact can be reversed:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Negligible
Cumulative impact prior to mitigation:	Very 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:	Medium
Proposed mitigation:	<ul style="list-style-type: none"> • Excessive dust during construction, can be reduced by spraying water regularly to control dust generation. Other suitable dust control mitigation measures can also be considered. • The Contractor must take all reasonable measures to minimize the generation of dust as a result of construction activities resulting from along-construction-route activities (but

	<p>must also take into account possible water constrictions of the area).</p> <ul style="list-style-type: none"> • The onsite construction site agent must take into account prevailing wind strength and wind direction and must have preventative measures on standby to minimize dust pollution that may cause damage to people and property. • The liberation of dust into the surrounding environment shall be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents. The speed of haul trucks and other vehicles must be strictly controlled to avoid dangerous conditions, excessive dust or excessive deterioration of the road being used. • Drivers should be made aware of the potential dust and noise impacts. All drivers must ensure that a maximum speed limit of 60 km per hour is enforced along Pella Road; • Construction only to take place during normal working hours. • No work must be permitted on Sundays or Public Holidays • The implementation of the EMPr.
Cumulative impact post mitigation:	Very low – negative
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low – negative

Operational phase:

Potential impacts on the geographical and physical aspects:	
Nature of impact:	No geographical and/or physical 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 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:	Additional housing opportunities will be provided
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:	Low - Positive
Significance rating of impact after mitigation (Low, Medium, Medium-High, High, or Very-High)	Low - 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:	The activity is not expected to have noise impacts 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 visual impacts:	
Nature of impact:	The activity is not expected to have a visual impact during the operational phase as development is located within the urban edge, and is considered in-fill development.
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 dust impacts:	
Nature of impact:	The activity is not expected to have dust impacts 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)	

Decommissioning:

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