

Impact assessment criteria & determination of significance:

Criteria	Attribute		Description
<u>Degree to which the impact can be reversed</u>	Completely reversible	90-100%	The impact can be completely reversed with the implementation of the correct mitigation and rehabilitation measures as stipulated in the Environmental Management Programme.
	Partly reversible	6-89%	The impact can be partly reversed providing that mitigation measures as stipulated in the Environmental Management Programme are implemented and rehabilitation measures are undertaken.
	Irreversible	0-5%	The impact cannot be reversed, regardless of the mitigation or rehabilitation measures taking place
<u>Degree to which the impact may cause irreplaceable loss of resources:</u>	Resource will not be lost	90-100%	The resource will not be lost or destroyed provided that mitigation and rehabilitation measures as stipulated in the Environmental Management Programme are implemented.
	Resource may be partly destroyed	1-89%	Partial loss or destruction of the resources will occur even though even though all management and mitigation measures as stipulated in the Environmental Management Programme are implemented.
	Resource cannot be replaced	0%	The resource cannot be replaced no matter which management or mitigation measures are implemented.
<u>Degree to which the impact can be mitigated:</u>	Completely mitigatable	90-100%	The impact can be completely mitigated providing that all management and mitigation measures as stipulated in the Environmental Management Programme are implemented
	Partly mitigatable	1-89%	The impact cannot be completely mitigated even though all management and mitigation measures as stipulated in the Environmental Management Programme are implemented. Implementation of these measures will provide a measure of mitigatability.
	Un-mitigatable	0%	The impact cannot be mitigated no matter which management or mitigation measures are implemented.
<u>Extent:</u> The physical and spatial scale of the impact	Footprint	1	The impacted area extends only as far as the activity, including the total footprint occurring within the total site area.
	Site	2	The impact could affect the whole, or a significant portion of the site.
	Regional	3	The impact could affect the area including the neighbouring properties, the transport routes and the adjoining towns or suburbs.
	National	4	The impact could have an effect that expands throughout the country (South Africa).
	International	5	Where the impact has international ramifications that extend beyond the boundaries of South Africa.
<u>Duration:</u> The lifetime of the impact, that is measured in relation to the lifetime of the proposed development.	Short term	1	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than that of the construction phase.
	Short to Medium term	2	The impact will be relevant through to the end of a construction phase.
	Medium term	3	The impact will last up to the end of the development phases, where after it will be entirely negated.
	Long term	4	The impact will continue or last for the entire operational lifetime of the development, but will be mitigated by direct human action or by natural processes thereafter.
	Permanent	5	This is the only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.
<u>Severity:</u> The intensity of the impact is considered by examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functioning, or slightly alters the environment itself.	Minor	2	The impact alters the affected environment in such a way that the natural processes or functions are not affected.
	Low	4	The affected environment is altered, but functions and processes continue, albeit in a modified way.
	Medium	6	The impact alters the affected environment in such a way that the natural processes or functions are modified to a great extent.
	High	8	Function or process of the affected environment is disturbed to the extent where it temporarily or ceases.
	Very High	10	Function or process of the affected environment is disturbed to the extent where it permanently ceases.
<u>Probability:</u> This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time.	Improbable	1	The possibility of the impact occurring is none, due either to the circumstances, design or experience. The chance of this impact occurring is zero (0%).
	Possible	2	The possibility of the impact occurring is very low, due either to the circumstances, design or experience. The chances of this impact occurring is defined as 25%.
	Likely	3	There is a possibility that the impact will occur to the extent that provisions must therefore be made. The chances of this impact occurring is defined as 50%.
	Highly Likely	4	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up before carrying out the activity. The chances of this impact occurring is defined as 75%.
	Definite	5	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on. The chance of this impact occurring is defined as 100%.
<u>Mitigation:</u> The impacts that are generated by the development can be minimised if measures are implemented in order to reduce the impacts. The mitigation measures ensure that the development considers the environment and the predicted impacts in order to minimise impacts and achieve sustainable development.			
<u>Determination of Significance – Without Mitigation:</u> Significance is determined through a synthesis of impact characteristics as described in the above paragraphs. It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. The significance of the impact “without mitigation” is the prime determinant of the nature and degree of mitigation required. Where the impact is positive, significance is noted as “positive”. Significance is rated on the following scale:			
Significance points are calculated according to the formula: Significance = (duration + severity + extent) x Probability			
The maximum value of significance points is 100. Environmental effects could therefore be rated as either high, moderate, or low significance on the following basis:			
High (H) = > 60 points			
Moderate (M) = 30 – 60 points			
Low (L) = < 30 points			
No significance	The impact is not substantial and does not require any mitigation action.		
Low	The impact is of little importance, but may require limited mitigation.		
Medium	The impact is of importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.		
High	The impact is of major importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.		
Positive	A positive impact will occur due to the activity undertaken, no mitigation will be necessary		