

7.6. Appendix F: Impact Assessment Methodology

7.6.1. F1: Impact Assessment Methodology

Potential impacts for the construction and operational phases were assessed for the proposed study site (all EMUs) and mitigation measures for potential impact provided. The criteria for assessing nature, type, spatial extent, duration, reversibility, severity, irreplaceable loss, probability (the likelihood of the impact occurring), significance of potential impacts, and mitigation potential are shown in *Table 7-1*. The significance rating provided is that significance WITH mitigation and WITHOUT mitigation. Mitigation potential describes the ability to manage or mitigate an impact given the necessary resources. Some impacts, by their very nature are extremely difficult to mitigate, while others may be managed to an acceptable level with the implementation of a sound environmental management plan. An example of a summary impact assessment table is shown in *Table 7-2*

Table 7-1 The criteria for assessing nature, type, spatial extent, duration, reversibility, severity, irreplaceable loss, probability, significance and mitigation potential. (Refer to Section 3 (j), Appendix 1 and Appendix 3 of the EIA Regulations, 2014.)

CRITERIA	CATEGORIES	EXPLANATION
Overall nature	Negative	Negative impact on affected biophysical or human environment.
	Positive	Benefit to the affected biophysical or human environment.
Type	Direct	Are caused by the action and occur at the same time and place.
	Indirect Secondary	or May include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
	Cumulative	Is the impact on the environment, which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.
Spatial Extent over which impact may be experienced	Site	Immediate area of activity incorporating a 50m zone which extends from the edge of the affected area.
	Local	Area up to and/or within 10km of the 'Site' as defined above.
	Regional	Entire community, drainage basin, landscape etc.
	National	South Africa.
Duration of impact	Short-term	Impact would last for the duration of activities such as land clearing, land preparation, fertilising, weeding, pruning and thinning. Quickly reversible.

CRITERIA	CATEGORIES	EXPLANATION
	Medium-term	Impact would after the project activity such as harvesting. Reversible over time.
	Long-term	Impact would continue beyond harvesting/ extraction of the trees.
	Permanent	Impact would continue beyond decommissioning.
Severity	Low, Medium, High Negative	Based on separately described categories examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functioning or slightly alters the environment itself.
	Low, Medium, High Positive	
Reversibility	Completely Reversible	The impact can be completely reversed with the implementation of correct mitigation and rehabilitation measures.
	Partly Reversible	The impact can be partly reversed providing mitigation measures are implemented and rehabilitation measures are undertaken
	Irreversible	The impact cannot be reversed, regardless of the mitigation or rehabilitation measures.
Irreplaceable Loss	Resource will not be lost	The resource will not be lost or destroyed provided mitigation and rehabilitation measures are implemented.
	Resource may be partly destroyed	Partial loss or destruction of the resource will occur even though all management and mitigation measures are implemented.
	Resource cannot be replaced	The resource cannot be replaced no matter which management or mitigation measures are implemented.
Probability of occurrence	Unlikely	<40% probability.
	Possible	40% probability.
	Probable	>70% probability.
	Definite	>90% probability.
Mitigation Potential [i.e. the ability to manage or mitigate an impact given the necessary resources and feasibility of application.]	High or Completely Mitigatable	<p>Relatively easy and cheap to manage. Specialist expertise or equipment is generally not required.</p> <p>The nature of the impact is understood and may be mitigated through the implementation of a management plan or through 'good housekeeping'. Regular monitoring needs to be undertaken to ensure that any negative consequences remain within acceptable limits.</p> <p>The significance of the impact after mitigation is likely to be low or negligible.</p>
	Moderate or Partially Mitigatable	<p>Management of this impact requires a higher level of expertise and resources to maintain impacts within acceptable levels. Such mitigation can be tied up in the design of the Project.</p> <p>The significance of the impacts after mitigation is likely to be low to moderate.</p>

CRITERIA	CATEGORIES	EXPLANATION
	Low Unmitigable	<p>May not be possible to mitigate the impact entirely, with a residual impact(s) resulting.</p> <p>Will not be possible to mitigate this impact entirely regardless of the expertise and resources applied.</p> <p>or</p> <p>The potential to manage the impact may be beyond the scope of the Project.</p> <p>Management of this impact is not likely to result in a measurable change in the level of significance.</p>
Impact Significance	Negligible	-
	Low	Largely of HIGH mitigation potential, after considering the other criteria.
	Moderate	Largely of MODERATE or partial mitigation potential after considering the other criteria.
	Substantial	Largely of LOW mitigation potential after considering the other criteria.

Table 7-2. Summary of Impact Assessment Table

POTENTIAL IMPACTS	ASPECT	Nature	Type	Extent	Duration	Severity	Reversibility	Irreplaceable Loss	Probability	MITIGATION POTENTIAL	IMPACT SIGNIFICANCE		MITIGATION MEASURES
											Without Mitigation	With Mitigation	
CONSTRUCTION PHASE													
describe impact													
OPERATIONS PHASE													
describe impact													