

## **Appendix F1. Methodology for determining impact**

## METHODOLOGY USED IN DETERMINING THE SIGNIFICANCE OF ENVIRONMENTAL IMPACTS

The proposed method for the assessment of environmental issues is set out in the Table A below. Part A in Table A below provides a list of criteria that can be selected in order to rank the severity, duration and spatial scale of an impact. The consequence of the impact is determined by combining the selected criteria ratings allocated for severity, spatial scale and duration in part B of Table A. The significance of the impact is determined in Part C of Table A whereby the consequence determined in part B is combined with the probability of the impact occurring. The interpretation of the impact significance is given in Part D.

This assessment methodology enables the assessment of environmental issues including: cumulative impacts, the severity of impacts (including the nature of impacts and the degree to which impacts may cause irreplaceable loss of resources), the extent of the impacts, the duration and reversibility of impacts, the probability of the impact occurring, and the degree to which the impacts can be mitigated. This assessment method was used to assess impacts associated with all project alternatives.

**TABLE A: CRITERIA FOR ASSESSING IMPACTS**

<b>PART A: DEFINITION AND CRITERIA*</b>					
<b>Definition of SIGNIFICANCE</b>		<b>Significance = consequence x probability</b>			
<b>Definition of CONSEQUENCE</b>		<b>Consequence is a function of severity, spatial extent and duration</b>			
<b>Criteria for ranking of the SEVERITY of environmental impacts</b>	<b>H</b>	Substantial deterioration (death, illness or injury). Recommended level will often be violated. Vigorous community action.			
	<b>M</b>	Moderate/ measurable deterioration (discomfort). Recommended level will occasionally be violated. Widespread complaints.			
	<b>L</b>	Minor deterioration (nuisance or minor deterioration). Change not measurable/ will remain in the current range. Recommended level will never be violated. Sporadic complaints.			
	<b>L+</b>	Minor improvement. Change not measurable/ will remain in the current range. Recommended level will never be violated. Sporadic complaints.			
	<b>M+</b>	Moderate improvement. Will be within or better than the recommended level. No observed reaction.			
	<b>H+</b>	Substantial improvement. Will be within or better than the recommended level. Favourable publicity.			
<b>Criteria for ranking the DURATION of impacts</b>	<b>L</b>	Quickly reversible. Less than the project life. Short term			
	<b>M</b>	Reversible over time. Life of the project. Medium term			
	<b>H</b>	Permanent. Beyond closure. Long term.			
<b>Criteria for ranking the SPATIAL SCALE of impacts</b>	<b>L</b>	Localised - Within the site boundary.			
	<b>M</b>	Fairly widespread – Beyond the site boundary. Local			
	<b>H</b>	Widespread – Far beyond site boundary. Regional/ national			
<b>PART B: DETERMINING CONSEQUENCE</b>					
<b>SEVERITY = L</b>					
<b>DURATION</b>	Long term	<b>H</b>	<b>Medium</b>	<b>Medium</b>	<b>Medium</b>
	Medium term	<b>M</b>	<b>Low</b>	<b>Low</b>	<b>Medium</b>
	Short term	<b>L</b>	<b>Low</b>	<b>Low</b>	<b>Medium</b>
<b>SEVERITY = M</b>					
<b>DURATION</b>	Long term	<b>H</b>	<b>Medium</b>	<b>High</b>	<b>High</b>
	Medium term	<b>M</b>	<b>Medium</b>	<b>Medium</b>	<b>High</b>

	Short term	L	Low	Medium	Medium
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**SEVERITY = H**

<b>DURATION</b>	Long term	H	High	High	High
	Medium term	M	Medium	Medium	High
	Short term	L	Medium	Medium	High
			L	M	H

Localised Within site boundary Site	Fairly widespread Beyond site boundary Local	Widespread Far beyond site boundary Regional/ national
<b>SPATIAL SCALE</b>		

**PART C: DETERMINING SIGNIFICANCE**

<b>PROBABILITY (of exposure to impacts)</b>	Definite/ Continuous	H	Medium	Medium	High
	Possible/ frequent	M	Medium	Medium	High
	Unlikely/ seldom	L	Low	Low	Medium
			L	M	H
<b>CONSEQUENCE</b>					

**PART D: INTERPRETATION OF SIGNIFICANCE**

<b>Significance</b>	<b>Decision guideline</b>
High	It would influence the decision regardless of any possible mitigation.
Medium	It should have an influence on the decision unless it is mitigated.
Low	It will not have an influence on the decision.

\*H = high, M= medium and L= low and + denotes a positive impact.