

SIGNIFICANCE RATING SCALE

Rating	Description
5	VERY HIGH Of the highest order possible within the bounds of impacts which could occur. In the case of adverse impacts: there is no possible mitigation and/or remedial activity which could offset the impact. In the case of beneficial impacts, there is no real alternative to achieving this benefit.
4	HIGH Impact is of substantial order within the bounds of impacts, which could occur. In the case of adverse impacts: mitigation and/or remedial activity is feasible but difficult, expensive, time-consuming or some combination of these. In the case of beneficial impacts, other means of achieving this benefit are feasible but they are more difficult, expensive, time-consuming or some combination of these.
3	MODERATE Impact is real but not substantial in relation to other impacts, which might take effect within the bounds of those which could occur. In the case of adverse impacts: mitigation and/or remedial activity are both feasible and fairly easily possible. In the case of beneficial impacts: other means of achieving this benefit are about equal in time, cost, effort, etc.
2	LOW Impact is of a low order and therefore likely to have little real effect. In the case of adverse impacts: mitigation and/or remedial activity is either easily achieved or little will be required, or both. In the case of beneficial impacts, alternative means for achieving this benefit are likely to be easier, cheaper, more effective, less time consuming, or some combination of these.
1	VERY LOW Impact is negligible within the bounds of impacts which could occur. In the case of adverse impacts, almost no mitigation and/or remedial activity is needed, and any minor steps which might be needed are easy, cheap, and simple. In the case of beneficial impacts, alternative means are almost all likely to be better, in one or a number of ways, than this means of achieving the benefit. Three additional categories must also be used where relevant. They are in addition to the category represented on the scale, and if used, will replace the scale.
0	NO IMPACT There is no impact at all - not even a very low impact on a party or system.

$Impact Risk = (SIGNIFICANCE + Spatial + Temporal) / 3 \times Probability / 5$

Rating	Impact class	Description
0.1 – 1.0	1	Very Low
1.1 – 2.0	2	Low
2.1 – 3.0	3	Moderate
3.1 – 4.0	4	High
4.1 – 5.0	5	Very High

SPATIAL RATING SCALE

Rating	Description
5	Global/National The maximum extent of any impact.
4	Regional/Provincial The spatial scale is moderate within the bounds of impacts possible, and will be felt at a regional scale (District Municipality to Provincial Level).
3	Local The impact will affect an area up to 5 km from the proposed route corridor.
2	Study Area The impact will affect a route corridor not exceeding the boundary of the corridor.
1	Isolated Sites / proposed site The impact will affect an area no bigger than the servitude.

TEMPORAL RATING SCALE (DURATION)

Rating	Description
1	Incidental The impact will be limited to isolated incidences that are expected to occur very sporadically.
2	Short-term The environmental impact identified will operate for the duration of the construction phase or a period of less than 5 years, whichever is the greater.
3	Medium term The environmental impact identified will operate for the duration of life of the line.
4	Long term The environmental impact identified will operate beyond the life of operation.
5	Permanent The environmental impact will be permanent.

DEGREE OF PROBABILITY

Rating	Description
1	Practically impossible
2	Unlikely
3	Could happen
4	Very Likely
5	It's going to happen / has occurred

DEGREE OF CERTAINTY

Rating	Description
Definite	More than 90% sure of a particular fact.
Probable	Between 70 and 90% sure of a particular fact, or of the likelihood of that impact occurring.
Possible	Between 40 and 70% sure of a particular fact or of the likelihood of an impact occurring.
Unsure	Less than 40% sure of a particular fact or the likelihood of an impact occurring.
Can't know	The consultant believes an assessment is not possible even with additional research.

ALTERNATIVE:

ENVIRONMENTAL ELEMENT	Site 1							Site 3A + 3B							"No-Go"							
	Risidual Direction of Impact	Residual Degree of Certainty	Project Impact - Unmitigated	Project Impact - Mitigated	Status Quo Baseline Impact	Cumulative Impact	Residual Impact	Risidual Direction of Impact	Residual Degree of Certainty	Project Impact - Unmitigated	Project Impact - Mitigated	Status Quo Baseline Impact	Cumulative Impact	Residual Impact	Risidual Direction of Impact	Residual Degree of Certainty	Project Impact - Unmitigated	Project Impact - Unmitigated	Status Quo Baseline Impact	Cumulative Impact	Residual Impact	
CODE:																						
CLOSURE PHASE																						
G-3	Geology	Negative	Probable	0	0	3.7	3.7	3.7	Negative	Probable	0	0	3.7	3.7	3.7			0	0	3.7	3.7	3.7
				NO	NO	HIGH	HIGH	HIGH			NO	NO	HIGH	HIGH	HIGH			NO	NO	HIGH	HIGH	HIGH
T-3	Topography	Negative	Probable	1.6	3	3.7	3.3	2.7	Negative	Probable	1.6	3	3.7	3.7	2.9			0	0	3.7	3.3	2.7
				LOW	MOD	HIGH	HIGH	MOD			LOW	MOD	HIGH	HIGH	MOD			NO	NO	HIGH	HIGH	MOD
SLC-3	Soil and Land Capability	Negative	Probable	1.9	0.6	3	3.7	3.3	Negative	Probable	2.1	0.6	3	3.7	3.7			0	0	3	3	3
				LOW	VLOW	MOD	HIGH	HIGH			MOD	VLOW	MOD	HIGH	HIGH			NO	NO	MOD	MOD	MOD
SWW-3	Surface Water and Wetlands	Negative	Probable	1.2	0.5	3.7	3.7	2.7	Negative	Probable	1.5	0.6	3.7	3.7	2.7			0	0	3.7	3.7	3.7
				LOW	VLOW	HIGH	HIGH	MOD			LOW	VLOW	HIGH	HIGH	MOD			NO	NO	HIGH	HIGH	HIGH
GW-3	Groundwater	Negative	Probable	1.1	0.5	3	3.3	3	Negative	Probable	1.1	0.5	3	3.3	3			0	0	3	3	3
				LOW	VLOW	MOD	HIGH	MOD			LOW	VLOW	MOD	HIGH	MOD			NO	NO	MOD	MOD	MOD
TE-3	Terrestrial Ecology <i>(The direction of the project impact is positive, although the residual impact remains negative)</i>	Negative	Probable	1	1.5	3	3	2.7	Negative	Probable	1	1.5	3	3.3	3			0	0	3	3	3
				VLOW	LOW	MOD	MOD	MOD			VLOW	LOW	MOD	HIGH	MOD			NO	NO	MOD	MOD	MOD
AF-3	Avifauna	Negative	Definite	0	0	3	3	3	Negative	Definite	0	0	3	3	3			0	0	3	3	3
				NO	NO	MOD	MOD	MOD			NO	NO	MOD	MOD	MOD			NO	NO	MOD	MOD	MOD
AQ-3	Air Quality	Negative	Possible	1.3	0.8	3.3	3.3	2.7	Negative	Possible	1.3	0.8	3.3	3.3	2.7			0	0	3.3	3.3	2.7
				LOW	VLOW	HIGH	HIGH	MOD			LOW	VLOW	HIGH	HIGH	MOD			NO	NO	HIGH	HIGH	MOD
N-3	Noise	Negative	Probable	0	0	2.7	2.3	2.3	Negative	Probable	0	0	2.7	2.3	2.3			0	0	2.7	2.7	2.7
				NO	NO	MOD	MOD	MOD			NO	NO	MOD	MOD	MOD			NO	NO	MOD	MOD	MOD
SOC-3	Social Environment	Positive	Probable	0	0	2.7	2.7	1.8	Positive	Probable	0	0	2.7	2.7	1.8	Negative	Definite	0	0	2.7	4.7	4.7
				NO	NO	MOD	MOD	LOW			NO	NO	MOD	MOD	LOW			NO	NO	MOD	VHIGH	VHIGH
EC-3	Economic	Positive	Definite	0	0	2.7	3	1.8	Positive	Definite	0	0	2.7	2.4	2.4	Negative	Definite	0	0	2.7	4.7	4.7
				NO	NO	MOD	MOD	LOW			NO	NO	MOD	MOD	MOD			NO	NO	MOD	VHIGH	VHIGH
INF-3	Infrastructure	Negative	Definite	0	0	2.7	4.3	2.7	Negative	Definite	0	0	2.7	4.3	2.7			0	0	2.7	2.7	2.7
				NO	NO	MOD	VHIGH	MOD			NO	NO	MOD	VHIGH	MOD			NO	NO	MOD	MOD	MOD
V-3	Visual	Negative	Probable	0.7	3.3	3.7	3.7	2.7	Negative	Probable	0.3	3.3	3.7	3.7	3.3			0	0	3.7	3.7	3.3
				VLOW	HIGH	HIGH	HIGH	MOD			VLOW	HIGH	HIGH	HIGH	HIGH			NO	NO	HIGH	HIGH	HIGH
ArCH-3	Archaeology, Palaeontology, Cultural Heritage	No Impact	Definite	0	0	0	0	0	No Impact	Definite	0	0	0	0	0			0	0	0	0	0
				NO	NO	NO	NO	NO			NO	NO	NO	NO	NO			NO	NO	NO	NO	NO

Rated By: Warren Kok
 Reviewed By:

ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1						Site 3A + 3B						"NO-GO"											
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk						
G-3	Geology																									
	CLOSURE PHASE		5							5																
Impact 1	NO ADDITIONAL IMPACT	No Impact	1	0					0	1	0					0	1	0					0			
				NO					NO			NO						NO		NO					NO	
Mitigation Measure:	None Required			0					0			0						0		0					0	
				NO					NO			NO						NO		NO					NO	
COMBINED WEIGHTED RATING	BEFORE MITIGATION	No Impact	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0			
				NO	#N/A	#N/A	#N/A	#N/A	NO			NO	#N/A	#N/A	#N/A	#N/A		NO		NO	#N/A	#N/A	#N/A	#N/A	NO	
	AFTER MITIGATION	No Impact		1	0	0	0	0	0		0	1	0	0	0	0		0	0	1	0	0	0	0	0	0
	(If mitigation is effective / possible this rating wil decrease)				NO	#N/A	#N/A	#N/A	#N/A		NO			NO	#N/A	#N/A		#N/A	#N/A		NO		NO	#N/A	#N/A	#N/A
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	Negative	Probable	3	3	5	5	3.7	1	3	3	5	5	3.7	1	3	3	5	5	3.7	1	3	3	5	5	3.7
				MOD	LOCAL	PERM	OCCUR	HIGH		MOD	LOCAL	PERM	OCCUR	HIGH		MOD	LOCAL	PERM	OCCUR	HIGH						
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Negative	Probable	3	3	5	5	3.7	1	3	3	5	5	3.7	1	3	3	5	5	3.7	1	3	3	5	5	3.7
				MOD	LOCAL	PERM	OCCUR	HIGH		MOD	LOCAL	PERM	OCCUR	HIGH		MOD	LOCAL	PERM	OCCUR	HIGH						
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Negative	Probable	3	3	5	5	3.7	1	3	3	5	5	3.7	1	3	3	5	5	3.7	1	3	3	5	5	3.7
				MOD	LOCAL	PERM	OCCUR	HIGH		MOD	LOCAL	PERM	OCCUR	HIGH		MOD	LOCAL	PERM	OCCUR	HIGH						

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ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1						Site 3A + 3B						"NO-GO"						
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	
T-3	<i>Topography</i>																				
	CLOSURE PHASE		5							5											
Impact 1	Alteration of surface water drainage patterns - stormwater runoff from rehabilitated areas	Positive	Probable	2	2	4	3	1.6	2	2	4	3	1.6	1	0					0	
				LOW	STUDY	LONG	COULD	LOW	LOW	STUDY	LONG	COULD	LOW		NO						NO
Mitigation Measure:	<i>Ensure suitable soil cover, vegetation covers, free draining areas, storm water attenuation, Regular surveying during profiling</i>			3	2	4	5	3	3	2	4	5	3		0						0
				MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD		NO					NO	
COMBINED WEIGHTED RATING	BEFORE MITIGATION	Positive	Probable	2	2	4	3	1.6	2	2	4	3	1.6		0	0	0	0	0	0	
	AFTER MITIGATION <i>(If mitigation is effective / possible this rating wil decrease)</i>	Positive	Probable	LOW	STUDY	LONG	COULD	LOW	LOW	STUDY	LONG	COULD	LOW		NO	#N/A	#N/A	#N/A	#N/A	NO	
				3	2	4	5	3	3	2	4	5	3		0	0	0	0	0	0	
				MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD		NO	#N/A	#N/A	#N/A	#N/A	NO	
STATUS QUO	INITIAL IMPACTS TO ENVIRONMENT	Negative	Definite	3	3	5	5	3.7	3	3	5	5	3.7		3	3	5	5	3.7		
				MOD	LOCAL	PERM	OCCUR	HIGH	MOD	LOCAL	PERM	OCCUR	HIGH		MOD	LOCAL	PERM	OCCUR	HIGH		
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Negative	Probable	2	3	5	5	3.3	3	3	5	5	3.7		2	3	5	5	3.3		
				LOW	LOCAL	PERM	OCCUR	HIGH	MOD	LOCAL	PERM	OCCUR	HIGH		LOW	LOCAL	PERM	OCCUR	HIGH		
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Negative	Probable	2	3	5	4	2.7	3	3	5	4	2.9		2	3	5	4	2.7		
				LOW	LOCAL	PERM	VLIKE	MOD	MOD	LOCAL	PERM	VLIKE	MOD		LOW	LOCAL	PERM	VLIKE	MOD		

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ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1					Site 3A + 3B					"NO-GO"							
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk
SLC-3	Soil and Land Capability																			
	CLOSURE PHASE		5							5										
Impact 1	Pollution of soils - hydrocarbon / chemical spills, spills from pipelines during rehabilitation	Negative	Definite	5	2	1	5	5	2.7	5	3	1	5	5	3	1	0	0	0	0
Mitigation Measure:	Hydrocarbon and Chemical Management			5	LOW	ISO	PERM	OCCUR	MOD	5	MOD	ISO	PERM	OCCUR	MOD	NO				NO
				1	1	1	3	0.6	0.6	2	1	1	3	0.8	0.8	0				0
				VLOW	ISO	INCID	COULD	VLOW	VLOW	LOW	ISO	INCID	COULD	VLOW	VLOW	NO				NO
Impact 2	Erosion of soils	Negative	Definite	3	3	1	5	5	3	3	4	1	5	5	3.3	0	0	0	0	
Mitigation Measure:	Fertilize soils prior to seeding, Water seeded areas, ensure slopes are not steeper than 1:3, Water seeded areas			3	MOD	ISO	PERM	OCCUR	MOD	3	HIGH	ISO	PERM	OCCUR	HIGH	NO				NO
				2	2	1	5	3	1.6	3	3	1	5	3	1.8	0				0
				LOW	ISO	PERM	COULD	LOW	LOW	MOD	ISO	PERM	COULD	LOW	LOW	NO				NO
Impact 3	Low soil fertility and usability	Negative	Definite	5	3	1	4	4	2.1	5	3	1	4	4	2.1	0	0	0	0	
Mitigation Measure:	Ameliorate soils prior to resume in capping facility.			5	MOD	ISO	LONG	VLIKE	MOD	5	MOD	ISO	LONG	VLIKE	MOD	NO				NO
				1	1	1	2	0.4	0.4	1	1	1	2	0.4	0.4	0				0
				VLOW	ISO	INCID	UNLIKE	VLOW	VLOW	VLOW	ISO	INCID	UNLIKE	VLOW	VLOW	NO				NO
COMBINED WEIGHTED RATING	BEFORE MITIGATION	Negative	Definite		2.3	0.9	4	4	1.9		2.8	0.9	4	4	2.1	0	0	0	0	
	AFTER MITIGATION (If mitigation is effective / possible this rating wil decrease)	Negative	Definite		MOD	ISO	LONG	VLIKE	LOW		MOD	ISO	LONG	VLIKE	MOD	NO	#N/A	#N/A	#N/A	NO
					1.1	0.9	1.7	2.3	0.6		1.6	0.9	1.7	2.3	0.6	0	0	0	0	
					LOW	ISO	SHORT	COULD	VLOW		LOW	ISO	SHORT	COULD	VLOW	NO	#N/A	#N/A	#N/A	NO
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	Negative	Probable		2	2	5	5	3		2	2	5	5	3	2	2	5	5	3
					LOW	STUDY	PERM	OCCUR	MOD		LOW	STUDY	PERM	OCCUR	MOD	LOW	STUDY	PERM	OCCUR	MOD
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Negative	Probable		4	2	5	5	3.7		4	2	5	5	3.7	2	2	5	5	3
					HIGH	STUDY	PERM	OCCUR	HIGH		HIGH	STUDY	PERM	OCCUR	HIGH	LOW	STUDY	PERM	OCCUR	MOD
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Negative	Probable		3	2	5	5	3.3		4	2	5	5	3.7	2	2	5	5	3
					MOD	STUDY	PERM	OCCUR	HIGH		HIGH	STUDY	PERM	OCCUR	HIGH	LOW	STUDY	PERM	OCCUR	MOD

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ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1						Site 3A + 3B						"NO-GO"					
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk
SWW-3	Surface Water and Wetlands																			
	CLOSURE PHASE		5						5						5					
Impact 1	Decreased water quality (suspended solids, turbidity, hydro-carbon, chemical, and microbiological)	Negative	Definite	2	2	4	4	2.1	3	3	4	5	3.3	0					0	
Mitigation Measure:	<i>Rehab of unnecessary infrastructure, Water treatment of De Jager's Pan, Slope not exceed 1:3</i>			LOW	STUDY	LONG	VLIKE	MOD	MOD	LOCAL	LONG	OCCUR	HIGH	NO					NO	
				1	1	1	4	0.8	2	2	1	4	1.3	0					0	
				VLOW	ISO	INCID	VLIKE	VLOW	LOW	STUDY	INCID	VLIKE	LOW	NO					NO	
Impact 2	Reduction in habitat integrity of downstream wetland areas	Negative	Probable	3	2	4	4	2.4	3	2	4	4	2.4	0					0	
Mitigation Measure:	<i>Fertilise topsoil, Indigenous Seeding, Water rehabed areas</i>			MOD	STUDY	LONG	VLIKE	MOD	MOD	STUDY	LONG	VLIKE	MOD	NO					NO	
				1	1	4	4	1.6	1	1	4	4	1.6	0					0	
				VLOW	ISO	LONG	VLIKE	LOW	VLOW	ISO	LONG	VLIKE	LOW	NO					NO	
Impact 3	Sedimentation of wetlands and surface water resources	Negative	Probable	2	2	2	5	2	2	2	2	5	2	0					0	
Mitigation Measure:	<i>Fertilise topsoil, Indigenous Seeding, Water rehabed areas</i>			LOW	STUDY	SHORT	OCCUR	LOW	LOW	STUDY	SHORT	OCCUR	LOW	NO					NO	
				1	1	1	2	0.4	1	1	1	2	0.4	0					0	
				VLOW	ISO	INCID	UNLIKE	VLOW	VLOW	ISO	INCID	UNLIKE	VLOW	NO					NO	
COMBINED WEIGHTED RATING	BEFORE MITIGATION	Negative	Probable	1.7	1.5	2.5	3.1	1.2	2	1.8	2.5	3.5	1.5	0	0	0	0	0	0	
	AFTER MITIGATION <i>(If mitigation is effective / possible this rating wil decrease)</i>	Positive	Definite	LOW	STUDY	MED	VLIKE	LOW	LOW	STUDY	MED	VLIKE	LOW	NO	#N/A	#N/A	#N/A	#N/A	NO	
				0.7	0.7	1.3	2.5	0.5	1.1	1.1	1.3	2.5	0.6	0	0	0	0	0	0	
				VLOW	ISO	SHORT	COULD	VLOW	LOW	STUDY	SHORT	COULD	VLOW	NO	#N/A	#N/A	#N/A	#N/A	NO	
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	Negative	Probable	4	3	4	5	3.7	4	3	4	5	3.7	4	3	4	5	3.7		
				HIGH	LOCAL	LONG	OCCUR	HIGH	HIGH	LOCAL	LONG	OCCUR	HIGH	HIGH	LOCAL	LONG	OCCUR	HIGH		
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Negative	Probable	4	3	4	5	3.7	4	3	4	5	3.7	4	3	4	5	3.7		
				HIGH	LOCAL	LONG	OCCUR	HIGH	HIGH	LOCAL	LONG	OCCUR	HIGH	HIGH	LOCAL	LONG	OCCUR	HIGH		
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Negative	Probable	3	3	4	4	2.7	3	3	4	4	2.7	4	3	4	5	3.7		
				MOD	LOCAL	LONG	VLIKE	MOD	MOD	LOCAL	LONG	VLIKE	MOD	HIGH	LOCAL	LONG	OCCUR	HIGH		

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ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1					Site 3A + 3B					"NO-GO"								
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	
GW-3	Groundwater																				
	CLOSURE PHASE		5							5											
Impact 1	Decreased water quality - hydrocarbon / chemicals used on site during the closure phase	Negative	Definite	5	2	1	4	3	1.4	5	2	1	4	3	1.4	5	0				0
Mitigation Measure:	Hydrocarbon / Chemical Management			5	LOW	ISO	LONG	COULD	LOW	5	LOW	ISO	LONG	COULD	LOW	1	NO				NO
					1	1	1	2	0.4		1	1	1	2	0.4		0				0
					VLOW	ISO	INCID	UNLIKE	VLOW		VLOW	ISO	INCID	UNLIKE	VLOW		NO				NO
Impact 2	Surface water ingress into the ash body producing polluted ground water	Negative	Probable	3	3	1	4	4	2.1	3	3	1	4	4	2.1		0				0
Mitigation Measure:	Topsoil layer >300mm, Sustainable Indigenous Vegetation Cover			3	MOD	ISO	LONG	VLIKE	MOD	3	MOD	ISO	LONG	VLIKE	MOD		NO				NO
					2	2	4	3	1.6		2	2	4	3	1.6		0				0
					LOW	STUDY	LONG	COULD	LOW		LOW	STUDY	LONG	COULD	LOW		NO				NO
COMBINED WEIGHTED RATING	BEFORE MITIGATION	Negative	Probable		1.9	0.8	3.2	2.7	1.1		1.9	0.8	3.2	2.7	1.1		0	0	0	0	0
	AFTER MITIGATION <i>(If mitigation is effective / possible this rating wil decrease)</i>	Negative	Definite		LOW	ISO	LONG	COULD	LOW		LOW	ISO	LONG	COULD	LOW		NO	#N/A	#N/A	#N/A	NO
					1.1	1.1	1.7	1.9	0.5		1.1	1.1	1.7	1.9	0.5		0	0	0	0	0
					LOW	STUDY	SHORT	UNLIKE	VLOW		LOW	STUDY	SHORT	UNLIKE	VLOW		NO	#N/A	#N/A	#N/A	NO
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	Negative	Probable		2	3	4	5	3		2	3	4	5	3		2	3	4	5	3
					LOW	LOCAL	LONG	OCCUR	MOD		LOW	LOCAL	LONG	OCCUR	MOD		LOW	LOCAL	LONG	OCCUR	MOD
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Negative	Probable		3	3	4	5	3.3		3	3	4	5	3.3		2	3	4	5	3
					MOD	LOCAL	LONG	OCCUR	HIGH		MOD	LOCAL	LONG	OCCUR	HIGH		LOW	LOCAL	LONG	OCCUR	MOD
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Negative	Probable		2	3	4	5	3		2	3	4	5	3		2	3	4	5	3
					LOW	LOCAL	LONG	OCCUR	MOD		LOW	LOCAL	LONG	OCCUR	MOD		LOW	LOCAL	LONG	OCCUR	MOD

Rated By: Warren Kok

Reviewed By:

ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1					Site 3A + 3B					"NO-GO"												
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk					
AF-3	Avifauna																								
	CLOSURE PHASE		5							5															
Impact 1	NO ADDITIONAL IMPACT	No Additional Impact	1	0					0	1	0					0	1	0				0			
				NO					NO				NO						NO						NO
Mitigation Measure:	None Required			0					0				0						0						0
				NO					NO				NO						NO						
COMBINED WEIGHTED RATING	BEFORE MITIGATION	Negative	Definite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	AFTER MITIGATION <i>(If mitigation is effective / possible this rating wil decrease)</i>	Negative	Definite	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO				
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	Negative	Definite	3	2	4	5	3	3	3	2	4	5	3	3	3	2	4	5	3					
				MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD		
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Negative	Definite	3	2	4	5	3	3	3	2	4	5	3	3	3	2	4	5	3					
				MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD		
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Negative	Definite	3	2	4	5	3	3	3	2	4	5	3	3	3	2	4	5	3					
				MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD	MOD	STUDY	LONG	OCCUR	MOD		

Rated By: Warren Kok
 Reviewed By:

ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1					Site 3A + 3B					"NO-GO"							
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk
AQ-3	Air Quality																			
	CLOSURE PHASE		5							5										
Impact 1	Greenhouse gas emissions	Negative	Possible	3	2	1	2	3	1	3	2	1	2	3	1	1				0
Mitigation Measure:	Reduce energy consumption, Regular vehicle maintenance, Consecutive Rehab				LOW	ISO	SHORT	COULD	VLOW		LOW	ISO	SHORT	COULD	VLOW				NO	0
					1	1	1	3	0.6		1	1	1	3	0.6				0	0
					VLOW	ISO	INCLD	COULD	VLOW		VLOW	ISO	INCLD	COULD	VLOW				NO	NO
Impact 2	Nuisance and fall out dust	Negative	Possible	3	3	3	3	5	3	3	3	3	3	5	3	0			0	0
Mitigation Measure:	Watering to reduce dust mobilisation, Use Site 3, Revegetate stockpiles, Dust-aside / Chemical Suppressant on Roads.				MOD	LOCAL	MED	OCCUR	MOD		MOD	LOCAL	MED	OCCUR	MOD				NO	NO
					3	1	3	5	2.3		3	1	3	5	2.3				0	0
					MOD	ISO	MED	OCCUR	MOD		MOD	ISO	MED	OCCUR	MOD				NO	NO
Impact 3	Increased particulate matter (PM2.5 and PM10)	Negative	Possible	5	3	4	3	5	3.3	5	3	4	3	5	3.3	0			0	0
Mitigation Measure:	Watering to reduce dust mobilisation, Use Site 3, Revegetate stockpiles, Dust-aside / Chemical Suppressant on Roads.				MOD	REG	MED	OCCUR	HIGH		MOD	REG	MED	OCCUR	HIGH				NO	NO
					2	3	3	3	1.6		2	3	3	3	1.6				0	0
					LOW	LOCAL	MED	COULD	LOW		LOW	LOCAL	MED	COULD	LOW				NO	NO
COMBINED WEIGHTED RATING	BEFORE MITIGATION	Negative	Possible		2	2.1	2	3.3	1.3		2	2.1	2	3.3	1.3	0	0	0	0	0
	AFTER MITIGATION (If mitigation is effective / possible this rating wil decrease)	Negative	Possible		1.5	1.4	1.8	2.6	0.8		1.5	1.4	1.8	2.6	0.8	0	0	0	0	0
					LOW	STUDY	SHORT	COULD	VLOW		LOW	STUDY	SHORT	COULD	VLOW				NO	NO
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	Negative	Possible		3	4	3	5	3.3		3	4	3	5	3.3	3	4	3	5	3.3
					MOD	REG	MED	OCCUR	HIGH		MOD	REG	MED	OCCUR	HIGH				MOD	HIGH
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Negative	Possible		3	4	3	5	3.3		3	4	3	5	3.3	3	4	3	5	3.3
					MOD	REG	MED	OCCUR	HIGH		MOD	REG	MED	OCCUR	HIGH				MOD	HIGH
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Negative	Possible		3	4	3	4	2.7		3	4	3	4	2.7	3	4	3	4	2.7
					MOD	REG	MED	VLIKE	MOD		MOD	REG	MED	VLIKE	MOD				MOD	MOD

Rated By: Warren Kok

Reviewed By:

ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1						Site 3A + 3B						"NO-GO"								
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk			
SOC-3	<i>Social Environment</i>																						
	CLOSURE PHASE		5							5													
Impact 1	NO ADDITIONAL IMACT	No Impact	1	0					0	1	0					0	1	0				0	
				NO					NO		NO					NO		NO					NO
Mitigation Measure:	<i>None Required.</i>			0					0		0					0		0					0
				NO					NO		NO					NO		NO					NO
COMBINED WEIGHTED RATING	BEFORE MITIGATION	No Impact	Definite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
				NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO		
	AFTER MITIGATION <i>(If mitigation is effective / possible this rating wil decrease)</i>	No Impact	Definite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
				NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO		
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	Positive	Probable	2	3	3	5	2.7	2	3	3	5	2.7	2	3	3	5	2.7					
				LOW	LOCAL	MED	OCCUR	MOD	LOW	LOCAL	MED	OCCUR	MOD	LOW	LOCAL	MED	OCCUR	MOD					
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Positive	Probable	2	3	3	5	2.7	2	3	3	5	2.7	Neg	5	5	4	5	4.7				
				LOW	LOCAL	MED	OCCUR	MOD	LOW	LOCAL	MED	OCCUR	MOD		VHIGH	NAT	LONG	OCCUR	VHIGH				
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Positive	Probable	2	3	4	3	1.8	2	3	4	3	1.8	Neg	5	5	4	5	4.7				
				LOW	LOCAL	LONG	COULD	LOW	LOW	LOCAL	LONG	COULD	LOW		VHIGH	NAT	LONG	OCCUR	VHIGH				

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Reviewed By:

ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1						Site 3A + 3B						"NO-GO"						
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	
EC-3	<i>Economic</i>																				
	CLOSURE PHASE		5							5											
Impact 1	NO ADDITIONAL IMACT	No Impact	1	0						0										0	
				NO							NO										NO
Mitigation Measure:	<i>None Required.</i>			0							0										0
				NO							NO										NO
COMBINED WEIGHTED RATING	BEFORE MITIGATION	No Impact	Definite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
				NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	NO	
	AFTER MITIGATION			No Impact	Definite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	<i>(If mitigation is effective / possible this rating wil decrease)</i>					NO	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	NO
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	Positive	Definite	2	3	3	5	2.7	2	3	3	5	2.7	2	3	3	5	2.7			
				LOW	LOCAL	MED	OCCUR	MOD	LOW	LOCAL	MED	OCCUR	MOD	LOW	LOCAL	MED	OCCUR	MOD			
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Positive	Definite	3	3	3	5	3	3	3	3	4	2.4	5	5	4	5	4.7			
				MOD	LOCAL	MED	OCCUR	MOD	MOD	LOCAL	MED	VLIKE	MOD	Neg	VHIGH	NAT	LONG	OCCUR	VHIGH		
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Positive	Definite	2	3	4	3	1.8	3	3	3	4	2.4	5	5	4	5	4.7			
				LOW	LOCAL	LONG	COULD	LOW	MOD	LOCAL	MED	VLIKE	MOD	Neg	VHIGH	NAT	LONG	OCCUR	VHIGH		

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ALTERNATIVES:

IMPACT DESCRIPTION		Direction of Impact	Degree of Certainty	Site 1						Site 3A + 3B						"NO-GO"						
				Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	
INF-3	Infrastructure																					
	CLOSURE PHASE			5						5												
Impact 1	NO ADDITIONAL IMACT	No Impact	Definite	1	0					0										0		
					NO						NO											NO
Mitigation Measure:	None Required.				0						0											0
					NO						NO											NO
COMBINED WEIGHTED RATING	BEFORE MITIGATION	No Impact	Definite		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
					NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	NO	
	AFTER MITIGATION				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	(If mitigation is effective / possible this rating wil decrease)				NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	NO	
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	Negative	Definite		3	2	3	5	2.7	3	2	3	5	2.7	3	2	3	5	2.7			
					MOD	STUDY	MED	OCCUR	MOD	MOD	STUDY	MED	OCCUR	MOD	MOD	STUDY	MED	OCCUR	MOD			
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	Negative	Definite		5	5	3	5	4.3	5	5	3	5	4.3	3	2	3	5	2.7			
					VHIGH	NAT	MED	OCCUR	VHIGH	VHIGH	NAT	MED	OCCUR	VHIGH	MOD	STUDY	MED	OCCUR	MOD			
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	Negative	Definite		3	2	3	5	2.7	3	2	3	5	2.7	3	2	3	5	2.7			
					MOD	STUDY	MED	OCCUR	MOD	MOD	STUDY	MED	OCCUR	MOD	MOD	STUDY	MED	OCCUR	MOD			

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ALTERNATIVES:

IMPACT DESCRIPTION	Direction of Impact	Degree of Certainty	Site 1						Site 3A + 3B						"NO-GO"								
			Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk	Weighting	Magnitude	Spatial	Temporal	Probability	Impact Risk			
ArCH-3	<i>Archaeology, Palaeontology, Cultural Heritage</i>																						
	CLOSURE PHASE		5							5													
Impact 1	NO ADDITIONAL IMPACT	No Impact	1	0					0	1	0					0	1	0				0	
				NO					NO		NO					NO		NO					NO
Mitigation Measure:	<i>Mitigation:</i>			0					0		0					0		0					0
				NO					NO		NO					NO		NO					NO
COMBINED WEIGHTED RATING	BEFORE MITIGATION	No Impact	Definite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
				NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO		
	AFTER MITIGATION <i>(If mitigation is effective / possible this rating wil decrease)</i>	No Impact	Definite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
				NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO	NO	#N/A	#N/A	#N/A	#N/A	NO		
STATUS QUO	INITIAL BASELINE IMPACTS TO ENVIRONMENT	No Impact	Definite	0					0	0					0	0					0		
					NO					NO	NO					NO	NO					NO	
CUMULATIVE IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, BEFORE MITIGATION	No Impact	Definite	0					0	0					0	0					0		
					NO					NO	NO					NO	NO					NO	
RESIDUAL IMPACT	INITIAL IMPACTS TO ENVIRONMENT + ADDITIONAL IMPACTS FROM PROJECT, AFTER MITIGATION	No Impact	Definite	0					0	0					0	0					0		
					NO					NO	NO					NO	NO					NO	