

Impacts Assessment

Alternative (preferred alternative)		
Impacts during planning and design phase		
No impacts – direct, indirect or cumulative – are expected to occur during the planning and design phase of the proposed project, as no excavation or exploration work which may impact on the environment is anticipated to be required to be undertaken on site.		
Alternative (Preferred Alternative)		
Potential Impact	Construction/Operational/Decommissioning	Direct/Indirect/ Cumulative Impact
Vegetation Clearance <ul style="list-style-type: none"> • Removal of vegetation cover for initial clearing, grubbing and grading activities resulting in soil exposure making the area susceptible to soil erosion. Permanent loss of vegetation and habitat	Construction	Direct
Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
Extent: Very Limited (1) Probability: Probable(3) Duration: Long Term (4) Reversibility: Reversible over long time Magnitude: Moderate (6)	<ul style="list-style-type: none"> • Exposure of bare ground should be minimized and topsoil stripping limited to the development footprint excluding open spaces and this should be cordoned off. • Cleared and grubbed topsoil must be stockpiled as a top layer of at least 150mm thickness on the backfilled trenches for rehabilitation. • Soil conservation measures such as berms, gabions and mats should be used on site to help reduce erosion. • Areas that were compacted during 	Extent: Very Limited (1) Probability: Improbable (2) Duration: Short Term (2) Reversibility: Quickly Reversible Magnitude: Small (1)
Significance Rating: Medium (33)		Significance Rating: Low (8)

	<p>construction should be ripped to allow re-establishment of natural vegetation.</p> <ul style="list-style-type: none"> • Movement of construction vehicles should be limited to the access road and hauling roads approved by the RE/ECO. • Disturbed areas should be rehabilitated immediately when construction ceases to abate channel and gulley formation. 	
Potential Impact	Construction/Operational/Decommissioning	Direct/Indirect/ Cumulative Impact
Fauna	Construction	Indirect
<ul style="list-style-type: none"> • Disturbance to fauna in the area 		
Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
<p>Extent: Very Limited (1) Probability: Probable(3) Duration: Long Term (4) Reversibility: Reversible over long time Magnitude: Moderate (6)</p> <p>Significance Rating: Medium (33)</p>	<ul style="list-style-type: none"> • Limit the construction footprint. • No hunting, snaring, shooting, nest raiding or egg collection by the construction staff should be allowed. • Toolbox talks should include handling of animals. 	<p>Extent: Very Limited (1) Probability: Improbable (2) Duration: Short Term (2) Reversibility: Quickly Reversible Magnitude: Small (1)</p> <p>Significance Rating: Low (8)</p>
Potential Impact	Construction/Operational/Decommissioning	Direct/Indirect/ Cumulative Impact
Topography	Construction	Indirect
<ul style="list-style-type: none"> • Disturbing the natural topography 		
Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
<p>Extent: Local(3) Probability: Improbable(2) Duration: Permanent (5) Reversibility: Irreversible Magnitude: Very high (10)</p>	<ul style="list-style-type: none"> • Trenches, soil dumps and other working areas should be rounded-off to ensure the disturbed area(s) blend in with the natural environment and the possibility of erosion is minimized. • All the excavations should be backfilled to avoid being used as illegal dumping sites. 	<p>Extent: Limited (2) Probability: Improbable (2) Duration: Short Term (2) Reversibility: Over long term Magnitude: Moderate(6)</p>

Significance Rating: Medium (36)	<ul style="list-style-type: none"> Rehabilitation by covering the disturbed areas should hasten the succession process and minimize potential erosion. 	Significance Rating: Low (20)
Potential Impact	Construction/Operational/Decommissioning	Direct/Indirect/ Cumulative Impact
Wetlands <ul style="list-style-type: none"> Destruction of wetland and loss of wetland dependent biodiversity 	Construction	Indirect
Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
Extent: Regional(4) Probability: Probable(3) Duration: Permanent (5) Reversibility: Irreversible Magnitude: Very High (10) Significance Rating: Medium (57)	<ul style="list-style-type: none"> Limit the construction footprint as far as possible. No storage of equipment within the 32m protective buffer zone. Guidelines for trenching should be followed, see Appendix J. 	Extent: Local (3) Probability: Improbable (2) Duration: Short Term (2) Reversibility: Over long term Magnitude: Very High (10) Significance Rating: Medium (30)
Potential Impact	Construction/Operational/Decommissioning	Direct/Indirect/ Cumulative Impact
Surface Water <ul style="list-style-type: none"> Siltation of the stream resulting in deterioration of water quality Potential contamination of watercourse and streams from construction related activities. 	Construction	Indirect
Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
Extent: Regional/Provincial (4) Probability: Highly Probable(4)	<ul style="list-style-type: none"> No dumping of waste, unused soil/spoil in the stream should be allowed. 	Extent: Limited (2) Probability: Improbable (2)

<p>Duration: Short Term (2) Reversibility: Quickly Reversible Magnitude: Very High (10)</p> <p>Significance Rating: Medium (64)</p>	<ul style="list-style-type: none"> • Method statement for river crossing should be adhered, see Appendix B of an EMPr. • Protective buffer zones should be demarcated prior to construction. • Adequate sanitation facilities e.g. chemical toilets must be provided at the camp depot and construction site. • Letter of consent from a registered waste facility to allow contractor to empty the toilet facility at their sewer system should be in the environmental document. • Mixing of cement should be done at specifically selected areas on mortar boards or similar structures to contain surface run-off. • Cleaning of cement mixing equipment should be done on proper cleaning trays. • No cement or cement containers should be left lying around. • Water use license should be obtained from the DWS. 	<p>Duration: Short Term (2) Reversibility: Quickly Reversible Magnitude: Moderate (6)</p> <p>Significance Rating: Low (20)</p>
Potential Impact	Construction/Operational/Decommissioning	Direct/Indirect/ Cumulative Impact
<p>Air quality</p> <ul style="list-style-type: none"> • Dust generation from stockpiles and soil stripping, vehicle traffic and construction fumes 	<p style="text-align: center;">Construction</p>	<p style="text-align: center;">Direct</p>
Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
<p>Extent: Limited(2) Probability: definite(5) Duration: Short Term (2) Reversibility: Quickly Reversible</p>	<ul style="list-style-type: none"> • Heavy vehicles and machinery should be serviced regularly to minimise exhaust fume pollution; • All machinery/plant should be lubricated regularly to ensure a good working order; 	<p>Extent: Limited (2) Probability: Improbable (2) Duration: Immediate (1) Reversibility: Immediately Reversible</p>

<p>Magnitude: Minor (2)</p> <p>Significance Rating: Medium (30)</p>	<ul style="list-style-type: none"> • Equipment should be operated within its specifications and capacity and should not be overloaded; • Limit vehicle speeds on unpaved roads to 20 km/h to limit the amount of dust generated; • Haulage distances should be at a minimum; • Soil stockpiles will be located in areas to limit the erosive effects of the wind, which will limit dust; • Removal of vegetation will be avoided until such time as soil stripping is required, which will limit dust. • Environmental friendly soil stabilisers may be used as additional measures to control dust on gravel roads and construction areas; • Water should be sprayed onto gravel roads when required. 	<p>Magnitude: Small (1)</p> <p>Significance Rating: Low (8)</p>
Potential Impact	Construction/Operational/Decommissioning	Direct/Indirect/ Cumulative Impact
<p>Noise Pollution</p> <ul style="list-style-type: none"> • Increased noise levels during the construction phase due to noise generated by construction machinery and vehicles causing nuisance to the neighbouring land users and/or users. 	<p style="text-align: center;">Construction</p>	<p style="text-align: center;">Direct</p>
Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
<p>Extent: Limited (2) Probability: Definite(5) Duration: Short Term (2) Reversibility: Quickly Reversible Magnitude: Moderate (6)</p>	<ul style="list-style-type: none"> • All vehicles and equipment used on site must conform to the noise regulations standard. • Construction should be limited to normal working days and office hours from 08h00 to 17h00. Should there be any deviation, then the surrounding community should be 	<p>Extent: Limited (2) Probability: Improbable (2) Duration: Short Term (2) Reversibility: Quickly Reversible Magnitude: Low (2)</p>

<p>Significance Rating: Medium (60)</p>	<p>informed.</p> <ul style="list-style-type: none"> • Ensure that employees and staff conduct themselves in an acceptable manner while on site, both during work hours and after hours. • Limit working hours of noisy equipment to daylight hours • Fit silencers to construction equipment and vehicles. • All operators of heavy construction equipment must wear earplugs and mufflers should be used. 	<p>Significance Rating: Low (12)</p>
<p>Potential Impact</p>	<p>Construction/Operational/Decommissioning</p>	<p>Direct/Indirect/ Cumulative Impact</p>
<p>Solid Waste</p> <ul style="list-style-type: none"> • Littering 	<p>Construction</p>	<p>Direct</p>
<p>Significant of Impact without Mitigation</p>	<p>Mitigation</p>	<p>Significant of Impact with Mitigation</p>
<p>Extent: Limited (2) Probability: Probable(3) Duration: Short Term (2) Reversibility: Immediate Magnitude: Minor (2)</p> <p>Significance Rating: Low (15)</p>	<ul style="list-style-type: none"> • All waste should be appropriately separated, contained and disposed be removed from the site to Ficksburg landfill site during the construction period. • Reduction, reuse and recycling of waste should be introduced. • Illegal dumping should be forbidden. • Toolbox talks should include a component of waste management. • Good housekeeping practices 	<p>Extent: Limited (2) Probability: Improbable (2) Duration: Short Term (2) Reversibility: Immediate Magnitude: Minor (2)</p> <p>Significance Rating: Low (10)</p>
<p>Potential Impact</p>	<p>Construction/Operational/Decommissioning</p>	<p>Direct/Indirect/ Cumulative Impact</p>
<p>Water Provision</p> <ul style="list-style-type: none"> • Insufficient capacity to deliver water services to the beneficiaries. 	<p>Operational</p>	<p>Direct</p>

Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
Extent: Probability: Duration: Reversibility: Magnitude: Significance Rating:	<ul style="list-style-type: none"> • Setsoto Local Municipality intends on constructing a Raw Water Pipeline in order to supply water services to the affected communities. • The communities will have access to sustainable water supply; will be provided with water, which will abate the occurrence of water scarcity in the area and meet the right to water for each citizen as set out in the Constitution. 	Extent: Probability: Duration: Reversibility: Magnitude: Significance Rating:
Potential Impact	Construction/Operational/Decommissioning	Direct/Indirect/ Cumulative Impact
Water Supply <ul style="list-style-type: none"> • Source of potable water during the construction phase. 	Construction	Direct
Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
Extent: Very limited (1) Probability: Very Improbable(1) Duration: Immediate (1) Reversibility: Immediate Magnitude: Small (1) Significance Rating: Low (1)	<ul style="list-style-type: none"> • Potable water must be available at the camp site and construction site in clearly marked containers 	Extent: Very limited (1) Probability: Very Improbable(1) Duration: Immediate (1) Reversibility: Immediate Magnitude: Small (1) Significance Rating: Low (1)
Potential Impact	Construction/Operational/Decommissioning	Direct/Indirect/ Cumulative Impact
Traffic	Construction	Direct

Significant of Impact without Mitigation	Mitigation	Significant of Impact with Mitigation
<p>Extent: Local (2) Probability: Probable(3) Duration: Short Term (2) Reversibility: Immediate Magnitude: Minor (2)</p> <p>Significance Rating: Low (21)</p>	<ul style="list-style-type: none"> • The vehicle construction should limit speed to 40km/h and also be considerate of the surrounding land users. • Only drivers with valid licenses should be allowed to drive the construction vehicles. • Wayleave from Department of Police, Roads and Transport should be obtained. 	<p>Extent: Limited (2) Probability: Improbable (3) Duration: Short Term (2) Reversibility: Immediate Magnitude: Minor (2)</p> <p>Significance Rating: Low (15)</p>