Appendix 2 Maps:

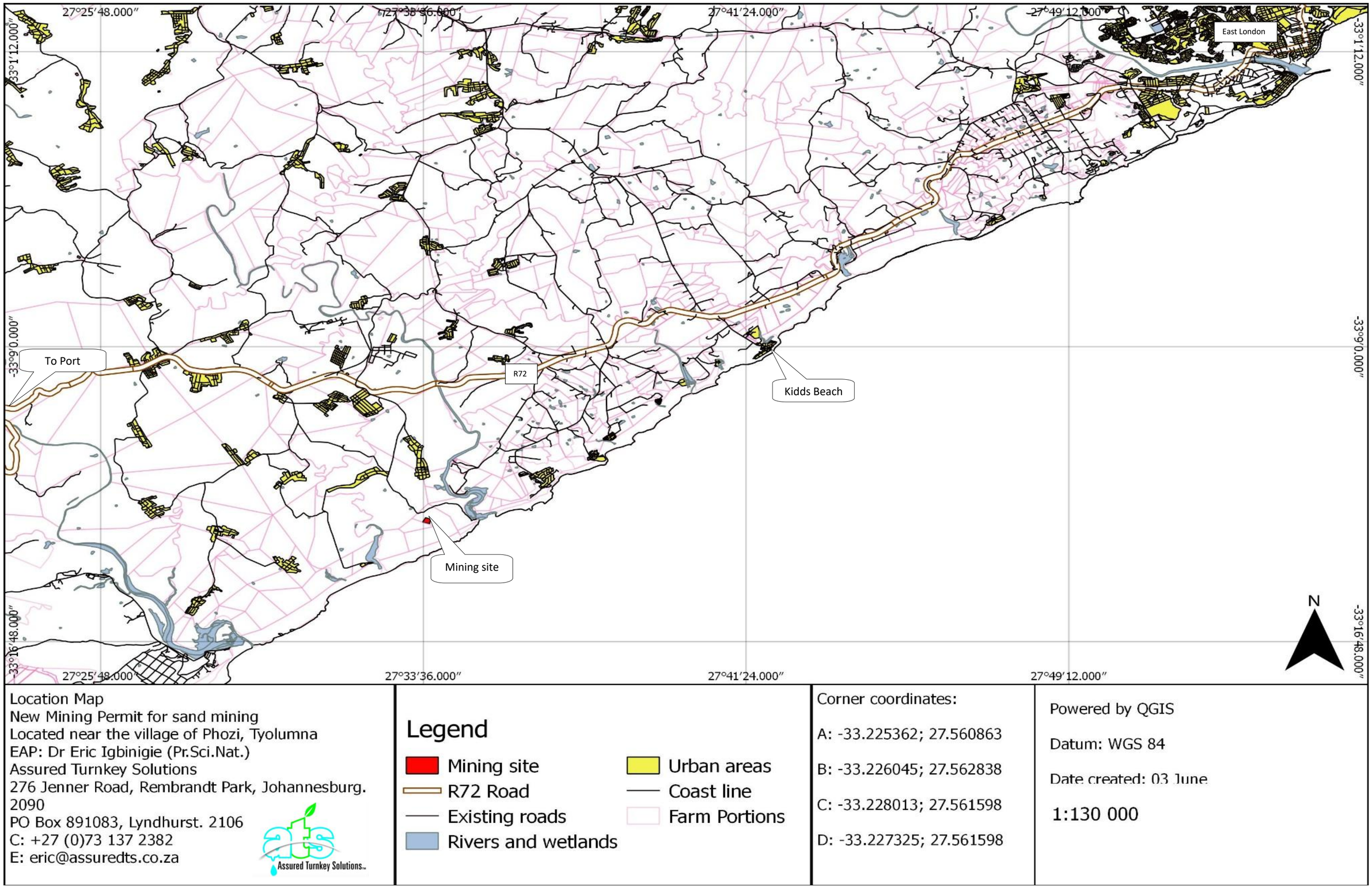
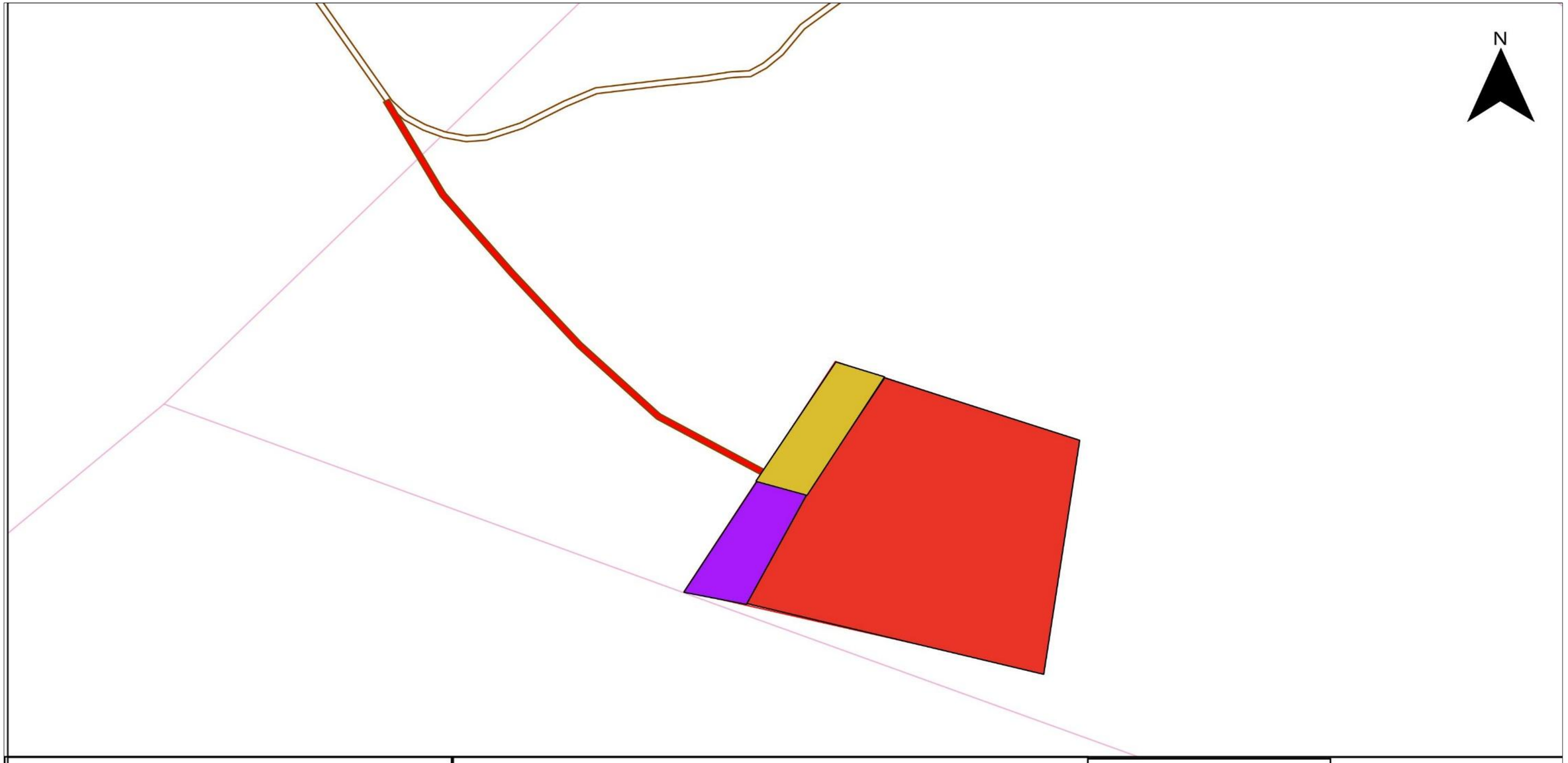


Figure 1. Locality Map of the proposed mining site



Sensitivity Map

New Mining Permit for sand mining
Located near the village of Phozi, Tyolumna

EAP: Dr Eric Igbinigie (Pr.Sci.Nat.)
Assured Turnkey Solutions
276 Jenner Road, Rembrandt Park, Johannesburg. 2090
PO Box 891083, Lyndhurst. 2106
C: +27 (0)73 137 2382
E: eric@assuredts.co.za

Legend

- Existing roads
- Farm Portions
- Mining boundary
- Mining infrastructure area
- Stockpiles area
- Mining area
- New haul road section

Corner coordinates:

A: -33.225362; 27.560863

B: -33.226045; 27.562838

C: -33.228013; 27.561598

D: -33.227325; 27.561598

Powered by QGIS

Datum: WGS 84

Date created: 03 June

1:3 000

Figure 2. Layout plan of the proposed mining site

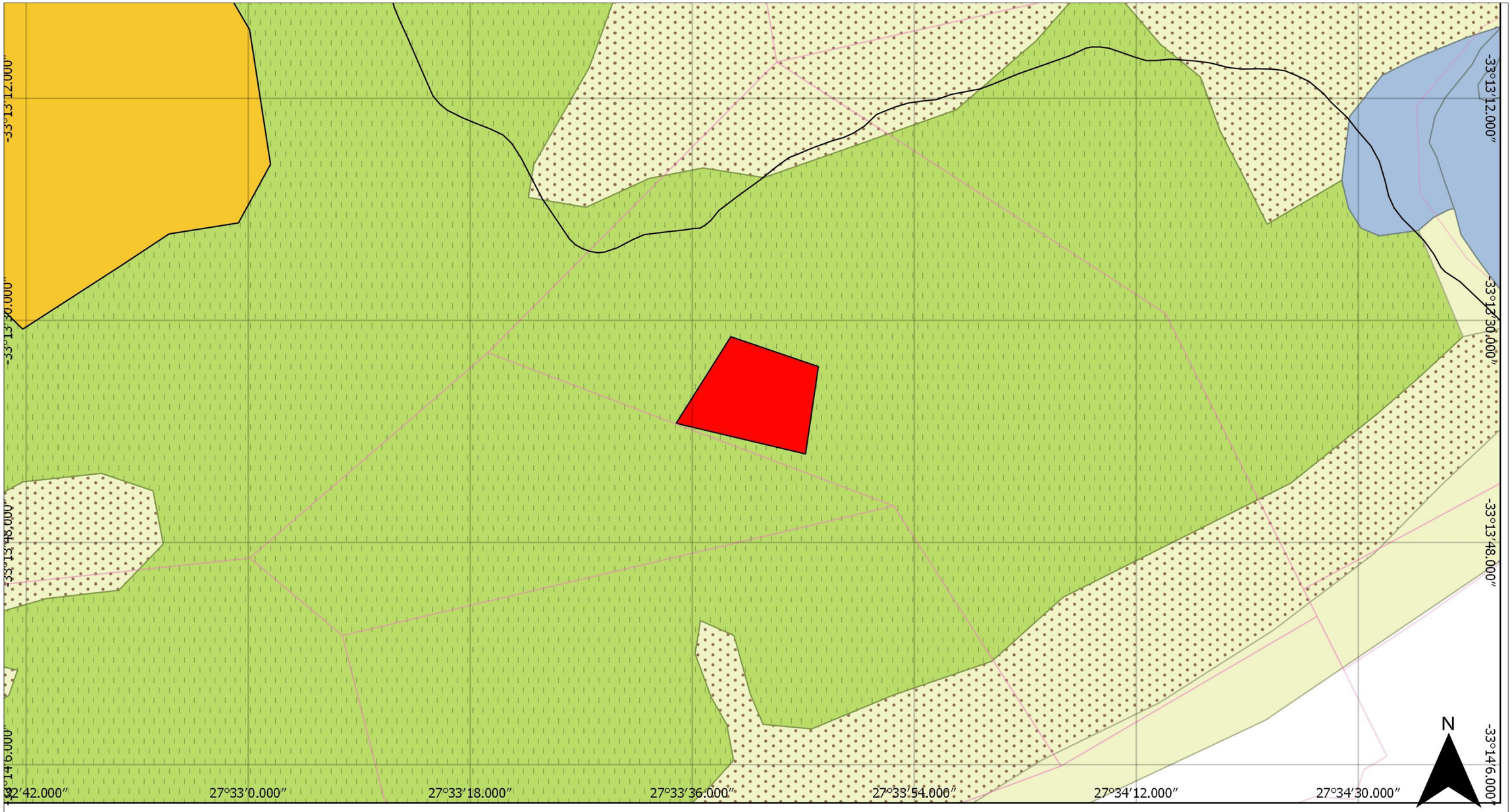


Figure 3. Current land use of the site and surrounding areas

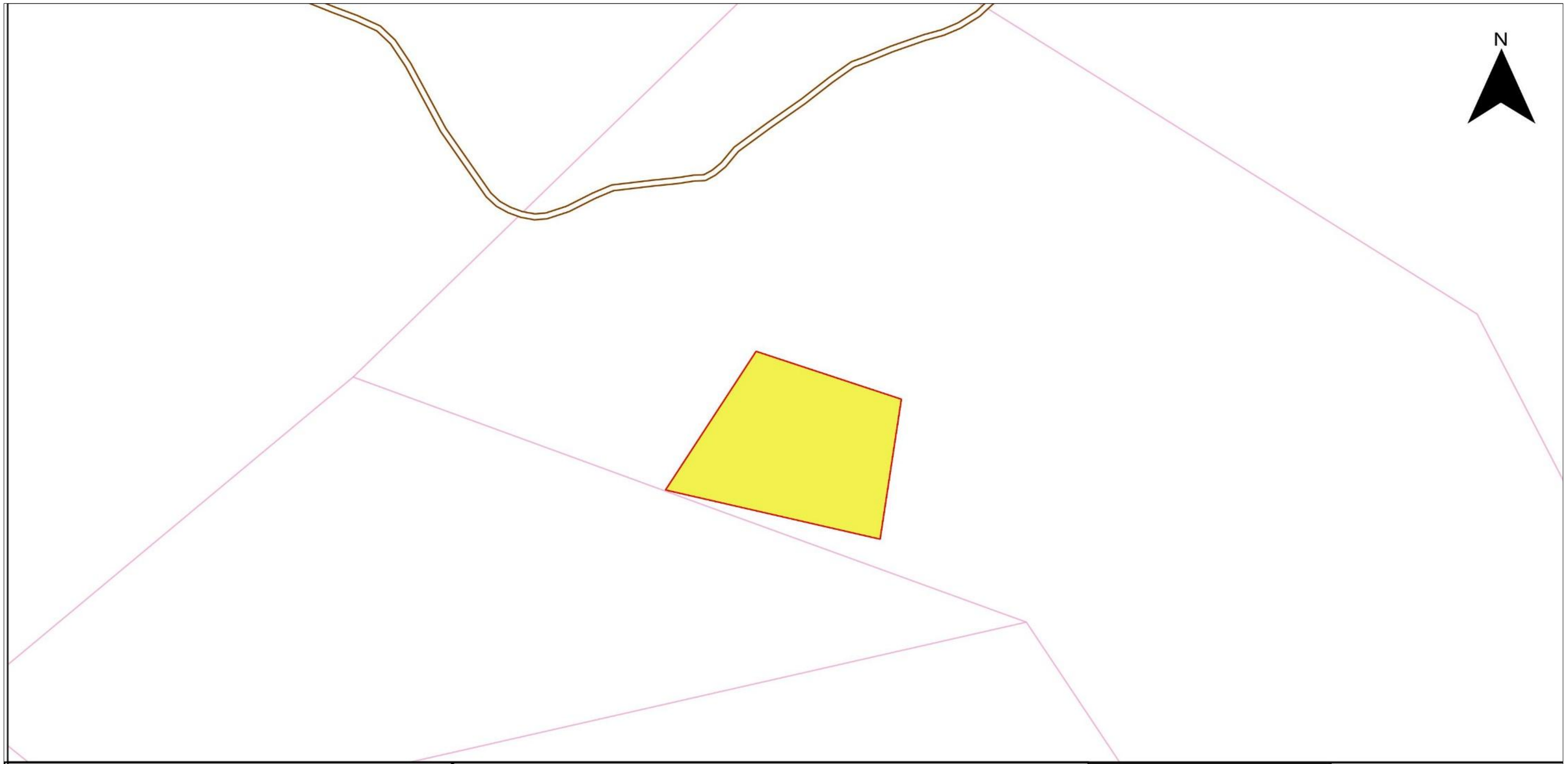


Figure 4. Sensitivity map of the study site. The new haul road is also in a low sensitive area

Appendix 3: Impact tables

Table 1. Impact ratings tables

Significance Rating Table

Significance Rating Table	
Temporal Scale (The duration of the impact)	
Short term	Less than 5 years (Many construction phase impacts are of a short duration).
Medium term	Between 5 and 20 years.
Long term	Between 20 and 40 years (From a human perspective almost permanent).
Permanent	Over 40 years or resulting in a permanent and lasting change that will always be there.
Spatial Scale (The area in which any impact will have an affect)	
Localised	Impacts affect a small area of a few hectares in extent. Often only a portion of the project area.
Study area	The proposed site and its immediate environs.
Municipal	Impacts affect the local municipality(s), or any towns within them.
Regional	Impacts affect the wider district municipality or the province as a whole.
National	Impacts affect the entire country.
International/Global	Impacts affect other countries or have a global influence.
Likelihood (The confidence with which one has predicted the significance of an impact)	
Definite	More than 90% sure of a particular fact. Should have substantial supportive data.
Probable	Over 70% sure of a particular fact, or of the likelihood of that impact occurring.
Possible	Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.
Unsure	Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.

Impact Severity Rating

Impact severity **(The severity of negative impacts, or how beneficial positive impacts would be on a particular affected system or affected party)**	
Very severe	Very beneficial

An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated. For example the permanent loss of land.	A permanent and very substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit. For example the vast improvement of sewage effluent quality.
Severe	Beneficial
Long term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time consuming, or some combination of these. For example, the clearing of forest vegetation.	A long term impact and substantial benefit to the affected system(s) or party(ies). Alternative ways of achieving this benefit would be difficult, expensive or time consuming, or some combination of these. For example an increase in the local economy.
Moderately severe	Moderately beneficial
Medium to long term impacts on the affected system(s) or party (ies), which could be mitigated. For example constructing a sewage treatment facility where there was vegetation with a low conservation value.	A medium to long term impact of real benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are equally difficult, expensive and time consuming (or some combination of these), as achieving them in this way. For example a 'slight' improvement in sewage effluent quality.
Slight	Slightly beneficial
Medium or short term impacts on the affected system(s) or party(ies). Mitigation is very easy, cheap, less time consuming or not necessary. For example a temporary fluctuation in the water table due to water abstraction.	A short to medium term impact and negligible benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are easier, cheaper and quicker, or some combination of these.
No effect	Don't know/Can't know
The system(s) or party(ies) is not affected by the proposed development.	In certain cases it may not be possible to determine the severity of an impact.

Overall Significance Rating

Overall Significance (The combination of all the above criteria as an overall significance)	
VERY HIGH NEGATIVE	VERY BENEFICIAL
These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects. Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance. Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.	
HIGH NEGATIVE	BENEFICIAL
These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light. Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated. Example: The change to soil conditions will impact the natural system, and the impact on affected parties (such as people growing crops in the soil) would be HIGH.	
MODERATE NEGATIVE	SOME BENEFITS

These impacts will usually result in medium to long term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial.

Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

LOW NEGATIVE	FEW BENEFITS

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.

Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.

NO SIGNIFICANCE

There are no primary or secondary effects at all that are important to scientists or the public.

Example: A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.

DON'T KNOW

In certain cases it may not be possible to determine the significance of an impact. For example, the primary or secondary impacts on the social or natural environment given the available information.

Example: The effect of a particular development on people's psychological perspective of the environment.

Appendix 4: Assessment of impacts and risks

NAME OF ACTIVITY **(E.g. For prospecting -** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc…etc…etc** **E.g. For mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	**SIGNIFICANCE** if not mitigated	**MITIGATION TYPE** (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc) E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation..	**SIGNIFICANCE** if mitigated
Compliance	Compliance with relevant environmental legislation and policy	All aspects of mining	All phases	High	All relevant legislation and policy must be consulted and the proponent must ensure that the project is compliant with such legislation and policy. These should include (but are not restricted to): MPRDA, NWA,NEMA, Local and District Spatial Development Frameworks, Eastern Cape Biodiversity Conservation Plan (ECBCP), Local Municipal bylaws.	Low
Design of the mine site	An inappropriately	During excavation of	Planning & Design	Low	The site must be	Low

	designed mine site could result in erosion, stormwater issues and unnecessary environmental degradation.	mineral			designed to avoid impacting the surrounding natural landscapes All mining activities must be designed within the mining footprint	
Socio-economic	Failure to come to an agreement with the relevant land users/surrounding land users of the quarry site could lead to dissatisfaction from the local community.	For all aspects of mining	Planning & Design	Moderate	The proponent must ensure that an agreement (regarding community benefits) is reached between the developer, the current land users (surrounding community) and the municipality prior to any mining activity taking place on site.	Low
	Temporary jobs may be created which will benefit the local workforce.		Mining	Beneficial	No mitigation	Beneficial
Site demarcation	Incorrect planning may result in the unnecessary loss of vegetation and degradation	Layout could affect sensitive environments	Planning & Design	Moderate	All natural areas outside the mining site must be avoided. Mining must not take place outside the mining footprint. The proposed access road footprint should be kept as small as possible and be provided with suitable stormwater management features (if necessary), that will prevent additional erosion within the terrestrial habitats.	Low
	Encroachment of mining activities onto areas outside the mining footprint could result in unnecessary environmental disturbance.		Mining	High	The boundaries of the mining site must be adequately demarcated to restrict mining and other (eating, washing and ablution) activities. All plant, equipment and other materials	Low

					must remain within the demarcated boundaries.	
Visual intrusion		Visual intrusion as a result of mining activities	Mining	Moderate	Mining activities should only take place during normal work hours (7am to 5pm). Mining activities must be limited to the designated area and not encroach into surrounding areas.	Low
Sanitation	Inappropriate siting and servicing of sanitation facilities could result in contamination of surface and ground water.	During all mining activities	Construction & Mining	High	Sanitation facilities must NOT be located within 50m of any water resources or water drainage areas. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.	Low
Spillages of hazardous substances	Spillage of any hazardous substances such as fuel, chemicals, etc. could result in ground and surface water contamination	Spillages of fuel & hydraulic fluids during mining activities	Mining	Moderate	All oils, fuel and other maintenance equipment and supplies must be stored in a secure bunded area Spill kits must be kept on-site and maintained. Vehicles must be maintained to an acceptable standard to prevent any fuel, oil or lubricant leaks etc).	Low
Dust control	Dust (generated from mining activities and from vehicles traveling on dirt roads) could be a nuisance during windy conditions.	Dust clouds from plant could impact the surrounding environment/communities	Mining	Moderate	Mining activities should only take place during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas. A speed limit of 40km/h must not be exceeded on dirt roads. Any complaints or	Low

					claims emanating from dust issues must be attended to immediately. During windy periods un-surfaced and un-vegetated areas should be dampened down if necessary.	
Noise	During the operational (mining) phase mining activities and movement of heavy vehicles could result in an increase in ambient noise levels on site and on surrounding properties.	Increase in noise levels	Mining	Moderate	Movement of heavy machinery should be limited to normal working hours (7 AM to 5 PM). Ensure there is a facility for nearby residents to make complaints. These must be addressed and recorded.	Low
Waste Management	Littering onsite may attract vermin, detract from the visual appeal of the area and pollute the surrounding areas.	Management of general waste	Mining	Moderate	Sufficient waste containers must be available. No waste must be buried or burned on site. Waste must be collected on a regular basis and disposed of at a licensed landfill site.	Low
Palaeontological findings	Loss of excavated fossils during mining	Fossil finds	Mining	High	One person in the staff must be identified and appointed as responsible for the implementation of the attached protocol in instances of accidental fossil discovery and must report to the ECO or site gent. If the ECO or site agent is not present on site, then the responsible person on site should follow the protocol correctly in order to not jeopardize the conservation and well-being of the fossil material.	Low

					Once a workman notices possible fossil material, he/she should report this to the ECO or site agent. Procedure to follow if it is likely that the material identified is a fossil: - The ECO or site agent must ensure that all work ceases immediately in the vicinity of the area where the fossil or fossils have been found; - The ECO or site agent must inform SAHRA of the find immediately. This information must include photographs of the findings and GPS co-ordinates; - The ECO or site agent must compile a Preliminary Report and fill in the attached Fossil Discoveries: Preliminary Record Form within 24 hours without removing the fossil from its original position. The Preliminary Report records basic information about the find including: - The date - A description of the discovery - A description of the fossil and its context (e.g. position and depth of find) - Where and how the find has been stored	

					- Photographs to accompany the preliminary report (the more the better): - A scale must be used - Photos of location from several angles - Photos of vertical section should be provided - Digital images of hole showing vertical section (side); - Digital images of fossil or fossils. Upon receipt of this Preliminary Report, SAHRA will inform the ECO or site agent whether or not a rescue excavation or rescue collection by a palaeontologist is necessary. Exposed finds must be stabilised where they are unstable and the site capped, e.g. with a plastic sheet or sand bags. This protection should allow for the later excavation of the finds with due scientific care and diligence. SAHRA can advise on the most appropriate method for stabilisation. - If the find cannot be stabilised, the fossil may be collect with extreme care by the ECO or the site agent and put aside and protected until SAHRA advises on further action. Finds collected in this way must be safely and securely stored in tissue paper	

					and an appropriate box. Care must be taken to remove the all fossil material and any breakage of fossil material must be avoided at all costs. No work may continue in the vicinity of the find until SAHRA has indicated, in writing, that it is appropriate to proceed.	
Loss of natural vegetation	The clearing of natural vegetation outside the approved mining footprint will lead to the unnecessary loss of natural vegetation.	Natural vegetation	Construction and mining	Moderate		Low
Loss of plant species of conservation concern	The clearing of natural vegetation will lead to the destruction of habitats of unidentified plant species of conservation concern.	Protected plants	Planning and design	Moderate	A Search and Rescue exercise must be undertaken by a qualified botanist prior to commencement of construction. All identified species of conservation concern must be relocated to outside the development footprint prior to commencement of activities. All relevant permits must be obtained from the competent authority in order to remove any plant species of conservation concern.	Low
Inappropriate rehabilitation of disturbed areas	Poor rehabilitation of disturbed areas after construction of mining infrastructure may lead to the permanent degradation of ecosystems as well as allow alien vegetation species to expand.	Mined areas	Planning and design	Moderate	A Rehabilitation Management Plan must be developed to manage rehabilitation during all phases of the project.	Low
Erosion of impacted	Inappropriate	Mined areas	Planning and design	Moderate	A Stormwater	Low

areas	management of storm water during construction may lead to large scale erosion over time.				Management Plan must be developed to manage surface water movement during all phases of the project.	
Spread of alien and invasive plant species	The removal of natural vegetation creates 'open' habitats that will favour the establishment of undesirable alien plant species in areas that are typically very difficult to eradicate and may pose a threat to neighbouring natural ecosystems.	Mined areas	Planning and design	Moderate	An Alien Vegetation Management Plan must be developed to mitigate the establishment and spread of undesirable alien plant species during all phases of the project.	Low
Loss of Natural Vegetation	The clearing of natural vegetation outside the approved mining footprint will lead to the unnecessary loss of natural vegetation.	Natural areas	Operational	Moderate	The mining footprint must be surveyed and demarcated prior to commencement of construction of mining infrastructure. No construction activities must be allowed outside the demarcated footprint. Where vegetation has been cleared, site rehabilitation in terms of soil stabilisation and vegetation must be undertaken.	Low
Loss of plant species of conservation concern	The clearing of natural vegetation will lead to the destruction of habitats of unidentified plant species of conservation concern.	Protected plants	Operational	Moderate	All areas that will be impacted during mining must be surveyed and demarcated by a suitably qualified specialist prior to vegetation and topsoil removal in order to locate and rescue any species of conservation concern within the area and relocate them. The mining staff must not poach or trap wild animals.	Low

					The mining staff must not harvest any natural vegetation.	
Inappropriate rehabilitation of disturbed areas	Poor rehabilitation of disturbed areas during and after mining will lead to the permanent degradation of ecosystems as well as allow alien vegetation species to expand.	Mined areas	Operational	Moderate	All cleared areas must be continuously rehabilitated with indigenous vegetation post-establishment. The site will be considered as rehabilitated when 75% or more of the impacted areas are covered by primary growth (grasses and/or scrubs)	Low
Erosion of impacted areas	Inappropriate management of storm water during mining may lead to large scale erosion over time.	Mined areas	Operational	Moderate	A Stormwater Management Plan must be developed to manage surface water movement during all phases of the project.	Low
Spread of alien and invasive species	The loss of natural vegetation during mining will increase the potential invasion by alien plant species. This, coupled with the lack of implementation of an alien vegetation management plan may result in large scale alien plant invasion.	Mined areas	Operational	Moderate	The approved Alien Vegetation Management Plan must be implemented during mining to reduce the establishment and spread of undesirable alien plant species.	Low
Materials handling	Materials handling operations which are predicted to result in significant fugitive dust emissions from mining operations include the transfer of material by means of loading and offloading of trucks, loading and offloading conveyors, transfer from one conveyor to another and bulldozing. The quantity of dust which will be generated will depend on various	Handling of mined materials	Mining	Moderate	Reduced tipping and drop heights where practicable; Regular clean-up at loading areas and on paved surfaces to prevent entrainment by wind or vehicles; Use of shade cloth where necessary, to reduce wind speeds and reduce travel distance of dust; Covering of exposed areas with coarsely	Low

	non-climatic parameters such as the nature (moisture content and silt content) and volume of the material handled.				crushed rock or aggregate material where practicable; Maintaining all vehicles in good condition always; Continuous dust and fine particulate monitoring should be implemented to monitor compliance with the NAAQS	
Mine dewatering	Opencast mining of will result in groundwater inflows into the pits, which needs to be pumped out for mine safety. The expected inflow into the pit is 730 m3/d when mining floor will reach 20 mbgl. It will stabilise to 1150 m3/d when mining floor will reach 90 mbgl	Management of groundwater inflows into the mining pit(s)	Mining	Moderate	Store the dewatered water in PCDs and ensure that the dams will have enough storage volume; If that is not possible, re-introduce treated water into the streams after ensuring that they meet the required standards as per the WUL or river quality objectives; Supply equal volumes and better-quality water to affected user if proven that there is an impact on specific users; Monitoring of groundwater water levels and groundwater inflow rates; and Update numerical model annually	Low
Rehabilitation & Site closure	Failure to decommission and rehabilitate the mining site properly could result in soil erosion, storm water issues, safety risks and invasion of alien plant species.	Rehabilitating the site after mining & closure	Decommissioning & closure	High	Any remaining sand stockpiles must be removed or levelled. Site clean-up must be done. Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from	Low

					the mining area and disposed of at a registered landfill site. It will not be permitted to be buried or burned on the site. Mined out areas must be stabilised and profiled. Stockpiled topsoil must be returned and spread over all impacted areas. Topsoil must maintain an average depth of 50cm or more. The post rehabilitation topography should result in the same slope as prior to mining. Weeds/alien plants growing on site must be manually removed and deposited at a registered landfill site. All equipment and other items used during the mining period must be removed from site. At closure the internal haul road must be left in a good and non-eroded state (as it was prior to mining activities). Rehabilitation must be completed in such a manner that the land can be optimally used post-mining. Final rehabilitation shall be completed within a period specified by the Regional Manager.	
Site closure	Failure to comply with the closure requirements could result in unnecessary environmental	Site closure procedures	Decommissioning & closure	High	Closure must comply with the MPRDA (Act 28 of 2002), NEMA (Act 107 of 1998) and the NEMA Regulations	Low

	degradation and failure to obtain a closure certificate from DMR.				(2014) requirements for mine closure. The closed site must pose no safety risks. A closure plan must be compiled using the guidelines described in Appendix 5 of the NEMA Regulations (2014) and submitted to DMR. A closure certificate must be obtained from the Minister of Mineral Resources.	

Appendix 5: Impact Management Outcomes

ACTIVITY (whether listed or not listed).	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE** In which impact is	**MITIGATION TYPE**	**STANDARD TO BE ACHIEVED**

(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)**		anticipated **(e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)**	**(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)** **E.g.** • **Modify through alternative method.** • **Control through noise control** • **Control through management and monitoring** • **Remedy through rehabilitation..**	**(Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.**
Excavation (mining)	Visual intrusion associated with the mining activities	The mining activities could result in a negative impact on the aesthetic value of the study area and immediate surrounds.	Mining	Control: Implementation of proper housekeeping, management and monitoring	• Impact on the surrounding environment mitigated through proper management
	Sanitation issues	Inappropriate siting and servicing of sanitation facilities could result in contamination of surface and ground water.	Mining	Control: implementation of mitigation measures, management	• Impact on the surrounding environment mitigated through proper management and management of sanitation facilities
	Demarcation of mining site	Encroachment of mining activities onto areas outside the mining footprint could result in unnecessary environmental disturbance.	Mining	Control: proper demarcation of site, management	• Impact on the surrounding environment mitigated through proper management and demarcation of site
	Storm water and erosion	Inadequate stormwater and erosion control could result in soil erosion and impact surface water quality.	Mining	Control: stormwater management when required	• Impact on the surrounding environment mitigated through proper management and stormwater control (when/if required)
	Spillage of	Spillage of any	Mining	Control: management of	• Impact on the

	hazardous substances	hazardous substances such as fuel, chemicals, etc. could result in ground and surface water contamination.		hazardous substances, spill kits	surrounding environment mitigated through proper management and stormwater control (when/if required)
	Dust nuisance	Dust (generated from mining activities and from vehicles traveling on dirt roads) could be a nuisance during windy conditions.	Mining	Control: dust management	• Impact on the surrounding environment mitigated through proper dust management (NEM: AQA, 2004)
	Noise nuisance	Mining activities and movement of heavy vehicles could result in an increase in ambient noise levels on site and on surrounding properties.	Mining	Control: noise management	• Impact on surrounding environment mitigated through proper noise management and adhering to normal working hours.
	Waste management	Littering on site may attract vermin, detract from the visual appeal of the area and pollute the surrounding areas.	Mining	Control: waste management	• Impact on environment mitigated through proper waste management. (NEMWA, 2008)
Decommissioning and Closure	Final rehabilitation and decommissioning	Failure to decommission and rehabilitate the mining site properly could result in soil erosion, storm water issues, safety risks and invasion of alien plant species.	Decommissioning	Control: removal of all equipment from site, stabilising of mined areas, removal of alien plant species.	• Impact on surrounding environment can be mitigated through proper decommissioning and rehabilitation (MPRDA, 2002, NEMA, 1998).
	Closure	Failure to comply with the	Closure	Control: comply with the MPRDA and NEMA mine closure	• Impact on environment mitigated through

		closure requirements could result in unnecessary environmental degradation and failure to obtain a closure certificate from DMR.		requirements, submission of closure plan.	proper mine closure (MPRDA, 2002, NEMA, 1998).

Appendix 6: Impact Management Actions

ACTIVITY whether listed or not listed. **(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).**	**POTENTIAL IMPACT** **(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)**	**MITIGATION TYPE** **(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)** **E.g.** • **Modify through alternative method.** • **Control through noise control** • **Control through management and monitoring** **Remedy through rehabilitation..**	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
Excavation (mining)	Visual intrusion associated with the mining activities	Control: Implementation of proper housekeeping, management and monitoring	Throughout mining phase.	• Impact on the surrounding environment mitigated through proper management (MPRDA, NEMA).
	Sanitation issues	Control: implementation of mitigation measures, management of sanitation facilities.	Throughout mining phase.	• Impact on the surrounding environment mitigated through proper management and management of sanitation facilities. (NEMWA, 2008).
	Demarcation of mining site	Control: proper demarcation of site, management.	Throughout mining phase.	• Impact on the surrounding environment mitigated through proper management and demarcation of site.
	Storm water and erosion	Control: stormwater management when required	Throughout mining phase.	• Impact on the surrounding environment mitigated through proper management and stormwater control (when/if required) (NWA, 1998).
	Spillage of hazardous substances	Control: management of hazardous substances, spill kits	Throughout mining phase.	• Impact on the surrounding environment mitigated through proper management

				and stormwater control (when/if required). (Hazardous Substances Act).
	Dust nuisance	Control: dust management	Throughout mining phase.	• Impact on the surrounding environment mitigated through proper dust management (NEM: AQA, 2004)
	Noise nuisance	Control: noise management	Throughout mining phase.	• Impact on surrounding environment mitigated through proper noise management and adhering to normal working hours (Noise control regulations in terms of section 25 of the Environment Conservation Act (ECA), 1989).
	Waste management	Control: waste management	Throughout the mining phase.	• Impact on environment mitigated through proper waste management. (NEMWA, 2008)
	Changes to water quality	Control: waste management, management of hazardous substances, erosion control, demarcation of mining site	Throughout the mining phase.	• Impact on surrounding environment can be mitigated through proper site management. (NWA, 1998, NEMWA, 2008).
Decommissioning and Closure	Final rehabilitation and decommissioning	Control: removal of all equipment from site, stabilising of mined areas, removal of alien plant species.	Decommissioning phase	• Impact on environment mitigated through proper mine closure (MPRDA, 2002, NEMA, 1998).
	Closure	Control: comply with the MPRDA and NEMA mine closure requirements, submission of closure plan.	Closure	• Impact on environment mitigated through proper mine closure (MPRDA, 2002, NEMA, 1998).