

| IMPACTS | | | | | CONSEQUENCE | | | PROBABILITY | RANKING WITHOUT MITIGATION | CONFIDENCE IMPLEMENTATION OF MANAGEMENT MEASURES | | | RANKING WITH MITIGATION | DEGREE REVERSABILITY & LOSS OF RESOURCE (AFTER MITIGATION) | | | | | | |
|---------------------------|---------------|---|---------------|--------|----------------|----------------|----------------|-----------------|------------------------------|--|--|--|-------------------------|--|--|----------------|----------------|----------------|----------------|----------------|
| Nature | Description | Alternative | Cumulative | Type | Extent (A) | Duration (B) | Intensity (C) | Probability (P) | Significance (A + B + C) X P | Confidence | Description and/or Mitigation and Management Measures (if applicable) | Mitigation Effectiveness | Significance | Loss of Resources | Reversibility | | | | | |
| CONSTRUCTION PHASE | | | | | | | | | | | | | | | | | | | | |
| Atmospheric Emissions | Negative | Dust emissions | Proposal | Yes | Direct | Site | Short-term | Low-Medium | Likely | Low | High | <ul style="list-style-type: none"> A speed limit of 20km/h must be maintained on all dirt roads. Dust suppression by means of either water or biodegradable chemical agent is required. | High | Low | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | Site | Short-term | Low-Medium | Likely | Low | High | | High | Low | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| | Negative | Emissions from vehicles and equipment (CO2, NOx, SOx, VOC's etc.) | Proposal | Yes | Direct | Local | Short-term | Low-Medium | Likely | Low | High | <ul style="list-style-type: none"> In terms of transportation of workers and materials, collective transportation arrangements should be made to reduce individual car journeys where possible. All vehicles used during the project should be properly maintained and in good working order. All vehicles and other machinery should comply with road worthy requirements and comply with legislation in terms of allowable emissions. | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | Local | Short-term | Low-Medium | Likely | Low | High | | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| | Negative | Noise | Proposal | No | Direct | Neighbouring | Short-term | Low-Medium | Possible | Low | High | <ul style="list-style-type: none"> Equipment and/or machinery which will be used must comply with the manufacturer's specifications on acceptable noise levels. Construction activities should be limited to daytime only. | High | Low | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | None | Short-term | Low-Medium | Possible | Low | High | | High | Low | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| Negative | Water quality | Proposal | No | Direct | Neighbouring | Incidental | Low-Medium | Likely | Low | High | <ul style="list-style-type: none"> The following mitigation measures suggested by the wetland specialist apply: Stock piling outside the wetland area, stormwater management, dry season construction, filtration. Due to the fact that the alternative traverses most of the wetland, the intensity of the impact is likely to be higher and thus the proposal is preferred. In addition, the following general measures should be implemented: <ul style="list-style-type: none"> Chemical toilets must be supplied and maintained during the construction phase Ablution facilities (chemical toilets) are to be provided by the Contractor, at a ratio of 1:10. Ablution facilities (chemical toilets) must be erected within 100m from all workplaces but within the development footprint. Toilets are to be secured to the ground, and must have a closing mechanism. Toilet paper must be provided at these facilities and must be serviced once per week. Certified contractors to maintain and remove chemical toilets regularly. The contractor must ensure that spillage does not occur when toilets are cleaned/serviced and contents must be properly stored and disposed of. Discharge of waste into the environment and/or burial of waste are strictly prohibited. Sanitary arrangements must be to the satisfaction of the PM, ECO, the local authorities and the applicable legal requirements. Drip trays must be placed under all vehicles when immobile for longer than 24 hours. Vehicles suspected of leaking must be monitored and conduct a pre start-up inspection checklist. Drip trays must be checked and replaced for vehicles standing (parked) for prolonged periods. Drip trays must be of a sufficient size and volume to collect any hydrocarbon leakages from a stationary vehicle. Spill kits (absorbent material) must be available on site and in all vehicles that transport hydrocarbons for dispensing to other vehicles on the construction site. Spilled substances must be contained in impermeable containers for removal to a licensed hazardous waste site. Significant spills should be reported to the Project Manager or Contractors Manager and ECO who should report this to the relevant authority | Very High | Low | No Loss | Reversible | 100 | | | | |
| | | Alternative 1 | | | Neighbouring | Incidental | Medium-High | Highly Likely | Low-Medium | High | | Medium | Low | No Loss | Reversible | 100 | | | | |
| | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | None | None required. However, it should be noted that the existing state of the wetland is poor and will continue to deteriorate without rehabilitation. | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | | Proposal | | | Local | Short-term | Low-Medium | Highly Likely | Low-Medium | High | | High | High | Low | No Loss | Reversible | 100 | | | |

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| | Nature | Description | Alternative | Cumulative | Type | Extent (A) | Duration (B) | Intensity (C) | Probability (P) | Significance (A + B + C) X P | Confidence | Description and/or Mitigation and Management Measures (if applicable) | Mitigation Effectiveness | Significance | Loss of Resources | Reversibility | |
| Impacts to Wetlands | Negative | Flow regime | Alternative 1 | No | Indirect | Local | Short-term | Medium-High | Highly Likely | Medium | High | <ul style="list-style-type: none"> Instability and erosion of steep slopes must be stabilised immediately. Re-vegetation in consultation with landscape architect and ECO should be done if and where required. To reduce the loss of material by erosion, disturbance must be kept to a minimum. Where possible, natural vegetation should be retained to reduce the risk of erosion. Silt fences must be used to stabilise the site, reduce erosion and silt entering the natural environment. No unchecked silt may enter the natural environment. Proper stormwater management as per the approved stormwater management plan. Increased run-off during construction should be managed using berms, temporary cut-off drains, attenuation ponds or other suitable structures, in consultation with the ECO and resident Engineer. Stormwater management system is to be installed as soon as possible following site establishment, to attenuate stormwater during the construction phase, as well as during the operational phase. Surface-water run-off and stormwater must be directed away from trenches and areas of excavation. | Medium | Low-Medium | No Loss | Reversible | 100 |
| | | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required. However, it should be noted that the existing state of the wetland is poor and will continue to deteriorate without rehabilitation. | Not Applicable | None | Not Applicable | Not Applicable |
| | Negative | Habitat | Proposal | | | Site | Medium-term | Low-Medium | Likely | Low | High | <ul style="list-style-type: none"> The following mitigation measures suggested by the wetland specialist apply: Stock piling outside the wetland area, minimal ingress and egress. Due to the fact that the alternative traverses most of the wetland, the intensity of the impact is likely to be higher and thus the proposal is preferred. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | Yes | Indirect | Site | Medium-term | Medium-High | Likely | Low-Medium | High | <ul style="list-style-type: none"> In addition, the following general measures should be implemented: The wetland area should be declared 'no-go' area's during the construction and must be demarcated prior to construction; All laydown, storage areas etc. should be restricted to within the development footprint; Compilation and implementation of a Wetland Rehabilitation Plan. | Medium | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | Not Applicable | Not Applicable | Site | Long-term | Low-Medium | Likely | Low | High | None required. However, it should be noted that the existing state of the wetland is poor and will continue to deteriorate without rehabilitation. | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Biota | Proposal | | | Neighbouring | Medium-term | Medium | Likely | Low | High | <ul style="list-style-type: none"> The following mitigation measures suggested by the wetland specialist apply: Stock piling outside the wetland area, minimal ingress and egress. Due to the fact that the alternative traverses most of the wetland, the intensity of the impact is likely to be higher and thus the proposal is preferred. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | No | Indirect | Neighbouring | Medium-term | Medium-High | Likely | Low-Medium | High | <ul style="list-style-type: none"> In addition, the following general measures should be implemented: The wetland area should be declared 'no-go' area's during the construction and must be demarcated prior to construction; Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste be removed from site on a weekly basis to prevent rodents and pests entering the site; No trapping, killing or poisoning of any wildlife should be allowed on site; Staff should be educated about the sensitivity of faunal species and measures should be put in place to deal with any species that are encountered during the construction process. The intentional killing of any animals including snakes, insects, lizards, birds or other animals should be strictly prohibited. | Medium | Low | No Loss | Reversible | 100 |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | | | | Proposal | | | Neighbouring | Medium-term | Medium | Likely | Low | High | <ul style="list-style-type: none"> The following mitigation measures suggested by the wetland specialist apply: Stormwater management design and erosion control measures. Due to the fact that the alternative traverses most of the wetland, the intensity of the impact is likely to be higher and thus the proposal is preferred. | High | Low | No Loss | Reversible |

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| Negative | Geomorphology | Alternative 1 | No | Direct | Neighbouring | Medium-term | Medium-High | Highly Likely | Medium | High | <ul style="list-style-type: none"> kept to a minimum. Where possible, natural vegetation should be retained to reduce the risk of erosion. Proper stormwater management as per the approved stormwater management plan. Increased run-off during construction should be managed using berms, temporary cut-off drains, attenuation ponds or other suitable structures, in consultation with the ECO and resident Engineer. Stormwater management system is to be installed as soon as possible following site establishment, to attenuate stormwater during the construction phase, as well as during the operational phase. Surface-water run-off and stormwater must be directed away from trenches and areas of excavation. | Medium | Low-Medium | No Loss | Reversible | 100 | |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | Not Applicable | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| Waste Generation | Negative | Domestic waste | Yes | Direct | Proposal | Local | Short-term | Low-Medium | Likely | Low | High | <ul style="list-style-type: none"> Waste recycling to be put in place. Solid waste shall only be stored in the designated general waste storage area which must be enclosed and impermeable. All solid waste shall be disposed of by a certified contractor, off-site, at an approved landfill site. The Contractor shall supply the ECO with a certificate of disposal for auditing purposes. | Medium | Low | No Loss | Reversible | 100 |
| | | | | | Alternative 1 | Local | Short-term | Low-Medium | Likely | Low | High | Medium | Low | No Loss | Reversible | 100 | |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Construction waste | Yes | Direct | Proposal | Local | Short-term | Low-Medium | Likely | Low | High | <ul style="list-style-type: none"> Litter (from outside the camp included) and concrete bags etc. must be collected and put into suitable closed bins on a daily basis. Construction rubble must be disposed of at a registered site No Construction rubble may be used for infilling. | Medium | Low | No Loss | Reversible | 100 |
| | | | | | Alternative 1 | Local | Short-term | Low-Medium | Likely | Low | High | Medium | Low | No Loss | Reversible | 100 | |
| | Negative | Hazardous waste | Yes | Direct | Proposal | Local | Short-term | Low-Medium | Likely | Low | High | <ul style="list-style-type: none"> The classification of waste determines the handling methods and the ultimate disposal of the material. The contractor shall manage hazardous waste that are anticipated to be generated by his operations as follows: Characterise the waste to determine if it is general or hazardous. Obtain and provide an acceptable container with a label. Place hazardous waste material in the container. Inspect the container on a regular basis Haul the full container to the licenced and correct disposal site. Provide documentary evidence of proper disposal of the waste. Only temporary storage of waste is allowed (once of storage of waste for a period less than 90 days). The volume of material should be limited to less than 80m³ of hazardous waste. Should this be exceeded the Norms and Standards for the Storage of Waste will need to be complied with. | Medium | Low | No Loss | Reversible | 100 |
| Alternative 1 | | | | | Local | Short-term | Low-Medium | Likely | Low | High | Medium | Low | No Loss | Reversible | 100 | | |
| No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| Negative | Loss of topsoil | Proposal | Yes | Direct | Site | Permanent | Medium | Definite | Medium | High | <ul style="list-style-type: none"> Top soil should be separated and re-used where possible. | Low | Low-Medium | Partial | High Degree | 70 | |
| | | Alternative 1 | Yes | Direct | Site | Permanent | Medium | Definite | Medium | High | <ul style="list-style-type: none"> Top soil should be separated and re-used where possible. | Low | Low-Medium | Partial | High Degree | 70 | |
| | | No-Go Option | Yes | Direct | Site | Long-term | Low-Medium | Definite | Low-Medium | High | The site is degraded by historic land use. It is likely that there will be a continued loss of topsoil should the development not proceed as the site will remain in its degraded state. | None | Low-Medium | Partial | High Degree | 70 | |
| Negative | Loss of land capability | Proposal | Yes | Direct | Site | Permanent | Low | Definite | Low-Medium | High | <ul style="list-style-type: none"> Please note that according to the Gauteng Agricultural Potential Atlas IV, the agricultural potential of the site and the affected development footprint of the services is low to moderate. However, the Environmental Screening Report compiled in terms GN 960 of 5 July 2019 indicates that a small section of the development footprint has a high sensitivity in regard to agriculture. Furthermore, whilst the site has been used for some informal agriculture in the past, it currently vacant. Therefore, whilst the site may have previously had some potential, it is currently not maintained for this purpose. It also falls part of the Mixed Use Development Zone of the Muldersdrift Precinct Plan and is thus not planned for agriculture. Therefore, it is not expected to be a significant loss. | None | Medium | Partial | High Degree | 70 | |
| | | Alternative 1 | Yes | Direct | Site | Permanent | Low | Definite | Low-Medium | High | <ul style="list-style-type: none"> Please note that according to the Gauteng Agricultural Potential Atlas IV, the agricultural potential of the site and the affected development footprint of the services is low to moderate. However, the Environmental Screening Report compiled in terms GN 960 of 5 July 2019 indicates that a small section of the development footprint has a high sensitivity in regard to agriculture. Furthermore, whilst the site has been used for some informal agriculture in the past, it currently vacant. Therefore, whilst the site may have previously had some potential, it is currently not maintained for this purpose. It also falls part of the Mixed Use Development Zone of the Muldersdrift Precinct Plan and is thus not planned for agriculture. Therefore, it is not expected to be a significant loss. | None | Medium | Partial | High Degree | 70 | |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |

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| Soil Alteration | Negative | Alteration of topography | Proposal | No | Direct | Site | Permanent | Low-Medium | Definite | Medium | High | Some of the Topography within the development footprint will be altered as part of the development. In order to ensure the change in topography does not impact stormwater, the following must be implemented: • Stormwater management measures must be implemented to ensure these designs do not impact on stormwater. | Low | Low-Medium | Partial | High Degree | 70 | | |
| | | | Alternative 1 | | | Site | Permanent | Low-Medium | Definite | Medium | High | | Low | Low-Medium | Partial | High Degree | 70 | | |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable | None | Not Applicable |
| | Negative | Soil pollution | Proposal | No | Direct | Site | Incidental | Low-Medium | Likely | Low | High | <ul style="list-style-type: none"> Drip trays must be placed under all vehicles when immobile for longer than 24 hours. Vehicles suspected of leaking must be monitored and conduct a pre start-up inspection checklist. All vehicle/equipment maintenance and washing must be done in the workshop area, equipped with a bund wall and grease trap oil separator. Workshop area must be monitored for fuel and oil spills. Drip trays must be checked and replaced for vehicles standing (parked) for prolonged periods. Drip trays must be of a sufficient size and volume to collect any hydrocarbon leakages from a stationary vehicle. Spill kits (absorbent material) must be available on site and in all vehicles that transport hydrocarbons for dispensing to other vehicles on the construction site. Spilled substances must be contained in impermeable containers for removal to a licensed hazardous waste site. Significant spills should be reported to the Project Manager or Contractors Manager and ECO who should report this to the relevant authority. Waste must be managed in line with the requirements of the EMP (see above). | High | Low | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | Site | Incidental | Low-Medium | Likely | Low | High | | High | Low | No Loss | Reversible | 100 | | |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable | None | Not Applicable |
| Resource Consumption | Negative | Electricity consumption | Proposal | Yes | Direct | None | None | None | None | None | High | •During the construction phase the contractors will mainly make use of generators. | None | None | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | None | None | None | None | None | None | | None | High | None | None | No Loss | Reversible | 100 |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable | None | Not Applicable |
| | Negative | Water consumption | Proposal | Yes | Direct | Local | Incidental | Low-Medium | Definite | Low-Medium | High | <ul style="list-style-type: none"> Enforce water saving strategies. Environmental awareness training. | Low | Low | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | Local | Incidental | Low-Medium | Definite | Low-Medium | High | | Low | Low | No Loss | Reversible | 100 | | |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable | None | Not Applicable |
| | Negative | Fuel consumption | Proposal | Yes | Direct | Local | Incidental | Low-Medium | Definite | Low-Medium | High | <ul style="list-style-type: none"> Record and monitor fuel consumption regularly Reduce theft of fuel (increase security) | Low | Low | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | Local | Incidental | Low-Medium | Definite | Low-Medium | High | | Low | Low | No Loss | Reversible | 100 | | |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable | None | Not Applicable |
| | Negative | Raw materials consumption | Proposal | Yes | Direct | Local | Incidental | Low-Medium | Definite | Low-Medium | High | • Promote effective use of raw material. | Low | Low | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | Local | Incidental | Low-Medium | Definite | Low-Medium | High | | Low | Low | No Loss | Reversible | 100 | | |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable | None | Not Applicable |
| Negative | Loss of habitat due to Digging and laying foundations (including for services infrastructure) | Proposal | Yes | Direct | Site | Permanent | Low-Medium | Definite | Medium | High | Both layouts will result in a loss of habitat however, an ecological assessment was undertaken and found that the site is highly disturbed and already developed in parts and the loss of habitat is not significant. The following mitigation measures suggested by the specialist will be undertaken: All construction activities other than those authorised must be outside of the wetland 32m buffer Further, the proposal is preferred as it does not encroach on the ESA area and thus the impact is reduced. | Medium | Low | Partial | High Degree | 70 | | | |
| | | Alternative 1 | | | Site | Permanent | Medium-High | Definite | Medium-High | High | | Low | Low-Medium | Partial | High Degree | 70 | | | |
| | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required. However, please note that the site is highly disturbed and degraded in parts. | Not Applicable | None | Not Applicable | Not Applicable |
| | Loss of habitat due to construction camps & lay down areas | Proposal | Yes | Direct | Site | Medium-term | Medium-High | Likely | Low-Medium | Medium | Both layouts will result in a loss of habitat however, an ecological assessment was undertaken and found that the site is highly disturbed and already developed in parts and the loss of habitat is not significant. The following mitigation measures suggested by the specialist will be undertaken: Construction and laydown areas should be established outside of the wetland 32m buffer. | Medium | Low | Partial | High Degree | 70 | | | |
| | | Alternative 1 | | | Site | Medium-term | Medium-High | Likely | Low-Medium | Medium | | Medium | Low | Partial | High Degree | 70 | | | |
| | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required. However, please note that the site is highly disturbed and degraded in parts. | Not Applicable | None | Not Applicable | Not Applicable |
| | Loss of sensitive vegetation (<i>Hypoxis</i> and <i>Boophone</i>) | Proposal | Yes | Direct | Site | Permanent | Medium-High | Likely | Low-Medium | High | The search, rescue and relocation plan as part of the Ecological Assessment must be implemented and all <i>Hypoxis</i> and <i>Boophone</i> species must be relocated within the development. | High | Low | Partial | High Degree | 70 | | | |
| | | Alternative 1 | | | Site | Permanent | Medium-High | Likely | Low-Medium | High | | High | Low | Partial | High Degree | 70 | | | |
| | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required. However, please note that the site is highly disturbed and degraded in parts. | Not Applicable | None | Not Applicable | Not Applicable |

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| Nature | Description | Alternative | Cumulative | Type | Extent (A) | Duration (B) | Intensity (C) | Probability (P) | Significance (A + B + C) X P | Confidence | Description and/or Mitigation and Management Measures (if applicable) | Mitigation Effectiveness | Significance | Loss of Resources | Reversibility | | |
| Effects on Biodiversity | Loss of habitat - Stochastic events such as fire | Proposal | Yes | Direct | Site | Incidental | Medium-High | Likely | Low | Medium | Both layouts will result in a loss of habitat however, an ecological assessment was undertaken and found that the site is highly disturbed and already developed in parts and the loss of habitat is not significant. The following mitigation measures suggested by the specialist will be undertaken: Fires shall only be permitted in specially designated areas and under controlled circumstances. | Medium | Low | Partial | High Degree | 70 | |
| | | Alternative 1 | | | Site | Incidental | Medium-High | Likely | Low | Medium | | Medium | Low | Partial | High Degree | 70 | |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required. However, please note that the site is highly disturbed and degraded in parts. | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Direct mortality of fauna - Staff or construction workers poaching and hunting | Proposal | No | Direct | Site | Short-term | Low-Medium | Possible | Low | Medium | Both layouts are similar and thus impacts in regards to fauna mortality are similar. An ecological assessment and did not identify any sensitive fauna on site. The following mitigation measures suggested by the specialist will be undertaken: Snaring and hunting of fauna by construction workers on or adjacent to the site should be strictly prohibited. Should any fauna species be found on site, the ECO should be conducted asap to provide recommendation or mitigation measures. | High | Low | Partial | High Degree | 70 |
| | | | Alternative 1 | | | Site | Short-term | Low-Medium | Possible | Low | Medium | | High | Low | Partial | High Degree | 70 |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required. However, please note that the site is highly disturbed and degraded in parts. | Not Applicable | None |
| | | Direct mortality of fauna - Intentional killing of fauna | Proposal | No | Direct | Site | Short-term | Low-Medium | Likely | Low | Medium | Both layouts are similar and thus impacts in regards to fauna mortality are similar. An ecological assessment and did not identify any sensitive fauna on site. The following mitigation measures suggested by the specialist will be undertaken: Killing of fauna on or adjacent to the study area are strictly prohibited. Should any fauna species be found on site, the ECO should be conducted asap to provide recommendation or mitigation measures. | High | Low | Partial | High Degree | 70 |
| | | | Alternative 1 | | | Site | Short-term | Low-Medium | Likely | Low | Medium | | High | Low | Partial | High Degree | 70 |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required. However, please note that the site is highly disturbed and degraded in parts. | Not Applicable | None |
| | Direct mortality of fauna - Vegetation and ground clearing (resulting in fauna mortality) | Proposal | Yes | Direct | Site | Short-term | Medium-High | Definite | Low-Medium | Medium | Both layouts are similar and thus impacts in regards to fauna mortality are similar. An ecological assessment and did not identify any sensitive fauna on site. The following mitigation measures suggested by the specialist will be undertaken: Killing of fauna on or adjacent to the study area are strictly prohibited. Should any fauna species be found on site, the ECO should be conducted asap to provide recommendation or mitigation measures. Clearing of vegetation is not allowed within the 32m buffer of the wetland area. | Low | Low | Partial | High Degree | 70 | |
| | | Alternative 1 | | | Site | Short-term | Medium-High | Definite | Low-Medium | Medium | | Low | Low | Partial | High Degree | 70 | |
| | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable |
| | Negative | Disruption of ecological life cycles due to the restriction of species movement Open trenches and other linear barriers | Proposal | Yes | Direct | Site | Short-term | Low-Medium | Highly Likely | Low | Medium | Trenches and other linear barriers should not be kept open for to long, especially not staying open over night. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Site | Short-term | Low-Medium | Highly Likely | Low | Medium | | High | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None |
| | | Disruption of ecological life cycles due to the restriction of species movement Infrastructure | Proposal | Yes | Direct | Site | Permanent | Low-Medium | Definite | Medium | High | Stormwater and road infrastructure should be designed in such a way that it will have minimal impact on the environmental, especially the wetland area. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Site | Permanent | Low-Medium | Definite | Medium | High | | High | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | High | None required | Not Applicable | None |
| | Negative | Disruption of ecological life cycles due to noise and lighting - Noise during construction | Proposal | Yes | Direct | Site | Short-term | Low-Medium | Highly Likely | Low | High | Construction must be restricted to hours of 07:00 and 17:00. Should construction activities need to continue over a weekend/public holiday or is expected to be excessively noisy, all Interested and Affected Parties and the ECO must be notified in advance. | Medium | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Site | Short-term | Low-Medium | Highly Likely | Low | High | | Medium | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | High | None required | Not Applicable | None |
| Negative | Disruption of ecological life cycles due to noise and lighting - Noise during construction | Proposal | Yes | Direct | None | Incidental | Medium-High | Highly Likely | Low-Medium | High | Construction must be restricted to hours of 07:00 and 17:00. Should construction activities need to continue after hours is, all Interested and Affected Parties and the ECO must be notified in advance. Excessive lighting during construction should be avoided. | Medium | Low | No Loss | Reversible | 100 | |
| | | Alternative 1 | | | Site | Short-term | Medium-High | Highly Likely | Low-Medium | High | | Medium | Low | No Loss | Reversible | 100 | |
| | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable |

| IMPACTS | | | | | CONSEQUENCE | | | PROBABILITY | RANKING WITHOUT MITIGATION | CONFIDENCE IMPLEMENTATION OF MANAGEMENT MEASURES | | | RANKING WITH MITIGATION | DEGREE REVERSABILITY & LOSS OF RESOURCE (AFTER MITIGATION) | | |
|----------|--|---------------|----------------|----------------|--------------|--------------|---------------|-----------------|------------------------------|--|--|---|-------------------------|--|----------------|----------------|
| Nature | Description | Alternative | Cumulative | Type | Extent (A) | Duration (B) | Intensity (C) | Probability (P) | Significance (A + B + C) X P | Confidence | Description and/or Mitigation and Management Measures (if applicable) | Mitigation Effectiveness | Significance | Loss of Resources | Reversibility | |
| Negative | Introduction of alien flora affecting native faunal assemblages - Vehicles and machinery | Proposal | Yes | Direct | Site | Short-term | Medium | Likely | Low | High | Alien, invasive species found within the construction area should be eradicated as far as possible and disposed of at a registered site. Measures to prevent siltation from entering the wetland area, should be implemented throughout the construction phase. | High | Low | No Loss | Reversible | 100 |
| | | Alternative 1 | | | Site | Short-term | Medium | Likely | Low | High | | High | Low | No Loss | Reversible | 100 |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| Negative | Introduction of alien flora affecting native faunal assemblages - soil disturbances | Proposal | Yes | Direct | Site | Short-term | Medium-High | Likely | Low | High | Alien, invasive species found within the construction area should be eradicated as far as possible and disposed of at a registered site. Measures to prevent siltation from entering the wetland area, should be implemented throughout the construction phase. \ | High | Low | No Loss | Reversible | 100 |
| | | Alternative 1 | | | Site | Permanent | Low-Medium | Possible | Low | High | | High | Low | No Loss | Reversible | 100 |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| Negative | Pollution incidents | Proposal | No | Direct | Site | Incidental | Low-Medium | Possible | Low | High | <ul style="list-style-type: none"> Spill kits to be located in strategic areas for when needed Regular site and plant inspection must be conducted Environmental awareness training | Low | Low | No Loss | Reversible | 100 |
| | | Alternative 1 | | | Site | Incidental | Low-Medium | Possible | Low | High | | Low | Low | No Loss | Reversible | 100 |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| Negative | Health and safety | Proposal | No | Direct | Site | Incidental | Low-Medium | Possible | Low | High | <ul style="list-style-type: none"> 24 hour security and access control. Health and Safety awareness training. Contractor to submit a Health and Safety Plan, prepared in accordance with the Health and Safety Specification, for approval prior to the commencement of work. A Safety Agent should be appointed A Dedicated Occupational Health and Safety system to be implemented by Contractor's Safety Officer. To be monitored and audited by the Client's Safety Agent, in terms of the Construction Regulations (2003). | Low | Low | No Loss | Reversible | 100 |
| | | Alternative 1 | | | Site | Incidental | Low-Medium | Possible | Low | High | | Low | Low | No Loss | Reversible | 100 |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| Negative | Storage of hydrocarbons | Proposal | No | Direct | Site | Incidental | Low-Medium | Possible | Low | High | <ul style="list-style-type: none"> Best practice regarding storage of substances Spill kits to be located in strategic areas for when needed Environmental awareness training Firefighting equipment must be accessible on site at all times. Display of emergency numbers | Low | Low | No Loss | Reversible | 100 |
| | | Alternative 1 | | | Site | Incidental | Low-Medium | Possible | Low | High | | Low | Low | No Loss | Reversible | 100 |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| Negative | Fire | Proposal | No | Direct | Neighbouring | Incidental | Low-Medium | Possible | Low | High | <ul style="list-style-type: none"> Adhere to the appropriate emergency procedures Firefighting equipment must be accessible on site at all times. Display of emergency numbers In addition, designated smoking areas should be provided and there should be zero tolerance to smoking outside these areas. Cooking over open flames is not allowed. | Low | Low | No Loss | Reversible | 100 |
| | | Alternative 1 | | | Neighbouring | Incidental | Low-Medium | Possible | Low | High | | Low | Low | No Loss | Reversible | 100 |
| | | No-Go Option | No | Direct | Neighbouring | Incidental | Low-Medium | Possible | Low | High | High | The site is currently unoccupied and the risk for fire remains. | None | Low | No Loss | Reversible |
| Negative | Visual impact | Proposal | Yes | Direct | Neighbouring | Short-term | Low | Possible | Low | High | There Heritage Impact Assessment noted "Visual impacts to scenic routes and sense of place are also considered to be low due to the existing developments in the greater area. | High | Low | No Loss | Reversible | 100 |
| | | Alternative 1 | | | Neighbouring | Short-term | Low | Possible | Low | High | High | However, during construction, the site will be screened or walled off to reduce visual impacts. | High | Low | No Loss | Reversible |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| Negative | Safety and security | Proposal | No | Direct | Neighbouring | Short-term | Low-Medium | Possible | Low | High | <ul style="list-style-type: none"> 24 hour access control to the site and 24 hour security. Workers found to be engaging in activities such as excessive consumption of alcohol, drug use or selling of any such items on site must be disciplined. | Medium | Low | No Loss | Reversible | 100 |
| | | Alternative 1 | | | Neighbouring | Short-term | Low-Medium | Possible | Low | High | | Medium | Low | No Loss | Reversible | 100 |
| | | No-Go Option | No | Direct | Neighbouring | Long-term | Low-Medium | Possible | Low | High | High | The site is currently unoccupied. Should the develop not take place, there may be further safety and security issues in the area. | None | Low | No Loss | Reversible |
| | | Proposal | No | Direct | Neighbouring | Short-term | Low-Medium | Highly Likely | Low | High | <ul style="list-style-type: none"> Traffic calming measures and appropriate signage to be implemented. New roads and road/intersection upgrades to be implemented as per the TIA | High | Low | No Loss | Reversible | 100 |

| | IMPACTS | | | | | CONSEQUENCE | | | PROBABILITY | RANKING WITHOUT MITIGATION | CONFIDENCE IMPLEMENTATION OF MANAGEMENT MEASURES | | | RANKING WITH MITIGATION | DEGREE REVERSABILITY & LOSS OF RESOURCE (AFTER MITIGATION) | | |
|-------------------|----------------|--|-----------------------------|----------------|----------------|--------------|--------------|---------------|-----------------|------------------------------|--|--|---|-------------------------|--|----------------|----------------|
| | Nature | Description | Alternative | Cumulative | Type | Extent (A) | Duration (B) | Intensity (C) | Probability (P) | Significance (A + B + C) X P | Confidence | Description and/or Mitigation and Management Measures (if applicable) | Mitigation Effectiveness | Significance | Loss of Resources | Reversibility | |
| Social | Negative | Traffic disruptions | Alternative 1 | No | Direct | Neighbouring | Short-term | Low-Medium | Highly Likely | Low | High | per the TRC: • Speed limits on all existing roads must be adhered to at all times. | High | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| | Negative | Loss of cultural and palaeontological heritage | Proposal | No | Direct | Local | Permanent | Low | Improbable | Low | High | A Heritage Impact Assessment was undertaken and the following mitigation measures recommended: • A heritage walkdown of linear infrastructure should be conducted prior to construction; • Confirmation of any burial sites within the study area during the public participation process; • It is recommended that a Chance Find Procedure should be implemented for the project should any heritage resources be identified during the construction phase of the project. The site does not occur in a significant palaeontological area. There was no preference between either the proposal or alternative | High | Low | Irreplaceable | Irreversible | 20 |
| | | | Alternative 1 | | | Local | Permanent | Low | Improbable | Low | High | | High | Low | Irreplaceable | Irreversible | 20 |
| | | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Loss of sense of place | Proposal | No | Direct | Neighbouring | Short-term | Low | Possible | Low | High | • Suitable screening to be put in place during construction to minimise visual impacts. • No littering to be allowed. • Good housekeeping practices to be followed | Low | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Neighbouring | Short-term | Low | Possible | Low | High | | Low | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Positive | Change of land use | Proposal | Yes | Direct | Site | Permanent | Low-Medium | Definite | + Medium | High | A Townplanning process is currently being undertaken to change the land use associated with the site. The proposed change in land use is in line with the Muldersdrift Precinct Plan. No mitigation measures other than the townplanning process is required. | Low | + Medium | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Site | Permanent | Low-Medium | Definite | + Medium | High | | Low | + Medium | No Loss | Reversible | 100 |
| | | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| | Economic | Positive | Decline/increase in economy | Proposal | Yes | Direct | Local | Short-term | Medium-High | Definite | + Medium | High | The proposed CAPEX value of the development is R15 000 000.00. This will have numerous multiplier effects in the local community. In order to ensure that this benefits the local community, it is recommended that local labour and suppliers are used where possible. | Low | + Medium | No Loss | Reversible |
| Alternative 1 | | | | Local | | | Short-term | Medium-High | Definite | + Medium | High | | Low | + Medium | No Loss | Reversible | 100 |
| Negative | | | No-Go Option | | | Local | Long-term | Medium | Definite | Medium | High | Should the development not proceed, the benefits to the local community will be long term and negative. Further, the goals of the Muldersdrift Precinct Plan will also not be met. There are no mitigation measures available, | None | Medium | Partial | High Degree | 70 |
| Positive | | Decline/increase in property value | Proposal | No | Direct | Neighbouring | Permanent | Medium | Definite | + Medium | High | The development of the proposed development will increase the property value of the site overall. Further, it will have a knock on effect and is likely to increase the value of neighbouring properties as well. No mitigation measures are required. | None | + Medium | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Neighbouring | Permanent | Medium | Definite | + Medium | High | | None | + Medium | No Loss | Reversible | 100 |
| Negative | | | No-Go Option | | | Neighbouring | Long-term | Medium | Definite | Medium | High | The site was vacant and is degraded and without development, the property value is likely to decrease. This will have knock on effects on the surrounding properties. No mitigation, save for development of the site, is available. | None | Medium | No Loss | Reversible | 100 |
| Positive | | Employment | Proposal | Yes | Direct | Local | Short-term | Medium-High | Definite | + Medium | None | The proposed development will result in approximately 150 construction related employment opportunities for the local community. Local labour should be utilised as far as possible. | None | + Medium | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Local | Short-term | Medium-High | Definite | + Medium | None | | None | + Medium | No Loss | Reversible | 100 |
| Negative | | | No-Go Option | | | Local | Long-term | Medium | Definite | Medium | None | Should the development not proceed, the benefits to the local community will be long term and negative as potential employment opportunities will be lost. No mitigation measures are available. | None | Medium | No Loss | Reversible | 100 |
| OPERATIONAL PHASE | | | | | | | | | | | | | | | | | |
| | Not Applicable | Dust emissions | Proposal | Not Applicable | Not Applicable | None | None | None | Highly Likely | None | High | Impacts not applicable to the operational phase. No mitigation required. | Not Applicable | None | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | None | None | None | Highly Likely | None | High | | Not Applicable | None | No Loss | Reversible | 100 |
| | | | No-Go Option | | | None | None | None | Highly Likely | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | | | Emissions from vehicles and | Proposal | Yes | Direct | None | None | None | Highly Likely | None | High | Impacts not applicable to the operational phase as the development | Not Applicable | None | No Loss | Reversible |

| | IMPACTS | | | | | CONSEQUENCE | | | PROBABILITY | RANKING WITHOUT MITIGATION | CONFIDENCE IMPLEMENTATION OF MANAGEMENT MEASURES | | | RANKING WITH MITIGATION | DEGREE REVERSABILITY & LOSS OF RESOURCE (AFTER MITIGATION) | | |
|-----------------------|----------------|---------------------------------------|---------------|----------------|----------------|----------------|----------------|---------------|-----------------|------------------------------|--|---|--------------------------|-------------------------|--|----------------|----------------|
| | Nature | Description | Alternative | Cumulative | Type | Extent (A) | Duration (B) | Intensity (C) | Probability (P) | Significance (A + B + C) X P | Confidence | Description and/or Mitigation and Management Measures (if applicable) | Mitigation Effectiveness | Significance | Loss of Resources | Reversibility | |
| Atmospheric Emissions | Negative | equipment (CO2, NOx, SOx, VOC's etc.) | Alternative 1 | Yes | Direct | None | None | None | Highly Likely | None | High | will not result in more cars being produced. No mitigation required. | Not Applicable | None | No Loss | Reversible | 100 |
| | | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable |
| | Negative | Noise | Proposal | No | Direct | Neighbouring | Long-term | Low | Possible | Low | High | • The proposed residential development is in line with activities and uses in the area and will not provide significant noise pollution. The Body corporate/Management Board should develop rules and regulations to manage noise in line with applicable by-laws. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Neighbouring | Long-term | Low | Possible | Low | High | | High | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable |
| Impacts to Wetlands | Negative | Water quality | Proposal | No | Direct | Neighbouring | Incidental | Low-Medium | Possible | Low | High | • A Outline Scheme Report has been undertaken and noted that sewer will connect to an existing sewer line approximately 1.1km away from the site. This new sewer pipeline must be implemented. Due to the decreased length of pipeline in the wetland and thus the decreased potential for sewer spills, the proposal should be implemented. • Maintenance and management of the sewer connection must be undertaken as per Mogale's requirements • In addition, the following mitigation measures from the Wetland specialist must be implemented: Rehabilitation of construction impacted area, continuous monitoring. Storm water management. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Neighbouring | Incidental | Medium-High | Possible | Low | High | | High | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | None | None required | Not Applicable |
| | Not Applicable | Flow regime | Proposal | Not Applicable | Not Applicable | Neighbouring | Incidental | Low-Medium | Possible | Low | High | • The following mitigation measures from the Wetland specialist must be implemented: Rehabilitation of construction impacted area, continuous monitoring. Storm water management. Further, Alternative 1 is not preferred as the impacts to flow would be greater due to the deeper pond. • Due to the decreased length of pipeline in the wetland and thus the decreased impact on the flow regime, the proposal should be implemented. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Neighbouring | Incidental | Medium-High | Possible | Low | High | | High | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | None | None | None | Highly Likely | None | High | | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Habitat | Proposal | Yes | Indirect | Site | Incidental | Low-Medium | Improbable | Low | High | • The following mitigation measures from the Wetland specialist must be implemented: Rehabilitation of construction impacted area, continuous monitoring. Storm water management. • Due to the decreased length of pipeline in the wetland and thus the decreased impact on the wetland habitat, the proposal should be implemented. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Site | Incidental | Medium-High | Improbable | Low | High | | High | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable |
| | Negative | Biota | Proposal | No | Indirect | Neighbouring | Incidental | Low-Medium | Possible | Low | High | • The following mitigation measures from the Wetland specialist must be implemented: Rehabilitation of construction impacted area, continuous monitoring. Storm water management. • Due to the decreased length of pipeline in the wetland and thus the decreased impact on the wetland habitat, flow regime and associated biota, the proposal should be implemented. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Neighbouring | Incidental | Medium-High | Possible | Low | High | | High | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable |
| | Not Applicable | Geomorphology | Proposal | Not Applicable | Not Applicable | Site | Incidental | Low | Improbable | Low | High | • The following mitigation measures from the Wetland specialist must be implemented: Rehabilitation of construction impacted area. • Due to the decreased length of pipeline in the wetland and thus the decreased impact on the geomorphology, the proposal should be implemented. | High | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Site | Incidental | Low | Improbable | Low | High | | High | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | None | None | None | None | None | None | | Not Applicable | None required | Not Applicable | None | Not Applicable |
| Waste Generation | Negative | Domestic waste | Proposal | Yes | Direct | Local | Long-term | Low-Medium | Definite | Medium | High | • Recyclable waste streams must be separated from other waste streams. Waste to be separated into recyclable and non-recyclable waste. Waste separation needs to occur before waste is collected. • Solid waste shall only be stored in the designated general waste storage area which must be enclosed and impermeable. • All solid waste shall be disposed of by a certified contractor, off-site, at an approved landfill site if no municipal services are available. • Avoidance, reduction, re-use and recycling should be practiced wherever possible. | Medium | Low | No Loss | Reversible | 100 |
| | | | Alternative 1 | | | Local | Long-term | Low-Medium | Definite | Medium | High | | Medium | Low | No Loss | Reversible | 100 |
| | | | No-Go Option | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | None required | Not Applicable |
| | | | Proposal | | | None | None | None | None | None | High | Impacts not applicable to the operational phase. No mitigation required | Not Applicable | None | Not Applicable | Not Applicable | 100 |

| | IMPACTS | | | | | CONSEQUENCE | | | PROBABILITY | RANKING WITHOUT MITIGATION | CONFIDENCE IMPLEMENTATION OF MANAGEMENT MEASURES | | | RANKING WITH MITIGATION | DEGREE REVERSABILITY & LOSS OF RESOURCE (AFTER MITIGATION) | | | | | |
|---|---------------------------|--|-----------------|----------------|----------------|----------------|----------------|---------------|-----------------|------------------------------|--|---|--|-------------------------|--|--|----------------|----------------|----------------|------------|
| | Nature | Description | Alternative | Cumulative | Type | Extent (A) | Duration (B) | Intensity (C) | Probability (P) | Significance (A + B + C) X P | Confidence | Description and/or Mitigation and Management Measures (if applicable) | Mitigation Effectiveness | Significance | Loss of Resources | Reversibility | | | | |
| | Not Applicable | Construction waste | Alternative 1 | Not Applicable | Not Applicable | None | None | None | None | None | High | required. | Not Applicable | None | Not Applicable | Not Applicable | 100 | | | |
| | | | No-Go Option | | | None | None | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Hazardous waste | Proposal | Not Applicable | Not Applicable | None | None | None | None | None | High | No hazardous waste is expected during operation. | Not Applicable | None | Not Applicable | Not Applicable | 100 | | | |
| | | | Alternative 1 | | | None | None | None | None | None | None | | None | High | Not Applicable | None | Not Applicable | Not Applicable | 100 | |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Soil Alteration | Negative | Loss of topsoil | Proposal | Not Applicable | Not Applicable | None | None | None | None | None | High | Impacts not applicable to the operational phase. No mitigation required. | Not Applicable | None | Not Applicable | Not Applicable | 100 | | |
| Alternative 1 | | | | None | | | None | None | None | None | None | None | | High | Not Applicable | None | Not Applicable | Not Applicable | 100 | |
| Not Applicable | | Loss of land capability | Proposal | Not Applicable | Not Applicable | None | None | None | None | None | High | Impacts not applicable to the operational phase. No mitigation required. | None | Medium | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | None | None | None | None | None | None | | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 | |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | | | Proposal | | | Not Applicable | Not Applicable | None | None | None | None | | None | None | High | Impacts not applicable to the operational phase. No mitigation required. | None | None | No Loss | Reversible |
| Alternative 1 | None | None | None | None | None | | | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | | 100 | | | |
| Resource Consumption | Negative | Electricity consumption | Proposal | Yes | Direct | Local | Long-term | Low-Medium | Definite | Medium | High | • Promote effective electricity consumption. | Low | Low-Medium | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | Local | Long-term | Low-Medium | Definite | Medium | High | | Low | Low-Medium | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Water consumption | Proposal | Yes | Direct | Local | Long-term | Low-Medium | Definite | Medium | High | • Promote effective water conservation measures. | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | Local | Long-term | Low-Medium | Definite | Medium | High | | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| Negative | Fuel consumption | Proposal | Yes | Direct | None | None | None | None | None | High | Impacts not applicable to the operational phase. No mitigation required. | Not Applicable | None | Not Applicable | Not Applicable | 100 | | | | |
| | | Alternative 1 | | | None | None | None | None | None | None | | None | High | Not Applicable | None | Not Applicable | Not Applicable | 100 | | |
| | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 | |
| Negative | Raw materials consumption | Proposal | Yes | Direct | Local | Incidental | Low-Medium | Definite | Low-Medium | High | • Promote effective use of raw material. | Low | Low | No Loss | Reversible | 100 | | | | |
| | | Alternative 1 | | | Local | Incidental | Low-Medium | Definite | Low-Medium | High | | Low | Low | No Loss | Reversible | 100 | | | | |
| | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 | |
| Effects on Biodiversity | Negative | Loss of existing habitat due to loss of vegetation - stochastic events like fire | Proposal | No | Direct | Site | Incidental | Medium | Likely | Low | High | Fire extinguishers must be placed on the property. | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | Site | Incidental | Medium | Likely | Low | High | | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Loss of fauna - Intentional killing of fauna | Proposal | No | Direct | Site | Incidental | Low | Improbable | Low | High | It is not expected that any fauna will be found on site during operation. The Body Corporate must include the requirement in their rule book that should any be found that the relevant organisation be called to safely remove the species. | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | Site | Incidental | Low | Improbable | Low | High | | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Disruption of ecological life cycles due to the restriction of species movement infrastructure | Proposal | No | Direct | Site | Permanent | Low | Highly Likely | Low-Medium | High | Stormwater and road infrastructure should be designed in such a way that it will have minimal impact on the environmental, especially the wetland area. Maintenance should be undertaken as per the requirements of the stormwater management plan. | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | Site | Permanent | Low | Highly Likely | Low-Medium | High | | Medium | Low | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| Incidents, accidents and potential emergency situations | Negative | Pollution incidents | Proposal | No | Direct | Neighbouring | Incidental | Low-Medium | Possible | Low | High | • Sewer connection pipe must be managed and maintained in line with Mogale's requirements. | Low | Low | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | Neighbouring | Incidental | Low-Medium | Possible | Low | High | | Low | Low | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Negative | Health and safety | Proposal | No | Direct | Site | Incidental | Low-Medium | Possible | Low | High | • 24 hour security and access control. | Low | Low | No Loss | Reversible | 100 | | | |
| | | | Alternative 1 | | | Site | Incidental | Low-Medium | Possible | Low | High | | Low | Low | No Loss | Reversible | 100 | | | |
| | | | No-Go Option | | | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | | | Proposal | No | Direct | None | None | None | None | None | High | Impacts not applicable to the operational phase. No mitigation required. | Not Applicable | None | Not Applicable | Not Applicable | 100 | | | |

| | IMPACTS | | | | | CONSEQUENCE | | | PROBABILITY | RANKING WITHOUT MITIGATION | CONFIDENCE IMPLEMENTATION OF MANAGEMENT MEASURES | | | RANKING WITH MITIGATION | DEGREE REVERSABILITY & LOSS OF RESOURCE (AFTER MITIGATION) | | | | |
|---------------|------------------------|------------------------------------|----------------|----------------|----------------|--------------|--------------|---------------|-----------------|------------------------------|---|---|--|-------------------------|--|----------------|----------------|----------------|----------------|
| | Nature | Description | Alternative | Cumulative | Type | Extent (A) | Duration (B) | Intensity (C) | Probability (P) | Significance (A + B + C) X P | Confidence | Description and/or Mitigation and Management Measures (if applicable) | Mitigation Effectiveness | Significance | Loss of Resources | Reversibility | | | |
| | Negative | Storage of hydrocarbons | Alternative 1 | No | Direct | None | None | None | None | None | High | Required. | Not Applicable | None | Not Applicable | Not Applicable | 100 | | |
| | | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 | |
| | Negative | Fire | Proposal | No | Direct | Neighbouring | Incidental | Low-Medium | Possible | Low | High | <ul style="list-style-type: none"> Adhere to the appropriate emergency procedures Firefighting equipment must be accessible on site at all times. Display of emergency numbers | Low | Low | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | Neighbouring | Incidental | Low-Medium | Possible | Low | High | | Low | Low | No Loss | Reversible | 100 | | |
| | | | No-Go Option | No | Direct | Neighbouring | Incidental | Low-Medium | Possible | Low | High | The site is currently unoccupied. Should the develop not take place, the potential for fires on site and on neighbouring properties remains as is. | None | Low | No Loss | Reversible | 100 | | |
| | | | | | | | | | | | | | | | | | | | |
| Social | Negative | Visual impact | Proposal | Yes | Direct | Neighbouring | Long-term | Low | Improbable | Low | High | As the development is in line with the development goals of the area, no mitigation measures are required or recommended. | None | Low | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | Neighbouring | Long-term | Low | Improbable | Low | High | | None | Low | No Loss | Reversible | 100 | | |
| | | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 |
| | Positive | Safety and security | Proposal | No | Direct | Neighbouring | Long-term | Low-Medium | Likely | +Low | High | Due to the development of the site, safety and security in the area is likely to improve. In addition, the following will be implemented which will assist with this: <ul style="list-style-type: none"> 24 hour access control to the site and 24 hour security. | Low | +Low | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | Neighbouring | Long-term | Low-Medium | Likely | +Low | High | | Low | +Low | No Loss | Reversible | 100 | | |
| | Negative | | No-Go Option | No | Direct | Neighbouring | Long-term | Low-Medium | Possible | Low | High | The site is currently unoccupied. Should the develop not take place, there may be further safety and security issues in the area. | None | Low | No Loss | Reversible | 100 | | |
| | Negative | Traffic disruptions | Proposal | No | Direct | Neighbouring | Long-term | Low-Medium | Definite | Low-Medium | High | <ul style="list-style-type: none"> Road A, B, intersection upgrades and Access road to be put in place as discussed in the TIA to be implemented. | High | Low | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | Neighbouring | Long-term | Low-Medium | Definite | Low-Medium | High | | High | Low | No Loss | Reversible | 100 | | |
| | | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 | |
| | Not Applicable | Loss of cultural heritage | Proposal | Not Applicable | Not Applicable | None | None | None | None | None | None | High | Impacts not applicable to the operational phase. No mitigation required. | None | None | No Loss | Reversible | 100 | |
| | | | Alternative 1 | | | None | None | None | None | None | None | None | | High | None | None | No Loss | Reversible | 100 |
| | | | No-Go Option | | | None | None | None | None | None | None | None | | None | High | None required | Not Applicable | None | Not Applicable |
| Negative | Loss of sense of place | Proposal | No | Direct | Neighbouring | Long-term | Low | Improbable | Low | High | Impacts to sense of place are not expected, due to the extensive developments that already occur in the area. As the development is in line with the development goals of the area, no mitigation measures are required or recommended. | None | Low | No Loss | Reversible | 100 | | | |
| | | Alternative 1 | | | Neighbouring | Long-term | Low | Improbable | Low | High | | None | Low | No Loss | Reversible | 100 | | | |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 | | |
| Positive | Change of land use | Proposal | Yes | Direct | Site | Permanent | Low-Medium | Definite | + Medium | High | A Townplanning process is currently being undertaken to change the land use associated with the site. The proposed change in land use is in line with the Muldersdrift Precinct Plan. No mitigation measures other than the townplanning process is required. | Low | + Medium | No Loss | Reversible | 100 | | | |
| | | Alternative 1 | | | Site | Permanent | Low-Medium | Definite | + Medium | High | | Low | + Medium | No Loss | Reversible | 100 | | | |
| | | No-Go Option | Not Applicable | Not Applicable | None | None | None | None | None | None | High | None required | Not Applicable | None | Not Applicable | Not Applicable | 100 | | |
| Economic | Positive | Decline/increase in economy | Proposal | Yes | Direct | Local | Long-term | Low-Medium | Definite | + Medium | High | Once operational the development will provide housing opportunities in the area and thus will contribute to the economy as it will provide business and commercial space. This will have an economic multiplier effect in the local community. No mitigation measures are required. | None | + Medium-High | No Loss | Reversible | 100 | | |
| | | | Alternative 1 | | | Local | Long-term | Low-Medium | Definite | + Medium | High | | None | + Medium | No Loss | Reversible | 100 | | |
| | Negative | | No-Go Option | | | Local | Long-term | Medium | Definite | Medium | High | Should the development not proceed, the benefits to the local community will be long term and negative. Further, the goals of the Muldersdrift Precinct Plan will also not be met. There are no mitigation measures available. | None | Medium | Partial | High Degree | 70 | | |
| | Positive | Decline/increase in property value | Proposal | No | Direct | Neighbouring | Permanent | Medium | Definite | + Medium | High | The development of the a residential development will increase the property value of the site overall. Further, it will have a knock on effect and is likely to increase the value of neighbouring properties as well. No mitigation measures are required. | None | + Medium | No Loss | Reversible | 100 | | |
| Alternative 1 | | | Neighbouring | | | Permanent | Medium | Definite | + Medium | High | None | | + Medium | No Loss | Reversible | 100 | | | |

| IMPACTS | | | | | CONSEQUENCE | | | PROBABILITY | RANKING WITHOUT MITIGATION | CONFIDENCE IMPLEMENTATION OF MANAGEMENT MEASURES | | | RANKING WITH MITIGATION | DEGREE REVERSABILITY & LOSS OF RESOURCE (AFTER MITIGATION) | | |
|----------|-------------|---------------|------------|--------|--------------|--------------|---------------|-----------------|------------------------------|--|---|--------------------------|-------------------------|--|---------------|-----|
| Nature | Description | Alternative | Cumulative | Type | Extent (A) | Duration (B) | Intensity (C) | Probability (P) | Significance (A + B + C) X P | Confidence | Description and/or Mitigation and Management Measures (if applicable) | Mitigation Effectiveness | Significance | Loss of Resources | Reversibility | |
| Negative | | No-Go Option | | | Neighbouring | Long-term | Medium | Definite | Medium | High | The site was previously is vacant and degraded and without development, the property value is likely to decrease. This will have knock on effects on the surrounding properties. No mitigation, save for development of the site, is available. | None | Medium | No Loss | Reversible | 100 |
| Positive | Employment | Proposal | Yes | Direct | Local | Short-term | Medium-High | Definite | + Medium | None | The proposed development will result in approximately 100 permanent full time operation related employment opportunities for the local community. Local labour should be utilised as far as possible. | None | + Medium | No Loss | Reversible | 100 |
| | | Alternative 1 | | | Local | Short-term | Medium-High | Definite | + Medium | None | | + Medium | None | No Loss | Reversible | 100 |
| Negative | | No-Go Option | | | Local | Long-term | Medium | Definite | Medium | None | Should the development not proceed, the benefits to the local community will be long term and negative as potential employment opportunities will be lost. No mitigation measures are available. | None | Medium | No Loss | Reversible | 100 |