

APPENDIX J: ENVIRONMENTAL IMPACT ASSESSMENT

All identified positive and negative impacts are based on the general approach to impact significance assessment applied in South Africa (Department of Environmental Affairs and Tourism 2002 and the requirements for impact assessment in the 2017 Amendments of the Environmental Impact Assessment Regulations, 2014 (DEA GNR 326, 2017). Impacts are ranked and scored in terms of the following assessment criteria (Department of Environmental Affairs and Development Planning (DEA&DP): (1) Extent: spatial scale of the impact; (2) Significance: rank of the impact; (3) Duration: time scale of the impact; 4) Reversibility: degree to which the outcome can be reversed; and (5) Probability: of the impact occurrence; (6) Loss of Resources: degree of loss; (7) Cumulative impacts: combination of impacts over time and space (Table 2).

Table 1: Impact Assessment Rating Methodology

Extent (Scale):

Site Specific	The impact is limited to the development site (development footprint) or part thereof.
Local	The impacted area includes the whole or a measurable portion of the site, but could affect the area surrounding the development, including the neighbouring properties and wider municipal area.
Regional	The impact would affect the broader region (e.g. neighbouring towns) beyond the boundaries of the adjacent properties.
National	The impact would affect the whole country (if applicable).

Duration:

Temporary	The impact will be limited to part of the construction phase or less than one month.
Short term	The impact will continue for the duration of the construction phase, or less than one year.
Medium term	The impact will continue for part the operational phase
Long term	The impact will continue for the entire operational lifetime of the development but will be mitigated by direct human action or by natural processes thereafter.
Permanent	This is the only class of impact that will be non-transitory. Such impacts are regarded to be irreversible, irrespective of what mitigation is applied.

Probability:

Improbable	The possibility of the impact occurring is very low, due either to the circumstances, design or experience.
Probable	There is a possibility that the impact will occur to the extent that provisions must therefore be made.
Highly probable	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up to mitigate the activity before the activity commences.

Definite	The impact will take place regardless of any prevention plans.
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Significance (without mitigation):

No significance	The impact is not substantial and does not require any mitigation action.
Low	The impact is of little importance, but may require limited mitigation.
Medium	The impact is of sufficient importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
Medium-High	The impact is of high importance and is therefore considered to have a negative impact. Mitigation is required to manage the negative impacts to acceptable levels.
High	The impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.
Very High	The impact is critical. Mitigation measures cannot reduce the impact to acceptable levels. As such the impact renders the proposal unacceptable.

Determination of Significance (with mitigation):

No significance	The impact will be mitigated to the point where it is regarded to be insubstantial.
Low	The impact will be mitigated to the point where it is of limited importance.
Medium	Notwithstanding the successful implementation of the mitigation measures, the impact will remain of significance. However, taken within the overall context of the project, such a persistent impact does not constitute a fatal flaw.
High	Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and, taken within the overall context of the project, is considered to be a fatal flaw in the project proposal.

Reversibility:

Completely Reversible	The impact is reversible with implementation of minor mitigation measures
Partly Reversible	The impact is partly reversible but more intense mitigation measures
Barely Reversible	The impact is unlikely to be reversed even with intense mitigation measures
Irreversible	The impact is irreversible, and no mitigation measures exist

Degree to which an Impact can be Mitigated:

High	The impact can be completely mitigated
Moderate	The impact can be partly mitigated
Low	It is possible to mitigate the impact only slightly
Very low	It is not possible to mitigate the impacts

Loss of Resources:

No loss of resource	The impact will not result in the loss of any resources
Marginal loss of resource	The impact will result in marginal loss of resources
Significant loss of resources	The impact will result in significant loss of resources
Complete loss of resources	The impact will result in a complete loss of all resources

Determination of Cumulative Impact:

Negligible	The impact would result in negligible to no cumulative effects
Low	The impact would result in insignificant cumulative effects
Medium	The impact would result in minor cumulative effects
High	The impact would result in significant cumulative effects

PROJECT ACTIVITIES

Activities associated with the proposed project that may result in potential biophysical, socio-economic or heritage impacts are listed below.

Construction phase

1. Site establishment, including the site camp, no-go fencing, relocation or protection of affected service infrastructure.
2. Potential relocation of informal dwellings from the project footprint.
3. Clearing of indigenous vegetation and stripping of topsoil within the approved construction footprint.
4. Bulk earthworks, including cut-to-fill operations and the import of fill material.
5. Demolition of the existing intersection infrastructure (kerbs, channels, signage, markings, traffic signals).
6. Stormwater and wetland-interface works, including installation of pipes, catchpits and culverts and any infilling or reshaping of the wetland edge.
7. Roadworks, including layerworks, asphalt paving, kerbing and construction of the central island, truck apron and pedestrian facilities.
8. Installation of road furniture (signage, street lighting, traffic signals and NMT infrastructure).
9. Operation of construction plant and haulage of materials, together with traffic accommodation (lane closures, detours and pedestrian diversions).

10. Storage, handling and disposal of fuels, chemicals, concrete and construction-and-demolition waste.

Operational phase

11. Routine use of the upgraded intersection and maintenance of the pavement, stormwater system, lighting, signage and verges.

Decommissioning phase

12. Removal of the road infrastructure and rehabilitation of the disturbed footprint (not anticipated within the design life; however, addressed in the EMPPr).

POTENTIAL IMPACTS ASSESSED

The following potential impacts have been identified for **Alternative 1 (Preferred): Landscaped Traffic Circle; Alternative 2: Paved traffic Circle and Alternative 3: No-Go Alternative**, all of which may result in potential impacts on the natural biophysical environment, socio-economic and heritage environment, in the three project phases: (1) Demolition and construction phase, (2) operational phase and (3) demolition phase.

Given that Alternative 1 and Alternative 2 are identical in terms of footprint, they have been assessed together. However, in the instances where the impact differs, specification is made in the impact table.

The following impacts have been identified and assessed for the proposed roundabout development at the intersection of Baden Powell Drive, Japhta K. Masemola Road and Macassar Road.

CONSTRUCTION PHASE IMPACTS (13 IMPACTS IDENTIFIED)

Potential Biophysical Impacts - Terrestrial Biodiversity

1. Potential displacement and mortality of fauna

2. Potential loss of degraded / highly-degraded indigenous Strandveld vegetation (construction)
3. Potential spread of invasive alien plants into the CBA

Potential Biophysical Impacts Freshwater Ecology

4. Potential wetland habitat loss (direct infilling and footprint encroachment)
5. Potential wetland habitat disturbance (edge effects)
6. Potential erosion, sedimentation and altered surface-water flow to the wetland
7. Potential water-quality impairment (sediment, cement, hydrocarbons, wastewater)
8. Potential loss of wetland biota

Potential Socio-economic Impacts

9. Potential traffic congestion and non-motorised-transport (NMT) safety risks during construction
10. Potential nuisance to adjacent residents and businesses (dust, noise, vibration, access)
11. Potential short-term employment and SMME procurement opportunities (positive)
12. Potential relocation of informal dwellers from the proposed road reserve

Potential Heritage and palaeontological resources impacts

13. Potential chance-find disturbance to heritage or palaeontological resources

OPERATIONAL PHASE IMPACTS (7 IMPACTS IDENTIFIED)

Potential Biophysical Impacts - Terrestrial Biodiversity

14. Potential fragmentation of ecological connectivity across the CBA
15. Potential nuisance lighting effects on nocturnal biodiversity

Potential Biophysical Impacts Freshwater Ecology

16. Potential alteration of the wetland flow regime from increased impervious surface
17. Potential wetland habitat disturbance

Potential Socio-economic impacts

- 18. Potential improved road safety for all users (positive)
- 19. Potential improved traffic flow, travel time and public-transport reliability (positive)
- 20. Potential stimulation of broader economic activity and investment along the R310 corridor (positive)

DECOMMISSIONING PHASE IMPACTS

Decommissioning of the road facility is not foreseen within its design life; impacts are treated as a single grouped item for completeness and addressed through the rehabilitation provisions of the EMP.

- 21. Potential disturbance, waste generation and rehabilitation opportunities associated with eventual decommissioning and site rehabilitation

ASSESSMENT OF CONSTRUCTION PHASE IMPACTS

1. CONSTRUCTION PHASE: Potential displacement and mortality of fauna		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and/ risk	Vegetation clearance and earthworks may displace or kill low-mobility fauna (reptiles, small mammals, invertebrates, ground-nesting birds) within the footprint.	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and short term	Not applicable
Consequence of impact or risk:	Low consequence. Fauna assemblage is limited by existing ecological degradation, traffic and urban pressures.	Not applicable
Probability of occurrence	Probable	Not applicable

1. CONSTRUCTION PHASE: Potential displacement and mortality of fauna		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Degree to which the impact may cause irreplaceable loss of resources	Marginal loss of resource.	Not applicable
Degree to which the impact can be reversed	Partly Reversible. Mobile fauna are expected to re-establish post-construction; killed fauna cannot be recovered.	Not applicable
Cumulative impact prior to mitigation	Low	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	Moderate	Not applicable
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated	Moderate	Not applicable
Proposed mitigation	- Undertake pre-clearance walk-through by an ECO or suitably qualified ecologist to relocate any fauna found. - Clear vegetation progressively in one direction to allow mobile fauna to move away rather than be trapped. - No night-time construction where feasible, to avoid impacts on nocturnal species. - Implement speed restrictions for construction vehicles when site clearing indigenous vegetation (10-20km/h).	Not applicable

1. CONSTRUCTION PHASE: Potential displacement and mortality of fauna		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	- Implement worker training, briefing on prohibiting harming, collecting or feeding of any fauna encountered on site.	
Residual impacts	No significance with mitigation in place.	Not applicable
Cumulative impact post mitigation	Low	Not applicable
Significance rating of impact after mitigation	Low (-)	Not applicable

2. CONSTRUCTION PHASE: Loss of degraded / highly-degraded indigenous Strandveld vegetation (construction)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Clearance of road-reserve vegetation classified as Degraded to Highly Degraded Strandveld (>300 m ² of nationally Endangered Cape Flats Dune Strandveld). Project footprint is outside of the CoCT Terrestrial Biodiversity Network; adjacent CBA 1a on Farm RE/547.	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and long term	Not applicable

2. CONSTRUCTION PHASE: Loss of degraded / highly-degraded indigenous Strandveld vegetation (construction)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Consequence of impact or risk:	Low consequence. Vegetation in the footprint is already Degraded to Highly Degraded and likely to have worsened since 2014–2021 surveys.	Not applicable
Probability of occurrence	Definite	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	Marginal loss of resource. Footprint excluded from CBA; specialist opinion is that no significant impact on ecological functioning is expected.	Not applicable
Degree to which the impact can be reversed	Barely Reversible	Not applicable
Cumulative impact prior to mitigation	Low	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	Moderate.	Not applicable
Degree to which the impact can be managed	Moderate.	Not applicable
Degree to which the impact can be mitigated	Moderate	Not applicable
Proposed mitigation	- Pre-construction botanical walk-down by a qualified specialist to confirm no <i>Erepsia dunensis</i> or other SCC occur within the final footprint (only recorded SCC on	Not applicable

2. CONSTRUCTION PHASE: Loss of degraded / highly-degraded indigenous Strandveld vegetation (construction)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	Farm RE/547 has a buffer that does not intersect the works). - Restrict clearance strictly to the demarcated footprint; no clearance in the adjacent CBA 1a on Farm RE/547. - Implement search-and-rescue / relocation of any SCC identified during the walk-down.	
Residual impacts	No significance. Residual loss is limited to a small area of already-degraded vegetation.	Not applicable
Cumulative impact post mitigation	Low	Not applicable
Significance rating of impact after mitigation	Low (-)	Not applicable

3. CONSTRUCTION PHASE: Potential spread of invasive alien plants into the adjacent CBA		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Soil disturbance, imported fill and vehicle movement could introduce or spread declared invasive alien plants (NEMBA Category 1a/1b/2) from the footprint into the adjacent CBA 1a on Farm RE/547 and the remnant wetland edge.	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable

3. CONSTRUCTION PHASE: Potential spread of invasive alien plants into the adjacent CBA		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Extent and duration of impact:	Local and long term	Not applicable
Consequence of impact or risk:	Low to medium consequence, dependent on fill sources, housekeeping and follow-up maintenance.	Not applicable
Probability of occurrence	Probable	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	Marginal loss of resource. Adjacent CBA is at risk of incremental degradation rather than outright loss	Not applicable
Degree to which the impact can be reversed	Partly Reversible. Invasives can be cleared, but re-infestation is likely without follow-up	Not applicable
Cumulative impact prior to mitigation	Medium	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	Moderate	Not applicable
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated	Moderate	Not applicable
Proposed mitigation	- Source imported soil, fill and aggregate from reputable suppliers and inspect loads for visible weed propagules before use. - Clean construction vehicles, plant and boots before entering and leaving site to limit seed transport.	Not applicable

3. CONSTRUCTION PHASE: Potential spread of invasive alien plants into the adjacent CBA		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	- Contractor's Method Statement to include an Invasive Alien Plant management protocol aligned with NEMBA regulations.	
Residual impacts	No significance with mitigation in place.	Not applicable
Cumulative impact post mitigation	Low (-)	Not applicable
Significance rating of impact after mitigation	Very Low (-)	Not applicable

4. CONSTRUCTION PHASE: Wetland direct habitat loss (~2 000 m²)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Loss of approximately 2 000 m² of fragmented depression-wetland habitat along the widened northern approach on Baden Powell Drive. PES Category F (critically modified); EIS Low/marginal (EnviroSwift).	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and long term	Not applicable
Consequence of impact or risk:	Low consequence. Wetland is critically modified with almost complete loss of natural habitat and aquatic biota;	Not applicable

4. CONSTRUCTION PHASE: Wetland direct habitat loss (~2 000 m²)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	residual rated Low (-) by EnviroSwift and no biodiversity offset is required.	
Probability of occurrence	Definite	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	Marginal loss of resource. The critically modified wetland is unlikely to be associated with irreplaceable biodiversity (EnviroSwift, 2026).	Not applicable
Degree to which the impact can be reversed	Irreversible	Not applicable
Cumulative impact prior to mitigation	High	Not applicable
Significance rating of impact prior to mitigation	Medium (-)	Not applicable
Degree to which the impact can be avoided	Low	Not applicable
Degree to which the impact can be managed	Low	Not applicable
Degree to which the impact can be mitigated	Low	Not applicable
Proposed mitigation	- Limit clearance strictly to the engineering footprint. - No encroachment beyond demarcated construction limits. - No encroachment beyond construction camp site.	Not applicable
Residual impacts	Low. Loss of ~2 000 m² of critically modified wetland habitat.	Not applicable

4. CONSTRUCTION PHASE: Wetland direct habitat loss (~2 000 m²)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Cumulative impact post mitigation	High	Not applicable
Significance rating of impact after mitigation	Low (-)	Not applicable

5. CONSTRUCTION PHASE: Wetland habitat disturbance		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Vehicle movement, machinery operation and placement of materials within the immediate catchment cause compaction, vegetation damage and sedimentation risk in the adjacent wetland (EnviroSwift, 2026).	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and short term	Not applicable
Consequence of impact or risk:	Low consequence — wetland is already critically modified with limited natural habitat or aquatic biota remaining.	Not applicable
Probability of occurrence	Probable	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource — no irreplaceable biodiversity associated with the disturbed wetland.	Not applicable

5. CONSTRUCTION PHASE: Wetland habitat disturbance		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Degree to which the impact can be reversed	Reversible	Not applicable
Cumulative impact prior to mitigation	High (-)	Not applicable
Significance rating of impact prior to mitigation	Medium (-)	Not applicable
Degree to which the impact can be avoided	Moderate — disturbance-causing activities can be located away from sensitive habitat.	Not applicable
Degree to which the impact can be managed	Moderate — activities causing disturbance can be contained.	Not applicable
Degree to which the impact can be mitigated	Moderate — disturbed areas can be partially restored through rehabilitation.	Not applicable
Proposed mitigation	- Declare the wetland area west of Baden Powell Drive a No-Go area for construction personnel, vehicles, machinery and materials. - Access only by written ECO authorisation on the basis of an approved Method Statement. - Daily ECO inspection of the No-Go area — immediate removal of any rubble, spoil or litter that enters it. - Contain upslope run-off and stockpiles so water infiltrates rather than discharging into the wetland.	Not applicable

5. CONSTRUCTION PHASE: Wetland habitat disturbance		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Residual impacts	No significance — with mitigation implemented, disturbance is insignificant.	Not applicable
Cumulative impact post mitigation	Moderate (-)	Not applicable
Significance rating of impact after mitigation	Low (-)	Not applicable

6. CONSTRUCTION PHASE: Potential Erosion and sedimentation		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Exposed soils from clearing, excavation and infilling erode during rainfall and deposit sediment into the inwardly-draining receiving wetland (EnviroSwift, 2026).	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and short term	Not applicable
Consequence of impact or risk:	Low consequence. Small scale of works; wetland is inwardly draining so no off-site sedimentation.	Not applicable
Probability of occurrence	Probable. During winter rains when cleared areas and stockpiles are most vulnerable.	Not applicable

6. CONSTRUCTION PHASE: Potential Erosion and sedimentation		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource. No irreplaceable biodiversity at risk.	Not applicable
Degree to which the impact can be reversed	Completely Reversible — sediment can be removed and eroded areas stabilised.	Not applicable
Cumulative impact prior to mitigation	High	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	Moderate — undertaking works in the dry summer season would largely avoid the impact.	Not applicable
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated	Moderate	Not applicable
Proposed mitigation	- Schedule earthworks for the dry summer season where practicable. - No stockpiles west of Baden Powell Drive; only use the ECO-approved stockpile sites, protected with tarps / erosion blankets in the wet season. - Install straw bales, silt fences or sediment traps to divert and settle run-off before discharge off-site. - Implement weekly ECO inspection through the wet season plus post-	Not applicable

6. CONSTRUCTION PHASE: Potential Erosion and sedimentation		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	storm inspections after heavy rainfall.	
Residual impacts	No significance. With mitigation implemented, erosion and sedimentation is insignificant.	Not applicable
Cumulative impact post mitigation	Medium	Not applicable
Significance rating of impact after mitigation	Very low (-)	Not applicable

7. CONSTRUCTION PHASE: Potential Water-quality impairment (cement, fuels, litter, turbid runoff)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Possible release of cement, bitumen, paints, solvents, fuels or wash-water into run-off that reports to the adjacent wetland. The intersection sits above and close to the wetland (EnviroSwift, 2026).	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and short term	Not applicable
Consequence of impact or risk:	Low consequence. Small scale of works; with mitigation, intensity reduces further.	Not applicable
Probability of occurrence	Probable	Not applicable

7. CONSTRUCTION PHASE: Potential Water-quality impairment (cement, fuels, litter, turbid runoff)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource. Critically modified wetland unlikely to be associated with irreplaceable biodiversity.	Not applicable
Degree to which the impact can be reversed	Irreversible. Contaminants entering the wetland cannot be recovered.	Not applicable
Cumulative impact prior to mitigation	High	Not applicable
Significance rating of impact prior to mitigation	Moderate (-)	Not applicable
Degree to which the impact can be avoided	Moderate	Not applicable
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated	Moderate	Not applicable
Proposed mitigation	- Cement mixing only within bunded, impermeable areas; daily removal of all wet/dry cement residues. - Store fuel, chemicals and hazardous substances in bunded, weather-proof containers located at least 50 m from any wetland. - Daily inspection of storage facilities and vehicles for leaks. - Immediate clean-up of spillages, with contaminated soil removed to a licensed waste facility — no stockpiling of contaminated soil on site.	Not applicable

7. CONSTRUCTION PHASE: Potential Water-quality impairment (cement, fuels, litter, turbid runoff)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	- Portable toilets located at least 10 m from the wetland and regularly serviced. - No discharge of any wash-water, cement slurry or construction effluent into the wetland.	
Residual impacts	No significance — with mitigation implemented, water-quality impairment is insignificant.	Not applicable
Cumulative impact post mitigation	Medium	Not applicable
Significance rating of impact after mitigation	Low (-)	Not applicable

8. CONSTRUCTION PHASE: Potential Loss of Biota		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Mortality or displacement of aquatic and semi-aquatic biota could occur from infilling, crushing by vehicles, inappropriate placement of machinery/materials, or contaminated run-off (EnviroSwift, 2026).	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and short term	Not applicable

8. CONSTRUCTION PHASE: Potential Loss of Biota		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Consequence of impact or risk:	Low consequence. Wetland already critically modified; limited surviving biota expected to be present.	Not applicable
Probability of occurrence	Probable	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource. No irreplaceable biodiversity associated with the wetland.	Not applicable
Degree to which the impact can be reversed	Irreversible — killed individuals cannot be recovered; mobile biota are expected to return post-construction.	Not applicable
Cumulative impact prior to mitigation	High	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	Moderate	Not applicable
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated	Moderate	Not applicable
Proposed mitigation	- Demarcate the wetland west of Baden Powell Drive as a No-Go area prior to site establishment; maintain it for the duration of construction. - Avoid all activity inside the wetland No-Go area. - No parking of construction vehicles, storage of machinery or siting of stockpiles west of Baden Powell Drive.	Not applicable

8. CONSTRUCTION PHASE: Potential Loss of Biota		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Residual impacts	No significance. With mitigation implemented, biota loss is insignificant.	Not applicable
Cumulative impact post mitigation	High	Not applicable
Significance rating of impact after mitigation	Very low (-)	Not applicable
9. CONSTRUCTION PHASE: Potential traffic congestion and NMT safety risks during construction		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Lane closures, detours and construction vehicle movements on a busy arterial (Baden Powell Drive / R310) is expected to cause congestion and potentially pose crash or pedestrian-safety risks during the works. The site carries significant pedestrian volumes from Khayelitsha.	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Regional and short term	Not applicable
Consequence of impact or risk:	Medium consequence. Arterial carries high commuter and school-going pedestrian volumes.	Not applicable
Probability of occurrence	Highly probable	Not applicable

8. CONSTRUCTION PHASE: Potential Loss of Biota		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource.	Not applicable
Degree to which the impact can be reversed	Completely Reversible. Restored on project completion.	Not applicable
Cumulative impact prior to mitigation	Medium	Not applicable
Significance rating of impact prior to mitigation	Medium (-)	Not applicable
Degree to which the impact can be avoided	Moderate.	Not applicable
Degree to which the impact can be managed	Moderate.	Not applicable
Degree to which the impact can be mitigated	High	Not applicable
Proposed mitigation	- Prepare a Construction Traffic Management Plan (TMP) for approval by the CoCT Transport Directorate prior to site establishment. - Phase works to keep at least one lane open per direction on Baden Powell Drive during peak periods. - Provide clearly marked, illuminated temporary pedestrian bypass routes with traffic marshals at peak times. - Advance public notification (at least 14 days) of lane closures, detours and expected delays through the City and local media.	Not applicable

8. CONSTRUCTION PHASE: Potential Loss of Biota		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	- Liaise with minibus-taxi operators and bus services to ensure temporary stop locations remain usable. - Reduce construction speed limits on site and for haul routes; and implement flagmen at critical points.	
Residual impacts	Low — some residual disruption during works.	Not applicable
Cumulative impact post mitigation	Low	Not applicable
Significance rating of impact after mitigation	Low (-)	Not applicable

10. CONSTRUCTION PHASE: Potential nuisance to adjacent residents and businesses (dust, noise, vibration, access)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Dust, noise, vibration, lights and access disruption from construction are likely to affect residents of Khayelitsha and Macassar, informal traders along the verges, and businesses dependent on the corridor.	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and short term	Not applicable

10. CONSTRUCTION PHASE: Potential nuisance to adjacent residents and businesses (dust, noise, vibration, access)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Consequence of impact or risk:	Low consequence. Nuisance is localised (typically within 100–200 m) and time-bound.	Not applicable
Probability of occurrence	Probable	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource.	Not applicable
Degree to which the impact can be reversed	Completely Reversible. Ends with construction.	Not applicable
Cumulative impact prior to mitigation	Low	Not applicable
Significance rating of impact prior to mitigation	Medium (-)	Not applicable
Degree to which the impact can be avoided	Moderate	Not applicable
Degree to which the impact can be managed	High	Not applicable
Degree to which the impact can be mitigated	High	Not applicable
Proposed mitigation	- Restrict noisy activities to weekdays 07h00–17h00 (SANS 10103 guidance); no night works unless authorised by the City for safety-critical reasons. - Implement dust-suppression measures (wetting, covered loads, wheel-wash) particularly in the dry summer months.	Not applicable

10. CONSTRUCTION PHASE: Potential nuisance to adjacent residents and businesses (dust, noise, vibration, access)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	- Implement vibration monitoring for any piling or heavy compaction within 50 m of residential structures. - Maintain safe pedestrian and vehicular access to all adjacent properties and informal trading locations at all times. - Grievance mechanism: signposted hotline for complaints, with a 48-hour response commitment; log all complaints in the ECO register. - Ensure daily site housekeeping and remove construction debris, litter and spoil from public areas promptly.	
Residual impacts	No significance.	Not applicable
Cumulative impact post mitigation	Low (-)	Not applicable
Significance rating of impact after mitigation	Low (-)	Not applicable

11. CONSTRUCTION PHASE: Potential short-term employment and SMME procurement opportunities (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Construction phase generates semi-skilled and unskilled employment and subcontracting opportunities for local SMMEs, particularly from Khayelitsha and Macassar.	No construction would take place. Status quo retained.

11. CONSTRUCTION PHASE: Potential short-term employment and SMME procurement opportunities (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Nature of impact:	Positive (+)	Not applicable
Extent and duration of impact:	Local and short term	Not applicable
Consequence of impact or risk:	Low to medium consequence. Meaningful at the individual / household scale, modest at the metro scale.	Not applicable
Probability of occurrence	Definite.	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource (positive impact).	Not applicable
Degree to which the impact can be reversed	Not applicable (positive impact).	Not applicable
Cumulative impact prior to mitigation	Low	Not applicable
Significance rating of impact prior to mitigation/enhancement	Low (+)	Not applicable
Degree to which the impact can be avoided	Not applicable (positive impact — to be enhanced).	Not applicable
Degree to which the impact can be managed	High (via procurement conditions and community liaison).	Not applicable
Degree to which the impact can be mitigated/enhanced	Moderate	Not applicable
Proposed mitigation	- Apply the CoCT Preferential Procurement Policy and CIDB subcontracting targets, with preferencing for local labour and	Not applicable

11. CONSTRUCTION PHASE: Potential short-term employment and SMME procurement opportunities (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	SMMEs registered in Khayelitsha / Macassar wards. - Partner with local ward councillors / community liaison officers to publicise recruitment opportunities transparently. - Provide short-course skills training (e.g. plant operation, health and safety) to uplift workers beyond the life of the contract.	
Residual impacts	Medium — enhanced via procurement and local-labour conditions.	Not applicable
Cumulative impact post mitigation	Medium	Not applicable
Significance rating of impact after mitigation	Medium (+)	Not applicable

12. CONSTRUCTION PHASE: Potential chance-find disturbance to heritage or palaeontological resources		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Excavation in previously disturbed road-reserve soils could encounter unrecorded archaeological, burial or palaeontological material. The site has been repeatedly disturbed; likelihood is low.	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable

12. CONSTRUCTION PHASE: Potential chance-find disturbance to heritage or palaeontological resources		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Extent and duration of impact:	Site Specific and permanent (for any disturbed material)	Not applicable
Consequence of impact or risk:	Low consequence	Not applicable
Probability of occurrence	Improbable	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	Marginal loss of resource	Not applicable
Degree to which the impact can be reversed	Irreversible	Not applicable
Cumulative impact prior to mitigation	Low	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	High (through chance-finds protocol and immediate stop-work)	Not applicable
Degree to which the impact can be managed	High	Not applicable
Degree to which the impact can be mitigated	High	Not applicable
Proposed mitigation	- Include a formal Chance-Finds Protocol in the EMP: stop work immediately; secure the find; notify the ECO and Heritage Western Cape (HWC) within 24 hours. - Implement induction briefing to all site personnel on recognising archaeological, burial, cultural and fossil finds.	Not applicable

12. CONSTRUCTION PHASE: Potential chance-find disturbance to heritage or palaeontological resources		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	- On confirmation of a find, suspend work in the affected area until a permit or letter of exemption is issued by HWC / SAHRA, and a specialist has assessed the material. - Document and retain all correspondence and permits in the project environmental record.	
Residual impacts	No significance	Not applicable
Cumulative impact post mitigation	Low (-)	Not applicable
Significance rating of impact after mitigation	Very Low (-)	Not applicable

1. CONSTRUCTION PHASE: Potential Relocation of Informal Dwellers from the Proposed Road Reserve		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Social disruption associated with relocation of informal dwellers currently occupying the proposed road reserve. This may include temporary loss of shelter, disruption of livelihoods, and psychological stress during the transition period.	No relocation required as the road is not developed and the existing informal settlement remains in place.
Nature of impact:	Negative	No change
Extent and duration of impact:	Medium-term during relocation and settlement process until households	No change

1. CONSTRUCTION PHASE: Potential Relocation of Informal Dwellers from the Proposed Road Reserve

	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	are established in alternative accommodation.	
Consequence of impact or risk:	Medium – potential disruption to community stability, access to services, and livelihoods if relocation is not adequately planned and supported.	Status quo retained.
Probability of occurrence	Definite	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	Partly reversible through proper resettlement planning, compensation, and/or provision of alternative housing or serviced sites.	Not applicable
Degree to which the impact can be reversed	Low	Not applicable
Cumulative impact prior to mitigation/enhancement	Medium	Medium
Significance rating of impact prior to mitigation	Medium (-)	Low (-)
Degree to which the impact can be avoided	Low	Not applicable
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated/enhanced	Low	Not applicable
Proposed mitigation	- Implement a fair and transparent relocation plan in consultation with affected households.	Not applicable

1. CONSTRUCTION PHASE: Potential Relocation of Informal Dwellers from the Proposed Road Reserve		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	- Provide adequate alternative accommodation or serviced sites before relocation occurs. - Ensure access to basic services (water, sanitation, electricity) at relocation sites. - Provide livelihood support or transport access where relocation may affect employment opportunities. - Engage in ongoing stakeholder communication with affected residents and community representatives.	
Residual impacts	Medium. Realised alongside other corridor investments.	No significance
Cumulative impact post mitigation	Medium	Medium
Significance rating of impact after mitigation	Low - Medium (-)	Low (-)

ASSESSMENT OF OPERATIONAL PHASE IMPACTS

2. OPERATIONAL PHASE: Potential fragmentation of ecological connectivity across the CBA		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Widening of the Baden Powell Drive / Macassar Road road reserve at the existing intersection will incrementally increase the footprint of the existing linear barrier that lies alongside CBA 1a on Farm RE/547.	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and long term	Not applicable
Consequence of impact or risk:	Low consequence. Fragmentation already exists via the existing roads.	Not applicable
Probability of occurrence	Probable	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	Low	Not applicable
Degree to which the impact can be reversed	Low	Not applicable
Cumulative impact prior to mitigation	Moderate	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	Low	Not applicable
Degree to which the impact can be managed	Low	Not applicable
Degree to which the impact can be mitigated	Low	Not applicable

2. OPERATIONAL PHASE: Potential fragmentation of ecological connectivity across the CBA		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Proposed mitigation	- Restrict the construction footprint to the existing road reserve on the eastern side. Demarcate the eastern road-reserve boundary with star-pickets and safety webbing before any construction commences; treat as a no-go area. - Prohibit storage of materials, laydown, refuelling, or ablutions within 10 m of the eastern road-reserve boundary (i.e. adjacent to CBA 1a). - Use only indigenous, locally appropriate (non-invasive) species in any post-construction roadside landscaping, in line with the adjacent Cape Flats Dune Strandveld habitat. - Install "Protected Area / CBA / no encroachment" signage at intervals along the eastern roadside to discourage further informal encroachment from the verge into Farm RE/547. - Confirm, via a pre-construction walk-down, the absence of <i>Erepsia dunensis</i> and other SCC in the narrow strip closest to the CBA boundary (as per Nicolson, 2026). If present, translocate to the CBA polygon on Farm RE/547. - Environmental Control Officer (ECO) to include the eastern construction edge in every twice-monthly site inspection; non-conformances to be raised immediately.	Not applicable
Residual impacts	Low	Not applicable
Cumulative impact post mitigation	Low (adds marginally to an existing severance caused by the existing Baden Powell Drive)	Not applicable
Significance rating of impact after mitigation	Very Low (-)	Not applicable

3. OPERATIONAL PHASE: Potential nuisance lighting effects on nocturnal species		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Intersection and street lighting may disorient and displace nocturnal fauna (bats, owls, moths, amphibians) and affect pollinator behaviour at the wetland and CBA edge.	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and long term	Not applicable
Consequence of impact or risk:	Low consequence. Area already lit to an extent by existing road lighting and adjacent settlement.	Not applicable
Probability of occurrence	Probable	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource.	Not applicable
Degree to which the impact can be reversed	Barely Reversible.	Not applicable
Cumulative impact prior to mitigation	Low	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	Moderate	Not applicable

3. OPERATIONAL PHASE: Potential nuisance lighting effects on nocturnal species		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated	Moderate	Not applicable
Proposed mitigation	- Where possible, utilise downward-shielded, full-cut-off luminaires to minimise light spill outside the road reserve. - Use warm-white or amber LEDs (≤ 3000 K) lighting which is less disruptive to nocturnal biodiversity than cool-white LEDs. - Design to SANS 10098 / relevant CCT lighting standards without exceeding recommended lux levels. - Minimise luminaires directed towards the adjacent wetland and CBA edge; use back-shields or re-aiming where unavoidable.	Not applicable
Residual impacts	No significance to Low	Not applicable
Cumulative impact post mitigation	Low	Not applicable
Significance rating of impact after mitigation	Very Low (-)	Not applicable

4. OPERATIONAL PHASE: Potential Alteration of wetland flow regime		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Additional hard surfacing from the widened intersection is expected to increase run-off volume and discharges into the adjacent depression wetland (EnviroSwift, 2026).	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and long term	Not applicable
Consequence of impact or risk:	Low consequence. Small additional impervious area; inwardly-draining wetland.	Not applicable
Probability of occurrence	Probable	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource. Critically modified wetland unlikely to be associated with irreplaceable biodiversity.	Not applicable
Degree to which the impact can be reversed	Partly Reversible. Flows can be re-engineered in principle, but not practicable in this context.	Not applicable
Cumulative impact prior to mitigation	Medium	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	Low. Increased run-off from hard surfacing is largely unavoidable.	Not applicable
Degree to which the impact can be managed	Moderate. Run-off can, in principle, be contained and attenuated.	Not applicable

4. OPERATIONAL PHASE: Potential Alteration of wetland flow regime		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Degree to which the impact can be mitigated	Very low. No practicable on-site mitigation (EnviroSwift, 2026): attenuation ponds cannot reasonably be accommodated given space constraints and rapid on-going wetland loss.	Not applicable
Proposed mitigation	- Ensure that waste disposal bin are available at pedestrian crossing and public transport stops to prevent contamination of nearby wetlands.	Not applicable
Residual impacts	Low	Not applicable
Cumulative impact post mitigation	Low	Not applicable
Significance rating of impact after mitigation	Low (-)	Not applicable

5. OPERATIONAL PHASE: Potential Wetland habitat disturbance		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Ongoing hydrocarbon spills, litter, illegal dumping, traffic noise and wildlife poaching associated with operation of the intersection and pedestrian use along Baden Powell Drive (EnviroSwift, 2026).	No construction would take place. Status quo retained.
Nature of impact:	Negative	Not applicable
Extent and duration of impact:	Local and long term	Not applicable

5. OPERATIONAL PHASE: Potential Wetland habitat disturbance		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Consequence of impact or risk:	Low consequence. Wetland already critically modified.	Not applicable
Probability of occurrence	Probable	Not applicable
Degree to which the impact may cause irreplaceable loss of resources	No loss of resource.	Not applicable
Degree to which the impact can be reversed	Barely Reversible. Once disturbance has occurred it cannot readily be reversed.	Not applicable
Cumulative impact prior to mitigation	High	Not applicable
Significance rating of impact prior to mitigation	Low (-)	Not applicable
Degree to which the impact can be avoided	Low. Habitat disturbance from infrastructure operation is largely unavoidable.	Not applicable
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated	Moderate	Not applicable
Proposed mitigation	- Implement signage and pedestrian-management measures to direct pedestrian movement onto the formalised crossings rather than through wetland remnants. - Install interpretive signage to highlight the ecological value of the adjacent wetlands and CBA 1a indigenous vegetation, promote community	Not applicable

5. OPERATIONAL PHASE: Potential Wetland habitat disturbance		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	stewardship and discourage further degradation.	
Residual impacts	Low	Not applicable
Cumulative impact post mitigation	High	Not applicable
Significance rating of impact after mitigation	Low (-)	Not applicable

6. OPERATIONAL PHASE: Potential improved road safety for all users (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Two-lane roundabout with formalised block pedestrian crossings on all four legs, improved stops and public transport (PT) upgrades reduce potential crash severity (particularly right-angle and right-turn crashes) and improve pedestrian crossing safety compared with the existing priority-controlled intersection.	Status quo retained. Existing priority-controlled intersection continues, with associated crash and pedestrian-safety risk profile.
Nature of impact:	Positive	Negative
Extent and duration of impact:	Regional and long term	Regional and long term
Consequence of impact or risk:	Medium to high consequence. Roundabouts consistently reduce fatal and serious-injury crashes relative to priority-controlled intersections.	Ongoing crash and pedestrian-safety risk at a high-volume arterial intersection.

6. OPERATIONAL PHASE: Potential improved road safety for all users (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Probability of occurrence	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources	Not applicable (positive impact).	Not applicable
Degree to which the impact can be reversed	Not applicable (positive impact).	Not applicable
Cumulative impact prior to mitigation/enhancement	Medium	Medium
Significance rating of impact prior to mitigation/enhancement	Medium (+)	Medium (-)
Degree to which the impact can be avoided	Not applicable	Not applicable
Degree to which the impact can be managed	High. Via design standards and on-going maintenance.	Not applicable
Degree to which the impact can be mitigated/enhances	Moderate	Not applicable
Proposed mitigation	- Implement adequate signage, road markings and illumination to support driver recognition and safe negotiation of the roundabout. - Ensure regular maintenance of lane markings, signage and lighting over the design life.	Not applicable

6. OPERATIONAL PHASE: Potential improved road safety for all users (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
	- Ensure that pedestrian-crossing lighting meet CCT standards for pedestrian-scale visibility.	
Residual impacts	High	Medium. Existing crash/pedestrian-safety risks persist.
Cumulative impact post mitigation	High	Medium
Significance rating of impact after mitigation	High (+)	Medium (-)

7. OPERATIONAL PHASE: Potential improved traffic flow, travel time and Public Transport (PT) reliability (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Continuous-flow operation of the roundabout is expected to reduce delays on Japhta K Masemola and Macassar Road approaches, enable safer right turns, and support more reliable minibus-taxi and bus operations via formalised stops.	Existing delays retained; right-turn and crossing movements remain constrained; PT reliability unchanged.
Nature of impact:	Positive	Negative
Extent and duration of impact:	Regional and long term	Regional and long term

7. OPERATIONAL PHASE: Potential improved traffic flow, travel time and Public Transport (PT) reliability (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Consequence of impact or risk:	Medium consequence. Noticeable reduction in peak-period delay at the intersection.	Continued peak-period delay and constrained movements.
Probability of occurrence	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources	Not applicable.	Not applicable
Degree to which the impact can be reversed	Low	Not applicable
Cumulative impact prior to mitigation	Medium	Low
Significance rating of impact prior to mitigation	Medium (+)	Medium (-)
Degree to which the impact can be avoided	Low	Not applicable
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated/enhanced	Low	Not applicable
Proposed mitigation	- Implement public transport stop design, pedestrian access and signage fit for purpose and maintain it over the design life.	Not applicable

7. OPERATIONAL PHASE: Potential improved traffic flow, travel time and Public Transport (PT) reliability (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Residual impacts	Medium. Reliable improvement retained with adequate maintenance.	Medium. Persistent operational inefficiency at the intersection.
Cumulative impact post mitigation	Medium	Medium
Significance rating of impact after mitigation	Medium (+)	Medium (-)

8. OPERATIONAL PHASE: Potential stimulation of economic activity and investment along the R310 corridor (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Potential impact and risk	Improved accessibility, safety and travel-time reliability would be realised due to the proposed project, along the R310 corridor. This would support business retention, investment decisions and ease of labour commuting between Khayelitsha, Macassar and surrounding industrial / commercial nodes. This impact will be further enhanced with Alternative 1: Landscaped Traffic Circle, which includes aesthetically pleasing and attractive landscaping, uplifting the sense of place and economic value of the area.	Corridor continues to operate under current delay and safety conditions.
Nature of impact:	Positive (indirect)	No change

8. OPERATIONAL PHASE: Potential stimulation of economic activity and investment along the R310 corridor (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Extent and duration of impact:	Regional and long term	Regional and long term
Consequence of impact or risk:	Medium	Status quo retained.
Probability of occurrence	Probable	Definite
Degree to which the impact may cause irreplaceable loss of resources	Not applicable	Not applicable
Degree to which the impact can be reversed	Low	Not applicable
Cumulative impact prior to mitigation/enhancement	Medium	Medium
Significance rating of impact prior to mitigation	Low (+)	Medium (-)
Degree to which the impact can be avoided	Low	Not applicable
Degree to which the impact can be managed	Moderate	Not applicable
Degree to which the impact can be mitigated/enhanced	Low	Not applicable
Proposed mitigation	Coordinate with City economic-development initiatives targeting the R310 / Macassar corridor to ensure the upgrade is leveraged in subsequent planning.	Not applicable

8. OPERATIONAL PHASE: Potential stimulation of economic activity and investment along the R310 corridor (POSITIVE)		
	Alternative 1 Landscaped Traffic Circle and Alternative 2 Paved Traffic Circle (both 45 m diameter) with two lane inner circle and two lane approach roads	Alternative 2: No-Go Alternative
Residual impacts	Medium. Realised alongside other corridor investments.	No significance
Cumulative impact post mitigation	Medium	Medium
Significance rating of impact after mitigation	Medium (+)	Medium (-)

ASSESSMENT OF DECOMMISSIONING PHASE IMPACTS

The proposed traffic circle and associated infrastructure are considered as permanent. Decommissioning is not foreseen within any assessable timeframe and is therefore not separately assessed. Should decommissioning ever occur, impacts would be similar in nature and significance to those assessed for the construction phase.