APPENDIX K: NEED & DESIRABILITY MOTIVATION

QUESTIONS TO BE ENGAGED WITH WHEN CONSIDERING NEED AND DESIRABILITY
In accordance with DEA (2017), Guideline on Need and Desirability, Department of Environmental Affairs

1.How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?

1.1.How were the following ecological integrity considerations taken into account?:
1.1.1.Threatened Ecosystems,
1.1.2.Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure,
1.1.3.Critical Biodiversity Areas ("CBAs") and Ecological Support Areas("ESAs"),
1.1.4.Conservation targets,
1.1.5.Ecological drivers of the ecosystem,
1.1.6.Environmental Management Framework,
1.1.7.Spatial Development Framework, and
1.1.8.Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).

RESPONSE 1.1 – 1.1.8:

The indigenous vegetation type occurring on the site and surrounds is listed as Endangered Swellendam Silcrete Fynbos according to the NEMBA (10/2004): National list of ecosystems that are threatened and in need of protection (as amended 18/11/2022). The remaining indigenous vegetation on the site which has not been disturbed due to previous developments such as roads, parking and pipelines associated with the existing picnic site is in a good condition in terms of diversity and very limited alien vegetation encroachments. This vegetation type is the main indigenous vegetation type represented in the park. Overall, the park also supports fauna and avifauna species of conservation concern of particular interest is the Bontebok which roams freely in the park. In accordance with the parks management plan the proposed development site is also located within an area mapped as Medium to Low sensitivity within the **Low Intensity Leisure Park Use Zone**. Therefore, in line with the sensitivity mapping of the Bontebok National Park management plan the proposed development areas within and around the Die Stroom picnic site is to be classified of **Medium to Low Terrestrial Biodiversity Sensitivity**.

In keeping with the objectives of the Low Intensity Leisure Zone within which the proposed developments falls, the footprint of the proposed developments have been kept to a minimum with placement thereof as far as possible on already disturbed and transformed areas as part of the existing Die Stroom picnic site and placing additional proposed infrastructure such as pipelines and power cables along existing infrastructure routes.

Expected terrestrial biodiversity impacts of the proposed development can be summarised as below and will include:

- A total area of ±0.44ha will be impacted upon/cleared during the initial construction phase, however only ±0.2ha of indigenous vegetation will remain permanently cleared once the development has been completed and disturbed areas such as pipelines have rehabilitated with natural vegetation. Therefore, the permanent loss of ±0.2ha of indigenous habitat as part of Endangered Swellendam Silcrete Fynbos has been assessed and allocated a significance rating of low negative after mitigation.
- No negative impacts on any plant species of conservation concern are expected to occur during the construction phase as none of these species were recorded on the

proposed development site during the time of the surveys and none are expected to occur on the particular sites. Therefore, the potential construction impacts on plant species of conservation concern have been assessed and allocated a significant rating of low negative after mitigation.

- Construction activities will impact on 0.44ha indigenous fauna and avifauna habitat associated with Endangered – Swellendam Silcrete Fynbos as part of a mapped Protected Area, however only ±0.2ha of indigenous vegetation habitat will remain permanently cleared once the development has been completed and disturbed areas such as pipelines have rehabilitated with natural vegetation. Therefore, the permanent loss of ±0.2ha of indigenous fauna and avifauna habitat as part of Endangered Swellendam Silcrete Fynbos has been assessed and allocated a significance rating of low negative after mitigation.
- No significant negative impacts on any fauna and avifauna species of conservation concern are expected to occur during the construction phase and none are expected to breed on the particular development sites as the site is already used by the public on a regular basis as a picnic site. Therefore, the potential construction impacts on fauna and avifauna species of conservation concern have been assessed and allocated a significance rating of low negative after mitigation.
- With proper maintenance and management measures implemented by the park management during the operational phase of the proposed developments it is not expected that the additional facilities and activities proposed at the Die Stroom picnic site will have a significant negative impact on remaining indigenous vegetation and existing fauna and avifauna within the applicable area. Therefore, the potential operational impacts on the terrestrial biodiversity features of the site and surrounds have been assessed and allocated a significance rating of low negative after mitigation.

Provided that the mitigation measures to reduce the significance of the potential environmental impacts of the activities as provided in the specialists reports are implemented the activities are not likely to result in long-term degradation of the receiving terrestrial biodiversity environment or significant net loss thereof.

1.2.How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?

In keeping with the objectives of the Low Intensity Leisure Zone within which the proposed developments falls, the footprint of the proposed developments have been kept to a minimum with placement thereof as far as possible on already disturbed and transformed areas as part of the existing Die Stroom picnic site and placing additional proposed infrastructure such as pipelines and power cables along existing infrastructure routes.

1.3.How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?

All potential impacts relating to the potential pollution and/or degradation of the biophysical environment were assessed, and mitigation measures proposed were included in the requirements of the EMPr.

Refer to Appendix J for detailed impact assessment conducted and associated mitigation measures proposed.

1.4.What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?

Construction and operational waste will be generated. Construction waste will consist of construction waste and possible contaminated soil as result of leaking or re-fuelling of construction vehicles. Inert and access soil waste will be recycled where possible on site for the levelling and rehabilitation. Contaminated soil and other construction waste that cannot be reused will be disposed at a licensed waste disposal facility.

Non-hazardous domestic waste during operational phase of recreational developments will be generated and hazardous sewage from ablutions and bathrooms. Domestic waste will be disposed of at municipal landfill site as per current practices of the park and all waste water and sewage associated with the development will be disposed of via the proposed additional soakaway system.

An integrated waste management approach will be implemented in line with the recommendation of the EMP promoting waste avoidance and recycling.

1.5.How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?

It is expected that the proposed additions and upgrades at Die Stroom picnic site within the Bontebok National Park will enhance the site that constitute the nation's cultural heritage by providing an swimming pool and additional picnic, ablution and parking facilities to enhance the day visitors experience at the park's day visitors area.

1.6.How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?

The following energy/resources saving methods must be incorporated into the buildings and facilities as proposed where funding allows:

- All facilities to be provided with energy saving compact fluorescent lamps (CLF's).
- All electric geysers should be insulated with geyser blankets.
- All electric geyser thermostats should be set at the most optimal temperature.
- All fitted appliances should have an energy rating and the most efficient models must be considered.
- Energy efficient security/outdoor light technology should be used as far as possible to reduce the energy requirements of the outdoor light network.
- Rainwater harvesting from roofs and gutters must be implemented to collect and store rainwater runoff. This can be used to provide supplementary water which can be used as grey water or irrigation.
- Shower installations must be fitted with low-flow shower heads in school bathrooms.
- Geysers should be installed vertically to save electricity.

- Ensure that the maximum flow rate from hand wash basin tops does not exceed 6L per minute.
- Indoor traps must be fitted with aerators to increase the efficiency by redirecting the flow and amount of water used.
- Flush toilets must be fitted with dual or multi flush mechanisms to ensure that the amount of water required is controlled by the user.
- Solar electricity devices should be installed and made use of as far as possible i.e. solar geysers.

Refer to Appendix H: EMP for all mitigation measures as proposed to minimise potential impacts on the environment.

1.7.How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?

1.7.1.Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)?(note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life)

1.7.2.Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra-and intergenerational equity, and are there more important priorities for which the resources should be used(i.e. what are the opportunity costs of using these resources this the proposed development alternative?)

1.7.3.Do the proposed location, type and scale of development promote a reduced dependency on resources?

RESPONSE 1.7.1-1.7.3

Resource availability was taken into consideration during the planning and design of the proposed recreational developments in consultation with the park management and local municipality.

In accordance with the EMP as far as funding allows energy and water recycling and saving measures and technology will be implemented including an integrated waste management approach which promotes waste avoidance and recycling.

1.8.How were a risk-averse and cautious approach applied in terms of ecological impacts?:

1.8.1.What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?

1.8.2.What is the level of risk associated with the limits of current knowledge?

1.8.3.Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?

RESPONSE 1.8.1-1.8.3

Potential ecological impacts associated with the proposed development were assessed by the qualified EAP and specialists. The significance of these impacts was determined, ranked and mitigation measures to reduce the negative impact have been provided and included in the EMPr requirements.

The key mitigation measures recommended are for impact avoidance. Where adverse impacts cannot reasonably be avoided, the significance of the impacts will be managed through the effective implementation of the EMP

Refer to Appendix H: EMP for all mitigation measures as proposed to minimise potential impacts on the environment.

1.9.How will the ecological impacts resulting from this development impact on people's environmental right in terms following:

1.9.1.Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?

1.9.2.Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?

RESPONSE 1.9.1-1.9.2

The impact assessment findings for the preferred site, activity and layout alternative before and after recommended mitigation is summarised below.

LAYOUT ALTERNATIVE 1

CONSTRUCTION PHASE- LAYOUT ALTERNATIVE 1

- Disturbance to subsurface geological layers (medium negative impact before mitigation and low negative impact with mitigation measures);
- Soil erosion (medium negative impact before mitigation and low negative impact with mitigation measures);
- Compaction of soil (medium negative impact before mitigation and low negative impact with mitigation measures);
- Increase in and accumulation of stormwater runoff (high negative impact before mitigation and low negative impact with mitigation measures);
- Impacts of construction activities on the hydrological functioning of the site and surrounds which includes the Breerivier and a non-perennial tributary (medium negative impact before mitigation and low negative impact with mitigation measures);
- Impacts of construction activities on indigenous vegetation associated with Endangered – Swellendam Silcrete Fynbos also part of a mapped Protected Area (medium negative impact before mitigation and low negative impact with mitigation measures);
- Impacts of construction activities on indigenous vegetation Species of Conservation Concern (low negative impact before mitigation and low negative impact with mitigation measures);
- Impacts of construction activities on indigenous fauna and avifauna habitat associated with Endangered – Swellendam Silcrete Fynbos as part of a mapped Protected Area (medium negative impact before mitigation and low negative impact with mitigation measures)
- Impacts of construction activities on indigenous fauna and avifauna Species of Conservation Concern (low negative impact before mitigation and low negative impact with mitigation measures)
- Introduction of alien and weed plant species (medium negative impact before mitigation and low negative impact with mitigation measures)
- Increased temporary construction jobs (low positive impact)
- Increased traffic due to the construction activities requiring various vehicles to come onto and leave the site. (medium negative impact before mitigation and low negative impact with mitigation measures)

- Impact of litter or waste from the construction site on the surrounding communities (medium negative impact before mitigation and low negative impact with mitigation measures)
- Dust and emissions pollution arising from ground clearing and other construction activities (medium negative impact before mitigation and low negative impact with mitigation measures)
- The potential impact of the proposed development on archaeological, paleontological and heritage remains (high negative impact before mitigation and low negative impact with mitigation measures)
- Noise due to construction machinery (low negative impact before mitigation and low negative impact with mitigation measures)
- Visual impact of construction of proposed serviced erven (medium negative impact before mitigation and low negative impact with mitigation measures)

OPERATIONAL PHASE- LAYOUT ALTERNATIVE 1

- Increase in storm water runoff due to removal of vegetation and hardening of surfaces which may lead to erosion of surrounding areas (medium negative impact before mitigation and low negative impact with mitigation measures);
- Impacts of operational activities on the hydrological functioning of the site and surrounds (high negative impact before mitigation and low negative impact with mitigation measures);
- Impacts of operational activities of the picnic site, swimming pool, ablution facilities and associated soakaway on surface and groundwater resources (medium negative impact before mitigation and low negative impact with mitigation measures)
- Impacts of operational activities on remaining and surrounding indigenous vegetation (medium negative impact before mitigation and low negative impact with mitigation measures);
- Impacts of operational activities on the indigenous animal and bird life (medium negative impact before mitigation and low negative impact with mitigation measures);
- Introduction of alien and weed plant species (medium negative impact before mitigation and low negative impact with mitigation measures)
- Expanding and upgrading of recreational facilities available at Die Stroom picnic site in the Bontebok National Park (high positive impact)
- Additional load on services infrastructure such as electricity, water, sewage and waste handling (high negative impact before mitigation and medium negative impact with mitigation measures)
- Noise due to operations of proposed expansions and upgrades to Die Stroom picnic site (medium negative impact before mitigation and low negative impact with mitigation measures)
- Visual impact of school expansions which includes sport fields and primary school facilities etc (medium negative impact before mitigation and low negative impact with mitigation measures)

DECOMMISSIONING AND CLOSURE PHASE- LAYOUT ALTERNATIVE 1

It is not anticipated that decommissioning will occur in the near future. Should decommissioning occur, the expected impacts are similar to those listed in the construction phase above with the additional positive impact of rehabilitating the decommissioned area to a near natural/indigenous state and significant negative impact of destroying recreational facilities within a national park much needed to attract the local community and general public to the park. Impacts must be mitigated and managed according to the best practise techniques/management measures available for that time.

1.10.Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological

impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?

Communal land from Swellendam Municipality and privately owned farms, including "Die Stroom", was acquired thus formally proclaiming Bontebok National Park in 1961. The mission of the Park is not only to conserve rare and threatened species found in the Park but also to provide tourism and recreational opportunities, and facilitate socio-economic benefits to surrounding communities. Local communities frequent Die Stroom Picnic Site for recreational purposes, including to swim in the perennial Breede River which borders the site. As per the agreement between the Municipality and SANParks, the local community would still have access to Die Stroom for recreational purposes. Subsequent to the proclamation of the Consumer Protection Act (CPA), SANParks Risk Management deemed the Breede River to be unsafe for various reasons, including water quality, clarity, depth and hazardous rubble found on the river bed, the lack of lifeguards on duty and possible attacks by Zambezi (bull) sharks, which have been documented as dwellers of the Breede River. SANParks has therefore cited "swim at own risk" for the afore-mentioned reasons at the relevant picnic site. As the Breede River is traditionally utilised by the local communities for swimming, SANParks would like to provide visitors with a safe swimming environment. The proposed development with offer day visitors an enclosed swimming pool with dedicated ablutions including male and female shower facilities and toilets. The proposed development will also ensure privacy to Die Stroom Function Venue charted to visitors at an extra cost to visitors.

The aim of the proposed swimming pool and picnic area upgrade next to the Breede River known as "Die Stroom" is to enhance the experience of the local community and visitors use to visiting the site and providing more safe conditions for swimming etc. It is also proposed to provide much needed additional public ablution facilities, additional parking areas and formal picnic areas to prevent the public from impacting on the surrounding natural vegetation areas by parking within natural areas etc. because there are currently not enough formal facilities provided at the popular picnic spot.

The proposed development footprint is to be kept on already disturbed areas as far as possible so as to keep impacts on natural vegetation etc. as small as possible.

1.11.Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?

Refer to 1.9 above for a list of all the potential negative and positive impacts assessed and to Appendix J for the detailed impacts assessment.

1.12.Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?

In order to determine the best practicable environmental option for the development proposal feasible and reasonable alternatives (if available) must be considered and investigated to avoid negative impacts. The Environmental Assessment Practitioner and developer considered all of relevant inputs from specialists, engineers, town planners, key departments, the public and relevant stakeholders if available during the impact assessment process. Impacts identified that could not be avoided have been mitigated and managed as per the EMPr requirements.

As such the mitigation hierarchy has been effectively applied to this development proposal resulting in the best practicable environmental option (preferred alternative) presented for consideration by the competent authority.

<u>Summary of Alternatives Assessed:</u>

PROPERTY AND SITE/LOCATION ALTERNATIVES ASSESSED:

Property Alternative - Due to the location of the existing Die Stroom picnic site within the Bontebok National Park and the need for the proposed developments identified at this specific site there are no other reasonable or feasible property or site alternatives to assess other than what is proposed.

ACTIVITY ALTERNATIVES ASSESSED:

Activity Alternative 1 – The only activity alternative considered is the proposed swimming pool, recreational facilities and associated infrastructure at Die Stroom Picnic Site in the Bontebok National Park which will include the following:

- Pool Backwash tank slab = 15m^2 for 5000liter JoJo
- Septic tank and Pump chamber = 40m^2
- Pool pump room = 40m^2
- Ablutions/Shower/Change Area = 105m^2
- Swimming Pool = 315m^2
- Terrace less Pool = 1115m^2
- Fence = 210m long and 1.5m high
- Physically Disabled Ramp =80m^2
- Parking = 240m^2
- Underground electrical cable = 110m long (Area measured in sewer trench calculation)
- Sewer line /Soak-away = 260m long (Area = 390m^2)
- Pool back-wash and soak-away = 260m long (Area measured in sewer trench calculation)
- Water supply line = 25m long (Area 25m^2) (Balance of area measured in sewer trench calculation)
- Soak-away = 150m^2 (15m x 10m)
- 2 x Biofilters = 64m^2 (4m x 8m each)

Construction footprint = 0.44ha
Proposed development will lead to the permanent clearance of ±0.2ha of indigenous vegetation.
The final development footprint for the developments as described above = ± 0.28Ha

As far as possible the proposed development has been placed on already cleared and impacted areas and along existing roads and pipeline routes to minimise impacts on the natural environment and indigenous vegetation. The proposed development is also to be located behind the existing picnic area, outside of the 1:100 year floodline area of the Breerivier.

No other reasonable or feasible activity alternatives exists as the reason for the proposed development is to expand the existing picnic facilities in accordance with the recreational needs that exists at the specific site as identified by park management.

LAYOUT ALTERNATIVES ASSESSED:

Layout Alternative 1 – The only activity alternative considered is the proposed swimming pool, recreational facilities and associated infrastructure at Die Stroom Picnic Site in the Bontebok National Park which will include the following:

- Pool Backwash tank slab = 15m^2 for 5000liter JoJo
- Septic tank and Pump chamber = 40m^2
- Pool pump room = 40m^2
- Ablutions/Shower/Change Area = 105m^2
- Swimming Pool = 315m^2
- Terrace less Pool = 1115m^2
- Fence = 210m long and 1.5m high
- Physically Disabled Ramp =80m^2
- Parking = 240m^2
- Underground electrical cable = 110m long (Area measured in sewer trench calculation)

- Sewer line /Soak-away = 260m long (Area = 390m^2)
- Pool back-wash and soak-away = 260m long (Area measured in sewer trench calculation)
- Water supply line = 25m long (Area 25m^2) (Balance of area measured in sewer trench calculation)
- Soak-away = 150m^2 (15m x 10m)
- 2 x Biofilters = 64m^2 (4m x 8m each)

Construction footprint = 0.44ha
Proposed development will lead to the permanent clearance of ±0.2ha of indigenous vegetation.
The final development footprint for the developments as described above = ± 0.28Ha

As far as possible the proposed development has been placed on already cleared and impacted areas and along existing roads and pipeline routes to minimise impacts on the natural environment and indigenous vegetation. The proposed development is also to be located behind the existing picnic area, outside of the 1:100 year floodline area of the Breerivier.

The layout/design alternative as proposed is the only reasonable and feasible alternative assessed as it was designed in accordance with the roads, services infrastructure and picnic facilities which already exists at Die Stroom picnic site as well as what is still required and how it will link in to existing developments and infrastructure.

TECHNOLOGY ALTERNATIVES ASSESSED:

Technology to be used in the proposed development alternative will be similar to existing technology currently being used at the existing picnic facilities and must link in with existing facilities and infrastructure.

Technologies Alternative 1 (as per the preferred alternative) includes:

- Septic tank and Pump chamber = 40m2
- Pool back-wash and soak-away = 260m long
- Underground electrical cable = 110m long
- Soak-away = 150m2 (15m x 10m)
- 2 x Biofilters = 64m2 (4m x 8m each)

Also water and energy saving technologies to be installed as far as funding allows. The following energy/resources saving methods must be incorporated into the buildings and facilities as proposed where funding allows:

- All facilities to be provided with energy saving compact fluorescent lamps (CLF's).
- All electric geysers should be insulated with geyser blankets.
- All electric geyser thermostats should be set at the most optimal temperature.
- All fitted appliances should have an energy rating and the most efficient models must be considered.
- Energy efficient security/outdoor light technology should be used as far as possible to reduce the energy requirements of the outdoor light network.
- Rainwater harvesting from roofs and gutters must be implemented to collect and store rainwater runoff. This can be used to provide supplementary water which can be used as grey water or irrigation.
- Shower installations must be fitted with low-flow shower heads in school bathrooms.
- Geysers should be installed vertically to save electricity.
- Ensure that the maximum flow rate from hand wash basin tops does not exceed 6L per minute.
- Indoor traps must be fitted with aerators to increase the efficiency by redirecting the flow and amount of water used.
- Flush toilets must be fitted with dual or multi flush mechanisms to ensure that the amount of water required is controlled by the user.

- Solar electricity devices should be installed and made use of as far as possible i.e. solar geysers.

Technology Alternative 2 includes:

- Installing a self-contained sewage treatment plant.

Reason/s why this alternative is not reasonable of feasible - As stated by park management the alternative of a self-contained sewage treatment plant cannot be considered as a reasonable or feasible options because SANParks (the applicant and developer) does not have sufficient funds to firstly install a sewage treatment plant and secondly to appoint suitable trained staff to operate such a plant. The Bontebok National Park is not a high-income park and therefore does not have the budget for a recycling system. The staff at the park is also not qualified to manage such a system.

Technology Alternative 3 includes:

- Installing a conservancy tank which is serviced by the municipality.

    - *Reason/s why this alternative is not reasonable of feasible* - As stated by park management the alternative of a self-contained sewage treatment plant cannot be considered as a reasonable or feasible options because SANParks (the applicant and developer) does not have sufficient funds for municipal costs involved with conservancy tanks management. A conservancy tank for waste water to be collected by the municipality and disposed of at the municipal waste water treatment works is also costly and poses high risk of environmental pollution due to overflow if not property managed.

OPERATIONAL ALTERNATIVES ASSESSED:

Only operational alternative considered was the maintenance and management associated with the proposed new swimming pool, ablution facilities and picnic site expansions and related infrastructure to be maintained by the park management after construction completion. Once operational, the only operational activities that will be undertaken are related to maintenance and upkeep of the development and associated infrastructure. These operations must also be done in accordance with the prescribed EMPr. Refer to Appendix H: EMPr for all proposed mitigation measures.

THE NO-DEVELOPMENT OPTIONS ASSESSED:

If the proposed Die Stroom picnic site swimming pool, recreational facilities and infrastructure upgrades are not to proceed it is not expected that any significant detrimental impacts will occur in terms of the terrestrial features of the site and surrounds and processes will continue as is. However, the aim of the proposed swimming pool and picnic area upgrade next to the Breerivier is to enhance the experience of the local community and visitors use to visiting the site and provide safer conditions for swimming etc. It is also proposed to provide much needed additional public ablution facilities, additional parking areas and formal picnic areas to prevent the public from impacting on the surrounding natural vegetation areas like parking within natural areas because there are currently not enough formal facilities provided at the popular picnic spot, hence potentially decreasing terrestrial biodiversity impacts due to uncontrolled human activities in the long term.

1.13.Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?

Refer to 1.9 above for a list of all the potential negative and positive impacts assessed and to Appendix J for the detailed impacts assessment.

2.1.What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?:

2.1.1.The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,
2.1.2.Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.),
2.1.3.Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and
2.1.4.Municipal Economic Development Strategy ("LED Strategy").

RESPONSE 2.1.1-2.1.4

The proposed development site falls within the Bontebok National park zoned conservation/protected area. In accordance with the parks management plan the proposed development site is located within an area mapped as Medium to Low sensitivity within the Low Intensity Leisure park use zone. The conservation objective of this zone is to maintain the zone in a largely natural state that is in keeping with the character of a Protected Area, mitigate the biodiversity impacts of the relatively high levels of tourism activity and infrastructure that are accommodated within this zone through careful planning and active management, and to ensure that both the negative effects of the activities and infrastructure are restricted to the zone. In keeping with the objectives of the Low Intensity Leisure Zone within which the proposed developments falls, the footprint of the proposed developments have been kept to a minimum with placement thereof as far as possible on already disturbed and transformed areas as part of the existing Die Stroom picnic site and placing additional proposed infrastructure such as pipelines and power cables along existing infrastructure routes.

2.2.Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?
2.2.1.Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?

The aim of the proposed swimming pool and picnic area upgrade next to the Breede River known as "Die Stroom" is to enhance the experience of the local community and visitors use to visiting the site and provide safter conditions for swimming. It is also proposed to provide much needed additional public ablution facilities, additional parking areas and formal picnic areas to prevent the public from impacting on the surrounding natural vegetation areas like parking within natural areas because there are currently not enough formal facilities provided at the popular picnic spot, hence potentially decreasing terrestrial biodiversity impacts due to uncontrolled human activities in the long term.

2.3.How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?

The aim of the proposed swimming pool and picnic area upgrade next to the Breede River known as "Die Stroom" is to enhance the experience of the local community and visitors use to visiting the site and providing more safe conditions for swimming etc. It is also proposed to provide much needed additional public ablution facilities, additional parking areas and formal picnic areas to prevent the public from impacting on the surrounding natural vegetation areas like parking within natural areas because there are currently not enough formal facilities provided at the popular picnic spot, hence potentially decreasing terrestrial biodiversity impacts due to uncontrolled human activities in the long term.

The proposed development footprint is to be kept on already disturbed areas as far as possible so as to keep impacts on natural vegetation, animal and birdlife as small as possible.

2.4.Will the development result in equitable (intra-and inter-generational) impact distribution, in the short-and long-term? Will the impact be socially and economically sustainable in the short-and long-term?

Yes, as per the impact assessment all potential environmental and socio-economic impacts can be mitigated to an acceptable level with the implementation of the EMPr and overall it is expected that the proposed development will have a positive socio-economic impact for the local community and national park.

2.5.In terms of location, describe how the placement of the proposed development will:

2.5.1.result in the creation of residential and employment opportunities in close proximity to or integrated with each other,

Not applicable

2.5.2.reduce the need for transport of people and goods,

Not applicable

2.5.3.result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport),

Not applicable

2.5.4.compliment other uses in the area,

Expansion of existing picnic facilities available to day visitors within the Bontebok National Park.

2.5.5.be in line with the planning for the area,

The day visitors picnic site in the Bontebok National Park has been earmarked by the park management for expansion and upgrades as proposed since investigation was conducted which determined the Breerivier is unsafe for use as a swimming site.

2.5.6.for urban related development, make use of underutilised land available with the urban edge,

Not applicable

2.5.7.optimise the use of existing resources and infrastructure,

Proposed development has been designed and placed on already transformed areas as far as possible and to link in with existing services infrastructure routes and placements.

2.5.8.opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),

Not applicable

2.5.9.discourage "urban sprawl" and contribute to compaction/densification,

Not applicable

2.5.10.contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs,

Not applicable

2.5.11.encourage environmentally sustainable land development practices and processes,

Mitigation measures have been proposed by specialists and incorporated into the requirements of the EMP to ensure that the development is constructed and operated in an environmentally sustainable manner without causing any significant negative environmental impacts.

2.5.12.take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),

Expansion and upgrade of existing picnic facilities.

2.5.13.the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),

The aim of the proposed swimming pool and picnic area upgrade next to the Breede River known as "Die Stroom" is to enhance the experience of the local community and visitors use to visiting the site and providing more safe conditions for swimming etc. It is also proposed to

provide much needed additional public ablution facilities, additional parking areas and formal picnic areas to prevent the public from impacting on the surrounding natural vegetation areas like parking within natural areas because there are currently not enough formal facilities provided at the popular picnic spot, hence potentially decreasing terrestrial biodiversity impacts due to uncontrolled human activities in the long term.

2.5.14.impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and

The aim of the proposed swimming pool and picnic area upgrade next to the Breede River known as "Die Stroom" is to enhance the experience of the local community and visitors use to visiting the site and providing more safe conditions for swimming etc. It is also proposed to provide much needed additional public ablution facilities, additional parking areas and formal picnic areas to prevent the public from impacting on the surrounding natural vegetation areas by parking within natural areas etc. because there are currently not enough formal facilities provided at the popular picnic spot.

The proposed development footprint is to be kept on already disturbed areas as far as possible so as to keep impacts on natural vegetation etc. as small as possible.

Hence the overall impacts on the heritage resources (Bontebok National Park and its natural features as a Heritage Site) is expected to have a positive impact with no unacceptable significant negative heritage impacts expected as it will also promote more tourism to the park bringing in more funds to ensure the ongoing successful management of the park.

2.5.15.in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?

Not applicable

2.6.How were a risk-averse and cautious approach applied in terms of socio-economic impacts?:

2.6.1.What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?

2.6.2.What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?

2.6.3.Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?

Potential socio-economic impacts associated with the proposed development was assessed. The significance of these impacts was determined, ranked and mitigation measures to reduce the negative impact have been provided and included in the EMPr requirements.

The key mitigation measures recommended are for impact avoidance. Where adverse impacts cannot reasonably be avoided, the significance of the impacts will be managed through the effective implementation of the EMP

2.7.How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:

2.7.1.Negative impacts: e.g. health (e.g. HIV-Aids), safety, social skills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?

2.7.2.Positive impacts. What measures were taken to enhance positive impacts?

Refer to 2.7 above for a list of all the potential negative and positive impacts assessed and to Appendix J for the detailed impacts assessment.

2.8.Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?

It is not expected that the proposed development will result in over utilisation of natural resources.

2.9.What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?

An EMPr has been compiled taking into account all potential environmental and socio-economic impacts as assessed during the construction and operational phases and providing appropriate mitigation measures to minimise the severity of these impacts throughout the life cycle of the proposed development. Refer to Appendix H: EMPr

2.10.What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons(who are the beneficiaries and is the development located appropriately)?
Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?

The proposed picnic site developments within the Bontebok National Park will not have any impact on social equity or justice as the intention is to provide safer, additional and upgraded day visitors facilities available to the public.

2.11.What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?

The aim of the proposed swimming pool and picnic area upgrade next to the Breede River known as "Die Stroom" is to enhance the experience of the local community and visitors use to visiting the site and providing more safe conditions for swimming etc. It is also proposed to provide much needed additional public ablution facilities, additional parking areas and formal picnic areas to prevent the public from impacting on the surrounding natural vegetation areas like parking within natural areas because there are currently not enough formal facilities provided at the popular picnic spot, hence potentially decreasing terrestrial biodiversity impacts due to uncontrolled human activities in the long term.

The proposed development footprint is to be kept on already disturbed areas as far as possible so as to keep impacts on natural vegetation, animal and birdlife as small as possible.

2.12.What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?

An EMPr has been compiled taking into account all potential impacts during all the phases of the proposed development and providing appropriate mitigation measures to minimise the severity of these impacts throughout the life cycle of the proposed development. Refer to Appendix H: EMPr

2.13.What measures were taken to:
2.13.1.ensure the participation of all interested and affected parties,

2.13.2.provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,
2.13.3.ensure participation by vulnerable and disadvantaged persons,382.13.4.promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means,
2.13.5.ensure openness and transparency, and access to information in terms of the process,
2.13.6.ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, and
2.13.7.ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted?

Refer to Appendix F of the BAR indicating all public participation steps to be undertaken as part of the basic assessment process.

2.14.Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g.. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?

During the public participation process to be conducted) all comments/concerns received from the public are taken into consideration and addressed, and where practicable and possible recommendations are incorporated into the design of the development. The proposed development is also to enhance visitors experience at the park.

2.15.What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?

As per the EMPr requirements all regulations in terms of the Health and Safety Act must be adhered to during all phases of the proposed development.

2.16.Describe how the development will impact on job creation in terms of, amongst other aspects:
2.16.1.the number of temporary versus permanent jobs that will be created,
2.16.2.whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area),
2.16.3.the distance from where labourers will have to travel,
2.16.4.the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and
2.16.5.the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).

Temporary construction jobs will be created during the construction phase however it is unclear at this stage exactly how many as this will depend on the amount of funding available at the time. As far as possible local community members will be employed from the adjacent previously disadvantaged community and surrounds.

2.17.What measures were taken to ensure:
2.17.1.that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and
2.17.2.that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?

2.18.What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?

The BAR sets out the applicable legislation and policies taken into account for the development proposal as well as all the various stakeholders / organs of state consulted in terms of this application.

The public participation process also facilitates coordination of all relevant legislation and resolving conflicts and interested of all the various parties.

A comments and responses report will be compiled in which all issues raised are recorded and responded to in Appendix F and submitted as part of the Final BAR to the competent authority for consideration.

2.19.Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?

Yes. the proposed mitigation measures within the EMPr are realistic and long-term management will relate to the maintenance and management of picnic facilities and services which is to be maintained by the park management.

2.20.What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?

As per standard EMP and EA requirements the applicant, as per the EA issued, will remain financially responsible for remedying any negative environmental and health effects caused by or due to the proposed activities.

2.21.Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?

In order to determine the best practicable environmental option for the development proposal feasible and reasonable alternatives (if available) must be considered and investigated to avoid negative impacts. The Environmental Assessment Practitioner and developer considered all of relevant inputs from specialists, engineers, town planners, key departments, the public and relevant stakeholders if available during the impact assessment process. Impacts identified that could not be avoided have been mitigated and managed as per the EMPr requirements.

As such the mitigation hierarchy has been effectively applied to this development proposal resulting in the best practicable environmental option (preferred alternative) presented for consideration by the competent authority.

Refer to 1.12 above for a summary of the outcome of the alternatives assessed.

2.22.Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?

Refer to 2.7 above for a list of all the potential negative and positive impacts assessed and to Appendix J for the detailed impacts assessment.