



CONSIDERATION OF THE DFFE NEED AND DESIRABILITY GUIDELINE (2017) IN THE ENVIRONMENTAL BASIC ASSESSMENT PROCESS FOR PROPOSED STABILISATION OF A PORTION OF THE KEURBOOMS RIVER EMBANKMENT SOUTH OF THE PLETTENBERG BAY ANGLING CLUB, RE 1 OF THE FARM HANGLIP NO.305

According to the DFFE Need and Desirability Guideline (2017), the need for and desirability of a proposed activity must specifically and explicitly be addressed throughout the EIA process (screening, "scoping", and assessment) when dealing with individual impacts and specifically in the overall impact summary by taking into account the answers to inter alia the following questions:

1.7.2

Intra- and inter-generational equity in the context of sustainability

The report by the World Commission on Environment and Development, *Our Common Future*, issued in 1987 (also referred to as the "Brundtland Report"), is widely regarded as the key point in the evolution of the concept of "sustainability" and "sustainable development". The Brundtland Report defined sustainable development as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (WCED, 1987). Two key concepts conveyed in this definition are the notion of "needs" with a particular focus on the disadvantaged portion of current societies, and the sense of limits on the ability of the environment to meet the needs of current and future generations.

The Strategic Framework for Sustainable Development (SFSD) emphasises that South Africa's current development path in many respects are not sustainable in the long-term. It highlights that economic growth in South Africa is achieved by

"consuming natural resources and degrading our habitat at accelerating rates with the inevitable consequence that future economic growth and development objectives will be prejudiced." (DEAT 2007).

Intra-generational equity also refers to equitable access to, or distribution of opportunities, resources, (positive and negative) impacts between individuals and between current societies. Inter-generational equity refers to the equitable distribution of opportunities, resources, (positive and negative) impacts between current and future societies. As such, the manner in which resources are used to address the needs of current societies, must not demise the options of future societies to experience the same opportunities.

1.13

Cumulative effects

In terms of the EIA Regulations "cumulative impact", in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area;

Cumulative effects can be:

- Additive: the simple sum of all the effects (e.g. fertilizer inputs to a river from farms in the catchment);
- Synergistic: effects interact to produce a total effect greater than the sum of individual effects. These effects often happen as habitats or resources approach capacity (e.g. fragmentation of habitat for a species can have limited effect until additional fragmentation makes areas too small to support that species at all);
- Time crowding: frequent, repetitive impacts on a particular resource at the same time (e.g. small-scale mining within a particular ecosystem).
- Neutralizing: where effects may counteract each other to reduce the overall effect (e.g. infilling of a wetland for road construction, and creation of new wetlands for water treatment).
- Space crowding: high spatial density of impacts on an ecosystem (e.g. rapid expansion of urban sprawl).

In terms of the EIA Regulations "cumulative impact", in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Crucial to the identification of cumulative implications of an activity or project, is to have an understanding of the context within which the impact will occur. For example, if the context (goal/vision) for an area is to protect its agricultural land use potential and its associated landscape character, the anticipated cumulative implications associated with the establishment of an industrial plant will be significant.

2.14

Opportunity Cost

Opportunity costs refer to the process of considering and comparing the ecological, social and economic costs, implications and opportunities of different alternatives. Choosing a specific option, alternative or path may result in other options (and its associated opportunities) being foregone - the loss of these opportunities are referred to as the opportunity cost of the preferred option. Assessing the opportunity costs of different options will also assist in the search for alternatives that will result in -

- the understanding the value of the foregone opportunities;
- the achievement (or at least contribute most to the achievement) of the desired aim/goal for the specific area;
- optimising positive impacts;
- minimising negative impacts;
- the equitable distribution of impact (negative and positive); and
- the maintenance of ecological integrity and environmental quality.

The above is also linked to the positive duty to find the "best practice environmental option", which is defined in NEMA as *"the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term"*

The need to consider the opportunity costs of different options are particularly relevant in instances where resources are limited, environments that are under stress.

Examples where the consideration of opportunity cost is relevant include the option of redeveloping and public open space into a parking area. Another example is where it is confirmed that there are adequate water resources to service a development proposal. Applying the "opportunity cost" principle would change the question being asked, by placing a positive duty to consider if the proposed development will constitute the best use of the available water resources (i.e. the best practicable environmental option).

Guideline Question	Response
Section 1: Securing Ecological Sustainable Development and Use of Natural Resources	
<p>1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?</p>	<p>The proposal is to stabilize the Keurbooms Rivers embankment to reduce future erosion and improve the natural functions of the river.</p> <p>Ecological impacts of this development have been assessed as described in the Basic Assessment Report (BAR), by specialists-</p> <p>Animal Assessment: The expectation of broader impacts occurring outside of the footprint of the streambank stabilisation structure is expected to be very low. Consequently, the PAOI is limited to an approximately 50 m length of the eroded bank of the estuary (where the bank stabilisation structure will be constructed) and a distance of approximately 10 m inland from the banks and 5 m into the inter-tidal zone of the estuary (where habitat may be disturbed due to the construction activities and vehicles). The total surface area of the footprint of the PAOI is less than 1 000 m²</p> <p>Estuarine and Plant Species – Specialist Assessment : The proposed activities will not result in modifications to surface flows into the estuary and will not result in the construction of infrastructure across the estuary. The development will therefore in no way impact on the base flows or hydrological regime (i.e. timing and magnitude of surface flows) of the estuary or cause fragmentation or loss of ecological connectivity. Furthermore, the activities are of such a scale that will in no way impact on the frequency of estuary mouth closure.</p> <p>Terrestrial Biodiversity – Compliance Statement : The proposed activity will not affect terrestrial vegetation that is integral to maintaining ecological function and integrity of the FEPA sub-catchment.</p>
<p>1.1. How were the following ecological integrity considerations taken into account?:</p> <p>1.1.1. Threatened Ecosystems,</p> <p>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,</p>	<p>Estuarine and Plant species assessment:</p> <p>According to the Western Cape Spatial Biodiversity Plan, the Keurbooms Estuary falls within a Critical Biodiversity Area 1 (CBA1), under the sub-category for estuarine habitats (Figure 9). Management objectives associated with CBAs are provided in Table 4 and stipulate that degraded areas should be rehabilitated and that only low impact activities are appropriate.</p> <p>Given the high conservation status and ecological importance of the Keurbooms Estuary (as indicated by NFEPA, the Western Cape Spatial Biodiversity Plan and the desktop eco-classification of estuaries of South Africa) and the confirmed presence (i.e., <i>Z. capensis</i> and <i>H. capensis</i>) and likely habitat suitability (i.e., <i>Cotula myriophylloides</i>) for and of IUCN Red Listed</p>

<p>1.1.3.Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"),</p> <p>1.1.4.Conservation targets,</p> <p>1.1.5. Ecological drivers of the ecosystem,</p> <p>1.1.6.Environmental Management Framework,</p> <p>1.1.7.Spatial Development Framework, and</p> <p>1.1.8.Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).16</p>	<p>species it is important that any development is planned and conducted in a sensitive manner.</p> <p>While the construction phase will result in an initial minor disturbance to estuarine habitat, this is unlikely to be permanent and there is strong evidence to suggest that recovery will occur in the short term (1 to 5 years) and that estuarine fauna utilise artificial habitat. The fact that identical activities have been approved and implemented successfully at other properties along the estuary – all of which are associated with abundant eelgrass and associated faunal communities - provides further support to this view. Overall, the ecological condition of the estuary is unlikely to be negatively impacted and the proposed bank stabilisation and associated activities are aligned to the various management objectives stipulated in estuarine management and national and provincial conservation plans, which are summarised as follows:</p> <ul style="list-style-type: none"> • The structure is intended to rehabilitate an eroded section of the channel and will result in negligible to minor impacts to the estuary. The proposal is therefore aligned to CBA management objectives. • While a temporary disturbance to biota will occur, the scale of this disturbance is negligible and is expected to recover after a relatively short time-period. The structure will not affect RQOs for water quality, quantity, habitat and biota. <p>In summary, the impacts associated with all three options are considered acceptable. Of the three proposed alternatives, Option 2 is most recommended as it is consistent with other bank stabilisation structures that have been implemented at other locations in the estuary.</p>
<p>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?</p>	<p>The eroded embankment will be replaced by either of the three alternative options. The reno mattress will extend into the bed of the estuary and construction will therefore result in initial disturbance of inter- and subtidal habitat, including loss of <i>Z. capensis</i>. Based on experience from similar structures, the bed is however expected to re-establish over most of the reno mattress over time and it is likely that <i>Z. capensis</i> will also re-establish.</p> <p>The impacts cannot be avoided as there is just the one site, however, steps will be taken to ensure construction will be done as suggested by specialist:</p> <p>A comprehensive method statement approved by ECO will be followed.</p>

	<p>Construction will be conducted in a phased approach with the aim of minimising the length of time that excavated bed, or banks are exposed to fluctuating tide levels.</p> <p>Working areas must be clearly demarcated and disturbance (i.e. trampling, smothering etc.) of estuarine habitat outside of these demarcated areas must be minimised as far as is possible.</p> <p><i>Zostera capensis</i> and occurring within the construction footprint must be rescued and kept on the site to be planted in any disturbance buffer (no wider than 2m) later during the phase.</p> <p>The proposed activity must take place in order to protect the environment which is severely eroding during heavy rainfall and storm events.</p>
<p>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?</p>	<p>Vehicles and heavy machinery will be required to construct the bank stabilisation structure and will need to be refuelled and maintained at regular intervals. Leaks of hydrocarbon contaminants (i.e. fuel, oil, grease etc.) may occur which could pollute the estuary.</p> <p>Mitigation measures are included in EMPr, to ensure contractor and staff conduct their activities in such a way to minimize pollution or degradation of the ecosystem. As suggested by specialist:</p> <p>All vehicles/machinery should be readily serviced and inspected for leaks. Vehicles/Machinery needing repairs should not be used for construction at the site until repaired and fully operational.</p> <p>Any work or maintenance on the vehicles/machinery should be done far away from the watercourse, preferably in a work yard or on a concrete surface. Refuelling of vehicles/machinery must take place away from the estuary and on a paved surface to prevent seepage in the event of a spill.</p> <p>All vehicles/machinery should be parked off-site, and away from the edge of the watercourse when not in use.</p>
<p>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</p>	<p>During the construction phase, general waste associated with the construction activities will be generated. This waste is expected to be minimal. Furthermore, the EMPr deals with the management of waste, indicating that the waste management hierarchy must be implemented as far as possible. This will assist in reducing the waste produced on the site and will enable the reusing and/or recycling what waste is produced.</p>

safely treat and/or dispose of unavoidable waste ?	During the operational phase, no waste will be generated.
<p>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?</p> <p>What measures were explored to enhance positive impacts?</p>	<p>No impact is expected.</p> <p>Western Cape Heritage states that the stabilization of a river embankment on Remainder of Portion 1 of Farm Hangklip 305, Plettenberg Bay will not impact on heritage resource, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required.</p>
<p>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?</p> <p>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?</p>	<p>Very little energy and water will be required during the construction phase and none during operational phase.</p>
<p>1.7. How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part?</p> <p>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?</p> <p>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?</p>	<p>Some resources will be required during construction phase, but thereafter, none.</p> <p>No major changes or exceeding thresholds is expected.</p>

<p>What measures were explored to enhance positive impacts?</p> <p>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)</p> <p>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?)</p> <p>1.7.3. Do the proposed location, type and scale of development promote a reduced dependency on resources?</p>	<p>No</p> <p>No impact expected.</p> <p>N/A The use of natural resources will not be that significant to reduce intra- and intergenerational equity.</p>
<p>1.8. How were a risk-averse and cautious approach applied in terms of ecological impacts?:</p> <p>1.8.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?</p>	<p><i>The EAP assumes that information gathered from the applicant and specialists is accurate and adequate for the assessment of potential impacts that may arise from the proposed development. It is also assumed that all mitigation, management, and monitoring measures prescribed in the BAR and the accompanying EMPr will be implemented by the proponent.</i></p> <p>There are no significant gaps in knowledge. Detailed assessments of the potential ecological impacts were undertaken to reduce uncertainties, assumptions, and gaps. The assessment of the site was based on site visits undertaken by specialists and is deemed by the independent specialists to be sufficient for the study.</p>

<p>1.8.2. What is the level of risk associated with the limits of current knowledge?</p> <p>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?</p> <p>What measures were taken to enhance positive impacts?</p>	<p>A risk averse and cautious approach, as per the principles in Section 2 of NEMA, has been applied in the identification and assessment of potential impacts. The consequences of all impacts have been identified in the impact assessment, and mitigation measures provided to ensure the impacts are as low as possible. In so doing, the precautionary principle of environmental management has been applied throughout the Basic Assessment Process to ensure that all potential negative (and positive) ecological and socio-economic impacts are assessed. The level of risk associated with the limits of current knowledge described above is therefore considered to be low.</p> <p>Choosing preferred alternative option 2 which will allow for vegetation and habitat re-establishment.</p>
<p>1.9. How will the ecological impacts resulting from this development impact on people's environmental right in terms the following:</p> <p>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?</p> <p>1.9.2. Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc.</p>	<p>The proposed development is anticipated to have negligible negative impacts on people's environmental rights.</p> <p>Nevertheless, some negative impacts are anticipated as a result of the proposed development. These can be summarised as follows:</p> <ul style="list-style-type: none"> • Potential temporary noise, dust impacts during construction phase. • Potential temporary visual impacts during construction phase. <p>The above listed negative impacts have, however, been assessed in detail and comprehensive mitigation measuring and monitoring specifications have been provided.</p> <p>Furthermore, the negative impacts of the construction and operation phase can be mitigated to an acceptable degree of impact and risk if the provisions of the Environmental Management Programme (Appendix H) are implemented and enforced.</p> <p>Reduction of future erosion from unstable embankments and improvement of natural functions of river.</p>
<p>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.)?</p>	<p>Human wellbeing, livelihoods and ecosystem services are inextricably linked. The proposed development is anticipated to not have significant impacts on ecosystem services, as agreed by specialists, or on the human wellbeing.</p> <p>The development will create part time livelihoods during construction phase, thereby positively impacting human wellbeing.</p>

	As such, positive impacts on human wellbeing as a result of the development are anticipated to outweigh the negative impacts.
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?	The proposal's impacts on ecological integrity is anticipated to be minimal. As mentioned in specialist studies, discussed in Point 1.
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?	Overall, specialist recommended mitigation measures result in satisfactory post mitigation impact significance.
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?	Cumulative impacts have been assessed as part of each impact in BAR.
Section 2: Promoting Justifiable Economic and Social Development	
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,	<p>The development site, portion of the keurbooms river embankment south of the Plettenberg Bay Angling Club, RE 1 of the farm Hanglip no.305 falls within the Bitou municipality, Garden Route.</p> <p>The Integrated Development Plan of Bitou municipality for 2022-2025 aims to align the Sustainable Development Goals, National development plan and Provincial priority area by protecting and enhancing environmental assets and natural resources.</p> <p>The resilience of the region is closely tied to its overall risk profile, and highlights the need for disaster risk management, natural resource management and climate change adaptation. There is an undeniable pressure between infrastructure development and the environmental asset protection, as well as the impact of such development on the municipal financial sustainability and its ultimate resilience.</p> <p>The municipality is required to consider the area's overall economic and social development and must establish a framework for how land is used, what</p>

<p>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.),</p> <p>2.1.3. Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and</p> <p>2.1.4. Municipal Economic Development Strategy ("LED Strategy").</p>	<p>infrastructure and services are required, and how to protect the environment.</p> <p>This proposed stabilization of the river embankment to stop and reduce erosion, is in line with all of the above as it will assist with protecting the existing infrastructure on the property adjacent to river, it will reduce further degrading of embankment , and protect it against high tides and storm surges, without extreme impact on the river itself, as well as promoting natural function.</p> <p>The proposed development does not respond to spatial priorities such as the need to integrate segregated communities or upgrade informal settlements.</p> <p>The SDF of the Bitou Local Municipality will not be altered by the proposed activity. The SDF speaks to the protection and sustainable management of the natural environmental resources, which is what the stabilization of the embankment will accomplish.</p> <p>The Bitou Municipality economic development strategy speaks to growth and job creation. This proposed activity will create temporary employment during the construction phase.</p>
<p>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?</p> <p>2.2.1. Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?</p>	<p>As stated under Section 2.1.4 of this document, the proposed activity will create temporary employment during construction phase.</p> <p>No</p>
<p>2.3. How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?</p> <p>2.4. Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and longterm?</p>	<p>It will protect properties, embankments, and watercourse from impact of extreme weather and high tides in the future as a result of climate change.</p> <p>The DFFE Need and Desirability Guideline (2014) defines intra- and intergenerational equity as ensuring that development is sustainable enough to ensure that the needs of the present generation are met without compromising the ability of future generations to meet</p>

<p>2.5.9. discourage "urban sprawl" and contribute to compaction/densification,</p> <p>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,</p> <p>2.5.11. encourage environmentally sustainable land development practices and processes,</p> <p>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.),</p> <p>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),</p> <p>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</p> <p>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?</p>	<p>N/A</p> <p>Only one location , where eroded embankment needs to be stabilized.</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A.</p>
<p>2.6. How were a risk-averse and cautious approach applied in terms of socio-economic impacts?:</p> <p>2.6.1. What are the limits of current knowledge (note: the</p>	<p>As stated in Section 1.8 of this document, a risk-averse and cautious approach was applied in the impacts that were identified as a result of the proposed development. The mitigation measures provided also indicate the implementation of a risk-averse approach in order to avoid significantly negative impacts on the surrounding environment.</p> <p><i>The EAP assumes that information gathered from the applicant and specialists is accurate and adequate for the assessment of potential impacts that may arise</i></p>

<p>gaps, uncertainties and assumptions must be clearly stated)?³²</p> <p>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?</p> <p>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?</p>	<p>from the proposed development. It is also assumed that all mitigation, management, and monitoring measures prescribed in the BAR and the accompanying EMP will be implemented by the proponent. There are no significant gaps in knowledge beyond the details of the design which are to be determined at a later stage.</p> <p>No levels of risk are identified as it is assumed that all mitigation measures and recommendations will be implemented by the proponent and any persons working for the proponent, thereby acceptably decreasing the significance of all identified potential impacts.</p> <p>The scale and nature of the development, and the fact that socio-economic impacts are anticipated to be minimal while negative biophysical impacts are able to be mitigated to acceptable levels, means that any limitation in knowledge is acceptable and does not pose a risk. Nevertheless, a risk averse approach was applied to the development in the assessment and identification of impacts.</p>
<p>2.7. How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:</p> <p>2.7.1. Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?</p> <p>2.7.2. Positive impacts. What measures were taken to enhance positive impacts?</p>	<p>The proposed development will result in minimal socio-economic impacts.</p> <p>The only impacts which may result from the facility is during the construction phase when there may be safety risks to the employees. These will be mitigated through a Health and Safety officer.</p> <p>N/A</p>
<p>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 socioeconomic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?</p>	<p>Human wellbeing, livelihoods and ecosystem services are inextricably linked. The proposed development is anticipated to not have significant impacts on ecosystem services, as agreed by specialists, or on the human wellbeing.</p> <p>The development will create part time livelihoods during construction phase, thereby positively impacting human wellbeing.</p> <p>As such, positive impacts on human wellbeing as a result of the development are anticipated to outweigh</p>

	the negative impacts on ecosystem services of which will be temporary, and through mitigation will be minimized.
2.9. What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	The best practicable socio-economic considerations are directly linked to the best practicable environmental considerations in this case. The stabilisation of the riverbank will positively impact both the environment and the neighbours directly bordering the development footprint.
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?	No adverse environmental impacts are expected to be distributed in such a manner as to unfairly discriminate against any person.
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 activity will not impact equitable access to environmental resources, benefits and services for anyone to meet basic human needs and human wellbeing.
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 for the development, providing the measures to be taken to ensure that the environmental health and safety consequences of the development are adequately addressed during the construction phase. The mitigation measures provided by specialists are representative of the measures that have been taken to ensure that the responsibility for the environmental health and safety consequences are addressed.
2.13. What measures were taken to:	The Public Participation Process will be undertaken as part of the Basic Assessment is detailed in section C of the BAR. Comprehensive public participation measures will be employed to ensure an equal opportunity for all

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

2.13.4. 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

potential Interested and Affected Parties (I&APs) to participate and comment, including vulnerable and disadvantaged persons, regardless of understanding, skills and capacity.

For the first iteration of Public Participation the draft BAR will be made available to the broader public, identified I&APs and Organs of State for their perusal and comment by the following means:

- A media notice inviting members of the public to provide comment on the BAR.
- Site notices will be placed in conspicuous locations around the site.
- An electronic copy of the BAR will be placed on The EAP's website and circulated to registered I&APs.
- Notification letters will be circulated via email or post to all registered I&APs outlining the process to be followed for the proposed activity.

The Public Participation Process will be undertaken in accordance with this plan to ensure that all interested and affected parties can participate, regardless of their understanding, skill, or any potential disadvantage.

As stated in the EMPr (Appendix H), training and environmental awareness is fundamental to the successful implementation of the EMPr and to the protection of the environment. Therefore, all personnel whose work may result in an impact on the environment must receive appropriate training on the environmental procedures to be followed. These measures will raise environmental awareness and thereby contribute to community wellbeing by decreasing environmental degradation of the area.

To ensure transparency, all specialist information is attached to the BAR. The public will be notified that their comments will be addressed and that they will be able to view their comments with responses in the next circulated version of the BAR.

Every written comment received will be addressed and considered, and where necessary, changes will be made to the development proposal. In this way, the public participation process will take cognisance of the interests, needs and values expressed by all I&APs based on all forms of knowledge.

Participation by all I&APs, including women and youth, will be promoted and opportunities for engagement will be provided during the environmental assessment

<p>information in terms of the process,</p> <p>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</p> <p>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?</p>	<p>process. All written comments received from Interested and Affected Parties will be given due consideration and will be addressed. No Interested and Affected Parties will be discriminated against based on their gender or age or any other factor.</p>
<p>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)?</p>	<p>It is anticipated that construction phase employment will provide opportunities primarily for low-income individuals. As stated in Section 2.10 of this document, it is recommended by the EAP that the project manager include a clause in the tender conditions of the contract for the construction of the facility so that provision is made for a certain percentage of employment opportunities to be solely for previously disadvantaged individuals.</p>
<p>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?</p>	<p>An EMPr (Appendix H) has been compiled which details the potential impacts of the proposed development.</p> <p>The EMPr also specifies the extent to which workers will be informed of the work to be undertaken. For example, the EMPr states that contractors shall make allowance for site staff to attend an initial environmental awareness training session of approximately one (1) hour. Also, the Contractor shall ensure that all new staff attend an environmental awareness training session within five working days of commencement of work on the site. In addition to the environmental awareness programme included in the</p>

	EMPr, health and safety concerns will also be addressed by the implementation of occupational health and safety legislation. An Environmental Control Officer will be appointed to monitor compliance.
<p>2.16. Describe how the development will impact on job creation in terms of, amongst other aspects:</p> <p>2.16.1. the number of temporary versus permanent jobs that will be created</p> <p>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)</p> <p>2.16.3. the distance from where labourers will have to travel</p> <p>2.16.4. the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits)</p> <p>2.16.5. <i>the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.)</i></p>	<p>The proposed development will result in job creation during the construction phase.</p> <p>Approximately 10 – 20 temporary jobs are anticipated to be created during the construction phase depending on the contractor as well as on the tender specifications.</p> <p>During the construction phase, labour available in the area will be able to take up the job opportunities as their skills are highly likely to be sufficient to match those needed for the construction phase.</p> <p>Impacts will be local and primarily low in significance. Job creation during the construction phase is also anticipated to be primarily local. It is thus considered that the distribution of costs and benefits will be relatively equitable.</p> <p>No opportunity costs are anticipated if the authorisation is granted.</p>
<p>2.17. What measures were taken to ensure:</p> <p>2.17.1. that there were intergovernmental coordination</p>	<p>The Basic Assessment Process considered all legislation and policy applicable to the activity. The relevant</p>

and harmonisation of policies, legislation and actions relating to the environment	Competent Authorities have been identified and all form part of the Public Participation Process.
2.17.2. that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	All comments received in the Public Participation Processes will be dealt with fairly and according to the law.
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	Mitigation measures provided will ensure that negative impacts on the environment will be circumvented.
2.19. Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	The mitigation measures provided are realistic. No long-term environmental burden is expected.
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?	No severe pollution and environmental degradation are expected as a result of the development. However, should any pollution event or similar occur during the construction phase, provision has been made in the EMPr for the issuing of fines to both individuals as well as the contractors as a whole. The Polluter Pays principle will be upheld for the proposed activity.
2.21 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 socio-economic considerations?	The best practicable socio-economic considerations are directly linked to the best practicable environmental considerations in this case. The stabilisation of the riverbank will positively impact both the environment and the neighbours directly bordering the development footprint.
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	N/A

to its location and other planned
developments in the area?

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