

Table 1: The Guideline on the Need and Desirability’s list of 14 questions to determine the “Need and Desirability” of a proposed project (Department of Environmental Affairs’s Guideline on Need and Desirability, March 2017)

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QUESTION	RESPONSE
1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area)?	
<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>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.).</p>	<p>The proposed MMSEZ will be located in an area with CBA2 and Ecological support areas. Please refer to the ecological and aquatic specialist reports. A Biodiversity offset specialist study was undertaken as part of the project and this needs to be verified in full to assess whether such a size development would indeed succeed.</p> <p>The specific environmental sensitivities present on site will be assessed within the ecological impact assessment to be undertaken during the EIA phase of this project.</p> <p>Specialists have utilised national and international standards and recommendations in their respective reports.</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>Please refer to chapter 6 of the EIA report. In chapter 7 the methods and recommendations by the specialists are provided. The EAP also indicated the recommendations and mandatory requirements for inclusion before any decision could be taken by the competent authority.</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>Please refer to the climate change specialist report contained under Appendix O and the Air quality specialist report.</p>

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<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 safely treat and/or dispose of unavoidable waste?</p>	<p>Please refer to the waste specialist report and the engineering report by iX Engineering.</p>
<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? What measures were explored to enhance positive impacts?</p>	<p>Please refer to the heritage and palaeontological specialist studies by Digby Wells.</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? 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>Please refer to the specialist study by the climate change specialist and the energy report by Global Hands.</p>

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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 of the proposed development alternative?)

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

Please refer to the Biodiversity offset study and the ecological specialist study.

The proposed project will strive to not only supply renewable components to support the green economy, but should itself be developed in a 'green' and sustainable way. To achieve such an outcome, Sustainable Design Principles should be developed for the site.

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<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>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>Refer to the ecological specialist study by Digby Wells and the biodiversity offset study for the development.</p>
<p>1.9. How will the ecological impacts resulting from this development impact on people's environmental right in terms 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. What measures were taken to enhance positive impacts?</p>	<p>Refer to the EIA report under Chapters 6 and 7.</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>Refer to the Tourism and Food security specialist report and the socio-economic specialist report by Demacon.</p>
<p>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?</p>	<p>Refer to the impact assessment table under Chapter 6 with mitigation measures and conditions by each specialist under Chapter 7 of the EIA report.</p>

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<p>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?</p>	<p>The specialists utilised the best practice and recommendations made in their specialist studies respectively. However, with the gaps that are currently identified, the EAP is not in a position to recommend LEDET either grant or refuse authorization.</p>
<p>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?</p>	<p>Please refer to Chapter 6 and 7 of the EIA report.</p>
<p>2.1. What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?</p>	
<p>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>	<p>Please refer to chapter 1 of the EIA report and Chapter 3 of the report. The socio-economic specialists have also looked at the IDP policies etc.</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>Please refer to chapter 1 of the EIA report and Chapter 3 of the report. The socio-economic specialists have also looked at the spatial and desired spatial patterns etc.</p>
<p>2.1.3. Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.)</p>	<p>The location factors favour this land use for a number of reasons e.g.:</p> <ul style="list-style-type: none"> • The size of the land is appropriate in that it is large enough for the types of industries proposed. • The transport network in the area is also much more appropriate for transporting abnormal loads rather than navigating city traffic and passes. • Easy, quick access onto the N1 allowing easier access to neighbouring SADC countries. <p>The proposed development is in line with all the SPLUMA and the Municipal SDPs</p>

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<p>2.1.4. Municipal Economic Development Strategy ("LED Strategy").</p>	<p>The location factors favour this land use for a number of reasons e.g.:</p> <ul style="list-style-type: none"> • The size of the land is appropriate in that it is large enough for the types of industries proposed. • The transport network in the area is also much more appropriate for transporting abnormal loads rather than navigating city traffic and passes. • Easy, quick access onto the N1 allowing easier access to neighbouring SADC countries. <p>The proposed development is in line with all the SPLUMA and the Municipal SDPs</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 programmes?</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 long-term? Will the impact be socially and economically sustainable in the short- and long-term?</p>	<p>The SEZ has been identified as a development priority node to revitalize the area. In recent years this initiative was strongly supported by National and Provincial Government leading to a collaborative effort to establish a Special Economic Zone. This will unlock economy opportunities to create local jobs, boost green-tech manufacturing, technology transfer and skills development to benefit the local communities.</p> <p>Please refer to Chapter 1 to 3 of the EIA report.</p>
<p>2.5. In terms of location, describe how the placement of the proposed development will:</p>	
<p>2.5.1. result in the creation of residential and employment opportunities in close proximity to or integrated with each other</p>	<p>Please refer to Chapter 6 of the EIA report and the town planning specialist study.</p>
<p>2.5.2. reduce the need for transport of people and goods</p>	<p>Please refer to Chapter 6 of the EIA report and</p>

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<p>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)</p>	<p>the traffic impact specialist study.</p>
<p>2.5.4. compliment other uses in the area</p>	
<p>2.5.5. be in line with the planning for the area</p>	
<p>2.5.6. for urban related development make use of underutilised land available with the urban edge</p>	
<p>2.5.7. optimise the use of existing resources and infrastructure</p>	
<p>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)</p>	<p>Please refer to the engineering report by iX Engineering and the Chapter 4 to 6 of the EIA report.</p>
<p>2.5.9. discourage "urban sprawl" and contribute to compaction/ densification</p>	<p>Please refer to the town planning specialist study.</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>Please refer to the town planning specialist study.</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>Please refer the Chapter 1 to 3 of the EIA report.</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>Please refer to Chapter 6 and 7 of the EIA report and the socio-economic specialist study and town planning specialist study.</p>

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<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</p>	<p>Please refer to Chapter 6 and 7 of the EIA report and the heritage specialist report by Digby Wells.</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>Please refer to Chapter 6 and 7 of the EIA report and the socio-economic specialist study and town planning specialist study.</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 gaps, uncertainties and assumptions must be clearly stated)?</p>	<p>Please refer to chapter 6 and 7 of the EIA report and the specialist studies by Demacon on the Socio-economic impacts.</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>2.7. How will the socio-economic impacts resulting from this development impact on people's environmental rights 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>Please refer to chapter 6 and 7 of the EIA report and the specialist studies on health and occupational health in the area.</p>

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<p>2.7.2. Positive impacts. What measures were taken to enhance positive impacts?</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 socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?</p>	
<p>2.9. What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?</p>	
<p>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?</p>	
<p>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?</p>	
<p>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?</p>	<p>Please refer to chapter 6 and 7 of the EIA report and the specialist studies on health and occupational health.</p>
<p>2.13. What measures were taken to:</p>	

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<p>2.13.1. ensure the participation of all interested and affected parties</p>	<p>Public participation was undertaken as prescribed by NEMA, 1998. The only risk was that Covid-19 resulted that the third round had to be virtually and the physical sessions must be undertaken once the alert levels had been adjusted.</p>
<p>2.13.2. provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation</p>	
<p>2.13.3. ensure participation by vulnerable and disadvantaged persons</p>	
<p>2.13.4. promote community well-being and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means</p>	<p>Public participation was undertaken as prescribed by NEMA, 1998. The only risk was that Covid-19 resulted that the third round had to be virtually and the physical sessions must be undertaken once the alert levels had been adjusted.</p>
<p>2.13.5. ensure openness and transparency, and access to information in terms of the process</p>	<p>Public participation was undertaken as prescribed by NEMA, 1998. The only risk was that Covid-19 resulted that the third round had to be virtually and the physical sessions must be undertaken once the alert levels had been adjusted.</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</p>	<p>The EIA process will take cognisance of all interests, needs and values adopted by all interested and affected parties.</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 was promoted.</p>	<p>Public participation of all I&APs has been promoted and opportunities for engagement will be provided during the EIA process.</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>Public participation was undertaken as prescribed by NEMA, 1998. The only risk was that Covid-19 resulted that the third round had to be virtually and the physical sessions must be undertaken once the alert levels had been adjusted.</p>

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<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 was developed to address health and safety concerns. An Environmental Control Officer must be appointed during the construction and operational phases.</p>
<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>Please refer to the socio-economic specialist study and engineering specialist studies.</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. the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).</p>	
<p>2.17. What measures were taken to ensure:</p>	
<p>2.17.1. that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment</p>	<p>Please refer to the specialist report with the EIA report and the policy chapter in the EIA report and the enforcement of the EMPr.</p>

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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?

Please refer to the EMPr contained with the EIA report and chapter 6 and 7 of the EIA Report.

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

Please refer to the EMPr contained with the EIA report and chapter 6 and 7 of the EIA Report.

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?

Please refer to the EMPr contained with the EIA report and chapter 6 and 7 of the EIA Report.

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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?

An economic rationale specialist study was undertaken by Mintek and included with the EIA report. Furthermore, the biodiversity offset specialist has determined the cost for relocating the environmental features at the site.

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?

Please refer to Chapter 6 of the EIA report and the socio-economic specialist report as well as the tourism and food security specialist report.