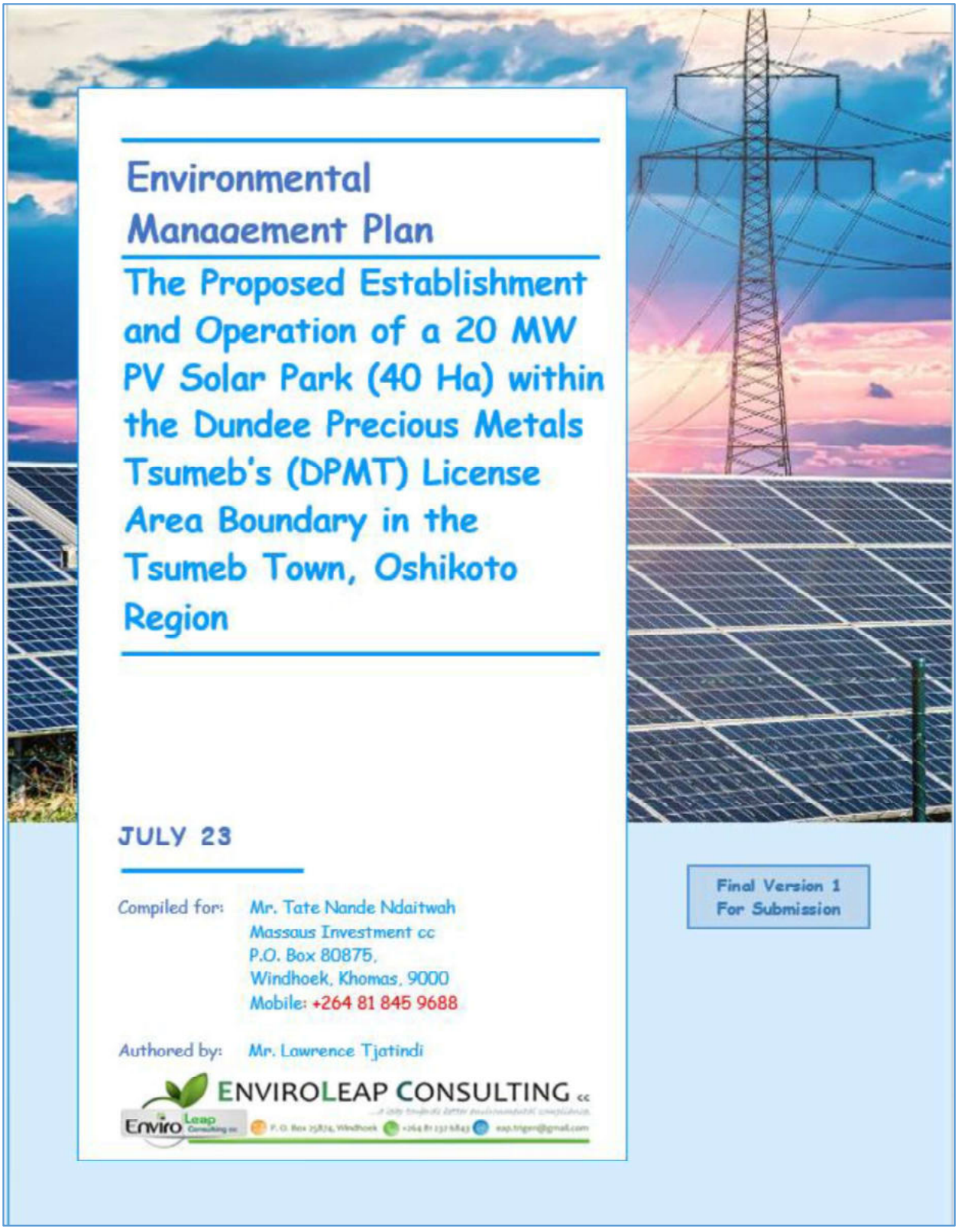
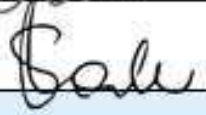
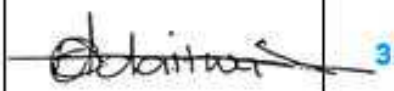
APPENDIX A: ENVIRONMENTAL MANGEMENT PLAN



DOCUMENT INFORMATION AND APPROVAL		
Title	The Proposed Establishment and Operation of a 20 MW PV Solar Park (40 Ha) within the Dundee Precious Metals Tsumeb's (DPMT) License Boundary	
ECC Application Reference number	APP-00	
Location	Tsumeb Townlands, Oshikoto Region	
Proponent	Mr. Tate Nande Ndaitwah Massaus Investment cc P.O. Box 80875, Windhoek, Khomas, 9000 Mobile: +264 81 845 9688	
Author:	Signature	Date
Mr. Lawrence Tjatindi (EAP) 1		28 March 2025
Mr. Shadrack Tjiramba (EAP - Reviewer) 2		28 March 2025
Approval - Client 2		
Mr. Tate Nande Ndaitwah		31 March 2025

OVERALL OBJECTIVES OF THE EMP

The following overall environmental objectives have been set for the Massaus solar power generation development project:

- To comply with national legislation and standards for the protection of the environment.
- To limit potential impacts on biodiversity through the minimization of the footprint (as far as practically possible) and the conservation of residual habitat within the solar plant area.
- To keep surrounding communities informed of farming activities through the implementation of forums for communication and constructive dialogue.
- To develop, implement and manage monitoring systems to ensure good environmental performance in respect of the following: ground and surface water, air quality, noise and vibration, biodiversity and rehabilitation.

KEEPING EMPS UP TO DATE

This Environmental Management Plan (EMP) document is designed to meet legal requirements and avoid or minimize the impacts associated with the implementation of Massaus solar power generation development. It is the intention that this EMP should be seen as a "living document" which will be amended during the operation, as the activities might change or new ones be introduced.

Should a listed activity(s) as defined in the Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Government Gazette No. 4878) be triggered (as a result of future modifications/changes at the solar plant), this EMP will be updated as a result of another EIA process as stipulated in the regulations.

IMPACTS MANAGEMENT / MITIGATION MEASURES

Table 14. Impact on the Community Social Environment – Overall Project Activities (All Phases)

Issue	Management commitment	Phase
Understanding who the stakeholders are	• Maintain and update the stakeholder register, including stakeholders' needs and expectations. • A representative database would include all relevant local government, service providers, indigenous populations, Local Authorities / Council, NGOs or community-based organizations • Ensure that marginalized and vulnerable groups are also considered in the stakeholder communication process. • Record partnerships as well as their roles, responsibilities, capacity and contribution to development.	All
Liaising with interested and affected parties at all phases in the solar plant life	Devise and implement a stakeholder communication and engagement strategy.	All
Responsibility	Massaus and Enviro-Leap Consulting (On contract basis)	

Table 15. Impact on the Biophysical Environment – Project site Access for Construction and operation

Impact Event	Disturbances on Biodiversity in respect to access tracks	
Desired mitigation outcome	The objective of the mitigation in respect to impacts on biodiversity is to ensure that as much as possible, disturbance on biodiversity is avoided and prevented while the proposed prospecting activities is undertaken.	
Proposed Mitigation Measures	• Planning of access roads or any changes to the existing access roads needs to be done in consultation with the Local Authorities as well as the Roads Authority of Namibia • Planning of access roads should be mindful of limiting gradients in order to reduce run-off induced erosion. • Existing roads that link the site to neighboring areas should not be obstructed or damaged through construction endeavors. • Transportation through community areas should be discouraged by all means. Operators of vehicles used during construction, particularly heavy equipment (Graders and trucks etc.) should be mindful of their limited fields of view and be on the lookout for possible pedestrians. • The proponent should also restrict access to the site with a focus on high risk structures or areas depending on the site-specific situations through interventions such as; fencing, signage, and communication of risks to the local community.	All
Responsibility	Massaus and Enviro-Leap Consulting (On contract basis)	

Table 16. Impact on the Biophysical Environment – Ground preparation and levelling

Impact Event	Disturbances on Biodiversity in respect to ground works	
Desired mitigation outcome	The objective of the mitigation in respect to impacts on biodiversity is to ensure that as much as possible, disturbance particularly the ecosystem functions and services is reduced and or prevented.	
Proposed Mitigation Measures	• Strict compliance with the Forestry Act and Regulations in respect to vegetation clearing and EMP is recommended in respect to managing incidental events • It is recommended that Site clearing and Grading should be done with guidance of an environmental specialist so as to avoid habitat destruction and with possible non-toxic dust suppression measures. • Soil erosion may be caused by exposed surfaces and can be reduced by scheduling earthmoving works in a manner that avoids heavy rainfall periods as well as contouring and minimizing length and steepness of slopes as well as mulching to stabilize exposed areas. • In the unlikely event of any heritage or archaeological discoveries during the construction phase of the, the Local Authority and National Heritage Council (NHC) should be contacted immediately for guidance regarding the discovery.	All
Responsibility	Massaus and Enviro-Leap Consulting (On contract basis)	

Table 17. Impact on the Biophysical Environment – Waste Management (Effluent, Solid and Hydrocarbons)

Impact Event	Waste generation and disposal	Phase
Desired mitigation outcome	The objective respect to waste generation is to ensure that the best scenic value and integrity of the affected environment is maintained and or enhanced by reducing littering through proper use of waste management facilities	
Proposed Mitigation Measures	• Environmental awareness is an important aspect of environmental management, therefore all project staff and service providers must be educated of the environmental compliance requirements and urged to comply accordingly on induction with the project site. • Given that lodging is recommended to be at existing camp-sites and or lodges, this aspect shall be managed as part of the current property owners compliance requirements • In the field, hydrocarbon waste shall be contained (in spill kits) and stored in appropriate heavy-duty plastic cabbage , transported to the nearest waste-oil recycling / solid waste disposal facility in Mariental or Tsumeb • A sufficient number of spill kits shall be acquired and strategically placed, particularly near every storage areas to ensure that timely response to any potential fuel and lubricant spills is conducted (should the project require construction activities to be undertaken). These shall include an on-site used oil disposal bin(s) • Equally, effluent waste shall be managed in compliance with the lodging host's requirements, although during construction activities – temporary dry-pit toilet facility must be provided at every site.	All
Responsibility	Massaus and Enviro-Leap Consulting (On contract basis)	

5.2.2 IMPACTS ON THE SOCIO-ECONOMIC ENVIRONMENT

Table 18. Environmental Impact: Human Health and Safety

Impact Event	Prevention and mitigation of any health and safety hazards / risks	Phase
Desired mitigation outcome	The objective of the mitigation in respect to health and safety hazards is to ensure that the health, safety and protection of both the project staff and community receive priority in terms of budgetary provision and compliance	
Proposed Mitigation Measures	• Strict compliance with the EMP is recommended in respect to managing incidental events; • Recommended mitigating measures include, but not limited to (Non-exhaustive list) - Periodic internal safety compliance audits. Health and Safety training and specialist programs should be provided as needed to ensure workers are oriented to the specific hazards of individual work assignments and all other present hazards, Hazard Risk Identification within Job Profiles/Machinery/Equipment/Work Areas and Tasks that are to be performed • Appointment of Safety Officers as custodians of safety within the workplace. In addition to these, Peer Educators and Health and Safety Representatives can also be nominated in constituent working teams in order to foster a culture of health and safety at the construction site.	All
Responsibility	Massaus and Enviro-Leap Consulting (On contract basis)	

Table 19. Impact on the Social Environment – Air and Noise Pollution

Impact Event	Disturbances to the social environment	Phase
Desired mitigation outcome	The objective of the mitigation in respect to ambient air quality and sense of place / noise and chance is to ensure that all possible receptors are identified and practical measures are put in place to reduce these impacts and or respond with appropriate mitigation to complaints	
Proposed Mitigation Measures	• Strict compliance with the EMP is recommended in respect to managing incidental events; • Noise complaint register must be kept and maintained regularly with mitigation measures adopted accordingly. • All excessive noise generating activities must be strictly carried out during the day between 08h00 (am) and 17h00 (pm) week days only. • Conditions of the Environmental Clearance Certificate and Surface-use Agreement (with the relevant Traditional Authority and Town) must be accordingly adhere to. As much as possible, it is recommended that vehicles with the most minimum footprint are used such as smallest excavator and or graders, trucks etc.…	
Responsibility	Massaus and Enviro-Leap Consulting (On contract basis)	

Table 20. Impact on the Social Environment – Culture, Heritage and Scenic values

Impact Event	Disturbances to the heritage and scenic value of the environment	Phase
Desired mitigation outcome	The objective of the mitigation in respect to impacts on cultural and archaeological heritage integrity is to ensure that at all times, project staff are vigilant of the potential to intrude, disturb and or damage important artifacts and therefore must avoid wondering onto any protected and or sensitive known or identified site.	
Proposed Mitigation Measures	• Strict compliance with the EMP is recommended in respect to managing incidental events • A stakeholder complaint register must be maintained regularly with mitigation measures adopted accordingly, recording all concerns relating impacts of the proposed energy generation activities on the cultural and scenic value of the environment which may be reported by interested and affected parties. • Contractors working on the site should be made aware that under the National Heritage Act, 2004 (Act No. 27 of 2004) any items protected under the definition of heritage found in the course of development should be reported to the National Heritage Council • The chance finds procedure as outlined in the EMP must be implemented at all times, and detailed field survey should be carried out if suspected archaeological resources or major natural cavities / shelters have been unearthed during the proposed energy generation operations.	
Responsibility	Massaus and Enviro-Leap Consulting (On contract basis)	

Table 21. Impact on the Economic Aspect

Impact Event	Disturbances on social and economic aspects	Phase
Desired mitigation outcome	The objective of the mitigation in respect to economic impacts relating to the proposed activity, is to ensure that potential negative economic impacts on other and existing land-use are prevented, reduced and or mitigated and the positive ones enhanced.	
Proposed Mitigation Measures	• It is critical that timely and continuous communication and dissemination of information with the local community is ensured to alleviate potential sense of social marginalization, drive gender equality and enhance the understanding and perception of the benefits associated with Massaus 's activities • To enhance the positive impacts relating to marginal net benefits for the micro-economy (local residence of Mariental or Tsumeb Settlement and the region at large) and national economy at larger, legislative provisions to Affirmative Action and Labour Welfare must be observed • It is strictly recommended that Massaus negotiates and signs a Surface Use Agreement detailing aspects of conduct and benefit distribution with all key stakeholder i.e. local community, local authorities and other Operators or support institutions e.g. NGOs / CSOs)	
Responsibility	Massaus and Enviro-Leap Consulting (On contract basis)	

Table 22. Site Closure and Rehabilitation

Impact Event	Disturbances on social and economic aspects	Phase
Desired mitigation outcome	The Proponent will commit to establishing a rehabilitation plan as part of the solar plant closure plan. A conceptual solar plant closure plan with costing is under development must be compiled by Massaus in association with Enviro-Leap and forms part of the environmental compliance and monitoring programme.	
Proposed Mitigation Measures	• Massaus shall submit regular (bi-annual or annual Environmental Reports) to the relevant Ministry stating the energy generation activities and environmental performance of the project. • Staff of the MET or Ministry of Mines and Energy may at any time inspect the energy generation area. Internal and external monitoring should involve Massaus safety and environmental officer and members of the MEFT. • Should the decision be taken that the project is not economically viable the area will be rehabilitated. The rehabilitation measures that are set out in the Rehabilitation Plan (to be compiled and approved by MEFT) are binding to all personnel on site including the crew and contractors.	Closure
Responsibility	Massaus and Enviro-Leap Consulting (On contract basis)	