11 CONCLUSION

11.1 INTRODUCTION

The aim of the Environmental Impact Assessment Report for the proposed development of the 40MW solar PV power plant, associated infrastructure and 11kv transmission line is to provide sufficient information to inform the decision making process for the competent authority. In terms of the NEMA: EIA Regulations as amended in 2014, all EIA authorisation processes are to be handled by the Department of Environmental Affairs (DEA). However, based on communications held with the DEA and meetings with the Department of Mineral Resources (DMR) it was confirmed that the competent authority for this project will be the DMR as the Project is located within the mining right and will supply the mine with power.

This report is to be submitted to the DMR to provide information and an independent assessment, thus enabling the DMR to make an accountable and properly informed decision regarding whether or not to grant an environmental authorisation for the proposed development in terms of NEMA. Over and above this, this report will enable the DMR to determine under what conditions the proposed development will proceed should authorisation be granted.

As part of the EIA process, a stakeholder engagement process was undertaken, various specialists' studies were conducted and potential biophysical and socio-economic impacts as a result of the proposed Project were assessed. A brief overview of the EIA findings including impact significance pre and post mitigation is presented in this chapter.

11.2 SUMMARY OF IMPACTS IDENTIFIED AND ASSESSED

A number of impacts were assessed as part of the EIA and are summarised in *Table 11.1*. The majority of these impacts were assessed to be of negligible to minor significance post mitigation. While some of the impacts were assessed to have a moderate post mitigation significance, they were found to be acceptable and appropriate mitigation recommended. A number of positive impacts were also assessed and appropriate enhancement measures recommended.

Apart from the standard management measures to minimise negative impacts and enhance positive impacts, during the construction and operation of the project, there are a number of important mitigation measures that should be considered. These include the following:

- The proponent to set aside an area of natural grassland, that supports the same vegetation as within the site, on the edge of the site that will be protected from construction activities and any future development and

that will be used to translocate plant species when construction commences.

- In order to better understand the need to achieve No Net Loss it is recommended that the Project Proponent, in consultation with relevant key stakeholders, identify feasible conservation actions designed to compensate for residual adverse biodiversity impacts arising from the proposed project development and persisting after appropriate avoidance, minimization and restoration measures have been taken. The conservation action must be designed to conserve the same biodiversity values that are being impacted by the project. These conservation actions must be measurable conservation outcomes for biodiversity and must be demonstrated in situ (on-the-ground), on an appropriate geographic scale (e.g., local, landscape-level, national, regional) and be implemented for the lifetime of the solar project. It is recommend that due to the limited size (51 ha) of the affected habitat and the characteristics of the surrounding of natural Rand Highveld Grassland habitat within the mine surface rights boundary, that any conservation action be restricted to within the mine surface rights boundary and integrated into the existing mine Biodiversity Management and Action Plan (July 2016).
- The proponent to engage with the cattle owners to inform them that the land will no longer be available for grazing and to investigate the possibility of providing suitable alternative land to graze cattle.
- The proponent to hire a professional palaeontologist to monitor fresh exposures should large scale excavations (deeper than 1 m and wider than 2 m^2) into unweathered sedimentary bedrock be conducted during the construction phase of the development

The management and mitigation measures that were recommended to mitigate impacts to the environmental, socio-economic and heritage environment to an acceptable level are described systematically in the Environmental Management Programme (EMPr).

Table 11.1 ***Summary of the significance of identified impacts in the construction phase of the proposed Project (+ve = positive; -ve = negative)***

Impact Assessment	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Chemical pollution of surface water due to solar PV facility construction and operational activities	Minor (-ve)	Negligible (-ve)
Altered surface hydrology due to the construction and operation of the solar PV facility	Negligible (-ve)	Negligible (-ve)
Increased sediment load in surface water systems due to construction and operation of the solar PV facility	Negligible (-ve)	Negligible (-ve)
Loss of natural terrestrial grassland habitat due to the construction of the solar PV facility	Moderate (-ve)	Moderate (-ve)
Increased risk of invasive alien plant encroachment due to clearing of grassland vegetation	Moderate (-ve)	Minor (-ve)
Loss and disruption of ecosystem services due to clearing of grassland vegetation	Minor (-ve)	Negligible (-ve)

Impact Assessment	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Susceptibility to erosion due to solar PV facility construction activities	Minor (-ve)	Negligible (-ve)
Susceptibility to erosion due to solar PV facility operational activities	Negligible (-ve)	Negligible (-ve)
Chemical pollution of soils due to solar PV facility construction activities	Moderate (-ve)	Minor (-ve)
Chemical Pollution of soils due to solar PV facility operational activities	Negligible (-ve)	Negligible (-ve)
Loss of land capability due to construction of the solar PV facility	Moderate (-ve)	Moderate (-ve)
Increased employment, local business opportunities, and skills enhancement due to the construction and decommissioning of the solar PV facility	Positive (+ve)	Positive (+ve)
Increased employment, local business opportunities, and skills enhancement due to the operation of the solar PV facility	Positive (+ve)	Positive (+ve)
Increased socio-economic spending during the operation of the PV facility	Positive (+ve)	Positive (+ve)
Loss of access to grazing land due to the construction and operation of the solar PV facility	Minor (-ve)	Minor (-ve)
Reduced community health and safety due to the presence of temporary construction workforce and additional job seekers	Moderate (-ve)	Moderate (-ve)
Increased incidence of crime due to the increased activity associated with the construction of the solar PV facility	Moderate (-ve)	Minor (-ve)
Increased incidence of nuisance factors (noise, dust, and traffic) due to the construction of the solar PV facility	Moderate (-ve)	Minor (-ve)
Increased risk to worker rights, health, and safety due to construction and operation of the solar PV facility	Minor (-ve)	Minor (-ve)
Loss of cultural heritage resources due to construction of the solar PV facility	Negligible (-ve)	Negligible (-ve)
Reduction in visual resources for the Northern Receptors due to the construction of the solar PV facility	Minor (-ve)	Minor (-ve)
Reduction in visual resources for the Western Receptors due to the construction of the solar PV facility	Moderate (-ve)	Moderate (-ve)
Reduction in visual resources for the Southern Receptors due to the construction of the solar PV facility	Negligible (-ve)	Negligible (-ve)
Degradation of the landscape to due to the construction and operation of the solar PV facility	Minor (-ve)	Minor (-ve)

11.3 RECOMMENDATION

Based on an understanding of the proposed solar PV project and the sensitivity of the affected environment, ERM is confident that the significance of anticipated impacts can be mitigated to an acceptable level.

ERM is of the opinion that the solar PV facility, associated infrastructure and 11kV transmission line, should be authorised, contingent on the implementation of the mitigations and monitoring measures contained in the EMPr.