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REPORT

Socio-Economic Impact Assessment for the Proposed Mier Rietfontein Solar PV and Battery Storage Project

Eskom Holdings SOC Ltd

Submitted to:

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Executive Summary

The population of the regional study area in 2021 was estimated to be 115 472 with an annual growth rate of 1.5%, while the population of the local study area was estimated to be 7 409 in 2021 (assuming same annual growth rate as the regional study area). The population density of the regional study area was higher with 2.6 persons/km^2, compared to the local study area with 0.4 persons/km^2. Both the regional and local study areas have growing populations, with most of the population between the ages of 0 and 15.

There are marginally more females than males in the regional study area, and marginally more males to females in the local study area. In both the regional and local study areas, Coloureds are the largest population group, followed by Black African, White, and Indian or Asian. In terms of education, approximately a third of the population have completed Grade 7/Std. 5 or some form of primary education, while another third have completed Grade 12/Std. 10 or some form of secondary education. Only a small percentage of the population have completed a tertiary qualification.

In the regional study area, approximately 72% of the economically active population are employed, while 21% of the population are unemployed and 7% are discouraged work seekers. Similarly, in the local study area, approximately 58% of the economically active population are employed, while 29% of the population are unemployed and 13% are discouraged work seekers. The remaining population are either not economically active or their status is not applicable.

Based on the census data, literature review, and key stakeholder interviews, several socio-economic challenges were identified which are presently affecting communities in the local and regional study areas. This includes high unemployment, lack of skills, water supply constraints, sanitation constraints, refuse removal constraints, energy constraints, and the distance from major centres. These have been highlighted as the proposed Project could, in the absence of mitigation, contribute to these existing challenges.

Table E.1 below presents a summary of the potential socio-economic impacts/risks during the construction, operational, and decommissioning and closure phases.

Table E.1: Summary of potential socio-economic impacts/risks with and without mitigation

Aspect	Potential impact	Significance without mitigation	Significance with mitigation
Construction Phase			
Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	Moderate	Moderate
Noise	Negative impact of noise from construction vehicles, equipment, and workers.	Moderate	Low
Services	Impact of an increase in pressure on basic services.	Moderate	Moderate
Operational Phase			
Services	Increase in pressure on basic services.	Moderate	Low
Closure Phase			
Dust	Negative impact of dust on demolition workers and people living and working nearby the Project site	Moderate	Moderate

Aspect	Potential impact	Significance without mitigation	Significance with mitigation
Noise	Negative impact of noise on people living and working nearby the Project site.	Moderate	Low

Table E.2 below presents a summary of recommended mitigation measures for the pre-construction, construction, operational, and closure phases.

Table E.2: Summary of recommended mitigation measures

Aspect	Potential impact	Mitigation measure
Pre-construction phase		
Basic services	Increase in pressure on sewerage treatment and disposal infrastructure	If technical feasible, sewerage must be treated onsite via septic tank and soakaway system.
Construction phase		
Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	Where possible, limit construction activities to the wetter months (January to April) when soil moisture content and vegetation cover is the greatest.
		Where possible, clear the site as the work front progresses, thereby limiting the exposed areas.
		Where possible, shelter (e.g., using shade clothe fencing) onsite sources of dust (e.g., soil stockpiles) to reduce wind speeds.
		Exposed surfaces and soil stockpiles must be dampened periodically to avoid excessive dust. Where possible, surfactants should be used to reduce water usage.
		Limit speed of construction vehicles to maximum 20 km/hr while onsite.
		Dust track-onto the R31 must be cleaned at the end of each day.
		A complaints register must be kept at the site office or security office. All complaints about dust must be recorded in writing in the complaints register. Complaints must be addressed as soon as possible.
Noise	Negative impact of noise from construction vehicles, equipment, and workers.	Construction activities must be limited to daytime hours (06h00 to 18h00). No construction activities are permitted on Sundays.
		People living nearby the construction site must be notified in advance of any particularly noisy activities, such as jackhammers and blasting.
		Construction vehicles and equipment that are excessively noisy due to poor maintenance are not permitted to be used onsite.

Aspect	Potential impact	Mitigation measure
		A complaints register must be kept at the site office or security office. All complaints about noise must be recorded in writing in the complaints register. Complaints must be addressed as soon as possible.
Basic Services: Potable Water	Impact of an increase in pressure on potable water supply	Water tankered to site or borehole water is to be used for construction and dust suppression.
		Where possible, surfactants should be used for dust suppression to reduce water usage.
		Potable water is only to be used for domestic purposes only.
Basic Services: Sanitation	Impact of an increase in pressure on sewage treatment facilities	Ablution facilities must be fitted with low flow fixtures and dual flush toilets.
		Sewerage must be transported by a licenced contractor to the Rietfontein Oxidation Ponds for treatment and disposal
Basic Services: Solid waste	Impact of an increase in pressure on waste disposal facilities.	The waste management hierarchy approach will be used, where practically and technically possible, when facilities are available in the Northern Cape. This may include separate bins for the separation of mainline recyclables (i.e., plastics, paper, glass, and cans/tins) from the general waste stream. Where possible, mainline recyclables will be transported to a licensed recycler for recycling. Residual general waste must be transported to the Rietfontein Landfill for disposal.
		Separate containers must be provided onsite for the separation of oils/greases from the hazardous waste stream. Oils/greases must be transported to a licenced recycler for recycling. Residual hazardous waste must be transported to a licenced hazardous waste disposal facility for disposal
Operational phase		
Basic services	Impact of an increase in pressure on basic services: Potable water	Water tankered to site or borehole water is to be used for cleaning of PV modules.
	Impact of an increase in pressure on basic services: Potable water	Potable water is to be used for domestic purposes only.
	Impact of an increase in	Ablution facilities must be fitted with low flow fixtures and dual flush toilets.

Aspect	Potential impact	Mitigation measure
	pressure on basic services: Sanitation	
	Impact of an increase in pressure on basic services: Sanitation	If no onsite sewerage treatment system is available, sewerage must be transported by a licenced contractor to the Rietfontein Oxidation Ponds for treatment and disposal.
	Impact of an increase in pressure on basic services: Solid waste	The waste management hierarchy approach will be used, where practically and technically possible, when facilities are available in the Northern Cape. This may include separate bins for the separation of mainline recyclables (i.e., plastics, paper, glass, and cans/tins) from the general waste stream. Where possible, mainline recyclables will be transported to a licensed recycler for recycling. Residual general waste must be transported to the Rietfontein Landfill for disposal
	Impact of an increase in pressure on basic services: Solid waste	Hazardous waste must be transported to a licenced hazardous waste disposal facility for disposal
Closure phase		
Dust	Negative impact of dust from demolition activities.	Where possible, limit demolition activities to the wetter months (January to April) when soil moisture content and vegetation cover is the greatest.
		Where possible, shelter (e.g., using shade clothe fencing) onsite sources of dust (e.g., soil stockpiles) to reduce wind speeds.
		Exposed surfaces and material stockpiles must be dampened periodically to avoid excessive dust. Where possible, surfactants should be used to reduce water usage.
		Limit speed of demolition vehicles to maximum 20 km/hr while onsite.
		Dust track-onto the R31 must be cleaned at the end of each day.
		A complaints register must be kept at the site office or security office. All complaints about dust must be recorded in writing in the complaints register. Complaints must be addressed as soon as possible.

Aspect	Potential impact	Mitigation measure
Noise	Negative impact of noise from construction vehicles, equipment, and workers.	Demolition activities must be limited to daytime hours (06h00 to 18h00). No demolition activities are permitted on Sundays.
		People living nearby the preferred site must be notified in advance of any particularly noisy activities, such as jackhammers and blasting.
		Demolition vehicles and equipment that are excessively noisy due to poor maintenance are not permitted to be used onsite.
		A complaints register must be kept at the site office or security office. All complaints about noise must be recorded in writing in the complaints register. Complaints must be addressed as soon as possible.

Abbreviations and Acronyms

Abbreviation/acronym	Description
AC	Alternative current
BA	Basic assessment
BAR	Basic assessment report
BESS	Battery energy storage systems
DFFE	National Department of Forestry, Fisheries and the Environment
DKLM	Dawid Kruiper Local Municipality
EA	Environmental authorisation
EIA	Environmental impact assessment
Eskom	Eskom Holdings SOC Ltd
Golder	Golder Associates Africa (Pty) Ltd
IPP	Indigenous people's plan
kW	Kilowatts
MW	Megawatts
NHRA	National Heritage Resources Act 25 of 1999
NEMA	National Environmental Management Act 107 of 1998, as amended
PV	Photovoltaic
SEIA	Socio-economic impact assessment

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APPENDICES

1.0 INTRODUCTION

Golder Associates Africa (Pty) Ltd ("Golder") has been appointed by Eskom Holdings SOC Ltd ("Eskom") to undertake a basic assessment ("BA") process for the proposed Mier Rietfontein Solar PV and Battery Storage Project (hereafter referred to as the "Project").

2.0 THIS REPORT

The purpose of this report is to present the findings of the socio-economic impact assessment ("SEIA") for the proposed Project.

The scope of work of this specialist study is as follows:

- Present an overview of the socio-economic conditions within the project-affected area (Figure 3)
- Identify and assess the significance of potential social impacts/risks associated with the proposed Project
- Recommend appropriate mitigation measures to reduce and, if possible, avoid negative the impacts/risks, while enhancing positive impacts associated with the proposed Project

This specialist report will be included in the basic assessment report ("BAR") submitted to the authorities, the National Department of Forestry, Fisheries and the Environment ("DFFE") in support of the application for environmental authorisation ("EA") for the proposed Project.

It should be noted that there are two communities in the proposed Project's area of influence, the ǂKhomani San and Mier communities, which can be defined indigenous peoples in terms of the World Bank's *Operational Policy 4.10 on Indigenous Peoples*. A separate indigenous people's plan ("IPP") has therefore been developed to ensure that these communities are sufficiently and meaningfully consulted, that they will have equal opportunity to share in the benefits of the proposed Project, and any potential impacts/risks associated with the proposed Project are properly mitigated. The IPP is attached as APPENDIX B, and should be read in conjunction with this SEIA.

2.1 Structure of this Report

The structure of this report is largely based on the information requirements as set out in Appendix 6 of the Environmental Impact Assessment ("EIA") Regulations, 2014[1]. These requirements are listed in Table 1 below, with references to the relevant sections of the report.

Table 1: Information to be included in specialist reports

Section	Requirements	Section addressed in report
1.(1)	A specialist report prepared in terms of these Regulations must contain	
(a)	Details of	
(i)	the specialist who prepared the report; and	APPENDIX A
(ii)	the expertise of that specialist to compile a specialist report including a curriculum vitae	APPENDIX A

[1] Published under Government Notice R982 in Government Gazette 38282 of 4 December 2014 (as amended)

Section	Requirements	Section addressed in report
(b)	a declaration that the specialist is independent in a form as may be specified by the competent authority	APPENDIX A
(c)	an indication of the scope of, and the purpose for which, the report was prepared;	Section 2.0
(cA)	an indication of the quality and age of base data used for the specialist report;	Section 5.0
(cB)	a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Section 10.0
(d)	the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	n/a
(e)	a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 5.0
(f)	details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Section 8.0
(g)	an identification of any areas to be avoided, including buffers;	n/a
(h)	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	n/a
(i)	a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 13.0
(j)	a description of the findings and potential implications of such findings on the impact of the proposed activity **(including identified alternatives on the environment)** or activities;	Section 8.0
(k)	any mitigation measures for inclusion in the EMPr;	Section 11.0
(l)	any conditions for inclusion in the environmental authorisation;	Section 13.0
(m)	any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Section 12.0
(n)	a reasoned opinion—	

Section	Requirements	Section addressed in report
(i)	**(as to)** whether the proposed activity, activities or portions thereof should be authorised;	Section 13.0
(iA)	regarding the acceptability of the proposed activity or activities; and	
(ii)	if the opinion is that the proposed activity, activities, or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	
(o)	a description of any consultation process that was undertaken during the course of preparing the specialist report;	n/a
(p)	a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	
(q)	any other information requested by the competent authority.	n/a
2.	Where a government notice *gazetted* by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.	n/a

3.0 PROJECT LOCATION

The preferred site for the proposed Project is located near the town of Rietfontein, in the Dawid Kruiper Local Municipality (“DKLM”), in the ZF Mgcawu District Municipality, in the Northern Cape Province. The preferred site is 10 ha in extent for the Solar PV and BESS site, and 15mx15m for the proposed telecommunication site.

4.0 PROJECT DESCRIPTION

The proposed Project will consist of 12 independent photovoltaic (“PV”) blocks of 170 kilowatts (“kW”) each, with a total installed capacity of 2 040 kW (or 2.04 megawatts (“MW”)). The proposed Project will also consist of 11 independent battery energy storage systems (“BESS”) of 140 kW (560 kWh) each, with a total installed capacity of 1 540 kW (or 1.54 MW) and 6 160 kWh (or 6.16 MWh).

The installation of these PV blocks and BESS will be staggered according to the expected growth in electrical demand:

- Initial installation of 5 x 170 kW PV blocks and 4 x 140 kW BESS for the “electrification scenario”
- Installation of an additional 3 x 170 kW PV blocks and 3 x 140 kW BESS for the “LPUs scenario”
- Installation of an additional 4 x PV blocks and 4 x 140 kW for the “unforeseen demand scenario”

In addition to the PV blocks and BESS, the proposed Project will also include the following main infrastructure:

- 12 x 200 kW inverters to convert the direct current electricity from the PV modules to the alternating current electricity at grid frequency
- 12 x LV/MV step-up transformers to step up the voltage from low voltage at the output of the inverter to the required medium voltage at the point of connection
- Transmission Yard and underground cables to connect the proposed solar PV and BESS to the Mier switching station, and above ground cables connecting to the Rietfontein 33KV feeder.
- Admin Block, Control & Storeroom, Workshop & Storeroom, and parking area
- Access road, service road, and internal roads (all gravel)

In addition, a proposed radio mast is required, to ensure communication to the project. The radio mast will be positioned close to the village of Mier. The footprint area for the mast is only 15mx15m, which will also contain a small equipment room.

The preferred location of the proposed Project is presented in Figure 1 below. For a more detailed project description refer to the BAR.

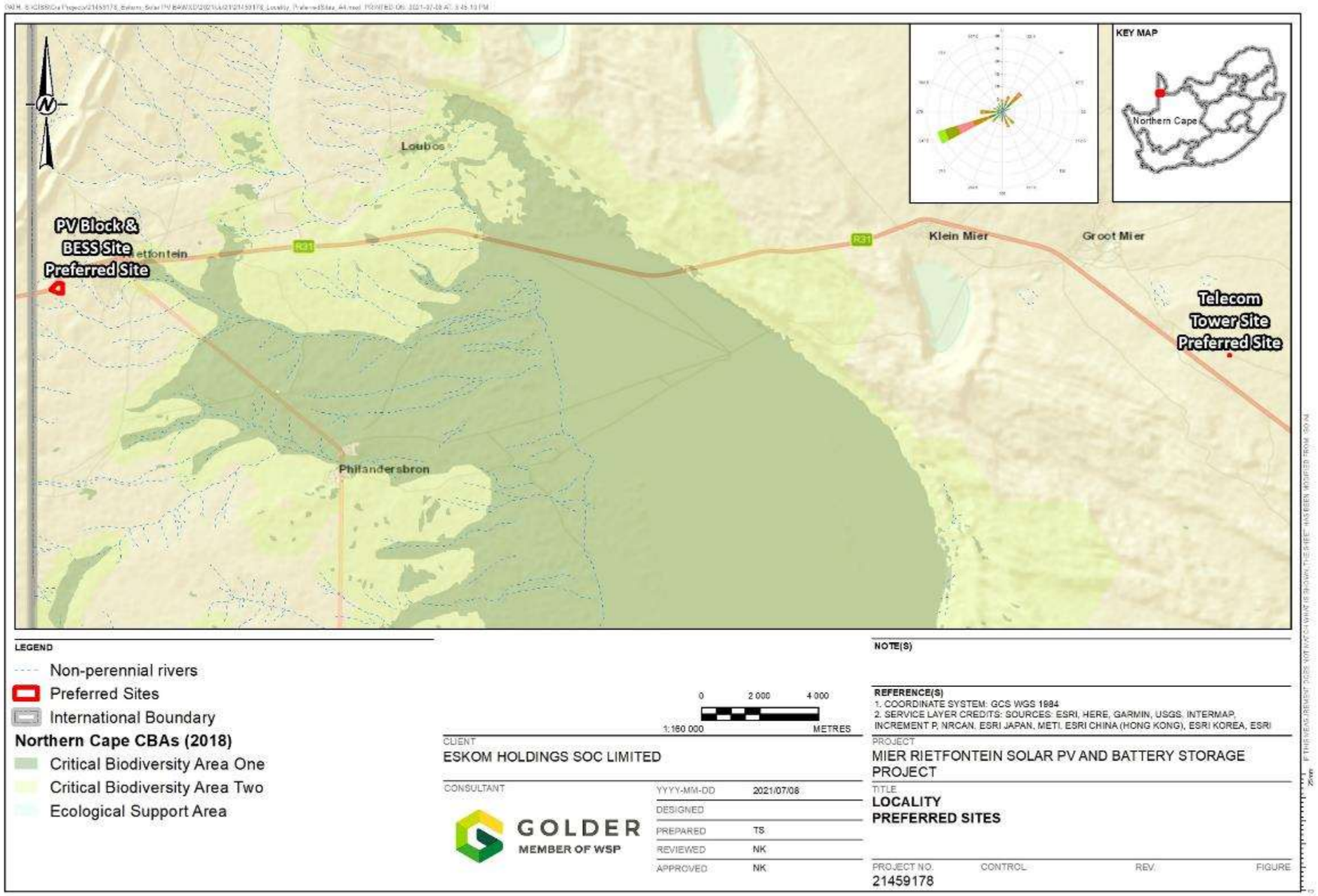

Figure 1: Proposed Project location

5.0 APPROACH AND METHODOLOGY

In order to gain an understanding of the socio-economic conditions of the regional and local study areas, Golder used a combination of information gathered from literature review and from a series of key stakeholder interviews.

5.1 Literature Review

Golder undertook a review of available documents, as well as previous studies conducted in the area. The documents reviewed included the following:

- Dawid Kruiper Local Municipality (2020). *Integrated Development Plan for 2020/2021*
- Dawid Kruiper Municipality (2018). *All-inclusive Spatial Development Framework*
- Dawid Kruiper Local Municipality (2017). *Integrated Waste Management Plan*
- Statistics South Africa (Stats SA) *Census 2011*
- Statistics South Africa (Stats SA) *Census 2001*

5.2 Key Stakeholder Interviews

In addition, Golder also held key stakeholder interviews with selected public officials and community members to better understand the onsite socio-economic conditions. This included the following:

- Magrieta Eiman, the local ward councillor (Ward 16)
- Hendrik Bott, senior member of the Mier community
- Wille Philander and Barend Philander, senior members of the Mier community
- Charles Page, senior member of the ǂKhomani San community
- Colin Louw, chairman of the ǂKhomani San Communal Property Association
- Retha Stadler, marketing manager of the Kalahari Red Dune Route

A guide from the local community was used to assist with translations (English to Afrikaans and vice versa). A list of discussion topics was used to guide the interview. The list of discussion topics was tailored for each interview. These discussions were noted by Golder (see Table 3).

6.0 APPLICABLE LEGISLATION, POLICIES, AND GUIDLEINES

The following section presents a summary of the policy and legislative context within which this specialist report was prepared.

6.1 Legislation

The Constitution

The aim Constitution of the Republic of South Africa, 1996, as amended (“The Constitution”) is to heal the divisions of the past and establish a society based on democratic values, social justice and fundamental human rights, lay the foundations for a democratic and open society in which government is based on the will of the people and every citizen is equally protected by law, improve the quality of life of all citizens and free the potential of each person, and build a united and democratic South Africa able to take its rightful place as a sovereign state in the family of nations.

The sections of The Constitution which are most relevant to this SEIA are as follows:

- Chapter 2 sets out the rights of all South Africans. This includes the right to an environment that is not harmful to their health or wellbeing and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measure.

The National Environmental Management Act

The aim of the National Environmental Management Act 107 of 1998, as amended ("NEMA") is to provide for the establishment of principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance, procedures for co-ordinating environmental functions exercised by organs of state, and certain aspects of the administration and enforcement of other environmental management laws.

The sections of the NEMA which are most relevant to this SEIA are as follows:

- Section 2 sets out the national environmental management principles
- Section 24 sets out the requirements for obtaining EA for listed activities. The activities which require EA are listed in Listing Notice 1, 2014[2], Listing Notice 2, 2014[3], and Listing Notice 3, 2014[4]. The process of obtaining EA is regulated by the EIA Regulations, 2014
- Section 24N sets out the requirements for environmental management programmes ("EMPrs")
- Section 28 sets out the requirements for general duty of care and remediation of environmental damage
- Section 30 sets out the requirements for the control of incidents

National Heritage Resources Act

The aim of the National Heritage Resources Act 25 of 1999 ("NHRA") is promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations.

The sections of the NHRA which are most relevant to this SEIA are as follows:

- Section 5 sets out the general principles for heritage resources management
- Sections 34, 35, 36, and 37 provide for the general protection of structures (older than 60 years), archaeology, palaeontology and meteorites sites, burial grounds and graves, and public monuments and memorials
- Section 38 sets out the requirements for notifying the responsible heritage resources authority if a listed activity is to be undertaken

[2] Published under Government Notice R983 in Government Gazette 38282 of 4 December 2014 (as amended)

[3] Published under Government Notice R984 in Government Gazette 38282 of 4 December 2014c (as amended)

[4] Published under Government Notice R985 in Government Gazette 38282 of 4 December 2014 (as amended)

6.2 Guidelines

Information Series 22: Socio-Economic Impact Assessment

The aim of the Department of Environmental Affairs and Tourism's guideline document for socio-economic impact assessment[5] to introduce the concept of SEIA to a wide audience and to create awareness about this tool.

The sections of this guideline document which are most relevant to this SEIA are as follows:

- Section 6 outlines the SEIA process. This includes guidelines for public involvement, identification of alternatives, baseline conditions, scoping, projection of estimated effects, predicting responses to impacts, estimating indirect and cumulative impacts, changes in alternatives, mitigation, and monitoring
- Section 7 outlines different approaches and techniques to SEIA
- Section 8 provides guidance for practitioners

Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts

The objectives of the International Finance Corporation's *Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts* are as follows:

- To identify and evaluate environmental and social risks and impacts of the project
- To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimize, and, where residual impacts remain, compensate/offset for risks, and impacts to workers, Affected Communities, and the environment
- To promote improved environmental and social performance of clients through the effective use of management systems
- To ensure that grievances from Affected Communities and external communications from other stakeholders are responded to and managed appropriately
- To promote and provide means for adequate engagement with Affected Communities throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated

The sections of the Performance Standard which are most relevant to this SEIA are as follows:

- Paragraph 7 sets out the requirements for the identification of risks and impacts of the project
- Paragraph 8 sets out the requirements for the identification of the project's area of influence
- Paragraph 11 sets out the requirements for consideration of policies, plans, spatial tools, municipal development planning frameworks, and other instruments which may be relevant to the project

[5] DEAT (2006). *Socio-Economic Impact Assessment*. Integrated Environmental Management Information Series 22

- Paragraph 12 sets out the requirements for the identification of individuals and groups that may be directly and differentially or disproportionately affected by the project because of their disadvantaged or vulnerable status
- Paragraphs 13 – 16 set out the requirements for the identification mitigation and performance improvement measures and actions that address the identified environmental and social risks and impacts of the project
- Paragraphs 17 – 18 set out the requirements for establishing, maintaining, and strengthening as necessary the organisational capacity and competency to implement the mitigation and performance improvement measures and actions
- Paragraphs 20 – 21 set out the requirements for establishing and maintaining an emergency preparedness and response system
- Paragraphs 22 -24 set out the requirements for establishing procedures to monitor and measure the effectiveness of the management program, as well as compliance with any related legal and/or contractual obligations and regulatory requirements
- Paragraph 29 sets out the requirements for the disclosure of information

7.0 STUDY AREA

In order to assess potential social impacts/risks associated with the proposed Project, it is important to first understand, at a very high-level, the socio-economic context in which the proposed Project is to be developed. This potential area of impact is referred to as either the regional study area or the local study area and may extend beyond the boundaries of the project site depending on the scale of the potential social impact/risk. This SEIA will focus on three levels, namely the regional study area, local study area, and the preferred site.

7.1 Regional Study Area

For the purposes of this assessment, the regional study area will be defined by the boundaries of the DKLM. The DKLM was formed in 2016 with the merger of the Khara Hais and Mier Local Municipalities. The DKLM is the largest of five local municipalities which make up the ZF Mgcawu District Municipality[6].

The DKLM is approximately 44 231 km^2 in extent, which makes it the largest local municipality in South Africa. It also makes it twice the size of Gauteng. The DKLM is located in the north-western quadrant of South Africa. It borders the Kgalagadi Transfrontier Park in the north, Botswana in the north-east, and Namibia in the west.

The DKLM contains various towns, rural settlements (smaller formalised towns and communities), and informal communities (communities that are in the process of formalisation). This includes the following:

Local Towns:	Ntsikelelo	Groot Mier
Greater Upington area	Karos	Klein Mier
Rietfontein.	Leerkrans	Loubos
Rural Settlements:	Lambrechtsdrift	Philandersbron
Louisvaleweg	Melkstroom	Swartkopdam

[6] Dawid Kruiper Municipality (2018). *All-inclusive Spatial Development Framework (SDF)*. Final Report February 2018.

Raaswater	Kalksloot	**Informal Communities:**
Louisvale	Askham	Noenieput
Leseding	Welkom	Andriesvale

The location of these towns and settlements is shown in Figure 2 below.

7.2 Local Study Area

The local study area is defined by the boundaries of the ward within which the preferred site alternatives, for the Solar PV and BESS as well as the telecommunication tower, are located, namely Ward 16 (Figure 3). Ward 16 is approximately 17 500 km^2 in extent, extending from the international boundaries with Botswana (north-east) and Namibia (north-west) down to the Molopo River in the South. In addition to Rietfontein, there are a number of rural settlements, including Welkom, Loubos, Klein Mier, Groot Mier, Philandersbron, and Andriesvale.

7.3 Preferred Site

The preferred site alternatives are located off the R31, approximately 500 m east of the international border with Namibia, and 1 km west of the town of Rietspruit. The site for the Solar PV and BESS is approximately 10 ha in extent, and the site for the telecommunication tower is only 15mx15m in extent. Presently, the sites are undeveloped and used for grazing livestock. According the DKLM's spatial development framework, the sites are zoned as "vacant land within the urban edge."

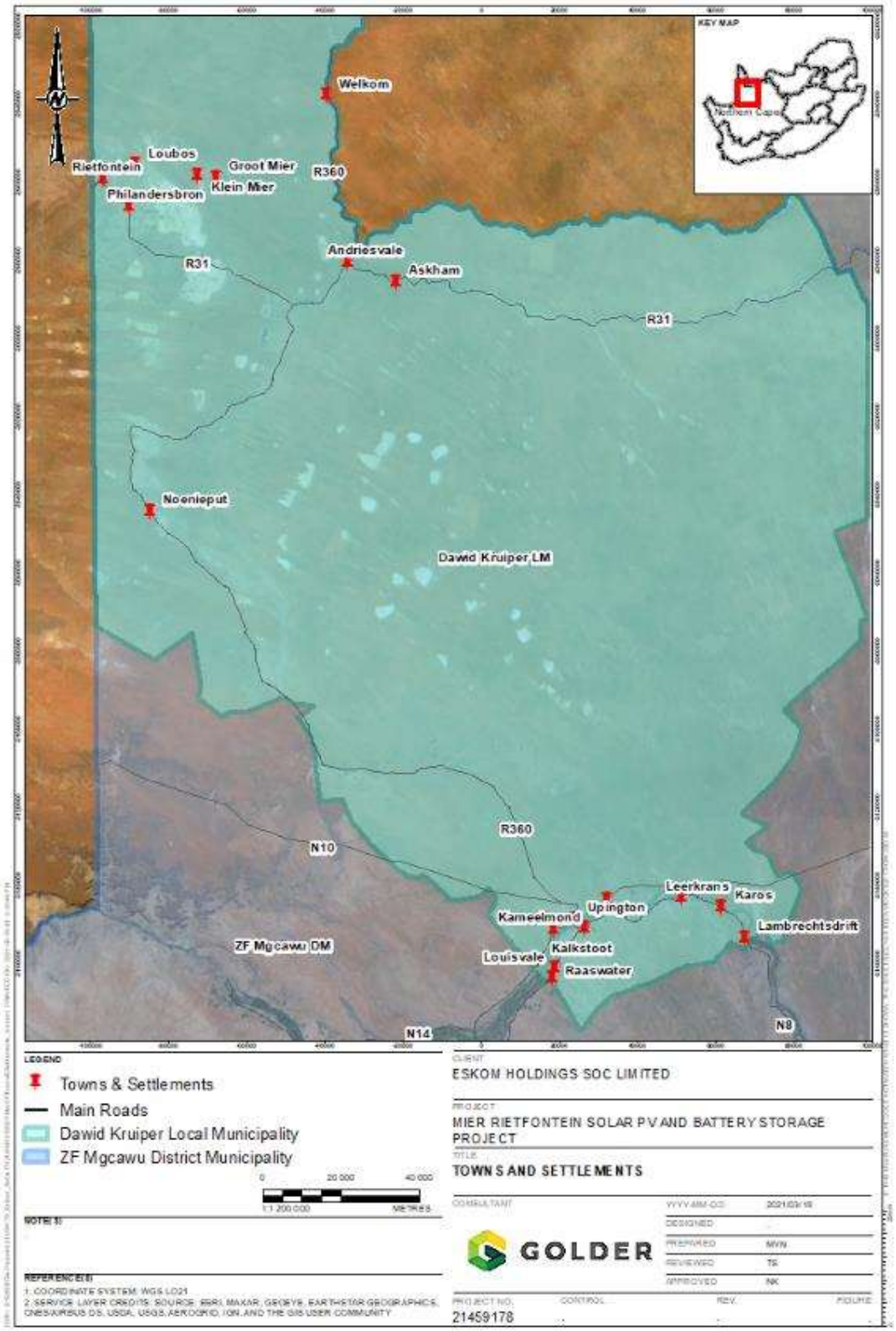

Figure 2: Location of towns and settlements in the DKLM

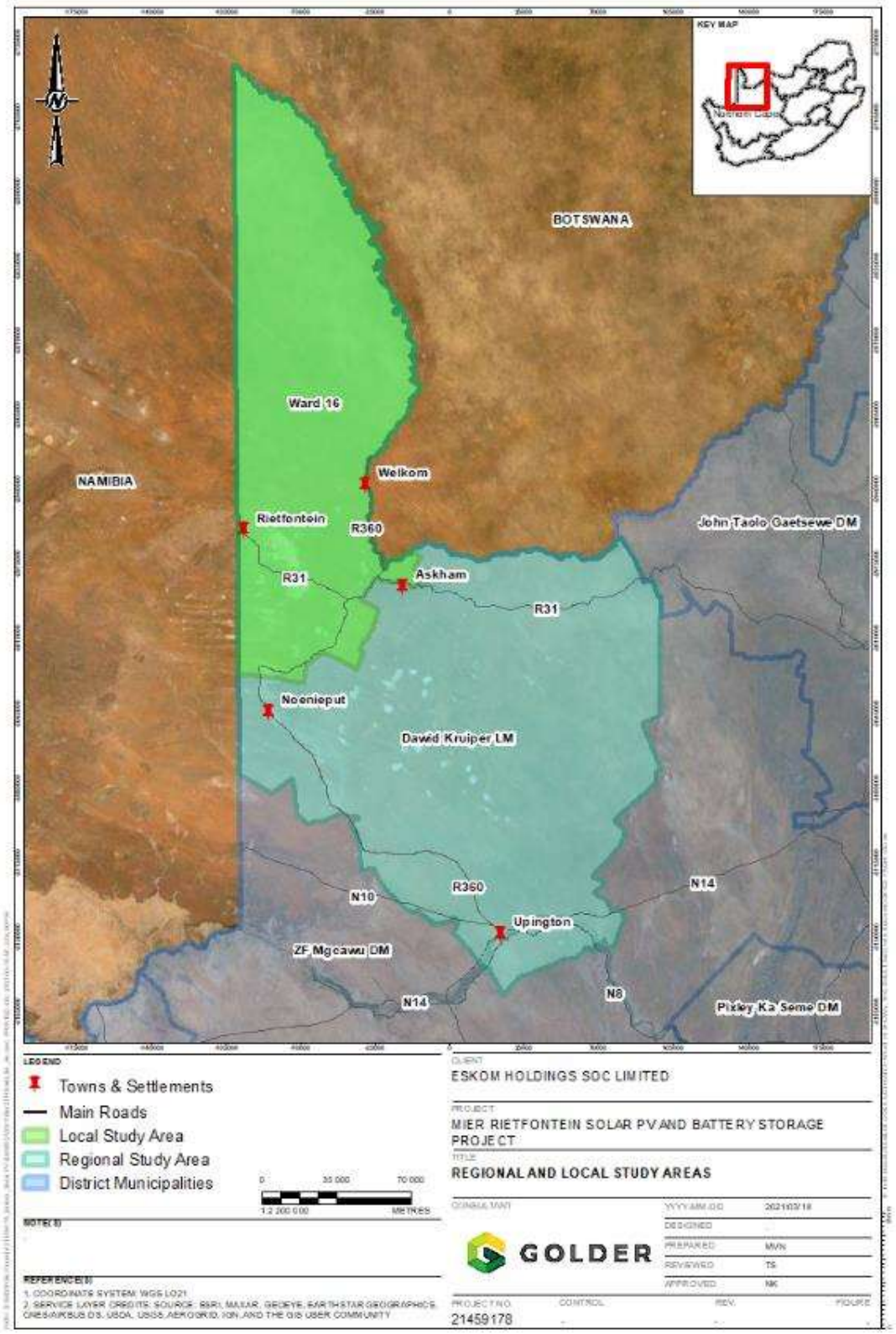

Figure 3: Boundaries of the regional and local study areas

8.0 DESCRIPTION OF THE BASELINE CONDITIONS

The following section presents a brief overview of the socio-economic conditions within the regional and local study areas.

8.1 Population Size and Density

In 2001, the population of the regional study area was 87 467 (Stats SA, 2001)[7], growing at an average of 1.5% per annum to 100 498 in 2011 (Stats SA, 2011). Assuming the growth rate remains unchanged, the population of the regional study area was estimated to be 115 472 in 2021 – see Figure 4. In 2011, the population of the local study area was 6 519 (Stats SA, 2011)[8]. Assuming that growth rate of the local study area is similar to that of the regional study area, the population of the local study area was estimated to be 7 490 in 2021.

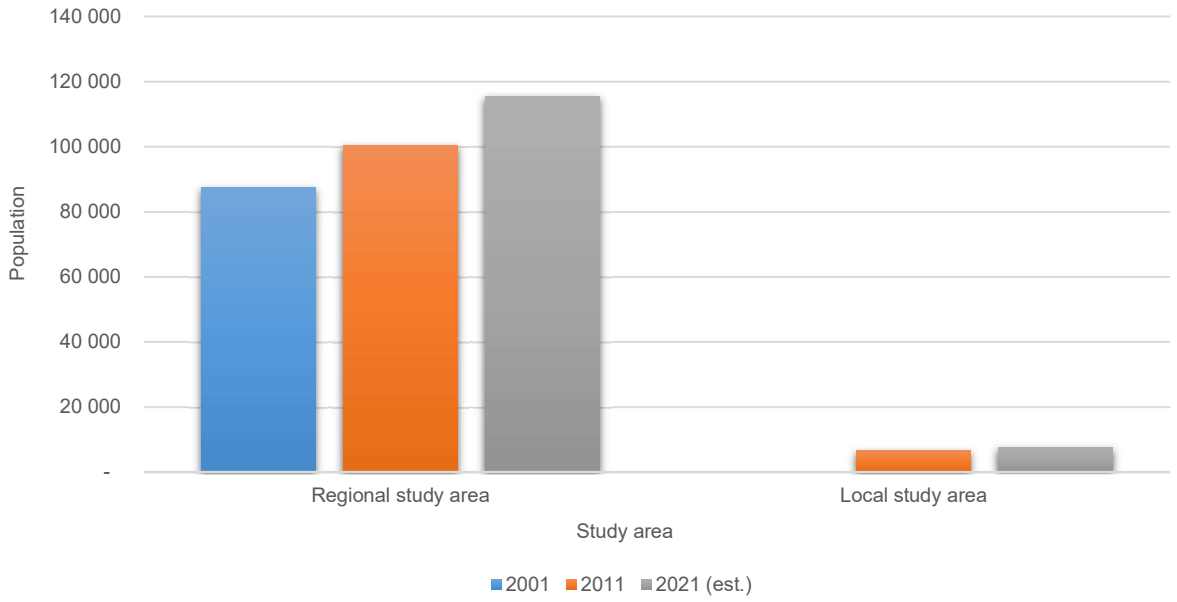

Figure 4: Population of the regional and local study areas in 2001, 2011 and 2021 (Stats SA, 2001 and Stats SA, 2011)

Based on the 2021 population estimate, the population density of the regional study area was calculated to be 2.6 persons/km^2, while the population density of the local study area was calculated to be 0.4 persons/km^2.

8.2 Age, Gender, and Population Group

Figure 5 presents the population pyramid or age distribution of both the regional and local study areas (Stats SA, 2011). The length of the bar graph represents the percentage of the total population in each age group. Both the regional and local study areas have a wide base, which is indicative of a growing population. This is typically because of a high birth rate, low death rate, and/or longer life expectancy. It can also be seen that a large proportion of the population in the regional study area (63%) and local study area (59%) are between the ages of 16 and 65, in the economically active cohort.

[7] Note that the population of the regional study area in 2001 is the sum of the population of the Khara Hais and Mier Local Municipalities

[8] Note that the population data for the local study area from 2001 could not be used as the boundaries of the wards are different from those in 2011. The population data is therefore not directly comparable.

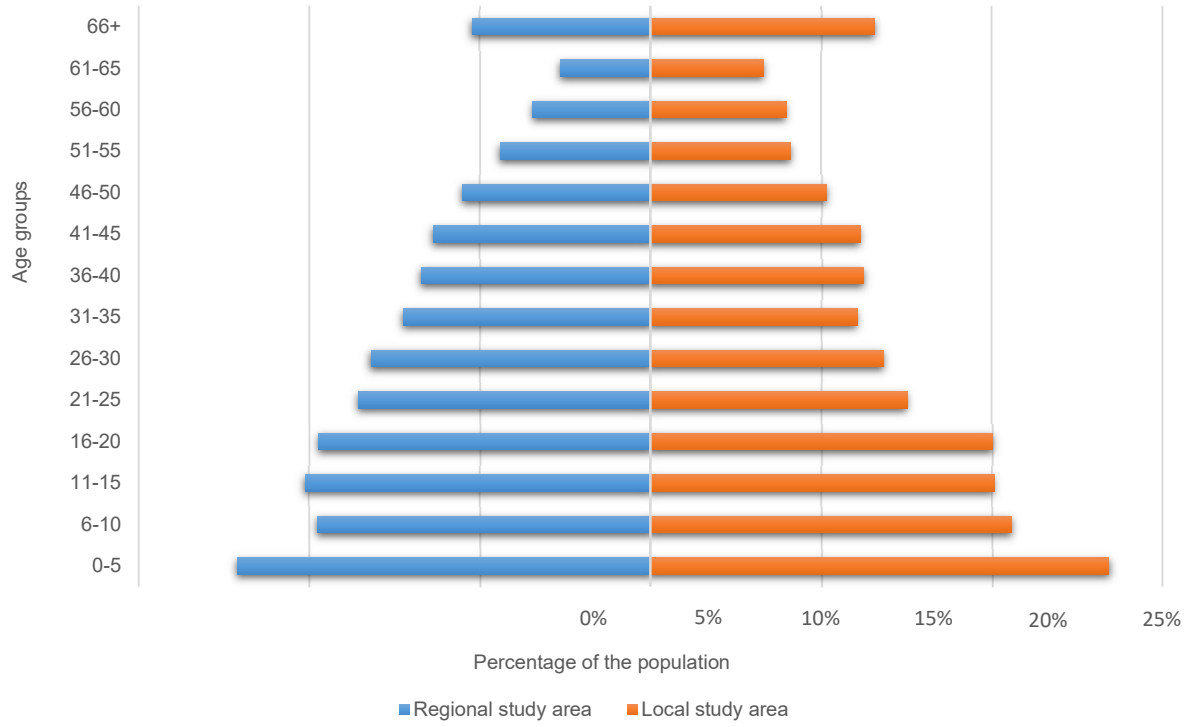

Figure 5: Population pyramid of the regional and local study areas (adapted from Stats SA, 2011)

In the regional study area, the ratio of females is marginally higher than the males (Figure 6), which is typical for most of South Africa. In contrast, the ratio of males is marginally higher than the females in the local study area (Figure 7). This indicates that there are not significant imbalances in the sex ratio in these two areas.

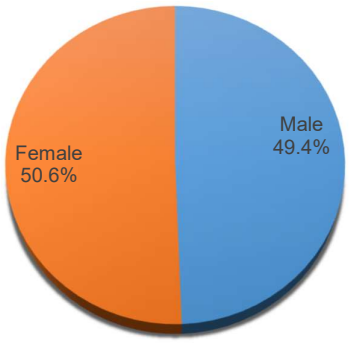

Figure 6: Ratio of males to females in the regional study area (Stats SA, 2011)

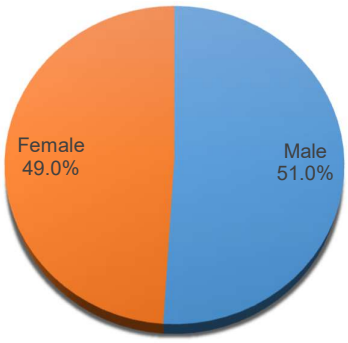

Figure 7: Ratio of males to females in the local study area (Stats SA, 2011)

The population of the regional study area is relatively more diverse than the local study area. Most of the population in the regional study area is Coloured (67%), followed by Black African (22%), White (9%), and Indian or Asian (1%) (Stats SA, 2011) - – see Figure 8. In contrast, the population in the local study is far less diverse,

with almost all of the population being Coloured (91%). It should be noted that the Indigenous Peoples in the area, namely the ǂKhomani San and Mier community, would fall into the Coloured category.

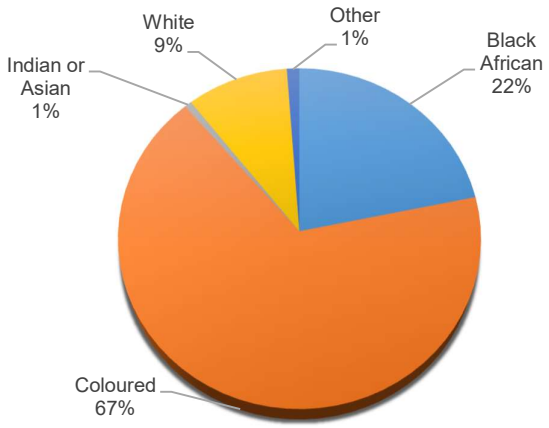

Figure 8: Breakdown of the total population in the regional study area by population group (Stats SA, 2011)

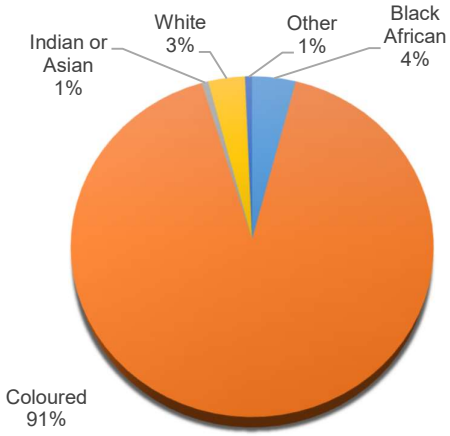

Figure 9: Breakdown of the total population in the local study area by population group (Stats SA, 2011)

In the regional study area, Afrikaans is the first language of the majority of the population (86%), followed by IsiXhosa (5%), Setswana (3%), and English (2%) - Figure 10. Similarly, in the local study area, Afrikaans is the first language of the majority of the population (92%), followed by Setswana (1%), and English (2%) - Figure 11.

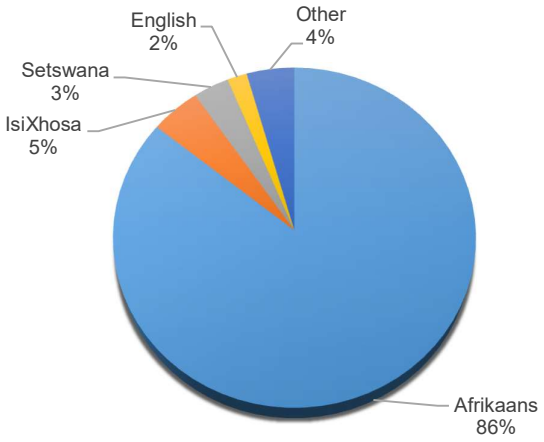

Figure 10: Breakdown of the total population in the regional study area by first language (Stats SA, 2011)

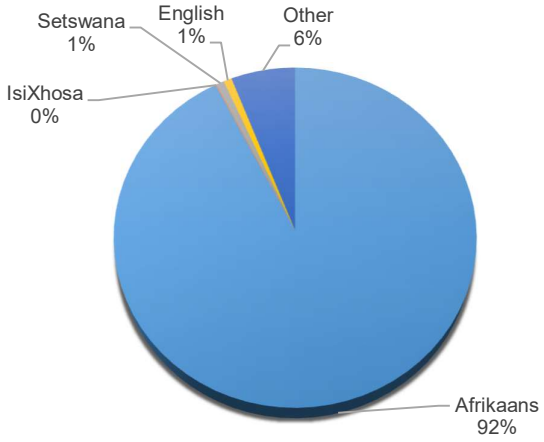

Figure 11: Breakdown of the total population in the local study area by first language (Stats SA, 2011)

8.3 Economic Activities and Household Incomes

In the regional study area, approximately 72% of the economically active population is employed, while 21% of are unemployed and 7% are discouraged work seekers (Figure 12). In the local study area, approximately 58%

of the economically active population are employed, while 29% of the population are unemployed and 13% are discouraged work seekers (Figure 13).

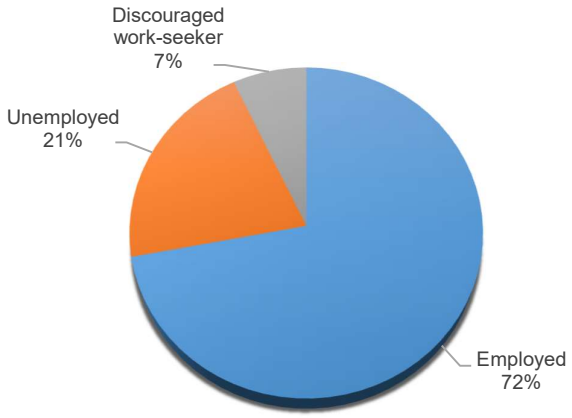

Figure 12: Level of employment in the regional study area (Stats SA, 2011)

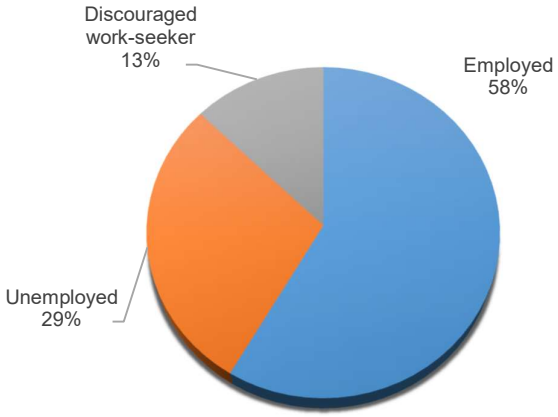

Figure 13: Level of employment in the local study area (Stats SA, 2011)

In the regional study area, approximately 12.7% of the population was employed in the formal sector, while only 4% of the population was employed in the informal sector, 1.3% in the private household, and 0.1% did not know (Stats SA, 2011) – see Figure 14. Similarly, in the local study area, approximately 19% of the population was employed in the formal sector, while only 4.4% of the population was employed in the informal sector, 2.8% in the private household, and 0.6% did not know.

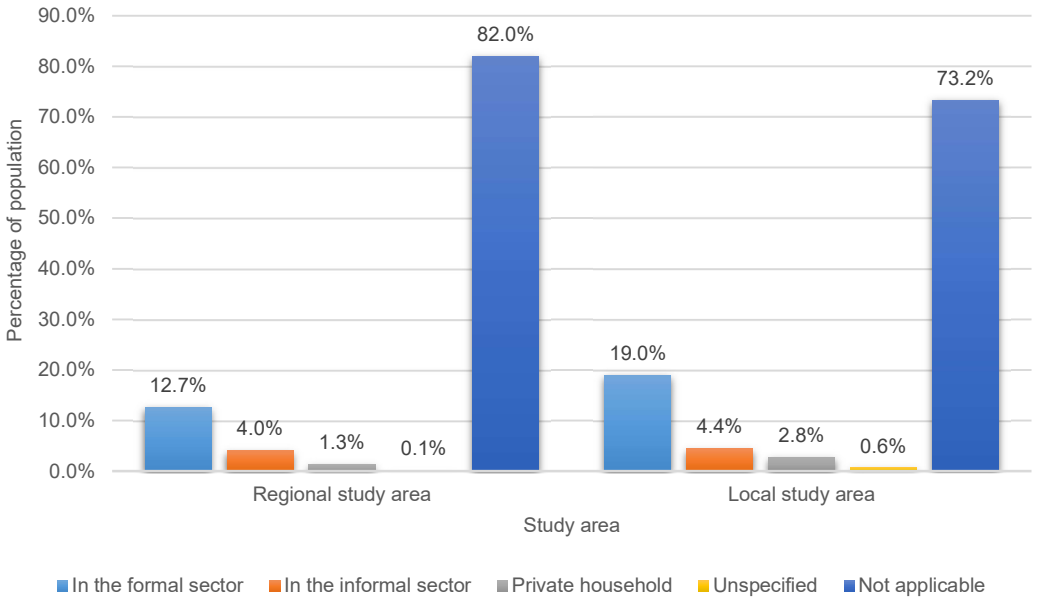

Figure 14: Type of sector (Stats SA, 2011)

Figure 15 presents a breakdown of the household monthly income of the population in the regional and local study areas (Stats SA, 2011). In the regional study area, the majority of households earn between R 9 601 and R 76 800 (55%). Approximately 11% of the households reported having no income. Similarly, in the local study area, the majority of households earn between R 9 601 and R 76 800 (62%). Approximately 8.8% of the households reported having no income.

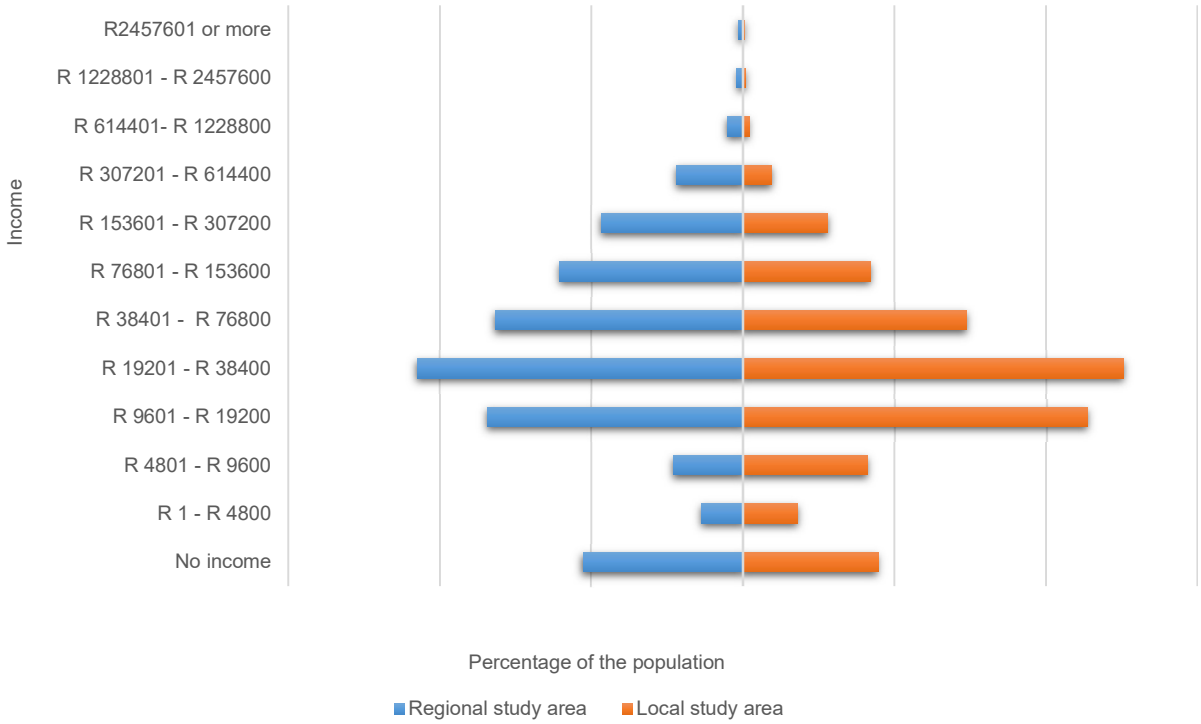

Figure 15: Breakdown of household income in the regional and local study areas (adapted from Stats SA, 2011)

8.4 Education

Figure 16 presents a breakdown of the highest level of education attained by people living in the regional and local study areas (Stats SA, 2011) - Figure 16. In the regional study area, most of the population have completed some form of primary (38.8%) or secondary (37.1%) schooling, while only 3.1% of the population have completed some form of tertiary qualification. Approximately 5.5.% of the population reported having no schooling. In the local study area, the majority of the population have completed some form of secondary schooling (45.8%), while 32% of the population have completed some form of primary schooling. Approximately 5% of the population reported having completed some form of tertiary qualification, while 5.5% of the reported having no schooling.

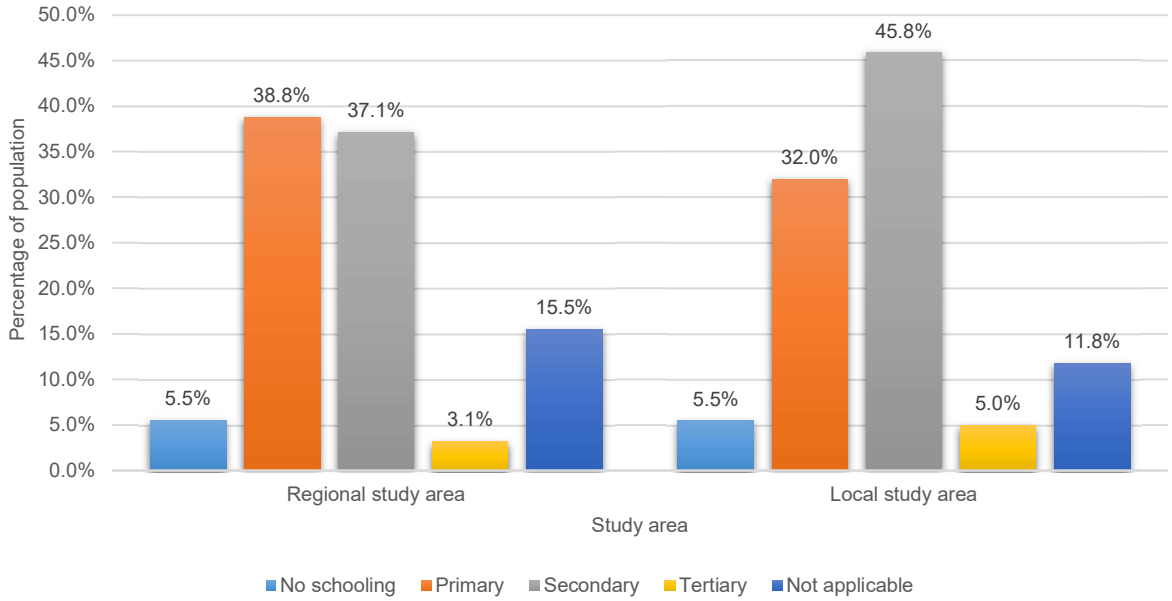

Figure 16: Breakdown of highest level of education attained (Stats SA, 2011)

There are currently eight (8) high schools and 30 primary schools in the DKLM. There are also campuses/satellite campuses of the Upington College for Vocational Education, Vaal Triangle University of Technology, Universal College Outcomes, and Technikon SA. In Rietfontein, there is one combined primary and secondary school.

8.5 Health

There are currently two (2) hospitals in the DKLM (one public and one private hospital), two (2) Community Healthcare Centres, six (6) Fixed Primary Healthcare Clinics (operating 5 days per week), and five (5) Satellite Healthcare Clinics (operating less than 5 days per week). There is one Community Healthcare Centre in the Rietfontein.

8.6 Type of Main Dwelling

In the regional study area, the majority of the population live in a house on a separate stand or yard (69%), followed flat/apartment in a block of flats (18%), informal dwelling/shack that is not in a backyard (1%), informal dwelling/shack that is in a backyard (3%), and a traditional dwelling made with traditional materials (2%) - Figure 17. In the local study area, the majority of the population live in a house on a separate stand or yard (86%), followed flat/apartment in a block of flats (4%), informal dwelling/shack that is not in a backyard (4%), informal dwelling/shack that is in a backyard (1%), and a traditional dwelling made with traditional materials (0.3%) - Figure 18.

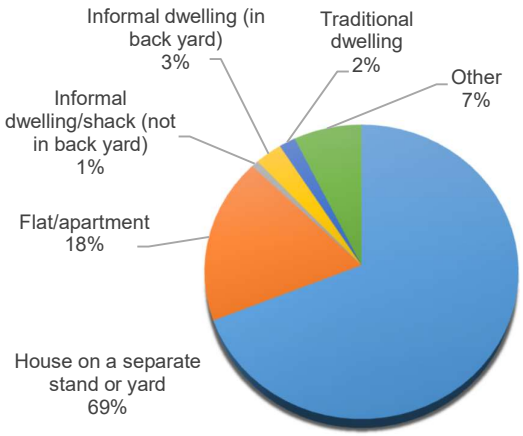

Figure 17: Type of main dwelling in the regional study area (Stats SA, 2011)

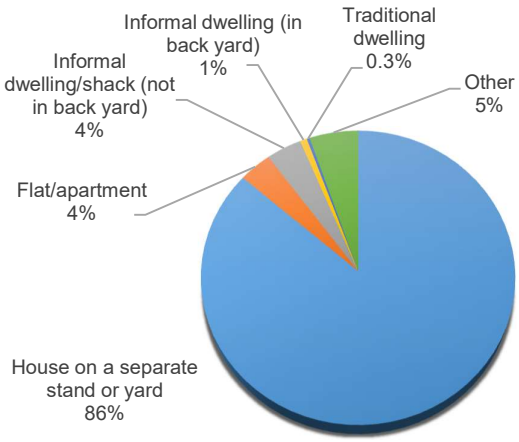

Figure 18: Type of main dwelling in the local study area (Stats SA, 2011)

8.7 Source of Water

In the regional study area, the majority of the population receive their water from a regional/local water scheme (90%), while 1% of the population receive their water from a water tanker (Figure 19). Approximately, 3% of the population source their water from a borehole/spring, while 2% of the population source their water from rivers/streams. In the local study area, the majority of the population also receive their water from a regional/local water scheme (71%), while 5% of the population receive their water from a water tanker (Figure 20). In contrast to the regional study area, a greater proportion of the population in the local study area source their water from boreholes/springs, with almost no one collecting their water from rivers/streams. This is likely due to the lack of perennial rivers/streams in the local study area.

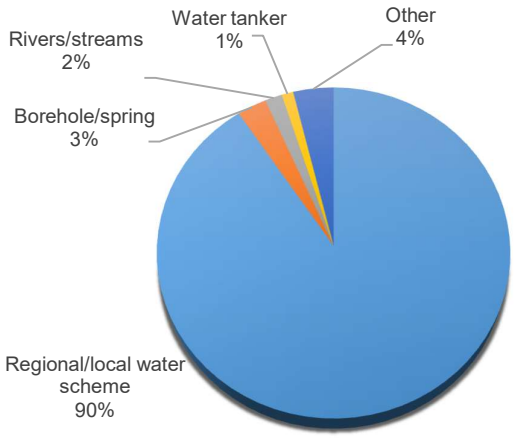

Figure 19: Source of water in the regional study area (Stats SA, 2011)

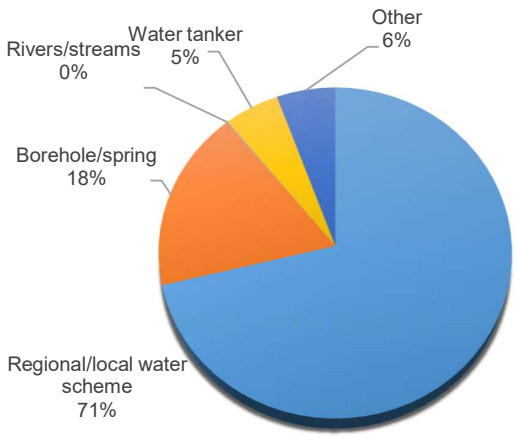

Figure 20: Source of water in the local study area (Stats SA, 2011)

8.8 Toilet Facilities

In the regional study area, the majority of the population use a flush toilet, which is either connected to a sewerage system or to a septic tank (73%) (Figure 21). Approximately 11% of the population use a pit latrine

(with or without ventilation), and 10% a bucket latrine. In the local study area, the majority of the population use a flush toilet (47%) (Figure 22). In contrast to the regional study area, a greater proportion of the population in the local study area use a pit latrine (38%), with fewer people that use a bucket latrine (2%).

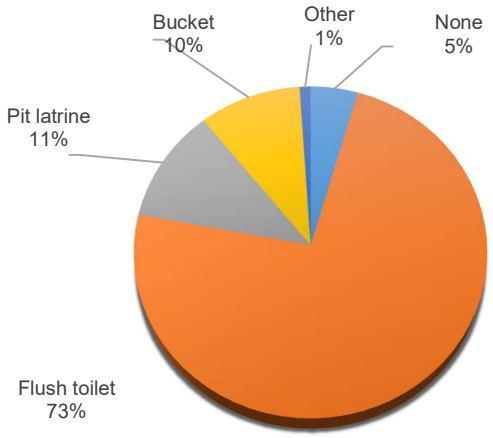

Figure 21: Toilet facilities in the regional study area (Stats SA, 2011)

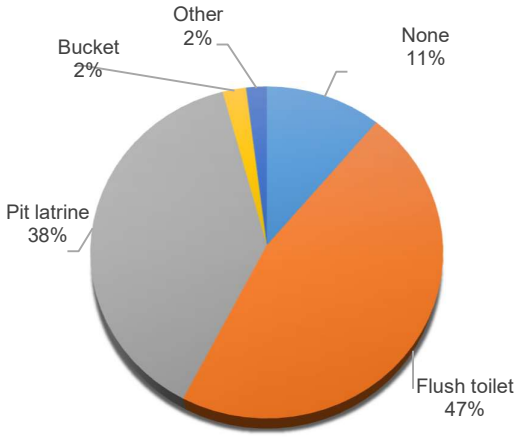

Figure 22: Toilet facilities in the local study area (Stats SA, 2011)

Rietfontein currently has oxidation ponds which are used to treat sewerage from dwellings connected to the municipal sewerage system[9]. These ponds are at full capacity and upgrades are required to enable more dwellings to be connected to the municipal sewerage system.

8.9 Refuse Removal

In the regional study area, the majority of the population have their refuse removed by the local authority on a weekly basis (87%), while 4% of the population has their refuse by the local authority less often than weekly (Figure 23). Approximately 5% of the population dispose of their refuse at their own refuse dump, while 0.3% of the population dispose of their refuse at a communal refuse dump. In the local study area, the majority of the population has their refuse removed by the local authority on a weekly basis (54%), while 22% of the population has their refuse by the local authority less often than weekly (Figure 24). Approximately 11% of the population dispose of their refuse at their own refuse dump, while 1% of the population dispose of their refuse at a communal refuse dump.

[9] Dawid Kruiper Local Municipality (2020). *Integrated Development Plan for 2020/2021*.

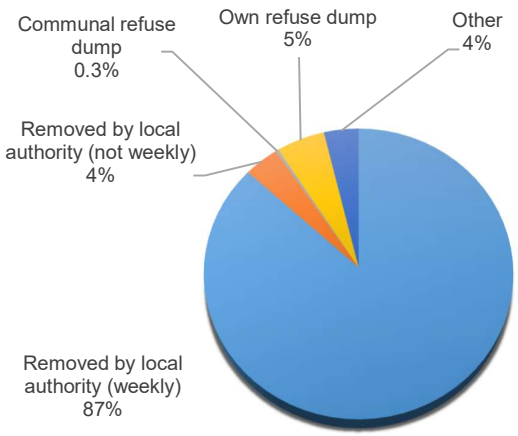

Figure 23: Refuse removal in the regional study area (Stats SA, 2011)

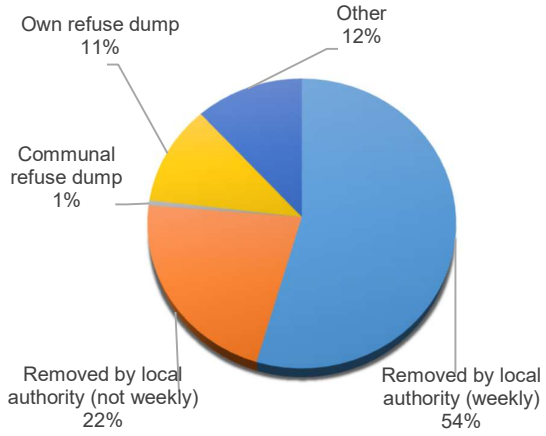

Figure 24: Refuse removal in the local study area (Stats SA, 2011)

There are currently ten (10) landfill sites in the DKLM. This includes Leerkrans, De Duine, Askham, Welkom, Groot Mier, Loubos, Rietfontein, Philandersbron, Noenieput and Swartkop Dam. The Rietfontein Landfill is located approximately 1.5 km east of Rietfontein and is permitted to accept general waste[10]. According to the Integrated Waste Management Plan, this landfill is nearing the end of its lifespan. There are no licensed hazardous waste landfills in the regional or local study areas.

8.10 Energy

Table 2 presents the sources of energy for cooking, heating, and lighting in the regional and local study areas. In the regional study area, electricity is the main source of energy for cooking, followed by gas and wood. Electricity is also the main source of energy for heating, followed by wood and gas. Electricity is also the main source of energy for lighting, followed by candles and solar. In the local study area, electricity is the main source of energy for cooking and heating, followed by wood and gas. As with the regional study area, electricity is also the main source of energy for lighting in the local study area, followed by candles and solar.

Table 2: Sources of energy for cooking, heating, and lighting (Stats SA, 2011)

Source of energy	Regional study area			Local study area		
	Cooking	Heating	Lighting	Cooking	Heating	Lighting
Electricity	88 484	71 097	92 419	5 154	3 217	5 610
Gas	5 793	1 948	129	546	109	8
Paraffin	539	307	815	0	10	54
Wood	4 757	11 461	0	668	770	0
Coal	84	155	0	2	0	0
Animal dung	29	60	0	0	0	0
Solar	195	226	1 083	23	17	137
Candles	0	0	5 372	0	0	576

[10] Dawid Kruiper Local Municipality (2017). *Integrated Waste Management Plan*.

Source of energy	Regional study area			Local study area		
	Cooking	Heating	Lighting	Cooking	Heating	Lighting
Other	20	1	0	0	0	0
None	119	14 766	203	23	2 292	29
Unspecified	359	359	359	22	22	22
Not applicable	117	117	117	82	82	82
Total	**100 498**	**100 498**	**100 498**	**6 519**	**6 519**	**6 519**

9.0 EXISTING SOCIO-ECONOMIC CHALLENGES

Table 3 below presents a summary of the existing social challenges which may be relevant to the proposed Project.

Table 3: Existing socio-economic challenges in the regional and local study areas

Challenge	Description
High unemployment	There are relatively high levels of unemployment in both the regional (21%) and local study areas (29%). There are also relatively high levels of discouraged work seekers in the regional (7%) and local (13%) study areas.
	According to the interviewees, there are limited/no employment opportunities in Rietfontein and nearby villages. Of those that area employed, the majority work for the South African government as teachers, police, municipal officials, and so on. Very few people are employed by the private sector.
	According to the interviewees, the majority of unemployed are dependent on social grants, such as pension, disability, single parent, and so on.
Lack of skills	There are relatively low levels of skills in the local study area. Only 5% of the population in the local study area have a tertiary qualification.
	According to the interviewees, many of the skilled people have left the local study area in search of employment opportunities in the larger towns and cities.
	According to the interviewees, very few people in the local study area have a tertiary qualification due to the cost. There are also no tertiary institutions in Rietfontein or nearby villages. The nearest tertiary institution is in Upington, some 280 km away.
Water supply constraints	There are some rural settlements, such as Welkom, and farms which are reliant on boreholes for their water supply. This is a challenge as groundwater availability and quality are generally poor.

Challenge	Description
	According to the interviewees, some of the informal dwellings on the outskirts of the villages do not have piped water to their houses/yards. These households receive their potable water from a municipal water tanker.
	The Rietfontein Water Services are at capacity, and upgrades are required to connect new settlements to the municipal potable water supply system.
Sanitation constraints	There are some households in the regional (10%) and local (2%) study areas which are still using bucket latrines. Bucket latrines are considered to be below the minimum acceptable standard of basic sanitation.
	The Rietfontein Oxidation Ponds are at capacity, and upgrades are required to connect new settlements to the municipal sewerage system.
Refuse removal constraints	There are some households in the regional (5%) and local (12%) study areas that dispose of their waste at a communal refuse dump or their own refuse dump.
	The Rietfontein Landfill is nearing the end of its lifespan. There are also no licensed hazardous waste landfills in the regional and local study areas.
	According to the interviewees, the Rietfontein Landfill is also poorly managed.
Energy constraints	There are some households in the regional and local study areas that use gas and wood for cooking and heating, and candles for lighting. These households are mostly informal dwellings on the outskirts of the villages. The use of these energy sources increases the levels of indoor air pollution and the risk of fire.
Distance to major centres	Upington is the closest major centre to Rietfontein (~280 km). This presents a major challenge in terms of the provision services, as well as the transport of supplies to Rietfontein.

10.0 IMPACT ASSESSMENT

10.1 Approach to Impact Assessment

The impact assessment was undertaken using a matrix selection process, the most used methodology, for determining the significance of potential environmental impacts/risks. This methodology is based on the minimum requirements as outlined in Appendix 3 of the EIA Regulations of 2014. The methodology incorporates four aspects for assessing the potential significance of impacts, namely direction, severity, probability of occurrence, and reversibility, which are further sub-divided as follows (Table 4).

Table 4: Impact assessment factors

Direction	Severity			Probability	Reversibility
Positive/ negative	Magnitude	Duration	Scale/extent	Probability of occurrence	Reversible/ irreversible

To determine the significance of each potential impact/risk, the following four ranking scales are used (Table 5)

Table 5: Impact assessment scoring methodology

Value	Description
Magnitude	
10	Very high/unknown (of the highest order possible within the bounds of impacts that could occur. In the case of adverse impacts, there is no possible mitigation that could offset the impact, or mitigation is difficult, expensive, time-consuming or some combination of these. Social, cultural, and economic activities of communities are disrupted to such an extent that these come to a halt).
8	High
6	Moderate (impact is real, but not substantial in relation to other impacts that might take effect within the bounds of those that could occur. In the case of adverse impacts, mitigation is both feasible and easily possible. Social, cultural, and economic activities of communities are changed, but can be continued (albeit in a different form). Modification of the project design or alternative action may be required).
4	Low (impact is of a low order and therefore likely to have little real effect. In the case of adverse impacts, mitigation is either easily achieved or little will be required, or both. Social, cultural, and economic activities of communities can continue unchanged.)
2	Minor
Duration	
5	Permanent (Permanent or beyond closure)
4	Long term (more than 15 years)
3	Medium-term (5 to 15 years)
2	Short-term (1 to 5 years)
1	Immediate (less than 1 year)
Scale	
5	International
4	National
3	Regional
2	Local
1	Site only
0	None
Probability	
5	Definite/unknown (impact will definitely occur)
4	Highly probable (most likely, 60% to 90% chance)
3	Medium probability (40% to 60% chance)
2	Low probability (5% to 40% chance)

Value	Description
1	Improbable (less than 5% chance)
0	None

Significance = (Magnitude + Duration + Scale) x Probability

Table 6: Significance of impact based on point allocation

Points	Significance	Description
SP>75	High environmental significance	An impact which could influence the decision about whether or not to proceed with the project regardless of any possible mitigation.
SP 30 - 75	Moderate environmental significance	An impact or benefit which is sufficiently important to require management, and which could have an influence on the decision unless it is mitigated.
SP<30	Low environmental significance	Impacts with little real effect and which will not have an influence on or require modification of the project design.
+	Positive impact	An impact that is likely to result in positive consequences/effects.

For the methodology outlined above Table 5), the following definitions were used:

- **Direction** of an impact may be positive, neutral, or negative with respect to the impact
- **Magnitude** is a measure of the degree of change in a measurement or analysis (e.g., the severity of an impact on human health, well-being, and the environment), and is classified as none/negligible, low, moderate, high, or very high/unknown
- **Scale/geographic extent** refers to the area that could be affected by the impact and is classified as site, local, regional, national, or international
- **Duration** refers to the length of time over which an environmental impact may occur i.e., immediate/transient, short-term, medium term, long-term, or permanent
- **Probability** of occurrence is a description of the probability of the impact occurring as improbable, low probability, medium probability, highly probable or definite
- **Reversibility** of an impact, which may be described as reversible or irreversible

10.2 Construction Phase

The following section presents a description of the nature of the potential impacts/risks associated with the construction of the proposed Project. Table 7 presents a summary of the significance of potential impacts/risks during the construction phase.

10.2.1 Dust Impacts

During the construction phase, site clearance activities, earthworks, and materials handling, will generate dust. This will negatively affect not only construction workers, but also people living and working nearby the construction site. Exposure to low levels of dust over a short period of time can be a nuisance, whereas as the exposure to high levels of dust over a prolonged period of time can lead to health impacts, such as asthma.

With mitigation, the impact of dust on construction workers and people living and working nearby the construction site is likely to be moderate. The magnitude of the impact is likely to be moderate as dust levels are not expected to be excessive. The duration will be limited to the construction phase (1 – 2 years) and local extent (i.e., site and immediate surrounds). The probability of occurrence is likely to be high due to the susceptibility of onsite soils to wind erosion (i.e., 60% to 90%).

Proposed mitigation measures include the following:

- Where possible, limit construction activities to the wetter months when soil moisture content and vegetation cover is the greatest
- Where possible, clear the site as the work front progresses, thereby limiting the exposed areas
- Where possible, shelter (e.g., using shade clothe fencing) onsite sources of dust (e.g., soil stockpiles) to reduce wind speeds
- Exposed surfaces and soil stockpiles must be dampened periodically to avoid excessive dust. Where possible, surfactants should be used to reduce water usage
- Limit speed of construction vehicles to maximum 20 km/hr while onsite.
- Dust track-onto the R31 must be cleaned at the end of each day
- All complaints about dust must be recorded in writing in the complaints register

10.2.2 Noise Impacts

During the construction phase, construction vehicles, equipment, and workers will generate noise. This will negatively affect people living and working near the construction site, as well as people (e.g., tourists) passing through the area.

With mitigation, the impact of noise on people living and working nearby the site, and people passing through the area, is likely to be low. The magnitude of the impact is likely to be moderate as noise levels are not expected to be excessive. The duration will be limited to the construction phase (1 – 2 years) and local extent (i.e., site and immediate surrounds). The probability of occurrence is likely to be medium (i.e., 40% to 60%).

Proposed mitigation measures include the following:

- Construction activities must be limited to daytime hours (06h00 to 18h00). No construction activities are permitted on Sundays
- People living nearby the construction site must be notified in advance of any particularly noisy activities, such as jackhammers and blasting
- Construction vehicles and equipment that are excessively noisy due to poor maintenance are not permitted to be used onsite
- All complaints about noise must be recorded in writing in the complaints register

10.2.3 Increase in Traffic Congestion

During the construction phase, there will be an increase in road traffic moving along the R31 through Rietfontein, Klein Mier, Groot Mier and Askham. This includes motor vehicles transporting construction workers and heavy-duty vehicles transporting construction materials and equipment. With an increase in road traffic, and in particular heavy-duty vehicles, there is likely to be an increase in traffic congestion along the R31.

With mitigation, the risk of an increase in traffic congestion is likely to be low. The magnitude of the impact is likely to be moderate as the increase in road traffic will not be substantial. The duration of the impact will be short term (1 to 5 years) and limited to the region. The probability of occurrence is likely be low (5% to 40%).

Proposed mitigation measures include the following:

- Access routes for construction vehicles to the preferred site alternative, and haulage routes within the site boundaries must be identified and agreed by all parties, including the environmental control office ("ECO"), at the outset of construction
- Construction vehicles are not permitted to use residential roads
- Construction vehicles travelling to site must adhere to the road's speed limit, while vehicles on site must adhere to the speed limit of 20km/hr

10.2.4 Increase in Pressure on Basic Services

During the construction phase, construction activities are likely to increase the pressure on basic services. This includes potable water, sewerage treatment and disposal, and solid waste disposal.

With mitigation, the impact of an increase in the pressure on basic services is likely to be moderate. The magnitude of the impact is likely to be high as the Rietfontein Water Services and Rietfontein Oxidation Ponds are already at capacity. While the Rietfontein Landfill has capacity, it is poorly managed. The duration of the impact will be limited to the construction phase (i.e., 1- 2 years) and the local extent (i.e., Rietfontein). The probability of occurrence is likely to be medium (i.e., 40% to 60%).

Proposed mitigation measures include the following:

- Water tankered to site or borehole water is to be used for construction and dust suppression
- Where possible, surfactants should be used for dust suppression to reduce water usage
- Potable water is to be used for domestic purposes only
- Ablution facilities must be fitted with low flow fixtures and dual flush toilets
- Sewerage must be transported by a licenced contractor to the Rietfontein Oxidation Ponds for treatment and disposal
- The waste management hierarchy approach will be used, where practically and technically possible, when facilities are available in the Northern Cape. This may include separate bins for the separation of mainline recyclables (i.e., plastics, paper, glass, and cans/tins) from the general waste stream. Where possible, mainline recyclables will be transported to a licensed recycler for recycling. Residual general waste must be transported to the Rietfontein Landfill for disposal.
- Separate containers must be provided onsite for the separation of oils/greases from the hazardous waste stream. Oils/greases must be transported to a licenced recycler for recycling. Residual hazardous waste must be transported to a licensed hazardous waste disposal facility for disposal.

10.3 Operational Phase

The following section presents a description of the nature of the potential impacts/risks associated with the operation of the proposed Project. Table 7 presents a summary of the significance of potential impacts/risks during the operational phase.

10.3.1 Increase in Pressure on Basic Services

During the operational phase, the proposed Project is likely to increase the pressure on basic services. This includes potable water, sewerage treatment and disposal, and solid waste disposal.

With mitigation, the impact of an increase in the pressure on basic services is likely to be moderate. The magnitude of the impact is likely to be moderate. While the Rietfontein Water Services and Rietfontein Oxidation Ponds are already at capacity, and the Rietfontein Landfill is poorly managed, the proposed Project will be unmanned and therefore consume limited quantities of potable water and generate limited quantities of sewerage and solid waste. The duration of the impact will be limited to the operational phase (i.e., >15 years) and local extent (i.e., Rietfontein). The probability of occurrence is likely to be medium (i.e., 40% to 60%).

Proposed mitigation measures include the following:

- Water tankered to site or borehole water is to be used for cleaning of PV modules
- Potable water is only to be used for domestic purposes
- Ablution facilities must be fitted with low flow fixtures and dual flush toilets
- If technically feasible, sewerage must be treated onsite via septic tank and soakaway system. Alternatively, sewerage must be transported by a licenced contractor to the Rietfontein Oxidation Ponds for treatment and disposal
- The waste management hierarchy approach will be used, where practically and technically possible, when facilities are available in the Northern Cape. This may include separate bins for the separation of mainline recyclables (i.e., plastics, paper, glass, and cans/tins) from the general waste stream. Where possible, mainline recyclables will be transported to a licensed recycler for recycling. Residual general waste must be transported to the Rietfontein Landfill for disposal
- Hazardous waste must be transported to a licensed hazardous waste disposal facility for disposal

10.4 Decommissioning and Closure Phases

The following section presents a description of the nature of the potential impacts/risks associated with the decommissioning and closure of the proposed Project. Table 7 presents a summary of the significance of potential impacts/risks during the decommissioning and closure phases.

10.4.1 Dust Impacts

During the decommissioning and closure phase, the dismantling and demolition of the PV Blocks, BESS, and associated infrastructure will generate dust. This will negatively affect not only demolition workers, but also people living and working nearby the preferred site alternative. Exposure to low levels of dust over a short period of time can be a nuisance, whereas as the exposure to high levels of dust over a prolonged period of time can lead to health impacts, such as asthma.

With mitigation, the impact of dust on demolition workers and people living and working nearby the preferred site is likely to be moderate. The magnitude of the impact is likely to be moderate as dust levels are not expected to be excessive. The duration will be limited to the decommissioning and closure phase (1 – 2 years) and local

extent (i.e., site and immediate surrounds). The probability of occurrence is likely to be medium (i.e., 40% to 60%).

Proposed mitigation measures include the following:

- Where possible, limit demolition activities to the wetter months (January to April) when soil moisture content and vegetation cover is the greatest
- Where possible, shelter (e.g., using shade clothe fencing) onsite sources of dust (e.g., material stockpiles) to reduce wind speeds
- Exposed surfaces and material stockpiles must be dampened periodically to avoid excessive dust. Where possible, surfactants should be used to reduce water usage
- Limit speed of demolition vehicles to maximum 20 km/hr while onsite
- Dust track-onto the R31 must be cleaned at the end of each day
- All complaints about dust must be recorded in writing in the complaints register

10.4.2 Noise Impacts

During the decommissioning and closure phases, demolition vehicles, equipment, and workers will generate noise. This will negatively affect people living and working near the preferred site alternative, as well as people (e.g., tourists) passing through the area.

With mitigation, the impact of noise on people living and working nearby the site, and people passing through the area, is likely to be low. The magnitude of the impact is likely to be moderate as noise levels are not expected to be excessive. The duration will be limited to the closure phase (1 – 2 years) and local extent (i.e., site and immediate surrounds). The probability of occurrence is likely to be medium (i.e., 40% to 60%).

Proposed mitigation measures include the following:

- Demolition activities must be limited to daytime hours (06h00 to 18h00). No demolition activities are permitted on Sundays
- People living nearby the construction site must be notified in advance of any particularly noisy activities, such as jackhammers and blasting
- Construction vehicles and equipment that are excessively noisy due to poor maintenance are not permitted to be used onsite
- All complaints about noise must be recorded in writing in the complaints register

Table 7: Summary of the potential impacts/risks during the construction, operational, decommissioning, and closure phases

Aspect	Potential Impact	Impact Assessment Factors		Probability	Significance without mitigation	Impact Assessment Factors		Probability	Significance with mitigation
Construction phase									
Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	*Direction:*	Negative	Definite	Moderate	*Direction:*	Negative	Highly probable	Moderate
		Magnitude:	Moderate			*Magnitude:*	Moderate		
		Duration:	Short-term			*Duration:*	Short-term		
		Scale:	Local			*Scale:*	Local		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Noise	Negative impact of noise from construction vehicles, equipment, and workers.	*Direction:*	Negative	Highly probable	Moderate	*Direction:*	Negative	Medium	Low
		Magnitude:	Moderate			*Magnitude:*	Moderate		
		Duration:	Short-term			*Duration:*	Short-term		
		Scale:	Local			*Scale:*	Local		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Traffic	With an increase in road traffic, and in particular heavy-duty vehicles, there is likely to be an increase in road congestion along the R31.	*Direction:*	Negative	Medium	Moderate	*Direction:*	Negative	Low	Low
		Magnitude:	Moderate			*Magnitude:*	Moderate		
		Duration:	Short-term			*Duration:*	Short-term		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Basic services	Impact of an increase in pressure on basic services (i.e., potable water, sewerage treatment & disposal, and solid waste disposal).	*Direction:*	Negative	Highly probable	Moderate	*Direction:*	Negative	Medium	Moderate
		Magnitude:	High			*Magnitude:*	High		
		Duration:	Short-term			*Duration:*	Short-term		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		

Aspect	Potential Impact	Impact Assessment Factors		Probability	Significance without mitigation	Impact Assessment Factors		Probability	Significance with mitigation
Operational phase									
Basic services	Impact of an increase in pressure on basic services (i.e., potable water, sewerage treatment & disposal, and solid waste disposal).	*Direction:*	Negative	Highly probable	Moderate	*Direction:*	Negative	Medium	Low
		Magnitude:	Moderate			*Magnitude:*	Moderate		
		Duration:	Long-term			*Duration:*	Long-term		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Decommissioning and closure phases									
Dust	Negative impact of dust on construction workers and people living and working nearby the Project site	*Direction:*	Negative	Highly probable	Moderate	*Direction:*	Negative	Medium	Low
		Magnitude:	Moderate			*Magnitude:*	Moderate		
		Duration:	Short-term			*Duration:*	Short-term		
		Scale:	Local			*Scale:*	Local		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Noise	Negative impact of noise on people living and working nearby the Project site.	*Direction:*	Negative	Highly probable	Moderate	*Direction:*	Negative	Medium	Low
		Magnitude:	Moderate			*Magnitude:*	Moderate		
		Duration:	Short-term			*Duration:*	Short-term		
		Scale:	Local			*Scale:*	Local		
		Reversibility:	Reversible			*Reversibility:*	Reversible		

11.0 PROPOSED IMPACT MITIGATION ACTIONS

The following section presents the proposed impact management actions to avoid, reverse, mitigate and/or manage the potential impacts/risks which were assessed Section 8.0.

As with the assessment of potential impacts/risks, the impact management actions have been arranged according to the following project phases:

- Pre-construction
- Construction
- Operational
- Closure (including decommissioning)
- Post-closure

For each impact management action, the following information is provided:

- **Category:** The category within which the potential impact/risk occurs
- **Potential impact/risk:** Identified potential impact/risk resulting from the pre-construction, construction, operation, and closure of the proposed Project
- **Description:** Description of the possible impact management action
- **Prescribed standards or practices:** Prescribed environmental standards or practices with which the impact management action must comply. Note that only key standards or practices have been listed
- **Mitigation type:** The type of mitigation measure. This includes the following:
  - Avoidance
  - Minimisation
  - Rehabilitation or restoration
  - Offsetting
- **Time period:** The time period when the impact management actions must be implemented
- **Responsible persons:** The persons who will be responsible for the implementation of the impact management actions.

Table 8 presents a summary of the proposed impact mitigation actions during the pre-construction, construction, operational, closure (including decommissioning), and post-closure phases.

Table 8: Summary of proposed impact mitigation actions

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
1. Pre-construction phase							
1.1	Basic services	Increase in pressure on sewerage treatment and disposal infrastructure.	If technical feasible, sewerage must be treated onsite via septic tank and soakaway system.	-	Mitigation	Prior to start of construction	Project Manager
2. Construction phase							
2.1	Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	Where possible, limit construction activities to the wetter months (January to April) when soil moisture content and vegetation cover is the greatest.	NEM: AQA (2004)[11] National Dust Control Regulations (2013)	Avoidance	Duration of construction phase	Site Foreman
2.2	Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	Where possible, clear the site as the work front progresses, thereby limiting the exposed areas.	NEM: AQA (2004) National Dust Control Regulations (2013)	Avoidance	Duration of construction phase	Site Foreman
2.3	Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	Where possible, shelter (e.g., using shade clothe fencing) onsite sources of dust (e.g., soil stockpiles) to reduce wind speeds.	NEM: AQA (2004) National Dust Control Regulations (2013)	Mitigation	Duration of construction phase	Site Foreman

[11] National Environmental Management: Air Quality Act 39 of 2004

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
2.4	Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	Exposed surfaces and soil stockpiles must be dampened periodically to avoid excessive dust. Where possible, surfactants should be used to reduce water usage.	NEM: AQA (2004) National Dust Control Regulations (2013)	Mitigation	Duration of construction phase	Site Foreman
2.5	Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	Limit speed of construction vehicles to maximum 20 km/hr while onsite.	NEM: AQA (2004) National Dust Control Regulations (2013)	Mitigation	Duration of construction phase	Site Foreman
2.6	Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	Dust track-onto the R31 must be cleaned at the end of each day.	NEM: AQA (2004) National Dust Control Regulations (2013)	Mitigation	Duration of construction phase	Site Foreman
2.7	Dust	Negative impact of dust from site clearance activities, earthworks, and materials handling.	A complaints register must be kept at the site office or security office. All complaints about dust must be recorded in writing in the complaints register. Complaints must be addressed as soon as possible.	NEM: AQA (2004) National Dust Control Regulations (2013)	Mitigation	Duration of construction phase	HSE Manager[12]

[12] Health, Safety, and Environmental ("HSE") Manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
2.8	Noise	Negative impact of noise from construction vehicles, equipment, and workers.	Construction activities must be limited to daytime hours (06h00 to 18h00). No construction activities are permitted on Sundays.	SANS 10103[13]	Mitigation	Duration of construction phase	HSE Manager
2.9	Noise	Negative impact of noise from construction vehicles, equipment, and workers.	People living nearby the construction site must be notified in advance of any particularly noisy activities, such as jackhammers and blasting.	SANS 10103	Mitigation	Duration of construction phase	HSE Manager
2.10	Noise	Negative impact of noise from construction vehicles, equipment, and workers.	Construction vehicles and equipment that are excessively noisy due to poor maintenance are not permitted to be used onsite.	SANS 10103	Mitigation	Duration of construction phase	HSE Manager
2.11	Noise	Negative impact of noise from construction vehicles, equipment, and workers.	A complaints register must be kept at the site office or security office. All complaints about noise must be recorded in writing in the complaints register. Complaints must be addressed as soon as possible.	SANS 10103	Mitigation	Duration of construction phase	HSE Manager
2.12	Traffic	Increase in road congestion along the R31.	Access routes for construction vehicles to the preferred site alternative, and haulage routes within the site boundaries must be identified	-	Mitigation	Prior to start of construction phase	Site Foreman

[13] SANS 10103:2008: The measurement and rating of environmental noise with respect to annoyance and to speech communication

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
			and agreed by all parties, including the ECO, at the outset of construction.				
2.13	Traffic	Increase in road congestion along the R31.	Construction vehicles are not permitted to use residential roads.	-	Mitigation	Duration of construction phase	Site Foreman
2.14	Traffic	Increase in road congestion along the R31.	Construction vehicles travelling to site must adhere to the road's speed limit, while vehicles on site must adhere to the speed limit of 20km/hr	-	Mitigation	Duration of construction phase	Site Foreman
2.15	Basic Services: Potable Water	Impact of an increase in pressure on potable water supply	Water tankered to site or borehole water is to be used for construction and dust suppression.	-	Mitigation	Duration of construction phase	Site Foreman
2.16	Basic Services: Potable Water	Impact of an increase in pressure on potable water supply	Where possible, surfactants should be used for dust suppression to reduce water usage.	-	Mitigation	Duration of construction phase	Site Foreman
2.17	Basic Services: Potable Water	Impact of an increase in pressure on potable water supply	Potable water is to be used for domestic purposes only.	-	Mitigation	Duration of construction phase	Site Foreman
2.18	Basic Services: Sanitation	Impact of an increase in pressure on sewage treatment facilities	Ablution facilities must be fitted with low flow fixtures and dual flush toilets.	-	Mitigation	Duration of construction phase	Site Foreman

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
2.19	Basic Services: Sanitation	Impact of an increase in pressure on sewage treatment facilities	Sewerage must be transported by a licenced contractor to the Rietfontein Oxidation Ponds for treatment and disposal	-	Mitigation	Duration of construction phase	Site Foreman
2.20	Basic Services: Solid waste	Impact of an increase in pressure on waste disposal facilities.	The waste management hierarchy approach will be used, where practically and technically possible, when facilities are available in the Northern Cape. This may include separate bins for the separation of mainline recyclables (i.e., plastics, paper, glass, and cans/tins) from the general waste stream. Where possible, mainline recyclables will be transported to a licensed recycler for recycling. Residual general waste must be transported to the Rietfontein Landfill for disposal.	-	Mitigation	Duration of construction phase	HSE Manager[14]
2.21	Basic Services: Solid waste	Impact of an increase in pressure on waste disposal facilities.	Separate containers must be provided onsite for the separation of	-	Mitigation	Duration of construction phase	HSE Manager

[14] Health, Safety, and Environmental ("HSE") Manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
			oils/greases from the hazardous waste stream. Oils/greases must be transported to a licenced recycler for recycling. Residual hazardous waste must be transported to a licenced hazardous waste disposal facility for disposal.				
3. Operational phase							
3.1	Basic services: Potable water	Impact of an increase in pressure on potable water supply.	Water tankered to site or borehole water is to be used for cleaning of PV modules.	-	Avoidance	Duration of operational phase.	HSE Manager
3.2	Basic services: Potable water	Impact of an increase in pressure on potable water supply.	Potable water is only to be used for domestic purposes.	-	Mitigation	Duration of operational phase.	HSE Manager
3.3	Basic services: Sanitation	Increase in pressure on sewerage treatment and disposal infrastructure	Ablution facilities must be fitted with low flow fixtures and dual flush toilets.	-	Mitigation	Duration of operational phase.	HSE Manager
3.4	Basic services: Sanitation	Impact of an increase in pressure on sewage treatment facilities	If no onsite sewerage treatment system is available, sewerage must be transported by a licenced contractor to the Rietfontein	-	Mitigation	Duration of operational phase.	HSE Manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
			Oxidation Ponds for treatment and disposal.				
3.5	Basic services: Solid waste	Impact of an increase in pressure on solid waste disposal facilities	The waste management hierarchy approach will be used, where practically and technically possible, when facilities are available in the Northern Cape. This may include separate bins for the separation of mainline recyclables (i.e., plastics, paper, glass, and cans/tins) from the general waste stream. Where possible, mainline recyclables will be transported to a licensed recycler for recycling. Residual general waste must be transported to the Rietfontein Landfill for disposal.	-	Mitigation	Duration of operational phase.	HSE Manager
3.6	Basic services: Solid waste	Increase in pressure on waste disposal facilities	Hazardous waste must be transported to a licensed hazardous waste disposal facility for disposal	-	Mitigation	Duration of operational phase.	HSE Manager
4. Decommissioning and closure phases							

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
4.1	Dust	Negative impact of dust from demolition activities.	Where possible, limit demolition activities to the wetter months (January to April) when soil moisture content and vegetation cover is the greatest.	NEM: AQA (2004) National Dust Control Regulations (2013)	Avoidance	Duration of closure phase	Site Foreman
4.2	Dust	Negative impact of dust from demolition activities.	Where possible, shelter (e.g., using shade clothe fencing) onsite sources of dust (e.g., soil stockpiles) to reduce wind speeds.	NEM: AQA (2004) National Dust Control Regulations (2013)	Mitigation	Duration of closure phase	Site Foreman
4.3	Dust	Negative impact of dust from demolition activities.	Exposed surfaces and material stockpiles must be dampened periodically to avoid excessive dust. Where possible, surfactants should be used to reduce water usage.	NEM: AQA (2004) National Dust Control Regulations (2013)	Mitigation	Duration of closure phase	Site Foreman
4.4	Dust	Negative impact of dust from demolition activities.	Limit speed of demolition vehicles to maximum 20 km/hr while onsite.	NEM: AQA (2004) National Dust Control Regulations (2013)	Mitigation	Duration of closure phase	Site Foreman
4.5	Dust	Negative impact of dust from demolition activities.	Dust track-onto the R31 must be cleaned at the end of each day.	NEM: AQA (2004) National Dust Control Regulations (2013)	Mitigation	Duration of closure phase	Site Foreman
4.6	Dust	Negative impact of dust from demolition activities.	A complaints register must be kept at the site office or security office.	NEM: AQA (2004)	Mitigation	Duration of closure phase	HSE Manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
			All complaints about dust must be recorded in writing in the complaints register. Complaints must be addressed as soon as possible.	National Dust Control Regulations (2013)			
4.7	Noise	Negative impact of noise from demolition vehicles, equipment, and workers.	Demolition activities must be limited to daytime hours (06h00 to 18h00). No demolition activities are permitted on Sundays.	SANS 10103	Mitigation	Duration of closure phase	HSE Manager
4.8	Noise	Negative impact of noise from demolition vehicles, equipment, and workers.	People living nearby the preferred site must be notified in advance of any particularly noisy activities, such as jackhammers and blasting.	SANS 10103	Mitigation	Duration of closure phase	HSE Manager
4.9	Noise	Negative impact of noise from demolition vehicles, equipment, and workers.	Demolition vehicles and equipment that are excessively noisy due to poor maintenance are not permitted to be used onsite.	SANS 10103	Mitigation	Duration of closure phase	HSE Manager
4.10	Noise	Negative impact of noise from demolition vehicles, equipment, and workers.	A complaints register must be kept at the site office or security office.	SANS 10103	Mitigation	Duration of closure phase	HSE Manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
			All complaints about noise must be recorded in writing in the complaints register. Complaints must be addressed as soon as possible.				
5. Post-closure phase							
No impact management actions are recommended for the post-closure phase as there not expected to be any residual impacts.							

12.0 PROPOSED MONITORING ACTIONS

The following section presents the proposed monitoring actions for monitoring and reporting on the implementation of the impact mitigation actions presented in the preceding Section 11.0.

The content of this section is largely based on the monitoring requirements outlined in Appendix 4 of the EIA Regulations, 2014.

For each monitoring action, the following information is provided:

- **Category:** The category within which the potential impact and/or risk occurs
- **Potential impact/risk:** Identified potential impact/risk resulting from the pre-construction, construction, operation, and closure of the proposed Project
- **Method for monitoring**: The method for monitoring the implementation of the recommended mitigation measures
- **Time period:** The time period over which the monitoring actions must be implemented
- **Frequency of monitoring:** The frequency of monitoring the implementation of the recommended mitigation measures
- **Mechanism for monitoring compliance:** The mechanism for monitoring compliance with the impact management actions
- **Responsible persons:** The persons who will be responsible for the implementation of the monitoring actions

As with the impact management actions, the proposed monitoring actions have been arranged according to the following project phases:

- Pre-construction
- Construction
- Operational
- Closure (including decommissioning)
- Post-closure

Table 9 presents a summary of the proposed monitoring actions during the pre-construction, construction, operational, closure (including decommissioning), and post-closure phases.

Table 9: Summary of the proposed monitoring actions

Ref. No.	Category	Method for monitoring	Time period	Frequency of monitoring	Mechanism for monitoring compliance	Responsible person
1. Construction phase						
1.1	Dust	Although excavations will be limited in area and duration (i.e. only 2-3 month), dust bucket monitoring at the fence line will be undertaken, with a minimum of four buckets. First sample to be taken 1 month before start of construction. Thereafter, monthly sampling until site clearance and earthworks have been completed.	Prior to start of construction and for duration of site clearance activities and earthworks.	Monthly	Monthly internal and quarterly external environmental audit reports.	HSE Manager
1.2	Dust	Monitor complaints register held at site office or security office for complaints about dust.	Duration of construction phase.	As and when required (notified immediately of complaint being lodged).	Complaint and actions taken to address complaint about dust recorded in complaints register.	HSE Manager
1.3	Noise	Monitor complaints register held at site office or security office for complaints about noise.	Duration of construction phase.	As and when required (notified immediately of complaint being lodged).	Complaint and actions taken to address complaint about noise recorded in complaints register.	HSE Manager

2. Operational phase						
2.1	General	Monitor complaints register held at site office or security office for general complaints about the proposed Project.	Duration of operational phase.	As and when required (notified immediately of complaint being lodged).	Complaint and actions taken to address general complaints recorded in complaints register.	HSE Manager
3. Closure phase						
3.1	Dust	Monitor complaints register held at site office or security office for complaints about dust.	Duration of closure phase.	As and when required (notified immediately of complaint being lodged).	Complaint and actions taken to address complaint about dust recorded in complaints register.	HSE Manager
3.2	Noise	Monitor complaints register held at site office or security office for complaints about noise.	Duration of closure phase.	As and when required (notified immediately of complaint being lodged).	Complaint and actions taken to address complaint about noise recorded in complaints register.	HSE Manager
Post-closure phase						
No impact monitoring actions are recommended for the post-closure phase as there not expected to be any residual impacts.						

13.0 ENVIRONMENTAL IMPACT STATEMENT

The following section presents an environmental impact statement which summarises the potential socio-economic impacts/risks that the proposed Project may have on people living in , working in, or travelling through the local and regional study areas.

According to the outcomes of the impact assessment (Section 10.0), and taking cognisance of the baseline conditions presented in Section 8.0, as well as the recommended impact management and monitoring actions (Sections 11.0 and 12.0), the proposed development of the Mier Rietfontein Solar PV and Battery Storage Project, is not deemed to present significant negative environmental issues or impacts, from a socio-economic perspective, and it should thus be authorised. The following factors are key considerations in this assessment:

- The proposed Project will address the shortage of electricity in the area now and in the future
- The limited scale of the proposed Project (i.e., < 10 ha)
- The noncontroversial nature of the Project. In general, small-scale solar PV projects are viewed as being non-controversial by the public. In some cases, these projects can be seen in a positive light
- The limited extent of the potential impacts. Almost all the impacts are limited to the site and immediate surrounds
- The preferred site alternative is located within the urban edge of Rietfontein. This area was therefore earmarked for development and is likely to have been developed at some point in the future
- There are no households situated on or directly adjacent the preferred site alternative. The nearest household is approximately 1 km to the east
- The preferred site alternative is currently used by a few households for grazing their livestock, mostly goats and sheep. The site is however heavily degraded and has limited grazing potential

There are no additional mitigation actions, other than those included in Table 8, to be included in the EA.

14.0 ASSUMPTIONS, UNCERTAINTIES, AND GAPS IN KNOWLEDGE

In preparing this SEIA, the following assumptions, uncertainties, and gaps in knowledge were noted:

- The Census 2011 data that was used in the description of the baseline conditions is relatively old. While there are more recent data sets available, such as the household surveys, these do not go down to ward level. To counter the age of the census data, the description of the baseline conditions, was supplemented with information collected from the focus group meetings.
- The ward boundaries in the Dawid Kruiper Local Municipality changed in 2016. As a consequence, the census data from 2001 is not directly comparable to the census data from 2011, and no trends could be established at the ward level.

15.0 REFERENCES

1) Dawid Kruiper Local Municipality (2020). *Integrated Development Plan for 2020/2021*

2) Dawid Kruiper Municipality (2018). *All-inclusive Spatial Development Framework*

3) Dawid Kruiper Local Municipality (2017). *Integrated Waste Management Plan*

4) Statistics South Africa (Stats SA) *Census 2011*

5) Statistics South Africa (Stats SA) *Census 2001*

Signature Page

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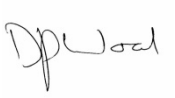

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APPENDIX A

Specialist Declaration & CV

Senior Social Scientist

Education

DLitt et Phil, University of South Africa, South Africa, 1992

MA Community Development, University of Stellenbosch, South Africa, 1986

BA (Hons) Development Administration, University of Stellenbosch, South Africa, 1982

BA Law; Social Science, University of Stellenbosch, South Africa, 1982/3

Languages

Afrikaans – Fluent

English – Fluent

Technical Director: Africa Lead - Social Management Services

Dr David de Waal has more than 35 years of experience in his field of practice. He is the Golder Social Management Services Lead for Africa and is based in Midrand, South Africa. He advises and practices in social impact assessment, and social management process, due diligence assessments for international lenders, planning and review of livelihood and relocation processes, social baseline and related surveys, human rights assessments, integrated environmental governance and institutional conflict management. David's experience is mostly within the ambit of the international best practice and guidelines, notably the IFC, World Bank, European Reconstruction and Development Bank and international lenders.

He has worked on projects located in Botswana, the Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Kosovo, Mozambique, Rwanda, Seychelles, South Africa, Swaziland, Turkey, Uganda, and Zambia. His project exposure includes mining, renewable energy, oil and gas, large-scale infrastructure (including industry and housing), linear projects (pipelines, rail and road networks, electricity lines), relocation, RAP planning and assessment and social recipient studies.

David has been a guest lecturer at the University of Johannesburg since 2007. He lectures the Master of Arts degree in the field of social impact assessment and public participation. He has co-authored "The promotion of participative development management at grassroots level, a field guide" for the Water Research Commission of South Africa. He also serves as a promoter for Doctoral and Master's degree candidates.

Employment History

Golder Associates Africa – South Africa

Technical Director: Social Management Services Lead for Africa: (2015 to Present)

AECOM SA (Pty) Ltd – Africa – South Africa
Executive Social Specialist Services (2013 to 2015)

AECOM SA (Pty) Ltd – Africa – South Africa
Senior Principal Specialist (2012 to 2013)

BKS (Pty) Ltd – South Africa
Technical Director (2009 to 2012)

Afrosearch (Pty) Ltd – South Africa
Director (1993 to 2008)

Louis Heyl Management Consultants – South Africa
Senior Consultant (1988 to 1991)

South African Development Trust Corporation – South Africa
Senior Consultant (1986 to 1988).

DR DE WAAL'S SELECT PROJECT EXPERIENCE

ACWA Power Africa Holdings (Pty) Ltd. Groblershoop Northern Cape Province South Africa	Social lead for the Environmental and Social Impact Assessment for the Proposed Bokpoort II Solar Power Development, consisting of a 150 MW Concentrated Solar Power tower, and two 75 MW Photovoltaic solar installations. Position: Performed the social impact assessment and advised on the stakeholder engagement process.
Liren Corporation, Inc. Kinjor Grande Cape Mount County Liberia	Senior Social review and process adviser for a 36 Megawatt Solar Power Plant with a 100 MWh Battery Energy Storage System as an alternative power supply to supplement the electricity supply to the Bea Mountain Mining Company's New Liberty Gold Mine. Position held: Senior Social review and process adviser.
Bohlweki Environmental (Pty) Ltd Farm Olyvenhoutsdrift Upington Northern Cape Province South Africa	Social impact assessor and public participation processes advice for the Concentrated Solar Thermal Electricity Plant at the farm Olyvenhoutsdrift near Upington. Position held: Social impact assessor.
Synergystics (Pty) Ltd. Postmasburg Tsantsabane Local Municipality Northern Cape Province South Africa	Social impact assessment for the railway link from Postmasburg (Beeshoek area) to the Sishen-Saldanha iron ore export line. Position held: Social impact assessment and stakeholder engagement support.
De Beers Consolidated Mines Kleinzee Nama Khoi Local Municipality Northern Cape Province South Africa	Subconsultant to Africon - Stakeholder engagement for the Basic assessment for the exclusion of the existing Kleinzee settlement area from the authorised mining licence area, the subdivision of land, rezoning and subdivision thereof into individual erven to create a registered township on the affected land. Position held: Stakeholder engagement lead.
De Beers Consolidated Mines Koingnaas Nama Khoi Local Municipality Northern Cape Province South Africa	Subconsultant to Africon - Stakeholder engagement for the Basic assessment for the exclusion of the existing Koingnaas settlement areas from the authorised mining licence area, subdivision of land, rezoning and subdivision thereof into individual erven to create a registered township on the affected land. Position held: Stakeholder engagement lead.
TPE Energy Development (Pty) Ltd Kannikwa Vlakte Port Nolloth Richtersveld Local Municipality Northern Cape Province South Africa	Subconsultant to Gallagher. Environmental CC Stakeholder. SIA and stakeholder engagement as part of the EIA for the establishment of the Kannikwa Vlakte Wind Farm Project. Position held: Social impact and stakeholder engagement lead.
South African Department of Defence/ SANABO DEMIL (Pty) Ltd De Aar Emthanjeni Local Municipality Northern Cape Province South Africa	Stakeholder engagement as part of the EIA for the Proposed Ammunition Demilitarisation Plant at The Department of Defence Ammunition Depot and School of Ammunition. Position held: Stakeholder engagement lead.

forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Mier Rietfontein Solar PV and Battery Storage Project

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of April 2021. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.environment.gov.za/documents/forms.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Online Submission:
EIAapplications@environment.gov.za or https://sfiler.environment.gov.za:8443/.

Please read the process for uploading files to determine how files are to submitted to this Department.

Postal address:
Department of Forestry, Fisheries and the Environment
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:
Department of Forestry, Fisheries and the Environment
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia
Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

SPECIALIST INFORMATION

Specialist Company Name:	Golder Associates Africa (Pty) Ltd			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	2	Percentage Procurement recognition	125%
Specialist name:	David de Waal			
Specialist Qualifications:	DLitt et Phil, MA Community Development, BA (Hons) Development Administration, BA Law; Social Science,			
Professional affiliation/registration:	IEMA			
Physical address:	Building 1, Maxwell Office Park, Magwa Crescent West, Waterfall City, Midrand			
Postal address:	P.O. Box 6001, Halfway House			
Postal code:	1685	Cell:	083 227 8681	
Telephone:	011 254 4800	Fax:	N/A	
E-mail:	ddewaal@golder.co.za			

1. DECLARATION BY THE SPECIALIST

I, David de Waal, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the Specialist

Golder Associates Africa (Pty) Ltd

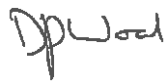
Name of Company:

12 August 2021

Date

2. UNDERTAKING UNDER OATH/ AFFIRMATION

I, David de Waal, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



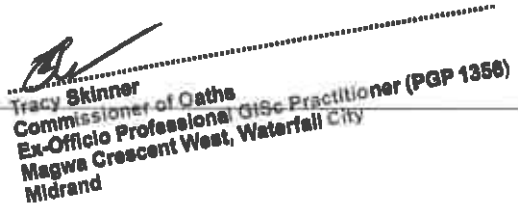
Signature of the Specialist

Golder Associates Africa (Pty) Ltd

Name of Company

12 August 2021

Date



Signature of the Commissioner of Oaths

12 AUGUST 2021

Date

APPENDIX B

Indigenous People's Plan

TECHNICAL MEMORANDUM

DATE July 2021 **Project No.** 21459178_Memo_002

TO Department of Forestry, Fisheries and the Environment

CC

FROM Michael Van Niekerk **EMAIL** micvanniekerk@golder.co.za

INDIGENOUS PEOPLES PLAN FOR THE PROPOSED MIER RIETFONTEIN SOLAR PV AND BATTERY STORAGE PROJECT

1.0 INTRODUCTION

Golder Associates Africa (Pty) Ltd. ("Golder") has been appointed by Eskom Holdings SOC Ltd ("Eskom") to undertake a basic assessment ("BA") process for the proposed Mier Rietfontein Solar PV and Battery Storage Project (hereafter referred to as the "Project").

2.0 THIS PLAN

The purpose of this indigenous peoples' plan ("IPP") is to present an action plan for ensuring that the adverse effects of a project on Indigenous People are avoided, minimised, mitigated, or compensated, and that the projected-affected Indigenous Peoples receive social and economic benefits that are culturally appropriate.

The scope of work of this IPP is as follows:

- Present an overview of the socio-economic conditions of the Indigenous Peoples within the Project-affected area
- Present the main findings of the free, prior, and informed consultation with the Project-affected Indigenous Peoples
- Present a framework for ensuring free, prior, and informed consultation with the Project-affected Indigenous Peoples during Project implementation
- Identify and assess the significance of potential social impacts/risks on the Project-affected Indigenous Peoples
- Recommend appropriate mitigation measures to reduce and, if possible, avoid the negative impacts/risks on the Project-affected Indigenous Peoples, while enhancing the social and economic benefits

This IPP must be read in conjunction with the socio-economic impact assessment ("SEIA") to which it has been appended. The SEIA, together with this IPP, will be appended to the basic assessment report ("BAR") submitted to the authorities, the National Department of Forestry, Fisheries and the Environment ("DFFE") in support of the application for environmental authorisation ("EA") for the proposed Project.

2.1 Structure of this IPP

The structure of this IPP is largely based on the information requirements as set out in the World Bank's *Operational Manual - OP 4.10 - Indigenous Peoples*. These requirements are listed in Table 1 below, with references to the relevant sections of the IPP.

Table 1: Information to be included in the IPP

Section	Requirements	Relevant section in IPP
Annex A: Social Assessment		
1.	The breadth, depth, and type of analysis required for the social assessment are proportional to the nature and scale of the proposed project's potential effects on the Indigenous Peoples.	All
2(a)	Review, on a scale appropriate to the project, of the legal and institutional framework applicable to Indigenous Peoples.	Section 4.0
2(b)	Gathering of baseline information on the demographic, social, cultural, and political characteristics of the affected Indigenous Peoples' communities, the land and territories that they have traditionally owned or customarily used or occupied, and the natural resources on which they depend.	Section 6.0
2(c)	Taking the review and baseline information into account, the identification of key project stakeholders and the elaboration of a culturally appropriate process for consulting with the Indigenous Peoples at each stage of project preparation and implementation.	Section 8.0
2(d)	An assessment, based on free, prior, and informed consultation, with the affected Indigenous Peoples' communities, of the potential adverse and positive effects of the project. Critical to the determination of potential adverse impacts is an analysis of the relative vulnerability of, and risks to, the affected Indigenous Peoples' communities given their distinct circumstances and close ties to land and natural resources, as well as their lack of access to opportunities relative to other social groups in the communities, regions, or national societies in which they live.	Section 9.0
2(e)	The identification and evaluation, based on free, prior, and informed consultation with the affected Indigenous Peoples' communities, of measures necessary to avoid adverse effects, or if such measures are not feasible, the identification of measures to minimize, mitigate, or compensate for such effects, and to ensure that the Indigenous Peoples receive culturally appropriate benefits under the project.	Section 10.0
Annex B - Indigenous Peoples Plan		
1	The Indigenous Peoples Plan (IPP) is prepared in a flexible and pragmatic manner, and its level of detail varies depending on the specific project and the nature of effects to be addressed.	All

Section	Requirements	Relevant section in IPP
2(a)	A summary of the information referred to in Annex A, paragraph 2 (a) and (b).	Section 6.0
2(b)	A summary of the social assessment.	Section 6.0
2(c)	A summary of results of the free, prior, and informed consultation with the affected Indigenous Peoples' communities that was carried out during project preparation (Annex A) and that led to broad community support for the project.	Section 6.0
2(d)	A framework for ensuring free, prior, and informed consultation with the affected Indigenous Peoples' communities during project implementation (see paragraph 10 of this policy).	Section 8.0
2(e)	An action plan of measures to ensure that the Indigenous Peoples receive social and economic benefits that are culturally appropriate, including, if necessary, measures to enhance the capacity of the project implementing agencies.	Section 10.0
2(f)	When potential adverse effects on Indigenous Peoples are identified, an appropriate action plan of measures to avoid, minimize, mitigate, or compensate for these adverse effects.	Section 10.0
2(g)	The cost estimates and financing plan for the IPP.	Section 10.0
2(h)	Accessible procedures appropriate to the project to address grievances by the affected Indigenous Peoples' communities arising from project implementation. When designing the grievance procedures, the borrower takes into account the availability of judicial recourse and customary dispute settlement mechanisms among the Indigenous Peoples.	Appendix B
2(i)	Mechanisms and benchmarks appropriate to the project for monitoring, evaluating, and reporting on the implementation of the IPP. The monitoring and evaluation mechanisms should include arrangements for the free, prior, and informed consultation with the affected Indigenous Peoples' communities.	Section 11.0

In determining the level of detail of this IPP (and the SEIA), several factors were taken into consideration. This includes the following:

- The relatively small scale of the Project (i.e., < 10 ha)
- The nature of the Project. Small-scale solar PV projects are generally perceived to be noncontroversial by the general public. The impacts are also generally limited to the site and immediate surrounds
- The preferred site alternative for the solar photovoltaic (PV) and battery energy storage systems (BESS), and telecommunications tower sites are located within the urban edge of Rietfontein. This area was therefore earmarked for expansion of Rietfontein and is likely to be developed at some point in the future

- There are no households situated on or directly adjacent the preferred site alternative of the solar PV and BESS or the telecommunications tower sites
- The preferred solar PV and BESS site alternative is currently used by a few households for grazing their livestock, mostly goats and sheep. The site is however heavily degraded and has limited grazing potential
- The project-affected Peoples, namely the Mier Community and ǂKhomani San, are the two dominant groups in the area
- The Mier Community is the dominant group in Rietfontein and more likely to be affected by the proposed Project than the ǂKhomani San. The majority of the ǂKhomani San have settled in Andriesvale, some 80 km away
- Both the Mier Community and ǂKhomani San have had successful land claims, and were awarded restitution lands

3.0 PROJECT HISTORY

The following section provides a brief account of the history of the Project. This section has been included in the IPP as there are potentially impacts/risks associated with the Project history, and in particular the change in the preferred site alternative for the solar PV and BESS.

Initially, the proposed Project was to be located near Andriesvale, on of Farm Uitkoms 136, one of the eight reinstituted farms of the ǂKhomani San (see Section 6.0 for more information). This site was selected as there was a need for additional electricity capacity in Askham in order to connect new households and large power users to the national grid.

In 2019, Eskom started the process of acquiring the preferred site alternative (or to acquire a servitude over the land). However, the Communal Property Association (“CPA”), who are responsible for the financial planning and general management of the ǂKhomani San’s reinstituted farms, were unwilling to sell Eskom the land (or to allow them to acquire a servitude over the land). The CPA were wanting to enter into a profit-sharing agreement with Eskom. This arrangement was however not a viable option due to Eskom’s internal processes. In addition, the CPA were also wanting Eskom to undertake social upliftment projects in the area, such as the construction of a clinic. At the time, several consultations meetings were held with the ǂKhomani San as the part of the BA process.

In 2020, Eskom undertook a review of the proposed Project. It was determined that the initial site at Andriesvale was not suitable as the proposed Project would not generate sufficient capacity to cater for the planned electrification of households and the connection of large power users. It was also determined that it would be preferable to feed Askham from the Wessel-Klipkop 22 kV feeder which has sufficient capacity. The Wessel-Klipkop 22 kV feeder would need to be upgraded with the installation capacitor banks to address the low power factor.

In 2021, Eskom identified the current site near Rietfontein as the preferred site alternative for the proposed Project and appointed Golder to undertake the BA process for the new site.

4.0 LEGAL FRAMEWORK

In preparing this IPP, the following legislation, policies, and guidelines were considered. Note that this is not intended to be a comprehensive review of all the applicable legislation, policies, and guidelines, but an overview of those which are most applicable to this IPP. Note this section should also be read in conjunction with Section 6 in the SEIA.

Protection, Promotion, Development, and Management of Indigenous Knowledge Act

The aim of the Protection, Promotion, Development, and Management of Indigenous Knowledge Act 6 of 2019 is to provide for:

- The protection, promotion, development, and management of indigenous knowledge
- The establishment and functions of the National Indigenous Knowledge Systems Office
- The management of rights of indigenous knowledge communities
- The establishment and functions of the Advisory Panel on indigenous knowledge
- Access and conditions of access to knowledge of indigenous communities
- The recognition of prior learning
- The facilitation and coordination of indigenous knowledge-based innovation

The sections of the Act which are most relevant to this IPP are as follows:

- Chapter 4 sets out the requirements for the protection of indigenous knowledge
- Chapter 7 sets out the requirements for the commercial utilisation of indigenous knowledge
- Chapter 8 sets out the requirements for the enforcement of rights

Traditional and Khoi-San Leadership Act

The aim of the Traditional and Khoi-San Leadership Act 3 of 2019 is to provide for:

- The recognition of traditional and Khoi-San communities, leadership positions and for the withdrawal of such recognition
- The functions and roles of traditional and Khoi-San leaders
- The recognition, establishment, functions, roles, and administration of kingship or queenship councils, principal traditional councils, traditional councils, Khoi-San councils, and traditional sub-councils, as well as the support to such councils
- The establishment, composition and functioning of the National House of Traditional and Khoi-San Leaders, provincial houses of traditional and Khoi-San leaders, and local houses of traditional and Khoi-San leaders
- The establishment and operation of the Commission on Khoi-San Matters
- A code of conduct for members of the National House, provincial houses, local houses, and all traditional and Khoi-San councils

The sections of the Act which are most relevant to this IPP are as follows:

- Chapter 2 makes provision for the recognition of Traditional and Khoi-San Communities, Leaders, and Councils
- Chapter 3 makes provision for the establishment of Houses of Traditional and Khoi-San Leaders

- Chapter 4 makes provision for the establishment of a Commission on Koi-San Matters

Operational Manual - OP 4.10 - Indigenous Peoples

The purpose of the World Bank's *Operational Manual - OP 4.10 - Indigenous Peoples (2013)* is to ensure that the Bank only finances projects where:

- Free, prior, and informed consultation results in broad community support
- Measures are in place to avoid, minimise, mitigate, or compensate, for potentially adverse effects on Indigenous Peoples
- Indigenous Peoples receive social and economic benefits that are culturally appropriate and gender and intergenerationally inclusive

The sections of the Manual which are most relevant to this IPP are as follows:

- Paragraphs 3 to 5 set out the requirements for the identification of Indigenous Peoples
- Paragraphs 6 to 7 set out the requirements for project preparation
- Paragraph 8 sets out the requirements for screening for Indigenous Peoples
- Paragraphs 9 to 11 set out the requirements for social assessment of Indigenous Peoples
- Paragraphs 12 to 14 set out the requirements for Indigenous Peoples Plan/Planning Framework
- Paragraph 15 set out the requirements for disclosure of reports to Indigenous Peoples
- Paragraphs 16 to 17 set out special considerations for Lands and Related Natural Resources
- Annex A set out the minimum requirements for the social assessment
- Annex B set out the minimum requirements for the IPP

San Code of Research Ethics

The aim of the *San Code of Research Ethics (2017)* is to provide a code of ethics for researchers intending to engage with San communities. This code requires researchers to commit to four central values, namely fairness, respect, care, and honesty, as well as to comply with a simple process of community approval.

This code requires researchers to commit to four central values, namely fairness, respect, care and honesty, as well as to comply with a simple process of community approval.

Performance Standard 7: Indigenous Peoples

The objectives of the International Finance Corporation ("IFC")'s *Performance Standard 7: Indigenous Peoples (2012)* are as follows:

- To ensure that the development process fosters full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous Peoples

- To anticipate and avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not possible, to minimise and/or compensate for such impacts
- To promote sustainable development benefits and opportunities for Indigenous Peoples in a culturally appropriate manner
- To establish and maintain an ongoing relationship based on informed consultation and participation with the Indigenous Peoples affected by a project throughout the project's life-cycle
- To ensure the free, prior, and informed consent of the affected communities of Indigenous Peoples when the circumstances described in this Performance Standard are present
- To respect and preserve the culture, knowledge, and practices of Indigenous Peoples

The sections of the Standard which are most relevant to this IPP are as follows:

- Paragraphs 4 to 5 set out the guidelines for the identification of Indigenous Peoples
- Paragraphs 8 to 9 set out the requirements for avoidance of adverse impacts
- Paragraphs 10 to 15 set out the requirements for participation and consent, including the circumstances requiring free, prior, and informed consent
- Paragraphs 16 to 17 set out the requirements for critical cultural heritage
- Paragraphs 18 to 20 set out the requirements for mitigation and development benefits
- Paragraph 15 set out the requirements for disclosure of reports to Indigenous Peoples
- Paragraphs 16 to 17 set out special considerations for Lands and Related Natural Resources
- Annex A set out the minimum requirements for the social assessment
- Annex B set out the minimum requirements for the IPP

Declaration on the Rights of Indigenous Peoples

The purpose of the United Nations' *Declaration on the Rights of Indigenous Peoples* (2008) is to establish a universal framework of minimum standards for the survival, dignity, and well-being of the Indigenous Peoples of the world and to elaborate on existing human rights standards and fundamental freedoms as they apply to the specific situation of Indigenous Peoples.

The articles of the Declaration which are most relevant to this IPP are as follows:

- Article 1: Indigenous peoples have the right to the full enjoyment, as a collective or as individuals, of all human rights and fundamental freedoms as recognized in the Charter of the United Nations, the Universal Declaration of Human Rights, and international human rights law
- Article 2: Indigenous peoples and individuals are free and equal to all other peoples and individuals and have the right to be free from any kind of discrimination, in the exercise of their rights, in particular that based on their indigenous origin or identity

- Article 11: Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites.
- Article 17: Indigenous individuals and peoples have the right to enjoy fully all rights established under applicable international and domestic labour law
- Articles 18: Indigenous peoples have the right to participate in decision-making in matters which would affect their rights
- Article 20(2): Indigenous peoples deprived of their means of subsistence and development are entitled to just and fair redress
- Article 21(1): Indigenous peoples have the right, without discrimination, to the improvement of their economic and social conditions
- Article 22(1): Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities
- Article 25: Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used land
- Article 26: Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired
- Article 32: Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources

Indigenous and Tribal Peoples Convention

The purpose of the International Labour Organisations' *Indigenous and Tribal Peoples Convention, 1989 (no. 169)* is to overcome discriminatory practices affecting indigenous peoples and enabling them to participate in decision making that affects their lives.

The articles of the Convention which are most relevant to this IPP are as follows:

- Part I sets out the general provisions of the Convention
- Part II sets out the requirements for land which Indigenous Peoples occupy or otherwise use
- Part III sets out the requirements for the recruitment and conditions of employment of Indigenous Peoples
- Part VI sets out the requirements for education of and communication with Indigenous Peoples

5.0 STAKEHOLDER IDENTIFICATION

According to the World Bank (2013), Indigenous Peoples are frequently among the most marginalised and vulnerable segments of the population. As a result, their economic, social, and legal status often limits their capacity to defend their interests in and rights to lands, territories, and other productive resources, and/or restricts their ability to participate in and benefit from development.

Due to the varied and changing contexts in which Indigenous Peoples live, there is no universally accepted definition of Indigenous Peoples. For the purposes of this IPP, the term Indigenous Peoples is "*used in a generic sense to refer to a distinct, vulnerable, social, and cultural group, which possess the following characteristics in varying degrees:*

a) Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others

b) Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories

c) Customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and

d) An indigenous language, often different from the official language of the country or region

Screening was undertaken to determine whether Indigenous Peoples are present in, or have collective attachment to, the project-affected area. Two Indigenous Peoples, namely the ǂKhomani San and Mier community, were found to be present in, or have collective attachment to, the project-affected area. This is based on consideration of the following:

- Both communities identify themselves as a distinct indigenous cultural group. Their distinct identities were recognised in the successful land claims in 1999[1]
- Both communities have a collective attachment to the project-affected area, and the natural resources therein
- The ǂKhomani San have customary cultural, social, and political institutions that are separate from those of the rest of South Africa. As mentioned previously, there are several pieces of legislation, such as the Traditional and Khoi-San Leadership Act, which recognise the distinct customary cultural, social, and political institutions of communities, such as the ǂKhomani San
- The ǂKhomani San previously had indigenous languages which were different from the 11 official languages of South Africa. While almost all of the indigenous languages have been lost, most of the Khomani San still speak *Khoekhoegowap*

6.0 DESCRIPTION OF BASELINE CONDITIONS

The following section presents an overview of the demographic, social, cultural, and political characteristics of the affected Indigenous Peoples, as well as the land and territories that they have traditionally owned or customarily used or occupied, and the natural resources on which they depend.

This section is based on a review of available literature and supplemented with information gathered from the key stakeholder interviews undertaken as part of the initial round of consultations. For more information on the consultation methods, see Section 8.0.

6.1 History of the ǂKhomani San

The term ǂKhomani is an umbrella term for several indigenous groups, dwelling as hunters and gatherers in the southern Kalahari (Konrad, 2008). There are currently around 1 000 ǂKhomani San who are spread over a large area of approximately 1 000 km^2. Within the ǂKhomani San, the //Sa! Makai is the largest and most dominant

[1] See Section 6.0 for more detailed description of the successful land claims.

group. Dawid Kruiper, who is responsible for lodging the ǂKhomani San's land claim, was the traditional leader of this group.

Prior to the 1930s, the ǂKhomani San had large stretches of land available for nomadic activities, such as hunting and searching for food. However, in 1930 large areas of the southern Kalahari were declared the Mier Coloured Reserve for the settlement of 'Coloureds" from the Cape Colony (see Section 6.2 below). There areas were fenced off and the ǂKhomani San prohibited from using the natural resources of these areas. This created tension between the "Coloured" stock farmers and the nomadic ǂKhomani San. This situation was exacerbated in 1931 with the establishment of the Kalahari Gemsbok National Park ("KGNP") adjacent to the Mier Coloured Reserve.

In the early 1940s, some of the ǂKhomani San were permitted to temporarily settle in the KGNP. Most of the men were employed as animal keepers and trackers. Others helped students with their botanical research and soldiers training survival techniques in the bush. While living in the KGNP, the ǂKhomani San received some clothing, small wages, some game, and limited access to land and natural resources.

In the 1970s, the ǂKhomani San who had been living in the KGNP were resettled in Welkom, a small rural settlement neighbouring the Mier Coloured Reserve. Most of the men made a living working on the farms within the Mier Coloured Reserve, while the others worked as guards in the KGNP.

In the late 1980s, some of the ǂKhomani San relocated to Kuruman to perform for tourists, adverts, and documentaries. Unhappy with the dire living conditions, part of the group returned to Mier to work as wageworkers on the farms. The remaining group eventually returned to the Kalahari.

In the early 1990s, some of ǂKhomani San relocated to a farm in Kagga Kamma where they were permitted to live on the land and to make a living by producing craftwork and weapons. More soon joined the initial group due to the deteriorating conditions in the Kalahari. Not long after, part of the group returned to the Kalahari due to the poor living conditions in Kagga Kamma.

6.2 History of the Mier Community

The population of the Mier Community is approximately 4 500 people (Konrad, 2008). The Mier Community is named after the area of Mier which stretches north from Askham up to the Kgalagadi Transfrontier Park ("KTP"), and west to the Namibian border.

The Mier Community settled in the area in around 1865. At the time, the area was mainly used for seasonal grazing land and hunting by various indigenous groups, such as the Korana. The only indigenous group that was permanently living in the area was the ǂKhomani San.

The first group of people, which would later be known as the Mier Community, to settle in the area were referred to as "Basters". This group was characterised as being mixed raced with at least one white ancestor. The "Basters" fled the oppression of the colonial system in the Cape Colony when their personal rights, such as the right to own land, was revoked. The group was led by Dirk Vielander who lobbied for the sovereignty of the "Basters" and demanded the independence of the Mier area. In 1891, the farmland which Dirk Vielander had distributed among his settlers was acknowledged as property of the Basters by the Cape Colony. From this point on, the "Basters", who had been without rights for decades, owned more than 90 different farms in the Mier area. However, by 1902 all but 11 of these farms had been bought or taken control of by white farmers.

From the 1900s, the remaining land of the Mier Community was expropriated in three phases. In the first phase, the farms owned by the Mier Community within the then KGNP, as well as the communal land used for grazing and hunting within the then KGNP, where expropriated. In the second phase, portions of the Mier Coloured Reserve, which was reserved for common use, was incorporated into the then KGNP when the southern border

was fenced in. From the 1960s, large areas were privatised and the ownership of the land individualised. As a consequence, there was less land available for the communal use of the Mier Community.

6.3 Land Claim and Resettlement

In 1995, the ‡Khomani San filed a land claim with the Commissioner of Land Restitution for land within and adjacent to the KGNP (Konrad, 2008). The primary motivation for the claim was the desire for the ‡Khomani San to have land that they could call their own, as well as the discontent with the living conditions in Kagga Kamma. The ‡Khomani San were however advised that their land claim was likely to be unsuccessful unless they drastically reduce the size of the land claim or increased the number of claimants. The decision was made to increase the number of claimants, and other San descendants were invited to join the land claim. A Communal Property Association (“CPA”) was established to register the additional claimants.

In 1998, the Mier Transitional Local Council (“RTLC”) also filed a land claim for an area inside the then KGNP. This increased tensions and hostilities between the ‡Khomani San and the Mier community as both parties had claimed the same area with then KGNP.

In 1999, the first phase of the land claim was successfully finalised. The ‡Khomani San were allocated six farms totalling 38 000 ha, around Andriesvale and Askham (Figure 1). This included the livestock that was on some of these farms. In the first phase, the Mier community were allocated 27 000 ha of farmland, to the south of Philandersbron and around Klein Mier and Groot Mier. This included the infrastructure that was on the farms. The Mier Community also received money to buy land for the communal reserve of the Mier Community.

In 2002, the second phase of the land claim was finalised with the signing of the “!Ae!Hai Kalahari Heritage Park Agreement. As part of this agreement, the ‡Khomani San and Mier Communities were each allocated 25 000 ha each within the southern part of the then KGNP. The two areas were bordering each other. According to the !Ae!Hai Kalahari Heritage Park Agreement, these areas are not being used for settlement, agriculture or the harvesting of natural resources. They are only to be used for conservation and cultural activities. In addition, the ‡Khomani San were also granted preferential tourism rights over 80 000 ha of land (to the south of the Auob River) within the newly formed Kalahari Transfrontier Park (“TNP”), and the right to use 473 830 ha of land between the Auob and Nossob Rivers for symbolic and cultural purposes.

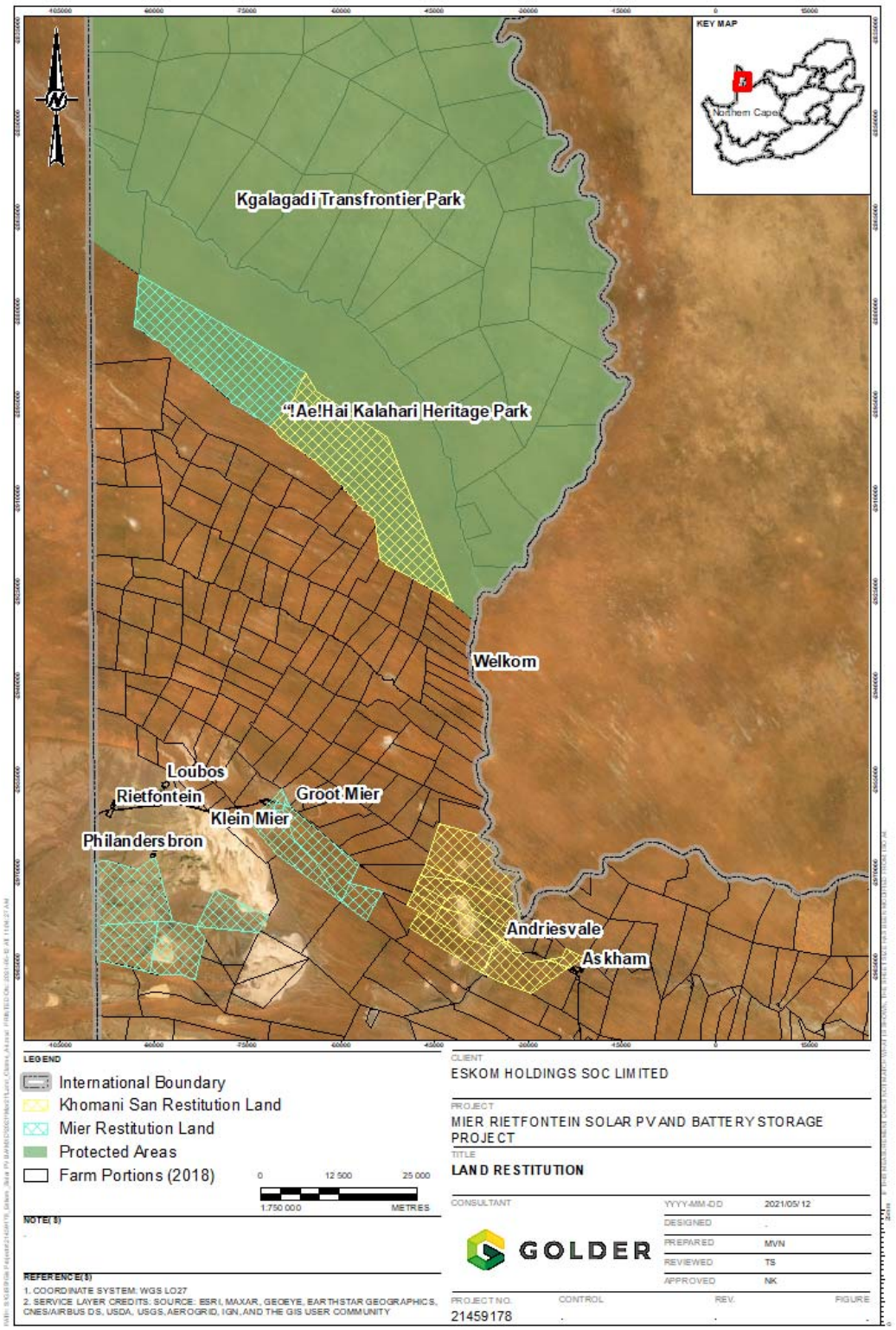


Figure 1 : Restitution of land to the ‡Khomani San and Mier community

6.4 Post-Land Claim and Resettlement

In early 2004, the South African Human Rights Commission ("SAHRC") launched an inquiry to investigate allegations of victimisation, harassment, neglect, and abuse of the ‡Khomani San (SAHRC, 2016). During the inquiry, several key issues emerged. This included the following:

Land Claim and Resettlement

As mentioned previously, the ‡Khomani San land claim was originally lodged by the Kruiper family, who later allowed other San descendants to join in their land claim. It was found that this created problems later on as there was no unifying system of leadership to lead the dispersed San descendants. It was also found that this affected the functioning of the Communal Property Association ("CPA") which was established to manage the land claims. Other problems included the lack of capacity within the CPA, conflict between the ‡Khomani San Community and SANParks with regards to in the implementation of the land claim within the KTP, and the lack of support from the Department of Land Affairs in the land settlement and management process.

Community Division

It was found that there were serious divisions within the ‡Khomani San, particularly between the original claimants and their traditional leadership, and those that joined the land claim and who have a more 'modern' outlook.

Government and Delivery of Services

It was found that local government had failed to provide for water, sanitation, waste management or development in general on the reinstituted land of the ‡Khomani San. This was despite local government having a development plan, entitled the *Khomani San Settlement and Development Strategy*, to guide the provision of basic services and having received funding for this purpose. It was also found that there needed to be greater coordination between the different levels of government and government departments to ensure that all spheres of government fulfil their responsibilities in a coordinated manner.

Policing

It was found that the ‡Khomani San were subject to victimisation, harassment, and abuse by members of the South African Police Services ("SAPS"). It was also found that the ‡Khomani San do not fully understand policing and prosecution processes, and that access to courts is limited. The nearest court is in Upington, approximately 200 km away.

Education

It was found that levels of formal education in the ‡Khomani San are generally low. Access to schooling is limited in that the schools are some distance from the community and no transport is available. It was found that insufficient measures had been taken to incorporate the needs and cultural background of the ‡Khomani San into the schools, socially, structurally and within the curriculum. There were also allegations of sexual abuse and harassment of ‡Khomani San children at the local school.

Social Welfare

It was found that there was substantial alcohol and drug abuse within the ‡Khomani San, which contributes to serious social problems. It was also found that poverty within the community contributed to malnutrition and illness. The provision of primary health services was also found to be inadequate with only one clinic several kilometres away.

6.5 Current Living Conditions

The information presented in this section is based on information gathered from the key stakeholder interviews. This section is not intended to present a detailed social baseline, but a broad overview of the baseline conditions at the time that this plan was being prepared. This broad overview will used to identify the main challenges facing the ǂKhomani San and Mier community.

Land Ownership

Most of the Mier Community live in the towns/villages of Rietfontein, Philandersbron, Loubos, Klein Mier, and Groot Mier. Some members of the community also live on farms around Loubos, Klein Mier, and Groot Mier. Most of the community are landowners, having purchased land from the then Mier Local Municipality. There are however still some areas under land claim which have not yet been resolved. There is also a formal arrangement in place which allows members of the Mier community (and ǂKhomani San) to use land owned by the DKLM for grazing of livestock.

Most of the registered ǂKhomani San have settled on the eight (8) reinstituted farms near Andriesvale, where they are 'renters' or tenants. Some of the registered ǂKhomani San also live in Botswana, Namibia, Upington, small villages (e.g., Welkom, Witdraai, etc.), and on the commercial farms.

Employment

Most of the Mier Community are unemployed, and in particular the youth. The majority of the unemployed are dependent on government social grants, such as pension, disability, and child support. Of those that are employed, the majority work for government at schools, clinics, police stations, municipal offices, post office, and the border post. Some people are also employed on the farms and in the tourism sector (e.g., lodges, guides, and arts and crafts). Some people are also temporarily employed through the Expanded Public Works Programme. There are several reasons for the high levels of unemployment. This includes the lack of local businesses/employment opportunities in the area, the lack of skills, the distance to major centres, such as Upington, to access funding and to purchase goods/materials, and the inability to compete with mostly foreigner-owned stores in the area.

Most of the registered ǂKhomani San are unemployed. The majority of the unemployed live off government social grants. Some of the ǂKhomani San make money off part-time work on the commercial farms, making arts and crafts, and raising livestock (mostly goats and sheep). Of those that are employed, the majority work on commercial farms, at the game lodges, and KTP. The low level of education is one of the main challenges that prevents the ǂKhomani San from finding meaningful employment.

Education

Almost all of the Mier Community have some level of formal education. Most of the elderly have some form of primary schooling, while most of the adults and youth have some form of secondary schooling. Very few members of the community have a tertiary qualification. One the greatest challenges facing the community with respect to education is the cost of schooling (i.e., fees, transport, books, stationary, accommodation, etc.). The distance to tertiary institutions, as there are none in the area, is also a major challenge. Most of the youth do not see the value in obtaining a matric or post-matric qualification due to the lack of employment opportunities in the area. Most will drop out of school if a job becomes available. There are also very few skilled people in the Mier community. This is largely because most of the skilled people have left the area in search of work in the larger towns and cities.

Most of the elderly members of the ǂKhomani San have little or no formal education. Adults generally have some form of primary schooling, while the youth have some form of secondary schooling. The distance to

schools is one of the greatest challenges facing the ǂKhomani San with respect to education. This is because the high school in Rietfontein, some 80 km from Askham, is the only school in the area that offers classes up to matric. The cost of schooling (e.g., fees, transport, books, stationary, etc.) is also a major challenge.

Health

Most of the Mier community use the Rietfontein Community Health Centre, which provides primary health care. While there are clinics in the other villages, except Loubos, Welkom, and Askham, most people use the clinic in Rietfontein due to the higher level of service. The nearest hospital is in Upington, some 280 km away. Very few members of the community use traditional medicines/remedies.

Services

Most of the Mier community have piped water to their homes or yards. Some households, mostly informal settlements on the outskirts of towns/villages receive their water from municipal water tankers. Most of the Mier community use electricity for cooking, heating, and lighting. Some of the households, mostly informal settlements on the outskirts of towns/villages, do not have electricity. These households mostly use gas and firewood for cooking and heating. The majority of the firewood is purchased from the local stores, while some firewood is harvested from the communal areas. Most households without electricity were supplied with a small solar system for lighting. Most of the households have flush toilets, ventilated improved pit latrines, or pit latrines. Some households, mostly on the farms and informal settlements on the outskirts of towns/villages, use the bucket system. The majority of households have their waste collected by the local municipality. Some households, mostly on the farms, burn or bury their waste. Some community members are unhappy with service delivery in the area, and the fact that many of the municipal functions are based in Upington.

The ǂKhomani San on the eight (8) reinstituted farms source their water from a borehole. The water is distributed by a basic reticulation system setup by the CPA. This system is however insufficient for the needs of the community. In the towns/villages, most of the households have piped water to their homes/yards. This is provided by the DKLM. Most of the households on the eight (8) reinstituted farms use a small solar system for lighting, and gas and firewood for cooking and heating, as there is no electricity on the farms. Most of the households on the eight (8) reinstituted farms still use the bucket system, whereas most of the households in the towns/villages have flush toilets, ventilated improved pit latrines, or pit latrines. The municipality collects waste from the households on the eight (8) reinstituted farms and towns/villages.

Livelihoods

It is estimated that 20% of the Mier community are still involved in pastoralism, raising mostly sheep and goats. Very few households in Rietfontein are still involved in pastoralism, whereas most households in Loubos, Klein Mier, and Groot Mier are still involved in pastoralism. There is no/limited harvesting of wild foods from the communal areas surrounding the settlements. There is currently no control over the usage of the communal areas.

Most of the ǂKhomani San on the eight (8) reinstituted farms are still involved in pastoralism, raising mostly sheep and goats. The ǂKhomani San also derive some income from the Erin Game Farm (mostly hunting) and the Xhaus Lodge in the “!Ae!Hai Kalahari Heritage Park (receive percentage of the profits).

Cultural Heritage

In Rietfontein, the only registered heritage site is the Dutch Reformed Mission Church, which dates back to 1890. The graves of David Vilander (son of Dirk Vilander) in Andriesvale and Katriena ‘Ouma’ Valbooi (oldest member of Mier community) in Rietfontein were also mentioned in the interviews.

As mentioned previously, in 2002, the ǂKhomani San were granted preferential tourism rights over 80 000 ha of land within the TNP (to the south of the Auob River), and the right to use a further 473 830 ha of land (between the Auob and Nossob Rivers) for symbolic and cultural purposes. In 2017, the ǂKhomani Cultural Landscape, which consists of the TNP and Ae!Hai Kalahari Heritage Park, was listed as a World Heritage Site by the United Nations Education, Scientific and Cultural Organisation.

7.0 INSTITUTIONAL FRAMEWORK

The following section presents a brief overview of the institutional frameworks of the ǂKhomani San and Mier Community.

7.1 ǂKhomani San

Based on the key stakeholder interviews, it is our understanding that the CPA is responsible for serving the needs of ǂKhomani San, as well as the financial planning and general management of their communal assets (i.e., reinstituted land). It is our understanding that the CPA have the authority to make 'minor' decisions, while 'major' decisions require the approval of the broader community.

The current CPAMC was formed in 2015. The current CPA consists of 13 members, eleven portfolio members, a chairman, and a traditional leader.

The current CPA is under the administration of the Department of Agriculture, Land Reform and Rural Development due gross mismanagement. This was largely due to a lack of capacity and experience within the CPAMC. An administrator has been appointed by the Department to assist the CPAMC with the day-to-day management of their communal assets.

7.2 Mier Community

Based on the key stakeholder interviews, it is our understanding that the Mier Community does not have a traditional leadership structure. This community is represented by the democratically elected ward councillor of Ward 16. Figure 2 below presents a summary of the institutional framework of the DKLM and by extension the Mier community.

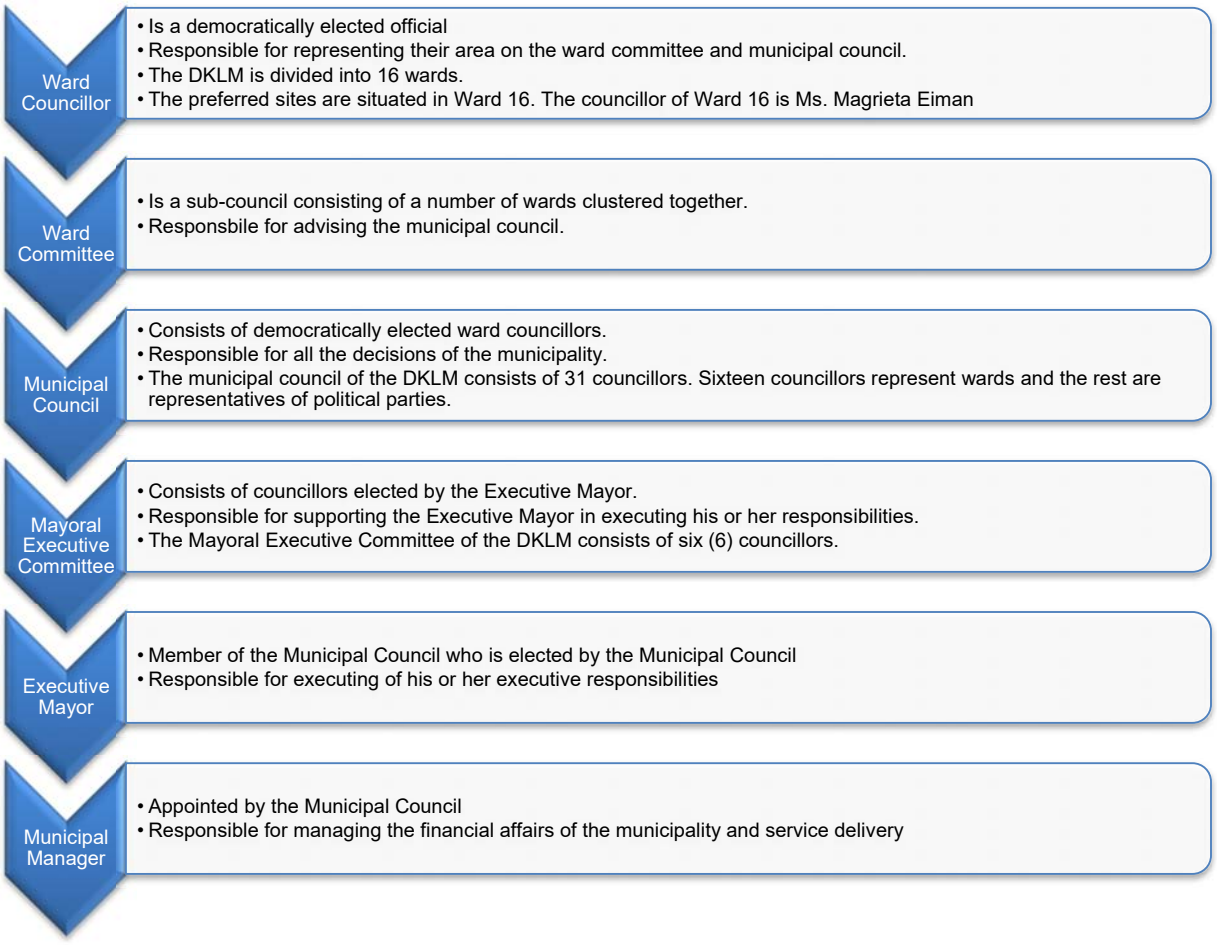


Figure 2 : Summary of the institutional framework of the Mier community

8.0 INDIGENOUS PEOPLES CONSULTATION FRAMEWORK

The following section presents a framework for the free, prior, and informed consultation with the affected Indigenous Peoples at each stage of the Project.

8.1 Consultation Schedule

8.1.1 Project Preparation

Table 2 presents the proposed consultation schedule during project preparation. There are two rounds of consultation.

In the initial round of consultation, the aim was to meet key representatives from the Mier community and ǂKhomani San to introduce the Project, the Project team, and to collect relevant baseline information. The baseline information collected from the communities was used to supplement the information gathered from the literature review. Attendees were provided with an opportunity to raise any preliminary issues/concerns regarding the proposed Project. Attendees were also be provided with an opportunity to propose measures to avoid or to mitigate the potential adverse effects of the proposed Project.

In the second round of consultation, the aim is to meet with key representatives from the Mier community and ǂKhomani San to present a more detailed description of the proposed Project, the main findings of the impact assessment, and the proposed mitigation measures. It is proposed that two focus-group meetings will also be held with community members from the Mier community and ǂKhomani San. This is to ensure that the issues/concerns of community members, and not only key representatives, have been considered in the IPP. Attendees will be provided with an opportunity to comment on the findings of the impact assessment and the proposed mitigation measures. Attendees will also be provided with an opportunity to raise any other issues/concerns regarding the proposed Project, and to propose additional mitigation measures.

Table 2: Proposed consultation schedule during project preparation

Round of consultation	Date	Representatives	Organisation	Consultation method	Venue
Initial consultation	13 April 2021	Wille Philander Barend Philander	Members of the Mier Community	Key stakeholder interview	Kalahari Information Centre & Tented Camp
	13 April 2021	Magrieta Eiman	Member of the Mier Community Local councillor	Key stakeholder interview	Kalahari Information Centre & Tented Camp
	13 April 2021	Charles Page	Member of the ǂKhomani San Contractor[2]	Key stakeholder interview	Andriesvale
	15 April 2021	Mr Hendrik Bott	Mier Community Local business owner	Key stakeholder interview	Kalahari Information Centre & Tented Camp
	22 April 2021	Collin Louw	Member of the ǂKhomani San Chairman of the CPAMC	Key stakeholder interview	n/a
	06 May 2021	Dave Mayson	Phuhlisani Solutions3	Key stakeholder interview	n/a
Follow-up consultation	TBA				
	TBA				
	TBA				

[2] Contracted by the Department of Agriculture, Land Reform and Rural Development to provide assistance to the CPAMC

[3] Contracted by the Department of Agriculture, Land Reform and Rural Development to provide assistance to the CPAMC

Round of consultation	Date	Representatives	Organisation	Consultation method	Venue
	TBA				
	TBA				

8.1.2 Project Implementation

Table 3 presents the proposed consultation schedule during project implementation. There will be feedback meetings with key representatives from the Mier community and ǂKhomani San. The purpose of these meetings will be to provide feedback on the following:

- Progress with Project
- Incidents (i.e., number, nature, cause, resolution)
- Number of local jobs
- Spend on local procurement of goods and services
- Progress with skills development, bursaries, and learnerships
- Progress with corporate social investments ("CSI")

Attendees will also be provided with an opportunity to raise any other issues/concerns regarding the proposed Project, and to propose additional mitigation measures.

Table 3: Proposed consultation schedule during project implementation

Name	Organisation	Frequency	Consultation method
Construction phase			
Magrieta Eiman	Local councillor	Quarterly	Face-to-face meeting
Collin Louw	Chairman of the CPAMC	Quarterly	Face-to-face meeting[4]
Charles Page	Chairman of the Kalahari Red Dune Route	Quarterly	Face-to-face meeting
Operational phase			
Magrieta Eiman	Local councillor	Annually	Face-to-face meeting
Collin Louw	Chairman of the CPAMC	Annually	Face-to-face meeting[5]
Charles Page	Chairman of the Kalahari Red Dune Route	Annually	Face-to-face meeting
Decommissioning and closure phases			
Magrieta Eiman	Local councillor	Quarterly	Face-to-face meeting
Collin Louw	Chairman of the CPAMC	Quarterly	Face-to-face meeting[6]
Charles Page	Chairman of the Kalahari Red Dune Route	Quarterly	Face-to-face meeting

[4] It is recommended that Eskom request a slot at the quarterly CPAMC meeting

[5] It is recommended that Eskom request a slot at the quarterly CPAMC meeting

[6] It is recommended that Eskom request a slot at the quarterly CPAMC meeting

8.2 Consultation Methods

A range of socially and culturally appropriate methods will be used to consult the affected Indigenous Peoples. This includes the following:

Face-to-Face Interviews

Face-to-face interviews will be held with key individual stakeholders. This includes for example, the local ward councillor and senior members of each community. A guide from the local community was used to assist with translations (English to Afrikaans and vice versa) and minuting of the interviews. A list of discussion topics, which were prepared beforehand, were used to guide the interview. The list of discussion topics were tailored depending on the individual being interviewed.

Telephone Interview

In addition to the face-to-face interviews, telephone interviews will also be held with key individual stakeholders. As with the face-to-face interviews, a list of discussion topics, which were prepared beforehand, were used to guide the interview. The list of discussion topics were varied depending on the individual being interviewed.

Focus Group Meetings

Focus group meetings will be held with members from the ǂKhomani San and Mier Community. These meetings will be arranged and facilitated by Golder, with the support of a guide from the local community. The guide will assist with translations (English to Afrikaans and vice versa) and minuting of the meetings. A list of discussion topics, which will be prepared beforehand, will be used to guide the discussions during the meetings. The list of discussion topics will be tailored depending on the group attending the meeting.

Email/SMS Notifications

Emails/SMSs will be used to notify stakeholders who have provided their contact details of the availability of the Basic Assessment Report (“BAR”) for their review. Emails/SMSs will also be used to keep stakeholders updated on the Project’s progress.

8.3 Disclosure

A range of culturally appropriate methods will be used to disclose relevant information about the Project to the affected Indigenous Peoples. This includes the following:

Background Information Document

A background information document will be developed prior to the second round of consultations. This document will provide a brief overview of the proposed Project, the main findings of the impact assessment, and the proposed mitigation measures. Additional information on how Indigenous Peoples can be involved in project preparation will also be provided. This document will be translated into Afrikaans, the first language of most of the ǂKhomani San and Mier community.

An electronic copy of the document will be emailed to stakeholders who have provided their contact details. Hard copies of the document will be made available at several public places in the project-affected area. This includes for example, the municipal offices, Rietfontein police station, and Rietfontein Community Health Centre.

Posters

An A2-sized poster will also be developed prior to the second round of consultations. This poster will provide a brief overview of the Project. Additional information on how Indigenous Peoples can be involved in project preparation will also be provided. This poster will also be translated into Afrikaans. These posters will be erected at several public places in the project-affected area. This includes for example, the municipal offices, Rietfontein police station, Rietfontein Community Health Centre, Rietfontein Gekombineerde Skool, and local shops.

Advertisements

An advertisement will be placed in a regional newspaper as there is no local newspaper. This advertisement will notify readers about the Project and encourage them to participate in the process by registering as an interested and affected party ("I&AP") and providing comments on the Project in writing. This advertisement will also be translated into Afrikaans.

Draft Basic Assessment Report

The draft BAR will be made available for public review during the second round of consultation. An electronic copy of the report will be uploaded to the Golder website for download. Hard copies of the report will also be made at the municipal offices, Rietfontein police station, and Rietfontein Community Health Centre.

9.0 IMPACT ASSESSMENT

9.1 Approach to Impact Assessment

The impact assessment was undertaken using a matrix selection process, the most used methodology, for determining the significance of potential environmental impacts/risks. This methodology is based on the minimum requirements as outlined in Appendix 3 of the EIA Regulations of 2014. The methodology incorporates four aspects for assessing the potential significance of impacts, namely direction, severity, probability of occurrence, and reversibility, which are further sub-divided as follows (Table 4).

Table 4: Impact assessment factors

Direction	Severity			Probability	Reversibility
Positive/ negative	Magnitude	Duration	Scale/extent	Probability of occurrence	Reversible/ irreversible

To determine the significance of each potential impact/risk, the following four ranking scales are used (Table 5)

Table 5: Impact assessment scoring methodology

Value	Description
Magnitude	
10	Very high/unknown (of the highest order possible within the bounds of impacts that could occur. In the case of adverse impacts, there is no possible mitigation that could offset the impact, or mitigation is difficult, expensive, time-consuming or some combination of these. Social, cultural, and economic activities of communities are disrupted to such an extent that these come to a halt).
8	High
6	Moderate (impact is real, but not substantial in relation to other impacts that might take effect within the bounds of those that could occur. In the case of adverse impacts, mitigation is both feasible and easily possible. Social, cultural, and economic activities of communities are changed, but can be continued (albeit in a different form). Modification of the project design or alternative action may be required).
4	Low (impact is of a low order and therefore likely to have little real effect. In the case of adverse impacts, mitigation is either easily achieved or little will be required, or both. Social, cultural, and economic activities of communities can continue unchanged.)

Value	Description
2	Minor
Duration	
5	Permanent (Permanent or beyond closure)
4	Long term (more than 15 years)
3	Medium-term (5 to 15 years)
2	Short-term (1 to 5 years)
1	Immediate (less than 1 year)
Scale	
5	International
4	National
3	Regional
2	Local
1	Site only
0	None
Probability	
5	Definite/unknown (impact will definitely occur)
4	Highly probable (most likely, 60% to 90% chance)
3	Medium probability (40% to 60% chance)
2	Low probability (5% to 40% chance)
1	Improbable (less than 5% chance)
0	None

Significance = (Magnitude + Duration + Scale) x Probability

Table 6: Significance of impact based on point allocation

Points	Significance	Description
SP>75	High environmental significance	An impact which could influence the decision about whether or not to proceed with the project regardless of any possible mitigation.
SP 30 - 75	Moderate environmental significance	An impact or benefit which is sufficiently important to require management, and which could have an influence on the decision unless it is mitigated.

Points	Significance	Description
SP<30	Low environmental significance	Impacts with little real effect and which will not have an influence on or require modification of the project design.
+	Positive impact	An impact that is likely to result in positive consequences/effects.

For the methodology outlined above Table 5), the following definitions were used:

- **Direction** of an impact may be positive, neutral, or negative with respect to the impact
- **Magnitude** is a measure of the degree of change in a measurement or analysis (e.g., the severity of an impact on human health, well-being, and the environment), and is classified as none/negligible, low, moderate, high, or very high/unknown
- **Scale/geographic extent** refers to the area that could be affected by the impact and is classified as site, local, regional, national, or international
- **Duration** refers to the length of time over which an environmental impact may occur i.e., immediate/transient, short-term, medium term, long-term, or permanent
- **Probability** of occurrence is a description of the probability of the impact occurring as improbable, low probability, medium probability, highly probable or definite
- **Reversibility** of an impact, which may be described as reversible or irreversible

9.2 Construction Phase

The following section presents a description of the nature of the potential impacts/risks associated with the construction of the proposed Project Table 7 presents a summary of the significance of potential impacts/risks during the construction phase.

9.2.1 Loss of Access to Grazing Land

During the construction phase, the entire site footprint of 10 ha for the solar PV and BESS site will be cleared of vegetation, in addition to a small area of 15mx15m for the telecommunications tower. This will reduce the area that pastoralists living in Rietfontein have for the grazing of their goats and sheep. The sites will also be fenced, reducing access to and movement through the site.

With mitigation, the impact of the loss of grazing land is likely to be moderate. The magnitude of the impact is also likely to be moderate. While the solar PV and BESS site is only 10 ha in extent (of 47 200 ha of municipal land available for grazing) and highly degraded (i.e., low grazing potential), the Mier community and ǂKhomani San are more sensitive to the impacts associated with the loss of access to land than the general public due to the long history of land dispossessions in the area. The duration of the impact will be long term (> 15 years), the scale limited to the site only, with a definite probability of occurrence.

Proposed mitigation measures include the following:

- To limit the development footprint as far as possible to reduce the loss of access to grazing land
- Post-closure rehabilitation of the preferred site to grazing land

9.2.2 Increase in Road Traffic Deaths or Serious Injuries

During the construction phase, there will be an increase in road traffic moving along the R31 through Rietfontein, Klein Mier, Groot Mier and Askham. This includes motor vehicles transporting construction workers and heavy-duty vehicles transporting construction materials and equipment. With an increase in road traffic, and in particular heavy-duty vehicles, there is the increased risk of road traffic deaths or serious injuries.

With mitigation, the risk of an increase in road traffic deaths or serious injuries is likely to be low. The magnitude of the impact is likely to be high as a road traffic incident can result in a fatality or serious injury. The duration of the impact will be short term (1 to 5 years) and limited to the region. While people from the Mier community and ǂKhomani San are at greater risk to road traffic incidents as they are acquainted with low levels of road traffic, the probability of occurrence is likely be low (5% to 40%), as the increase in road traffic will not be substantial.

Proposed mitigation measures include the following:

- All fleet vehicles (Eskom and contractors) must be fitted with telemetry and adherence to the speed limits strictly enforced
- Develop and implement a road safety awareness campaign targeting schools in Rietfontein, Klein Mier, Groot Mier and Askham
- Erect warning signs on the R31 at major pedestrian crossing points

9.2.3 Increase in Spread of Communicable Diseases

During the construction phase, there will be an increase in people living and working in the region, most of who will be from outside the area. With an increase in the number of people living and working in the region, there is the risk of an increase in the spread of communicable diseases, such as Tuberculosis, HIV/AIDs, sexually transmitted diseases (“STDs”), and COVID-19.

With mitigation, the risk of an increase in the spread of communicable diseases is likely to be low. The magnitude of the impact is likely to be high as communicable diseases can be life threatening. The duration of the impact/risk will be short term (1 to 5 years) and limited to the region. While people from the Mier community and ǂKhomani San are at greater risk to the spread of communicable diseases for numerous reasons, such as lower levels of education, high levels of poverty, and limited health services, the probability of occurrence is likely be low (5% to 40%). This is largely because the increase in the number of people living and working in the area will not be substantial.

Proposed mitigation measures include the following:

- All Eskom employees and contractors must attend induction, which includes information on preventing the spread of communicable diseases
- All Eskom employees and contractors must sign a code of conduct which strictly condemns behaviours that contribute to the spread of communicable diseases
- Develop and implement an awareness raising campaign targeting schools in Rietfontein, Loubos, Klein Mier, Groot Mier, Andriesvale, and Askham. Awareness campaign must provide information on preventing the spread of communicable diseases

9.2.4 Increase in Anti-Social Behaviours

During the construction phase, there will be an increase in people living and working in the region, most of who will be from outside the area. With an increase in the number of people living and working in the region, there

is the risk of an increase in anti-social behaviours, such as gender-based violence, violence against children, sexual harassment, use of illegal substances, and so on.

With mitigation, the risk of an increase in anti-social behaviours is likely to be low. The magnitude of the impact is likely to be high as anti-social behaviours can have a severe impact on the physical and social well-being of the victim. The duration of the impact/risk will be short term (1 to 5 years) and limited to the region. While people from the Mier Community and ǂKhomani San are at greater risk to anti-social behaviours for several reasons, such as lower levels of education, high levels of poverty, and limited health services, the probability of occurrence is likely be low (5% to 40%). This is largely because the increase in the number of people living and working in the area will not be substantial.

Proposed mitigation measures include the following:

- All Eskom employees and contractors must attend induction. Induction must include information on anti-social behaviours
- All Eskom employees and contractors must sign a code of conduct which strictly condemns anti-social behaviours
- Develop and implement an awareness raising campaign targeting schools in Rietfontein, Loubos, Klein Mier, Groot Mier, Andriesvale, and Askham. Awareness campaign must provide information on anti-social behaviours
- Develop and implement a mechanism to address the grievances of people from the Mier community and ǂKhomani San with respect to anti-social behaviours

9.2.5 Perceived Increase in Local Jobs and Business Opportunities

During the construction phase, there is likely to be the perception that the proposed Project will create a significant number of jobs for local people and opportunities for local businesses. However, the proposed Project will only create a limited number of local jobs (e.g., general construction workers, security guards, cleaners, and so on). This is because highly skilled workers are required for the installation of PV modules and BESS. Similarly, only a limited number of opportunities will be created for local businesses (e.g., building materials, accommodation, security, cleaning, and catering services). There is a risk that Eskom's social licence to operate ("SLO") may be negatively affected if the local community's expectations, with respect to local jobs and business opportunities, are not being met.

With mitigation, the impact/risk of a perceived increase in local jobs and business opportunities is likely to be low. The magnitude of the impact is likely to be high as the inability to meet the local community's expectations can impact negatively on Eskom's SLO. The duration of the impact/risk will be short term (1 to 5 years) and limited to the region. The probability of occurrence is likely to be low.

Proposed mitigation measures include the following:

- Quarterly meetings with key representatives from the Mier community and ǂKhomani San
- Identify jobs that can be undertaken by people from Rietfontein and nearby villages, based on the skills register obtained from the DKLM. Set targets for local jobs in consultation with key representatives from the Mier community and ǂKhomani San. Include local employment targets in tender documents
- Identify goods and services that can be procured locally. Set targets for local procurement in consultation with key representatives from the Mier community and ǂKhomani San. Include local procurement targets in tender documents

- Identify and implement CSI initiatives in consultation with key representatives from the Mier community and ǂKhomani San

9.2.6 Perceived Increase in Education, Skills Training, and Skills Development

During the construction phase, there is likely to be the perception that the proposed Project will create a significant number of education, skills training, and skills development opportunities. However, the proposed Project will only create a limited number of such opportunities. There is a risk that Eskom's SLO may be negatively affected if the local community's expectations, with respect to education, skills training, and skills development opportunities, are not being met.

With mitigation, the impact/risk of a perceived increase in education, skills training, and skills development opportunities is likely to be low. The magnitude of the impact is likely to be high as the inability to meet the local community's expectations can impact negatively on Eskom's SLO. The duration of the impact/risk will be short term (1 to 5 years) and limited to the region. The probability of occurrence is likely to be low.

Proposed mitigation measures include the following:

- Quarterly meetings with key representatives from the Mier community and ǂKhomani San
- Identify education, skills training, and skills development opportunities in consultation with key representatives from the Mier community and ǂKhomani San. Include education, skills training, and skills development targets in tender documents
- Identify and implement CSI initiatives in consultation with key representatives from the Mier community and ǂKhomani San

9.2.7 Compromise of Cultural Integrity of Indigenous People

During the construction phase, there will be an increase in people living and working in the region, this may include people moving to the area from outside the region. With an increase in the number of people living and working in the region, there is a moderate risk that the cultural integrity of the indigenous people would be compromised.

With mitigation, the risk of compromising the cultural integrity of indigenous people is likely to be low. The magnitude of the impact is likely to be high as people from outside the region can have a severe impact on the culture of the community. The duration of the impact/risk will be short term (1 to 5 years) during construction only, and limited to the region. While people from the Mier Community and ǂKhomani San are at greater risk to this, the probability of occurrence is likely be low (5% to 40%). This is largely because the increase in the number of people living and working in the area will not be substantial.

Proposed mitigation measures include the following:

- All Eskom employees and contractors must attend induction. Induction must include information on indigenous people's culture and behaviours
- All Eskom employees and contractors must sign a code of conduct which strictly upholds the culture of indigenous people.
- Develop and implement a mechanism to address the grievances of people from the Mier community and ǂKhomani San with respect to upholding the culture of indigenous people.

9.3 Operational Phase

The following section presents a description of the nature of the potential impacts/risks associated with the operation of the proposed Project Table 7 presents a summary of the significance of potential impacts/risks during the operational phase.

9.3.1 Perceived Increase in Local Jobs and Business Opportunities

During the operational phase, there is likely to be the perception that the proposed Project will create a significant number of jobs for local people and opportunities for local businesses. However, the proposed Project will only create a limited number of local jobs (e.g., security guards, cleaners, and so on). This is largely because the sites will be unmanned. Similarly, only a limited number of opportunities will be created for local businesses (e.g., maintenance supplies, accommodation, security, cleaning, and catering services). There is a risk that Eskom's SLO may be negatively affected if the local community's expectations, with respect to local jobs and business opportunities, are not being met.

With mitigation, the impact/risk of a perceived increase in local jobs and business opportunities is likely to be low. The magnitude of the impact is likely to be high as the inability to meet the local community's expectations can impact negatively on Eskom's SLO. The duration of the impact/risk will be long term (> 15 years) and limited to the region. The probability of occurrence is likely to be low.

Proposed mitigation measures include the following:

- Annual meetings with key representatives from the Mier community and ǂKhomani San
- Identify jobs that can be undertaken by people from Rietfontein and nearby villages, based on the skills register obtained from the DKLM. Set targets for local jobs in consultation with key representatives from the Mier community and ǂKhomani San. Include local employment targets in operational requirements
- Identify goods and services that can be procured locally. Set targets for local procurement in consultation with key representatives from the Mier community and ǂKhomani San. Include local procurement targets in operational requirements

9.4 Decommissioning and Closure Phases

The following section presents a description of the nature of the potential impacts/risks associated with the decommissioning and closure of the proposed Project Table 7 presents a summary of the significance of potential impacts/risks during the decommissioning and closure phases.

9.4.1 Increase in Road Traffic Deaths or Serious Injuries

During the closure phase, there will be an increase in road traffic moving along the R31 through Rietfontein, Klein Mier, Groot Mier and Askham. This includes motor vehicles transporting demolition workers and heavy-duty vehicles transporting demolition waste offsite. With an increase in road traffic, and in particular heavy-duty vehicles, there is the increased risk of road traffic deaths or serious injuries.

With mitigation, the risk of an increase in road traffic deaths or serious injuries is likely to be low. The magnitude of the impact is likely to be high as a road traffic incident can result in a fatality or serious injury. The duration of the impact will be immediate (<1 year) and limited to the region. While people from the Mier community and ǂKhomani San are at greater risk to road traffic incidents as they are acquainted with low levels of road traffic, the probability of occurrence is likely be low (5% to 40%). This is largely because the increase in road traffic will not be substantial.

Proposed mitigation measures include the following:

- All fleet vehicles (Eskom and contractors) must be fitted with telemetry and adherence to the speed limits strictly enforced
- Develop and implement a road safety awareness campaign targeting schools in Rietfontein, Klein Mier, Groot Mier and Askham
- Erect warning signs on the R31 at major pedestrian crossing points

Table 7: Summary of the potential impacts/risks during the construction, operational, and closure phases

Aspect	Potential Impact	Impact Assessment Factors		Probability	Significance without mitigation	Impact Assessment Factors		Probability	Significance with mitigation
Construction phase									
Livelihoods	During the construction phase, the entire site footprint of 10 ha solar PV and BESS, and 15mx15m tower sites will be cleared of vegetation.	*Direction:*	Negative	Definite/ unknown	Moderate	*Direction:*	Negative	Definite/ unknown	Moderate
		Magnitude:	Moderate			*Magnitude:*	Moderate		
		Duration:	Permanent			*Duration:*	Long term		
		Scale:	Site only			*Scale:*	Site only		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Health and safety	With an increase in road traffic, an in particular heavy-duty vehicles, there is the increased risk of road traffic death or serious injury.	*Direction:*	Negative	Medium	Moderate	*Direction:*	Negative	Low	Low
		Magnitude:	High			*Magnitude:*	High		
		Duration:	Short term			*Duration:*	Short term		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Health and safety	With an increase in the number of people living and working in the region, there is the risk of an increase in the spread of communicable diseases.	*Direction:*	Negative	Medium	Moderate	*Direction:*	Negative	Low	Low
		Magnitude:	High			*Magnitude:*	High		
		Duration:	Short term			*Duration:*	Short term		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Health and safety	With an increase in the number of people living and working in the region, there is the	*Direction:*	Negative	Medium	Moderate	*Direction:*	Negative	Low	Low
		Magnitude:	High			*Magnitude:*	High		
		Duration:	Short term			*Duration:*	Short term		
		Scale:	Regional			*Scale:*	Regional		

Aspect	Potential Impact	Impact Assessment Factors		Probability	Significance without mitigation	Impact Assessment Factors		Probability	Significance with mitigation
	risk of an increase in anti-social behaviours	*Reversibility:*	Reversible			*Reversibility:*	Reversible		
Livelihoods	Risk that Eskom's SLO may be negatively affected if the local community's expectations, with respect to local jobs and business opportunities, are not being met.	*Direction:*	Negative	Medium	Moderate	*Direction:*	Negative	Low	Low
		Magnitude:	High			*Magnitude:*	High		
		Duration:	Short term			*Duration:*	Short term		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Livelihoods	Risk that Eskom's SLO may be negatively affected if the local community's expectations, with respect to education, skills training, and skills development opportunities, are not being met.	*Direction:*	Negative	Medium	Moderate	*Direction:*	Negative	Low	Low
		Magnitude:	High			*Magnitude:*	High		
		Duration:	Short term			*Duration:*	Short term		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Livelihoods	With an increase in the number of people living and working in the region from other areas, there is the risk that the cultural integrity of indigenous people may be compromised.	*Direction:*	Negative	Medium	Moderate	*Direction:*	Negative	Low	Low
		Magnitude:	High			*Magnitude:*	High		
		Duration:	Short term			*Duration:*	Short term		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Operational phase									

Aspect	Potential Impact	Impact Assessment Factors		Probability	Significance without mitigation	Impact Assessment Factors		Probability	Significance with mitigation
Livelihoods	Risk that Eskom's SLO may be negatively affected if the local community's expectations, with respect to local jobs and business opportunities, are not being met.	*Direction:*	Negative	Medium	Moderate	*Direction:*	Negative	Low	Low
		Magnitude:	High			*Magnitude:*	High		
		Duration:	Long term			*Duration:*	Long term		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		
Closure phase									
Health and safety	With an increase in road traffic, an in particular heavy-duty vehicles, there is the increased risk of road traffic death or serious injury.	*Direction:*	Negative	Medium	Moderate	*Direction:*	Negative	Low	Low
		Magnitude:	High			*Magnitude:*	High		
		Duration:	Immediate			*Duration:*	Immediate		
		Scale:	Regional			*Scale:*	Regional		
		Reversibility:	Reversible			*Reversibility:*	Reversible		

10.0 IMPACT MANAGEMENT PLAN

The following section presents the proposed impact management actions to avoid, reverse, mitigate and/or manage the potential impacts/risks which were assessed Section 9.0. As with the assessment of potential impacts/risks, the impact management actions have been arranged according to the following project phases:

- Construction
- Operational
- Closure (including decommissioning)
- Post-closure

For each impact management action, the following information is provided:

- **Category:** The category within which the potential impact/risk occurs
- **Potential impact/risk:** Identified potential impact/risk resulting from the pre-construction, construction, operation, and closure of the proposed Project
- **Description:** Description of the possible impact management action
- **Prescribed standards or practices:** Prescribed environmental standards or practices with which the impact management action must comply. Note that only key standards or practices have been listed
- **Mitigation type:** The type of mitigation measure. This includes the following:
  - Avoidance
  - Minimisation
  - Rehabilitation or restoration
  - Offsetting
- **Time period:** The time period when the impact management actions must be implemented
- **Responsible persons:** The persons who will be responsible for the implementation of the impact management actions.

Table 8 presents a summary of the proposed impact mitigation actions during the construction, operational, closure (including decommissioning), and post-closure phases.

Table 8: Summary of proposed impact mitigation actions

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
1. Construction phase							
1.1	Livelihoods	During the construction phase, the entire site footprint of 10 ha solar PV and BESS, and 15mx15m tower sites will be cleared of vegetation.	To limit the development footprint as far as possible to reduce the loss of access to grazing land.	-	Avoidance	Pre-construction	Engineering manager
1.2	Health and safety	With an increase in road traffic, an in particular heavy-duty vehicles, there is the increased risk of road traffic death or serious injury.	All fleet vehicles (Eskom and contractors) must be fitted with telemetry and adherence to the speed limits strictly enforced.	-	Mitigation	During the construction phase	HSE manager
1.3			Develop and implement a road safety awareness campaign targeting schools in Rietfontein, Klein Mier, Groot Mier and Askham.	-	Mitigation	During the construction phase	HSE manager
1.4			Erect warning signs on the R31 at major pedestrian crossing points.	-	Mitigation	During the construction phase	HSE manager
1.5	Health and safety	With an increase in the number of people living and working in the	All Eskom employees and contractors must attend induction, which includes information on preventing the spread of communicable diseases.	-	Mitigation	At the start of the construction phase	HSE manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
1.6		region, there is the risk of an increase in the spread of communicable diseases.	All Eskom employees and contractors must sign a code of conduct which strictly condemns behaviours that contribute to the spread of communicable diseases		Mitigation	At the start of the construction phase	HSE manager
1.7			Develop and implement an awareness raising campaign targeting schools in Rietfontein, Loubos, Klein Mier, Groot Mier, Andriesvale, and Askham. Awareness campaign must include information on preventing the spread of communicable diseases	-	Mitigation	At the start of the construction phase	HSE manager
1.8	Health and safety	With an increase in the number of people living and working in the region, there is the risk of an increase in anti-social behaviours	All Eskom employees and contractors must attend induction. Induction must include information on anti-social behaviours.	-	Mitigation	At the start of the construction phase	HSE manager
1.9			All Eskom employees and contractors must sign a code of conduct which strictly condemns anti-social behaviours.	-	Mitigation	At the start of the construction phase	HSE manager
1.10			Develop and implement an awareness raising campaign targeting schools in Rietfontein, Loubos, Klein Mier, Groot Mier, Andriesvale, and Askham. Awareness campaign must provide information on anti-social behaviours.	-	Mitigation	At the start of the construction phase	HSE manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
1.11			Develop and implement a mechanism to address the grievances of people from the Mier Community and ǂKhomani San with respect to anti-social behaviours.	-	Mitigation	Prior to the start of the construction phase	HSE manager
1.12	Livelihoods	Risk that Eskom's SLO may be negatively affected if the local community's expectations, with respect to local jobs and business opportunities, are not being met.	Quarterly meetings with key representatives from the Mier community and ǂKhomani San.	-	Mitigation	During the construction phase	Project manager
1.13			Identify jobs that can be undertaken by people from Rietfontein and nearby villages, based on the skills register obtained from the DKLM. Set targets for local jobs in consultation with key representatives from the Mier community and ǂKhomani San. Include local employment targets in tender documents.	-	Mitigation	At the start of the construction phase	Project manager
1.14			Identify goods and services that can be procured locally. Set targets for local procurement in consultation with key representatives from the Mier community and ǂKhomani San. Include local procurement targets in tender documents.	-	Mitigation	At the start of the construction phase	Project manager
1.15			Identify and implement CSI initiatives in consultation with key representatives from the Mier community and ǂKhomani San.	-	Mitigation	At the start of the construction phase	Project manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
1.16	Livelihoods	Risk that Eskom's SLO may be negatively affected if the local community's expectations, with respect to education, skills training, and skills development opportunities, are not being met.	Quarterly meetings with key representatives from the Mier community and ǂKhomani San.	-	Mitigation	During the construction phase	Project manager
1.17			Identify education, skills training, and skills development opportunities in consultation with key representatives from the Mier community and ǂKhomani San. Include education, skills training, and skills development targets in tender documents.	-	Mitigation	At the start of the construction phase	Project manager
1.18			Identify and implement CSI initiatives in consultation with key representatives from the Mier community and ǂKhomani San.	-	Mitigation	At the start of the construction phase	Project manager
1.19	Livelihoods	With an increase in the number of people living and working in the region from other areas, there is the risk that the cultural integrity of indigenous people may be compromised.	All Eskom employees and contractors must attend induction. Induction must include information on indigenous people's culture and behaviours	-	Mitigation	At the start of the construction phase	HSE manager
1.20			All Eskom employees and contractors must sign a code of conduct which strictly upholds the culture of indigenous people.	-	Mitigation	At the start of the construction phase	HSE manager
1.22			Develop and implement a mechanism to address the grievances of people from the Mier community and ǂKhomani San with respect to upholding the culture of indigenous people.	-	Mitigation	Prior to the start of the construction phase	HSE manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
2. Operational phase							
2.1	Livelihoods	Risk that Eskom's SLO may be negatively affected if the local community's expectations, with respect to local jobs and business opportunities, are not being met.	Annual meetings with key representatives from the Mier community and ǂKhomani San.	-	Mitigation	During the operational phase	Project manager
2.2			Identify jobs that can be undertaken by people from Rietfontein and nearby villages, based on the skills register obtained from the DKLM. Set targets for local jobs in consultation with key representatives from the Mier community and ǂKhomani San. Include local employment targets in operational requirements.	-	Mitigation	At the start of the operational phase	Project manager
2.3			Identify goods and services that can be procured locally. Set targets for local procurement in consultation with key representatives from the Mier community and ǂKhomani San. Include local procurement targets in operational requirements.	-	Mitigation	At the start of the operational phase	Project manager
3. Closure phase							
3.1	Livelihoods	During the construction phase, the entire site footprint of 10 ha will be cleared of vegetation.	Post-closure rehabilitation of the preferred site to grazing land.	-	Rehabilitation	During the closure phase.	HSE Manager

Section No.	Category	Potential impact/risk	Description	Prescribed standards or practices	Mitigation type	Time period	Responsible person
3.2	Livelihoods	Risk that Eskom's SLO may be negatively affected if the local community's expectations, with respect to local jobs and business opportunities, are not being met.	All fleet vehicles (Eskom and contractors) must be fitted with telemetry and adherence to the speed limits strictly enforced.	-	Mitigation	During the closure phase	Project manager
3.3			Develop and implement a road safety awareness campaign targeting schools in Rietfontein, Klein Mier, Groot Mier and Askham.	-	Mitigation	During the closure phase	Project manager
3.4			Erect warning signs on the R31 at major pedestrian crossing points.	-	Mitigation	During the closure phase	Project manager
5. Post-closure phase							
No impact management actions are recommended for the post-closure phase as there not expected to be any residual impacts.							

10.1 Cost Estimates and Financing Plan

It is our understanding that an engineering, procurement, construction, and commissioning ("EPCC") contractor will be appointed by Eskom to design, construct, and commission the proposed Project. The EPCC contractor will be appointed through a competitive bid process, with the total number of local jobs and local spend being key criteria in the adjudication process.

While each EPCC will be responsible for developing their own cost estimate and financing plan, they will be required to make allowance for complying with the recommended mitigation actions contained in Section 10.0 and monitoring action in Section 11.0.

11.0 MONITORING PLAN

The following section presents the proposed monitoring actions for monitoring and reporting on the implementation of the impact mitigation actions presented in the preceding Section 10.0. The content of this section is largely based on the monitoring requirements outlined in Appendix 4 of the EIA Regulations, 2014.

For each monitoring action, the following information is provided:

- **Category:** The category within which the potential impact and/or risk occurs
- **Potential impact/risk:** Identified potential impact/risk resulting from the pre-construction, construction, operation, and closure of the proposed Project
- **Method for monitoring:** The method for monitoring the implementation of the recommended mitigation measures
- **Time period:** The time period over which the monitoring actions must be implemented
- **Frequency of monitoring:** The frequency of monitoring the implementation of the recommended mitigation measures
- **Mechanism for monitoring compliance:** The mechanism for monitoring compliance with the impact management actions
- **Responsible persons:** The persons who will be responsible for the implementation of the monitoring actions
- As with the impact management actions, the proposed monitoring actions have been arranged according to the following project phases:
  - Construction
  - Operational
  - Closure (including decommissioning)
  - Post-closure

Table 9 presents a summary of the proposed monitoring actions during the construction, operational, closure (including decommissioning), and post-closure phases.

Table 9: Summary of the proposed monitoring actions

Ref. No.	Category	Method for monitoring	Time period	Frequency of monitoring	Mechanism for monitoring compliance	Responsible person
1. Construction phase						
1.1	Health and safety	Monitoring of adherence of fleet vehicles to speed limits. If required, take necessary action to enforce compliance with speed limits.	Duration of the construction phase.	Ongoing.	Weekly internal reporting.	HSE manager
1.2	Livelihoods	Tracking local employment against agreed to targets.	Duration of the construction phase.	Ongoing.	Monthly internal reporting. Quarterly external reporting.	HSE manager
1.3	Livelihoods	Tracking local procurement against agreed to targets.	Duration of the construction phase.	Ongoing.	Monthly internal reporting. Quarterly external reporting.	HSE manager
1.4	Livelihoods	Tracking education, skills training, and skills development against agreed to targets.	Duration of the construction phase.	Ongoing.	Monthly internal reporting. Quarterly external reporting.	HSE manager
1.5	Livelihoods	Tracking implementation of CSI initiatives against agreed to targets.	Duration of the construction phase.	Ongoing.	Monthly internal reporting. Quarterly external reporting.	HSE manager

Ref. No.	Category	Method for monitoring	Time period	Frequency of monitoring	Mechanism for monitoring compliance	Responsible person
1.6	-	Tracking of the grievances lodged by members of the Mier community and/or ǂKhomani San.	Duration of the construction phase.	Ongoing	Weekly internal reporting. Quarterly external reporting.	HSE manager
2. Operational phase						
2.1	Livelihoods	Tracking local employment against agreed to targets.	Duration of the operational phase.	Ongoing.	Monthly internal reporting. Annual external reporting.	HSE manager
2.2	Livelihoods	Tracking local procurement against agreed to targets.	Duration of the operational phase.	Ongoing.	Monthly internal reporting. Annual external reporting.	HSE manager
2.3	-	Tracking of the grievances lodged by members of the Mier community and/or ǂKhomani San.	Duration of the operational phase.	Ongoing	Weekly internal reporting. Annual external reporting.	HSE manager
3. Closure phase						
3.1	Health and safety	Monitoring of adherence of fleet vehicles to speed limits. If required, take necessary action to enforce compliance with speed limits.	Duration of the closure phase.	Ongoing.	Weekly internal reporting. Quarterly external reporting.	HSE manager

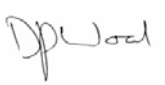
Ref. No.	Category	Method for monitoring	Time period	Frequency of monitoring	Mechanism for monitoring compliance	Responsible person
3.2	-	Tracking of the grievances lodged by members of the Mier community and/or ǂKhomani San.	Duration of the closure phase.	Ongoing	Weekly internal reporting. Quarterly external reporting.	HSE manager
Post-closure phase						
No impact monitoring actions are recommended for the post-closure phase as there not expected to be any residual impacts.						

12.0 REFERENCES

1) Konrad R. (2008). *"Lions and Jackals": Peace Parks in Southern Africa and their Effects on the local Population: An Analysis based on the Kgalagadi Transfrontier Park*. PhD Thesis. University of Vienna

2) SAHRC (2004). Report on the Inquiry into Human Rights Violations in the Khomani San Community. South African Human Rights Commission.

Golder Associates Africa (Pty) Ltd.



Michael Van Niekerk
Environmental Practitioner

Dr David de Waal
Technical Director: Social Management & Specialists

MVN/DdW/nk

APPENDIX A

Code of Ethics

SAN CODE OF RESEARCH ETHICS

South African San Institute 2017

TRUST
Equitable Research Partnerships

RESPECT

We require respect, not only for individuals but also for the community.

We require respect for our culture, which also includes our history. We have certain sensitivities that are not known by others. Respect is shown when we can input into all research endeavours at all stages so that we can explain these sensitivities.

Respect for our culture includes respect for our relationship with the environment.

Respect for individuals requires the protection of our privacy at all times.

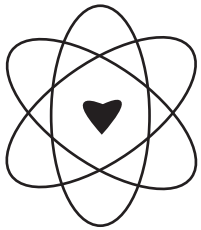
Respect requires that our contribution to research is acknowledged at all times.

Respect requires that promises made by researchers need to be met.

Respectful researchers engage with us in advance of carrying out research. There should be no assumption that San will automatically approve of any research projects that are brought to us.

We have encountered lack of respect in many instances in the past. In Genomics research, our leaders were avoided, and respect was not shown to them. Researchers took photographs of individuals in their homes, of breastfeeding mothers, or of underage children, whilst ignoring our social customs and norms. Bribes or other advantages were offered.

Failure by researchers to meet their promises to provide feedback is an example of disrespect which is encountered frequently.



HONESTY

We require honesty from all those who come to us with research proposals.

We require an open and clear exchange between the researchers and our leaders. The language must be clear, not academic. Complex issues must be carefully and correctly described, not simply assuming the San cannot understand. There must be a totally honest sharing of information.

Open exchange should not patronise the San. Open exchanges implies that an assessment was made of possible harms or problems for the San resulting from the research and that these possible harms are honestly communicated.

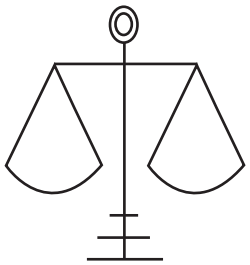
Prior informed consent can only be based on honesty in the communications, which needs to be carefully documented. Honesty also means absolute transparency in all aspects of the engagement, including the funding situation, the purpose of the research, and any changes that might occur during the process.

Honesty requires an open and continuous mode of communication between the San and researchers.

We have encountered lack of honesty in many instances in the past. Researchers have deviated from the stated purpose of research, failed to honour a promise to show the San the research prior to publication, and published a biased paper based upon leading questions given to young San trainees. This lack of honesty caused much damage among the public, and harmed the trust between the collaborating organisation and the San.

Another common lack of honesty is exaggerated claims of the researcher's lack of resources, and thus the researchers' inability to provide any benefits at all.

JUSTICE AND FAIRNESS



We require justice and fairness in research.

It is important that the San be meaningfully involved in the proposed studies, which includes learning about the benefits that the participants and the community might expect. These might be largely non-monetary but include co-research opportunities, sharing of skills and research capacity, and roles for translators and research assistants, to give some examples.

Any possible benefits should be discussed with the San, in order to ensure that these benefits do actually return to the community.

As part of justice and fairness the San will try to enforce compliance with any breach of the Code, including through the use of dispute resolution mechanisms.

In extreme cases the listing and publication of unethical researchers in a "black book" might be considered. An institution whose researchers fail to comply with the Code can be refused collaboration in future research. Hence, there will be "consequences" for researchers who fail to comply with the Code.

We have encountered lack of justice and fairness in many instances in the past. These include theft of San traditional knowledge by researchers. At the same time, many companies in South Africa and globally are benefitting from our traditional knowledge in sales of indigenous plant varieties without benefit sharing agreements, proving the need for further compliance measures to ensure fairness.

CARE

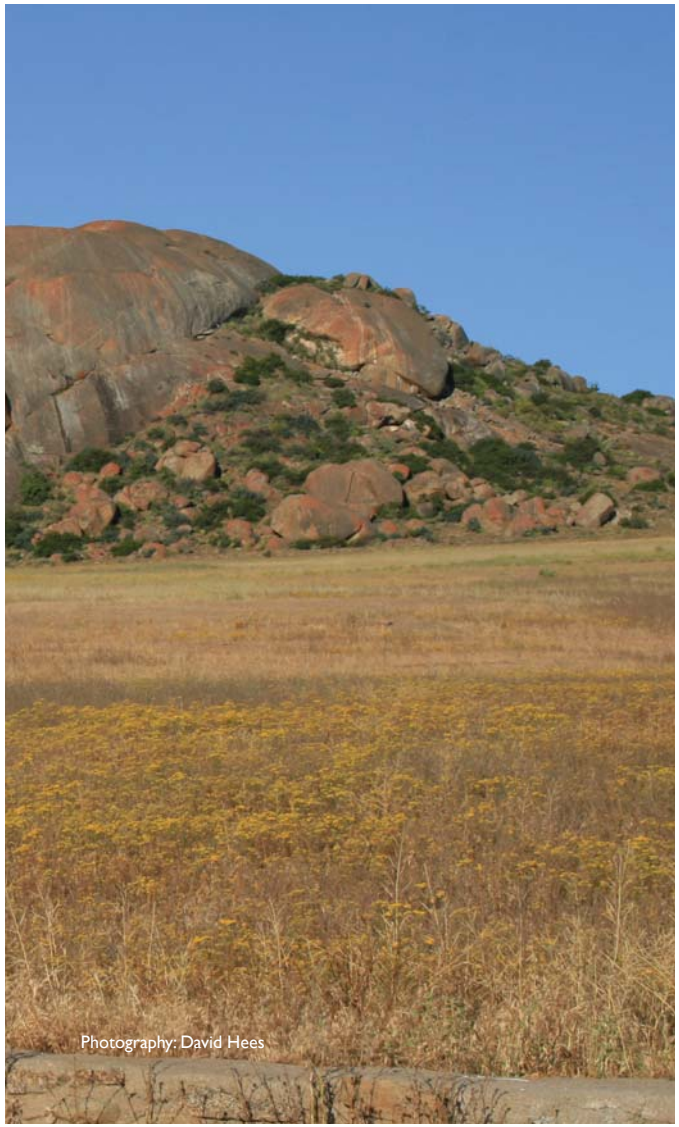
Research should be aligned to local needs and improve the lives of San. This means that the research process must be carried out with care for all involved, especially the San community.

The caring part of research must extend to the families of those involved, as well as to the social and physical environment.

Excellence in research is also required, in order for it to be positive and caring for the San. Research that is not up to a high standard might result in bad interactions, which will be lacking in care for the community.

Caring research needs to accept the San people as they are, and take note of the cultural and social requirements of this Code of Ethics.

We have encountered lack of care in many instances in the past. For instance, we were spoken down to, or confused with complicated scientific language, or treated as ignorant. Failing to ensure that something is left behind that improves the lives of the San also represents lack of care.


Photography: David Hees

PROCESS

Researchers need to follow the processes that are set out in our research protocols carefully, in order for this Code of Ethics to work.

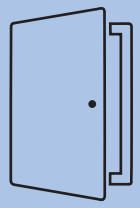
The San research protocol that the San Council will manage is an important process that we have decided on, which will set out specific requirements through every step of the research process.

This process starts with a research idea that is collectively designed, through to approval of the project, and subsequent publications.

The San commit to engaging fairly with researchers and manage effectively all stages of the research process, as their resources allow. They also commit to respecting the various local San structures (e.g. Communal Property Association, CPA leaders) in their communications between San leaders and San communities.

Andries Steenkamp, the respected San leader who contributed to this Code of Ethics until he passed away in 2016, asked researchers to come through the door, not the window.

The door stands for the San processes. When researchers respect the door, the San can have research that is positive for us.



Contact Details: admin@sasi.org.za
South African San Institute, 4 Sanda Park,
Platfontein Farm, Barkly-West /
Kimberley Road, Kimberley,
Northern Cape, South Africa.

TRUST
Equitable Research Partnerships

APPENDIX B

Draft Grievance Redress Mechanism

Eskom Grievance Redress Mechanism

Introduction

This Grievance Redress Mechanism ("GRM") is a project-level grievance redress mechanism created to receive complaints from Project-affected people and communities who believe that the Mier Rietfontein Solar PV and Battery Storage Project (hereafter referred to as the "Project") has caused or will cause them harm.

The GRM facilitates a prompt response to grievances by providing support to the Task Team to address the issues raised in a quick and effective manner.

The GRM is led by Eskom Holdings SOC Limited ("Eskom"). The GRM comes into effect from 1 June 2021.

Submission of a Complaint

Who May Submit a Complaint?

A complaint may be submitted by one or more individuals, or their representatives, who believe they are directly and adversely affected by the Project.

The complaint must identify the individual(s) submitting the complaint, and whether they are Project-affected individual(s) and/or a community or representative.

Complainants may ask that their identity be kept confidential. The request for confidentiality should be submitted with the complaint. The Task Team will maintain confidentiality of personal or classified information if requested.

Complainants may submit a complaint through an authorised representative. The authorised representative must include his/her name and contact details and sign the complaint. The representative must also provide written proof (such as a signed letter by the complainant(s)) of his/her authority to represent and act on behalf of the complainant(s) in relation to the complaint. The Task Team will communicate directly with the authorised representative, as necessary and appropriate, and will keep the representative and/or complainant(s) informed about the status of the complaint. Complainants may also submit the complaint on their own behalf and appoint a contact person or persons for all communications regarding the complaint.

Anonymous complaints will be deemed inadmissible. However, if an anonymous complaint contains specific information about Project-related issues, it will be forwarded to the Task Team for its information and follow-up, where appropriate.

How to Submit a Complaint

A complaint can be submitted in any of the ways outlined below.

Via email: pp@golder.co.za

Via fax: (+27)11 254 4800

Via mail: Golder Associates Africa (Pty) Ltd

Building 1, Maxwell Office Park

Magwa Crescent

Midrand

1685

Format and Language of a Complaint

Complaints may be submitted in Afrikaans. All of the Task Team's correspondence with the complainant will be in English and, where feasible, in Afrikaans. In the event of any discrepancy between the two versions, the English version will prevail.

No specific format is required as long as the required information is included: (a) identity of complainant(s) and representatives, if any; and (b) information as detailed in the section below. Complainants may use the attached complaint form or any format of their choosing.

Content of a Complaint: Required Information

A complaint must allege actual or potential harm resulting from the Project, regardless of whether the issues raised fall under Eskom's operational policies and procedures. Complaints should raise operational matters but need not raise matters of non-compliance with such policies to be admissible.

The complaint must state the adverse impact(s) allegedly caused or likely to be caused by the proposed Project. This should be supported by available documentation and correspondence, where possible and appropriate, or upon the Task Team's request at a later date. The complainant(s) may also indicate the desired outcome of the complaint, i.e., how it may be resolved.

Procurement related complaints pertaining to the Project may be submitted to the Task Team by bidders or potential bidders (companies or individuals). These complaints will not be processed following GRM procedures but instead in line with the relevant provisions of Eskom's procurement policies.

Admissibility

Scope and Admissibility of Complaints

Complaints are admissible if they meet the following criteria:

- The Project is active, i.e., planning has begun and the Project has not yet closed
- The complaint is filed by Project-affected individuals and/or communities, or their representative
- The complaint alleges that the Project has caused or will cause harm to the individuals and or communities submitting the complaint

The following issues are excluded:

- Complaints pertaining to other Eskom-supported projects
- Issues pertaining to fraud and/or corruption in an Eskom-supported project
- Issues related to obtaining employment with the Project
- Complaints that are obviously frivolous or absurd are not admissible

Determination of Admissibility

After receipt of a complaint, the Task Team immediately registers it in the Complaints Register.

Within two business days of receipt of the complaint, the following takes place:

- The Task Team notifies the complainant(s) of receipt of the complaint. With the notification of receipt, the task Team may also request additional information from the complainant(s)
- The Task Team determines whether the issues relate to procurement or to other matters falling within the mandate of the Task Team, as set forth in this GRM. If the complaint is related to procurement, the Task Team forwards the complaint to the responsible procurement manager
- If the complaint pertains to operational matters, the Task Team notifies the relevant Eskom staff including the Project Manager, Legal Department, External and Corporate Relations, and others as warranted, regarding receipt of the complaint

Within 10 business days, the Task Team reviews and evaluates the complaint and determines whether the complaint meets the admissibility criteria set forth above, in consultation with relevant staff.

During the 10-day admissibility assessment period, the Task Team may request further information from the complainant(s). If no response is received from the complainant(s) within 10 business days of the request, the Task Team contacts the complainant(s) again. If no response is received within 10 business days of the second request, the Task Team considers closing the case. However, even if the case is closed, if the complaint contains specific information about Project-related issues, the Task Team may take action where appropriate.

If the complaint is admissible, the complainant(s) are notified of admissibility.

If the complaint is non-admissible, the complainant(s) are notified of this decision and the reasons for it, and are referred to relevant institutions, where appropriate. The Task Team then closes the case.

Formulation of Proposal and Implementation

Formulation of Proposal

After declaring the complaint admissible, the Task Team opens the Formulation of Proposal phase. The Task Team review the issues raised and discuss possible ways to move forward. The Task Team contact the complainant(s) to review the concerns and agree on next steps to address the complaint. This communication occurs no later than 10 business days after the Task Team has communicated the admissibility of the complaint to the complainant(s).

The Task Team formulates a proposal to address the issues raised in the complaint. Where required and appropriate, the GRS also seeks support and advice of the Project Manager, Legal Department, External and Corporate Relations, and others as warranted.

Within 30 business days after determination of admissibility of the complaint, the proposal should be presented to the complainant. In exceptional cases, e.g., for complex complaints or complaints supported by a large number of documents, the time limit provided for in this paragraph may be extended and the complainant(s) will be informed accordingly. The Task Team consults with and seeks the input of the complainant(s) on all aspects of the proposal.

The proposal should include an action plan with a timeframe for its implementation.

If the proposal is accepted by the complainant(s), the Task Team implements it according to the process and timeframe set forth in the proposal. Agreement on the proposal should be reached within 30 business days

after the initial proposal has been presented to the complainant. For extraneous circumstances, additional time can be granted if both parties agree.

If the proposal is rejected by the complainant(s) and/or the complaint cannot be resolved through the process outlined in these procedures, the Task Team informs the complainant(s) that no resolution could be reached. The Task Team then refers the complainant(s) to other options for remedy, where appropriate

Implementation of Proposal

Once the proposal is accepted, the Task Team promptly starts implementing the proposal. The proposed timeframe will depend on the nature of the actions. The Task Team will inform the complainant(s) in advance and explain the scope of the action plan and the timeframe.

The Task Team keeps the complainant(s) up to date on the status and progress of the implementation of the proposal until resolution of the complaint.

Case Closure

The Task Team considers the complaint resolved and closes the case when there is agreement with the complainant(s) that the proposal has been successfully implemented and the issues addressed.

If complainant(s) believe that the complaint has not been addressed through the implementation of the agreed upon proposal, the Task Team engage with the complainant(s) to determine whether and how a satisfactory outcome can be achieved. If these additional consultations do not lead to a further agreement, the Task Team refers the complainant(s) to other options for remedy, where possible and appropriate. The Task Team then closes the case.

Freedom from Retaliation

It is Eskom’s position that complainant(s) who use the GRM must not be subject to any form of retaliation based on the fact that they complained to the Task Team.

Eskom Grievance Redress Mechanism

Complaint Form

1) **The Complainant's information:** *This information must be provided. Anonymous complaints will not be accepted.*

a. Full Name:	(☐Mr., ☐Ms., ☐Mrs., or ☐Other salutation) Click or tap here to enter text.
b. E-mail address:	Click or tap here to enter text.

a) Is there a representative making this complaint on behalf of the complainant(s)? ☐Yes ☐No

If Yes, kindly provide the name and Contact information of the authorized representative: Click or tap here to enter text.

If Yes, kindly submit a representational authority signed by the complainant

b) Do you consent to have your personal information shared with the Eskom units responsible for the project you are complaining about? ☐Yes ☐No

If you selected No, please elaborate:

c) Do you fear retaliation for making this complaint? ☐Yes ☐No

If you selected Yes, please elaborate:

2) The Complaint:

a) What harm do you believe the World Bank-financed project has caused or is likely to cause you?

b) Please include any other information that you consider relevant.

3) Previous Efforts to Resolve the Complaint:

a) Have you raised your complaint with the grievance mechanism of the project? ☐Yes ☐No

b) Was there any action taken? ☐Yes ☐No

c) How do you wish to see the complaint resolved?

4) Signature:

_____

Date (DD/MM/YYY):

Complaints may be submitted by mail, e-mail, or hand delivery to Eskom.

Mail	Email

Note:

Please attach supporting documents, if available.

If you have any difficulty in completing the form, please contact Eskom at:

Contact person: Archibold Appoles

Cellphone number: 081 444 8267

Office number: 053- 830 5442

Email address: AppoleA@eskom.co.za

golder.com