DRAFT SCOPING REPORT FOR THE PROPOSED DEVELOPMENT OF KALAHARI SECONDARY SCHOOL AND ASSOCIATED INFRASTRUCTURE, KURURMAN, GA-SEGONYANA LOCAL MUNICIPALITY, NORTHERN CAPE

SEPTEMBER 2020

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The EAP and Specialists act as independent Practitioners in this process and perform the work relating to the project in an objective manner, even if this results in views and findings that are not favourable to the applicant.

EXECUTIVE SUMMARY

INTRODUCTION

The Northern Cape Department of Education commissioned KRMS Architects to all preliminary and civil work for the proposed construction of the Kalahari Secondary School in Kuruman. Jeanercy Co. was tasked by KRMS Architects to conduct the Environmental Impact Assessment for the proposed development.

The proposed development of the Kalahari Secondary School will include, but not limited to, the construction of the following:

- 1 Large Admin
- 1 Nutrition Centre
- 1 Media Centre
- 2 Multipurpose Classrooms
- 5 x 5 Classroom Block
- 1 x (2x Classroom) Science Labs
- 1 x (1x Classroom) Science Labs
- 2 x Large Ablutions
- 1 Multipurpose Hall
- 1 Guard House
- 1 Refuse Yard
- 2 Disabled Parking's
- 24 Open Parking's
- 1 Sports Field (Soccer, Rugby equipment)
- 11 Drinking Fountains
- 2 Flag Poles
- Clear-vu Boundary fence
- Entrance Wall
- Covered Walkways
- 1 Janitor Quarters
- 2 Combi Court (Tennis, Basketball, Netball and volleyball equipment)
- Schedules
- Outdoor benches
- Solar panels

- **WHY IS AN ENVIRONMENTAL IMPACT ASSESSMENT PROCESS NECESSARY?**

The Department of Environmental Affairs (DEA) identified certain activities that may have a detrimental impact on the environment. In order to ensure that the potential negative and positive

impacts are investigated, understood, and mitigated the DEA promulgated regulations under the National Environmental Management Act (Act 107 of 1998) that (a) identify the activities that require a Basic Assessment (BA) or Full Scoping and Environmental Impact Assessment (S&EIA); and (b) govern how these studies must be conducted. These regulations are called the Environmental Impact Assessment (EIA) Regulations of the 8th of December 2014 as amended on the 4th of April 2017 and can be found in Government Gazette No. 40772.The regulations consist of the following:

- Regulation 326 – Environmental Impact Assessment Regulations.
- Regulation 327 – Listing Notice 1.
- Regulation 325– Listing Notice 2.
- Regulation 324 – Listing Notice 3.

These regulations are used by Applicants (KRMS in this case) and Environmental Assessment Practitioners (EAPs) to decide what studies need to be conducted.

In order to construct a Secondary School, listed activities in Listing Notice 1, Listing Notice 2 and Listing Notice 3 are triggered. This means that KRMS needs to conduct a full Scoping and Environmental Impact Assessment and submit it to the Competent Authority (CA). The CA then uses the information in the report to decide whether the activity can be authorised (given the go-ahead) and what conditions are necessary to protect the receiving environment, or if the proposed project will be too detrimental to the environment and must be stopped from being implemented.

- **ENVIRONMENTAL IMPACT ASSESSMENT PROCESS**

An (EIA) process consists of a number of phases (please refer to the figure below).

- **Scoping Phase**

The Environmental Impact Assessment process commences with a Scoping Phase (this is where we are at the moment). The Scoping Phase is used to:

- Describe the proposed activity, including the need and desirability of the activity.
- Describe the alternatives that have been identified. (Alternatives are very important, since this allows the EAP to find the best possible environmental, social and economic solution to the project later on in the EIA).
- Inform and consult with the people directly affected and those who have interest or jurisdiction over the area where the proposed activity will take place. These people and organisations are called Interested and Affected Parties (I&APs). This process is called the Public Participation Process (PPP).
- Gather background information about the proposed activity, the receiving environment and the socio-economic setting of the area.
- Conduct basic studies (mostly desktop studies) to understand the issues that that need to be investigated further and in more detail.

- Identify if there are any sensitivities, typically termed “red flags”. These are project challenges that are severe and cannot be immediately mitigated against thereby posing a threat to the continuation of the project in its entirety or the use of a particular alternative.
- Describe what in-depth studies are required to investigate the issues identified. (The aim is to find out exactly what the potential impacts are, how severe they are and how (if at all) they can be mitigated. In the same way, if there are positive impacts, ways are developed to enhance these positive impacts.
- Develop a Plan of Study (PoS) for the Environmental Impact Assessment Phase of the study.

The outcome of the Scoping Study is a Final Scoping Report (FSR) that is submitted to the CA – in this case being the Northern Capes Department of Environment, Nature and Conservation. Section 24 (c) (d) (iii) states that if an activity is carried out by a statutory body, excluding any municipality, performing an exclusive competence of the national sphere of government then the minister shall be identified as the competent authority.

The information that this Scoping Report (SR) should contain is described in Appendix 2 of Regulation 326 of the EIA Regulations, 2014, as amended.

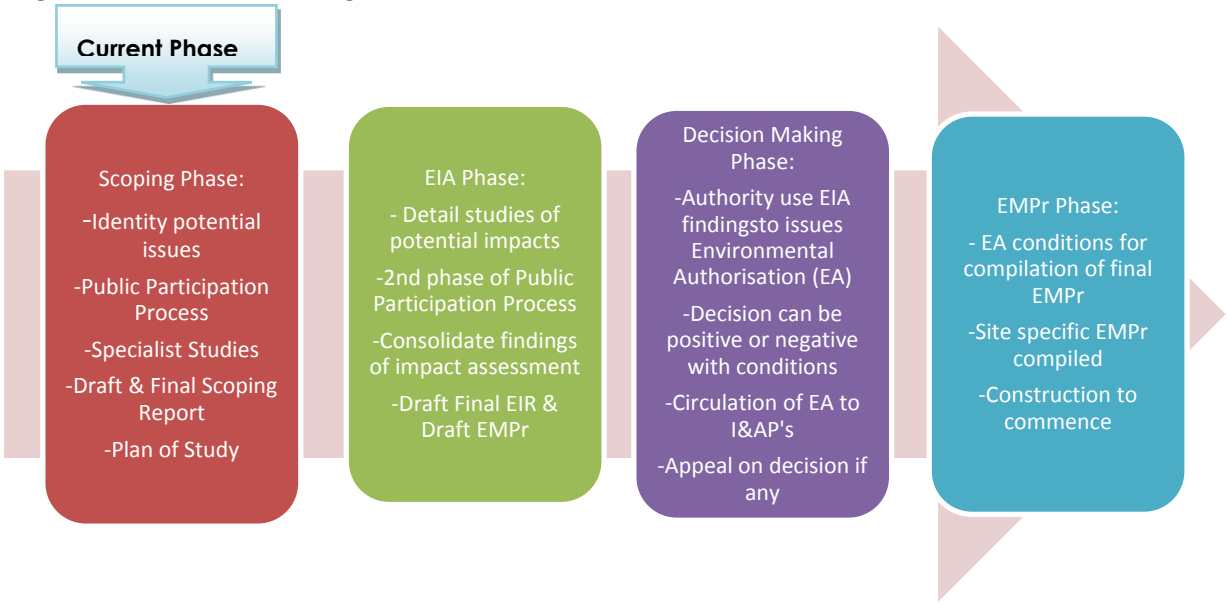

Figure 1: Phases of an Environmental Impact Assessment Phase

- **Environmental Impact Assessment Phase**

During this phase a number of in-depth specialist studies (spanning both the biophysical environment and the social environment) are conducted. These studies focus on the potential negative impacts that the project may have and how these impacts can be eliminated, minimised, mitigated, or managed, and how positive impacts can be enhanced. The EAP uses this information, along with the information gathered during the Public Participation Process to compile a report that will allow the CA to make a decision as to whether the project should be allowed or not.

- **Decision-Making Phase**

The outcome of this review by the CA is called an Environmental Authorisation (EA). Despite its name, it can be used to either authorise an activity (give the go-ahead) or decline an activity.

- **Appeal Phase**

Once the EA is handed to the Applicant, all registered Interested and Affected Parties (I&APs) are informed and a copy of the EA is provided to them. Should any party or parties wish to contest the outcome of the EA they can lodge an Appeal against the Decision that was made by the Competent Authority. There are certain requirements that the appellant needs to adhere to. These can be found in Chapter 2 of the National Appeal Regulations of 2014, as amended. The EA also contains a summary explaining how a party may appeal the decision.

- **Environmental Management Programme Phase**

The last phase where an EAP is involved is called the Construction Environmental Management Programme Phase (or CEMPr Phase). A Draft EMPr is included in the Draft Environmental Impact Assessment Report and Final Impact Assessment Report.

Once compiled, the EMPr is submitted to the CA who reviews the document and authorises it. This now becomes a document that is legally binding on the applicant and subcontractors. The EMPr is a "living document" and can be altered to take into account situations that were not foreseen during the compilation of the document. These alterations must be submitted to the CA and authorised before it can be implemented.

- **Public Participation Process**

A Public Participation Process (PPP) is required as part of an EIA as per Section 39 to 44, Chapter 6 of R326 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and as indicated in the 2014 Regulations, as amended in April, 2017.

According to the 2014 Regulations, as amended in April, 2017 a process must be designed that will ensure that I&APs are given adequate information and allowed to participate (raise issues, make comments, ask questions, etc.) during both the Scoping and Environmental Impact Assessment Phases.

Furthermore, the Draft Scoping Report (DSR) must be made available to Registered I&APs and the general public alike to study and comment on. These comments and the responses given thereto; are then worked into the Final Scoping Report that will be submitted to the CA.

The following activities will be undertaken during this Scoping Phase:

- Announcement of the project by fixing a notice board at places conspicuous to and accessible by the public at the boundary, on the fence or along the alternative corridors. Giving a written notice and placing an advertisement in at least one provincial newspaper or national newspaper.
- Registration of Interested and Affected Parties (I&APs). These are all persons who have submitted written comments or attended meetings with the proponent, applicant or the EAP.

This also includes people that have requested the proponent, applicant or EAP, in writing, for their names to be placed on the register, and all organs of state which have jurisdiction in respect of the activity to which the application relates.

- Distribution of a Background Information Document (BID) to the occupiers of the alternative sites, the owner or person in control of the land adjacent to the alternative sites, the municipality councillor of the wards affected, the municipality, the organs of state having jurisdiction in respect of any aspect of the activity and any other party as required by the competent authority.
- Public and Stakeholder Meetings will be held within the areas of the proposed alternative sites.
- Compilation of an Issues and Responses Report (IRR). I&AP's are entitled to comment, in writing, on all reports or plans submitted to such parties during the public participation process and to bring to the attention of the proponent or applicant any issues which that party believes may be of significance to the consideration of the application, provided that the I&AP's disclose any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application. The applicant must ensure that the comments of I&AP's are recorded in reports and plans and that such written comments, including responses to such comments and records of meetings, are attached to the reports and plans that are submitted to the competent authority in terms of these Regulations.

The Draft Scoping Report will be available for public scrutiny for a period of at least 30 days. These comments must reach the EAP within 30 days of making the Draft Scoping Report available.

The comments received on the Draft Scoping Report will be used in the preparation of the Final Scoping Report that will be submitted to the Competent Authority, for review and decision-making. The CA can make one of three decisions, namely:

- Request for further information that will assist in the CA making a decision.
- Give the go-ahead to continue with the Environmental Impact Assessment Phase.
- Decline the project at this point.

- **ALTERNATIVES**

Alternatives, in relation to a proposed activity, relates to different ways of achieving the general purpose and requirements of the activity, which may include alternatives to the property on which or location where the activity is proposed to be undertaken, the type of activity to be undertaken, design or layout of the activity, technology to be to be used in the activity or the operational aspects of the activity and including the option of not implementing the activity. According to the National Environmental Management Act, Act 107 of 1998 (NEMA), it is required to investigate as many feasible alternatives as possible. This is also best practice in environmental management worldwide. During the Scoping Phase, the EAP, Specialists and the I&APs investigate all the possible alternatives and endeavour to find out if there are any "red flags". The alternatives that are not eliminated at this stage are taken forward to the EIA Phase.

In the case of this project, the following are considered to be the project alternatives:

- Technology Alternatives;
- Alignment Alternatives (there are three alternative corridors at present).
- No-Go Alternative (meaning the project is not executed and the status quo remains the same).
- Site alternatives.

- **CONCLUSION**

The aim of this Scoping Report is to provide the Interested and Affected Parties and authorities the opportunity to learn about the proposed project, the receiving environment, the alternatives investigated, the preliminary issues identified, and the plan of how the Environmental Impact Assessment Phase will be dealt with (this is contained in the Plan of Study for EIA). All Interested and Affected Parties are invited to read and comment on this report within the specified timeframe (please refer to the figure below).

Process as per December 2014 Regulation, as amended in April 2017

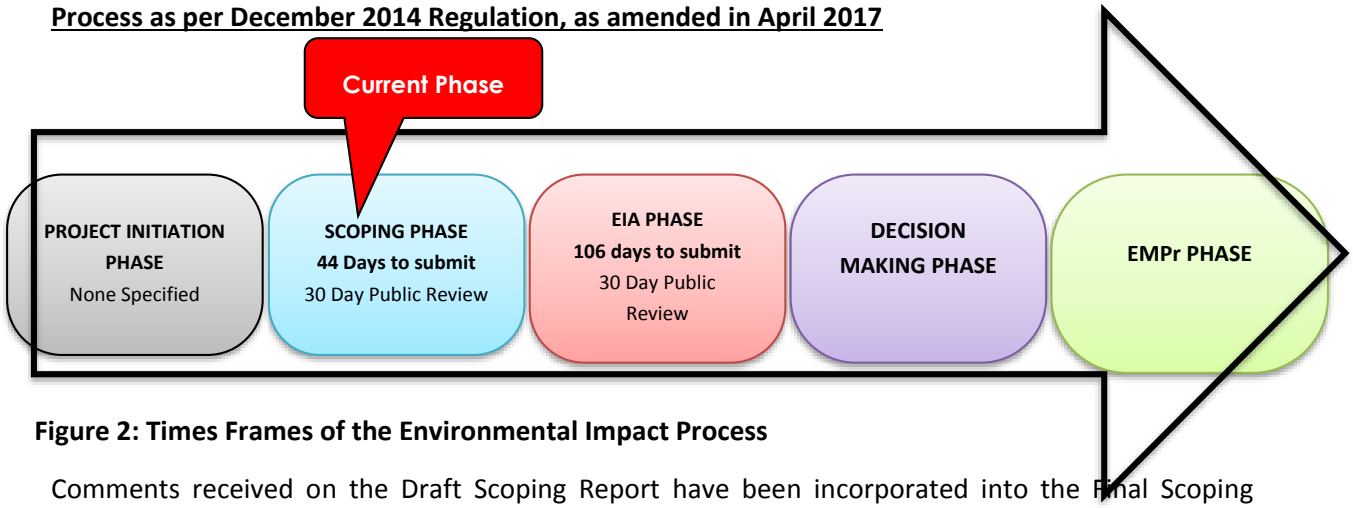

Figure 2: Times Frames of the Environmental Impact Process

Comments received on the Draft Scoping Report have been incorporated into the Final Scoping Report and will be submitted (along with the Plan of Study for EIA) to the Competent Authority for their review and decision-making.

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LIST OF ABBREVIATIONS

BID:	Background Information Document
CA:	Competent Authority
DEA:	National Department of Environmental Affairs
DSR:	Draft Scoping Report
EA:	Environmental Authorisation
EAP:	Environmental Assessment Practitioner
ECO:	Environmental Control Officer
EIA:	Environmental Impact Assessment
EIR:	Environmental Impact Report
EMPr:	Environmental Management Programme
FSR:	Final Scoping Report
I&APs:	Interested and Affected Parties
IDP:	Integrated Development Plan
IRR:	Issues and Responses Report
NEMA:	National Environmental Management Act (Act No. 107 of 1998)
NEM: AQA:	National Environmental Management Air Quality Act (Act No. 39 of 2004)
NEM: PAA:	National Environmental Management Protected Areas Act (Act 59 of 2003)
NEM: WA:	National Environmental Management Waste Act (Act 59 of 2008)
NWA:	National Water Act (Act No. 36 of 1998)
SAHRA:	South African Heritage Resources Agency
SR:	Scoping Report

Table 1: Table of Sections Based on the National Environmental Management Act, 1998 (Act 107 Of 1998), and the 2014 EIA Regulations of 08 December 2014, as amended on the 07th of April 2017

Taken from Appendix 2 of The EIA Regulations of 08 December 2014		
Section in Regulation	**Description in EIA Regulation**	**Section in This Report**
A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include -		
(a)	**Details of -**	
(a)(i)	The EAP who prepared the report; and	1.5
(a)(ii)	The expertise of the EAP, including a curriculum vitae;	1.5
(b)	**The location of the activity, including -**	
(b)(i)	The 21-digit Surveyor General code of each cadastral land parcel;	n/a
(b)(ii)	Where available, the physical address and farm name;	1
(b)(iii)	Where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	1
(c)	**A plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is -**	
(c)(i)	A linear activity, a description and coordinates of the corridor in which the activity is to be undertaken;	n/a
(c)(ii)	On land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Appendix A
(d)	**A description of the scope of the proposed activity, including -**	
(d)(i)	All listed and specified activities triggered;	2
(d)(ii)	A description of the activities to be undertaken, including associated structures and infrastructure;	3
(e)	**A description of the policy and legislative context within which the development is proposed, including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;**	**2**
(f)	**A motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location;**	**3**
(h)	**A full description of the process followed to reach the proposed preferred activity, site and location within the site, including -**	**4**
(h)(i)	Details of all the alternatives considered;	4
(h)(ii)	Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	6
(h)(iii)	A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;	n/a
(h)(iv)	The environmental attributes associated with the alternatives focusing on geographical, physical, biological, social, economic, heritage and	5

	cultural aspects;	
(h)(v)	**The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these -**	**7**
(h)(v)(aa)	Can be reversed;	7
(h)(v)(bb)	May cause irreplaceable loss of resources; and	7
(h)(v)(cc)	Can be avoided, managed or mitigated.	7
(h)(vi)	The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives.	4
(h)(vii)	Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	7
(h)(viii)	The possible mitigation measures that could be applied and level of residual risk;	7
(h)(ix)	The outcome of the site selection matrix;	n/a
(h)(x)	If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and	4
(h)(xi)	A concluding FSR indicating the preferred alternatives, including preferred location of the activity;	n/a
(i)	**A plan of study for undertaking the environmental impact assessment process to be undertaken, including -**	**10**
(i)(i)	A description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;	n/a
(i)(ii)	A description of the aspects to be assessed as part of the environmental impact assessment process;	10
(i)(iii)	Aspects to be assessed by specialists;	10
(i)(iv)	A description of the proposed method of assessing the environmental aspects, including the aspects to be assessed by specialists;	10
(i)(v)	A description of the proposed method of assessing duration and significance;	10
(i)(vi)	An indication of the stages at which the competent authority will be consulted;	10
(i)(vii)	Particulars of the public participation process that will be conducted during the environmental impact assessment process; and	10
(i)(viii)	A description of the tasks that will be undertaken as part of the environmental impact assessment process;	10
(i)(ix)	Identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of residual risks that need to be managed and monitored;	10
(j)	**An undertaking under oath or affirmation by the EAP in relation to -**	
(j)(i)	The correctness of the information provided in the report;	13
(j)(ii)	The inclusion of comments and inputs from stakeholders and interested and affected parties; and	n/a
(j)(iii)	Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties;	n/a

(k)	**An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the of study for undertaking the environmental impact assessment;**	**13**
(l)	**Where applicable, any specific information required by the competent authority; and**	**n/a**
(m)	**Any other matter required in terms of section 24(4) (a) and (b) of the Act.**	**n/a**

1. INTRODUCTION & BACKGROUND

The Constitution of the Republic of South Africa declares basic education as an inalienable basic human right for all South Africans. In 2015, UNESCO adopted the global education agenda, Education 2030, which is part of the seventeen (17) United Nations' Sustainable Development Goals (SDGs) that make up the Agenda 2030 for sustainable development. SDG 4 calls for an "*inclusive, quality and equitable education and lifelong opportunities for all*".

The National Development Plan (NDP): Vision 2030 states that "by 2030, South Africans should have access to education and training of the highest quality, leading to significantly improved learning outcomes, "…*The education system will play a greater role in building an inclusive society, providing equal opportunities and helping all South Africans to realise their full potential…*".

The Action Plan to 2021: Towards the Realisation of Schooling 2030, has been deliberately designed to achieve in a systematic way the long-term vision of basic education. There is a symbiotic interrelatedness between the tenets of the Constitution, the UNESCO SDG4, the NDP–Vision 2030, and The National Government's own Action Plan to 2021, vis-à-vis the provisioning, monitoring and evaluation of basic education programmes. Government's strategies, policies, programmes and plans, aptly articulate the mission of the Continental Education Strategy for Africa (CESA), 2016-2015. The CESA 2016-25 provides one of its guiding principles as a "holistic, inclusive, and equitable education with good conditions for lifelong learning is *sine qua non* for sustainable development". Therefore, the Constitution, the UNESCO SDG 4, the CESA on the African Agenda 2063, the NDP – Vision 2030, and the Government's own Action Plan to 2021, all provide the moral imperative and mandate to our democratic Government to improve **access**, redress, equity, efficiency, inclusivity and quality of the basic education system.

However, over the years, budget cuts exacerbated by the fact that Provincial Education Departments have since stopped allocating funds for infrastructure delivery, has made it difficult to conform to the Norms and Standards for School Infrastructure. The current pressures on appropriate sanitation provisioning in schools has required more innovative funding strategies, including generous contributions from the private sector and South Africans, in general. The Infrastructure Branch will be capacitated to ensure that the targeted schools planned from the beginning of the Medium-Term Strategic Framework will be completed.

In the Northern Cape's Norms and Standards Progress Report of November 2018, the Provincial Government highlighted the proposed construction of two (2) new schools in both the 2019/2020 and 2020/2021 financial years in their 7-year planned and active projects. As such, the proposed project is in line with the Northern Cape's Norms and Standards Progress Report of November 2018.

In the Ga-Segonyana Local Municipality Integrated development Plan (IDP) (2020/21), it was noted that Kuruman houses the largest educational facilities, but most of the other peri-urban and rural areas have a primary school with secondary schools to be found in the larger urban and peri-urban areas. Other educational facilities are also found in Kuruman which attracts learners and students from the whole area.

The needs to find ways of lifting people out of poverty and to transform the existing patterns of inequality in South Africa are high on the country's development agenda. Much hope is often vested

in education as an opportunity for children from poor households to overcome the disadvantage of their background and escape poverty. The logic of this is often conceived of in terms of the human capital model, according to which education improves an individual's productivity, which in turn is rewarded on the labour market by higher earnings. However, there is a circularity in the relationship between socio-economic status (SES) and education, in that it is well known that a student's SES has an important influence their educational achievement.

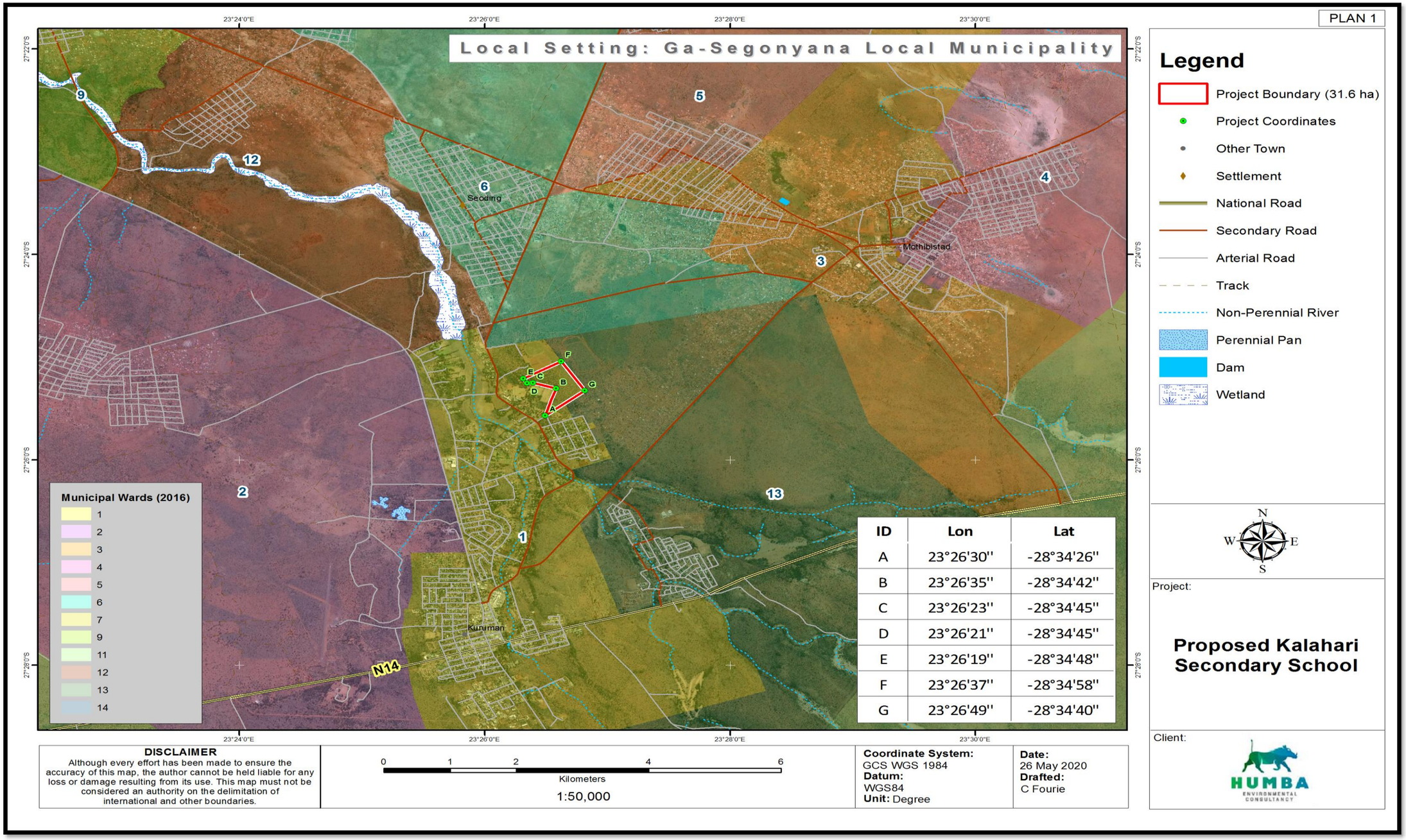

Figure 1: Locality map showing proposed development site

1.1 Assumptions and Limitations

The findings of this report are affected by the following factors:

- The level and scale of the information obtained during the reconnaissance site visit.
- The accuracy, relevance and regency of the information obtained from literature and desktop resources.
- The accuracy of the information provided by the sub-consultants. Humba assumes that this information is accurate.
- The accuracy and validity of the technical information received from KRMS Architects. It is likewise assumed that this information is accurate and valid.

1.2 Objectives of this Report

The following are the objectives of this report:

(a) Identify the relevant policies and legislation relevant to the activity;

(b) Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;

(c) Identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;

(d) Identify and confirm the preferred site and route, through a detailed site/route selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;

(e) Identify the key issues to be addressed in the assessment phase;

(f) agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site and route through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site and route;

(g) Identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored;

In terms of South African legislation, certain activities (called Listed Activities in terms of the Regulations promulgated under the National Environmental Management Act (Act 107 of 1998)) are deemed to be potentially detrimental to the receiving environment. Due to this perceived negative impact on the environment, by law, a Scoping & EIR process needs to be conducted for such proposed projects – and Environmental Authorisation (EA) needs to be given by the Competent Authority (CA - prior to commencement of construction. The construction of the Secondary School and associated infrastructure are such activities that need an Environmental Impact Assessment and Authorisation from a CA;

The overall objective of going through the Scoping &EIR Process is to ensure that development is environmentally and socio-economically sustainable. In order for developments to be environmentally sustainable, it is necessary for the parties involved to accept their responsibilities in terms of the:

a. Constitution of South Africa, 1996 (Act No. 108 of 1996) that states that everyone has the right:

- 'to an environment that is not harmful to their health or well-being', and
- 'to have the environment protected, for the benefit of present and future generations, thorough reasonable legislative and other measures that -
    - Prevent pollution and ecological degradation;
    - Promote conservation, and
    - Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.'

b. National Environmental Management Act, 1998 (Act No. 107 of 1998) that requires socially, economically and environmentally sustainable projects.

Section 2 of Chapter 1 of the NEMA provides details of the environmental management principles that should be adhere to all phases of the development. These need to be read as a whole, but Jeanercy Co. would like to make specific mention of the following:

- Avoidance/minimisation of the loss of biodiversity.
- Avoidance/minimisation of the disturbance of ecosystems.
- Avoidance/minimisation of pollution.
- Avoidance/minimisation of cultural and heritage sites.
- Avoidance/minimisation/recycling of waste.
- Responsible and equitable use of renewable and non-renewable resources.
- Avoidance/minimisation/mitigation of adverse impacts.

c. Environmental Impact Assessment Regulations of 08 December 2014, as amended on the 07th of April 2017 (2014 Regulations as amended in 2017).

The purpose of these regulations is to regulate the procedure and criteria as contemplated in Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto.

Jeanercy Co., as Independent Environmental Consultants, were appointed by KRMS to undertake the EIA process for the purpose of obtaining EA for the proposed project. (Note that the EA does not

necessarily give permission to continue with the project. The EA may either accept or decline the proposed development). Jeanercy Co. received the mandate to assess a suitable, least environmentally sensitive, and most socially acceptable means of allowing the Kalahari Secondary School to be constructed.

1.3 Methodology

1.3.1 Approach to the Scoping Phase

A Scoping and EIA Process is a tool that allows the EAP to assess a proposed development from an integrated, multi-disciplinary and holistic perspective. In order to ensure that usable information on specific issues is obtained, the EAP appoints specialists in various fields of expertise to assist with assessing the potential impacts related to the proposed development on aspects like the social environment, avi-fauna, watercourses and wetlands, the local and regional economy, agriculture, flora and fauna, heritage and visual intrusion of the communities.

Alternatives are assessed so that a preferred alternative that causes the least detrimental environmental and socio-economic impact by means of meeting the general purpose and requirements of the activity. The following approach was applied in an attempt to achieve environmental and socio-economic sustainability:

1.3.1.1 Literature Review and Desktop Study Analysis

Literature review is defined as a critical analysis of published sources, or literature, on a particular topic. It is an assessment of the literature and provides a summary, classification, comparison and evaluation. Desktop analysis is defined as the gathering and analysing of information, already available in print or published on the internet.

KRMS provided Jeanercy Co. with the study area boundary in GIS format (ESRI: shape files). Geographic Information System (GIS) software (ESRI ArcGIS 9.2) was used to create a study area map, which indicated the location of the proposed are for development and other infrastructure such as roads and schools. The developed map was used as a point of departure for a GIS analysis of the study area. The objective of GIS analysis was to develop maps of the various sensitivities that would be directly affected by the proposed project and thus assisting, as far as possible, in determining and mitigating against negative impacts thus ensuring the project has the least environmental impact and is socio-economically viable.

1.3.1.2 Site Visit

A reconnaissance site will take place in the near future depending on the anticipated lessening of cross provincial movement as stipulated by the National Lockdown Regulations. The Jeanercy Co. team (Project Manager and EIA Specialist), and the various socio-economic and environmental specialists will be present during the reconnaissance site visit are yet to be determined. The specialists were involved early on at the scoping level and were asked to provide input based on their respective disciplines.

1.3.1.3 Post Site Visit Meeting

Data gathered during the site visit and desktop study was collated to facilitate an understanding of the study area and to provide an amalgamated view, from the points of view of the various specialists, of the possible alternatives that have to be investigated in more detail.

1.4 Proponent Details

Table 2: Project Proponent/Applicant Details

PROPONENT DETAILS	
Company Name	**KRMS Architects**
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1.5 Environmental Assessment Practitioner Details

Table 3: EAP Contact Details

ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)	
Company Name	**Humba Environmental Consultancy**
Contact person	**Mr. Tinashe Maramba**
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Email	**tinashe@humba.org**

Mr Tinashe Maramba is a qualified Hydrologist. He obtained a Bachelor's Degree in Hydrology and Water Resources from the University of Venda in 2010. He has 10 years' experience in water resources management and Geohydrological assessments, attained in Zimbabwe (pre-degree) and environmental management (post-degree).

His South African experience began as a consultant heading the Hydrology/Geohydrology Unit of an Environmental Firm. After developing the division into a fully-fledged self-sustaining entity, He moved into the role of Environmental Manager at a Pretoria company were he honed his skills in EIA Project Management, Water Use Applications and Waste Management Projects.

For more details about his expertise and experience please refer to **Appendix F**.

2. LEGAL FRAMEWORK APPLICABLE TO THE PROPOSED PROJECT

2.1 Relevant National Legislation

The Legal Framework highlighted below focuses on the parts of the legislation that have an implication on this project.

2.1.1 The Constitution of the Republic of South Africa Act (Act 108 of 1996)

The Constitution of South Africa is our overarching legislation against which all other legislation is measured. This crucial piece of legislation includes the Bill of Rights (Section 32), which states that everyone has the right to an environment that is not harmful to his or her health or well-being and to have the environment protected for the benefit of present and future generations.

The Act therefore implies that measures must be implemented to:

1. Prevent pollution and ecological degradation.
2. Promote conservation.
3. Secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development.

Furthermore, the Bill of Rights also states that everyone has the right to access –

(a) any information held by the state; and

(b) Any information that is held by another person and that is required for the exercise or protection of any rights.

Relevance to Project

The construction of the Kalahari Secondary School, in accordance with the Constitution, should not be undertaken in a manner that will result in environmental pollution and ecological degradation. Therefore, the design and planning, construction and decommissioning phases should be carried out in a sustainable manner, preventing unjust harm to the environment or human life.

2.1.2 National Environmental Management Act, 1998 (Act 107 of 1998)

There are various elements within the National Environmental Management Act (NEMA) that are relevant to the proposed project. The 'polluter pays' concept is enforced to ensure that any party or parties, which undertake(s) any activity that may cause, causes or caused any pollution, must prevent, mitigate or remedy the effects.

Section 2 of Chapter 1 of the NEMA provides details of the environmental management principles that should be adhere to all phases of the development. These need to be read as a whole, but Jeanercy Co. would like to make specific mention of the following:

- Avoidance/minimisation of the loss of biodiversity.
- Avoidance/minimisation of the disturbance of ecosystems.
- Avoidance/minimisation of pollution.

- Avoidance/minimisation of cultural and heritage sites.
- Avoidance/minimisation/recycling of waste.
- Responsible and equitable use of renewable and non-renewable resources.
- Avoidance/minimisation/mitigation of adverse impacts.

The NEMA also states that there are certain human activities that may have a significant detrimental effect on the environment. For this reason, the Act makes provision for the Minister to – from time to time – announce certain activities that need to be assessed to ascertain their potential environmental impact before these activities may be undertaken. (These activities are called "Listed Activities"). Refer to the process as per the New December 2014 Regulations as Amended April 2017 below:

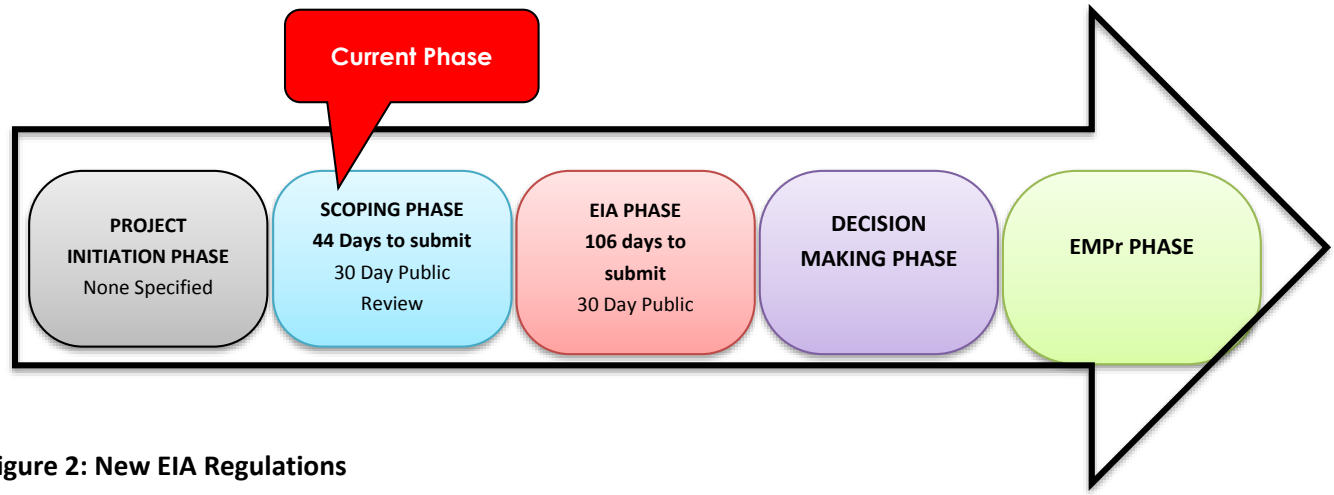


Figure 2: New EIA Regulations

In terms of the EIA Regulations (04th December 2014, as amended on the 07th of April 2017), a number of activities are listed as requiring a full Scoping & EIR process. The listed activities that are associated to this project are listed in Table 4 below.

Table 4: Listed Activities Applied for by the Proponent

Relevant Notice and Activity Number	Activity Description	Relevance to Project
No. 325 item 15:	The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for— • the undertaking of a linear activity; or • maintenance purposes undertaken in accordance with a maintenance management plan.	The proposed construction of the Kalahari Secondary School will entail the clearance of 31.6 hectares of indigenous vegetation to accommodate schooling and ancillary infrastructure.

2.1.3 National Water Act (Act 36 of 1998)

The National Water Act (NWA) is the main legislative piece that controls both private and public water use within South Africa. Section 19 of the National Water Act provides that:

- If there is land where there is an activity or process, which causes has caused or is likely to cause pollution of water resources, the person in control must take all reasonable measures to prevent such pollution from occurring, continuing or recurring.

Pollution is defined as the altering of the physical, chemical or biological properties of water rendering it less fit for anticipated beneficial use or making it potentially harmful to humans, aquatic and non-aquatic organisms, to the resources quality or to property.

In accordance with Section 21 of the National Water Act the following are considered as water uses and therefore need to be licensed:

a) Taking water from a water resource.

b) Storing water.

c) Impending or diverting the flow of water in a watercourse.

d) Engaging in a stream flow reduction activity.

e) Engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1).

f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.

g) Disposing of waste in a manner which may detrimentally impact on a water resource.

h) Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.

i) Altering the beds, banks, course or characteristics of a watercourse.

j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.

k) Using water for recreational purposes.

Relevance to Project

The Act calls for actions that will prevent and remedy the effects of pollution generated by the operations of a water user and of those that will address emergency incidences. Water uses that are applicable to the construction of the Kalahari Secondary school include:

- The taking of water from a watercourse for construction purposes.
- The accidental spillage and/or purposeful discharge of hazardous substances and/or waste generated during construction and decommissioning phases, into a watercourse or disposed in such a way it may be detrimental to a water resource.

If the abovementioned water uses are undertaken during either the construction or decommissioning phase of the development, A General Authorisation will need to be applied for at the Department of Water and Sanitation.

2.1.4 National Heritage Resources Act (Act 25 of 1999)

This Act is concerned with the protection of the Heritage Resources. Section 38 of the National Heritage Resources Act specifically focuses on the management of these resources, and states that;

Section 38 (1) (c): any development or other activity which will change the character of a site-

- exceeding 5 000m^2 in extent; or
- involving three or more existing erven or subdivisions thereof; or
- involving three or more erven or subdivisions thereof which have been consolidated within the past five years; and
- (d): The rezoning of a site exceeding 10000m^2 in extent

furthermore, Section 36 of the National Heritage Resources Act states that:

> (3) Any person who discovers archaeological or paleontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.
>
> (3)(a) No person may, without a permit issued by South African Heritage Resources Agency (SAHRA) or provincial heritage resources Authority -
>
> (a) destroy, damage, alter, exhume, or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
>
> (b) destroy, damage, alter, exhume, or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
>
> (c) Bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

Relevance to Project

The proposed project will involve the change of the character of a site exceeding 5 000m^2 in extent as the proposed area for development is over 31 000m^2.

2.1.5 National Environmental Management: Biodiversity Act (Act 10 of 2004)

The Biodiversity Act chapter provides for the management and conservation of South Africa's biodiversity within the framework of NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was established. The Biodiversity Act chapter 3, 7 and 8 further require landowners to manage and conserve South Africa's biodiversity for current and future generations. The National

Spatial Biodiversity Assessment classifies areas as worthy of protection based on their biophysical characteristics, which are ranked according to priority levels.

Relevance to Project

The proposed development falls within an area designated as a Critical Biodiversity Area 2. This entails the need for an Ecological Assessment on the site in order to determine sensitivities as they relate to biodiversity and formulate mitigation measures to reduce adverse impacts on critical biodiversity elements.

2.1.6 National Environmental Management: Air Quality Act (Act 39 of 2004)

Chapter 4 of the National Environmental Management: Air Quality Act provides for the management of air quality in South Africa. It also works towards reforming the law regulating air quality in order to protect the environment by providing reasonable measures for the prevent of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.

Relevance to Project

The construction of the Kalahari Secondary School may cause the generation of emissions and dust, which is governed under the regulations stipulated in the NEM: AQA.

2.1.7 National Environmental Management: Waste Act (Act 59 of 2008)

The National Environmental Management: Waste Act is the main legislative piece that aims to consolidate waste management within South Africa. Part 2 of the Waste Act details the general duty in respect to the management of waste by the holder of the waste. In accordance to Section 16(1) of the Waste Act, a holder of waste must, within the holder's power, take all reasonable measures to:

a) avoid the generation of waste and where such generation cannot be avoided to minimise the toxicity and amounts of waste that are generated;

b) reduce, re-use, recycle and recover waste;

c) where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner;

d) manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts;

e) prevent any employee or any person under his or her supervision from contravening this Act; and

f) Prevent the waste from being used for an unauthorised purpose.

Relevance to Project

The NEM: WA requires classification of the waste that will be generated from the both construction and decommissioning activities associated with the proposed project. Methods for reduction, re-

use, recycling and recovery of the waste should be followed as well as specific requirements set out within the act for the storage, collection and transportation of waste and the use of authorised methods for the treatment, processing and disposal of the waste.

2.1.8 Conservation of Agricultural Resources Act, 1983 (Act No. 84 of 1983)

The Act provides control for over the utilisation of natural agricultural resources in the Republic of South Africa in order to promote the conservation of soil, water resources, vegetation and the combating of weeds and invader plants.

Relevance to Project

This act ensures that no plants categorised as either a weed or an invasive plant in the undertaking of mitigation, preventative or rehabilitation measures that are associated with construction and/or decommissioning activities.

2.2 Other Relevant Legislation or Policies Applicable to KRMS

2.2.1 Fencing Act, 1963 (Act No. 31 of 1963, as amended by Act 108 of 1991)

The Act regulates matters with regard to boundary fences of farms and makes provisions for the erection, alteration, maintenance, damage and repair of. It also spells rights of owners or lease holders where the land is subject to certain servitudes and outlines procedures for settling of disputes due to wilful actions including leaving gates opened and unauthorised entry to private land.

2.2.2. Municipal Development and Planning Frameworks

It is important to note that there are other documents that provide the Environmental Assessment Practitioner (EAP) with guidance when conducting an Environmental Impact Assessment (EIA). These include the Integrated Development Plans (IDPs) of the various municipalities and KRMS Transmission Development Plans (TDPs).

3. PROJECT OVERVIEW

3.1 Study Area

The study area is located in Kuruman, in the Ga-Segonyana Local Municipality which is within the administrative area in the John Taolo Gaetsewe District of the Northern Cape.

The location of the proposed Kalahari Secondary School is due east of the existing Seodin Primary and Kalahari High School's. The site is accessed through Seodin road which runs through Kuruman town.

GIS mapping shows the presence of an ephemeral river, the Kuruman River (Class B: Largely Natural), approximately 680m due west Channelled valley bottom wetland approximately 1km due north-west of the site. This is yet to be confirmed through a ground truthing exercise.

A grave yard exists due south of the proposed site. The northern and eastern boundaries of the site are bounded by adjacent agricultural land

3.2 Project Description

The Proposed Kalahari Secondary School Project entails the following:

- 1 Large Admin Block
- 1 Nutrition Centre
- 1 Media Centre
- 2 x Multipurpose Classrooms
- 5 x 5 Classroom Block
- 1 x (2 Classrooms) Science Lab
- 1 x (1 Classroom) Science Lab
- 2 x Large Ablutions
- 1 Multipurpose Hall
- 1 Guard House
- 1 Refuse Yard
- 2 Disabled Parking's
- 24 Open Parking's
- 1 Sports Field (Soccer, Rugby equipment)
- 11 Drinking Fountains
- 2 Flag Poles
- Clear-vu Boundary fence
- Entrance Wall
- Covered Walkways
- 1 Janitor Quarters
- 2 Combi Court (Tennis, Basketball, Netball and volleyball equipment)
- Schedules
- Outdoor benches
- Solar panels

3.3 Technical Specifications for the Project

3.3.1 Construction Camps

The location of the construction camp will be determined during the EMPr phase of the project once the final layout has been finalised. The construction camp will, when feasible and viable, utilise existing houses/offices not too far from the working areas rather than erecting new temporary offices.

3.3.2 Infrastructure Requirements

During construction, there will be a need for bulk services and infrastructure:

- **Water** - will be required for potable as well as construction use.
- **Sewerage** - A negligible sewerage flow is anticipated for the duration of the construction period. Management of sewage will be undertaken through the use of chemical toilets and/or septic tank facilities which will be collected by a registered Company regularly.
- **Storm Water** - Care will be taken in making sure that storm water drainage is carefully designed on all access roads. Storm water will have to be diverted into the surrounding fields at low energy levels, to make sure that significant erosion problems are avoided. Storm water will be managed according to the KRMS' Guidelines for Erosion Control and Vegetation Management, as well as the provisions of the EMPr.
- **Waste** - All solid waste will be collected at a central location at the construction site and will be stored temporarily until removal to an appropriately permitted landfill site. Recyclable materials will be stored and removed to appropriate recycling facilities.
- **Generators** - Diesel generators will be utilised for the provision of electricity where there is no electricity connection nearby.

3.3.3 Access Roads

Existing roads will be utilised as far as possible during the construction and operational periods. The use of roads on private property is subject to the provisions of an Environmental Management Programme (EMPr) that will be prepared for the project (with individual landowner specifications being determined during discussions with landowners during the servitude negotiation process). The flow of traffic to the site during the construction period will be relatively light and during operation there will be no construction traffic.

Access roads will be aligned and constructed within the provisions and specifications of private landowners. This is considered important for three primary reasons:

- The access road should fulfil multipurpose functions serving the needs of KRMS and the landowners.
- Landowners are acutely aware of sensitivities on their land, and will be in an excellent position to inform KRMS of optimum alignments.

- During and post construction, KRMS will be responsible for the maintenance of the access road.

The specifications for the access road will be contained within the EMPr that will be prepared for construction and which will become legally binding on KRMS and contractually binding on KRMS-appointed contractors.

3.3.4 Hazardous Substances

The hazardous substances referred to comprise fuels, oils and lubricants that will be stored and dispensed at the construction camps. Specifications for the storage and dispensing of fuels, oils and lubricants include the following:

- Fuels, oil and lubricants must be kept in specifically designated areas;
- All fuels, oils and lubricants shall be stored above ground and under cover;
- Each designated area will be equipped with adequate fire protection equipment appropriate for the nature of the fuels, oils and lubricants that are stored and dispensed;
- All areas shall be properly signed in all applicable languages;
- All employees must be properly trained in the storage and dispensing of specific fuels, oils and lubricants; and
- A specific procedure for emergency situations, including accidental spills, must be formulated and must be available on site at all times;

Specifications will be contained within an EMPr that will be prepared for construction. This will become legally binding on KRMS and contractually binding on all KRMS-appointed contractors.

3.3.5 Contractors

Most contractors have teams of between 40 and 50 people. The opportunities for new/additional people are, therefore, fairly limited, although there will be a number of activities such as bush clearing and fencing with which local contractors will most likely be involved in.

3.4 Construction, Operation and Decommissioning Activities in Sequence

There are five main teams responsible for construction (namely teams for the (a) excavation of the foundations, (b) concrete works, (c) erection of steel structures, and (d) rehabilitation).

It should be noted that construction activities are not continuous and people will be employed throughout the process for long, but intermittent, periods of time. Therefore, it is anticipated that any impacts associated with construction are likely to be minimized due to the low level of activity over a long period of time this will be assessed in the EIA phase.

Specifications necessary for the construction camps will be contained within the EMPr, with specialist input where required. A summary of the different construction phases is outlined below:

3.4.1 Excavation of Foundation

Excavation is required for the foundations; the size of the excavated area depends on the building type and soil conditions. During construction, fences will be temporarily erected around the excavated area as a safety precaution.

3.4.2. Foundation for Steelwork

The foundation structures are positioned into the excavated holes, which are tied together for support. This is dependent to the excavation of the foundation and vice versa.

3.4.3. Foundation Pouring

A "ready-mix" truck, which contains 6m^3 of concrete, now moves onto site and concrete is poured into the foundation area. If there are difficulties in gaining access for the truck, concrete will be mixed on site.

3.4.4. Delivery of Steel to Site

The steelwork is usually delivered to the site approximately one month after the foundation has been poured. Where possible, the steel is transported to the site by a truck. Access roads are clearly marked to facilitate this process.

3.4.5. Assembly Team, Punch and Paint

A team will assemble the galvanized steel structures. Every nut is screwed into the building framework and painted with a non-corrosive paint ("punch and paint") first.

3.4.6. Operation and Maintenance

During operation, Kalahari Secondary School will operate under the rules and regulations as stipulated by the Department of Education. As an institution of learning, the same protocols will be applied to the Secondary as they do elsewhere and as they pertain to the functioning of the institution. Maintenance will be carried out as and when is necessary or, depending on the nature of the maintenance schedule, at regular intervals.

3.4.7. Decommissioning

The process of decommissioning any school will entail the following:

- A rehabilitation programme would have to be agreed upon with the landowner before being implemented;
- The disposal of materials from decommissioned structures (steel, cabling, concrete, etc.) would be at an approved waste disposal facility. Alternatively, recycling opportunities could be investigated and implemented.

3.5 Use of Services and Resources during Construction

3.5.1 Water

Water will be required for both potable use and in the construction of the proposed infrastructure. The water will be sourced from approved water use points at locations closest to the area of construction.

3.5.2 Sanitation

Adequate facilities and services for the safe disposal of human urine and faeces will be supplied. The supplier will service the chemical toilets periodically. A clear plan to control the temporary toilets will be outlined.

3.5.3 Roads

Existing roads and proposed gravel roads will be utilized as far as possible during the construction and operational periods. The use of roads on landowner property is subject to the provisions of EMPr that will be prepared for the project with individual landowner specifications being determined during discussions with landowners as part of the negotiation process.

3.5.4 Storm Water Control

Storm water will be managed according to the KRMS Guidelines for Erosion Control and Vegetation Management, as well as the provisions of the project specific EMPr.

3.5.5 Solid Waste Disposal

KRMS has a strong commitment to waste minimisation and recycling. All solid waste will be collected at a central location at each construction site and will be stored temporarily until removal for recycling or disposal at an appropriately permitted landfill site in the vicinity of the construction site. Where waste categorised or listed within the National Environmental Management Waste Act (Act 59 or 2008) are generated, specific requirements to deal with such waste will be included in the EMPr.

3.5.6 Electricity

During construction, electrical supply will come from Eskom. The current location is serviced by Eskom and an application for more power will have to be made to the Local Municipality if needs be that the existing substation to the existing schools needs a boost in output to cater for the new Secondary School. In addition, diesel generators will be utilised during the construction period where necessary.

3.5.7 Economics and Job Creation

KRMS will make use of a contractor or sub-contractors to carry out the construction. These will include Small, Medium and Micro Enterprises (SMMEs) as well as Affirmative Business Enterprises

(ABEs). There will be an emphasis on job creation during the construction period of this proposed secondary school.

It is important to note that the construction of secondary schools is a specialized undertaking and requires skilled people e.g. installation of solar panels and construction of science labs. It is therefore probable that the appointed contractors will bring in skilled labour from other areas. By implication, job opportunities for local people may be limited to unskilled jobs on site and in construction camps. Apart from direct employment however, local people and businesses will benefit through supply of goods and services to the appointed contractors.

3.6 The Need and Desirability of the Project

It is an important requirement in the EIA Process to review the need and desirability of the proposed project. Guidelines on Need and Desirability were published in the Government Gazette of 20 October 2014. These guidelines list specific questions to determine need and desirability of proposed developments. This checklist is a useful tool in addressing specific questions relating to the need and desirability of a project and assists in explaining that need and desirability at the provincial and local context. Need and desirability answer the question of whether the activity is being proposed at the right time and in the right place. Table 5 includes a list of questions based on the DEA's Guideline to determine the need and desirability of the proposed project. It should be noted this table will be informed by the outcomes of the Scoping and EIA Processes and will be updated, once the relevant impact assessment has been received.

Table 5: The Guideline on the Need and Desirability's list of 14 questions to determine the "Need and Desirability" of a proposed project

NEED	
Question	Response
1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area)?	
1.1. How were the following ecological integrity considerations taken into account? 1.1.1. Threatened Ecosystems, 1.1.2. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure, 1.1.3. Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"), 1.1.4. Conservation targets, 1.1.5. Ecological drivers of the ecosystem, 1.1.6. Environmental Management Framework, 1.1.7. Spatial Development Framework, and 1.1.8 Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).	The environmental sensitivities present on site will be assessed within the Ecological Impact Assessment to be included in the EIA Report. The specialist will identify all ecologically sensitive areas on site that have to be avoided by the proposed development as well as how to suitably develop within these areas so that the ecological integrity of the areas is maintained. The Ecology specialist has prepared scoping inputs and these inputs have been included in Appendix E of this Scoping Report. It is noted that the site falls within a CBA 2. The preliminary outcome of the Scoping phase input is that the likely overall residual ecological impact after mitigation will be of low significance.
1.2. How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what	The environmental sensitivities such as the CBA 2 present on site were identified by the Ecology specialist and were discussed in the Scoping inputs provided. A detailed Ecological Impact Assessment will be undertaken and will be

NEED	
Question	Response
measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	included in the EIA Report. Based on the biodiversity screening and fine scale mapping that was done for the site, the specialist confirmed that the site falls within a CBA 2. The footprint within the CBA 2 area is low and a significant impact on the CBA is not likely as the area is anticipated to be disturbed (as per Google Earth imagery).
1.3. How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Measures to avoid, remedy, mitigate or manage biophysical impacts will be included in the EMPr that will be compiled during the EIA Phase and included within the EIA Report. A Draft EMPr has been compiled and attached as Appendix F to this report.
1.4. What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether; what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?	Waste will mostly be generated during the construction and decommissioning phases of the project. Measures to avoid, remedy, mitigate or manage waste will be included within the EMPr that will be compiled during the EIA Phase and included within the EIA Report. Waste generated on site will be disposed of at a licenced landfill site. A Draft EMPr has been compiled and attached as Appendix F to this report.
1.5. How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	The proposed development will not be established on an area that constitutes the nation's cultural heritage? The grave yard located due south of the proposed project area will not be affected in any way. Paleontologically, the proposed area for development is underlain by geology that is moderately sensitive to having/containing fossils according to the Palaeo-sensitivity map as provided by the SAHRA. As such, a desktop study will be compiled during the EIA Phase and included within the EIA

NEED	
Question	Response
	Report. The EMPr will detail the protocol to be followed in case there are chance finds.
1.6. How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Measures to avoid, remedy, mitigate or manage impacts on non-renewable natural resources will be included in the EMPr that will be compiled during the EIA Phase and included within the EIA Report.
1.7. How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts? 1.7.1. Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de- materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life) 1.7.2. Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational	South Africa has heavily relied on coal as a source of electricity for decades. Due to the nature of coal as a non-renewable resource that causes major environmental degradation, there is therefore a need to identify alternative resources that could promote sustainable energy sources as well as cleaner energy production ways. The proposed project aims to harness the sunlight resource available in the area for the generation of electricity, as solar panels will be installed as part of the project scope. This project is seen as a source of 'clean energy' and reduces the dependence on non-renewable sources. The proposed project is a sustainable option for the proposed school and the footprint will as far as possible avoid areas of very high environmental sensitivity. Where impacts cannot be avoided, the footprint will be placed to minimise, mitigate or manage potential impacts to the receiving environment.

NEED	
Question	Response
equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources of the proposed development alternative?) 1.7.3. Do the proposed location, type and scale of development promote a reduced dependency on resources?	
1.8. How were a risk-averse and cautious approach applied in terms of ecological impacts? 1.8.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? 1.8.2. What is the level of risk associated with the limits of current knowledge? 1.8.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	The precautionary approach has been adopted for this study, i.e. assuming the worst-case scenario will occur and then identifying ways to mitigate or manage these impacts. Current gaps in knowledge include specific construction method statements to be used at this site. Ways in which these gaps are addressed are to consider the worst-case scenarios as noted above in terms of typical construction methods. **A RANGE OF SPECIFICATIONS HAVE BEEN PROVIDED AS NEW TECHNOLOGY MAY ALSO COME ONTO THE MARKET CLOSER TO THE CONSTRUCTION PERIOD.**

NEED	
Question	Response
1.9. How will the ecological impacts resulting from this development impact on people's environmental right in terms following? 1.9.1. Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? 1.9.2. Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?	The anticipated socio-economic impacts on people's lives will be positive in terms of employment (temporary and permanent) and the overall educational opportunities presented by having a secondary school. These impacts will be enhanced in detail within the EMPr. A preliminary socio- economic profile is included in Chapter 5 of this Scoping Report and will be further refined during the EIA Phase.
1.10. Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?	Linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area will be further enhanced in a positive way. Currently, there exists educational facilities close to the proposed area for development. The addition of a secondary school with ensure that the numbers of learners advancing to Grade 8 can be supported with the proposed Secondary School.
1.11. Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives / targets /considerations of the area?	The impacts on ecological integrity objectives of the area will be considered as part of the Ecology Impact Assessment undertaken for this project and will be included within the EIA Report.
1.12. Considering the need to secure ecological integrity and a healthy	Please refer to Chapter 4 of this Scoping Report where the alternatives are

NEED	
Question	Response
biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?	discussed.
1.13. Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?	Please refer to Chapter 9 of this Scoping Report where the potential cumulative impacts are discussed for this project.
2.1. What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?:	
2.1.1. The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,	The Ga- Segonyana Local Municipality Integrated Development Plan (IDP) (2020-2021) recognises education as a key facet in enabling a more productive and prosperous community. The Ga- Segonyana (IDP) (2020-2021) states that "The municipality has taken into consideration the approach by the government of the Republic of South Africa in terms of National Strategic Priority focus areas being creation of decent work and sustainable livelihoods, Education, Health, Rural development, food security and land reform, and Fight against crime and corruption". The IDP (2020-2021) reported that there had been an improvement in the level of education in Ga-Segonyana over the period from 1996 to 2016, where there was a decline in the number and proportion of persons aged 20 years and above with no schooling from 23.1% in 1996 to 7.2% in 2016. The Ga- Segonyana IDP (2020-2021) also expressed an improvement in the number and proportion of persons with a higher education, from 5.2% to 5.9% over the same period. A significant increase was also observed in the proportion of persons who had grade 12/standard 10. One of the strategies the IDP (2020-2021) ensures it will satisfy was to guarantee that part of the municipality's support to ensure the promotion of education in the area would always be upheld and also increase the segment of the adult population involved in further education and training

NEED	
Question	Response
	programmes. Other key pieces of policy as they pertain to Education are enshrined in the Five Year Strategic Plan (2015-2019) of the Northern Cape Education Department which is informed by the long term vision of the entire country as outlined by the National Development Plan (NDP), the current electoral cycle and administration's Medium Term Strategic Framework (MTSF) priorities as well as the Action Plan 2019: Towards Schooling 2030.
2.1.2. Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.),	The proposed project is located within an urban area and the site is zoned for agricultural use currently.
2.1.3. Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.)	As indicated above, the current land use on the site is agriculture. The Secondary school is proposed in an urban area. the project area is bounded by a grave yard, the existing Kalahari High School and fallow land and agricultural activities. If planned and executed properly, the proposed project will not have any detrimental impacts on the existing anthropogenic and natural activities within the project areas immediate surrounds. As noted, an EMPr will be compiled for the proposed project to ensure that all potentially negative impacts identified are suitably managed and mitigated, and potential positive impacts are enhanced. The impact on the sense of place is difficult to predict and would potentially be ambiguous. This is due to the subjective nature of perceptions regarding the relative attraction or disturbance of a school in an urbanised setting.
2.1.4. Municipal Economic Development Strategy ("LED Strategy").	The LED Strategy will be considered and potential alignment will be discussed in the EIA Report.
2.2. Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and	Education in every sense is one of the fundamental factors of development. No country can achieve sustainable economic development without substantial investment in human capital. Education enriches

NEED	
Question	Response
specifically also on the socio-economic objectives of the area? 2.2.1. Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programmes?	people's understanding of themselves and their surroundings and allows for greater interaction and extrapolation of benefits from those surroundings. The proposed development will improve the quality of the lives of the intended beneficiaries (learners) in the long term and leads to broad social benefits to individuals and society in the short, medium and long term. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. This is in line with the LED goals put forth in the Ga-Segonyana IDP (2020-2021) were an emphasis is put on ensuring that education is used as a tool to creating a firm foundation for any entrepreneurial ambitions. In addition it plays a very crucial role in securing economic and social progress and improving income distribution.
2.3. How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?	The benefits of Education are societal and personal. Those who get an education have higher incomes, have more opportunities in their lives, and tend to be healthier. Societies benefit as well. Societies with high rates of education completion have lower crime, better overall health, and more civic involvement.
2.4. Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long term? Will the impact be socially and economically sustainable in the short- and long-term?	As mentioned in point 2.2.1. above, the proposed development will improve the quality of the lives of the intended beneficiaries (learners) in the long term and leads to broad social benefits to individuals and society in the short, medium and long term. Short term benefits include; employment creation during construction for members of the local community and local contractors. Medium term benefits include; employment creation for teachers that have not been placed by the Department of Education. Long term benefits include; the creation of educated members of society who will contribute meaningfully to local economy across generations.

NEED	
Question	Response
2.5. In terms of location, describe how the placement of the proposed development will:	
2.5.1. result in the creation of residential and employment opportunities in close proximity to or integrated with each other,	Local employment opportunities will be provided as far as possible. Approximately 420 and 35 employment opportunities will be generated in the construction and operational phases respectively.
2.5.2. reduce the need for transport of people and goods,	There will be an increase of private and public scholar transport to the proposed location to facilitate the movement of learners to and from school.
2.5.3. result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport),	The project aims at ensuring the provision of Basic Education and is therefore not a transportation project.
2.5.4. compliment other uses in the area,	The preferred project site is currently being used for agricultural purposes. Should the proposed project proceed, approximately 31.6 ha of the land will be developed on and it is not expected that this will significantly threaten the agricultural activities, cultural activities and educational activities that are currently being exercised around the proposed site.
2.5.5. be in line with the planning for the area,	
2.5.6. for urban related development, make use of the underutilised land available with the urban edge,	Indeed, the proposed land for development is fallow underutilised land located within an urban setting.
2.5.7. optimise the use of existing resources and infrastructure,	There are existing educational facilities that are adjacent to the proposed site, as such, these will be seen to complement the existing educational facilities by allowing the seamless integration from Primary school to Secondary school. The proposed amenities, e.g. sporting facilities, will augment any existing cultural and sporting infrastructure.
2.5.8. opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),	N/A

NEED	
Question	Response
2.5.9. discourage "urban sprawl" and contribute to compaction/densification,	Urban sprawl is not anticipated as there is an adjacent High School near the proposed site and the Kuruman area is abound by urban settings i.e. townships and suburbia.
2.5.10. contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs,	N/A
2.5.11. encourage environmentally sustainable land development practices and processes,	The development of a new schooling facility is a sustainable land development practice provided it is constructed and operated in an environmentally friendly manner.
2.5.12. take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),	The proposed project area is located along Seodin Road thus ensuring easy access to the site.
2.5.13. the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),	The proposed school will not create or enhance the economic potential of the area, save to say that the long term socio-economic benefits of an educated populous will be gained.
2.5.14. impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and	The sense of history and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area are not likely going to be affected as the proposed site is adjacent to existing schools and on fallow land.
2.5.15. in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?	The nature, scale and location of the proposed development will not promote or act as a catalyst to create a more integrated settlement as there are similar existing facilities adjacent to the proposed location? Any benefits in this regard are deemed to have been achieved at this stage.
2.6. How were a risk-averse and cautious approach applied in terms of socio-economic impacts?	
2.6.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?	During the Scoping Phase, no gaps in knowledge as they relate to socio-economic aspects were identified in relation to the proposed project.

NEED	
Question	Response
2.6.2. What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?	
2.6.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	
2.7. How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:	
2.7.1. Negative impacts: e.g. health (e.g. HIV- Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?	No negative socio-economic impacts were identified.
2.7.2. Positive impacts. What measures were taken to enhance positive impacts?	Many of the positive socio-economic benefits of a new school are inter-personal and societal in nature. The overall and effective running of the school will ensure in achieving these positive aspects. However, the short to medium term benefits associated with job creation during the construction and operational phases of the project will be enhanced by ensuring that; Local unskilled labour is upskilled and the evidence of skills transfer and development must be documented by the contractor; Infrastructure maintenance and services contracts must be drawn up with local suppliers to ensure that the greater community benefit economically from the school once it is running; and The facility can be used for adult education, hosting social events/meetings and
2.8. Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socioeconomic	Linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area will be further enhanced in a

NEED	
Question	Response
impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?	positive way. Currently, there exists educational facilities close to the proposed area for development. The addition of a secondary school with ensure that the numbers of learners advancing to Grade 8 can be supported with the proposed Secondary School. Livelihoods will be further sustained in a positive manner as described in point 2.7.2. above. The construction of the proposed school will be a once off construction phase and a long term operational phase with land being the main environmental extrapolant. As such, natural ecosystem services will not be utilised continuously.
2.9. What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	An “impacts upon impacts” approach was adopted in the consideration for the location of the proposed secondary school as it is adjacent or will act as an extension to an existing school. In addition, the proposed secondary school will be built on fallow land that is not being utilised currently, thereby ensuring that no economic factors are impacted on e.g. agriculture.
2.10. What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	All manner of measures will be outlined in the EMPr.
2.11. What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair	

NEED	
Question	Response
discrimination?	
2.12. What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	
2.13. What measures were taken to:	
2.13.1. ensure the participation of all interested and affected parties,	The Public Participation Process that will be undertaken as part of the Scoping phase and to be undertaken in the EIA process is included in Chapter 6 of the Draft Scoping Report. Various methods will be employed to notify potential I&Aps of the proposed project and the opportunity to comment on the DSR, namely, through notices in the local newspaper, sites notices emails as well as notification letters.
2.13.2. provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,	
2.13.3. ensure participation by vulnerable and disadvantaged persons,	
2.13.4. promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means,	The EIA process will take cognisance of all interests, needs, and values espoused by all I&APs. Opportunity for public participation will be provided to all I&APs throughout the EIA process in terms of the 2014 NEMA EIA Regulations (as amended).
2.13.5. ensure openness and transparency, and access to information in terms of the process,	The Public Participation Process that will be undertaken as part of the Scoping phase and to be undertaken in the EIA process is included in Chapter 6 of the Draft Scoping Report. Various methods will be employed to notify potential I&Aps of the proposed project and the opportunity to comment on the DSR, namely, through notices in the local newspaper, sites notices emails as well as notification letters.
2.13.6. ensure that the interests, needs and values of all interested and affected parties were taken into account and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge,	The EIA process will take cognisance of all interests, needs and values adopted by all I&APs.
2.13.7. ensure that the vital role of women and youth in environmental	Public participation of all I&APs will be promoted and opportunities for

NEED	
Question	Response
management and development were recognised and their full participation therein was promoted.	engagement will be provided during the EIA process.
2.14. Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	The proposed project will be made public knowledge and information on the proposed project (with anticipated timeframes) will be made available to the public as far as possible. Multiple platforms to engage with the EAP and the Client will be made available in order to capture and give consideration to the interests, needs and values of all the interested and affected parties
2.15. What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	An EMPr will be developed to address health and safety concerns. An Environmental Control Officer (ECO) will be appointed to monitor compliance during construction.
2.16. Describe how the development will impact on job creation in terms of, amongst other aspects:	
2.16.1. the number of temporary versus permanent jobs that will be created,	Local employment opportunities will be provided as far as possible. Approximately 420 and 35 employment opportunities will be generated in the construction and operational phases respectively.
2.16.2. whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area),	At this stage of the project, the client is yet to conduct a skills availability analysis, however, it is anticipated that there are local service providers/contractors in the locality who will be able to render the requisite for the construction and subsequent maintenance and servicing of the proposed secondary school.
2.16.3. the distance from where labourers will have to travel,	Local service providers/contractors in the locality will be able to render the requisite for the construction and subsequent maintenance and servicing of the proposed secondary school. As such, he distance travelled by labourers and the location of the job opportunities will be catered for as most contractors ferry their workers to and from work sites.
2.16.4. the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits),	

NEED	
Question	Response
2.16.5. the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).	N/A
2.17. What measures were taken to ensure:	
2.17.1. that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment,	The different government departments have been listed as I&APs and are given the opportunity to comment on the DSR and will be given the opportunity to comment on the Draft EIA Report during the 30 day public participation period.
2.17.2. that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	To be determined during the EIA Phase (following the Public Participation Phase undertaken as part of the Scoping Phase).
2.18. What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	The proposed construction of the Kalahari Secondary School will adhere to the principles of environmental management. Measures taken to ensure adherence to the principles of NEMA will be determined during the EIA Phase.
2.19. Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	It would be premature to decide whether proposed mitigation measures of the proposed secondary school are realistic prior to the completion of the impact assessment phase of this EIA Process. Therefore, the practicality of mitigation measures shall be determined during the EIA Phase. The proposed mitigation measures to be included in the EMPr that will be included in the EIA Report will be informed by the Specialist studies undertaken. This will include a detailed assessment of the environment as well as the impacts associated with the proposed development.
2.20. What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	The EMPr (to be included in the EIA Report) of this proposed project must form part of the contractual agreement and be adhered to by both the contractors/workers and the applicant.
2.21. Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all	Chapter 4 below summarises the alternatives assessment process

NEED	
Question	Response
the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	employed for the project.
2.22. Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope, and nature of the project in relation to its location and other planned developments in the area?	The potential cumulative impacts resulting from the proposed project can only be objectively determined at the end of the EIA Process. These will be assessed as part of the EIA. The cumulative impacts of similar types of projects that are being undertaken or are proposed to be undertaken will be assessed in the EIA report.

4. ALTERNATIVES

It is a legal requirement to consider various alternatives until a feasible alternative is chosen. During the identification and assessment of alternatives to be considered for the proposed project, the project team comprised a proponent, an Environmental Assessment Practitioner (EAP), and specialists, who all play key roles in considering and selecting the viable alternatives.

Taking into consideration the nature, type and extent of the project, the following alternatives were identified: Site Alternative and the No-Go Alternative. The criteria for selecting a suitable or viable alternative will take into consideration environmental constraints and social and economic factors.

4.1 Alternatives Considered

According to National Environmental Management Act (Act 107 of 1998), the term alternatives in relation to a proposed activity means different means of meeting the general purpose and requirements of the activity which may include alternatives to the:

a) property on which or location where the activity is proposed to be undertaken;
b) type of activity to be undertaken;
c) design or layout of the activity;
d) technology to be used in the activity;
e) operational aspects of the activity; and
f) includes the option of not implementing the activity".

Appendix 2 of the 2014 EIA Regulations, as amended, provides the following objectives, inter alia, of the Scoping Process in relation to alternatives:

- To identify and confirm the preferred activity and technology alternative through an identification of impacts and risks and ranking process of such impacts and risks; and
- To identify and confirm the preferred site, through a detailed site selection process, which includes an identification of impacts and risks inclusive of identification of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment.

The Scoping Report is therefore required to provide a full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including details of all the alternatives considered and the outcome of the site selection matrix.

Sections 24(4) (b) (i) and 24(4A) of the NEMA require an EIA to include investigation and assessment of impacts associated with alternatives to the proposed project. In addition, Section 24 (O) (1)(b)(iv) also requires that the Competent Authority, when considering an application for EA, takes into account "where appropriate, any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment".

Therefore, the assessment of alternatives should, as a minimum, include the following:

- The consideration of the no-go alternative as a baseline scenario;
- A comparison of the reasonable and feasible alternatives; and

- Providing a methodology for the elimination of an alternative.

In line with Section (g)(x) of Appendix 2 of GNR326 of the EIA Regulations, motivation must be put forward if no alternatives, including alternative locations for the activity were not investigated. The proposed Kalahari Secondary School project did not assess alternative locations for the proposed school because of the vicinity that the proposed school will be in relation to the existing Kalahari High School.

The aim of the Kalahari Secondary School project is to;

a. augment the current learnership capacity that exists at the Kalahari High School; and

b. improve the facilities offered by the existing school by introducing more environmentally friendly, energy saving and improved water conservation technologies to the existing school.

As such, the location of the new school was pre-determined by the Northern Cape's Department of Education as it would not be rational to locate the proposed school further away from pre-existing school amenities.

4.2 Impact Assessment Methodology

The impact methodology will concentrate on addressing key issues. The methodology employed in this report thus results in a circular route, which allows for the evaluation of the efficiency of the process itself. The assessment of actions in each phase will be conducted in the following order:

- Assessment of key issues.
- Analysis of the activities relating to the proposed development.
- Assessment of the potential impacts arising from the activities, without mitigation.
- Investigation of the relevant measures to avoid, mitigate or manage negative impacts. Should irreplaceable harm to the environment (both the social and bio-physical) be expected, this will be stated as such.

Activities within the framework of the proposed project give rise to certain impacts. For the purposes of assessing these impacts, the project has been divided into three phases from which impact activities can be identified, namely:

4.2.1 Construction Phase

This phase is concerned with all the construction and construction related activities on site, until the contractor leaves the site. Thus, the main activities will be the establishment of a construction camp site, clearance of vegetation to facilitate construction activities, digging of the foundations, erection of buildings and associated structures, movement of; construction workforce, equipment, construction vehicles and materials, etc. The above-mentioned activities result in different types of impacts and some contribute to cumulative impacts.

4.2.2 Operational Phase

This phase involves activities that are post construction, i.e. the fully fledged functioning and running of the Kalahari Secondary School. This phase requires a rehabilitation plan and monitoring system that will ensure the impacts of construction, such as vegetation pruning, erosion, colonisation of

area by alien species, etc. are monitored and inspected as an ongoing process. This involves the maintenance of the facilities to ensure continuous proper functioning of the equipment or resources.

4.2.3. Decommissioning Phase

It is generally assumed that places of learning are established to last a lifetime, barring any changes in spatial planning. At the end of the operational phase, the Kalahari Secondary School may be decommissioned, or expanded so as to operate for a longer period and cater for a higher number of learners. The main aim of decommissioning is to return the land to its original, pre-construction condition. Should the unlikely need for decommissioning arise (i.e. if the facility becomes outdated or the land needs to be used for other purposes), the decommissioning procedures will be undertaken in line with the EMPr and the site will be rehabilitated and returned as close as possible to its pre-construction state.

Various components of the proposed Kalahari High School which are decommissioned will be reused, recycled or disposed of in accordance with the relevant regulatory requirements. All of the components that make up the Secondary School are considered to be reusable or recyclable. Certain components may also be traded or sold as there is an active second hand market for schooling components and/or it may be used as scrap. The decommissioning phase of the project is also expected to create skilled and unskilled employment opportunities.

4.2.4. Impact Assessment Criteria

An **impact** can be defined as <u>any</u> change in the physical-chemical, biological, cultural and/or socio-economic environmental system that can be attributed to human activities related to alternatives under study for meeting a project need. The significance of the aspects / impacts of the process will be rated by using a matrix derived from Plomp (2004) and adapted to some extent to fit this process. These matrices use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts.

The impact rating is only clear once the impact is summarised in terms of its ratings. This approach enables analysis of the impact results, in terms of:

- The number of severity criteria applicable as an indicator of influence / severity.
- The changes in number of low, moderate and high ratings before and after avoidance, mitigation or management.
- The changes in quantitative / weighted magnitude before and after mitigation.

The methodology also takes into consideration the three phases of development, construction, operational and decommissioning when applicable to the activity.

The significance of the impacts will be determined through a synthesis of the criteria below:

Probability:	**This describes the likelihood of the impact actually occurring**
Improbable:	The possibility of the impact occurring is very low, due to the circumstances, design or experience.

Probable:	There is a probability that the impact will occur to the extent that provision must be made therefore.
Highly Probable:	It is most likely that the impact will occur at some stage of the development.
Definite:	The impact will take place regardless of any prevention plans and there can only be relied on mitigatory measures or contingency plans to contain the effect.

Duration:	**The lifetime of the impact**
Short Term:	The impact will either disappear with mitigation or will be mitigated through natural processes in a time span shorter than any of the phases.
Medium Term:	The impact will last up to the end of the phases, where after it will be negated.
Long Term:	The impact will last for the entire operational phase of the project, but will be mitigated by direct human action or by natural processes thereafter.
Permanent:	The impact is non-transitory. Mitigation either by man or natural processes will not occur in such a way or in such a time span that the impact can be considered transient.

Scale:	**The physical and spatial size of the impact**
Local:	The impacted area extends only as far as the activity, e.g. footprint
Site:	The impact could affect the whole, or a measurable portion of the above-mentioned properties.
Regional:	The impact could affect the area including the neighbouring residential areas.

Magnitude / Severity:	**Does the impact destroy the environment, or alter its function?**
Low:	The impact alters the affected environment in such a way that natural processes are not affected.
Medium:	The affected environment is altered, but functions and processes continue in a modified way.
High:	Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

Significance:	**This is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required**
Negligible:	The impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.
Low:	The impact is limited in extent, has low to medium intensity; whatever its probability of occurrence is, the impact will not have a material effect on the

decision and is likely to require management intervention with increased costs.

Moderate: The impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.

High: The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation.

Table 6: Weights Assigned to Each Attribute

Aspect	Description	Weight
Probability	Improbable	**1**
	Probable	**2**
	Highly Probable	**4**
	Definite	**5**
Duration	Short term	**1**
	Medium term	**3**
	Long term	**4**
	Permanent	**5**
Scale	Local	**1**
	Site	**2**
	Regional	**3**
Magnitude / Severity	Low	**2**
	Medium	**6**
	High	**8**
Significance	**SUM (Duration, Scale, Magnitude) x Probability**	
	Negligible Impact	**≤ 20**
	Low Impact	**> 20 ≤ 40**
	Moderate Impact	**> 40 ≤ 60**
	High Impact	**> 60**

The significance of each activity is rated without mitigation measures (WOM) and with mitigation (WM) measures for both construction, operational and closure phases of the proposed development.

5. DESCRIPTION OF THE RECEIVING ENVIRONMENT OF THE STUDY AREA

This chapter provides an overview of the affected environment for the proposed Kalahari Secondary School and the surrounding region. The receiving environment is understood to include biophysical, socio-economic and heritage aspects which could be affected by the proposed development or which in turn might impact on the proposed development.

This information is provided to identify the potential issues and impacts of the proposed project on the environment. The information presented here has been sourced from:

- Scoping inputs from the specialists that form part of the project team;
- Review of information available on the South African National Biodiversity Institute (SANBI) Biodiversity Geographical Information System (BGIS) and Agricultural Geo-Referenced Information System (AGIS); and
- Gamagara Local Municipality and Ga-Segonyana Local Municipality IDPs, the John Taolo Gaetsewe District Municipality SDF and the Northern Cape PSDF.

It is important to note that this chapter intends to provide an overview and does not represent a detailed environmental study. Detailed studies focused on significant environmental aspects of this project within the development footprint of the project will be provided during the EIA Phase.

5.1. Biophysical Environment

5.1.1. Climatic Conditions

The climate of the Northern Cape is semi-arid with a late summer-autumn rainfall regime. The average rainfall of the area varies from 0 mm to 200 mm per year. Evaporation levels within this province exceed the annual rainfall. Climate conditions are extreme (i.e. very cold in winter and extremely hot in summer). The mean annual rainfall of South Africa is shown in Figure 3 below.

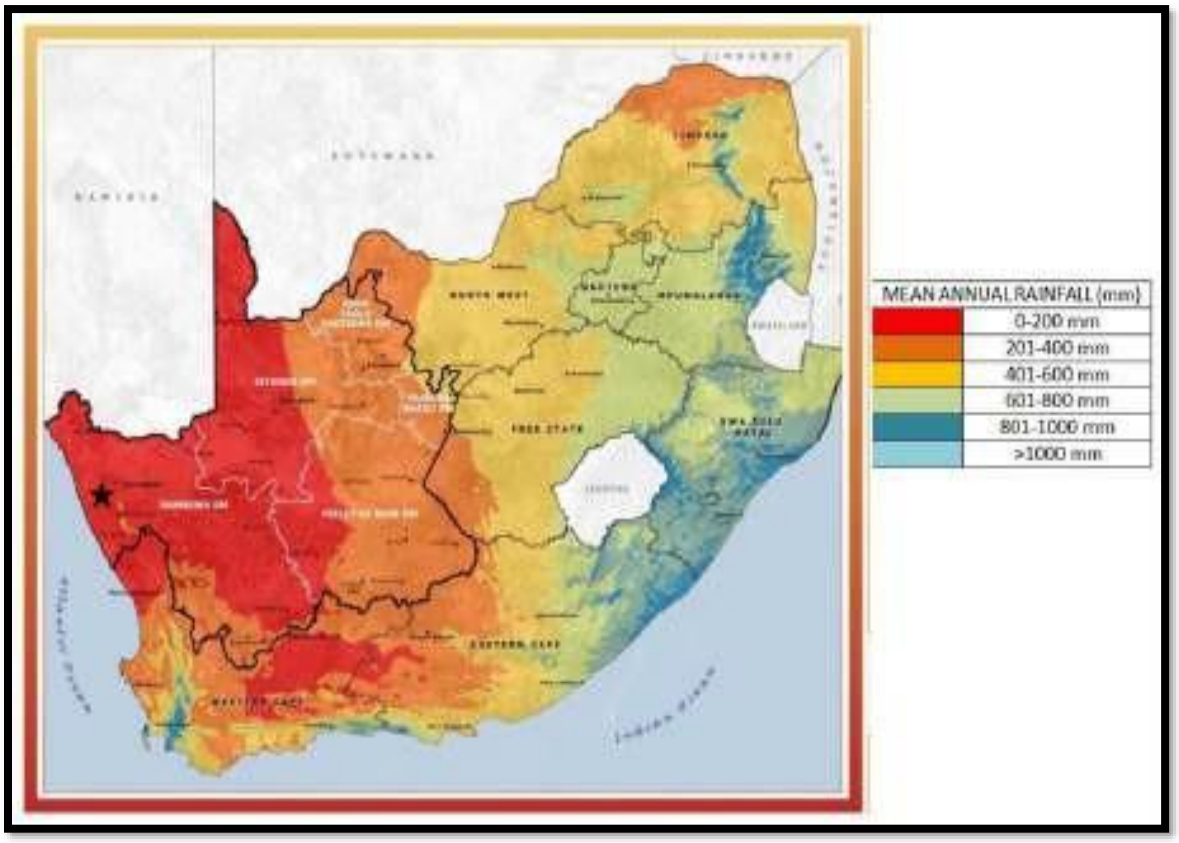


Figure 3: Mean Annual Rainfall Levels of South Africa (Source: Northern Cape PSDF, 2012)

One of the most important climate parameters for agriculture in a South African context is moisture availability, which is the ratio of rainfall to evapotranspiration. According to the World Bank Climate Change Knowledge Portal (2005), the average annual rainfall for the proposed site is low, at 400 mm per annum. The average monthly distribution of rainfall is shown in Figure 3.3 below.

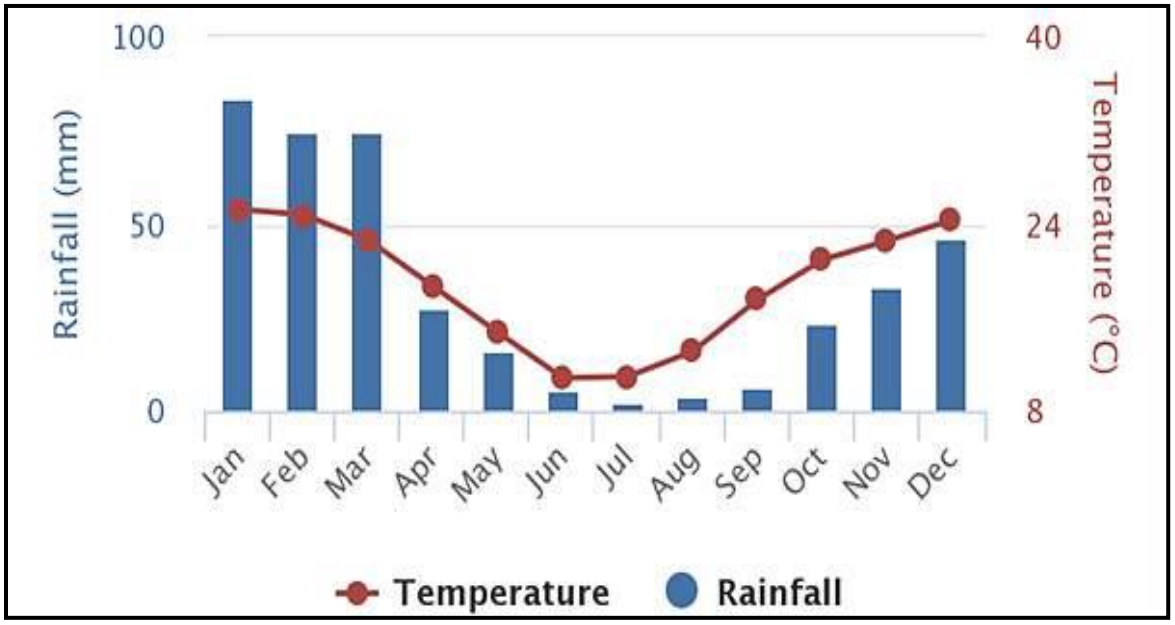


Figure 4: The average monthly distribution of rainfall within the area, including the Kuruman WEF

5.1.2. Topography and Landscape

The proposed development is located on a relatively flat piece of land which rise from the plateau at varying altitudes of between 1 317 m and 1 322 metres above sea level.

5.1.3. Regional Geology

The underlying geology of the area is underlain by the Quaternary age alluvial material in the lower lying areas, which overlays the yellow-brown banded or massive jaspilite with crocidolite, and banded ironstone from the Danielskuil Formation with subordinate amphibolite, crocidolite and ferruginous brecciated banded ironstone from the Kuruman Formation. These geological units are part of the Griquatown group and form the distinctive north-south trending ironstone mountain ranges of the larger Kuruman area. This is underlain by fine and coarse - grained dolomite with interbedded chert of Ghaaplato Formation part of the Campbell Group. The site is underlain by unconsolidated recent aeolian sand of the Kalahari Formation. The unconsolidated recent deposits typically vary in thickness of as little as 3m to over 17m thick overlying calcrete and clay (Geotechnical Consult Services, 2016). Competent bedrock typically occurs at depths of 21m to 37m (Geotechnical Consult Services, 2016).

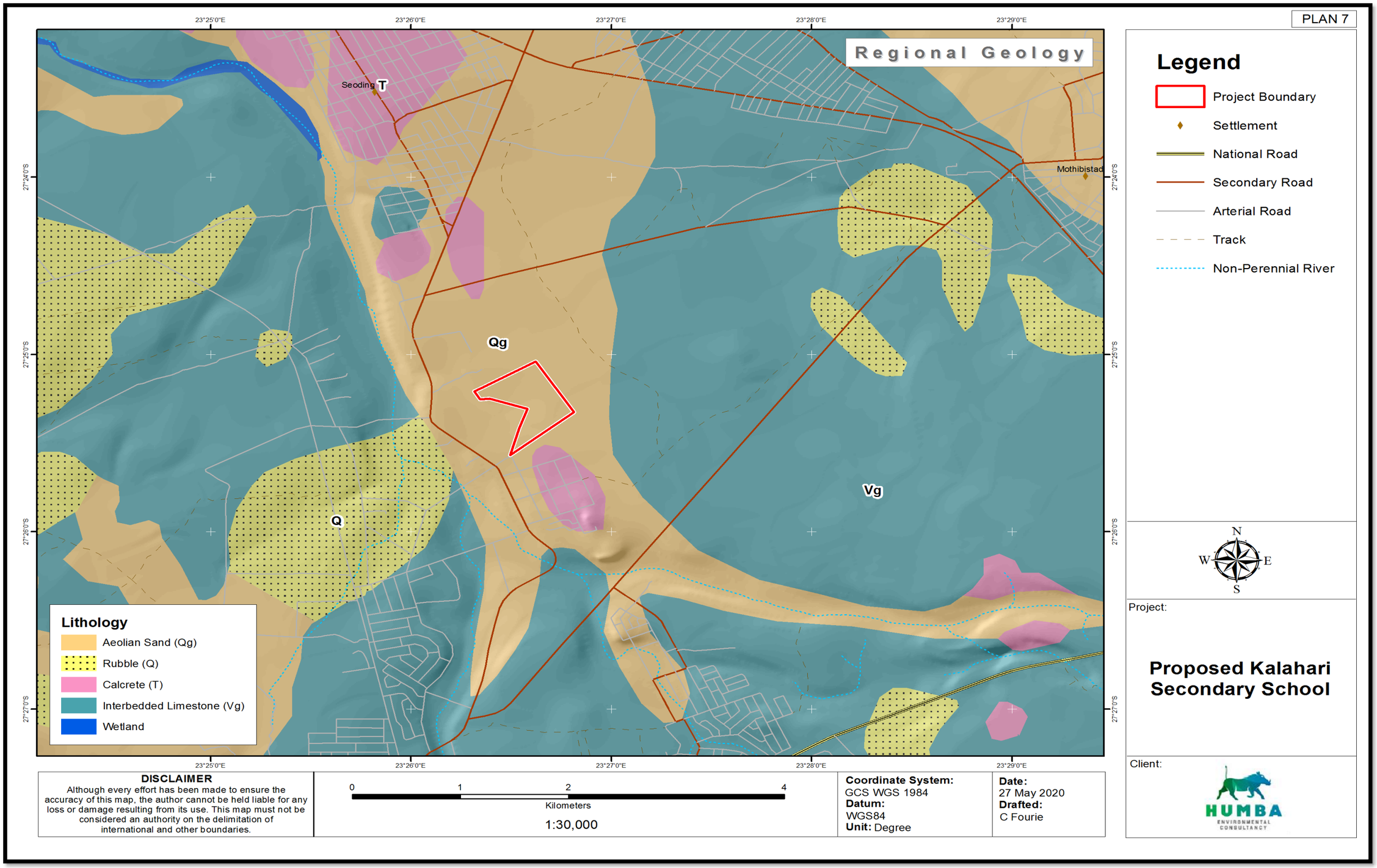


Figure 5: Regional Geology of the proposed site and Kuruman

5.1.4. Land Capability

Land capability was determined by assessing a combination of soil, terrain and climate features. Land capability is defined by the most suitable land use under rain-fed conditions. The approach by Schoeman et al (2000) was used to assess the land capability. The defined land capability shows the most intensive long-term use of land for rain-fed agriculture and at the same time indicates the permanent limitations associated with different land use classes. The classification system is made up of land capability classes and land capability groups.

Table 7: Land capability classes

Land Capability Class	**Increased Intensity of Use**									**Land Capability Groups**
I	W	F	LG	MG	IG	LC	MC	IC	VIC	Arable Land
II	W	F	LG	MG	IG	LC	MC	IC		
III	W	F	LG	MG	IG	LC	MC			
IV	W	F	LG	MG	IG	LC				
V	W		LG	MG						***Grazing Land***
VI	W	F	LG	***MG***						
VII	W	F	LG							
VIII	W									Wildlife

W- Wildlife MG- Moderate Grazing MC- Moderate Cultivation F- Forestry IG- Intensive Grazing IC- Intensive Cultivation LG-Light Grazing LC- Light Cultivation VIC- Very Intensive Cultivation

The proposed site for development is classed as Class 6 and therefore supports Moderate Grazing (MG) as shown by Figure 6 below.

No sensitive agricultural areas occur within the study area. From an agricultural point of view, no parts of the site need to be avoided by the proposed development and no buffers are required (Lanz, 2018).

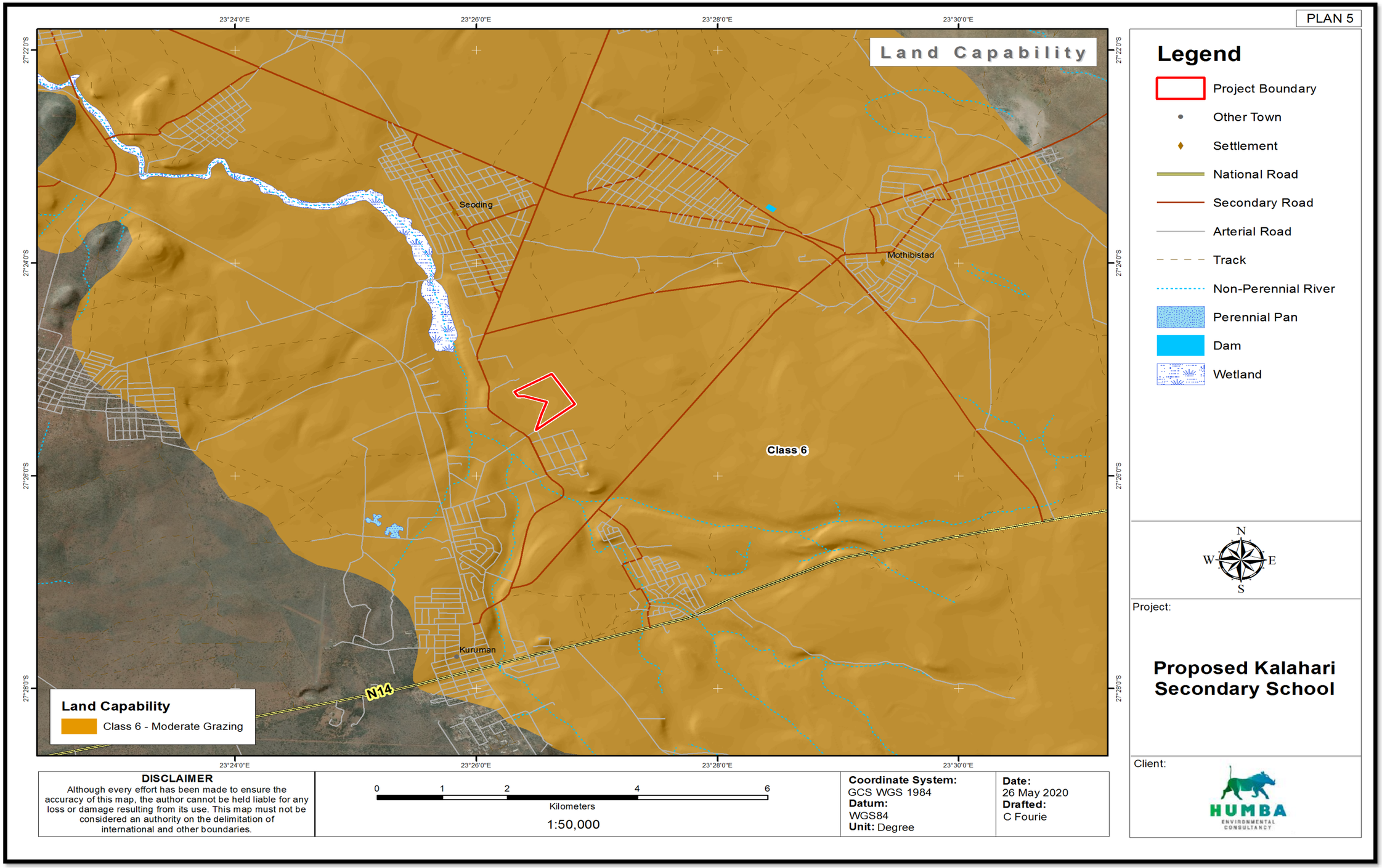


Figure 6: Land Capability map

5.1.5. Freshwater Environment (Surface Water, Drainage, and Wetland Ecosystems)

The water resources of South Africa have been divided into quaternary catchments, which serve as water management units for the country (DWA, 2015). A Quaternary Catchment is a fourth order catchment in a hierarchical classification system in which the primary catchment is the major unit. The quaternary catchments indicated for the study area are D41L and the study area falls within the Southern Kalahari Ecoregion and within the Lower Vaal Water Management Area (WMA), as well as the Molopo sub-Water Management Area (sub-WMA) as defined by NFEPA (2011).

Only the Kuruman River and one of its larger tributaries, the Ga-Mogara River, traverse the Ga-Segonyana Local Municipality (CSIR, 2018). The Kuruman River, a second order river, originates east of Kuruman where it receives water from several springs of which the Great Koning Eye, Little Koning Eye and the Kuruman Eye are the largest (CSIR, 2018). Both the Kuruman River and the Ga-Mogara River are ephemeral river systems; usually dry, flowing only for short periods following sufficient rainfall (CSIR, 2018). The nearest river system to the proposed site is the Kuruman River (Class B: Largely Natural), which is located approximately 680m due west of the study area.

A channelled valley bottom wetland exists approximately 1km due north-west of the site. The wetland forms part of the Kuruman River system. Figure 7 below shows the two watercourses as des rived in relation to the proposed site.

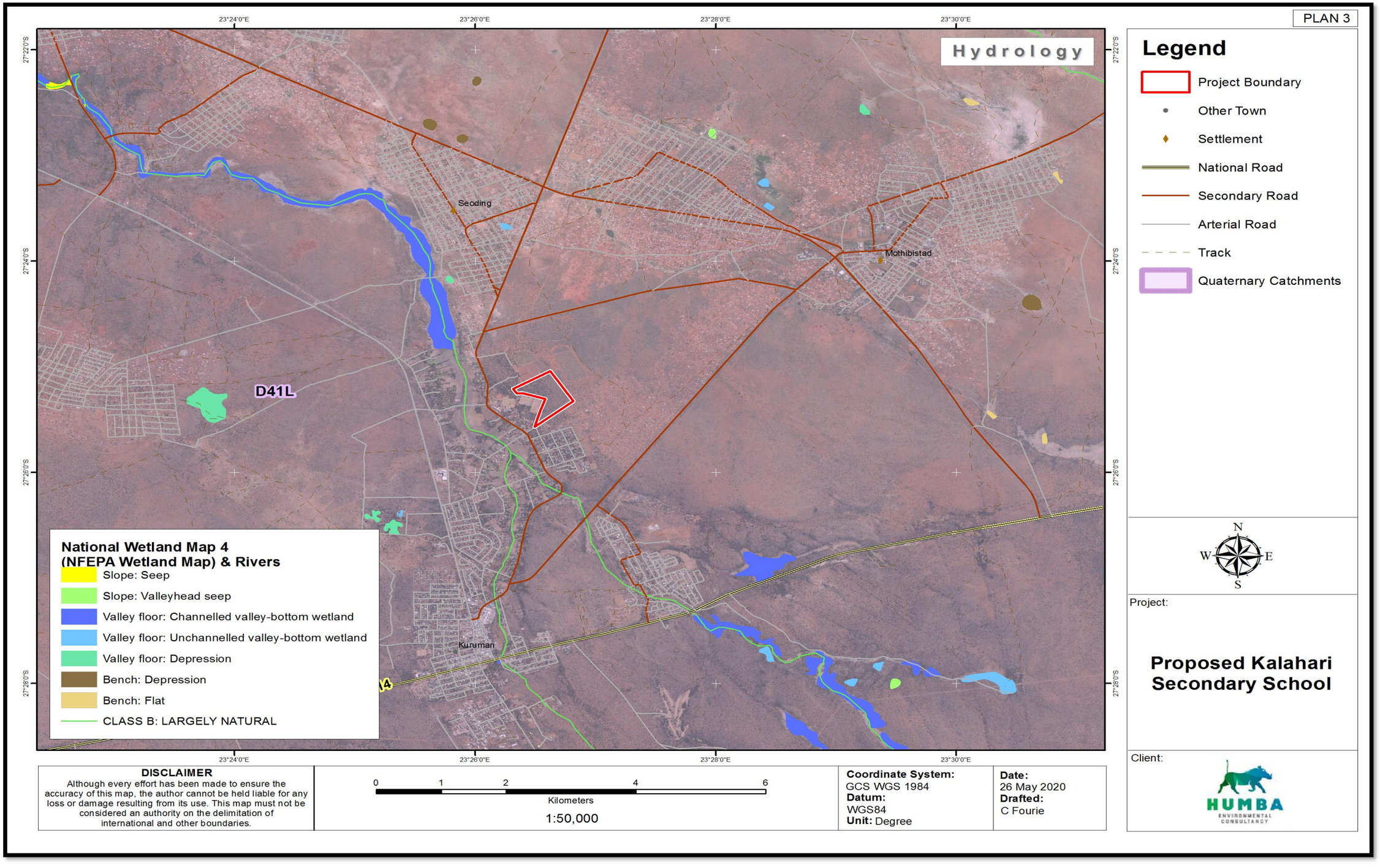


Figure 7: Hydrology of the study area

5.1.6. General Vegetation Description

The proposed Kalahari Secondary School site consists of the Kuruman Thornveld type vegetation. The Kuruman Thornveld vegetation type has summer and autumn rainfall with very dry winters. The mean annual precipitation (MAP) ranges from about 300mm to 450mm and frost is frequent in winter (Mucina & Rutherford, 2006). This vegetation type is considered least threatened with a target of 16% with nothing conserved in statutory conservation areas. Only 2% is already transformed and erosion is very low (Mucina & Rutherford, 2006).

Characteristic of the Kuruman Thornveld vegetation type is the flat rock plains and some sloping hills with a well-developed, closed shrub layers and well-developed open tree stratum consisting of *Acacia erioloba* (Mucina & Rutherford, 2006). The following flora are indicators of the Kuruman Thornveld vegetation type:

- Tall tree: *Acacia erioloba (d)*
- Small tree: *Acacia mellifera subsp. detinens), Boscia albitrunca (d)*
- Tall shrubs: *Grewia flava (d), Lycium hirsutum (d), Tarchonanthus camphoratus (d), Gymnosporia buxifolia.*
- Low shrub: *Acacia hebeclada subsp. hebeclada, Monechma divaricatum (d), Gnidia polycephala, Helichrysum zeyheri, Hermannia comosa, Pentzia calcarea, Plinthus sericeus.*
- Geoxylic suffrutex: *Elephantorrhiza elephantina.*
- Graminoids: *Arisitda meridionalis (d), Aristida stipitata subsp. stipitata (d), Eragrostis lehmanniana (d), Eragrostis echinochloidea, Melinis repens.*
- Herbs: *Dicoma schinzii, Gisekia africana, Harpagophytum procumbens subsp. procumbens, Indigofera daleoides, Limeum fenestratum, Nolletia ciliaris, Seddera capensis, Tripteris aghillana, Vahlia capensis subsp. vulgaris.*
- Biogeographically important taxa: (Griqualand West endemic, Kalahari endemic, southernmost distribution in interior of Southern Africa*)*
- Small trees: *Acacia luederitzii var leuderitzii, Terminalia sericea*.
- Tall trees: *Acacia haematoxylon*
- Low shrubs: *Blepharis marginata*
- Graminoids: *Digitaria polyphylla*
- Herb: *Corchorus pinnatipartitus*
- Herb: *Gnaphalium englerianum*

The Kuruman Thornveld is distributed in the North-west and Northern Cape Provinces, on flats, from the vicinity of Postmasburg and Danielskuil (west of Kuruman Hills) in the south extending via Kuruman to Tsineng and Dewas in the north. Altitude ranges between 1 100 and 1 500m (Mucina & Rutherford, 2006). Figure 8 below shows the distribution of vegetation types around the proposed site.

5.1.7. Biodiversity

The majority of the project area is considered as largely natural; however, not sensitive. The ecosystems within the project area, are considered as Least Threatened (LT). The Northern Cape Biodiversity Conservation plan indicated the project area falls within a Critical Biodiversity Area:

Class 2 which indicated that the project area falls within a largely natural area. As a result, the overall impact of the development on the CBA is considered to be low and a long-term significant impact is unlikely. In addition, the site does not fall within an area identified as being a priority conservation expansion area under the Northern Cape Protected Area Expansion Strategy (NCPAES) Focus Area (2017) (Todd, 2018). Figure 9 below shows the different sensitivities around the study area.

5.1.8. Fauna

5.1.8.1 Mammals

The assessment for mammal species was conducted at desktop level and field investigation to determine the probability of occurrence of faunal species. The potential species that may occur within the project area are listed in Table 8. It must be noted that the possible species list is at desktop level and may include species that were previously recorded in the area and may possibly be no longer occurring within the project area. It is likely that, as a result of the increased anthropogenic pressures, mining and modifications in the area, faunal species may have migrated away from the area.

Table 8: The possible mammal species occurring within the project area

Family	Scientific name	Common name	Conservation Status
Bovidae	Antidorcas marsupialis	Springbok	LC
Bovidae	Damaliscus pygargus phillipsi	Blesbok	LC
Bovidae	Raphicerus campestris	Steenbok	LC
Bovidae	Sylvicapra grimmia	Bush Duiker	LC
Bovidae	Tragelaphus angasii	Nyala	LC
Canidae	Vulpes chama	Cape Fox	LC
Herpestidae	Atilax paludinosus	Marsh Mongoose	LC
Herpestidae	Cynictis penicillata	Yellow Mongoose	LC
Herpestidae	Suricata suricatta	Meerkat	LC
Hystricidae	Hystrix africaeaustralis	Cape Porcupine	LC
Leporidae	Lepus sp.	Hares	LC
Leporidae	Lepus saxatilis	Scrub Hare	LC
Macroscelididae	Elephantulus sp.	Elephant Shrews	LC
Muridae	Aethomys sp.	Veld rats	LC
Muridae	Mastomys sp.	Multimammate Mice	LC
Muridae	Rhabdomys pumilio	Xeric Four-striped Grass Rat	LC
Mustelidae	**Aonyx capensis**	**African Clawless Otter**	**NT**
Mustelidae	Hydrictis maculicollis	Spotted-necked Otter	LC 2008)

5.1.8.2 Avifauna

A desktop avifaunal investigation was conducted to determine the bird species that may occur within the project area. A total of 200 bird species is expected to occur within the project area; however, a total of 11 were considered to be of conservation concern as listed in Table 9.

Table 9: Avifaunal species that may occur within the project area

Common name	Species name	Conservation Status
Bustard, Kori	*Ardeotis kori*	VU
Eagle, Martial	*Polemaetus bellicosus*	VU
Eagle, Tawny	*Aquila rapax*	VU
Falcon, Lanner	*Falco biarmicus*	NT
Marsh-harrier, African	*Circus ranivorus*	VU
Oxpecker, Red-billed	*Buphagus erythrorhynchus*	NT
Secretarybird, Secretarybird	*Sagittarius serpentarius*	NT
Stork, Yellow-billed	*Mycteria ibis*	NT
Vulture, Cape	*Gyps coprotheres*	VU
Vulture, Lappet-faced	*Torgos tracheliotus*	VU
Vulture, White-backed	*Gyps africanus*	VU

5.1.8.3 Herpetofauna

The herpetofauna survey consisted of a desktop study and the field investigation. The desktop study determined that the species listed in Table 10 . There was one herpetofauna of conservation concern expected for the project area, indicated in bold.

Table 10: The possible herpetofauna within the project area

Family	Scientific name	Common name	Conservation Status
Reptiles			
Agamidae	Agama atra	Southern Rock Agama	LC
Colubridae	Dasypeltis scabra	Rhombic Egg-eater	LC
Cordylidae	Cordylus vittifer	Common Girdled Lizard	LC
Elapidae	Hemachatus haemachatus	Rinkhals	LC
Lamprophiidae	Aparallactus capensis	Black-headed Centipede-eater	LC
Lamprophiidae	Boaedon capensis	Brown House Snake	LC
Lamprophiidae	Lycophidion capense capense	Cape Wolf Snake	LC
Lamprophiidae	Psammophylax	Spotted Grass Snake	LC

Family	Scientific name	Common name	Conservation Status
	rhombeatus		
Lamprophiidae	Pseudaspis cana	Mole Snake	LC
Leptotyphlopidae	Leptotyphlops sp.		LC
Scincidae	Trachylepis punctatissima	Speckled Rock Skink	LC
Scincidae	Trachylepis varia sensu lato	Common Variable Skink Complex	LC
Typhlopidae	Afrotyphlops bibronii	Bibron's Blind Snake	LC
Frogs			
Bufonidae	Sclerophrys gutturalis	Guttural Toad	LC
Pipidae	Xenopus laevis	Common Platanna	LC
Pyxicephalidae	Amietia delalandii	Delalande's River Frog	LC
Pyxicephalidae	Amietia fuscigula	Cape River Frog	LC
Pyxicephalidae	Amietia poyntoni	Poynton's River Frog	LC
Pyxicephalidae	Cacosternum boettgeri	Common Caco	LC
Pyxicephalidae	**Pyxicephalus adspersus**	**Giant Bull Frog**	**NT**
Pyxicephalidae	Tomopterna natalensis	Natal Sand Frog	LC

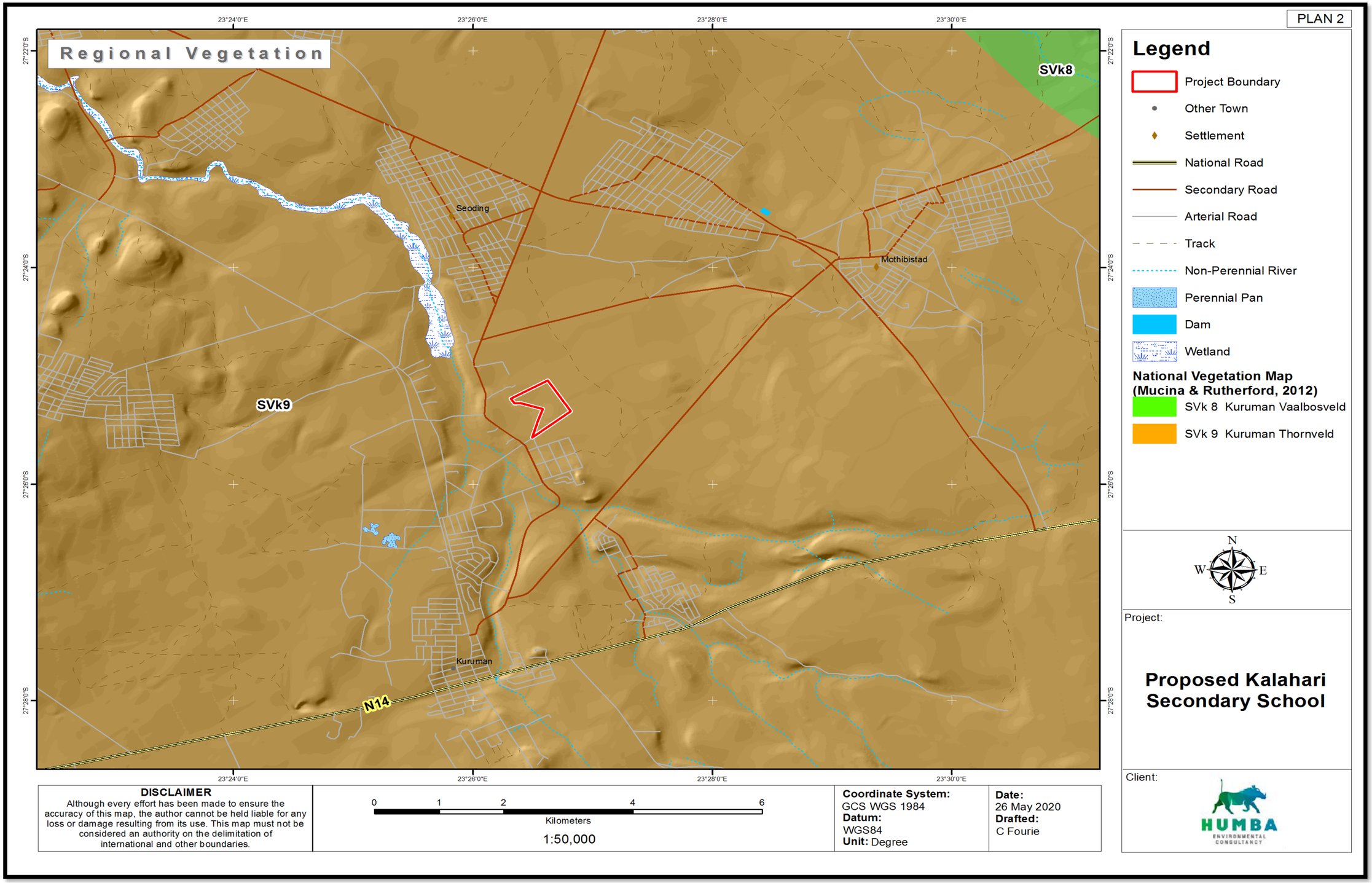


Figure 8: Map of vegetation type distribution around the study area

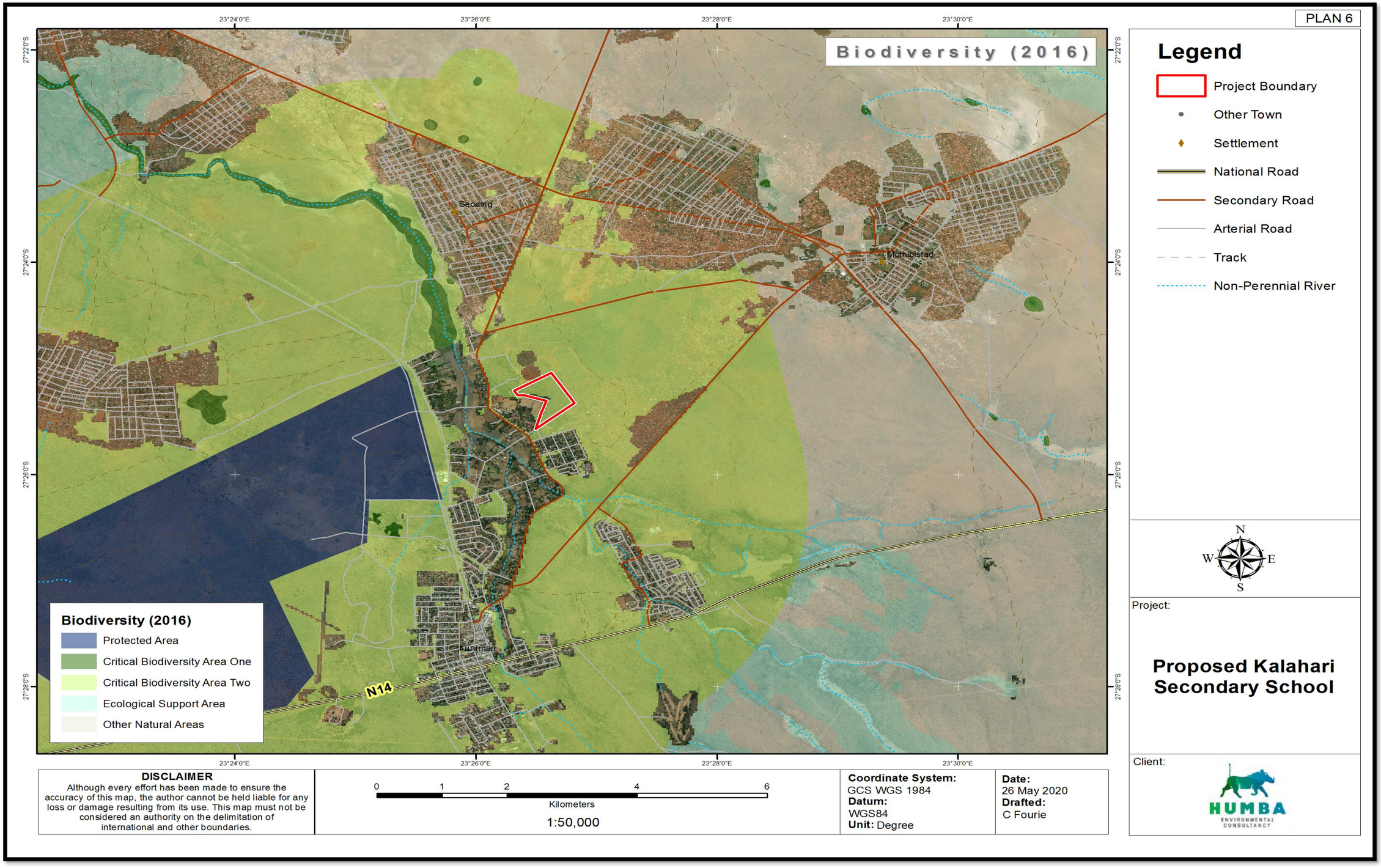


Figure 9: Biodiversity sensitivities within the study area

5.1.9. Heritage, Archaeology and Palaeontology Profile

The proposed Secondary School footprint is geologically underlain by Precambrian sediments and lavas of the Transvaal Supergroup, including the Ghaap Group (marine carbonates of the Campbell Rand Subgroup followed by banded iron formations of the Asbestos Hills Subgroup) and Postmasburg Group (Ongeluk Formation lavas). Most of these rock units are of low palaeontological sensitivity. However, the Campbell Rand carbonates near Kuruman may be stromalite-rich and therefore of high sensitivity. Late Caenozoic superficial sediments include windblown sands (Kalahari Group), colluvial and other surface gravels, alluvium and pedocretes (e.g. calcretes). Most of these younger sediments are of low sensitivity but older alluvial deposits along major drainage lines, as well as calcretes need to be inspected for fossils (e.g. mammalian remains).

As such, according to the Palaoesensitivty map in below, a desktop study will be conducted in line with protocols outlined by the SAHRA.

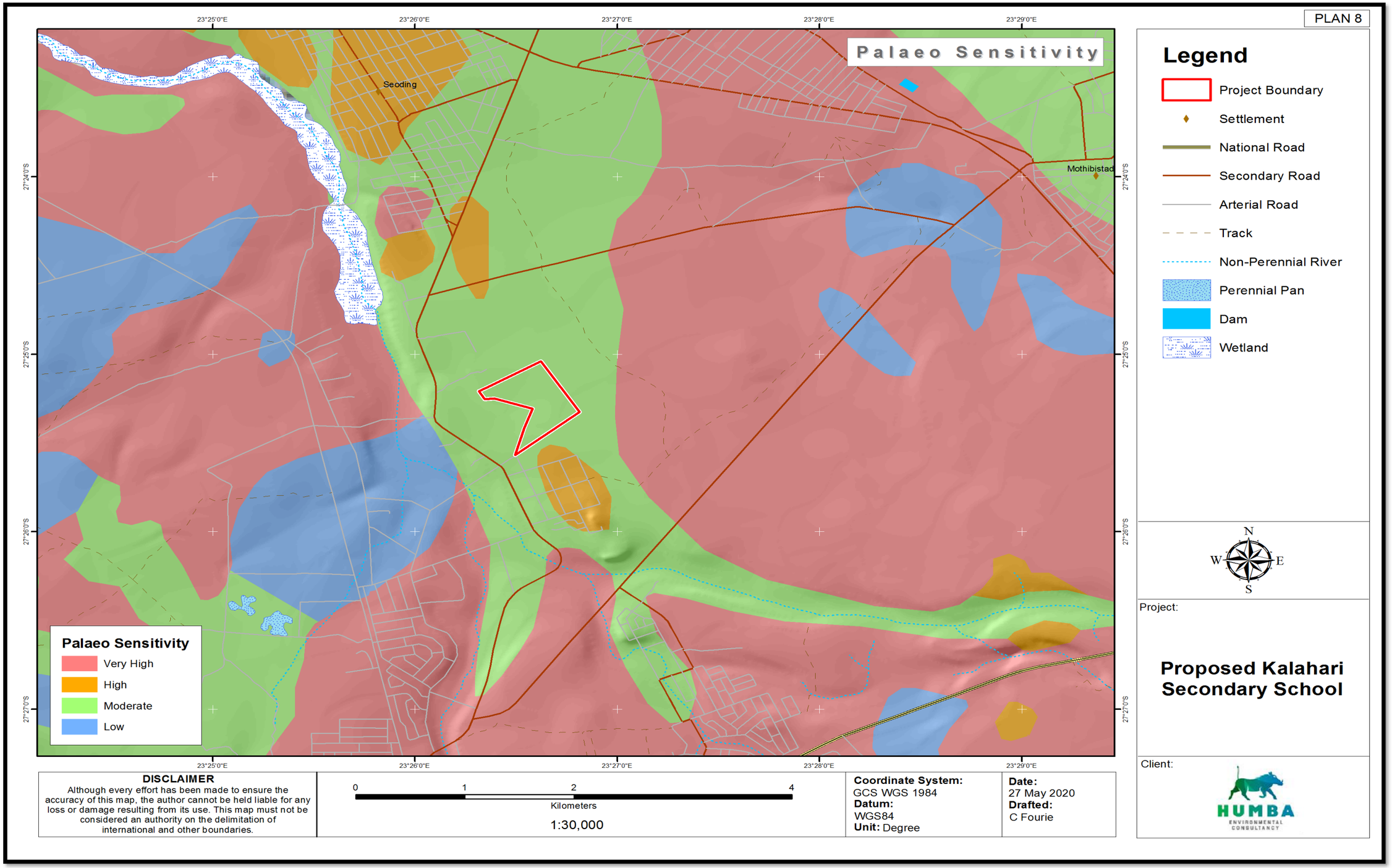


Figure 10: Palaeosensitivity map of the study area

5.2. Socio-Economic Environment

The available data used to compile the socio-economic baseline for the Kuruman area and surrounds, although not exhaustive, is interpreted in terms of professional opinion and is indicative of generally accepted trends within the study area and South Africa.

5.2.1. Demographic and Economic Profile

The Ga-Segonyana Local Municipality (LM) has a population of approximately 96 297, with a total of 93 651 households (Stats SA, 2017). This is indicative of an average household size of 3.5 in the municipality. The Ga-Segonyana LM constitutes 8% of the provincial population and two-fifths of the John Taolo Gaetsewe District Municipality (DM) population, making it the largest in the district. Furthermore, 44% of the total households in the John Taolo Gaetsewe DM are located in the Ga-Segonyana LM. The average population growth rate over the past five years has been just over 1%, indicative of stagnant to slow population growth. This could be attributed to the closure of mines and limited job opportunities thus resulting in limited in-migration of job seekers and migrant labour.

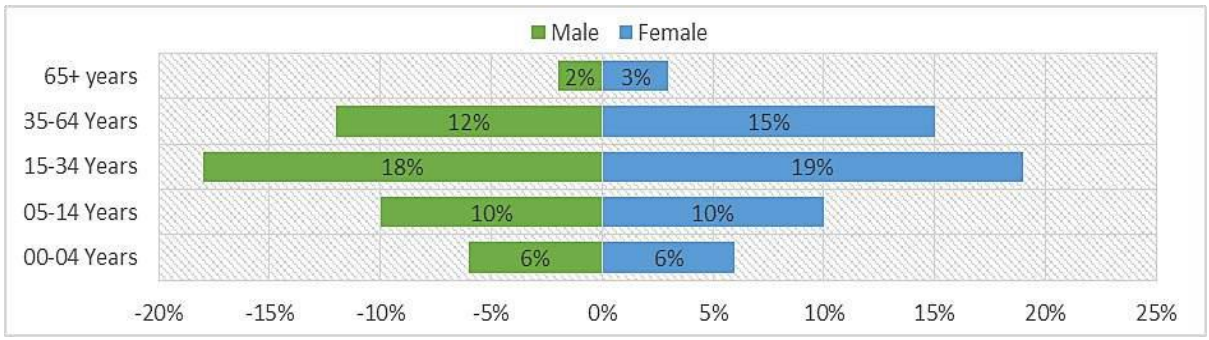


Figure 11: Population gender pyramid by age groups for the Ga-Segonyana Local Municipality (Ga-Segonyana LM IDP, 2017-2018)

A large portion of the population (85%) reside in tribal areas, followed by 14% located in urban areas, and the remaining 1% reside on farm land (Stats SA, 2017). In the zone of influence, the population density is concentrated in the closest town, Kuruman and the villages of Mothibistad, Ga-Motlhware, Bankhara Bodulong and Wrenchville. The majority of residents in the Ga Segonyana LM (87%) are Black, 8% are Coloured and 4% are White. Setswana is the most commonly used language in the municipality followed by Afrikaans (Stats SA, 2017).

Within the Ga Segonyana Local Municipality, several sectors contribute to the municipality's economy and the Gross Domestic Product (GDP). These sectors include, amongst others agriculture, mining, manufacturing, electricity, gas and water, construction, trade, transport and communications. From 2006 to 2016, the municipality's economy grew at a positive compounded annual growth rate (CAGR) of 3% per annum and contributes a quarter to the economy of the John Taolo Gaetsewe DM, as well as 6% to the economy of the Northern Cape Province.

Economic activities currently characteristic of the proposed development area are mainly agriculture, specifically game farming and hunting, and tourism related. Adjacent land uses include

livestock farming and irrigated crop production.

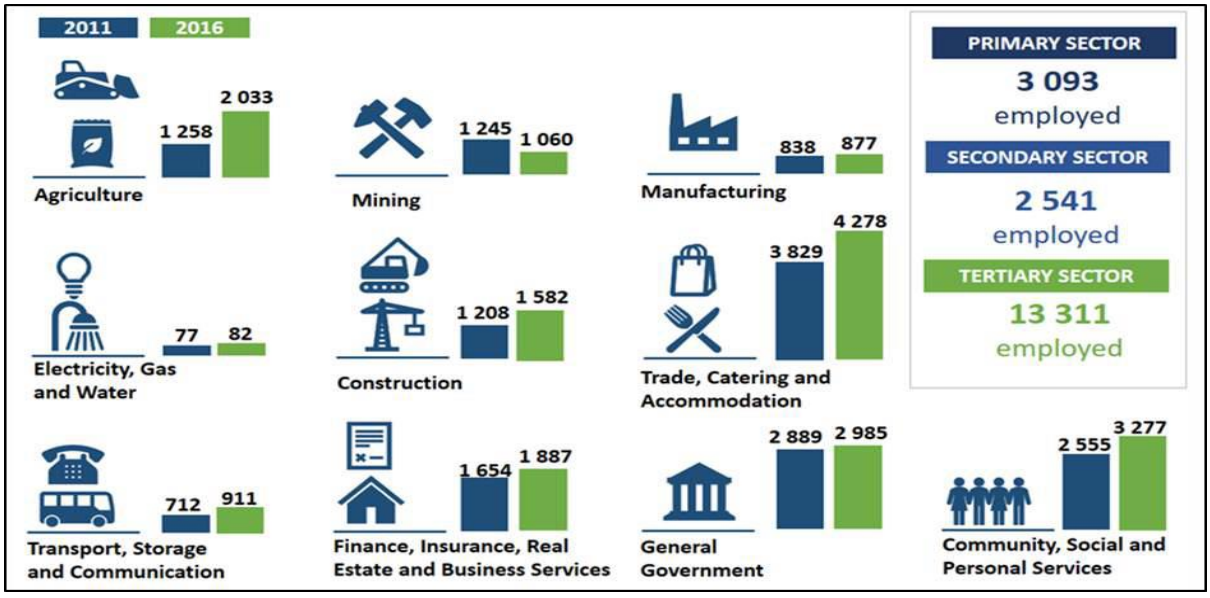


Table 11: GDP Contributions of the Northern Cape and Ga-Segonyana LM (Source: Broughton, 2018)

Economic Sector	Northern Cape (GDP in 2010 prices)			Ga-Segonyana LM (GDP in 2010 prices)		
	GDP (R'mil)	% of GDP	CAGR (2010-2016)	GDP (R'mil)	% of GDP	CAGR (2010-2016)
Agriculture, forestry and fishing	R10 908	9%	0%	R371	5%	3%
Mining and quarrying	R30 141	25%	2%	R1 880	26%	3%
Manufacturing	R7 479	6%	0%	R500	7%	1%
Electricity, gas and water	R3 973	3%	2%	R215	3%	1%
Construction	R5 260	4%	2%	R390	5%	3%
Trade	R12 892	11%	2%	R905	13%	3%
Transport and communication	R12 688	11%	3%	R730	10%	5%
Finance and business services	R16 760	14%	3%	R988	14%	5%
General government	R14 369	12%	2%	R726	10%	1%
Personal services	R6 003	5%	3%	R397	6%	3%
TOTAL	R120 473	100%	2%	R7 101	100%	3%

Figure 12: Employment profile per economic sector compared between 2011 and 2016 in the Ga-Segonyana LM (Source: Broughton, 2018)

Figure 13: Status of service delivery in the Ga-Segonyana LM (Source: Broughton, 2018)

5.2.2. Kuruman

The town of Kuruman, named after the Chief who lived in the area called Kudumane and currently the main business / services centre of the Ga-Segonyana municipal area, was at first a mission station of the London Missionary Society founded by Robert Moffat in 1821. It is known for its scenic beauty and the 'Eye of Kuruman', a geological feature i.e. mineral spring that brings water from deep underground and gives about 20 million litres of water daily to approximately 10 000 inhabitants. Kuruman is regarded as the "Oasis of the Kalahari" with this spring also known as 'Die Oog' (in Afrikaans) or 'Gasegonyane' (in Setswana) of the Kalahari region (Ga-Segonyana Local Municipality: 2017/18 IDP). In 2011, Kuruman had 3 188 households with 13 057 residents (Broughton, 2018). Kuruman is situated on a main route between Gauteng and Namibia/Cape Town via Upington. This route is growing in popularity because of the unspoilt nature and wide variety of tourist attractions found on the route. As a result, the Ga-Segonyana LM is experiencing a growth in game-related tourism with a particular emphasis on hunting.

5.2.3. Asbestos

Historically the larger Kuruman area has been mined for iron ore and asbestos (John Taolo Gaetsewe DM SDF, 2017). The mining of iron ore, an ongoing activity occurs towards the south west of the study area (mainly around Kathu) where large quantities of iron ore are still being mined from rocks characteristic of the geological Griquatown Group. Earlier mining of asbestos from rocks of the same geological formation in the vicinity of Kuruman and surrounds was ceased in 2002 and although all of these asbestos mines have been decommissioned, there might still be an ongoing risk of contamination through exposure to remaining mine dumps. The proposed WEF development site is located in close proximity to several rehabilitated, partially rehabilitated and un-rehabilitated asbestos mines, all of which continue to pose potential health risks to surrounding communities and land uses (Liebenberg-Weyers, 2010). Due to the carcinogenic nature of asbestos, numerous diseases can result from exposure to the asbestos fibres in the soil for prolonged periods. Asbestosis is an occupational disease confined to the workplace wherein continuous inhalation of asbestos fibres weaken the lungs. However, an additional disease linked to asbestos is Mesothelioma, which occurs as a result of trivial exposure to asbestos fibres (Journeyman.tv, 2002). In light of the latter, it

is important to note the potential health risk that residual asbestos exposure within the proposed development area could have on workers during the construction and operational phases of the proposed Secondary School project.

6. PUBLIC PARTICIPATION PROCESS: SCOPING PHASE

Public participation forms an integral part of the full EIA process and the EAP is reliant, over and above networking from the Public Participation (PP) team, on the I&AP's participation to ensure adherence to the legal requirements as set out in the NEMA.

Sections 39 to 44 of GN Regulation 326 of the EIA Regulations (December 2014), as amended on the 7th of April 2017 and promulgated under the National Environmental Management Act (Act No 107 of 1998) are applicable. The important elements relating to the public participation process that are required by the Regulations are the following:

- The manner in which potential Interested and Affected Parties (I&APs) were notified of the application for authorisation, and that a public participation process is mandatory.
- Opening and maintaining a register of the names and addresses of I&APs. These include all persons who have attended meetings, submitted comments, and organs of State who have some form of jurisdiction in the assessment process, and all those who have requested that they be placed on the register as registered I&APs.
- Registered I&APs are entitled to comment, in writing, on all written submissions made to the competent authority by the applicant or the EAP managing the application, and to bring to the attention of the competent authority any issues which that party believes may be of significance when the application is considered for authorisation. The comments of registered I&APs must be recorded and included in the reports submitted to the competent authority.

During the Scoping Phase of the process the PP team will commence with a notification process to ensure that as many I&APs as possible are well informed about the proposed project for them to form part of the EIA process, from inception to completion.

The PP process during the Scoping Phase is outlined as below:

6.1 Developing the I&AP Database

The PP Process in the Scoping Phase kicked off with an identification exercise to ensure that the team sourced contact details of pre-identified I&APs, including key stakeholders and possibly affected landowners. The initial stages of the process were conducted between May and June 2020. Every endeavour was made to create and update the project database of stakeholders as mentioned above.

Database information was also sourced through other EIA processes in the study area and where possible, the contact details of I&APs have been included in this proposed project's database. The updating of the project database is an ongoing process until the culmination of the project. A copy of the Register Record, which includes the stakeholders' name, surname and Department / Company / Organisation they represent is attached.

6.2 Site Notices

In terms of Regulation 41[2](a), site notices were erected within and around the proposed study area mainly on fences along the proposed development but also at a location frequented by landowner's / community members. The information captured on the site notices included the

information as required by Regulation 41[3] (a&b), including the locality map showing all alternatives. The site notices were erected on the 4th of September 2020.

6.3 Notifying I&APs and potentially affected landowners of the Project

Potentially affected landowners were identified during the site visit, during the first round of public meetings and by obtaining contact information through Windeed search. Outdated contacted details are still in the process of being updated. It is important to note that as stipulated in Regulation 39[1] **written consent** of landowners or person(s) in control of the land on which the proposed development is taking place does not apply to this proposed project in terms of Regulation 39[2](a) and (c). It can be noted that all possible means available to the PP team will be utilised to ensure that as many possibly affected landowners as possible are identified and notified during the scoping phase.

In reference to paragraph 6.1 above, a Background Information Document (BID) was drafted for the first round of Public Participation in English, and the English copy of the BID, together with a cover letter inviting them to register and participate in the EIA process and a registration and comment sheet, was e-mailed to all those with e-mail addresses. A letter notifying the I&AP's of the changes was drafted and sent.

6.4 Newspaper Advertisements (DSR availability & invitation to Public Meetings)

The Scoping Phase advertisements were placed in English notifying I&AP's of the opportunity to review the DSR and public meeting dates and venues. This advertisement asked all those who were affected or feel that they are interested to register as I&APs.

Advertisements were placed in the various newspapers as identified to date (refer to Table 48 below) to inform the public of the availability of the Draft Scoping Report for review and comment and inviting them to the series of public meetings. No newspaper adverts will be placed for the second Public Participation Process.

Table 12: Newspaper Advertisements Placed

Newspaper	Language	Publication Date
Kathu Gazette	**Setswana, English & Afrikaans**	**4th September 2020**

- Registered I&APs on the project database were notified of the availability of the DSR and invited them to attend any one (or more) of the Public Meetings by a personal invitation. This notification and invitation letter was accompanied by a DSR comment sheet and a registration sheet for the series of public meetings. Tearsheets of the advertisements placed are attached to the Final Scoping Report (FSR).

6.5 Draft Scoping Report: Public Review and Comment Period

The Draft Scoping Report (DSR) was made available to I&APs for review and comment from Friday the 4th of September 2020 to Tuesday the 6th of October 2020. As mentioned in 6.4 above this review period was communicated in both the advertisements and the personalised letters.

Table 13: Hard and soft Copies of the Draft Scoping will be at the following Venues:

Venue	Contact Details

Community Library Batlharos, Batlharo, 8460	Tel.: (+27)53 567 9467
Mothibistad library	Tel.: (+27)53 679 1904
Police Station Kuruman, 14 Voortrekker St, Kuruman, 8460	Tel.: (+27)53 712 9800
Kalahari High School, Kuruman, 8460	Tel.: (+27)53 712 2049
Jeanercy Construction & Consultancy Services (Pty) Ltd Website	**www.jccservices.com**

6.6 Meetings

In line with the National Disaster Management Act, 2002 (Act No. 57 of 2002), public meetings **will not** be held as this would prove difficult to maintain a gathering of 50 people or less.

7. OVERVIEW OF THE EXPECTED EFFECTS ON THE RECEIVING ENVIRONMENT

Any development has an impact on the surrounding area and region in which the development occurs. Proposed Kalahari Secondary School will have an impact on environment. The goal of an EIA process is to determine the impacts, the extent of the impacts and the mitigating measures that will limit the impacts to acceptable levels for the social and biophysical environment, the local community, I&APs, and all spheres of government.

During the public participation process, the comments received from I&APs will indicate specific issues of concern and the concerns received will be taken forward to the Impact Assessment Phase in the attempt to address these concerns.

The following section provides an overview of the issues to be investigated by specialist study area.

7.1 Overview of the Potential Impacts on the Socio Environment

Maintaining good relationships with immediate inhabitants of the preffered site is of the utmost importance. The proposed project will also provide additional educational capacity to the inhabitants of Kuruman and, in so doing, will make provision for future educated decision makers.

7.1.1 Economic Impacts

The proposed school will have immediate economic benefits for community in the sense that during construction, temporary employment opportunities will be created. The appointed contractor must ensure that unskilled labour is engaged in a skills transfer programme thus ensuring that the beneficiaries of the short term employment gain skills that will allow for longer term beneficiation. In addition, in the medium to long term, administration, teaching, management and maintenance staff will be permanently employed at the school. Contractor work such as security guards will form part of long term economic benefits as this will benefit local supplier's/business entrepreneurs. The practice of putting in place "ever green-contracts" must be monitored and reported to authorities as this is deemed as anti-competitive behaviour by law.

7.1.2 Infrastructure Impacts

The current proposed site for construction is fallow land that is not being utilised. As such, available land must be made use of especially when weighed against the immense long term benefits of an educational facility for both conventional schooling and adult education. The proposed project is in line with the Ga-Segonyana Local Municipalities IDP (2020-2021) as far as spatial planning is concerned.

7.1.3 Health-Related Impacts

Considerable concern regarding injuries of staff members on site during the construction and maintenance phase of the proposed project occur with an unfortunate frequency, if precautionary and mitigatory measures are not implemented.

There is expected to be an inflow of workers from outside the project area to take up positions for the project and the majority of these workers (if not all) are expected to be male. A construction

camp is also expected to be set up to accommodate the workers for the duration of the project, which can have various implications for the sustainability of the surrounding community.

It can affect the sustainability of the community in a negative light if there are many short term relationships that form for the duration of the project with workers that are temporarily in the area and can also result in the increase in the amount of women offering sexual services to increase in the respective area. This can result in the growth of HIV/AIDS and sexually transmitted diseases in the project area.

7.2 Overview of the Potential Impacts on Biophysical Environment

7.2.1 Ecological Impacts

The proposed project impacts on the local vegetation. However, vegetation is mostly affected during the relatively short construction period where the construction of access roads, clearing of vegetation for the construction activities and site establishment for construction has significant impact on vegetation. Thereafter, impacts are minimal.

Fauna species are generally dependent on vegetation, which means that where there is habitat destruction in the form of vegetation clearing, the faunal species will be impacted upon. The protection of faunal species' habitat automatically protects the vegetation that occurs within that habitat and vice versa. The construction activities once again pose many threats to the faunal communities since construction activities are associated with habitat destruction, fragmentation, soil erosion, and accidental injury to wildlife or livestock and poaching.

The proposed project could have negative impacts on the avi-faunal species within the study area. Most habitats for bird species are associated with wetland systems. It is however a common rule that large and heavy-bodied terrestrial bird species are more at risk of being affected in a negative way when interacting with humans.

7.3 Specific Potential Impacts and Proposed Mitigation

The purpose of this section is to identify potential impacts and to recommend mitigation measures to minimise detrimental environmental impacts. A number of biodiversity, socio- economic and cultural issues associated with the proposed secondary school have been identified through the public participation process, as well as by the EAP Team. The following are identified impacts as well as proposed mitigation measures.

7.3.1 Potential Impacts on Flora

Once established the school will have no to very low impact on the remaining vegetation. The major concern is in terms of the edge effects of the construction phase:

- Unauthorised off-road driving.
- Removal of medicinal or aesthetic plants.
- The harvesting of wood from drainage lines, outcrops or bush clumps for warming and cooking.

The following impacts in relation to proposed development were identified as potentially influencing ecological processes and functioning of the study area itself as well as on regional and provincial scale:

- Removal of vegetation at construction camps**.**
- Harvesting of medicinal plants and wood.
- Construction of access roads.
- Alien vegetation control at construction camps, within foundation areas and along access roads.

Proposed Mitigation

The following recommendations are applicable to the project area:

- Placing construction camps in all ready transformed areas such as cultivated fields or revamping derelict homesteads or other abandoned infrastructure can mitigate this impact. New borrow pits should be kept to the minimum; existing one should rather be used than new ones created. If successfully mitigated, the impact on the vegetation could be considered low on a local scale in the long term.
- Contractors should make sure that the necessary medical facilities are available for their staff on site.
- Where possible existing routes should be used and enhanced. If the access roads are required to cross green fields (untransformed) areas, it is strongly recommended that the, medicinal plants rescued instead of being destroyed and rare or threatened species moved to nurseries for re-establishment after construction or used for rehabilitation in areas where construction activities had result in the significant loss of natural vegetation. If successfully mitigated, the impact on the vegetation could be considered moderate on a local scale in the long term.
- Alien vegetation should be controlled and the spread managed. Declared alien vegetation should be controlled and removed in compliance with the Conservation of Agricultural Resource Act and the National Environmental Management Biodiversity Act.

7.3.2 Potential Impacts on Fauna

The following impacts were identified as potentially influencing ecological processes and functioning of the study area itself as well as on regional and provincial scale:

- Loss of conservation important faunal species.
- Disturbances caused during the construction phase.
- Disruption of functional ecological habitat types (rocky grassland).
- Disturbances associated with maintenance procedures.
- Maintenance of the vegetation around the constructed school.

Proposed Mitigation

The following recommendations are applicable to the project area:

- When a threatened or near-threatened faunal species is identified, a site deviation is advised to minimise the interference of the footprint on the respective faunal species/population.
- Mandatory measures to be implemented during the construction and operational phases:
  - The construction of "new" access roads should be limited, and existing roads should be used during the construction phase. It is suggested that the construction of roads be avoided.
  - The unnecessary removal of natural vegetation should be avoided.
  - The extent of the construction sites and access roads should be demarcated on site layout plans and should be restricted to disturbed areas or those identified with low conservation importance. Therefore, no construction personnel or vehicle may leave the demarcated area except those authorised to do so. Those areas surrounding the construction site that are not part of the demarcated development area should be considered as "no-go" areas for employees, machinery, and visitors.
  - Open fires must be strictly prohibited and only allowed at designated areas.
  - Hunting must be strictly prohibited. Any person found hunting or in the possession of any indigenous animal) should face disciplinary measures, following the possible dismissal from the site.
  - Intentional killing of any faunal species should be avoided by means of awareness programmes.
  - If any species is recovered during the construction phase, this species must be relocated to the nearest area or natural open space with suitable habitat.
  - All construction activities must be limited to daylight hours.

7.3.3 Potential Impacts on Avi-Fauna

The potential impacts regarding transmission lines on birds are follows:

- Electrocution (due to new powerlines);
- Collision (due to new construction equipment and unfamiliar buildings);
- Loss of habitat and disturbances.
- Poaching and trade of birds.

Proposed Mitigation

There are numerous ways to mitigate bird impacts imposed by construction activities. Probably the best way is to proactively avoid areas where the potential for bird interaction is evident by means of site deviation. However, site deviations are not always feasible unless significant bird mortalities or habitat destruction is inevitable.

The following recommendations are applicable to the project area:

- A walk down of the selected site must be conducted prior to the construction phase.
  - Marking devices to be used should include large Double Loop Bird Flight Diverters on electric poles.
  - All devices should be applied in a staggered fashion to the phase while alternating between black and white diverters. The maximum distance between the diverters should not exceed 5m.
- Mandatory measures to be implemented during the construction phase:
  - The construction sites must be confined to disturbed areas or those identified with low conservation importance. All construction sites must be demarcated on site layout plans (preferably), and no construction personnel or vehicles may leave the demarcated area except those authorised to do so. Those areas surrounding the construction sites that are not part of the demarcated development area should be considered as "no-go" areas for employees, machinery, and visitors.
  - A natural buffer zone (to be announced by the wetland specialist) should be allowed between the line servitude and any wetland or other sensitive habitat type.
  - All road networks must be planned with care to minimize dissection or fragmentation of important avifaunal habitat type. Where possible, the use of existing roads is encouraged. Access must be determined during the "walk-through" process.
  - The breeding status of threatened species should be evaluated prior to construction / decommissioning. If breeding is confirmed, the nest site must be barricaded and appropriately buffered (by at least 500m). Construction / decommissioning activities shall only commence once the fledglings are successfully reared and has left the nesting site;
  - Open fires are strictly prohibited and only allowed at designated areas.
  - Killing or poaching of any bird species should be avoided by means of awareness programmes presented to the labour force. The labour force should be made aware of the conservation issues pertaining to the bird taxa occurring in the study area. Any person found deliberately harassing any bird species in any way should face disciplinary measures, following the possible dismissal from the site.

7.3.4. Potential Impacts on Residential Areas

Proposed Mitigation

- Careful consideration should be given to the school layout and designs in order to minimise impacts on existing structures and activities on affected properties.
- Avoid placing the buildings across properties used for eco-tourism and leisure activities, such as horse riding and horse-based tourism. Should avoidance not be possible, the project should avoid the main activity areas and preferably be placed on the border of the properties.

7.3.5 Potential Impacts on Land Value

Proposed Mitigation

- During the construction process the EMPr should be strictly adhered to.
- The negotiation process between KRMS and the property owners should be concluded as rapidly as possible and compensation should be undertaken immediately thereafter.

7.3.6. Potential Impacts Resulting from the Inflow of Workers

Proposed Mitigation

- KRMS and the contractors should maximise the use of local labour where possible by developing a strategy to involve local labour in the contractor teams and construction process.
- Before construction commences, representatives from the local municipality and community-based organisations, as well as neighbouring and/or affected residents should be informed of the details of the construction company (contractor), size of the workforce and construction schedules.
- Conditions stipulated by property owners in terms of the construction activities should be implemented and monitored.
- Contractors and temporary employees should behave fittingly at all times.
- Workers should receive fines if they do not adhere to the conditions, rules and regulations.
- Workers should be made aware of property owners' concerns regarding construction work on their properties so that they are familiar with the sensitive issues.
- A specific contact person should be identified to allow community members and property owners to easily direct their queries and concerns and obtain general information regarding the construction process.
- KRMS personnel should preferably not access private properties without prior notification of the property owners.
- KRMS maintenance personnel should be in possession of the required identification documents and clothing when undertaking maintenance work.
- Vehicles used should be clearly marked.
- KRMS personnel should behave properly at all times.

7.3.7. Potential Local Economic Contribution

Proposed Measures

- Local procurement should be aimed at local businesses as far as possible.
- Local sourcing of materials would assist in providing more economic and employment opportunities for the local people.

- Maximise the use of local labour, even if the number of locals that would be employed would be limited. Accommodate, but regulate the activities of vendors in the vicinity of the construction areas and at the construction camps.
- KRMS should aim to turn the indirect local economic benefits into direct local and regional benefits through the provision of stable and sufficient electricity supply to the region thereby stimulating the local economy and by ensuring investor confidence in the region.

7.3.8. Potential Employment Opportunities

Proposed Mitigation

- Ward councillors could assist in determining available local labourers that could be considered for possible employment.
- KRMS should ensure an equitable process whereby minorities and previously disadvantaged individuals (especially women) are also taken into account.
- It is recommended that KRMS implements a skills audit and develops a skills database. Capacity building and skills transfer should immediately commence to ensure that locals are employable.
- It should be ensured that contractors use local skills, or train semi-skilled people or re-skill appropriate candidates for employment purposes where possible.
- On-site training should focus on the development of transferable skills (technical, marketing and entrepreneurial skills) to ensure long-term benefits to the individuals involved.
- Should opportunities arise for employment during the operational phase, KRMS should consider locals for any intermittent or permanent opportunities.

7.3.9. Potential Health Risks

Proposed Mitigation

- The safety exclusion zone should be strictly adhered to.
- Homesteads and dwellings should be avoided when finalising a preferred site.
- Careful consideration should be given to the location of the construction site where workers would be accommodated.
- Littering should be prevented by ensuring adequate facilities at the construction sites to dispose of refuse.
- Sufficient water and sanitation facilities should be provided for the workers on site during the construction period.
- Informal vending stations (if it occurs) should be closely monitored to ensure that no environmental pollution occurs.
- Local labour should be employed as far as possible.
- An HIV/Aids awareness campaigns should be focused on the contract workers.

- Adequate water supply and sanitation related facilities should be provided to the workers at the construction sites.
- Local labour should be employed as far as possible to avoid additional pressure of outsiders on the existing services.

7.3.10 Potential Impacts on Community Infrastructure

Proposed Mitigation

- KRMS should contact the relevant government departments and other possible stakeholders regarding the possible impact on infrastructure prior to construction. Written agreement should be sought from these affected parties to allow the project proponent to cross the various types of infrastructure.
- Construction schedules should again be discussed and finalised with the affected government departments and other affected stakeholders prior to the construction commencement date.
- Rehabilitation of new access roads for construction vehicles should be undertaken as soon as the construction process allows.
- There should be strict adherence to speed limits when using local roads and when travelling through residential areas.
- Access routes and access points for heavy construction vehicles should be indicated to warn motorists of the movement of these vehicles.
- Limit the movement of construction vehicles to off-peak periods (where possible).
- Conditions to access farms should be discussed during the negotiation phase.
- An Environmental Control Officers and Farm Liaison Officer could be appointed to ease communication between the property owners and KRMS / the contractor.
- Maintenance personnel should travel in a marked vehicle and should wear uniforms to ensure that the personnel are easily identifiable as KRMS personnel.
- Maintenance personnel should keep to the service roads.
- Maintenance vehicles should be operated according to all road regulations.
- Maintenance vehicles should be in good working order.
- Ideally permission should be sought before entering properties.

7.3.11 Potential Impacts on the Visual Environment

The potential impacts on the visual environment include:

- Impact on sense of place.
- Visual Intrusion and reduction of open space.
- Deposition of litter.

- Night light.

Proposed Mitigation

The following mitigation measures are proposed:

- Avoid placing the proposed school within nature reserves and conservation areas.
- Avoid tourism nodes where possible.
- Mitigation measures as proposed should be strictly adhered to.
- No litter, refuse, waste, rubble and builder's waste generated on the premises are to be placed, dumped or deposited on adjacent/surrounding properties including road verges, roads or public places and open spaces during or after the construction period of the proposed development. Refuse must be disposed of at a dumping site approved by the Council. Site cleaning and screening of storm water outlets is essential to prevent large debris from impacting on stream banks downstream of the site. Dustbins must be provided at strategic places within the construction area, and cleared at regular intervals as required to avoid overflow.
- The construction site must be kept in a clean and orderly state at all times. All signs and advertisements erected for the development and within its confines must be in line with the guidelines of the South African Manual for Outdoor Advertising Control.
- Security lights in the construction camp are to be angled downwards and into the centre of the site to avoid disturbance to adjoining residents. No tall lighting masts are to be erected or operated during the construction or operational phases. Only standard height lighting poles (shorter than 3m) may be used.

7.3.12 Potential Impacts of the Construction Camps

The potential impacts of the construction camps include:

- Health risk.
- Safety and security risks.
- Deposition of contaminants.
- Stockpiling of Construction Materials.
- Oil Spillages.

Proposed Mitigation

The following mitigation measures are proposed:

- Staff or personnel should be properly trained in handling of their equipment in order to avoid oil spillage that will increase deposition of contaminants. Construction camps should not be positioned in areas that has natural vegetation, preferably highly transformed area or already paved areas that do not have conservation value should be used.

- Construction vehicles should take into cognizance of peak hour traffic and they should avoid movement during those period. The speed of construction vehicles within the built up area should be limited to 40km/h.
- Careful consideration should be given to storm water control that will result in compaction or paving of surfaces within construction camps.
- Clearance of vegetation should only be done on areas that are deemed absolutely necessary.
- The areas to be cleared for roads and services should be restricted only to those that are essential for the operation and should be clearly demarcated. Construction vehicles and workers should not stray from these areas.
- All building rubble from the demolition of current structures is to be removed immediately in appropriate manner.
- The period between vegetation clearing and construction of the infrastructure must be kept to a minimum.
- Stockpiles are to be covered during windy conditions and material stockpiled for longer periods should be retained in a bermed area.
- Excavated and stockpiled soil material are to be stored and bermed on the higher lying areas of the site and not in any storm water run-off channels or any other areas where it is likely to be eroded or where water would naturally accumulate.
- Refuse collection should take place on a regular basis. A litter patrol around the construction area is to take place twice a week to collect any litter that may have been strewn around.
- Adequate provision must be made for sanitation of the construction workers. Chemical toilets on site are to be emptied regularly so as to prevent overflow.
- Construction materials that are left over after completion of the development are to be removed from the site and disposed of in an appropriate manner.
- Storage of potentially hazardous materials should be above the 100-year flood line, or as agreed with the ECO. These materials include fuel, oil, cement, etc.
- Surface water draining off contaminated areas containing oil and petrol must be channelled towards a sump, which will separate these chemicals and oils. Oil residue shall be treated with oil absorbent products such as Drizit or similar and this material removed to an approved waste site.

7.3.13 Potential Impacts on Safety and Security

Safety of personnel and equipment;

- Increase activity and vigilance.
- Decrease in uncontrolled criminal areas.
- Increased crime and reduction in personal safety.

Proposed Mitigation

The following mitigation measures are proposed:

- The associated risk of increased crime due to work staff being located on site would be reduced if the number of staff and people on site were limited. The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and the National Building Regulations.
- Ensure that the handling of equipment and materials is supervised and adequately instructed. The entrance will have to be supervised to monitor entry and exit.
- Adequately barricade any exposed excavations or erect warning signs to notify the public of the inherent dangers. The contractor must have 24-hour security during the construction phase.
- Ensure that construction vehicles are under the control of competent personnel.
- Adequate facilities should be provided on site to treat emergencies to staff.
- No fires should be allowed on site.
- The maintenance of firebreaks by landowners is of critical importance.
- The servitude should be monitored on an ongoing basis.
- KRMS should take a strong stance with regard to the illegal entering of the servitude areas and people erecting building in the servitude. Such dwellings should be removed immediately.
- KRMS should, in conjunction with the local municipalities, develop an emergency management plan to specifically deal with the increased risk of fires from possible flashovers.

8. POTENTIAL CUMULATIVE IMPACTS

Cumulative impacts imply the sum total or combined impacts (positive and negative) associated with the proposed development whether on local or regional scale. In terms of the EIA regulations, a cumulative impact in relation to an activity means "the impact of an activity that itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar of diverse activities or undertakings in the area". Assessment of the cumulative impacts will be conducted in depth with the specialists during the Impact Assessment phase.

This section provides cumulative impacts ratings associated with the proposed project which include infrastructure development, Agricultural activities, Game Farming activities and Ecological Resources. It outlines the significance of the impact with and without mitigation measures. However, at this stage possible cumulative impacts associated with this project include, but are not limited to, the following:

8.1 Impacts on the Infrastructure Development

Any housing and other infrastructure development projects planned by municipalities, communities or landowners within the study area will potentially be affected by the proposed transmission line project. All the proposed infrastructure developments within the study area will be taken into consideration during the Impact

Table 14: Table of Impact for Infrastructure Development

Aspect	Mitigation Status	Probability	Duration	Extent	Magnitude / Severity	Significance
Infrastructure Development	Without Mitigation	5	5	1	8	70
	With Mitigation	1	5	1	2	8

8.2 Impacts on Agricultural Activities

There are various agricultural activities occurring within the study area. The cumulative impact of construction the proposed school within agricultural activities and proposed associated infrastructure will further reduce crop yields and infrastructure development. This will be taken into consideration during the Impact Assessment Phase.

Table 15: Table of Impacts for Agricultural Activities

Aspect	Mitigation Status	Probability	Duration	Extent	Magnitude / Severity	Significance
Agricultural Activities	Without Mitigation	5	3	1	8	60
	With	4	3	1	6	40

	Mitigation					

8.3 Impacts on Ecological Resources

The cumulative impact of construction the proposed school within significant ecological resources, such as wetlands, drainage areas and ecological corridors, would cause further habitat fragmentation and habitat degradation in sensitive ecosystems. Cumulative effects on ecological recourses will need to be taken into consideration during the Impact Assessment Phase.

Table 16: Table of Impact for Ecological Resources

Aspect	Mitigation Status	Probability	Duration	Extent	Magnitude / Severity	Significance
Ecological Resources	Without Mitigation	5	4	1	8	65
	With Mitigation	4	4	1	2	28

9. EXPECTED STUDIES FOR IMPACT ASSESSMENT

The expected impacts of the proposed construction of a secondary school triggered the need for specialist studies. The following studies were identified during the Scoping Process and will require specialist assessment during the Impact Assessment Phase:

1. Ecological Impact Assessment
2. Paleontologically Assessment
3. Heritage Impact Assessment

10. PLAN OF STUDY FOR ENVIRONMENTAL IMPACT ASSESSMENT (POS EIA)

10.1 Introduction

The PoS EIA outlines how Jeanercy Co. will approach the Environmental Impact Assessment Phase of the EIA Process and provide information as required for such a document in terms of Appendix 2 of the EIA Regulations (December 2014, as Amended on the 07th of April 2017) compiled in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act 107 of 1998) as amended.

According to DEA's guideline documents the Plan of Study for Environmental Impact Assessments must include (as per Regulation):

i. A description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity.

ii. A description of the aspects to be assessed as part of the environmental impact assessment process.

iii. Aspects to be assessed by specialists.

iv. A description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists.

v. A description of the proposed method of assessing duration and significance.

vi. An indication of the stages at which the competent authority will be consulted.

vii. Particulars of the public participation process that will be conducted during the environmental impact assessment process.

viii. A description of the tasks that will be undertaken as part of the environmental impact assessment process.

ix. Identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

10.2 Description of the Activity

The construction of the Kalahari Secondary School Project entails, but is not limited to, the following activities:

1 Large Admin

- 1 Nutrition Centre
- 1 Media Centre
- 2 Multipurpose Classrooms
- 5 x 5 Classroom Block
- 1 x (2x Classroom) Science Labs
- 1 x (1x Classroom) Science Labs
- 2 x Large Ablutions

- 1 Multipurpose Hall
- 1 Guard House
- 1 Refuse Yard
- 2 Disabled Parking's
- 24 Open Parking's
- 1 Sports Field (Soccer, Rugby equipment)
- 11 Drinking Fountains
- 2 Flag Poles
- Clear-vu Boundary fence
- Entrance Wall
- Covered Walkways
- 1 Janitor Quarters
- 2 Combi Court (Tennis, Basketball, Netball and volleyball equipment)
- Schedules
- Outdoor benches
- Solar panels

10.3 A description of the Tasks to be performed

10.3.1 Authority Consultation

There will be a consultation meeting with the various authorities (DENC) on issues that need to be addressed.

10.3.2 Public Participation Process (Impact Assessment Phase)

10.3.2.1 Project Advertisement

Once the authority has commented on the submitted scoping report, the announcement of the impact assessment phase will be widely broadcast, with an invitation to the public and registered I&APs to participate in the EIA Phase Public Participation Process. The methods of announcing the impact assessment phase to I&APs will be through newspaper advertisements (local, regional and/or national) and a letter, emails and bulk SMS will be used to inform or invite all I&APs within the established database.

10.3.2.2 Consultation with I&APs and Authorities

Meetings will be arranged by Jeanercy Co. with the authorities if necessary. However, consultation with authorities will be an ongoing process. Public Meetings will be arranged for I&APs to have an opportunity to deliberate about the approach and issues during Impact Assessment. There will be on-going communication through letters via both post and email or advertisements every time key milestones are achieved (i.e. availability of Draft EIR and the EMPr).

10.3.2.3 Compilation of Issues and Responses Report (IRR)

An IRR will be prepared based on the issues identified as well as the findings from the specialists engaged in the process. Issues from I&APs can be obtained in different ways, either via fax, postal, telephone and e-mail. The IRR will be regularly updated as more issues arise during Impact Assessment Phase.

10.3.2.4 Announcement of Availability of Draft EIR and EMPr

A Draft EIR and EMPr will be prepared based on the information derived during the Scoping Process. Specialist findings will contribute to the compilation of the Draft EIR. Some of the public comments that formed part of the FSR may be taken further into the Impact Assessment Phase.

Once the draft EIR and EMPr are available, the public will be informed by letters and newspaper advertisement. The report will also be circulated or distributed to the public venues for public review for a period of at least 30 days.

10.3.3 Final Environmental Impact Report and Draft EMPr

Once the period for commenting on the draft EIR and EMPr has elapsed, the Final Environmental Impact Report and Draft Environmental Management Plan will be compiled. The compilation of the Final EIR and EMPr will incorporate issues identified during the public review. Final reports will be placed on the KRMS EIA website and sent to the authority (DENC) for approval.

10.3.4 Authority Review

The final report will be submitted to the competent authority for decision-making. The authority (DENC) may still require additional information if deemed necessary while reviewing the Final EIR.

10.4 Timetable of Tasks

Table 17: The Anticipated Timeframes of the Tasks for the Proposed Project

TASKS	TIMING
Registration of Project with the Relevant Authority	**June 2020**
Reference Number Received	**June 2020**
Draft Scoping Report & Public Review	**September 2020**
Submission of Final Draft Scoping Report	**October 2020**
Specialist Studies	**October 2020**
Draft EIR & EMP	**October 2020**
Stakeholder & I&AP Engagement	**October-November 2020**
Final EIR & draft EMP	**November 2020**
Submission to Authority	**December 2020**
Environmental Authorisation	**February-March 2021**
Appeal Period	**March 2021**

10.5 Impact Assessment Methodology

The impact methodology will concentrate on addressing key issues. The methodology employed in this report thus results in a circular route, which allows for the evaluation of the efficiency of the process itself. The assessment of actions in each phase will be conducted in the following order:

- Assessment of key issues.
- Analysis of the activities relating to the proposed development.
- Assessment of the potential impacts arising from the activities, without mitigation.
- Investigation of the relevant measures to avoid, mitigate or manage negative impacts. Should irreplaceable harm to the environment (both the social and bio-physical) be expected, this will be stated as such.

Activities within the framework of the proposed project give rise to certain impacts. For the purposes of assessing these impacts, the project has been divided into three phases from which impact activities can be identified, namely:

10.5.1 Construction Phase

This phase is concerned with all the construction and construction related activities on site, until the contractor leaves the site. Thus, the main activities will be the establishment of construction camp sites, access routes, clearance of servitude to facilitate access, digging the foundations for towers, excavation of pits for transformer foundation, erection of transformers and associated structures, movement of construction workforce, equipment, construction vehicles and materials, etc. The above-mentioned activities result in different types of impacts and some contribute to cumulative impacts.

10.5.2 Operational Phase

This phase involves activities that are post construction, i.e. the fully fledged operation of the school. This phase requires a rehabilitation plan and monitoring system that will ensure the impacts of construction, such as vegetation pruning, erosion, colonisation of area by alien species, etc. are monitored and inspected as an ongoing process. This involves the maintenance of the facilities to ensure continuous proper functioning of the equipment or resource.

The impact rating is only clear once the impact is summarised in terms of its ratings. This approach enables analysis of the impact results, in terms of:

- The number of severity criteria applicable as an indicator of influence / severity.
- The changes in number of low, moderate and high ratings before and after avoidance, mitigation or management.
- The changes in quantitative / weighted magnitude before and after mitigation.

The methodology also takes into consideration the three phases of development, construction, operational and decommissioning when applicable to the activity.

10.5.3 Assessment Criteria

An **impact** can be defined as any change in the physical-chemical, biological, cultural and/or socio-economic environmental system that can be attributed to human activities related to alternatives under study for meeting a project need. The significance of the aspects / impacts of the process will be rated by using a matrix derived from Plomp (2004) and adapted to some extent to fit this process. These matrices use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts.

The significance of the impacts will be determined through a synthesis of the criteria below:

Probability:	**This describes the likelihood of the impact actually occurring**
Improbable:	The possibility of the impact occurring is very low, due to the circumstances, design or experience.
Probable:	There is a probability that the impact will occur to the extent that provision must be made therefore.
Highly Probable:	It is most likely that the impact will occur at some stage of the development.
Definite:	The impact will take place regardless of any prevention plans and there can only be relied on mitigatory measures or contingency plans to contain the effect.
Duration:	**The lifetime of the impact**
Short Term:	The impact will either disappear with mitigation or will be mitigated through natural processes in a time span shorter than any of the phases.
Medium Term:	The impact will last up to the end of the phases, where after it will be negated.
Long Term:	The impact will last for the entire operational phase of the project, but will be mitigated by direct human action or by natural processes thereafter.
Permanent:	The impact is non-transitory. Mitigation either by man or natural processes will not occur in such a way or in such a time span that the impact can be considered transient.
Scale:	**The physical and spatial size of the impact**
Local:	The impacted area extends only as far as the activity, e.g. footprint
Site:	The impact could affect the whole, or a measurable portion of the above-mentioned properties.
Regional:	The impact could affect the area including the neighbouring residential areas.
Magnitude / Severity:	**Does the impact destroy the environment, or alter its function?**

Low: The impact alters the affected environment in such a way that natural processes are not affected.

Medium: The affected environment is altered, but functions and processes continue in a modified way.

High: Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

Significance: This is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required

Negligible: The impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.

Low: The impact is limited in extent, has low to medium intensity; whatever its probability of occurrence is, the impact will not have a material effect on the decision and is likely to require management intervention with increased costs.

Moderate: The impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.

High: The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation.

Table 18: Weights Assigned to Each Attribute

Aspect	Description	Weight
Probability	Improbable	**1**
	Probable	**2**
	Highly Probable	**4**
	Definite	**5**
Duration	Short term	**1**
	Medium term	**3**
	Long term	**4**
	Permanent	**5**
Scale	Local	**1**
	Site	**2**
	Regional	**3**
Magnitude / Severity	Low	**2**
	Medium	**6**
	High	**8**
Significance	**SUM (Duration, Scale, Magnitude) x Probability**	
	Negligible	**≤ 20**
	Low	**> 20 ≤ 40**
	Moderate	**> 40 ≤ 60**
	High	**> 60**

The significance of each activity is rated without mitigation measures (WOM) and with mitigation (WM) measures for both construction, operational and closure phases of the proposed development.

10.6 Process to Identify Alternatives and Issues

The Integrated Environmental Management (IEM) procedure stipulates that an environmental investigation needs to consider feasible alternatives for any proposed development. The Department of Environmental Affairs therefore requires that a number of possible alternatives for accomplishing the same objectives should be considered. The considered alternatives during a Scoping Phase include technical alternatives, technology alternatives, alignment alternatives, source of energy alternatives, and the No-Go alternative. However, the following alternatives, namely technical, alignment and No-Go alternatives will be assessed in detail during the Impact Assessment Phase.

The assessment of these alternatives will be investigated thoroughly to until a justifiable preferred alternative has been identified. The project team, specialists, landowners, technical advisor, I&APs and authorities (SAHRA, SANRAL, etc.) will collaborate in determining the most viable alternative. Specialists will assist with assessment of the cumulative impacts and later will contribute to the overall assessment of cumulative impacts when all relevant studies have been completed.

10.7 Specialist Assessment Terms of Reference

10.7.1 Flora Impact Assessment

The flora assessment will cover the following key aspects:

- A description of the current state of the flora in the areas traversed by the corridors, outlining important characteristics and components thereof, which may be influenced by the proposed project or which may influence the proposed project during construction and operation. Use will be made of annotated maps where appropriate.
- The identification of existing and future planned conservation areas.
- The identification and categorisation of Red Data species potentially affected by the proposed project.
- The identification of potential impacts (positive and negative, including cumulative impacts) of the proposed project on vegetation, and vice versa, during construction, operation and decommissioning.
- Map all sensitive features (including wetlands, drainage lines, habitats for threatened specifies and other areas of conservation significance) and superimpose these on the proposed corridors.
- The identification of mitigation measures for enhancing benefits and avoiding or mitigating negative impacts and risks (to be implemented during design, construction and operation of the proposed project).

- The provision of clear guidelines to reduce the damage and loss of vegetation and to assist with rehabilitation where damage and loss are unavoidable and to reduce the risk of the spread of alien vegetation.
- The formulation of a clear and simple system to monitor impacts, including their management, based on key indicators.
- The specialist will be required to adhere and comply with the NEMA regulations as well as provincial and national authorities' policies, such as Conservation Plans.
- To aid in the integration of findings, this study must involve close collaboration with the Faunal and Avi-faunal Impact Assessments.
- The specialist will be required to attend integration meetings and where necessary the specialists will be requested to attend public participation meetings.
- The specialist should highlight assumptions, exclusions and key uncertainties.

10.7.2 Fauna Impact Assessment

The fauna assessment will cover the following key aspects:

- A description of the current state of fauna in the areas traversed by the corridors, outlining important characteristics and components thereof, including species-specific habitats, which may be influenced by the proposed project or which may influence the proposed project during construction and operation. Use will be made of annotated maps where appropriate.
- The identification of Red Data species potentially affected by the proposed project.
- The identification of potential impacts (positive and negative, including cumulative impacts) of the proposed project on fauna during construction, operation and decommissioning
- The identification of mitigation measures for enhancing benefits and avoiding or mitigating negative impacts and risks (to be implemented during design, construction and operation of the proposed project).
- The specialist will be required to adhere and comply with the NEMA regulations as well as provincial and national authorities' policies, such as Conservation Plans.
- The formulation of a clear and simple system to monitor impacts, and their management, based on key indicators.
- To aid in the integration of findings, this study must involve close collaboration with the Avi-Faunal and Floral Impact Assessments.
- The specialist will be required to attend two integration meetings and where necessary the specialists will be requested to attend public participation meetings.
- The specialist should highlight assumptions, exclusions and key uncertainties.

10.7.3 Palaeontological Desktop Impact Assessment

The heritage impact assessment will cover the following key aspects:

- The consideration of the impacts on Cultural Heritage resources arising from the construction and operation of the proposed transmission line and the infrastructure.
- Information will be provided on the following:
  - Results of the survey of the construction footprint and the identification of cultural heritage resources that may be affected by the proposed infrastructure, or which may affect the proposed infrastructure during construction, operation and decommissioning.
  - Recommended mitigation measures for enhancing positive impacts and avoiding or minimizing negative impacts and risks (to be implemented during design, construction and operation).
  - Formulation of protocol to be followed by KRMS for the identification, protection and recovery of cultural heritage resources during construction and operation.
- The specialist will be required to handle the process of attaining comments from SAHRA.
- The specialist will be required to adhere and comply with the NEMA regulations as well as provincial and national authorities' policies, such as the Mpumalanga Conservation Plan.
- The identification of heritage resources that will be adversely affected by the proposed development.
- The specialist will be required to attend two integration meetings and where necessary the specialists will be requested to attend public participation meetings.
- The specialist should highlight assumptions, exclusions and key uncertainties.

10.8 Composition of the Project Team

Table 19: Composition of the Project Team

Company	Specialist	Field of expertise
Vungandze Projects	**Mrs. Khosi Mngomezulu**	**Heritage Assessment**
9ZeroSeven Environmental (Pty) Ltd	**Mr. Ndumiso Dlamini**	**Visual Impact Assessment**
BlueCap	**Mr. Carlo Fourie**	**G.I.S Mapwork**
Marion Bamford	**Prof. Marion Bamford**	**Paleontologically Assessment**

10.9 Jeanercy Co. Project Team

Table 20: Jeanercy Co. Project Team

Company	Name	Field of expertise
Jeanercy Co. cc	**Jennifer Seleti**	**Project Leader**
Jeanercy Co. cc	**Tinashe Maramba**	**EAP**
Jeanercy Co. cc	**Tinashe Maramba**	**Public Participation Manager**

11. CONCLUSION

During the scoping process every attempt was made to identify possible key issues and changes to the receiving environment of the proposed project. Various possible alternatives were identified on a broad and small scale through consideration of both specialist inputs and issues raised during the public participation process.

The FSR will be submitted to the competent authority (DENC) for consideration and acceptance. The compilation of the FSR adhered to the relevant regulations that regulate the compilation of the Scoping Report.

The Impact Assessment Phase will continue once the DENC has provided the acceptance letter and approval of the FSR and Plan of Study for EIA.

12. REFERENCES

i. Broughton, E. 2018. Socio-Economic Impact Study for the Proposed Development of the Phase 1 and Phase 2

ii. CSIR, 2018. Scoping and Environmental Impact Assessment for the proposed development of the Kuruman Wind Energy Facility Phase 1 near Kuruman, Northern Cape: Draft Scoping Report

iii. Draft Ga-Segonyana Local Municipality Integrated Development Plan, 2020-2021

iv. Ga-Segonyana Local Municipality Integrated Development Plan, 2017-2018

v. GCS, Ecological Assessment associated with the Khumani Infrastructure Expansion Project Report Version – 1, January 2015, GCS Project Number: 13-843

vi. Geotechnical Consult Services, 2016, Geotechnical and Geohydrological Study Report for East 2 Solar Park. Report Number: GCS-RP/06/2016

vii. Lanz, J. 2018. Scoping and Environmental Impact Assessment for the Proposed Development of the Kuruman Phase 1 Wind Energy Facility near Kuruman, Northern Cape Province: SCOPING REPORT.

viii. MUCINA, L. & RUTHERFORD, M.C. (eds.). 2006. The vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria. National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004).

ix. National Protected Area Expansion Strategy for South Africa, 2008

x. Statistics South Africa, 2016, 2017

xi. Stephen Taylor and Derek Yu, 2018, The importance of socio-economic status in determining educational achievement in South Africa Stellenbosch Economic Working Papers: 01/09

xii. Todd, S. 2018. Scoping and Environmental Impact Assessment for the Proposed Development of the Kuruman Phase 1 Wind Energy Facility near Kuruman, Northern Cape Province: Scoping Report. 3Foxes Biodiversity Solutions, Cape Town.

13. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

EAP Company Name:	**Humba Environmental Consultancy**			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	**Level one (1)**	Percentage Procurement recognition	**100%**
EAP name:	**Tinashe Ronnie Maramba**			
EAP Qualifications:	**Bachelor In Earth Science Degree in Hydrology and Water Resources (BEScHWR)**			
Professional affiliation/registration:	**n.a**			
Physical address:	**309 San Eugenio, 167 Antun Street, Sinoville, Pretoria**			
Postal address:	**309 San Eugenio, 167 Antun Street, Sinoville, Pretoria**			
Postal code:	**0182**		Cell:	**072 309 0502**
Telephone:	**n/a**		Fax:	**n/a**
E-mail:	**tinashe@humba.org**			

13.1. DECLARATION BY THE EAP

I, ***Tinashe Ronnie Maramba***, declare that –

- I act as the independent environmental assessment practitioner in this application;
- I have expertise in conducting environmental impact assessments, 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 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 will take into account, to the extent possible, the matters listed in Regulation 13 of the Regulations when preparing the application and any report relating to the application;
- 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, unless access to that information is protected by law, in which case it will be indicated that such information exists and will be provided to the Competent Authority;
- I will perform all obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I am aware of what constitutes an offence in terms of Regulation 48 and that a person convicted of an offence in terms of Regulation 48(1) is liable to the penalties as contemplated in Section 49B of the Act.

13.2. Disclosure of Vested Interest

I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;

Signature of the Environmental Assessment Practitioner

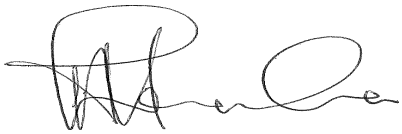
Name of Company: **Humba Environmental Consultancy**

Date: **7 September 2020**

13.3. Undertaking Under Oath/ Affirmation

I, ***Tinashe Ronnie Maramba***, 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 Environmental Assessment Practitioner



Name of Company: **Humba Environmental Consultancy**

Date: **7 September 2020**