SOCIO-ECONOMIC IMPACT ASSESSMENT IN SUPPORT OF THE ENVIRONMENTAL AUTHORISATION AND WATER USE LICENSE PROCESS FOR

THE PROPOSED RIETFONTEIN

RESIDENTIAL DEVELOPMENT WITHIN THE GAUTENG PROVINCE

Submitted by:

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LIST OF ABBREVIATIONS

Abbreviation	Description
CAHF	Centre for Affordable Housing Finance in Africa
CBD	Central Business District
CHC	Community Health Centre
CoJ	City of Johannesburg
CRU	Community Residential Units and Housing Programme
DEA	Department of Environmental Affairs
EIA	Environmental Impact Assessment
EMIS	Education Management Information Systems
FLISP	Finance Linked Individual Subsidy Programme
GVA	Gross Value Added
HH	Household
HSRC	Human Sciences Research Council
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
LED	Local Economic Development
NEMA	National Environmental Management Act
PHC	Primary Health Care
RDP	Reconstruction and Development Plan
RLRP	Rapid Land Release Programme
SAPS	South African Police Service
SDF	Spatial Development Framework
SHP	Social Housing Programme
SIPDM	Standard for Infrastructure Procurement and Development Management

EXECUTIVE SUMMARY

Introduction

Based on its constitutional mandate the government has implemented various housing schemes to assist low income groups with proven South African citizen status. The public housing programme faces various challenges related to slow progress delivery. This situation has led to community frustration and protests in Gauteng with housing as central issue. The past couple of years, violent protests have been experienced within the Lenasia and surrounding areas and the frustrations of the community is focused on poor service delivery, the general lack of housing in the area, the inflow of outsiders to the area with the subsequent expansion of various informal settlements, and lack of infrastructure and services.

The Gauteng Province's Rapid Land Release Programme (RLRP) aims to fast track housing backlogs across Gauteng. The proposed Rietfontein RLRP project is proposed as a township inclusive of GAP, RDP housing and Social Housing. Approximately 3 600 units are proposed. The site is located on the Portion of the Remaining Extent of Portion 129 of the Farm Rietfontein No 301 IQ. The site is approximately 24km north west of the Johannesburg CBD and falls within Ward 8 of the City of Johannesburg Metropolitan Municipality.

The objective of the socio-economic impact assessment (SEIA) is to provide a baseline description of the local area where the development will take place, identify specific socio-economic risks or impacts related to the project as well as propose measures to manage these risks.

Socio-Economic Environment

The proposed Rietfontein Residential Development is located within Ward 8 of the CoJ, east of the Klipspruit Valley road (M10) that connects Lenasia south to Soweto. The site is framed by the low-mid income residential area of Lenasia Ext 10 and Themb'Elihle on the north and the former farm Rietfontein to the east. The Lehae low cost housing development was recently completed in the Rietfontein area directly east to the site.

Ward 8 showed much lower densities than the city average with only 1,690 people per km^2 compared to more than 3,000 people per square km in the CoJ on average. The densities in the sub-places of Lenasia Ext 10 and Themb'Elihle were however much higher than the averages for Ward 8 as well the CoJ in general. Based on the average population growth in the COJ, the population could have increased to more than 55 000 people and about 20,000 households.

The low female ratios and a relatively high portion of economically active people in the area could indicate to the presence of single, male migrant families residing the area. The comparatively high portion of people born outside of South Africa also suggests that a fair portion of these migrants come from countries outside South Africa.

In Ward 8, 64% of the households live in informal dwellings. This is more than double the rate in Gauteng (18%) and South Africa (13%). The area is furthermore characterised by high unemployment and poverty rates, higher than CoJ and national averages. Roughly 75% of households in CoJ Ward 8

could currently earn less than R3 500 a month and would hence qualify for a full housing subsidy. Close to 22% of households in the ward would probably qualify for GAP housing.

The large electricity backlogs in the local area have led to numerous illegal connections in informal settlements which again had negative impacts on paying customers. Cable theft and vandalism to the electricity infrastructure network further leaves residents with frequent power outages. There are also high sanitation backlogs in the local area with only 24% of residents having access to a flush toilet. While most households have access to regular refuse removal, littering and illegal dumping also remains a concern.

Various violent protest actions have been experienced since 2017 with regards to infrastructure development and service delivery. The lack of infrastructure and service provision is exacerbated by the high volumes of in-migration to the area and the development of informal settlements.

There are a couple of public primary and secondary schools in close proximity to the development. The class sizes in these public schools are large suggesting some over-crowing and capacity constraints. While there are a number of health facilities in the large area these facilities are shared among a large group of people. The primary health care facilities and district hospital in Lenasia South could specifically come under increased pressure with continued population growth in these areas.

There is a relatively high incidence of violent crimes in the Lenasia South Police precinct. The area furthermore experienced an increase in reported crimes across all crime categories since 2011, most noticeably in drug-related crimes.

Economic activities close to Lenasia are mainly concentrated along the Nirvana road corridor and in the section of Klipspruit Valley Road (M10) towards Lenasia). The Trade Route Mall is the only regional shopping mall in the area with more than 145 shops catering for more than 1 million people in the south western areas of Johannesburg. The industrial area of Klipriviersoog Estate is less than 5km north east from the site. Closer to the proposed development, there is a small light industrial area at the north east of the intersection between the M10 and Volta road. Further along the M10 there is a petrol station, an abattoir and light industrial area further down south. There are numerous small businesses among the residential units in this area (e.g. IT, paving, vehicle depots etc.) in Lenasia Ext 10 directly north of the proposed development.

The roads and transport services surrounding the proposed Rietfontein housing development are in a fair condition and public transport services in the form of existing subsidised bus routes and taxi services are functioning within the area.

Findings

The following table provides a summary of the impacts anticipated during the construction and operational phases of the proposed project:

Summary of Anticipated Socio-Economic Impacts

IMPACTS ANTICIPATED DURING THE CONSTRUCTION PHASE		
Impact Category	**Significance without Mitigation**	**Significance with Mitigation**
Positive economic impacts during construction	Medium (50) +	Medium (60) +
Negative impacts on roads and traffic	Medium (55) -	Medium (44)-
Increase in nuisance factors (noise, dust)	Medium (55) -	Medium (44)-
Negative Impacts on community safety	Medium (48)-	Medium (33)-
IMPACTS ANTICIPATED DURING THE OPERATIONAL PHASE		
Impact Category	**Significance without Mitigation**	**Significance with Mitigation**
Access to improved housing	Medium (39) +	Medium (60) +
Decline in local property values	Medium (36) -	Medium (30) -
Negative impacts on roads and traffic	Medium (52) -	Medium (36) -
Negative impact on local social infrastructure	High (68)-	Medium (52)-
Negative impacts on community safety	High (60) -	Medium (48)-
Positive impact on urban spatial structure	Medium (36) -	Medium (30) -
Negative impact on social cohesion, sense of place	Medium (52) -	Medium (39) -

The proposed project would have the following anticipated positive social impacts:

- The proposed development would assist in creating job opportunities during construction. The use of local labour and suppliers should be maximised in as it could assist in mitigating various other social impacts but would also enhance the temporary potential benefits of the proposed project to the local community members;
- The development would assist in addressing the housing backlog in Region G area by providing affordable housing. The benefits would be enhanced if the local community members would be the occupiers of the houses;
- The Rietfontein development is adjacent the recently completed Lehae development and in close proximity to high density townships. From a town planning perspective there would be a goodness of fit with the adjacent land-uses. It could further serve as integration link between the new and more established urban nodes.

The following social risks and recommendations are highlighted:

- At this stage there is no evidence of direct attitude formation against the proposed development, but given the experience in the area with previous protests and illegal occupation of residences during the construction of the Lehae development, as well as issues with regards to the allocation of housing as part of the RDP process, antagonism against the project could occur. These sensitive issues should be noted and attended to, to avoid any possible mobilisation against the proposed project and possible violent conflicts;
- Ensuring transparency and credibility during the process of identifying beneficiaries is critical in obtaining the 'buy-in' of the local residents into the process. Failure to achieve acceptance that the process was credible could result in conflict and protests;

- The need for additional education facilities must be addressed to ensure the success of the development and the long term socio-economic stability of the community;
- It is imperative that the Department of Human Settlements and the CoJ engage with the community members within the development zone to avoid unrealistic expectations and to provide comprehensive information regarding the process of allocation to be followed, as well as with regards to the project status, and timeframes for construction;
- An integrated development would be required where municipal infrastructure is put in place to sustain the development and to cater for the needs of the additional residents. Infrastructure upgrading and development, especially with regards to electricity and sanitation would be required.
- Community safety risks must be attended to prior to construction;
- Public transport facilities would have to be extended to accommodate travelling patterns of residents and especially schoolchildren. Pedestrian walkways must be integrated in the design;
- Cumulative risks related to the project relate to the combined pressure on social (mainly health facilities) of the planned Ennerdale and Rietfontein Residential Developments. In all probability, public medical facilities in Lenasia South might need to be upgraded to accommodate the potential increase in population resulting from these developments;
- There are a number of potential residual risks (after mitigation) related to the project. The most important include migrants drawn to the project-area in view of potential opportunities in the large and highly visible construction project that could remain behind in the local area, increasing the number of informal settlements in the local area. Another risk is that additional people in search of housing could migrate into the local area placing an increased burden on social services, in particular low-cost housing.

Conclusion:

Mitigation measures are expected to fully or partially mitigate the negative impacts, especially the medium-term negative impacts associated with the construction phase. Mitigation measures, however, should be strictly implemented.

In conclusion, it is anticipated that the proposed development could add definite benefits in terms of dire housing needs in the local community without severely negatively compromising the day-to-day life of the communities in close proximity to the site. Based on the findings of the SEIA, it is therefore recommended that the proposed development be considered for authorisation.

1. INTRODUCTION

1.1 PROJECT BACKGROUND AND DESCRIPTION

Section 26 of the Constitution states that everyone has the right to access to adequate housing and that, 'The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right' (Groundup, 2017).

Based on its constitutional mandate the government has implemented various housing schemes to assist low income groups with proven South African citizen status. These include (Ibid):

- The government subsidy housing (formerly known as RDP housing[1]) applies to households earning less than R3 500 a month who meet certain eligibility requirements[2] may apply for fully subsidised housing units of 40 square metres
- Community Residential Units and Housing Programme (CRU) forms part of the Social Housing Programme (SHP) aimed at refurbished inner buildings and hostels also for households earning less than R3500[3]
- GAP housing includes housing schemes for households earning more than R3 500 but less than R22 000 per month (which is the minimum amount needed to qualify for a home loan from a bank):
    - The Social Housing Programme (SHP) also supplies rental housing in designated restructuring zones in urban areas to households earning more than R 3 500 per month to R15 000 a month.
    - The Government's Finance Linked Individual Subsidy Programme (FLISP) aims to help households who earn between R3 501 to a maximum of R22 000 a month to buy a home. The FLISP grant can be used to reduce the initial loan amount and hence lower monthly repayments. It can also be used as a deposit. The size of the grant is dependent on the salary level of the applicant. The grant can be used to build a new house or to buy an existing one.[4]

While the percentage of South Africans households that have received some form of government subsidy to access their housing has increased from 5.6 % in 2002 to 13.6 % in 2018 due to government's large-scale subsidised housing programme, there is still a substantial housing backlog of some 19.6% of households living in shacks and backyard flats. In 2016, the housing backlog in in South Africa stood at approximately 2.2 million with an additional 1.1 million households living in backyard flats. In Gauteng Province with its high rates of in-migration and urbanization, close to 28% of households could be living in shacks or backyard flats. The housing backlog in the City of Johannesburg (CoJ) is estimated to be close to 31% or between an estimated 570 000 to 800 000 households living in shacks

[1] The Department of Human Settlements changed the Reconstruction and Development Programme (RDP) housing programme to 'Breaking New Ground' (BNG). The objective of BNG is to integrate different types of housing – rented, bought and subsidised – and provide facilities like schools, clinics and shops, to improve the quality of people's lives.

[2] *Ap*plicants have to be 21 and older, be a first-time applicant and homeowner and households should consist of more than one member

[3] Applicants should be 18 and older, earning between R8 00 to R 3 500 per months and households should consist of more than one member

[4] Applicants have to be 21 and older, have worked for than 6 months and provide proof of income for three months income

or backyard flats while the average annual delivery of government–sponsored housing is only approximately 3 500 housing units a year (Stats SA, 2016; CAHF, 2019).

The public housing programme faces various challenges related to slow progress delivery, lack of funding, high and rising development costs, the low income levels of potential owners as well as the lack of suitable and well-located land, especially in cities. This situation has led to community frustration and protests in Gauteng with housing as central issue. Within the CoJ, the communities in the southern parts of Johannesburg in particular voiced their concerns and threaten to illegally occupied land if the housing issue is not addressed (CAHF, 2019).

In August 2018 Gauteng Premier David Makhura, launched the province's Rapid Land Release Programme (RLRP), in which he plans to make provincial land and buildings available for the development of human settlements and for urban agriculture projects. The Programme involves some 166 000 stands that will be made available with some 100 000 planned for the southern parts of Johannesburg alone. The objective of the programme is to address the housing issues, as well as economic, social cohesion and agricultural needs. The Programme will also make provision for people who want to build houses for themselves, as well as for urban agriculture, township businesses, sports and recreational purposes. The Programme will focus on small businesses development and endorse the use of Alternative Building Technologies (ABT). The CoJ committed itself to provide bulk infrastructure (roads, water, sanitation and electricity) (Liedtke, 2018).

The Rietfontein RLRP project consists of approximately 73 hectares of GAP housing for households earning between R 3 500-15 000 pm, as well as RDP and social housing for households earning less than R 3500. In total approximately 3600 units are planned. The Rietfontein site is located approximately 24km south-west of the Johannesburg CBD on vacant land owned by the City of Johannesburg. It is located just south of Lenasia Ext 10 and Themb'Ehlihle.

1.2 DETAILS OF SPECIALISTS

Ingrid Snyman (Batho Earth) is the social impact specialist and An Kritzinger (SED) is the economic impact assessment specialist for the study. Short resumes of their professional expertise are provided below (detailed CVs attached).

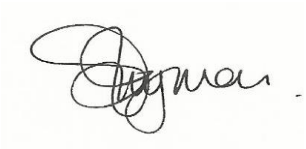
Ingrid Snyman *(BA Honours degree in Anthropology*) has more than 20 years' experience in the social field. Ingrid has been involved in various Social Impact Assessments during her career as social scientist. These project themes consist of infrastructure development, waste management, road development, water and sanitation programmes, township and other residential type developments. She has also been involved in the design and management of numerous public participation programmes and communication strategies, particularly on complex development projects that require various levels and approaches.

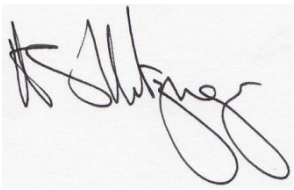
An Kritzinger *(Masters Economics)* has been working as consultant in the economic development field for the past 20 years. She has extensive experience in the economic profiling and economic development plans for local authorities and districts in South Africa and has designed and implemented a training project for sustainable local economic development monitoring for district

municipalities throughout South Africa in collaboration with the Development Bank of Southern Africa. Her work has also concentrated on applied economic modelling in South Africa, Namibia, Botswana and Mozambique including economic impact analysis, economic cost benefit analysis, social incidence studies and macroeconomic forecast modelling.

1.3 DECLARATION OF INDEPENDENCE

This report has been prepared as per the requirements of Section 32 of Government Notice No. R542 dated 18 June 2010 (Environmental Impact Assessment Regulations) under sections 24(5), 24M and 44 of the National Environmental Management Act, 1998 (Act 107 of 1998). We, Ingrid Snyman (Batho Earth) and An Kritzinger (SED) declare that this report has been prepared independently of any influence or prejudice as may be specified by the Department of Environmental Affairs (DEA).





Ingrid Snyman	Anna Sophia Kritzinger
Signature of specialist	Signature of specialist
Batho Earth	Southern Economic Development (SED)
Name of group (trading name)	Name of group (trading name):
20 January 2020	
Date:	

1.4 GUIDELINES FOR THE SOCIO-ECONOMIC IMPACT ASSESSMENT

The economic impact assessment will cover the identification and mitigation of socio-economic impacts relevant for the Environmental Authorisation Processes. The following legislation is relevant:

The National Environmental Management Act (NEMA), No. 107 of 1998 and Environmental Impact Assessment Regulations (GN No. R. 982 of 2014) provide a suite of principles and tools to guide South Africa on a path to sustainable development. "Environment' is defined in holistic terms and includes biophysical, social and economic components, as well as the connections within and between these components. While the act does not prescribe a specific methodology in terms of socio-economic impact assessment the following stipulations highlights the necessity to include socio-economic issues in environmental impact assessments.

The following general principles apply to all identified impacts:

- Responsibility for the impact should apply throughout its life cycle;

- The participation of all interested and affected parties in environmental governance must be promoted;
- Decisions must take into account the interests, needs and values of all interested parties;
- The costs of remedying pollution, environmental degradation, consequent adverse health effects and of preventing, controlling or mitigating further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment, i.e. the so-called polluter-pay principle.

The regulations also make provision for cumulative effects assessment identifying and evaluating the significance of effects from multiple actions representing potential causes of impacts.

The NEMA regulations of 2014 provides for baseline/scoping, impact assessment as well and management reports including the identification of measures to monitor adherence to the Environmental Management Plan.

1.5 CHECKLIST REQUIREMENTS FOR SPECIALIST REPORT

EIA REGULATIONS 2014 GNR 982 Appendix 6 CONTENT OF THE SPECIALIST REPORTS	**Status / Cross-reference in this Report**
a) details of the specialist who prepared the report; and the expertise of that specialist to compile a specialist report including a curriculum vitae;	Sections 1.2 and 10
b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Section 1.3
c) an indication of the scope of, and the purpose for which, the report was prepared	Section 2.1
d) the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 2.2
e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 2.2 and 2.4
f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	N/A
g) an identification of any areas to be avoided, including buffers;	N/A
h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers	N/A
i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 2.3

EIA REGULATIONS 2014 GNR 982 Appendix 6 CONTENT OF THE SPECIALIST REPORTS	Status / Cross-reference in this Report
j) a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	Sections 4 and 5
k) any mitigation measures for inclusion in the EMPr	Sections 4,5 and 6
l) any conditions for inclusion in the environmental authorisation;	Sections 4,5 and 6
m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Sections 4,5 and 6
n) a reasoned opinion	
(i) whether the proposed activity, activities or portions thereof should be authorised;	Section 7
(ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	Section 7
o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	Section 2.2 and 9
p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Part of I&AP register
q) any other information requested by the competent authority	N/A

2. SCOPE AND METHODOLOGY

2.1 REPORT SCOPE

The socio-economic impact assessment (SEIA) focuses on the following areas:

- Description of the local socio-economic baseline for the Rietfontein Residential Development Project in Gauteng as part of the RLRP;
- Description of the nature of potential impacts during construction and operations that could occur;
- Description of the significance of the impacts in terms of extent, duration, magnitude and probability;
- A management plan to enhance positive impact and mitigate negative impacts; and
- A monitoring plan to ensure that the management measures are implemented over time.

2.2 METHODOLOGY AND SOURCES

The report is based on observations made during a site visit, primary and secondary sources as well as economic modeling. The site visit was conducted on 8 January 2020.

Primary Data

Primary sources include:

- Mapping of socio-economic sensitive areas with the aid of Google Earth satellite images; and
- Telephonic interviews with key stakeholders. The stakeholders consist of residential associations, ward councillors, businesses group, property agents and local government officials.

Secondary Data

Secondary data sources include to the following

- Public policy documents relevant to the study including national and provincial housing policy documents, municipal Integrated Development Plans (IDPs) and Spatial Development Framework (SDF);
- Statistics South Africa Data (Census 2001 – 2011; Community Survey 2016); and
- Other academic literature relevant to the project.

Economic Modelling

Input-output (I/O) modelling is used to assess the project's potential impact on employment and economic output. The I/O analyses is based on i) direct impacts (income and employment created due to employment by the project itself) ii) indirect impacts (backward linkages to local suppliers) and iii) induced impacts due to the overall increase in income levels and increased spending on goods and services which could lead to a further increase in production and employment in the local area.

2.3 LIMITATIONS AND ASSUMPTIONS

The following assumptions and limitations apply to the socio-economic impact assessment:

- The SEIA included consultations with selected stakeholders and potentially interested and affected parties as part of the impact assessment phase. This does not form part of the Public Participation Process (PPP) required for the overall EIA process, except where it was specifically specified as such during the consultation sessions;
- A SEIA aims to identify possible social and economic impacts that could occur in future. These impacts are based on existing baseline information. There is thus always an uncertainty with regards to the anticipated impact actually occurring, as well as the intensity thereof. Impact predictions have been made as accurately as possible based on the information available at the time of the study;
- Sources consulted are not exhaustive and additional information can still come to the fore to influence the contents, findings, ratings and conclusions made;
- The construction and employment costs for the project were based on the high-level project description and average building and bulk infrastructure per low cost housing type. As such these costs were only used to establish high level potential employment and income impacts and is not to be used for planning purposes;
- Socio-economic baseline information was mainly based on official statistics from StatsSA, as well as municipal documentation. Sub-municipal data was only available for 2011. Recent trends as well as information on a sub-municipal level were also based on quantitative and qualitative information received from local representatives with local knowledge. The lack of more recent official socio-economic data is therefore seen as a limiting factor, although it is not anticipated to influence the outcome of the report;
- Technical and other information provided by the client is assumed to be correct;
- Individuals view possible socio-economic impacts differently due to their association with the anticipated impact. Impacts could therefore be perceived and rated differently than those contained in the SEIA Report;
- It is assumed that the developer will adhere to legally required and best practice management principles; and
- Economic multipliers, average salaries and wages and value added as a percentage of total income were based on provincial and national averages.

2.4 IMPACT METHOOLOGY

As part of the EIA Process, the anticipated socio-economic impacts were rated according to the following rating methodology.

The direct, indirect and cumulative impacts of the issues identified through the scoping study, as well as all other issues identified in the EIA phase were assessed in terms of the following criteria:

- The **nature** includes a description of what causes the effect, what will be affected and how it will be affected;
- The **extent,** wherein it is indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international. A score of between 1 and 5 is assigned

as appropriate (with a score of 1 being site specific, 2 = local (site + immediate surrounds), 3 = regional, 4 = national and a score of 5 being international);

- The **duration**, wherein it will be indicated whether:
  - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - medium-term (5–15 years) – assigned a score of 3;
  - long term (> 15 years) - assigned a score of 4; or
  - permanent - assigned a score of 5;
- The **consequences (magnitude)**, quantified on a scale from 0-10, where 0 is small and will have no effect on the environment, 2 is minor and will not result in an impact on processes, 4 is low and will cause a slight impact on processes, 6 is moderate and will result in processes continuing but in a modified way, 8 is high (processes are altered to the extent that they temporarily cease), and 10 is very high and results in complete destruction of patterns and permanent cessation of processes;
- The **probability** *of occurrence*, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale of 1–5, where 1 is very improbable (probably will not happen); 2 is improbable (some possibility, but low likelihood), 3 is probable (distinct possibility), 4 is highly probable (most likely) and 5 is definite (impact will occur regardless of any prevention measures);
- the **significance**, which shall be determined through a synthesis of the characteristics described above and can be assessed as low, medium or high; and
- The **status**, which will be described as positive, negative or neutral.
- The degree to which the impact can be reversed.
- The degree to which the impact may cause irreplaceable loss of resources.
- The *degree* to which the impact can be *mitigated.*

The **significance** is calculated by combining the criteria in the following formula:
S= (E+D+M) x P
S = Significance weighting
E = Extent
D = Duration
M = Magnitude
P = Probability

The **significance weightings** for each potential impact are as follows:
< 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),

30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),

> 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

3. SOCIO-ECONOMIC BASELINE OF THE LOCAL AREA

3.1 DEFINING THE LOCAL AREA

The 'local' community relevant to the economic impact assessment refers to communities within a 5km radius of the site, i.e. considered the direct influence sphere of the project. If relevant, the communities within the wider influence sphere (10km radius) will also (wider influence zone) be considered.

For the purposes of the analysis, data on a ward level were analysed to establish the socio-economic baseline for the local area. The Rietfontein Residential Development Project is situated in Ward 8 of the City of Johannesburg (CoJ). It also falls under Region G of the CoJ.

3.2 SOCIO-ECONOMIC SENSITIVE AREAS CLOSE TO THE SITE

An indication of socio-economic sensitive areas close to the proposed development is provided in Figure .

The proposed Rietfontein Residential Development is located east of the Klipspruit Valley road (M10) that connects Lenasia south to Soweto. The site is framed by the low- mid income residential area of Lenasia Ext 10 and Themb'Elihle on the north and the former farm Rietfontein to the east. The Lehae low cost housing development was recently completed in the Rietfontein area directly east to the site. Lenasia lies to the north east of the proposed development.

Lenasia Ext 10, to the south of Volta Street is the immediate northern neighbour to the development. There are numerous small business (e.g. IT, paving, vehicle depots etc.) among the residential units in this area. There are a number of informal settlements close to the site, e.g. less than 1km to the northwest on the opposite side of the M10 and less than 1km north in the Themb'Elihle area.

There is a small light industrial area at the north east of the intersection between the M10 and Volta road. Along the M10 close to the development there is a petrol station, municipal offices as well as an abattoir and light industrial area further down south. Lenasia Muslim School is located to the south of the site east of the M10. Business activities are mainly located further north along Klipspruit Valley Road (M10) and along the Nirvana road corridor. The Trade Route Mall is situated some 2.5 km north east from site. The Mall opened in 2006 and is the only regional shopping mall in the area, hosting more than 145 shops. The industrial area of Klipriviersoog Estate is less than 5km north east from the site.

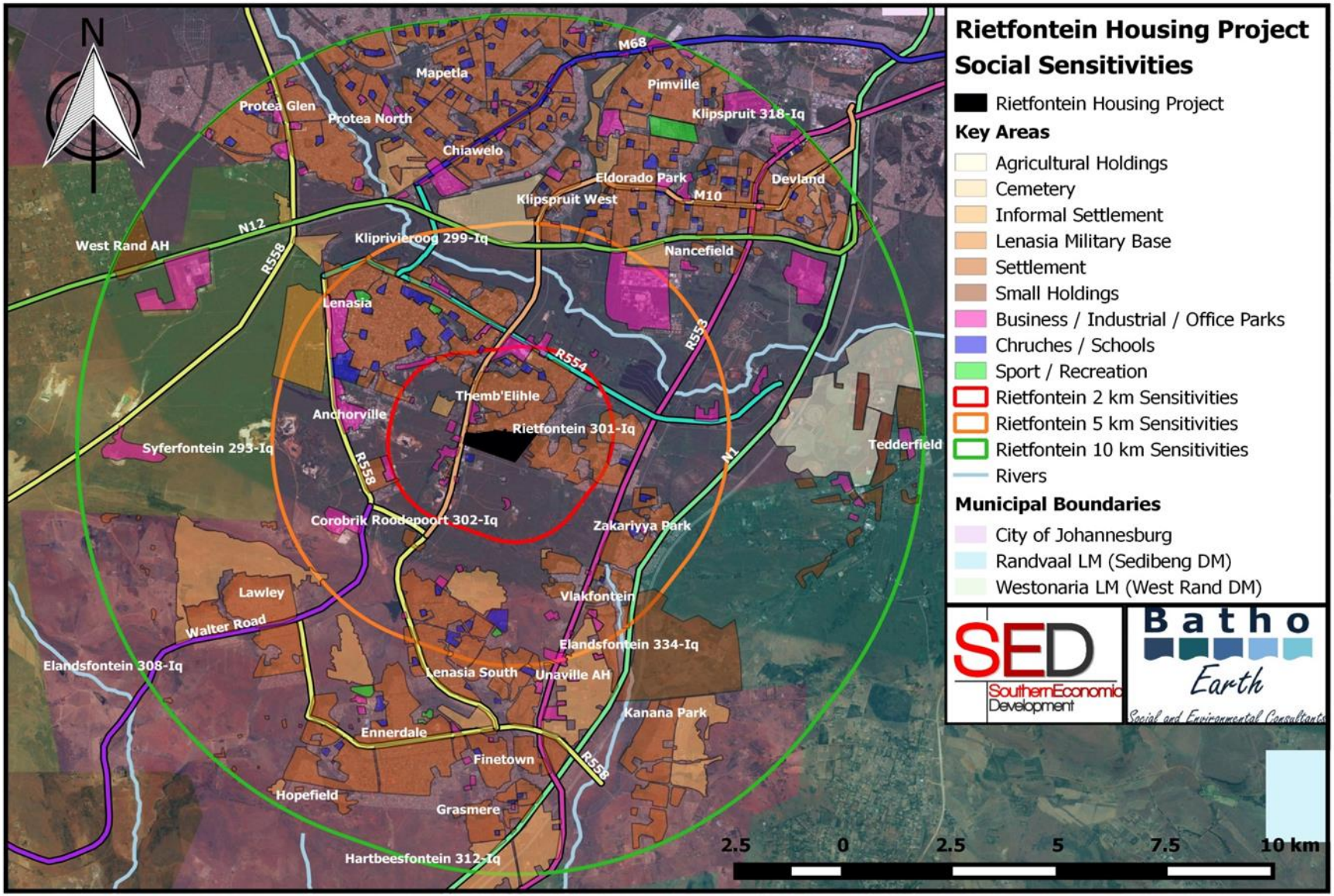


Figure 1: Socio-Economic Sensitive Areas Close to the Rietfontein Residential Development

3.3 POPULATION AND HOUSEHOLD SIZE AND TRENDS

Table 1 below shows the high population growth rate of Gauteng relative to South Africa due to the in-migration of people from South Africa as well as the rest of Africa to centres of economic activity especially in the City of Johannesburg and the Ekurhuleni metro area.

In 2011, close to 45 000 (16,000 households) were located in CoJ Ward 8. Based on average population growth in the COJ, the population could have increased to more than 55 000 people and about 20,000 households.

The relatively small household sizes in Ward 8 suggest the presence of single (male) person households who possibly migrated to the area in search of work. This observation is supported by the relatively low female ratios in the area as illustrated in Table 3.

Lenasia Ext 10 is a smaller sub-place within Ward 8. The Extension lies directly north of the proposed site on the same side as the development i.e. south of Volta road. This strip of suburb hosted around 5 400 people (1 800 households) in 2011. Household sizes in Lenasia Extension 10 are much larger than CoJ averages, i.e. 4.3 persons per households.

Themb'Elihle is another smaller sub-place within Ward 8, north of Lenasia Ext 10 and Volta road and east of the Klipspruit Valley Road (M10). The estimated population of Themb'Elihle was about 21 100 residing in 8 800 households. Contrary to the situation in Lenasia Ext 10, average household sizes in Themb'Elihle are much lower at 2.4 persons per household (Stats SA, 2011). It could therefore be deduced that in-migration rather occurs in the Themb'Ehlihle area than in Lenasia Ext 10.

Table 1: Population and Household Growth

Area	Population		Growth p.a.	Households		Growth p.a.	Average household size	
	2011	2016	2011-2016	2011	2016	2011-2016	2011	2016
CoJ Ward 8	44,892			16,162			2.8	
CoJ	4,434,827	4,949,347	2.2%	1,550,241	1,853,371	3.6%	2.9	2.7
Gauteng	12,272,263	13,399,726	1.8%	4,164,641	4,951,138	3.5%	2.9	2.7
South Africa	51,770,561	55,653,654	1.5%	15,065,018	16,923,309	2.4%	3.4	3.3

Source: Stats SA 2011 and Community Survey 2016 as in https://wazimap.co.za/

3.4 POPULATION DENSITY

Table 1 shows the relatively high population density of the CoJ as an urban area compared to the average for Gauteng Province. Ward 8 showed much lower densities than the city average with only 1,690 people per square km compared to more than 3,000 people per square km in the CoJ on average. (Stats SA, 2011).

The densities in the sub-places of Lenasia Ext 10 and Themb'Elihle were much higher than the averages for Ward 8 as well the CoJ in general.

'**Table 2: Population Density, 2011/2016**

Area	Population density (persons /square km
	2011/2016
CoJ Ward 8	1,690
Lenasia Ext 10	4, 573
Themb'lihle	13,995
CoJ	3,003
Gauteng	737
South Africa	46

Source: Stats SA 2011 and Community Survey 2016 as in https://wazimap.co.za/

Note: Ward information is for 2011

3.5 POPULATION GENDER, AGE, LANGUAGE, CULTURAL CHARACTERISTICS

Table 1 below shows the relatively low female ratios in the CoJ that could suggest single male migrants in-migrating to the City. The ratio of the economically active population is higher in Gauteng and the CoJ than it is nationally. Typical of urban areas, there is also higher in-migration from other countries into the CoJ with 8% of the population born outside South Africa compared to less than 3% for South Africa on average.

Compared to the rest of Gauteng and the CoJ, Ward 8 shows relatively low household sizes, low female ratios and a relatively high portion of economically active people, indicating to the presence of single, male migrant families residing the area. The comparatively high portion of people born outside of South Africa (13% compared to 2% nationally) suggests that a fair portion of these migrants come from countries outside South Africa.

Table 3: Gender, Age and Race Distribution, 2011/2016

Area	% Females	% of Population 18-64 years	% Black African	% Born in SA	Majority language
Ward 8 CoJ (Rietfontein)	48.20%	64.6%	68.1%	87.0%	English (31%)
CoJ	49.9%	65.0%	80.5%	92.1%	IsiZulu (28%)
Gauteng	49.6%	65.2%	80.4%	93.9%	isiZulu (23%)
South Africa	**51.0%**	**57.2%**	**80.7%**	**97.8%**	IsiZulu (24%)

Source: Stats SA 2011 and Community Survey 2016 as in https://wazimap.co.za/

Note: Ward information is for 2011

The Black African population group contributed 68% towards the total population in Ward 8, compared to its 99% contribution in Themb'Elihle and 25% in Lenasia Ext 10 (Stats SA 2011).

Themb'Elihle within Ward 8 had a 47.2% female ratio in 2011. This suggests a relatively high concentration of single, male migrants in the local area as underscored by the relatively small household sizes in the area as discussed above. Lenasia Ext 10 has a female ratio of (50%), closer to national average. The Indian group contributed more than 66% towards the population in this area (Stats SA, 2011).

3.6 HOUSING WITHIN THE AREA

Within Ward 8, there are approximately 16 000 households of which 63.9% live in informal dwellings. This is more than double the rate in Gauteng (17.77%) and South Africa (13%). If the percentage of those living in backyard flats and those falling within the 'Other' category are added, this figure could further increase. Ward 9, to the north of Ward 8, which includes a large section of the formalised area of Lenasia has no shacks and 76% of the households live in houses. It is therefore clear that the need for housing in Ward 8 far exceeds the need of the more established area. Ward 120 and Ward 122, that are to the south and east of Ward 8 respectively, do have similar needs compared to Ward 8 in terms of housing provision.

The following table provides a breakdown of the type of dwellings mainly found in the affected and adjacent wards in the larger study area and the number/percentage of type of household dwellings.

Table 4: Type of dwellings and number of households in the area, 2011

Type of dwelling	Ward 8		Ward 9 (north)		Ward 120 (south)		Ward 122 (east)	
	Number of HH	Percentage of HH	(HH)	(%HH)	(HH)	(%HH)	(HH)	(%HH)
Shack	10 322	63.9%	None	None	8 878	74.3%	8 466	58.1%
House	4 150	25.7%	5 557	75.8%	2 231	18.7%	4 897	33.6%
Flat in backyard	N/A	N/A	495	6.8%	263	2.2%	632	4.3%
Apartment	270	1.7%	618	8.4%	257	2.2%	106	0.7%
Other	587	3.6%	343	4.7%	328	2.7%	470	3.2%

Source: Stats SA 2011 as in https://wazimap.co.za/

3.7 AVAILABILITY OF HOUSING FOR DIFFERENT INCOME GROUPS

Themb'Elihle has largely been an informal settlement since 2011, but increasingly became more formalised over the years.

Lehae, which is directly to the east of the proposed Rietfontein Development is a mixed income housing development and provides a total of 5 344 housing units consisting of 3 066 subsidy houses (RDP), 770 rental units, and 1 508 bonded units. This development was initiated in 2008 and was recently completed (Gauteng Province: 2014).

The Lehae area offers two and three-bedroom houses from R570 000 up to R600 000. Households with a minimum joint monthly income of R 18 000 stand to qualify for loans to enable them to purchase these properties (Lehae Housing: 2020). The majority of houses within the Lenasia suburb falls within a higher price bracket than those on offer as part of the Lehae development.

Various violent protests have been launched by residents within the area regarding the availability of housing. Frustrated residents even illegally occupied housing structures that were built as part of the Lehae housing development. The offenders indicated that they have been on the waiting lists for RDP houses for numerous years (Seleka, N.: 2018). Land is furthermore illegally occupied (land grabs), but evictions within the larger area have been implemented.

In addition, in 2014, corruption allegations and lack of basic services such as water and electricity were raised by aggrieved residents of Themb'Elihle informal settlement who were being relocated to Lehae due to the existence of dolomite in their area. This led the provincial government to announce a forensic investigation over housing allocations in Lehae (Gauteng Province: 2014).
It is clear that there is an ongoing demand for affordable housing for the poorer sectors of society, especially for those who have been on the 'waiting list' for RDP housing for numerous years.

3.8 OTHER PUBLIC HOUSING PROJECTS PLANNED IN THE LOCAL AREA

The proposed Ennerdale RLRP project is planned only 7km south west from the Rietfontein project site. The proposed development is situated on the north eastern side of Ennerdale. The site is adjacent to Ennerdale Ext 9 residential area in the west. The Ennerdale Residential development is a mixed-use residential development planned around 3000 units which will include 60% 'RDP' type houses and 40% social housing units. The development will also host a commercial section and possibly include one or two schools.

3.9 MUNICIPAL INFRASTRUCTURE (WATER, ELECTRICITY AND WASTE)

Provision of basic services to the community of Johannesburg is comparatively high with the majority of households (both formal and informal) enjoying access to piped water (98%), sanitation (95%), and electricity (91%). However, there continues to be a deficit, particularly in informal settlements where less than half of the households have access to basic sanitation. This backlog is exacerbated by high population growth and in-migration referred to in the previous sections. The number of households in the city has increased which puts an extra strain on the existing infrastructure.

The following table provides an outline of the state of municipal infrastructure delivery within the CoJ and Ward 8. The table shows the large service backlogs in the local area, specifically in terms of formal housing, sanitation and electricity:

Table 5: Municipal Infrastructure Delivery

Service	CoJ Ward 8 Service Backlogs % of Household Without Services	CoJ Service Backlogs % of Household Without Services
Housing (formal dwellings)	64%	19%
Water	8%	2%
Sanitation (flushed toilets)	76%	5%
Electricity[5]	44%	9%
Refuse removal	5%	7%

Source: CoJ (2019) and Stats SA (2011) in https://wazimap.co.za/

The electrical network also faces challenges. Over 27% of the bulk transformers operate beyond their useful lifespan and the age of most of the transformers make maintenance difficult. The electrical infrastructure backlog sits at a staggering R17 billion (CoJ, 2019).

City Power, however, has supplied electricity to 2 167 units (structures) in informal settlements during 2017/18, exceeding the target of 810. It is further busy with the rollout of solar water heaters to poor households and smart electricity meters in households and businesses. Other ongoing projects

[5] Electricity percentage refers to the Lenasia area and not only to Ward 8

involving alternative energy include Joburg Water's hydro-conduit power generation project, Pikitup's Waste to Energy project, and City Power's rooftop photovoltaic and utility-scale battery storage plants (CoJ, 2019).

The lack of electricity has led to numerous illegal connections in informal settlements which again had negative impacts on paying customers (Khumalo, S.: 2019). Cable theft and vandalism to the electricity infrastructure network further leaves residents with frequent power outages.

92% of households within Ward 8 receive water from a service provider, with 4% being reliant on water from water tankers. In terms of sanitation, only 24% of residents also had access to a flush toilet with 69% making use of different types of VIP latrines. Refuse removal fared better with 95% of households getting refuse disposal from a local authority or private company (StatsSA: 2011). The latter, however, will be focused on formal townships and not on informal settlements. Littering and illegal dumping therefore remains a concern.

Various violent protest actions have been experienced since 2017 with regards to infrastructure development and service delivery. The lack of infrastructure and service provision is exacerbated by the high volumes of in-migration to the area and the development of informal settlements. Most of the grievances listed focused on the following issues that require action (Khumalo, S.: 2019 & Phakgadi: 2018):

- Ageing infrastructure;
- Frequent water interruptions;
- The extension of the local policing service (e.g. the development of a satellite police station);
- The need for additional clinics and a community hall;
- The tarring of gravel roads within the area;
- Traffic calming measures are required at sensitive areas along main roads;
- Maintenance on roads is required especially with regards to potholes;
- Improved public transport (e.g. busses for schoolchildren travelling between Lehae, Lenasia Ext.1, Lenasia Ext 9 and 10 as well as Soweto);
- Tender processes must be transparent and fair; and
- General safety in the area must be improved.

3.10 ROADS AND TRANSPORT SERVICES

In 2017, the City's total infrastructure backlog stood at R170 billion composed of collapsing bridges, city pavements that are in a poor condition, potholes, burst water pipes and ailing substations. The 100 000 potholes arise from a R11.8 billion historical backlog in the road network. In 2017, over 3 900 kilometres of the network, or 32%, had fallen into the classification of poor or very poor conditions (CoJ, 2019).

The proposed Rietfontein development is located to the southwest of the intersection of the Golden Highway (R553) and the R554 road to Lenasia. Several other major roads, including the M10 (Klipspruit Valley Road), the R558 and the N1 are close by.

Roads within the area are generally in a fair condition, although on-going maintenance is required to keep the road network up to standard and to repair potholes. In 2018 road maintenance work were

undertaken on the R558 between Lenasia and Finetown-Ennerdale. Community members have called on improvement in the public transport system, the implementation of traffic calming measures and the tarring of gravel roads within the larger area. Bus shelters and taxi ranks within Themb'Elihle also appear to be a challenge.

3.11 EDUCATIONAL STATUS AND SERVICES

Table 6 below shows the relatively low ratios of primary and secondary schools in Gauteng Province relative to population size. Ward 8 shows higher ratios of both primary and secondary schools than the average for Gauteng Province although still lower than national averages.

Table 6: Education Indicators, 2017

Area	Number of primary schools/10 000 persons	Number of secondary schools/10 000 persons
CoJ Ward 8	2.8	1.6
Gauteng	1.4	0.8
South Africa	3.1	2.7

Source: Own estimated based on Stats SA (2011 and 2016) and Municipal Demarcation Board (2018)

As indicated in Table 7 below, there are four schools that provide primary education within 2km north of the Rietfontein Residential Development site in the sub-areas of Lenasia Ext 10 and Themb'Elihle. The class sizes in the public primary schools are large suggesting some over-crowing and capacity constraints at these schools. Sharicrest and Apex Primary Schools in Lenasia Ext 10 are less than 500m from the northern border of the proposed site. None of the primary schools close by is classified as No-Fee Schools.

The two combined schools close to the site are independent Islam schools, one being the Lenasia Muslim School less than 500m from the southern border of the site. Apart from the schools close to the site there are about six schools that provide primary education within 4km of the site in the northern sections of Lenasia South. Most of these are public schools. These schools are large with class sizes averaging between 29 and 46 pupils per educator, also suggesting over-crowding and capacity constraints in primary schools in the larger area. The same applies to primary schools within 4km from the site situated on the eastern parts of Lenasia across the M10 (Klipspruit Valley Road).

Table 7: Schools in the Vicinity of the Rietfontein Residential Development, 2017

Entity	Sector	Learners	Educators	Learner: educator ratio	No Fee School
Sharicrest Primary School	Public	989	29	34.1	NO
Apex Primary School	Public	1248	28	44.6	NO
Zodiac Primary School	Public	1198	37	32.4	NO
Al-Aqsa Primary School	Independent	375	20	18.8	NO
Lenasia Muslim School (Combined)	Independent	1061	41	25.9	NO
Lotus School Of Excellence (Combined)	Independent	288	22	13.1	NO
Al-Aqsa Extension 10 Secondary School	Independent	547	34	16.1	NO
Azara Secondary School	Public	1421	47	30.2	YES

Source: Based on the Department of Basic Education EMIS data – Schools Master list for Gauteng (2018)

There is only one public secondary school less than 2km north of the site, Azara Secondary School. The school is also a No-Fee School and, judging by the average class size is already overcrowded. Apart from Azara there are four schools that provide secondary education less than 4km south and south east of the site on the northern fringes of Lenasia South and in Zakariyya Park to the south east. The schools are however seriously overcrowded with class sizes of 50 pupils and more.

Table 8 below shows that the level of functional illiteracy (people that completed primary education and below) in Gauteng is higher than the national average Functional literacy rates in the Ward 8 is on the same level as the national rate. Tertiary qualifications (skilled level) in the Ward are also much lower than the national and provincial averages.

Table 8: The Educational Level of the Adult Population 20 years and older, 2011 and 2016

Area	Functionally illiterate	Completed primary	Some secondary	Matric	Tertiary education	Total
CoJ Ward 8	17%	6%	43%	31%	3%	100%
City of Johannesburg	10%	3%	32%	43%	12%	100%
Gauteng	11%	3%	32%	43%	11%	100%
South Africa	17%	4%	35%	36%	8%	100%

Source: Based on Stats SA 2011 and Community Survey 2016 as in https://wazimap.co.za/
Note: Ward ratios applies to 2011

3.12 HEALTH SERVICES

The Rietfontein development falls under Health District G. The District hosts 25 Primary Health Care, 2 Community Health Centres (CHCs) and two public hospitals including one district hospital [6] (Health Systems Trust, 2017).

The incidence of HIV/AIDS in the CoJ is slightly higher than the national average with 11% of client at clinics testing positive in 2017 compared on 8% nationally and 10% in Gauteng. The uptake of HIV/AIDS prevention strategies is however much lower in the CoJ and Gauteng than nationally, only achieving a 34% male condom distribution rate compared to a rate of 48% nationally. In Region G the male condom distribution rate was a low 6% (Ibid).

Lifestyle diseases such as diabetes and hypertension are more prevalent in health District G than is the case in the CoJ or nationally. Region G reported 14 diabetes cases per 1000 persons (compared to 3.5 and 2.5 cases in CoJ and nationally respectively) and 29 hypertension cases per 1000 persons (compared to 14 and 19 cases in CoJ and nationally respectively) (Ibid).

The percentage of the population with medical coverage (and that hence would have better access to private healthcare services) in the CoJ is higher (25%) than the national average (18%).

[6] Community Health Care (CHC) centres offers PHC, 24 hour maternity, accident and emergency services and beds where health care users can be observed for a maximum of 48 hours and which normally has a procedure room but not an operating theatre. Primary Health Care (PHC) focuses on basic family, infant and reproductive health, communicable diseases (e.g. TB and HIV/AIDS) and health education offered within an 8 hour working day. A District Hospital receives referrals from and provides generalist support to clinics and community health centres with health treatment administered by general health care practitioners or primary health care nurses.

Table 9 below shows the health facilities in the vicinity of the planned Rietfontein residential development. Since the Ennerdale Ext C low cost housing project is planned only 7km south west, there is a high likelihood that there will be cumulative pressure on health facilities that is currently shared between Ennerdale and Lenasia South. The table highlights the possible of potential pressure on Lenasia south PHC clinic and CHC. The public district hospital of Lenasia South (250 beds with maternity ward and eye clinic) might also experience increased pressure from both planned developments. Lenasia South District Hospital furthermore experienced some press coverage related to the quality of services and hospital administration issues (Rising Sun Lenasia, 2015). It should also be noted that the Baragwanath provincial hospitals (3,400 beds; staff of 6,760) is about 20km north of the site.

Table 9: Medical Facilities near the Rietfontein Development, 2011 and 2016

Name of facility	Type	Sector	Services	Location from Ennerdale site	Location from Rietfontein site
Mid-Ennerdale Municipal Clinic	Clinic	Public	PHC	less than 2km south east across R558	7km south west
Ennerdale ext 9	clinic	Public	PHC	Adjacent to the site on the north east	6.6km south west
Ennerdale ext8	Clinic	Public	PHC	1.4km south west across the R588	8.6km south west
Lenasia Clinic	Clinic	Public	PHC	on Nirvana road some 10km north	3.5km north west
Lenasia South Clinic	Clinic	Public	PHC	4km north east	4km south west
Themb'Elihle Clinic	Clinic	Public	Focus on TB	8.6 km north east	Less than 1km north
Lenasia South CHC	CHC	Public	CHC	3.6km north east	3.4 km south east
Lenasia CHC	CHC	Public	CHC	on Nirvana road 10km north	3.5km north west
Lenmed Ahmed Kathrada	Hospital	Private	General Hospital	About 10km north - Trade Route Mall	Less than 2km north
Lenasia South Hospital	Hospital	Public	District hospital(	Less than 4km north east	Less than 4km south west
Lenmed Daxina	Hospital	Private	General Hospital and Pharmacy	2.2km north east	4.5km south west
Chris Hani Baragwanath	Hospital	Public	Provincial Academic Hospital	almost 20 km north	14 km north east

3.13 OTHER SOCIAL INFRASTRUCTURE

There are a number of mosques and many churches in the vicinity of the proposed Rietfontein development. There also seems to be areas of religious gatherings that were noted on site, on the western edge close to the M10 and another site in the north eastern section of the site, close to Lehae.

Expansion plans for the neighbouring area of Lehae include additional medical facilities, emergency services, schools and pre-schools, churches, a business node, a local economic hub and an agricultural training college (CityDev: 2020)

Traderoute Mall, within 2km north of the proposed development, as well as other smaller business centres providing retail facilities and office blocks are in close proximity to the site.

The social infrastructure indicates the typical social infrastructure and services found in formalised township developments.

3.14 SAFETY AND SECURITY

3.14.1 Crime

Ward 8 of the CoJ falls in the precinct of Lenasia South Police Station about 5km south of the proposed development.

Table 10 below shows declining per capita crime rates in South Africa and Gauteng since 2011, comparing to the rising per capita rate in Lenasia South.

Table 10: Per capita crime rates (cases reported per 1000 persons)

Area	2011	2018
Lenasia South Precinct	44	58
Gauteng Province	53	41
South Africa	43	36

Source: Crime Stats SA (2019) and own estimates based on Stats SA (2011) and (2016)

Table 11 below captures the prevalence of violent crimes, house burglaries and robberies and drug-related crimes in Lenasia South. There has been an increase in reported crimes across all crime categories since 2011, most noticeably in drug-related crimes. While car-jacking and burglaries at non-residential premises also showed a steep increase compared to 2011, both come from fairly low baselines.

Table 11: Types of Crime, 2018

Type of crime	Lenasia South 2018	% of precinct total	% of national total 2010-2018	% growth of crime in precinct
Violent crimes (murder, robbery, assault)	1,028	34%	27%	45%
House burglaries and robberies	475	16%	12%	20%
Motor vehicles theft/theft out of a vehicle	210	7%	9%	18%
Car-jacking	61	2%	1%	190%
Crimes related to drug/alcohol abuse	459	15%	14%	314%
All theft not mentioned elsewhere	377	12%	16%	29%
Malicious damage to property	188	6%	3%	34%
Burglaries and robberies at non-residential premises	91	3%	4%	102%
Commercial crime	53	2%	4%	66%
Other	78	3%	10%	13%
Total cases reported	**3,020**	**100%**	**100%**	**52%**

Source: Crime Stats SA (2019)

3.14.2 Community Protests

Due to the significant backlogs and rising unemployment rates in South Africa in general, there has been a steady increase in service-delivery protests since 2008. The community have become particularly violent and destructive towards public infrastructure since 2013 (Khambule et.al. 2018).

More than 60% of community protest actions between 2013 and 2017 relate to labour issues (19%), crime/policing (16%), municipal service delivery (16%) and education (12%). The proportion of 'violent'

or ‘disruptive’ incidents violent increased from 43% in 2013 to 65% in 2016. A number of factors could contribute to the increased violence in community protests including increased frustration on the part of the community, lack of appropriate responses such as heavy-handed policing etc. (Lancaster, 2018).

Gauteng, the Western Cape, KwaZulu Natal and the Eastern Cape are hotspot provinces in terms of community protests (Ibid).

Over the past three years, informal settlements such as Tjovitjo (4,632 units), Phumulamcashi and Majazana have sprung up on illegally-occupied land in the south of Johannesburg. According to the CoJ there are the numerous land invasions in the south of Johannesburg that could be the work of crime syndicates that, in some cases, even have connections with public officials (Simelane, 2019).

In 2018 violent community protests erupted in the study area when about 100 residents from the Themb’Elihle area protested over the delay in the release of the full dolomite report conducted by the Department of Human Settlements in 2015. The report in question is to determine the extent of dolomite deposits in and around an informal settlement in Themb’Elihle. Dolomite is a type of rock susceptible to the formation of sinkholes. Some community members suspected the government is withholding the report because they do not want to develop the area, but because they want to relocate the community (Postman, 2018).

In July 2019 wide protests also erupted in Johannesburg South over the perceived lack of government’s action against land invasions in the southern parts of Johannesburg. Residents from Zakariyya Park, Lenasia, Lenasia South and Ennerdale burnt tires and blocked roads to voice their frustrations related to these land invasions. Some of the community complaints revolved around illegal electricity connections and the devaluation of their properties. Some informal settlers on the other hand accused the protest to be racially inspired with Coloured and the Indian communities residing in Ennerdale and Lenasia not wanting black neighbours. Land invaders aim to continue erecting their shacks in the area arguing that they have nowhere else to go (Simelane, 2019).

3.15 LOCAL ECONOMIC ACTIVITY

The CoJ is the largest metro economy in South Africa contributing close to 16% towards the national economy. Over a 20 year period (1996 – 2017) the City’s average real growth rate was 3.6%, higher than both the provincial economy (3.0%) and national (2.7%) economies. However, while CoJ economy grew at high rates of more than 4% per annum from 1997 to 2006, the City’s economic growth trajectory shifted significantly downwards since the global financial crisis of 2009/2010. Since 2016 the City’s economy grew at rates between 1.5 and 0.5 per annum (Gauteng Province, 2018).

The tertiary sector (finance, services and trade) plays the dominant role in the CoJ economy as well as in all the different regions of the CoJ, including Region G. Region G, which could be described as the southern section of Johannesburg, is traversed by the N1 and the Golden Highway (R553). The N12 is roughly forming the region’s northern border. Region G largely consists of classified deprivation zones. Unemployment and poverty rates in Region G are among the highest within the CoJ. Lenasia is considered the only economic node with more potential in the region. Lenasia is now a rapid growing suburb with various shopping centres, churches, mosques, and commercial and industrial centres (City of Johannesburg, 2019).

Economic activities close to Lenasia are mainly concentrated along the Nirvana road corridor and in the section of Klipspruit Valley Road (M10) towards Lenasia and Themb'Elihle). The Trade Route Mall is situated on Nirvana Road, some 10km north east. The Mall opened in 2006 and is the only regional

shopping mall in the area with more than 145 shops catering for more than 1 million people in the south western areas of Johannesburg. The industrial area of Klipriviersoog Estate is less than 5km north east from the site.

Closer to the proposed development, there is a small light industrial area at the north east of the intersection between the M10 and Volta road. Along the M10 close to the development there is a petrol station, an abattoir and light industrial area further down south. There are numerous small businesses among the residential units in this area (e.g. IT, paving, vehicle depots etc.) in Lenasia Ext 10 directly north of the proposed development.

3.16 THE COMPOSITION OF THE LABOUR FORCE

As indicated in Table 12 below, the official/narrow unemployment rate of Gauteng showed similar trends than the South African economy, increasing from 25% in 2011 to 31% in 2019, slightly higher than the national unemployment rate in 2019.

The City of Johannesburg's unemployment rate correlated closely with the Gauteng rate, i.e. recording a narrow unemployment rate of 31% and an expanded rate of 33% in 2019. It is interesting to observe that the expanded unemployment (including discouraged job seekers) is lower in Gauteng and the CoJ than nationally.

Table 12: Unemployment rates, 2011 and 2019

Rate	Gauteng		South Africa	
	2011	2019	2011	2019
Unemployment rate (narrow)	25%	31%	24%	29%
Unemployment rate (expanded)	30%	35%	35%	39%

Source: Stats SA (2019) Quarterly Labour Force Survey

Table 13 shows the high unemployment rates in Ward 8 where the proposed development is located. The official (narrow) unemployment rate was higher in Ward 8 (27%) in 2011 than provincially (25%) or nationally (24%). As is the case in the CoJ in general it could also be expected that unemployment increased significantly in the local area since 2011. A fairly high portion of the labour force that is employed (77%) is employed in the formal economy, about the same as the average ratio for the CoJ.

Table 13: Unemployment rates, 2011

AREA	Ward 8	CoJ	Gauteng	South Africa
Domestic workers	2,374	224,442	567,753	1,721,600
Formal employment	13,039	1,328,219	3,493,322	10,829,951
Informal employment	1,612	143,859	406,295	1,784,863
Unemployed	6,235	564,970	1,598,044	4,467,325
Discouraged work-seekers	1,037	105,882	296,450	3,156,983
Total labour force	**24,297**	**2,367,372**	**6,361,864**	**21,960,722**
Unemployment rate (narrow)	**27%**	**25%**	**25%**	**24%**
Unemployment rate (expanded)	**30%**	**28%**	**30%**	**35%**

Source: Stats SA 2011 as in https://wazimap.co.za/ and Stats SA (2019) Quarterly Labour Force Survey

As previously mentioned, there were community protests in 2018 due to concerns over the relocation of an informal settlement within Themb'Elihle. Despite relative limited economic opportunities in the

local area, residents of the informal settlement wanted to stay close to the area since they claim to be working in the surrounding areas (Postman, 2018).

3.17 INCOME LEVELS

Table 14 below shows the percentage of households that earned R 20 000 and less in 2011. This poverty rate roughly equates to the upper bound poverty income line[7] of Stats SA. As can be observed from the table below, household income levels in the CoJ is higher than in Gauteng or nationally with 23% of households earning more than R 150 000 per annum in 2011 compared to 21% in Gauteng and only 14% nationally. It should however also be noted that still a large portion percentage of CoJ households (36%) earned income levels below the upper poverty line.

Table 14: The percentage of households in different annual income categories, 2011

AREA	Ward 8	CoJ	Gauteng	SA
Less than R 20 000	54.0%	36.0%	37.0%	45.0%
R20 000 - R75 000	33.0%	31.0%	31.0%	32.0%
R75 000-R150 000	6.0%	10.0%	11.0%	9.0%
R 150 000- R 300 000	4.0%	9.0%	9.0%	7.0%
More than R300 000	3.0%	14.0%	12.0%	7.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: Stats SA 2011 as in https://wazimap.co.za/

The low income levels in Ward 8 is evident in high poverty rates (54%) as well as the 97% of households in the ward that earned income levels lower than R 300 0000, effectively qualify them for public housing subsidies (i.e. earning less than R 22 000 a month at 2019 prices).

Roughly 75% of households in CoJ Ward 8 could currently earn less than R3 500 a month and would hence qualify for a full housing subsidy. Close to 22% of households in the ward would probably qualify for GAP housing (earning more than R 3500 per month but less than R22 000).

3.18 LOCAL DEVELOPMENT PRIORITIES

Joburg 2040 Growth and Development Strategy lists the following as five primary objectives *(CoJ, 2019):*

1. A growing, diverse and competitive economy that creates jobs;
2. An inclusive society with enhanced quality of life with focus on pro-poor development;
3. Enhanced quality services and sustainable environmental practices;
4. A caring, safe and secure communities; and
5. An honest, transparent and responsive local government that prides itself on service excellence.

The overarching Joburg 2040 framework (Diphetogo) to achieve these objectives includes (Ibid):

- Financial Management: Improved financial management to enable the eradication of backlogs through increase in revenue collection, improved debt management and an increased capital budget;

[7] The upper bound poverty rate include income for basic needs (clothing, housing, food) as well as some basic medical and educational expenses

- Addressing Housing Issues: Reversing the low income housing backlog and addressing the lack of high quality, low cost housing in the Inner City;
- Infrastructure: Providing reliable, quality municipal services and increase access to services in informal settlements and improve public lighting in the city for safer communities;
- Transport: Provide a reliable, safe road network by reversing the deteriorating road network in the City, establish formal roads in informal settlements, provision of a reliable, integrated public transport system in close co-operation with the taxi-industry;
- Social Services: The expansion of free basic services to those in greatest need;
- Economic development: Labour-intensive growth, SMME support, addressing youth unemployment, improved access to broadband;
- Institutional: A responsive administration focussed on quality service delivery.

The development priorities for Region G were listed as:

- Access to sustainable human settlements (i.e. houses, water, electricity, water);
- Improved safety and security in the local community;
- Access to public facilities (i.e. parks and libraries);
- Improved quality of roads and transport;
- Access to public healthcare facilities.

The main objective of the Joburg 2040 Spatial Development Framework (SDF) is the transformation of the city into a 'compact polycentric city', where urban residential areas are densified around specified economic nodes that area scattered across the City. Other macro objectives include:

- improving connectivity between different regions within the CoJ;
- bringing jobs to residential areas and housing opportunities to job centres to improve transport efficiency in the City; and
- working towards a more spatially just economy, i.e. creating a more even spread of economic opportunities across the different regions.

Region G largely consists of classified deprivation zones that are earmarked for large social investments. Lenasia is also noted as an economic activity corridor to be developed.

The CoJ's specified certain goals, that are in line with the aims of the Department of Human Settlements and these are specifically applicable to Region G, namely:

- Support local economic development opportunities;
- Manage informal settlements;
- Protect existing residential investments;
- Promote and manage mixed-use developments; and
- Promote regional connectivity.

Should these goals be achieved it would attend to the key issues for the greater Lenasia area, namely the issue with regards to the large number of informal settlements; the absence of higher-income residential areas; and the lack of control of local economic activities.

3.19 GENERAL SOCIO-ECONOMIC RISKS RELATED TO GOVERNMENT HOUSING PROJECTS

As discussed in the introduction, South Africa's public housing programme faces a number of challenges including slow progress in delivery, high and rising development costs etc. A literary review of the most discussed challenges related to public housing programmes in South Africa lists the following as the most prominent challenges in the programme (Manomano et.al, 2016; 71point4, 2018):

- The role of corruption and mismanagement in public housing projects: In 2010, 1,910 government officials were arrested over benefiting from the subsidies meant for housing beneficiaries. Furthermore, 20 housing projects were identified to be jeopardised by dodgy contracts between the contractors and the government officials costing the country some R2bn;
- Poor design, low quality of building materials and workmanship: Many low-income houses are too small for a family living with their children and relatives. Some even consist of just one room with a complete lack of privacy;
- Lack of involvement of stakeholders and beneficiaries:
- Poor location of housing projects away from job opportunities and social amenities combine with the lack of integrated housing developments without social infrastructure such as schools. This results in high costs for public infrastructure and increase road congestion:
- The problem above is exacerbated by the lack of progress in integrated public transport planning to develop the current public transport system away from the dominant minibus taxi system and to replace it with a fleet of large vehicles in dedicated bus lanes to improve road congestion and safety[8]:
- Lack of flexible options for the poor, e.g. tying the poor to a fixed asset that they cannot readily dispose of or rent out when their circumstances change (due to the rules of government subsidy housing);
- The lack of financial sustainability of the traditional approach to provide every qualifying low-income household with a serviced top structure[9];
- Perceived corruption in the management of the Housing Demand Database formerly known as the 'waiting list'. The list is managed by the National as well as the Provincial Departments of Human Settlements. The Gauteng list is being cleaned up with the aim of making it public by publishing it for all to see in the Province, each region will have its own database. Priority will be given to those registered first, starting from 1996. Priority will also be given to health status, age, child-headed homes and disability;
- Concerns over the implementation of the FLISP subsidy and that it is not suited to secondary market transactions. In this regard it is thus imperative that the proposed homeowners be assisted in the transaction process;

[8] The Rea Vaya is one of the first BRT systems that have been implemented in South Africa. The initial objective was to provide 85% of the population with a bus stop 500m from their house. During the first phase (2007 -2013) Rea Vaya developed problems in terms of cooperation with the taxi industry, escalating costs, lack of uptake in inner city, tensions between the City Council and Province. The system currently faces an uncertain future (CoJ, 2019)

[9] The new approach is to develop alternative development and delivery strategies, e.g. increasing rental stock, upgrading informal settlements, improving access to housing opportunities in the GAP market, allow self-built on serviced land, regulating private–property developers to dedicate a portion of their new developments to low-income earners. The latter was adopted as a policy in the CoJ in 2019 for private housing developments of 20 residential units or more (CAHF, 2019)

- Low take-up of GAP housing has been low due to lack of affordable stock for income earners below R15 000, insufficient awareness of the programme and lengthy bureaucratic processes for application and disbursement; and
- There are challenges related to the slow regulatory process of approving new residential areas and transferring title deeds to owners. While over 3 million RDP houses have been built since democracy, less than two thirds of these properties have been registered. The estimated title deed backlog for RDP properties built prior to 2014 is in the region of 500 000 and close to 400 000 for newer properties.

4. THE POTENTIAL SOCIO-ECONOMIC IMPACTS OF THE PROJECT DURING CONSTRUCTION

4.1 LOCAL EMPLOYMENT AND INCOME OPPORTUNITIES FOR LOW SKILLED WORKERS AND SMALL CONTRACTORS DUE TO CONSTRUCTION ACTIVITIES

The project could provide income and up-skilling opportunities for a number of workers, including unskilled and semi-skilled local workers during the construction period. Based on a high level cost estimate and as indicated in Table 15 below, the project could potentially generate income in the form of profits, salaries and wages or Gross Value Added (GVA) close to R 26m over the estimated seven years duration of the project. This, in turn, could provide employment opportunities to some 50 workers, of which 19 could be unskilled.

Table 15: Potential Economic Impacts during Construction

Component	Unit	Value
Establishment costs	ZAR million	126
Estimated construction costs	ZAR million	596
Construction period	years	7
Direct employment	ZAR million per year	26
Direct income (GVA)	numbers per year	50
Unskilled	%	37%
Semi-skilled	%	46%
Skilled	%	17%
Flow-on GVA	ZAR million per year	54
Flow-on employment	numbers per year	190

Sources: Burrows et.al (2013), Reddy et.al. (2016), Astra Brokers (2017)

Assumptions

1800 RDP units and 1800 GAP units
Average size 50 square metres
Building costs R175 000 GAP unit; R 90 000 per RDP unit; servicing the stand = R36 000 per stand
Marked up 20% for other expenses (parking , bus shelters and other amenities)
400 -600 residential units per year could be built with large construction team

The project will also create numerous sub-contracting opportunities (e.g. tiling, paving, security, plant-hire and fencing) for small contractors. Together with the induced impact[10] the spending on suppliers could add to another 190 jobs over a seven year period, most likely created within the CoJ.

Table 16: Positive Economic Impacts during Construction

Nature: Positive Economic Impacts from Construction Activities		
	Without enhancement	**With enhancement**
Extent	Regional (3)	Regional (3)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	High (8)
Probability	Definite (5)	Definite (5)
Significance	**Medium (50) (+)**	**Medium (60) (+)**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be enhanced?	Yes	Yes

[10] Induced impacts are further income and employment impacts from increased spending of salaries and wages earned from construction, sub-contracting and supply activities

Enhancement: • In the light of challenges faces by low income housing projects in South Africa it is imperative that a transparent and fair process is followed in the procurement and management of contractors. Project management should be based on the requirements of National Treasury's SIPDM • The main project manager introduces the contractor to the local community, informing the community of the contents of the contract management plan. • Adhere to Gauteng Government procurement requirements. If no particular procurement policy applies, a certain percentage could be set aside to vulnerable groups, e.g. females, youth and disabled workers. The Gauteng Department of Roads for example require that 40% of construction jobs should be set aside for females, 60% to youth and 2% to disabled workers. It is also required that the contractor should provide the necessary skills training to people directly employed by the project. • Preference should be given to local labour and suppliers during the construction period. A supplier development programme is recommended for local suppliers • Communicate job and contractor opportunities and recruitment processes through the local media and local civic organisations • Develop and implement a contractor management plan and include specifications for: ○ Preference for local labour and suppliers from the surrounding communities (e.g. Themb'Elihle, Lenasia) ○ Up-skilling of unskilled local labour ○ Sub-contracting to SMMEs (% of contract value) ○ % of contract value to be allocated to black owned and female owned companies • As part of the infrastructure maintenance plan required for public/government it is recommended that preference is given to use willing unskilled, and semi-skilled people residing in the residential development
Cumulative impacts: Possible positive cumulative impacts from the planned Ennerdale low cost housing development to the south
Residual Risks: Not relevant

4.2 IMPACT ON ROADS AND TRANSPORT SERVICES

It is anticipated that the workforce would be transported to and from the site on a daily basis. Workers can also make use of public transport up to certain points where this service is provided and walk the rest of the route.

Access to the construction area is likely to be mainly from the M10/Klipspruit Valley Road which could increase the risk of vehicle and pedestrian accidents in the vicinity of the access point. It would further impact on the movement patterns of local motorists where traffic congestions could occur during peak hour traffic. Should additional access points be constructed, the risks would increase. Speeding by construction vehicles on the M10 with its relative high traffic volumes is further of concern.

The movement of the construction vehicles through the residential section of Lenasia Ext. 10 (from either the M10 or R554) and Lehae area (from the R553) must be avoided as a large section of the local population is pedestrians.

Table 17: Impact on Roads and Transport Services

Nature: Impact on roads and transport services		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Highly Probable (4)
Significance	**Medium (55) -**	**Medium (44) -**
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A

Can impacts be mitigated?	Yes	Yes
Mitigation: • Access roads and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, as well as to limit any risks of accidents. • Construction vehicles should adhere to the speed levels. • Construction vehicles and those transporting materials and goods should be inspected to ensure that these are in good working order and not overloaded. • Local roads surrounding the site should be upgraded to ensure that heavy vehicles can deliver the required equipment and materials and to limit the negative intrusions and traffic congestions. • Source material and goods locally as far as possible to limit transportation of these over long distances		
Cumulative impacts: None anticipated		

4.3 NUISANCE FACTORS

The construction activities is likely to be undertaken over a couple of years would result in different nuisance factors that will influence the daily living and movement patterns of mainly residents within the area to the north (Lenasia Ext. 10) and east (Lehae) of the construction site.

These nuisance factors refer to dust creation due to the use of the gravel roads on site, and the initial site earthworks. The extent of the dust emissions cannot be determined, but from a social perspective, however it is important to note that should any of the residential areas be severely affected by dust pollution it could have negative impacts on the health and wellbeing of the residents, especially children and vulnerable sectors of society.

Noise related impacts created during the construction phase of the project are highly probable. These are anticipated to emanate from heavy vehicles travelling to and from the site, the noise created by the 'reverse indication' of the trucks, and the noise generated by the general construction activities. This noise could be particularly intrusive, although the area would not, from a social perspective, be classified as an area with existing low ambient noise levels due to it being so densely populated.

Littering and illegal dumping by construction contractors would also remain a concern and would exacerbate the existing environmental impacts experienced by littering and illegal dumping.

Table 18: Nuisance Factors during Construction

Nature: Increase in noise and dust levels, as well as movement of vehicles during the construction phase		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Highly Probable (4)
Significance	**Medium (55) -**	**Medium (44) -**
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes
Mitigation: • Establish a forum between the local Residents Association(s) and the main contractor and meet every second month basis to discuss socio-economic issues and project progress • Construction workers should be confined to the construction area as far as possible, and should be easily identified. • Construction activities should keep to normal working hours e.g. 7 am until 5 pm. • Noise should be kept to the minimum. • The construction area should be fenced to avoid unauthorised entry by animals or children.		

• Access roads and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, as well as to limit any risks of accidents. • Construction vehicles should adhere to the speed levels. • Construction vehicles and those transporting materials and goods should be inspected to ensure that these are in good working order and not overloaded. • Source material and goods locally as far as possible to limit transportation of these over long distances • Dust suppression methods should be implemented on-site if and where required • A contractors management plan should address the issue of waste removal to avoid any form of littering and illegal dumping.
Cumulative impacts: None anticipated

4.4 IMPACT ON COMMUNITY SAFETY

The ongoing presence of large numbers of construction workers and jobseekers in the area would impact on the living and movement patterns of the residents especially if trespassing of properties occurs. Illegal squatting, expansion of shebeens, increased fire risks, imposing on the existing social networks of existing residents (alcohol abuse, prostitution etc.), possible increase in criminal activities environmental degradation of the area, littering, noise pollution, air quality impacts due to fires used for cooking and the increased risk of fires spreading to surrounding properties, are all concerns that could impede the daily living and movement patterns of the residents and negatively impact on the overall community safety.

The inflow of jobseekers to the construction site and surrounding area is an impact that would definitely occur based on the following factors:

- The population density of the area;
- The socio-economic conditions of the majority of people in close proximity to the proposed Rietfontein site;
- The unemployment profile of the local population
- The number of youths in the area;
- The existing in-migration pattern;
- The extent of the construction activities and duration of the construction period; and
- Unemployed jobseekers that remained in the area after the Lehae development was completed.

Apart from the above, the construction phase and the high levels of people movement, will make the area more accessible to criminals. Possible conflict between workers and the resident population could add to the overall community related safety risks.

Further safety concerns during the construction phase relate to on-site construction workers that would be exposed to construction related safety risks, the possibility of children accessing the construction site, as well as unauthorised entry to the construction areas.

Table 19: Impact on Community Safety

Nature: Impact on community safety		
	Without mitigation	**With mitigation**
Extent	Regional (3)	Local (2)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly Probable (4)	Probable (3)
Significance	**Medium (48) -**	**Medium (33) -**

Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes

Mitigation:

- Before construction commences, representatives from the CoJ, the ward councillors and Residents Associations, as well as neighbouring communities should be informed of the details of the construction company, size of the workforce and construction schedules
- Local labour should receive preference
- On-site construction workers should always be supervised.
- Construction activities should be kept to normal working hours e.g. from 7 am until 5 pm during weekdays.
- Property owners surrounding the construction areas should be informed of the construction schedules and activities.
- Security on-site should be active prior to the construction period.
- Workers conduct should be guided by a code of conduct to be developed by the contractors.
- The construction areas should be fenced to avoid unauthorised entry by animals or children

Cumulative impacts: Possible cumulative impacts from the planned Ennerdale low cost housing development to the south

5. THE POTENTIAL SOCIO-ECONOMIC IMPACTS OF THE PROJECT DURING OPERATIONS

5.1 ACCESS TO IMPROVED HOUSING/ REDUCTION OF HOUSING BACKLOGS

The uncontrolled influx of people to the south of Johannesburg (Deep South area) in search of land and formal housing pose a threat to the integrity of the Region G area and local study area. It also has the potential to result in tension and conflict between the outsiders and the local community as has previously been experienced through the violent protests by existing residents and land-grabbers. The strong stance of residents with regard to obtaining RDP houses e.g. when houses of the Lehae development were illegally occupied indicates the urgent need to upgrade the socio-economic environment by providing an alternative to those without land or houses.

The proposed Rietfontein development would thus focus on providing housing for the poor (RDP), as well as the entry level markets (GAP and Social Housing). It would assist in addressing the housing backlog in Region G area by providing affordable housing thereby having a significant positive social impact in the area.

The positive impact could be enhanced if residents currently residing in the informal settlements are absorbed in the proposed RDP section of the development and/or those that have been on the 'waiting list' for numerous years. Applicants must still comply with the following basic criteria:

- be a South African citizen;
- be over 21 years of age;
- have a total household income of less than R3 500 per month;
- be married or live with a partner or be single and have dependants (children they are responsible for);
- never have owned a house or a property anywhere in South Africa.

In selected cases, preference could be given to e.g. child headed households or people with disabilities.

Negative impacts would occur should the housing allocation process not be deemed transparent and unbiased. Residents could then view the beneficiaries as outsiders who have not previously been in the community. Experience in South Africa has shown that there are various cases where local community members are dissatisfied with the process followed in terms of the allocation of RDP houses. Dissatisfaction and perceptions that the process was not transparent and justifiable, would again lead to violent protests and even conflict between community members as have been previously experienced in the area.

It should also be noted that the beneficiaries of the RDP houses would still be required to pay for all municipal rates which may include water and electricity or other service charges. Many beneficiaries, however, may not be in a financial position to be able to afford these rates and service charges. They may then again use their houses to generate income by renting them out to people from outside the area. If such a situation develops it would be a setback to the development.

The success of the provision of housing would therefore depend on the successful implementation of the project (without any social conflict) and the perception that a transparent and fair process was followed.

Table 20: Access to Improved Housing

Nature: Access to improved housing		
	Without mitigation	**With mitigation**
Extent	Regional (3)	Regional (3)
Duration	Long Term (4)	Long Term (4)
Magnitude	Moderate (6)	High (8)
Probability	Probable (3)	Highly Probable (4)
Significance	**Medium (39) +**	**Medium (60) +**
Status (positive or negative)	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be enhanced?	Yes	Yes
Enhancement: • More information with regards to the cost of the transaction and the time it takes to access mortgage, further administrative, policy and legislative processes is required for potential buyers. • Residents of informal settlements within the area should be allowed to apply for housing at the proposed Rietfontein development to limit the inflow of additional outsiders • The legal process as required with regards to the development of the beneficiary lists for the RDP housing must be followed • Preference must be given to current residents within the Lenasia area and/or those that work within the Lenasia area or 'Deep South' • The beneficiary list must be publicised • Sub-letting must not be allowed		
Cumulative impacts: Possible negative cumulative impacts if residents of existing informal settlements cannot be absorbed as part of the proposed development; Ongoing land grabbing Possible cumulative impacts from the planned Ennerdale low cost housing development to the south		
Residual Risks: not applicable		

5.2 IMPACT ON LOCAL PROPERTY VALUES

The proposed development could depress property prices in the local area in two ways:

Firstly, the project would add additional 3 600 low income units to the existing (mainly low income) housing stock in Ward 8, i.e. an increase of around 22%. This impact is however expected to be low due to the high demand for low income housing in the local property market. In addition, half of the additional units will be RDP (fully subsidised units) which according to the Housing Amendment Act 4 of 2001 cannot be rented out the property (indefinitely) or sold within the first eight years of occupation[11].

Secondly, the development could impact negatively on the prices of some of the higher income properties in Lenasia Extension 10 directly north of the proposed development. The properties that are most likely to be affected are estimated 100 or properties so lying between Limpopo Street and the northern border of the proposed development. The extent to which the proximity of this scale of low-cost housing development could influence prices is however unknown[12].

[11] It should be noted however that the renting and premature selling of RDP houses are widespread across South Africa and that the Housing Amendment Act does not stipulate any punitive measure

[12] International literature suggests that low cost housing development does not impact materially on adjacent properties of higher market value (University of North Carolina (2017). Surprisingly little research has been conducted in South Africa

Table 21: Impact on Local Property Values

Nature: Impact on Local property Values		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	**Medium (36) -**	**Medium (30) -**
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes	Yes
Mitigation: • Communicate with the potential affected properties along the border of the development with regard to the design concept for the development • The design of the development should be sensitive towards potentially affected properties along the border of the property. For example, the GAP houses instead of the RDP houses could be planned to be located closer to the northern fringes of the development		
Cumulative impacts: None anticipated		
Residual Risks: Depressed property prices in the local property market over the medium term		

5.3 IMPACT ON ROADS AND TRANSPORT SERVICES

Once the development has been completed, additional traffic created by residents and visitors travelling to and from the residential area could impact on the existing and new residents' daily living and movement patterns. A large part of the residents would possibly also make use of public transport facilities. The increase in traffic volumes could increase the risk of accidents, create traffic congestion and lengthen travelling time.

Traffic patterns and volumes in the direct vicinity of the proposed Rietfontein development would require road upgrading. The planned access points and overall road upgrading should ensure that congestion and the risk of accidents are limited.

As a large part of the residents would continue to make use of public transport facilities, road designs should consider the construction of pedestrian walkways and bicycle lanes. The extension of the existing subsidised bus routes (including bus and taxi stop shelters) should also form part of the development plan for this area and/or should link with the existing services. This would have positive impacts in terms of the daily living and movement patterns of the residents of the proposed Rietfontein development.

Table 22: Impact on Roads and Transport Services

Nature: Impact on roads and transport services		
	Without mitigation	**With mitigation**
Extent	Regional (3)	Local (2)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly Probable (4)	Probable (3)

in this regard. A study by Nelson Mandela Metropolitan University (2012) found that there is a perception by high income households that their property could devalue by 7% -10% when situated within 100m of a low cost housing development. There is however a lack of local studies to substantiate this claim.

Significance	**Medium (52) -**	**Medium (36) -**
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	Yes, to some extent	Yes, to some extent
Mitigation: • Access roads and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, damage to the road surfaces, as well as to limit any risks of accidents. • Upgrading of local roads could be required to accommodate the increased traffic patterns. • Gauteng Department of Human Settlements to liaise with Gauteng Department of Transport to expand the bus service to the site area in order to make public transport to the site more accessible, for especially school-going children • Consider the development of a bus stop and shelter closer to the proposed site that would adhere to road safety standards		
Cumulative impacts: None foreseen		
Residual Risks: Impact on local roads unable to handle traffic volumes, impact on road surfaces and traffic congestion		

5.4 IMPACT ON SOCIAL INFRASTRUCTURE

Unless all the housing units are occupied by low income residents already residing in Ward 8, the number of households in Ward 8 will most likely also increase. In the unlikely event that all the units in the development be occupied by people outside Ward 8, the maximum increase in households anticipated in the local area is in the region of 20%, from the current estimated 19 600 households to about 23 000 households. Additional households would also require access to nearby health, education, recreational facilities and business centres

Education facilities: Based on national age-ratios it is expected that the development could add a maximum of 1 600 new primary school learners and some 1 300 secondary school learners to the local school system (own estimated based on Stats SA, 2011 and 2016). The additional primary scholars represent about 47% of the 3 435 public school primary learners currently in the area (excluding learners in independent schools) and the additional secondary scholars would almost double current number of secondary pupils in the only secondary school public schools (Azara) close to the local area (see Table 7).

Health facilities: As indicated in Table 9 above, there are a number of public facilities in the local area. These facilities are shared between Ward 8 and the larger areas of Lenasia, Lenasia South and Ennerdale. Considering the cumulative impacts of household growth related to the planned low cost housing development in Ennnerdale in the south, pressure is especially expected on the shared public health facilities in Lenasia South (the PHC, CHC and the district hospital). With the quality of services at the hospital already under question, the upgrading of facilities will be needed.

Social and retail facilities: As indicated there are some retail and commercial centres within the local area e.g. the Trade Route Mall (Nirvana Road), and the light industrial area closer to the site. The increase in the local population as a result of the proposed project would stimulate economic growth with regards to the retail facilities within the area, taking the average spending capital of the average

resident into consideration. Businesses at the light industrial area might benefit during the construction phase if these form part of the procurement process.

It is assumed that the religious gatherings that are taking place on site are undertaken without any formal agreements with the landowner. These activities would thus, in future, come to an end or would have to move elsewhere once all the phases of the development have been implemented.

Municipal infrastructure: There is a serious lack in the provision of infrastructure and services to the households in the larger Lenasia area and therefore has led to various protests by community members. The significant negative impact (additional pressure) on the infrastructure development and maintenance as a result of the increased population needs, remains a critical issue to be addressed and successfully dealt with. Hence, infrastructure development, specifically with regards to sanitation and electricity would be required. This thus calls for a successful integration of the additional services into the existing service delivery system of the CoJ Municipality. It is imperative for the Provincial Government together with the CoJ Municipality to ensure access to adequate housing, by providing the associated services that would support the sustainability of the development.

Managing waste generated by such a development is also a source of concern. Should existing landfill sites not be able to cater for the development's waste requirements, additional landfills should be established. This is unfortunately not an easy and quick process due to social and environmental concerns usually raised in opposition to the establishment of new sites. Recycling of waste by the community is another option that could be investigated to minimise the volumes of waste generated.

Should sufficient water and sanitation facilities and infrastructure not be installed and/or maintained it could result in environmental pollution and subsequent health risks to the entire community. The responsibility of maintenance, however, would lie with the CoJ.

Table 23: Impact on Social Infrastructure

Nature: Impact on social infrastructure		
	Without mitigation	**With mitigation**
Extent	Regional (3)	Regional (3)
Duration	Long term (4)	Long term (4)
Magnitude	Very High (10)	Moderate (6)
Probability	Highly Probable (4)	Highly Probable (4)
Significance	**High (68) -**	**Medium (52) -**
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impacts be mitigated?	To some extent	To some extent

Enhancement/Mitigation:

- Focus on assimilating residents currently located in the local ward rather than outsiders in the proposed development to relieve the pressure on social facilities by newcomers
- The development of additional school(s) as part of the development must be considered.
- The existing health facilities would have to be upgraded and services would have to be extended, especially if the cumulative impacts of other housing developments are considered. This include the Lenasia PHC, CHC and the District Hospital of Lenasia South
- The proposed development could include a recreational area for the residents, including a play area for small children.
- The public transport system should be extended to reach the proposed development to assist residents and children with regards to ease of travelling.

• Consider renewable technologies (e.g. eco-toilets, solar energy and rainwater harvesting) in the design of the development to not only reduce pressure on the over-burdened and ageing municipal network in the local area, but also to reduce the impact on the environment, especially considering other proposed housing developments within the area. • The Gauteng Department of Human Settlement and the CoJ need to be involved in the planning and Environmental Impact Assessment Process to determine the need for bulk services or upgrading of existing services in order to pro-actively plan for the proposed development • The development plans should be communicated to those undertaking religious gatherings on site in order to enable them to move their activities elsewhere. Alternatively, the implementer could continue to allow them to use a certain section within the mixed land use development for their activities
Cumulative impacts: Continuous increase in resident population as informal settlements expand Possible cumulative impacts from the planned Ennerdale low cost housing development to the south
Residual Risks: Some increased pressure on public health services and clinics as well as educational facilities Environmental pollution and health risks to the community if infrastructure needs are not met or in cases where infrastructure is not maintained

5.5 IMPACT ON COMMUNITY SAFETY

The densification as part of the proposed Rietfontein development and continuous inflow of people to the area would have an impact on the criminal activities in the area. With the existing densely populated areas surrounding the site and the extension of the informal settlements, densification of the area over time, however, would be inevitable. The proposed Rietfontein mixed land use development would assist in formalising and managing the densification process and change in the focus of the community.

The completion of the proposed development would suddenly lead to a significant increase in the local population count. Crime levels in the area could thus increase just based on this increase. As indicated previously, the crime levels in the area are relatively high. The existing situation and the population increase could thus warrant the extension of the local police service. It is uncertain whether this would be achievable, but failure to attend to possible criminal activities and the enforcement of strict security measures, as well as lack of appointment of additional police personnel could thus have negative impacts on the quality of life of all the residents involved.

The City interprets one of its mandates of creating a safer city to include investment in public safety through community development, urban design and management, the protection of vulnerable groups, infrastructure upgrades, improvements to by-law compliance and enforcement, and responding to emergency and disaster situations. The proposed development could thus assist in this regard by ensuring that safety and security features form part of the development e.g. access control, security guards patrolling the area, and the placement of security cameras and lighting at strategic places.

Table 24: Impact on community safety

Nature: Impact on community safety		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Definite (5)	Highly Probable (4)
Significance	**High (60) -**	**Medium (48) -**
Status (positive or negative)	Negative	Negative
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A

Can impacts be mitigated?	Yes to some extent	Yes to some extent
Mitigation: • The development should implement safety and security features as part of the development e.g. access control, security guards patrolling the area, and the placement of security cameras at strategic places. • Lighting as security measure at night should be implemented as part of the development • Sub-letting as part of this development should not be allowed to ensure that the quality of life of the residents in the area remain high. • The local policing services should respond effectively to any criminal activities, but should further focus on street crimes, assaults, and robberies		
Cumulative impacts: Possible cumulative impacts from the planned Ennerdale low cost housing development to the south		
Residual Risks: Increased crime risk		

5.6 IMPACT ON URBAN SPATIAL OBJECTIVES

As discussed in Section 3.18 above, Region G is earmarked for social development programmes. However, to improve transport efficiency in the City, it is also a spatial development priority in the CoJ to bring economic opportunities closer to communities with a lack of opportunities or to bring housing opportunities to job centres. While there are a number of people working in the local area, economic opportunities in the CoJ are mainly concentrated in the CBD and northern areas (Roodepoort, Randburg, Sandton). It is probable that a large portion of the formally employed in Ward 8 work in these more remote areas.

Table 25: Impact on Urban Spatial Objectives

Nature: Impact on Urban Transport		
	Without mitigation	**With mitigation**
Extent	Regional (4)	Regional (4)
Duration	Long Term (4)	Long Term (4)
Magnitude	Low (4) -	Minor (2) -
Probability	Probable (3)	Probable (3)
Significance	**Medium (36) -**	**Medium (30) -**
Status (positive or negative)	Negative	Negative
Reversibility	Yes	Yes
Irreplaceable loss of resources?	No	No
Can impacts be mitigated?	Yes, to some extent	Yes, to some extent

Mitigation
• Establish beneficiary screening criteria that give preference to:
  ○ current residents of Ward 8
  ○ people working in Ward 8 and surroundings
• Gauteng Department of Human Settlements to liaise with Gauteng Department of Transport to expand the subsidised bus service and taxi services to the site area in order to make public transport more accessible
• The proposed development could include a recreational area for the residents, including a play area for small children. Additional recreational facilities for young adults should also be considered.
• The development of schools as part of the development would be critical.		

Cumulative impacts: None anticipated		
Residual Risks: Not applicable		

5.7 IMPACT ON SOCIAL COHESION AND SENSE OF PLACE

The social impact associated with the impact on the sense of place relates to the change in the landscape character and visual impact of the proposed development.

In evaluating impacts relating to 'sense of place' and 'aesthetic quality', it has to be considered that it is not the objects or places that matter, but the meaning they have for the person interacting with his/her environment. How people perceive their world and the distinctions they draw are influenced not only by mind-set, preferences, attributed emotions and history, but is also subject to cultural influences and collective meaning.

The proposed development will have a permanent visual impact on the currently 'undisturbed' site on which it would be located. The development, however, should also be viewed against the backdrop of the area. The area surrounding the site is invaded by other visual elements such as a recently completed housing development, older existing structures, the informal settlement of Themb'Elihle that became more formalised over time, as well as schools and business facilities. Other infrastructure includes power lines, electrical infrastructure, and roads. Although the dwellings would be clearly visible, especially to the residents situated to the south of Volta Road and those within the western section of Lehae, it is anticipated that it would, over time, blend in with the rest of the environment, gradually changing the sense of place perception. The proposed development's physical features could make it a pleasant feature by attending to the building design, integrated lighting, appropriate signage, and landscaping.

A large section of the prospective property buyers or lessees would be from various urban areas in Region G and/or the larger Lenasia area, although of different cultures, speaking various languages with some difference in income levels. If a large number of outsiders with different values, beliefs and practices migrate to the Rietfontein area, it could result in the disruption of the existing social networks. Conflict regarding the allocation of housing (RDP), as well as employment opportunities between the locals themselves, and between the locals and outsiders could further impact on the normal community social interaction patterns. Unrest experienced previously when residents occupied houses as part of the Lehae development is a case in point.

It should also be noted that the area has already experienced a change in the social cohesion with the development of the Lehae residential development. Social integration has already started, but care should still be taken to not further entrench the disparity between 'new' and existing residents. If the process of housing allocations can be undertaken in a fair and transparent manner, the risks of conflict would be minimised.

Table 26: Impact on Social Cohesion and Sense of Place

Nature: Impact on social cohesion and sense of place		
	Without mitigation	**With mitigation**
Extent	Local (2)	Local (2)
Duration	Permanent (5)	Permanent (5)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly Probable (4)	Probable (3)
Significance	Medium (52) -	Medium (39) -
Status (positive or negative)	Negative	Negative
Reversibility	No	No
Irreplaceable loss of resources?	Yes	Yes
Can impacts be mitigated?	Yes, to some extent	Yes, to some extent
• The impact on sense of place can be mitigated by attending to the building design and layout • Should the development continue, building designs should take the character of the area into account and should not detract from the existing sense of place • Designing of walls, roofs and buildings should be done in such a manner to blend in with the natural environment. • Lighting issues should receive the attention it deserves to avoid any light pollution at night but still ensure that safety requirements are met.		

• The process of identifying beneficiaries of the proposed development must be a fair and transparent process • Unrealistic expectations in terms of beneficiaries and housing provision must not be created
Cumulative impacts: Possible cumulative impacts from the planned Ennerdale low cost housing development to the south Existing Land grabbing practices that could spill over to the development Existing social conflict between resident population and those perceived to be outsiders
Residual Risks: Loss of land-use, conservation value and recreational use of the property Impact on sense of place due to visual impact and loss of conservation and recreational area

6. SOCIO-ECONOMIC MANAGEMENT PLAN

The following measures are proposed to mitigate potential negative economic impacts of the development and enhance benefits of potential positive economic impacts. These measures should be included in the Environmental Management Programme:

OBJECTIVE 1: Enhance the Positive Economic Impacts during the Construction Phase

Project component/s	Construction		
Potential Impact	Positive impact on targeted groups in terms of direct and supply-linked; efficient, transparent and fair management of the project to create value for public money		
Activity/risk source	Limited local participation in labour and supply to the construction project/ public perceptions of project mismanagement and waste of public money		
Enhancement Target/Objective	Improve local employment opportunities for targeted groups; efficient, transparent and management of the project		
Mitigation: Action/control		**Responsibility**	**Timeframe**
In the light of challenges faced by low income housing projects in South Africa it is imperative that a transparent and fair process is followed in the procurement and management of contractors. Project management should be based on the requirements of National Treasury's SIPDM		Gauteng Government as project implementer	Pre-Construction & Construction Phase
The main project manager to introduce the contractor to the local community, informing the community of the contents of the contract management plan.		Project implementer and main contractor	Pre-Construction & Construction Phase
Adhere to Gauteng Government procurement requirements. If no particular procurement policy applies, a certain percentage could be set aside to vulnerable groups, e.g. females, youth and disabled workers. The Gauteng Department of Roads for example require that 40% of construction jobs should be set aside for females, 60% to youth and 2% to disabled workers. It is also required that the contractor should provide the necessary skills training to people directly employed by the project.		Project implementer and main contractor	Pre-Construction & Construction Phase
Preference should be given to local labour and suppliers during the construction period. A supplier development programme is recommended for local suppliers		Project implementer and main contractor (liaise with CoJ Economic Development)	Pre-Construction & Construction Phase
Communicate job and contractor opportunities and recruitment processes through the local media and local civic organisations		Project implementer and main contractor	Pre-Construction & Construction Phase
Develop and implement a contractor management plan and include specifications for: • Us of local labour and suppliers • Up-skilling of unskilled local labour • Sub-contracting to SMMEs (% of contract value) • % of contract value to be allocated to black owned and Female owned companies		Project implementer and main contractor	Pre-Construction & Construction Phase
As part of the infrastructure maintenance plan required for public/government it is recommended that preference is given to use willing unskilled, and semi-skilled people residing in the residential development		Project implementer	Post- construction phase
Performance Indicator	• Meet provincial employment and procurement targets • Sign-off on project by Treasury in terms of adherence to SIPDM phases • Meet annual targets related to the asset maintenance plan		
Monitoring	Gauteng government. Communicated to local community forum by main contractor		

OBJECTIVE 2: Reduce the Potential Negative Impacts on Traffic and Road Infrastructure

Project component/s	Construction and Operations		
Potential Impact	Negative impact on local traffic and road infrastructure		
Activity/risk source	Damage to roads, decrease in road safety		
Enhancement Target/Objective	Maintain road infrastructure and mitigate potential increase of traffic on local roads		
Mitigation: Action/control		**Responsibility**	**Timeframe**
Access roads and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, as well as to limit any risks of accidents.		Project implementer and main contractor	Construction and Operations
Construction vehicles should adhere to the speed levels.		Main contractor	Construction
Construction vehicles and those transporting materials and goods should be inspected to ensure that these are in good working order and not overloaded.		Project implementer and main contractor	Construction
Local roads surrounding the site should be upgraded to ensure that heavy vehicles can deliver the required equipment and materials and to limit the negative intrusions and traffic congestions.		Project implementer and main contractor	Construction
Source material and goods locally as far as possible to limit transportation of these over long distances		Project implementer and main contractor	Construction
Gauteng Department of Human Settlements to liaise with Gauteng Department of Transport to expand the bus service to the site area in order to make public transport to the site more accessible, for especially school-going children		Co coordinate between Gauteng Departments of Human Settlements and Transport	Operations
Performance Indicator	• Minimum community complaints related to traffic and road infrastructure • No speeding of construction related vehicles on local roads • No increase in road accidents • No increase in potholes in local area		
Monitoring	• Contractor to meet every second month basis to discuss socio-economic issues and report project progress • During operations it would be ideal for the implementer to monitor on a quarterly basis one year after structure is completed		

OBJECTIVE 3: Reduce Nuisance Impacts (Noise, Dust, Littering) Related to Construction Activities

Project component/s	Construction		
Potential Impact	Noise, dust and littering related to construction activities		
Activity/risk source	Increase in nuisance factors could lead to negative perceptions related to the project		
Enhancement Target/Objective	Reduce noise and dust during construction		
Mitigation: Action/control		**Responsibility**	**Timeframe**
Establish a forum between the local Residents Association and the main contractor		Implementer and main contractor	Construction
Construction workers should be confined to the construction area as far as possible and should be easily identified.		Implementer and main contractor	Construction
Construction activities should keep to normal working hours e.g. 7 am until 5 pm.		Implementer and main contractor	Construction
Noise should be kept to the minimum.		Implementer and main contractor	Construction
The construction area should be fenced to avoid unauthorised entry by animals or children.		Implementer and main contractor	Construction
Access roads and entrances to the site should be carefully planned to limit any intrusion impacts, noise and dust pollution, as well as to limit any risks of accidents.		Implementer and main contractor	Construction
Construction vehicles should adhere to the speed levels.		Implementer and main contractor	Construction
Construction vehicles and those transporting materials and goods should be inspected to ensure that these are in good working order and not overloaded.		Implementer and main contractor	Construction
Source material and goods locally as far as possible to limit transportation of these over long distances		Implementer and main contractor	Construction
Dust suppression methods should be implemented on-site if and where required		Implementer and main contractor	Construction
A contractors management plan should address the issue of waste removal to avoid any form of littering and illegal dumping.		Implementer and main contractor	Construction
Performance Indicator	• Limited complaints from local community related to nuisance factors • Good air quality • Noise levels within limits • No littering and illegal dumping		
Monitoring	Contractor to meet on a regular basis (e.g. every two months) to discuss socio-economic issues and report project progress		

OBJECTIVE 4: Reduce Negative Impacts on Community Safety

Project component/s	Construction and Operations		
Potential Impact	Increased population profile poses safety risks for the local community		
Activity/risk source	Rising crime rates and road accidents in the local area		
Enhancement Target/Objective	Minimise impacts on local safety		
Mitigation: Action/control		**Responsibility**	**Timeframe**
Before construction commences, representatives from the CoJ, the ward councillors and Residents Associations, as well as neighbouring communities should be informed of the details of the construction company, size of the workforce and construction schedules		Implementer and main contractor	Construction
Local Labour should receive preference		Implementer and main contractor	Construction
On-site construction workers should always be supervised.		Implementer and main contractor	Construction
Construction activities should be kept to normal working hours e.g. from 7 am until 5 pm during weekdays.		Implementer and main contractor	Construction
Property owners surrounding the construction areas should be informed of the construction schedules and activities.		Implementer and main contractor	Construction
Security on-site should be active prior to the construction period.		Implementer and main contractor	Construction
Workers conduct should be guided by a code of conduct to be developed by the contractors.		Implementer and main contractor	Construction
The construction areas should be fenced to avoid unauthorised entry by animals or children.		Implementer and main contractor	Construction
The development should implement safety and security features as part of the development e.g. access control, security guards patrolling the area, and the placement of security cameras at strategic places.		Implementer and main contractor	Operations
Lighting as security measure at night should be implemented as part of the development		Implementer and main contractor	Operations
Sub-letting as part of this development should not be allowed to ensure that the quality of life of the residents in the area remain high.		Implementer and main contractor	Operations
The local policing services should respond effectively to any criminal activities, but should further focus on street crimes, assaults, and robberies		Implementer and main contractor	Operations
Performance Indicator	• All complaints related to faulty streetlights attended to within one week • No increase in criminal activities • No speeding of construction and mining related vehicles on local roads • No increase in road accidents • Minimal number of complaints received during construction related to safety issues		
Monitoring	• Contractor to meet on a regular basis (e.g. every two months) to discuss socio-economic issues and report project progress During operations implementer ideally to monitor on a quarterly basis one year after structure is completed		

OBJECTIVE 5: Enhance the Access to Low Cost Housing

Project component/s	Operations		
Potential Impact	Improved access to low cost (GAP) housing and RDP housing		
Activity/risk source	Inability of qualifying households to meet administrative requirements		
Enhancement Target/Objective	Improve ability of households to access housing		
Mitigation: Action/control		**Responsibility**	**Timeframe**
Provide more information with regards to the cost of the transaction and the time it takes to access mortgage, further administrative, policy and legislative processes is required for potential buyers		Project implementer	Operations
Residents of informal settlements within the area should be allowed to apply for housing at the proposed Rietfontein development to limit the inflow of additional outsiders		Gauteng Department of Human Settlement and the CoJ	Planning / pre-construction
The legal process as required with regards to the development of the beneficiary lists for the RDP housing must be followed		Gauteng Department of Human Settlement and the CoJ	Planning / pre-construction
Preference must be given to current residents within the Lenasia area and/or those that work within the Lenasia area or 'Deep South'		Gauteng Department of Human Settlement and the CoJ	Planning / pre-construction
The beneficiary list must be publicised		Gauteng Department of Human Settlement and the CoJ	Planning / pre-construction
Sub-letting must not be allowed		Gauteng Department of Human Settlement and the CoJ	Operations
Performance Indicator	Number of applications that received functional report		
Monitoring	Feedback on application process after placing has been done		

OBJECTIVE 6: Reduce Potential Negative Impacts on Local Infrastructure

Project component/s	Operations		
Potential Impact	Increase in number of households could place pressure on social infrastructure (schools, health facilities, social facilities and municipal infrastructure that could jeopardise the development		
Activity/risk source	Over-use of facilities and deteriorations of infrastructure		
Enhancement Target/Objective	Minimise negative impact on local infrastructure and maintenance thereof Assist in making public transport options more accessible to the residents of the housing development		
***Mitigation*: Action/control**		**Responsibility**	**Timeframe**
Focus on assimilating residents currently located in the local ward rather than outsiders in the proposed development to relieve the pressure on social facilities by newcomers		Project implementer	Pre- construction / planning phase
The development of additional school(s) as part of the development must be considered.		Project implementer	Pre- construction / planning phase
The Gauteng Department of Human Settlement should take note of the possible impact on the existing schools and could assist to address the issue, in cooperation with the Gauteng Department of Education.		Project implementer	Pre- construction / planning phase
The existing health facilities would have to be upgraded and services would have to be extended, especially if the cumulative impacts of other housing developments are considered. This include the Lenasia PHC, CHC and the District Hospital of Lenasia South		Project implementer	Pre- Operations / Construction / Operation
Consider renewable technologies (e.g. eco-toilets, solar energy and rainwater harvesting) in the design of the development to not only reduce pressure on the over-burdened and ageing municipal network in the local area, but also to reduce the impact on the environment, especially considering other proposed housing developments within the area.		Project implementer & CoJ	Pre- Operations / Operation
The proposed development could include a recreational area for the residents, including a play area for small children.		Project implementer	Pre- construction / planning phase
The public transport system should be extended to reach the proposed development to assist residents and children with regards to ease of travelling.		Project implementer	Pre- Operations
Consider renewable technologies (e.g. eco-toilets, solar energy and rainwater harvesting) in the design of the development to not only reduce pressure on the over-burdened and ageing municipal network in the local area, but also to reduce the impact on the environment, especially considering other proposed housing developments within the area		Project implementer	Pre- construction /planning phase
The Gauteng Department of Human Settlement and the CoJ need to be involved in the planning and Environmental Impact Assessment Process to determine the need for bulk services or upgrading of existing services in order to pro-actively plan for the proposed development		Gauteng Department of Human Settlement and the CoJ	Pre- construction /planning phase
Performance Indicator	• Design elements incorporated to address local infrastructure issues • Infrastructure and service needs are met • Maintenance of the local roads is undertaken • No negative impacts on the health services and infrastructure, water and electricity services and road infrastructure • Adequate educational facilities • Adequate public health facilities		
Monitoring	During operations implementer ideally to monitor on a quarterly basis, one year after structure is completed		

OBJECTIVE 7: Reduce impact on social cohesion and sense of place

Project component/s	Construction and Operations		
Potential Impact	Intrusive visual impacts from the project could impact negatively on the local community and the proposed development would change the land-use thereby permanently impacting on the conservation value and recreational use of the property		
Activity/risk source	Eliminating conservation value of the property and recreational use of the property, decline in the community's sense of place		
Enhancement Target/Objective	Minimise negative visual impacts related to the project or alternative site location		
***Mitigation*: Action/control**		**Responsibility**	**Timeframe**
The impact on sense of place can be mitigated by attending to the building design and layout		Project implementer	Pre- construction / planning phase
Should the development continue, building designs should take the character of the area into account and should not detract from the existing sense of place		Project implementer	Pre- construction / planning phase
Designing of walls, roofs and buildings should be done in such a manner to blend in with the natural environment		Project implementer	Pre- construction / planning phase
The process of identifying beneficiaries of the proposed development must be a fair and transparent process		Project implementer	Pre- construction / planning phase / Construction / Operation
Unrealistic expectations in terms of beneficiaries and housing provision must not be created		Project implementer	Pre- construction / planning phase / Construction / Operation
Avoid any light pollution at night but still ensure that safety requirements		Project implementer	Pre- construction / planning phase and Operations
Performance Indicator	• Consultation with the local community on the design of the building as part of CoJ building legislation for rezoning • Limited visual impact on landscape character and sense of place • Number of complaints received from the local community in terms of visual impact • No social conflict based on process with regards to the allocation of housing		
Monitoring	During operations implementer ideally to monitor on a quarterly basis one year after structure is completed		

OBJECTIVE 8: Enhance spatial planning objectives

Project component/s	Pre-construction/design, Operations		
Potential Impact	Enhance spatial planning objectives of bringing people closer to economic opportunities and social facilities		
Activity/risk source	Residents traveling far distances to work, school or other social activities		
Enhancement Target /Objective	Improve the spatial efficiency of the local area: reducing the need to travel long distances		
***Enhancement*: Action/control**		**Responsibility**	**Timeframe**
Establish beneficiary screening criteria that give preference to: • current residents Ward 8 • people working in Ward 8 and surrounding areas		Gauteng Department of Human Settlements & Planners	Pre-construction/planning and operations
Gauteng Department of Human Settlements to liaise with Gauteng Department of Transport to expand the subsidised bus service and taxi services to the site area in order to make public transport more accessible		Gauteng Department of Human Settlements & Gauteng Dept. of Transport & Planners	Pre-construction/planning and operations
The proposed development could include a recreational area for the residents, including a play area for small children. Additional recreational facilities for young adults should also be considered.		Gauteng Department of Human Settlements & Planners	Pre-construction/planning and operations
The development of schools as part of the development would be critical		Gauteng Department of Human Settlements & Planners & Gauteng Dept of Education	Pre-construction/planning and operations
Performance Indicator	• % of Ward 8 residents located to the Rietfontein residential development • % of residents located to the Rietfontein residential employed in close range (within 5km of site) • Availability and frequency of public transport • Proximity of recreational, educational, health and other social facilities to community		
Monitoring	Monitoring on an annual basis the Gauteng Department of Human Settlements and CoJ		

7. SUMMARY AND CONCLUSION

The proposed Rietfontein Housing project would assist in providing a range of different housing types for different economic needs within the same area. Table 27 below summarises the anticipated local socio-economic impacts of the development.

Table 27: Summary of Anticipated Socio-Economic Impacts

IMPACTS ANTICIPATED DURING THE CONSTRUCTION PHASE		
Impact Category	**Significance without Mitigation**	**Significance with Mitigation**
Positive economic impacts during construction	Medium (50) (+)	Medium (60) (+)
Negative impacts on roads and traffic	Medium (55) -	Medium (44)-
Increase in nuisance factors (noise, dust)	Medium (55) -	Medium (44)-
Negative Impacts on community safety	Medium (48)-	Medium (33)-
IMPACTS ANTICIPATED DURING THE OPERATIONAL PHASE		
Impact Category	**Significance without Mitigation**	**Significance with Mitigation**
Access to improved housing	Medium (39) +	Medium (60) +
Decline in local property values	Medium (36) -	Medium (30) -
Negative impacts on roads and traffic	Medium (52) -	Medium (36) -
Negative impact on local social infrastructure	High (68)-	Medium (52)-
Negative impacts on community safety	High (60) -	Medium (48)-
Positive impact on urban spatial structure	Medium (36) -	Medium (30) -
Negative impact on social cohesion, sense of place	Medium (52) -	Medium (39) -

The proposed project would have the following anticipated positive social impacts:

- The proposed development would assist in creating job opportunities for the poor. The use of local labour during the construction phase should be maximised as it could assist in mitigating various other social impacts but would also enhance the temporary potential benefits of the proposed project to the local community members. Local procurement would further enhance these short-term benefits;
- The development would focus on providing housing for the poor, as well as the entry level markets. It would assist in addressing the housing backlog in Region G area by providing affordable housing. The benefits that would accrue through the provision of housing infrastructure as such would be enhanced if the local community members would be the occupiers of the houses;
- The Rietfontein development is adjacent the recently completed Lehae development and in close proximity to high density townships. From a town planning perspective there would be a goodness of fit with the adjacent land-uses. It could further serve as integration link between the new and more established urban nodes;
- The Rietfontein housing development would contribute to the economic development and support that the study area needs. It could further assist in improving the quality of lives of many in the area if implemented in a sound and integrated manner.

The following social risks and recommendations are highlighted:

- At this stage there is no evidence of direct attitude formation against the proposed development, but given the experience in the area with previous protests and illegal occupation of residences during the construction of the Lehae development, as well as issues with regards to the allocation of housing as part of the RDP process, antagonism against the project could occur. These sensitive issues should be noted and attended to, to avoid any possible mobilisation against the proposed project and possible violent conflicts;
- Ensuring transparency and credibility during the process of identifying beneficiaries that would be provided with housing is critical. The proposed project should be to the benefit of the overall community and not only for select individuals. Failure to achieve acceptance that the process was credible could result in conflict and protests. The "buy-in" of the local residents into the process and the validity of the list should thus be obtained;
- The need for additional education facilities must be addressed to ensure the success of the development and the long term socio-economic stability of the community;
- It is imperative that the Department of Human Settlements and the CoJ engage with the community members within the development zone to avoid unrealistic expectations and to provide comprehensive information regarding the process of allocation to be followed, as well as with regards to the project status, and timeframes for construction;
- An integrated development would be required where municipal infrastructure is put in place to sustain the development and to cater for the needs of the additional residents. Infrastructure upgrading and development, especially with regards to electricity and sanitation would be required;
- Community safety risks must be attended to prior to construction;
- Public transport facilities would have to be extended to accommodate travelling patterns of residents and especially schoolchildren. Pedestrian walkways must be integrated in the design;
- Cumulative risks related to the project relate to the combined pressure on social (mainly health facilities) of the planned Ennerdale and Rietfontein Residential Developments. In all probability, public medical facilities in Lenasia South might need to be upgraded to accommodate the potential increase in population resulting from these developments;
- There are a number of potential residual risks (after mitigation) related to the project. The most important include migrants drawn to the project-area in view of potential opportunities in the large and highly visible construction project that could remain behind in the local area, increasing the number of informal settlements in the local area. Another risk is that additional people in search of housing could migrate into the local area placing an increased burden on social services, in particular low-cost housing.

Mitigation measures are expected to fully or partially mitigate the negative impacts, especially the medium-term negative impacts associated with the construction phase. Mitigation measures, however, should be strictly implemented.

In conclusion, it is anticipated that the proposed development could add definite benefits in terms of dire housing needs in the local community without severely negatively compromising the day-to-day life of the communities in close proximity to the site. Based on the findings of the SEIA, it is therefore recommended that the proposed development be considered for authorisation.

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9. LIST OF STAKEHOLDER INTERVIEWS

Name	Organization	Date
1. Manager	Total Volta Lenasia	16 January 2020
2. Cllr Mosotho Tsotetsi	CoJ Ward 8	16 January 2020
3. Project manager	MDV Housing Developments	22 January 2020
4. Vusimuzi Mzobe	CoJ: Human Settlements	24 January 2020
5. Daphne Mohlala	CoJ: Human Settlements	24 January 2020
6. Ewarts Malope	CoJ: Human Settlements	27 January 2020
7. Lesego Makume	CoJ: Human Settlements	28 January 2020

10. CURRICULUM VITAE OF SPECIALISTS

CURRICULUM VITAE OF THE SOCIAL SPECIALIST: INGRID SNYMAN

Ms. Ingrid Snyman holds a BA Honours degree in Anthropology. She has 20 years' experience in the social field. Ms. Snyman has been involved in various Social Impact Assessments during her career as social scientist. These project themes consist of infrastructure development, waste management, road development, water and sanitation programmes, township and other residential type developments. She has also been involved in the design and management of numerous public participation programmes and communication strategies, particularly on complex development projects that require various levels and approaches.

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Name:	**Ingrid Helene Snyman**		
Profession:	Social Development Consultant	**Name of firm:**	Batho Earth
Years of Experience:	20 years		

KEY QUALIFICATIONS

- Social Impact Assessment (SIA)
- Public Participation programmes
- Communication, development of community structures and community facilitation
- Community-based training and
- Workshop reports

EDUCATION

1992:	B A (Political Science) University of Pretoria
1995:	B A (Hons) Anthropology University of Pretoria
1996 - 1997:	Train the Trainers Centre for Development Administration - UNISA

EXPERIENCE RECORD

2000 to date **Independent Development Consultant: Batho Earth**

- SIA for the proposed Manganese Mine North West of Hotazel, Northern Cape (Mukulu Environmental Authorisation Project)
- Proposed Ngonye Falls Hydro-Electric Power Plant Project, Western Province, Zambia: Biodiversity Assessment: Stakeholder Engangement Plan and Social Assessment for the Ecosystem Services Review (ESR)
- SIA for the proposed Mixed Land Use Development situated on the Remainder of Allandale 10 IR, known as Rabie Ridge Ext 7, Midrand, Gauteng
- SIA for the proposed Mixed Land Use Township Establishment on the Remainder of Portion 406 of the Farm Pretoria Town and Townlands 351 JR, Salvokop, Tshwane CBD
- SIA for the proposed Crowthorne-Lulamisa power line, Midrand, Gauteng
- SIA as part of the Basic Assessment for the proposed development of Project One (1) of the Vosloorus Extension 9 High Density Housing Project, Ekurhuleni Metropolitan Municipality
- Public Participation for the Water Use Licence Application Process for the proposed Water Uses at the Clewer Siding, Clewer, near Emalahleni, Mpumalanga Province
- Public Participation for the proposed development of a Truck Stop, Buffelspoort, North West Province
- SIA for the proposed cevelopment of the new Tshwane Regional General Waste Disposal Facility (Multisand

Landfill), Pretoria, Gauteng Province

- SIA as part of the Basic Assessment for the proposed K97 Road northbound of the N4 at Bon Accord, Pretoria, Gauteng
- SIA for the proposed Mapochsgronde Residential Development, Roossenekal, Limpop Province
- SIA as part of the Basic Assessment for the extension of the Komati coal stockyard, Mpumalanga
- SIA as part of the Basic Assessment for the proposed Crowthorne Underground Cable, Gauteng
- SIA as part of the Basic Assessment for the proposed Diepsloot East Servitude and substation, Gauteng
- SIA as part of the Basic Assessment for the proposed construction of a 400 kV transmission line between the Ferrum substation (Kathu) and the Garona substation (Groblershoop), Northern Cape Province
- SIA as part of the Basic Assessment for the proposed construction of the Eskom Rhombus-Lethabong 88kv Powerline and Substation, North West Province
- Public Participation for Sable Platinum for the proposed prospecting application on the farm Doornpoort, Pretoria, Gauteng
- SIA for the proposed Aberdeen-Droerivier 400 kV Transmission Power Line, Eastern and Western Cape Province
- SIA for the proposed Houhoek Substation Upgrade and Bacchus-Palmiet Loop-In and Loop-Out, near Botrivier, Western Cape Province
- Public Participation for the prospecting application on the farms Frischgewaagd and Kleinfontein, Mpumalanga Province for PMG MINING
- Public Participation for the prospecting application on the farm Klipfontein, Gauteng for TGME
- SIA for the proposed Western Bushveld Joint Venture Project (Maseve Platinum Mine), North West Province
- SIA to determine the impact of the Tharisa Mine on the neighbouring properties and property owners, Buffelspoort area, near Marikana, North West Province
- SIA for the proposed Arnot-Gumeni 400 kV Transmission Power Line, Mpumalanga
- SIA for the proposed 400 kV Transmission Power Line for approximately 10km to the west of the existing Marathon Substation, Nelspruit area, Mpumalanga
- SIA for the proposed Christiana PV facility on the farm Hartebeestpan, North West Province
- SIA for the proposed Hertzogville PV facility on the farms Albert and Wigt, Free State Province
- SIA for the proposed Morgenzon PV facility on the farm Morgenzon, Northern Cape Province
- Public Participation Process for the proposed Western Bushveld Joint Venture Project, North West Province
- SIA for the proposed Aggeneis-Oranjemond Transmission Line project, Northern Cape Province
- SIA as part of the Basic Assessment Process for the Exxaro Photovoltaic Facility, Lephalale, Limpopo Province
- SIA for the Upington Solar Energy Facility, Northern Cape Province
- SIA for the Kleinbegin Solar Energy Facility, Northern Cape Province
- SIA for the proposed Ilanga solar thermal power plant facility on a site near Upington, Northern Cape Province
- SIA and public participation for the proposed Karoo Renewable Energy Facility, Northern Cape Province
- SIA for the Wag'nbiekiespan Solar Energy Facility, Northern Cape Province
- SIA for the proposed Kathu and Sishen Solar Energy Facilities, Northern Cape Province
- Public Participation and SIA for the proposed Thupela Waterberg Photovoltaic Plant, Limpopo Province
- SIA for the proposed Mitchells Plain-Firgrove-Stikland Transmission Line, Western Cape
- SIA for the proposed Ariadne-Venus Transmission Line, KwaZulu Natal
- Socio-Anthropological Study for the proposed Booysendal Mine, Steelpoort area, Mpumalanga
- SIA for the proposed Dominion Reefs Power Line project, North West Province
- SIA for the proposed Kannikwa Vlakte Wind Farm Project, Northern Cape
- SIA for the proposed extension of the Wemmershoek Wastewater Treatment Works (WWTW), decommissioning of the Franschhoek WWTW and construction of a transfer and outfall sewer between the two works, Franschhoek, Western Cape
- Public Participation process as part of the EIA for the proposed new Ferrochrome Smelter near Brits in the

North West Province

- SIA for the proposed Lefaragathle, Mogono, Rasimone, Chaneng outfall sewer and Chaneng sewer treatment plant, Rustenburg (Phokeng), North West Province
- SIA for the proposed Vlakfontein Residential Development, Brakpan, Gauteng
- SIA for the proposed Dorstfontein Mine Western Expansion Project, Kriel, Mpumalanga
- SIA for the proposed upgrading of railway stations and railway line in Mamelodi, Gauteng
- SIA for the proposed Kyalami Strengthening Project, Kyalami, Gauteng
- SIA for the proposed APMG MINING Remote Aprons Project, O.R. Tambo International Airport, Gauteng
- SIA for the proposed Cullinan Estate Development, Cullinan, Gauteng
- SIA for the proposed Apollo Lepini 400 kV Transmission Line Project, Tembisa, Gauteng
- SIA for the proposed Grootboom Platinum Mine, Steelpoort, Limpopo Province
- SIA for the proposed Dorstfontein Mine Expansion Project, Kriel, Mpumalanga
- SIA for the proposed Postmasburg Sishen Rail Link, Postmasburg, Northern Cape
- Public participation assistance for the proposed Eskom Johannesburg East Strengthening Project, Kempton Park, Gauteng
- SIA for the proposed new Soweto Integration Project (Etna to Orlando Substation)
- Proposed Conroast Platinum Smelter, Rustenburg, North West Province: Public Participation assistance
- SIA for the proposed township development/eco-estate on the farm Grants Valley, Eastern Cape SIA for the proposed new 400 kV Transmission Line between Glockner Substation (near Rothdene) to the Etna Substation (near Ennerdale)
- Public participation assistance for the proposed construction of a brewery and associated industrial activities for Heineken Supply Co (Pty) Ltd, Kempton Park, Gauteng.
- SIA for the existing Buffelsfontein Mine, Stilfontein, North West Province
- SIA for the proposed Thaba Lesodi Golf and Game Estate, Mabatlane, Limpopo Province
- Mooi-Mngeni Transfer Scheme Phase 2: Spring Grove Dam and Appurtenant Works: Social research as part of SIA
- Proposed Township Development on the Farm Klipfontein 268-JR, Soshanguve Ext 9, Gauteng: SIA
- Public Participation assistance: Proposed Wesizwe Platinum Mine: Application for mining rights, North West Province
- Public Participation for various exemption studies for proposed residential developments in the Gauteng area (Raslouw A.H., Rayton, Rooihuiskraal)
- Social training for the Bekkersdal Farmer Support Programme
- Public Participation for the Gautrain variant alignments in the Centurion area as proposed by the Bombela Consortium
- Public Participation for the upgrading of the Menlyn Road Network
- Public Participation for the New Multi-Products Pipeline project for Petronet: Jameson Park-Langlaagte section
- Public Participation for exemption from an Environmental Impact Assessment for the proposed Township Development on Portion 49 of The Farm Rooikopjes 483 JR, Rayton
- Public Participation for exemption from an Environmental Impact Assessment for the proposed Residential Development on the remainder of a Portion of Portion 1 Of The Farm Brakfontein 399 JR
- Public Participation for the proposed new coal-fired power station in the Lephalale area, Limpopo Province
- Public Participation for the proposed Open Cycle Gas Turbine (OCGT) plant and associated transmission lines and substation at Atlantis, Western Cape Province
- Public Participation for the proposed residential and commercial development of the Isidleke region in the western portion of the AECI Modderfontein site
- Public Participation for the upgrading of Boundary Road, Kya Sands area
- Marketing for the Eskom Energy Efficient Design Competition
- Management assistance for the public participation process for the development of the Tshwane Integrated

Environmental Policy

- SIA and public participation for the proposed 765 kV transmission power line between Hydra Substation (near de Aar) and the proposed Gamma Substation (near Victoria West), Northern Cape Province
- Public Participation as part of the Environmental Scoping Study for the proposed upgrading of the intersection at Road D374 and Road D540 in the Muldersdrift area
- Public Participation and SIA as part of the Environmental Scoping Study for the proposed upgrading of the Waterval Water Care Works
- Public Participation for the return-to-service of the Camden Power Station, Mpumalanga
- Public Participation for the development of an Environmental Management Framework for the western part of the Kungwini Local Municipality area
- Public Participation for the proposed section of the PWV 5 from road K71 to road R21, including interchanges, Gauteng Province
- Public Participation and SIA for the proposed Poseidon-Grassridge No. 3 400 kV Transmission line and the extension of the Grassridge Substation, Eastern Cape Province
- Public Participation and SIA for the proposed construction of power lines between the Grassridge Substation (near Port Elizabeth) and the Coega Industrial Development Zone, Eastern Cape Province
- Public Participation and SIA for the Matimba-Witkop No. 2 400 kV Transmission line in the Limpopo Province
- Public Involvement for the prospecting permit application of De Beers, Premier Mine to the Department of Minerals and Energy (DME)
- Public Participation for the proposed Toboggan Track with related facilities on Portion 155 of the farm De Rust 478 JQ (Kosmos region)
- SIA as part of the Environmental Scoping Study for the proposed Kruidfontein platinum mine in the North West Province

1995 to 2000: Afrosearch (Pty) Ltd.

- Public participation and SIA for the proposed Platinum Highway Project from the N1 to the Botswana Border
- Public participation process for the Pretoria East Mobility Study (Menlyn Node): First and Second Phase
- Public participation process and SIA for the proposed C-Cut project in Cullinan
- Public participation process for the proposed N4 Toll Road between Pretoria and the Mpumalanga Border
- Public Participation and Social Scoping for the development of a regional hazardous landfill site in the western portion of the Lekoa Vaal Metropolitan Area
- Public Participation for the identification of an acceptable end-use for the Garstkloof Landfill Site
- Public participation and Social Scoping for the proposed Soshanguve/Akasia Activity Spine
- Public Involvement and SIA for the development of a landfill site at Hatherley (Mamelodi)
- Facilitation of the public participation process to determine an acceptable closure and end-use of the Eersterust landfill site
- Public participation process for the proposed modal transfer facility in Pretoria North and the linking of Zambesi Drive and Rachel de Beer Street
- Public participation and establishment of the Akasia and Tswaing Planning Zone Forums as part of the Integrated Development Process
- Public participation process for the Ekangala Cost Recovery Pilot Project
- Public Participation for the identification of a landfill site in the South-western side of Centurion
- Public participation process for the extension and upgrading of the Vaalwater landfill site
- Public Participation process and SIA for the East Rand Water Care Company: DD5A sub-drainage regional outfall sewer and water care works

CURRICULUM VITAE OF THE ECONOMIC IMPACT ASSESSMENT PRACTITIONER: AN KRITZINGER

An Kritzinger (Masters Economics) has been working as consultant in the economic development field for the past seventeen years. Her work has concentrated on applied economic modelling in South Africa, Namibia, Botswana and Mozambique including macro-economic impact analysis, economic cost benefit analysis, economic impact assessments, social incidence studies and macroeconomic forecast modelling. She also has extensive experience in the socio-economic profiling and economic development plans for local authorities and districts in South Africa and has designed and implemented a training project for capacity training in sustainable local economic development monitoring for district municipalities throughout South Africa in collaboration with the Development Bank of Southern Africa.

Name:	**Anna Sophia Kritzinger**		
Profession:	Economic Development Specialist	**Name of firm:**	Southern Economic Development
Years of Experience:	18 years		

KEY QUALIFICATIONS

- Economic impact assessments
- Applied economics (macro-economic and social impact analysis; economic cost benefit analysis, economic incidence analysis, scenario planning)
- Skills development in development profiling and strategies
- Economic databases & economic reviews
- Local social and economic development strategies
- Industry and market analysis
- Analyses of higher education systems in Africa (analyses of demand and supply factors)

EDUCATION

1985:	B.Admin (Hons) (Economics) (University of Pretoria
1992:	M.Admin (Economics) (University of Stellenbosch)

EXPERIENCE RECORD (1998- current)

Economic impact analyses:

- High level economic impact assessment for various projects (including tourism projects) related to the mine closure programme for Sishen Mine, Northern Cape (South Africa (2019)
- High level economic impact assessment including economic cost benefit assessment, direct and flow-on impacts for a number of tourism projects for the national tourism department South Africa (2018)
- Cost effectiveness assessment of a space technology applied for early fire detection in South Africa (BDO-UK, 2018)
- Socio-economic impact assessment of the Animal Health Technology Innovation Programme of the Technical Innovation Agency, South Africa (2017)
- Socio-economic impact assessment for the Cape Health Technology Park (South Africa (2016)
- Socio- economic impact assessment for the closure of Ezulwini gold mine, Gauteng (2016)
- Socio- economic impact assessment for Hernic Ferrochrome Complex, North West (2016)

- Socio- economic impact assessment of the Cape Health Technology Park, Western Cape (2016)
- Socio-economic impact assessment for route selection of power lines in Mpumalanga (2016)
- Study lead for revenue management study, entailing the identification of mitigation strategies related to project –related revenues (employment and public revenues) for a large-scale gas project for Anadarko petroleum in Mozambique (2012-2014)
- Socio-economic impact assessment for Jeanette mine, Free State (2015)
- Economic study for a waste disposal site in Tshwane, Gauteng (2014)
- Economic impact assessment as part of Social Impact Assessment (SIA) of a Glencore/Xtrata chrome mine in Rustenburg, Mpumalanga (2014)
- Economic impact assessment as part of Social Impact Assessment (SIA) for the extension of a mining right application for Boschmanspoort coal mine in Mpumalanga (2014)
- Economic impact assessment as part of Social Impact Assessment (SIA) for a casino/retail project in Delmas, Mpumalanga (2014)
- Economic study for a private regional landfill in the Ga-Rankuwa area of City of Tshwane (2014)
- Economic impact assessment as part of SIA for a CFB coal plant in Delmas area, Mpumalanga, South Africa (2013)
- Economic impact assessment as part of SIA of a coal mine in Chrissiesmeer, Mpumalanga, South Africa (2013)
- Economic impact assessment as part of SIA for an existing vanadium mine in the Brits area (2012)
- Economic impact assessment as part of SIA for selected wind farms and solar plants in the Northern Cape, Sivest (2012)
- Economic impact assessment as part of SIA for a diamond mine in Alexander Bay area, West Coast, South Africa (2012)
- Measured the impact of the global financial crisis on the mining industry of 8 SADC countries including South Africa (SADC countries; 2009)
- Conducted an analysis of the economic contribution of state owned enterprises to the Namibian economy (Namibia; 1999 and 2009)
- Conducted a socio economic impact analysis for the development of an Africa centre and sustainable housing development project in the Western Cape (South Africa; 2007)
- Developed economic criteria for the evaluation of projects for the Strategic Infrastructure Programme (SIP) for the Western Cape Province(2005)
- Conducted the economic evaluation of an infrastructure project in the Mosselbay area (South Africa;2001);
- Economic impact assessment for horse-mackerel industry (Namibia 2003)

Local Economic Development- related work:

- Conducted the economic impact analyses for a SMME development finance institution (CEDA) in Botswana, (Deloitte Botswana, 2016)
- Managed and conducted a research project pertaining to Business Retention and Attraction Strategies to inform strategic inputs to improve programmes on behalf of Deloitte Nambia for the Local Economic Development Association (LEDA) of Namibia (Namibia, 2013)
- Designed and implemented a training project for capacity training in sustainable local economic development (including the "green economy") monitoring for district municipalities throughout South Africa. The project was developed in collaboration with Inwent and the Development Bank of Southern Africa (South Africa; 2008 – 2011). The project has been developed further as one of the courses that forms part of the University of Johannesburg's Centre of Local Economic Development degree programme;
- Evaluated local economic development projects in the Western and Eastern Cape. These studies involved the evaluation of existing economic development projects and the identification of LED projects that the NGO-client could potentially get involved in (South Africa, 2002);

- Managed a team in conducting a business survey and Local Economic Development action plan for the eastern parts of Cape Town, including township areas such as Mfuleni and parts of Macasser. The project included extensive consultation sessions with community organisations (South Africa; 2007);
- Compiled various socio economic development profiles for various South African local authorities including profiles for George municipality; Drakenstein municipality, the Overberg region and Oudtshoorn municipality that were used to inform the Local Development for the towns and district. The profiles and identification of relevant projects involved community facilitation work (South Africa;1998-2008);
- Developed a socio economic database for the Cape Metropolitan Area. The study was updated to an extensive economic analysis of the city and some indicators were extended to include all the different regions of the Western Cape (South Africa;1998, 2001);

Industry profiles and market analysis:

- Conducted research and compiled the synthesis report for geothermal potential in the African rift valley (2011)
- Conducted various research reports on global sectors e.g. the global oil and gas industry and ship building and repairs (Global, Africa, South Africa; 2003-2007)
- Managed the compilation of an "invest in Cape Town report" for Wesgro (2011)
- Managed a sector survey and profile for the Cape Town Boat building industry (South Africa, 2008);
- Compiled an industry profile for the City of Johannesburg. The study involved a survey of numerous companies and informed the city about the relative importance of the sector for the City of Johannesburg on the hand of various development criteria (South Africa; 2003).

Higher education analyses in Africa:

- Conducted a demand and supply review of the higher education system of Namibia including a gap analyses of current and forecasted labour demand and supply of higher education qualifications (Namibia; 2012 and 2014)
- Managed a situational analysis and done a market analysis as well as economic cost benefit analysis for Botswana Export Development Agency with Deloitte SA to investigate the feasibility of a tertiary education hub to diversify the Botswana economy (Botswana; 2009).

Economic cost benefit analysis:

- Conducted a high level economic cost benefit analyses for a regional landfill project in Ga-Rankuwa, City of Tshwane as extension for an economic impact assessment (South Africa, 2014)
- Conducted an economic cost benefit analyses for a coal mine near Chrissiesmeer, Mpumalanga as part of alternative land-use study for a mining application study (South Africa, 2013)
- Conducted an economic cost benefit analysis for an agricultural irrigation project in the Pandamatenga area (Botswana, 2010);
- Conducted an economic cost benefit analysis for Botswana Export Development Agency with Deloitte SA to investigate the feasibility of a tertiary education hub to diversify the Botswana economy (Botswana; 2009)

Other macro-economic modeling:

- Developed an economic forecast model for the City of Cape Town and the Western Cape economy (City of Cape Town; 2005 updated in 2011, extended to Western Cape in 2014);
- Conducted research to establish the economic contribution of agricultural research in South Africa to assist the motivation of increased public grants to the main agricultural research body (South Africa; 2011)
- Conducted a comparative economic incidence analysis between fuel levies and motor vehicle licence fees for the Western Cape (South Africa; 2007 updated in 2011)