

# MOTIVATION REPORT

21 December 2021

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## PROPOSED SUBVISION, TOWNSHIP ESTABLISHMENT AND REMOVAL OF RESTRICTIVE TITLE CONDITIONS ON:

- Portion of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province

## TO CREATE MAMUSA GARDEN VIEW

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# MOTIVATION REPORT

***PROPOSED SUBDIVISION, TOWNSHIP ESTABLISHMENT AND REMOVAL OF RESTRICTIVE TITLE CONDITIONS ON A PORTION OF THE REMAINING EXTENT OF PORTION 1 OF THE FARM SCHWEIZER RENEKE TOWN AND TOWNLANDS 62, REGISTRATION DIVISION H.O., NORTH WEST PROVINCE, IN TERMS OF SECTIONS 71(2), 59(1) AND 67(2) RESPECTIVELY OF THE MAMUSA BY-LAW ON SPATIAL PLANNING AND LAND USE MANAGEMENT (2017), READ WITH THE SPATIAL PLANNING AND LAND USE MANAGEMENT ACT, 2013 (ACT 16 OF 2013) AND CHAPTER IV OF THE TOWN PLANNING AND TOWNSHIPS ORDINANCE, 1986 (ORDINANCE 15 OF 1986) TO CREATE MAMUSA GARDEN VIEW COMPRISING ERVEN 1 TO 2329***

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## CHAPTER 1: INTRODUCTION

### 1.1 INTRODUCTION

Koot Raubenheimer (ID No. 700305 5192 089) of the company Maxim Planning Solutions (Pty) Ltd (2002/017393/07) was appointed by the Mamusa Local Municipality (NW393) to attend to the establishment of the proposed township area of Mamusa Garden View comprising a total of 2329 erven. The project already commenced in October 2017 when the Mamusa Local Municipality submitted a funding application to the then Department of Co-operative Governance, Human Settlements and Traditional Affairs (COGHSTA) for the establishment of 6000 residential stands in the Schweizer-Reneke/ Ipelegeng Urban area in order to address the urgent need for residential stands. The funding application was also lodged in response to two (2) memorandums from community structures demanding additional stands.

As mentioned previously, this project is in response to a funding application submitted by the Mamusa Local Municipality in respect of the development of 6000 residential erven within the Ipelegeng and Schweizer Reneke urban areas. In this regard cognisance should be taken of the fact that the establishment of the required 6000 residential erven was divided into three (3) individual township areas i.e. Ipelegeng Extensions 10 and 11 (to be established south-west of the Schweizer Reneke – Vryburg Provincial Road) and Mamusa Garden View (to be established north-east of the Schweizer Reneke – Vryburg Provincial Road).

In terms of the 2017 Funding Application, the housing needs and need for stands were estimated as follows:

- The waiting list of the municipality currently indicated a need for 6000 houses. This waiting list increased drastically from 3171 units in 2014 (NW Multi Year Development Plan 2014).
- According to the 2013 spatial Development Framework (SDF) for Mamusa Local Municipality there were 804 informal structures not on stands (squatters) and 303 informal structures in backgrounds. (This was also indicated in the 2013 Housing Sector Plan for Mamusa Local Municipality)
- Due to the fact that there are no vacant stands in Schweizer-Reneke/ Ipelegeng Urban area, households are currently squatting on municipal vacant land, parks, school sites and in the backyards.

According to market studies conducted by Demacon Market studies in 2013 for Mamusa Local Municipality as well as for the North West Multi Year Development Plan in 2014 the following spatial allocation of housing categories were identified that can provide an indication of the market unit typology profile.

**Table 1: Housing typologies based on 2013 Market Study and 2014 Market Study for Dr. Ruth Segomotsi Mompoti District Municipality**

| Housing Typology  | 2013 Market Study for Mamusa | 2014 Market study for Dr. Ruth Segomotsi Mompoti District Municipality (NW Multi Year Development Plan) |
|-------------------|------------------------------|---|
| Subsidized        | 90%                          | 79%   |
| FLISP/GAP         | 5%                           | 9%  |
| Affordable Bonded | 4%                           | 5%  |
| Bonded            | 1%                           | 7%  |

Source: Mamusa Housing Sector Plan 2013: North West – Multi Year Development Plan, 2014

Based on an average density of 15 units per ha, it was estimated in the Funding Application that ± 400ha will be needed to accommodate 6000 stands. This density also makes provision for social amenities such as schools, crèches, community facilities and business stands.

In terms of the 2017 Funding Application and according to the 2013 Spatial Development Framework of Mamusa Local Municipality, the municipal land between Ipelegeng Extensions 6 and 7, the R34 (Vryburg road), Golf course as well as Schweizer-Reneke Extension 10 and 14, was identified for future residential development. This area is ± 249 ha in extent and was supposed to cater for residential needs and backlogs during 2013 that was estimate at ± 3737 residential stands (Area A on **Map 1** and **Map 2**).

Due to the fact this area can only accommodate ± 3737 stands, additional land was therefore needed to accommodate the current needs. In order to accommodate 6000 stands, it was proposed that the municipal land between the R 34 (Vryburg Road) and the flood area of the natural water feature (Spruit) be earmarked for future residential development.

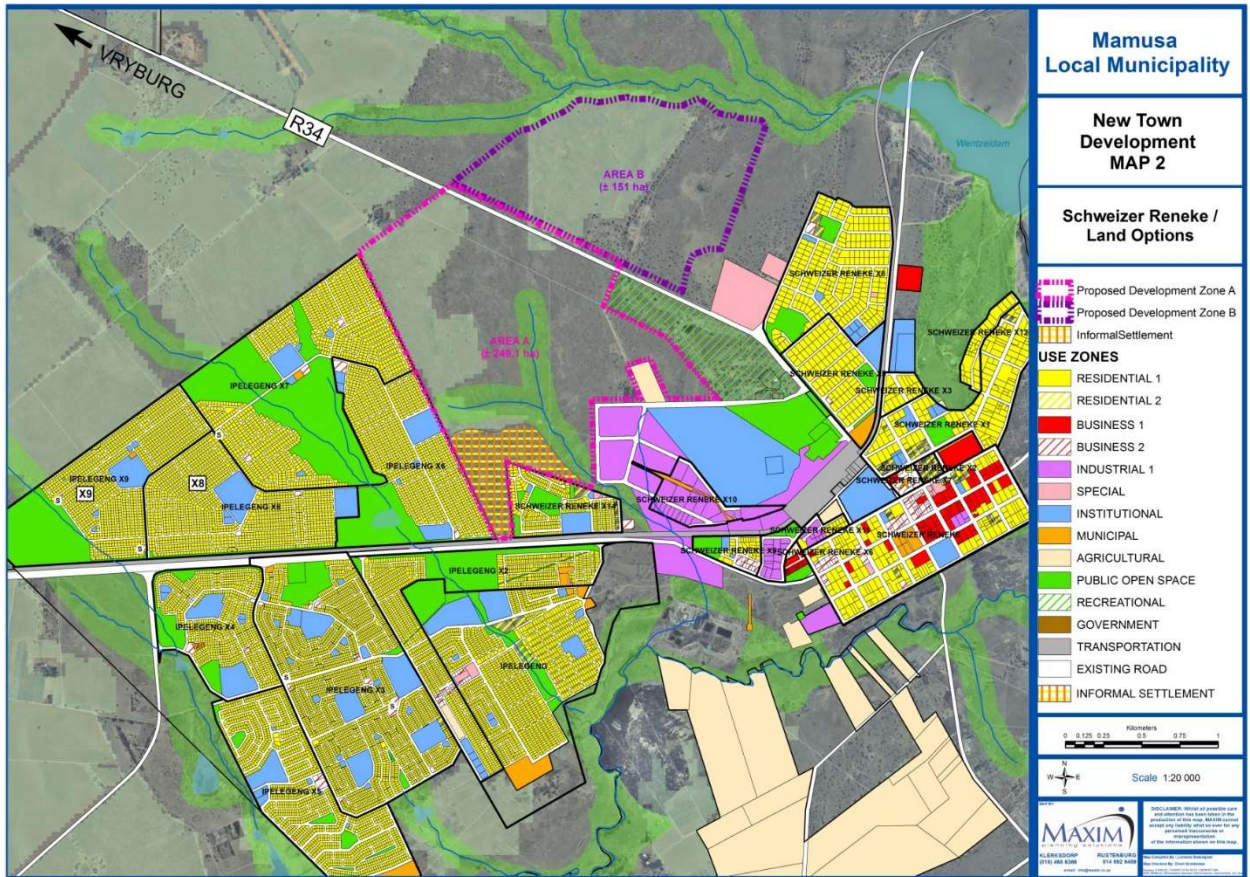
This area is ± 151 ha in extent and can accommodate ± 2265 stands (Area B on **Map 1** and **Map 2**).

In Total areas A and B will therefore be sufficient to accommodate a need for ± 6000 stands. From a Spatial Development point of view both areas are well situated for future residential development, due to the fact that it will enhance social and economic integrated development between Schweizer-Reneke and Ipelegeng urban areas.

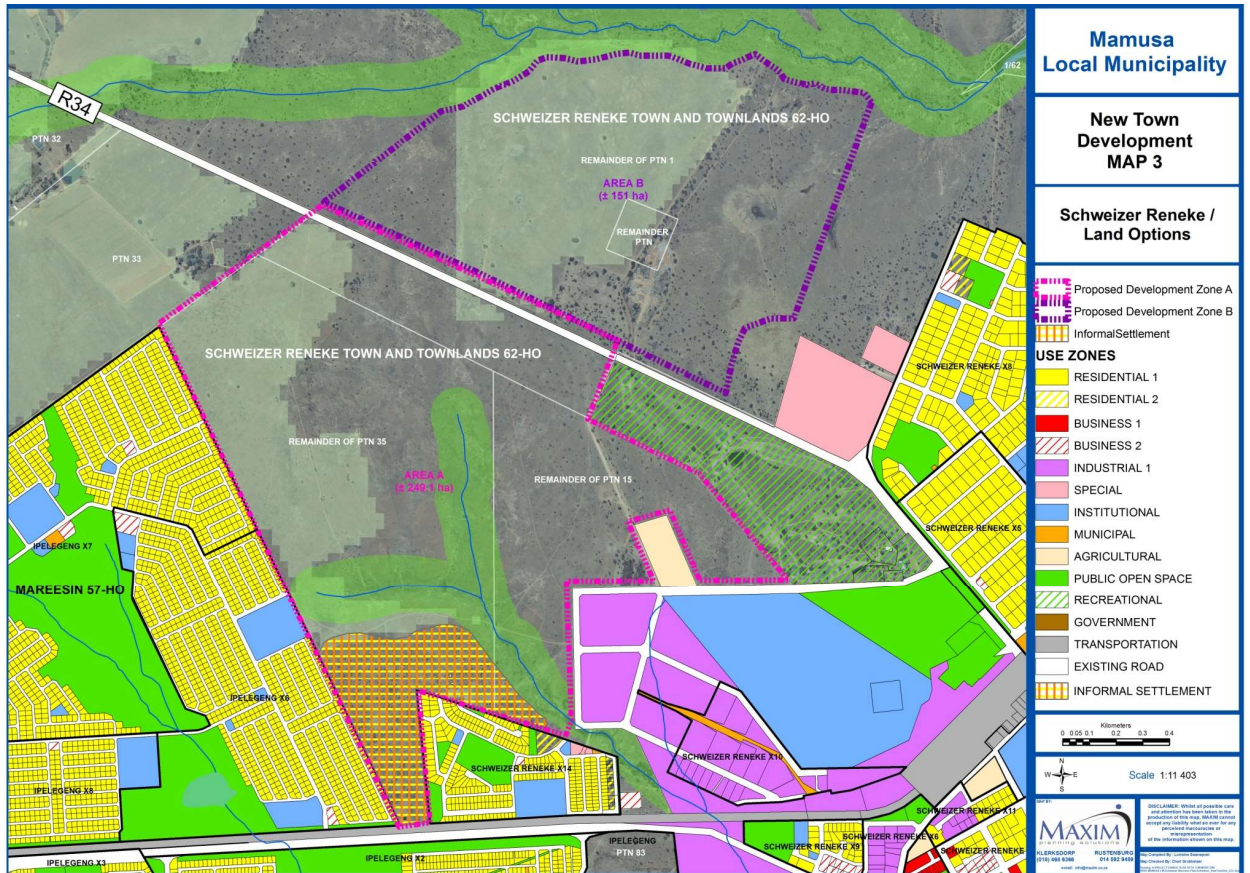
The locality of the future residential development areas that were identified in terms of the 2017 Funding Application is reflected on **Map 2** overleaf. This map clearly highlights how the proposed residential areas would integrate into the existing urban areas of Schweizer Reneke and Ipelegeng.



Map 1: Funding Application – Schweizer Reneke Land Options



Map 2: Funding Application – Schweizer Reneke Land Options A and B





Based on the sizes of the subject properties as well as relatively limited development restrictions associated with these portions of land, it was deemed that sufficient space would be available for the establishment of the required 6000 residential erven. This statement was also based on the premise that the proposed township area should be a fully integrated human settlement catering not only for subsidised housing but also for other housing typologies including inter alia but not limited to GAP housing, affordable bonded housing, the necessary social, community and recreational facilities as well as opportunities for job creation and employment

The project constitutes a collaboration between the Department of Co-operative Governance and Traditional Affairs (COGTA) and the Mamusa Local Municipality to create vibrant and sustainable neighbourhoods through a proper township establishment process to allow for the co-ordinated installation of services and the transfer of erven to the beneficiaries thereof. Although residential in nature, the proposed development incorporates various complementary land uses (ranging between business use and social/educational facilities) to service the future communities. Upon completion, the township will integrate well with the surrounding Ipelegeng and Schweizer Reneke residential areas as an integrated human settlement.

As mentioned previously, the development of the 6000 residential erven was divided into three (3) separate township areas i.e. Ipelegeng Extensions 10, 11 and 12. The establishment of the proposed township areas of Ipelegeng Extensions 10 and 11 is currently attended to by a Service Provider appointed by the Programme Management Unit of the Department of Human Settlements (DHS) whereas the establishment of the proposed township area of Ipelegeng Extension 12 was awarded to Maxim Planning Solutions (Pty) Ltd.

During a presentation to the Council of the Mamusa Local Municipality on 16 March 2021, a proposal was made in respect of the possible allocation of a more appropriate township name to the proposed township area of Ipelegeng Extension 12 to endeavour to avoid confusion between the other existing and proposed township areas of Ipelegeng and the new township area of Ipelegeng Extension 12. In this regard it was put forward to Council that emergency services responding to a distress call for assistance which references an address in Ipelegeng, would automatically entail that such response vehicle would dispatch to the Schweizer Reneke – Amalia Provincial Road as this road bisects the current urban area of Ipelegeng (with Ipelegeng Extensions 1-5 being located south of the Amalia Road and Ipelegeng Extensions 6-9 being located north of this road). As the proposed township area of Ipelegeng Extension 12 would be located north east of the Schweizer Reneke Provincial Road, it was proposed to Council that consideration be given to the allocation of a distinct township name to this proposed township area – not only to enhance access to the township area by emergency vehicles but also to create a distinct sense of place as this township would entail a truly integrated human settlement.

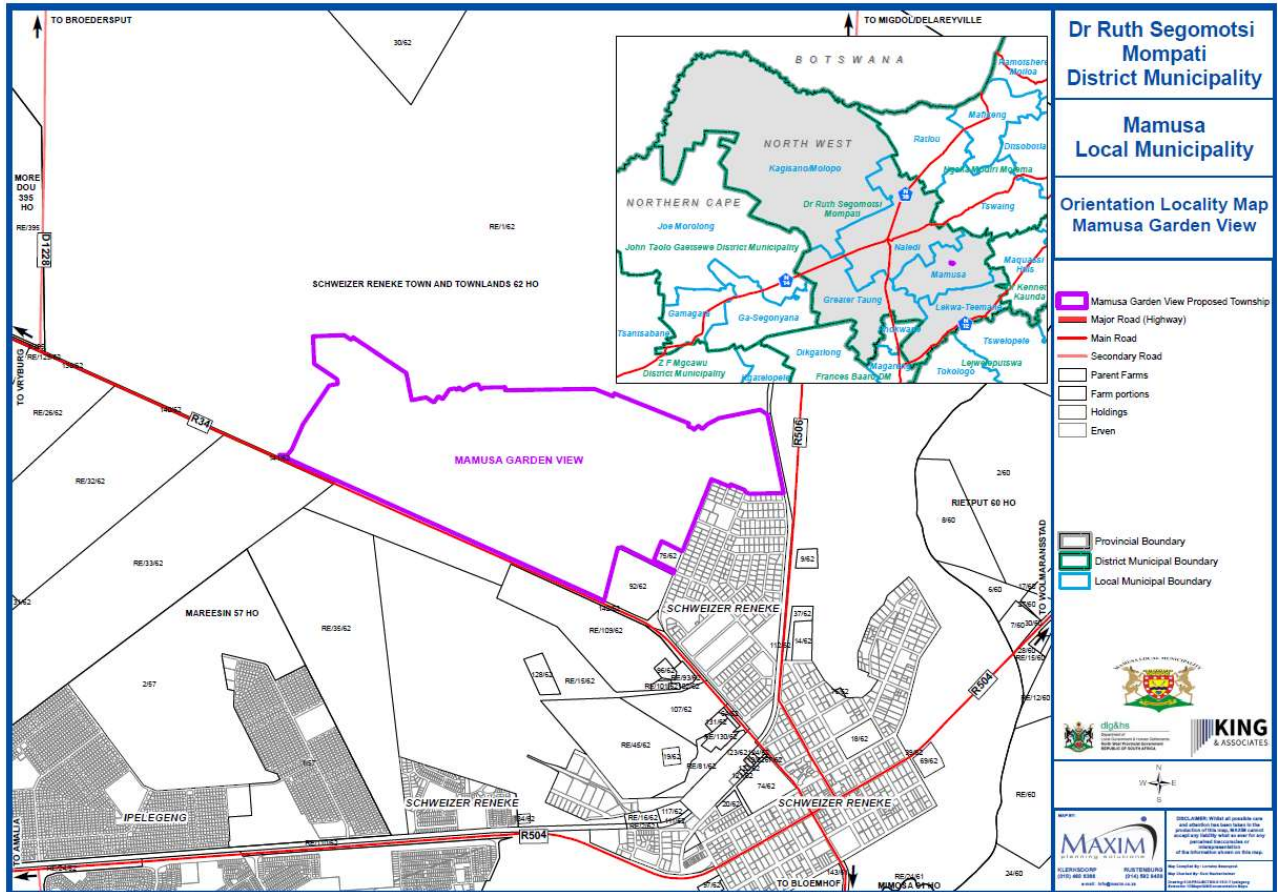
In response to this recommendation in respect of the allocation of a distinct township name to the proposed township area of Ipelegeng Extension 12, Council resolved on 30 June 2021 that the proposed new township area will be known as “Mamusa Garden View”. In this regard cognisance should be taken of the fact that the majority of pre-planning studies conducted in respect of the proposed township area were conducted prior to the allocation of the township name of “Mamusa Garden View” to the proposed township area and will therefore still reflect the reference to Ipelegeng Extension 12. All references in pre-planning studies to the township as “Ipelegeng Extension 12” should therefore be construed as a reference to “Mamusa Garden View”.

## **1.2 BACKGROUND OF MAMUSA LOCAL MUNICIPALITY**

### **1.2.1 REGIONAL LOCALITY**

The Mamusa Local Municipality is a Category B municipality situated within the Dr Ruth Segomotsi Mompati District Municipality in the North West Province. It is bordered by the Ngaka Modiri Molema District in the north, Greater Taung and Lekwa-Teemane in the south, the Dr Kenneth Kaunda District in the east, and Naledi in the west. It is the smallest of the five municipalities that make up the district, accounting for 8% of its geographical area. The seat of the municipality is Schweizer-Reneke. Mamusa municipal area comprises of a total area of 3615 km<sup>2</sup>, located in the south-western part of the North West Province and south-eastern part of the District. The municipality consist of a vast rural/commercial farming area as well as the urban areas of Schweizer-Reneke, Amalia, Gaudina and Migdol. The municipal area covers the central eastern part of the Dr. Ruth Segomotsi Mompati District Municipality and is bordered by Lekwa-Teemane, Maquassi Hills, Greater Taung, Naledi and Tswaing Local Municipalities.

Map 3: Orientation Map: Mamusa Garden View



### 1.2.2 DEMOGRAPHICS

The following table, extracted from the draft Mamusa Spatial Development Framework (2021) provides an overview of the main demographic data of the Mamusa Municipal area.

Table 2: Population growth for towns in Mamusa LM

| MAMUSA LOCAL MUNICIPALITY | 2016   | 2011   |
|---------------------------|--------|--------|
| <b>Population</b>         | 64 000 | 60 355 |
| <b>Age Structure</b>      |        |        |
| Population under 15       | 36.0%  | 36.5%  |
| Population 15 to 64       | 59.5%  | 58.5%  |
| Population over 65        | 4.5%   | 5.0%   |
| <b>Dependency Ratio</b>   |        |        |
| Per 100 (15-64)           | 68.0   | 71.0   |
| <b>Sex Ratio</b>          |        |        |
| Males per 100 females     | 97.7   | 98.4   |

| <b>Population Growth</b>                 |        |        |
|--|--------|--------|
| Per annum                                | 1.33%  | n/a    |
| <b>Labour Market</b>                     |        |        |
| Unemployment rate (official)             | n/a    | 35.1%  |
| Youth unemployment rate (official) 15-34 | n/a    | 45.8%  |
| <b>Education (aged 20 +)</b>             |        |        |
| No schooling                             | 16.0%  | 24.9%  |
| Matric                                   | 23.0%  | 17.3%  |
| Higher education                         | 2.8%   | 4.6%   |
| <b>Household Dynamics</b>                |        |        |
| Households                               | 15 473 | 14 625 |
| Average household size                   | 4.1    | 4.0    |
| <b>Household Services</b>                |        |        |
| Flush toilet connected to sewerage       | 66.9%  | 59.3%  |
| Weekly refuse removal                    | 71.1%  | 45.0%  |
| Piped water inside dwelling              | 13.3%  | 21.9%  |
| Electricity for lighting                 | 83.1%  | 80.8%  |

The Mamusa Local Municipality has a total population of 64,000 with 15,000 households. Women constitute 50,4% out of the total population. Black Africans constitute 91,4% of the Mamusa Local Municipality’s population. Males and Females are almost equal at 50% each with African Females dominating at 46% of the population.

People under 15 years of age made up over a quarter of the population (36,5%), people aged between 15 and 64 constitute more than half of the population (58,5%) and people aged 65 and older constitute only 5% of the population.

**Figure 1** indicates the population estimates for the period 2002 to 2024 based on the data provided by StatsSA.

From **Figure 1** it is evident that the 2021 total population is estimated at just above 70 000 people and it is estimated to rise to approximately 73 000 by 2024.



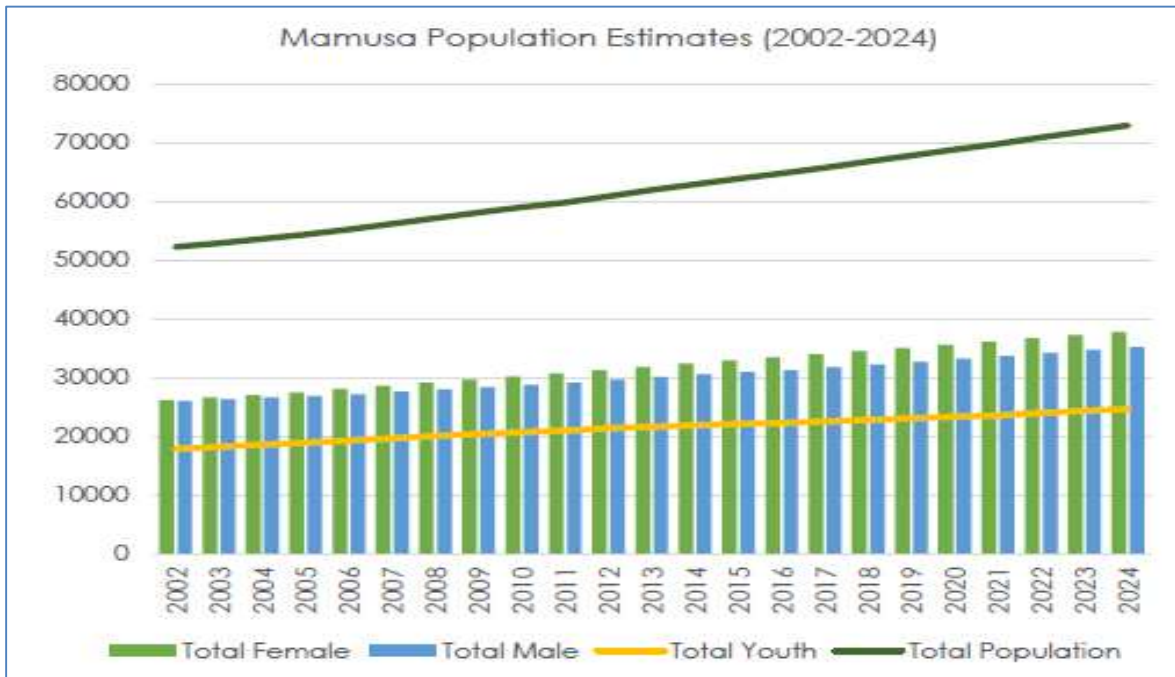


Figure 1: Mamusa Population Estimates (2002 – 2024)

The following key indicators are contained in the draft Mamusa Spatial Development Framework (2021) in respect of settlements and housing based on the StatsSA 2016 Community Survey.

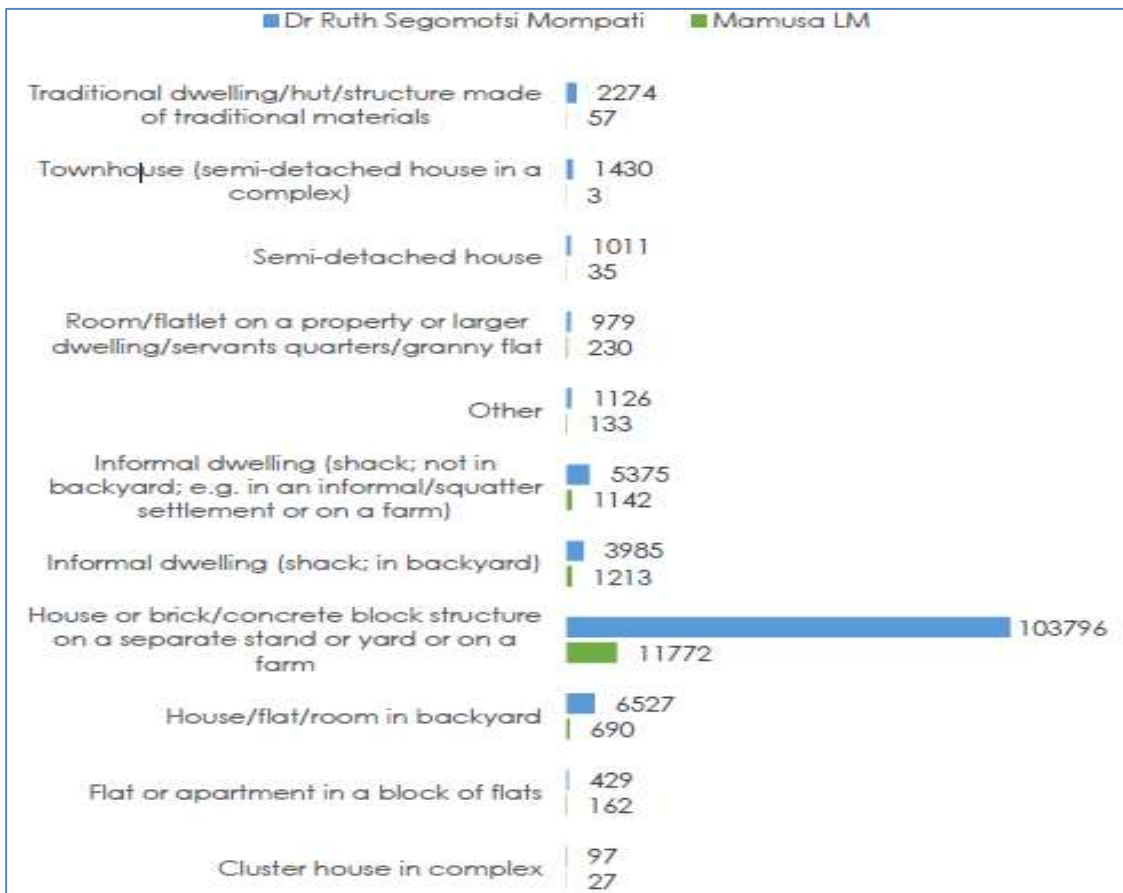


Figure 2: Access to Housing by Type (StatsSA, 2016 Community Survey)



Based on the StatsSA 2016 Community Survey, it was estimated that Mamusa had a need for residential erven that amounted to ±3 046 erven based on the number of informal dwellings (shacks) in backyards, in informal settlement areas and rooms in backyards.

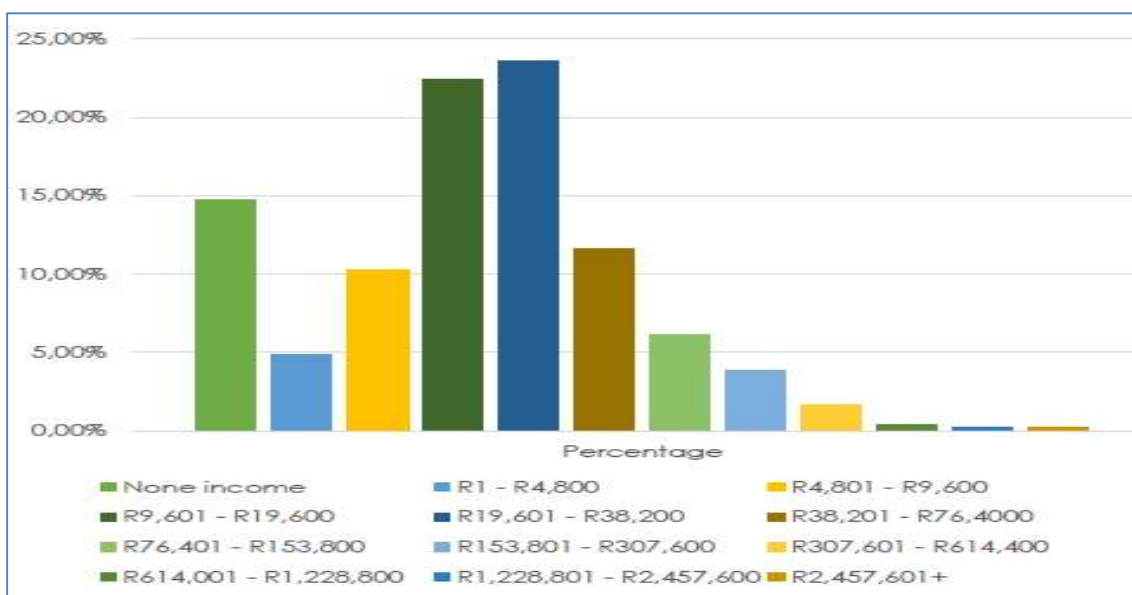
Based on the estimated increase in the population of the Mamusa Local Municipality from 64 000 people in 2016 to an estimated 70 000 people in 2021, same entails that the population increased by 6 000 people. Based on the average household size of 4,1 people per household, same entails the need for an additional 1 463 residential erven to accommodate the population growth until 2021.

As indicated in **Figure 1** above, the population of Mamusa is estimated to increase by an additional ±3 000 people between 2021 and 2024 resulting in an estimated additional 732 residential erven required to accommodate this population increase. The fore-mentioned entails that the total need for residential erven in the Mamusa Local Municipality until 2024 is estimated at 5 241 stands.

Mamusa Local Municipality is an agriculture-based municipality, where both livestock and crops are being farmed. Most of its income is derived from the agricultural sector. Schweizer-Reneke is surrounded by farms, which are the main employers within the municipality, with a small number employed by the local retail trade sector and government.

The District economy is largely driven by farming primarily around Vryburg and Christiana. The weakness for the local economy is that there are no industries to boost the economy and create jobs to cushion poverty for the 35 % unemployment rate and 45, 8 % youth unemployment rate.

**Figure 3** depicts the average annual household income based on the StatsSA (2011) figures.



**Figure 3: Average annual household income (StatsSA, 2011)**

From **Table 3** it is evident that the greatest majority of the population of the Mamusa Local Municipality area fall below the R3 500 / month income bracket which renders these inhabitants eligible for one of Government's subsidized housing grants

It is evident from the above figures that the municipality is experiencing a severe housing backlog, especially when viewed in conjunction with the unemployment rate and low annual earnings. This application serves to partially address this need through providing adequate residential properties in close proximity to existing neighborhoods and with the necessary basic services.

### 1.3 **INTEGRATED HUMAN SETTLEMENT PLANNING**

As integral part of the township establishment process, the following studies were conducted as part of the pre-planning activities:

- Aerial survey of the development area conducted by Calogero Surveyors;
- Generation of contour based on aerial survey conducted by Calogero Surveyors;
- Engineering Geological Investigation conducted by Geoset CC (August 2020);
- Phase 1 Heritage Impact Assessment conducted by A Pelsers Archaeological Consulting CC;
- Ecological fauna and flora habitat survey conducted by Anthene Ecological CC (December 2020);
- Wetland assessment conducted by Reinier F Terblanche (December 2020);
- Detail civil engineering services investigation conducted by Moedi Consulting Engineers (April 2021);
- Detail electrical engineering services investigation conducted by IQ Solutions (September 2021);
- Traffic Impact Study conducted by Route<sup>2</sup> Transport Strategies (May 2021).

The results of the studies referred to above will be addressed in the respective sections of this Motivation Report.

In terms of current policy directives, the main development strategy for residential development should be based on the objectives of the Breaking New Ground Principles (BNG) for sustainable human settlements which can be summarised as follows:

- To ensure that sustainable housing development takes place.
- To integrate housing with other municipal services in order to establish sustainable human settlements, in support of spatial restructuring.
- To coordinate municipal departments in order to work together in planning and implementing.
- To promote middle- and high-income housing which will in turn generate resources to improve low income areas.
- To promote environmental and energy efficient housing.

The approach to ensuring that sustainable human settlements are achieved should include:

- Spatial transformation and economic integration
- Viable infrastructure provisioning and life-cycle management
- Functional, responsive and innovative design
- Easy and close access to range of services and amenities
- Affordable urban living
- Financial viability
- Effective urban management and municipal financial sustainability
- Environmental sustainability
- Local job creation and empowerment

## 1.4 **APPLICATION**

Koot Raubenheimer (Id No. 700305 5192 089) of the company Maxim Planning Solutions (Pty) Ltd (2002/017393/07), being the authorised agent of the Mamusa Local Municipality (NW393), is hereby applying to the Mamusa Local Municipality in terms of:

- (i) Section 71(2) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017) for the subdivision of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province into one (1) portion together with a remainder;
- (ii) Section 59(1) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017) for the establishment of the proposed township Mamusa Garden View on a portion of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province comprising 2299 erven zoned “Residential 1”, one (1) erf zoned “Residential 2” (Density: 80 dwelling units per hectare; Height: 3 storeys), five (5) erven zoned “Business 1”, nine (9) erven zoned “Institutional”, four (4) erven zoned “Municipal”, one (1) erf zoned “Recreational”, ten (10) erven zoned “Public Open Space” and streets to be zoned “Existing Public Roads”;
- (iii) Section 67(2) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017) for the removal of:
  - (a) Endorsement on page 1 of Crown Grant G164/1907 relating to Notarial Deed No. 46/1933S in respect of a servitude of aqueduct, storage and abutment in favour of the Government of the Union of South Africa;
  - (b) Unnumbered condition on page 3 of Crown Grant G164/1907 relating to the retainment of all roads made over the land by lawful authority, an outspan and grazing for the cattle of travellers, to all further stipulations made by the Legislature and to the prompt payment of an annual tax as provided for in Act 4 of 1899; and
  - (c) Endorsement on page 4 of Crown Grant No. G164/1907 relating to Notarial Deed No. 605/1941S in respect of the relocation of the right granted to the Government in respect of the establishment of a rifle or shooting range as

initially created by Notarial Deed No. 188/1907S to a new site as reflected on Diagram SG No. A2975/1939.

## 1.5 PUBLIC PARTICIPATION

The proposed township establishment application will be advertised in terms of Sections 98(1)(a), 98(1)(c) and 98(1)(h) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017). The public participation process will include the following:

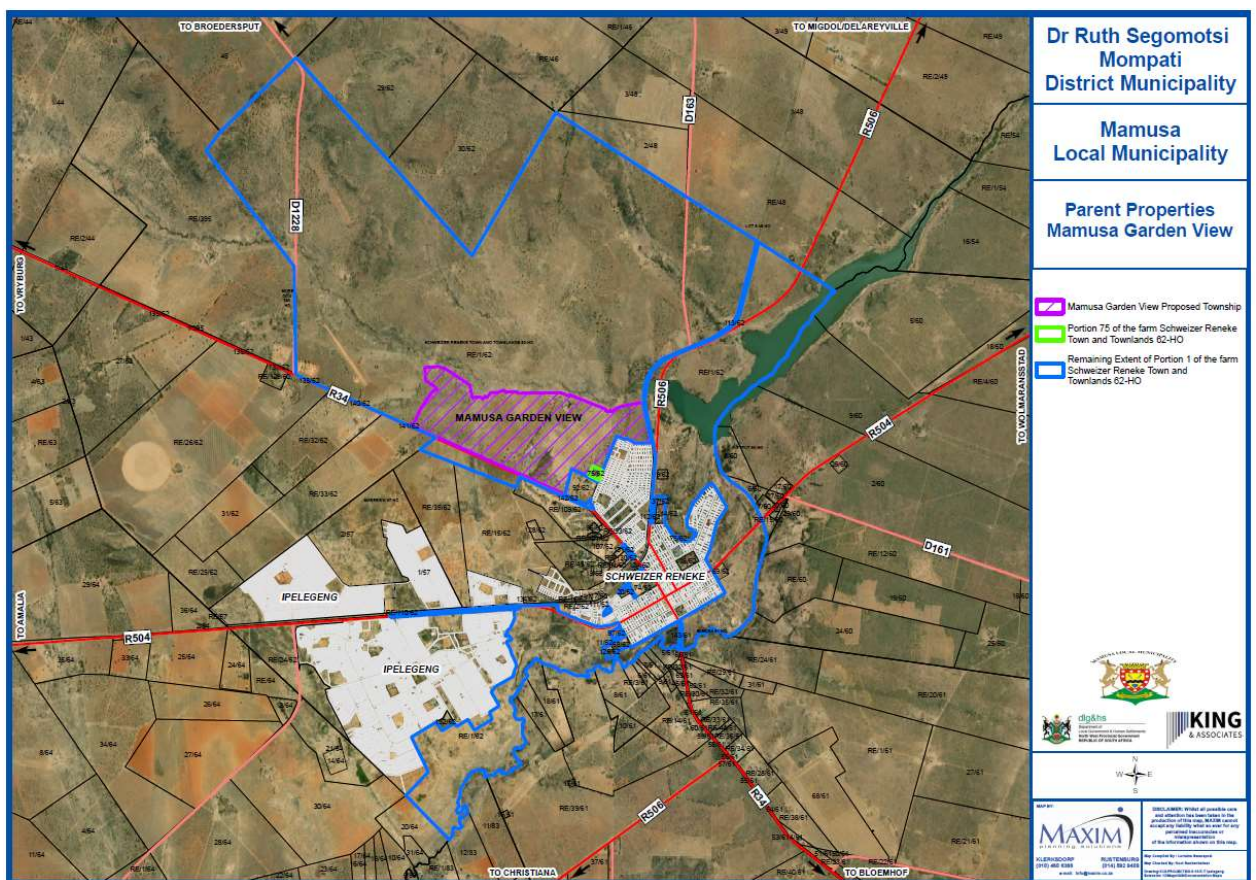
- Publishing notices of the application (as set out in **Annexure C1** of the comprehensive Land Development Application) in a local newspaper in Afrikaans & English as contemplated in Section 98(2)(a) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017);
- Appending notices of the application (as set out in **Annexure C2** of the comprehensive Land Development Application) on the notice board situated at the library as contemplated in Section 98(2)(b) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017);
- Displaying a notice (as set out in **Annexure C3** of the Comprehensive Land Development Application) in a conspicuous place on the land to which the application applies as contemplated in Section 101(1)(a) and Section 101(1)(d) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017);
- Notices to adjacent property owners (as set out in **Annexure C4** of the comprehensive Land Development Application) as contemplated in Section 99(1)(c) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017).
- Notices to the following external departments / organizations (as set out in **Annexure C5** of the comprehensive Land Development Application) in order to obtain letters of consent / objection as contemplated in Section 102(e) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017):
  - Department of Public Works and Roads
  - Openserve (Telkom SA Limited)
  - Eskom
  - Dr. Ruth Segomotsi Mompati District Municipality (DRSMDM)
  - Department of Minerals Resources (DMR)
  - Department of Agriculture, Land Reform and Rural Development (DALRRD)
  - Department of Water and Sanitation (DWS)
  - Department of Co-operative Governance and Traditional Affairs)
  - Department of Education
  - Department of Health
  - South African Post Office (SAPO)
  - Transnet Freight Rail
  - South African Heritage Resources Agency (SAHRA)
  - South African National Roads Agency Limited (SANRAL)
  - Sedibeng Water
  - Department Rural, Environment and Agricultural Development (READ)



The public will be afforded a period of 30 days to comment in this matter whereas the external organisations / departments that will be approached for comments will be afforded a period of 60 days to furnish us with their comments in respect of the application. Following receipt of the said comments we will forward same to your Municipality for your further attention and record purposes.

## 1.6 STUDY AREA DELINEATION

The proposed development area comprises a portion of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province. The locality of the parent farm and specific application site is reflected on **Map 4** below:



Map 4: Locality Map of Parent Farm and Application Site

## 1.7 REPORT OUTLINE

The remainder of the report is structured in terms of the following main headings:

- Chapter 2: Particulars of the development area
- Chapter 3: Physical aspects
- Chapter 4: Proposed development
- Chapter 5: Provision of Engineering Services
- Chapter 6: Motivation

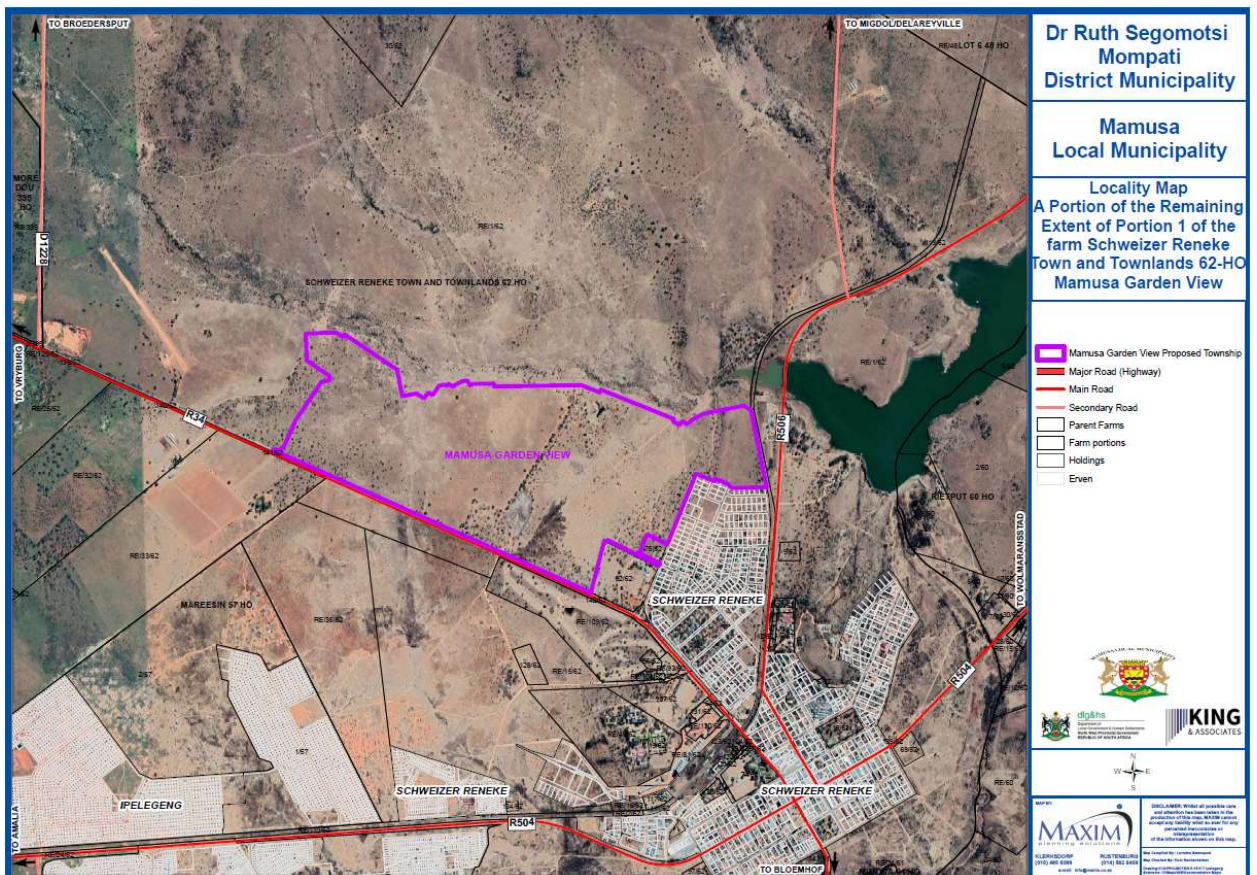


## CHAPTER 2: PARTICULARS OF THE DEVELOPMENT AREAS

### 2.1 LOCALITY

The application site is located adjacent and to the north and west of the township area of Schweizer Reneke Extension 8 as well as the Schweizer Reneke Show Grounds and is bordered to the south-west by the Schweizer Reneke – Vryburg Provincial Road (P12-2)(R34).

Map 5: Locality Map



An orientation locality plan of the proposed township/development area is attached to the comprehensive land development application as **Annexure H1 – H4**.

### 2.2 SG DIAGRAM

Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province is reflected on diagram SG No. A992/1907, together with the deduction sheets attached thereto (attached as **Annexure F1** to the comprehensive Land Development Application).



## 2.3 OWNER

The application site is currently registered as follows:

Table 3: Ownership details

| Property Description  | Registered Owner  | Title Deed Number     |
|---|---|-----------------------|
| Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province | Schweizer Reneke Local Municipality (now Mamusa Local Municipality by virtue of General Notice 87 of 2002 published in the North West Provincial Gazette No. 5752 on 23 April 2002) | Crown Grant G164/1907 |

(Refer **Annexure E1** of the comprehensive Land Development Application for a copy of the Aktex Deed Office Enquiry conducted in respect of the above-mentioned property as well as **Annexure E2** for the relevant title deed).

In order to ascertain whether the subject property is subject to any Land Claims, the Regional Land Claims Commissioner was approached in this regard. In a written response received from the Regional Land Claims Commissioner (North West) dated 09 November 2021, it was indicated as follows:

***“We confirm that as at the date of this letter no land claim appears on our database in respect of the above-mentioned farm. This includes the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014”***

(refer **Annexure K** of the comprehensive Land Development Application).

## 2.4 BONDHOLDER

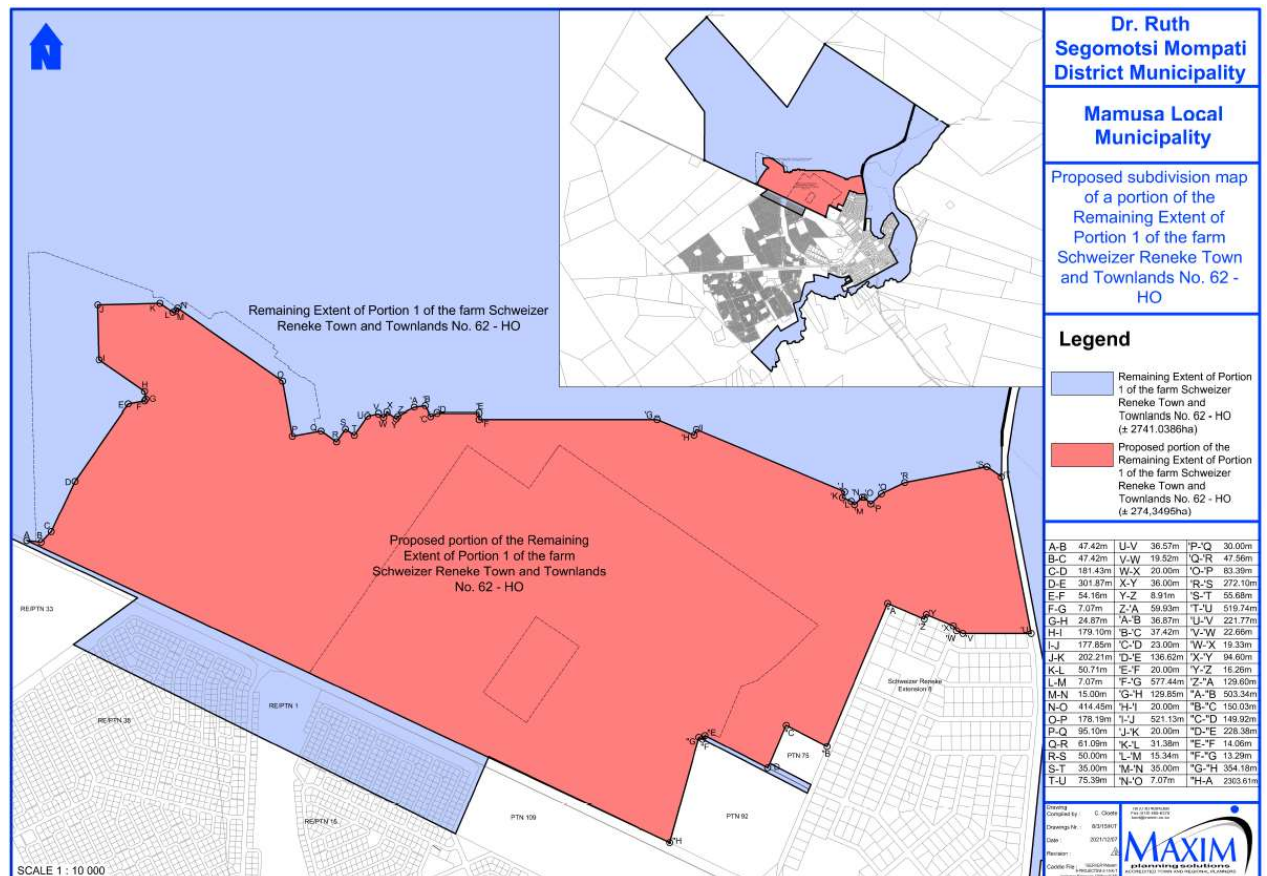
The application property is not currently subject to any bond (refer **Annexure E1** of the comprehensive Land Development Application for an Aktex Deed Office Enquiry that confirms the absence of any bonds as well as **Annexure L** for the Conveyancer Certificate to the same effect).

## 2.5 AREA

As discussed, the application only applies to a portion the parent farm. Approximately 274,3495ha of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province will be utilised for the proposed township area, as seen in **Map 6** overleaf:

As part of the township establishment application, application is also being made for the subdivision of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province into proposed portion comprising approximately 274,3495 hectares as well as the Remainder (see subdivision map attached in Annexure N to the comprehensive Land Development Application). This subdivided portion will serve as the outside figure for the development and demarcates the application site.

Map 6: Locality Map



## 2.6 EXISTING LAND USE AND ZONING

### 2.6.1 CURRENT LAND USES

The proposed development area is predominantly vacant with the exception of a solid waste site located within the central part of the development area. The solid waste site

(referred to as the Schweizer Reneke / Ipelegeng Site A,B,C,D) was established in accordance with a permit issued by the Department: Water Affairs and Forestry on 06 September 2001 by virtue of Permit Number 16/2/7/C301/D2/Z3/P421. In terms of condition 3.4 of the waste site permit, the Permit Holder is responsible “to establish and maintain an unbuilt area or ‘buffer zone’ of 500 metres between the Site and the nearest residential and/or light industrial areas during the operative life of the Site”. This mandatory buffer area was accommodated in the layout plan of the proposed township Mamusa Garden View (refer **Map 18**). There is evidence on site that the area could be utilized for livestock grazing. The locality of the solid waste site on the proposed development area is also reflected on **Map 7** overleaf.



Photo 1: General view of the development area



Photo 2: Partial view of solid waste site



Photo 3: View of solid waste site



Photo 4: View of area utilized for livestock grazing

## 2.6.2 SURROUNDING LAND USES

As indicated in the Map overleaf, the application site is bordered to the east by the existing residential township area of Schweizer Reneke Extension 8 (all erven bordering the proposed township area are currently still vacant) whereas the south-eastern corner of the development area borders onto the Schweizer Reneke Show Grounds site. The proposed development area is bordered to the north by a non-perennial river feeding into the Wentzel Dam and to the south by the Schweizer Reneke – Vryburg Provincial Road (P12-



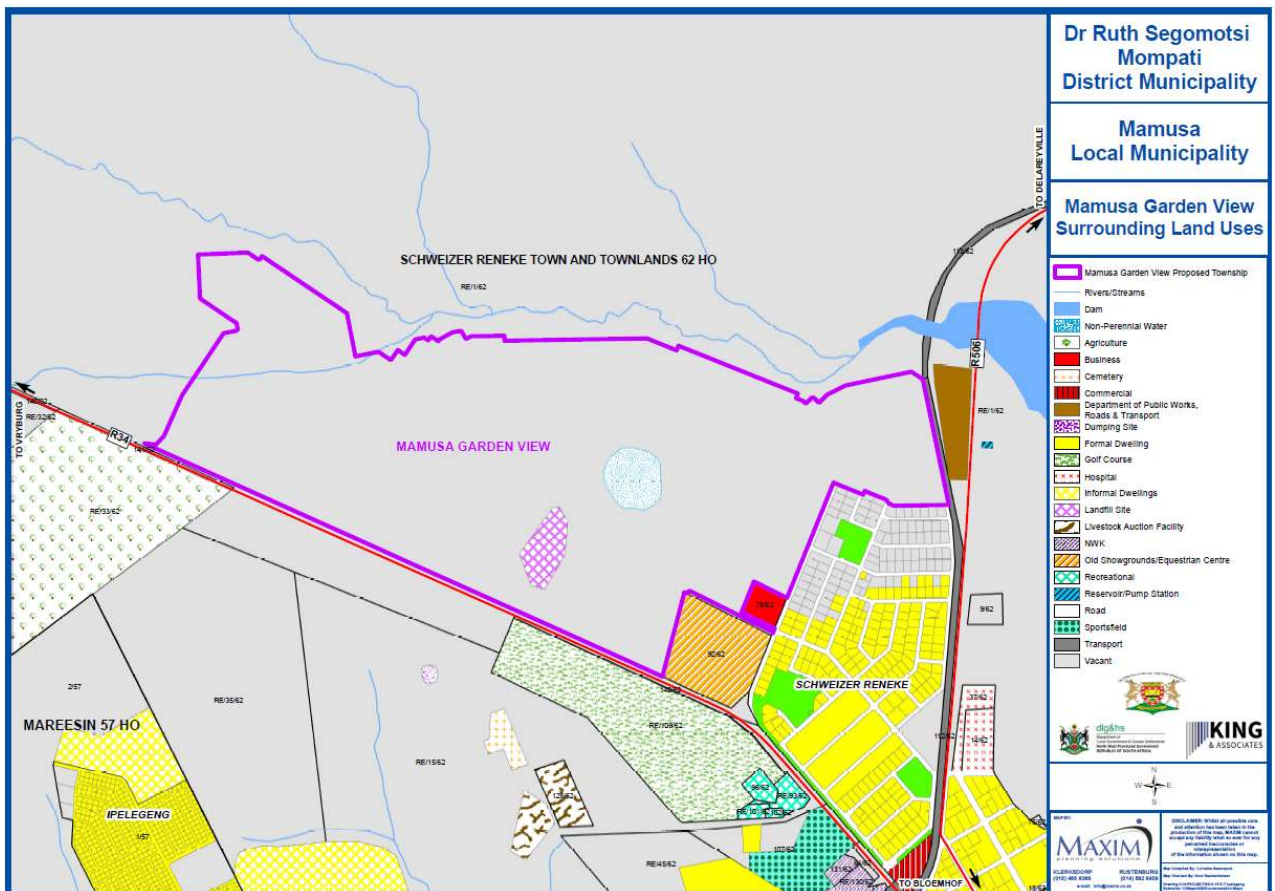
2) (R34). The area directly south of the R34 currently comprises the Schweizer Reneke Golf Course as well as vacant land that is the subject of the township establishment process in respect of the proposed township areas of Ipelegeng Extensions 10 and 11. The area directly west of the proposed development area is currently still vacant.



Photo 5: Aerial view of show grounds (also note existing residential development east thereof)



Photo 6: Aerial view of golf course



Map 7: Surrounding Land Uses

The proposed development will integrate with the surrounding land uses. The residential nature of the proposed township is well suited to the surrounding townships.

### 2.6.3 CURRENT ZONING

The property to which the land development application applies is currently zoned “Agricultural” in terms of the Mamusa Land Use Scheme, 2020.

(Refer to Zoning certificate attached as **Annexure O** to the comprehensive Land Development Application).

## 2.7 MINERAL RIGHTS

According to Crown Grant G164/1907, the right to minerals in respect of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province has not been separated from the property rights

The reservation of rights to minerals is however subject to the provisions of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) that came into force on 01 May 2004. The land development application will subsequently also be referred to the Department of Mineral Resources for its consent in terms of Section 53 of the fore-mentioned Act in respect of the proposed development.

## 2.8 TITLE CONDITIONS / RESTRICTIVE TITLE CONDITIONS

According to the Conveyancer Certificate compiled by Coetzer & Steyn Attorneys (attached as **Annexure L** to the comprehensive Land Development Application), the following title conditions are registered in Crown Grant G164/1907 in respect of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province. The contents of the title conditions will dictate whether same is restrictive in respect of the establishment of the proposed township Mamusa Garden View or whether same can be retained. Cognisance should be taken of the fact that there are currently two (2) different versions of Crown Grant G164/1907 available i.e. a copy available on the DeedsWeb portal of the Registrar of Deeds (Pretoria) as well as an office copy that is held by the Deeds Office (Pretoria). Even though the documents mentioned above reference more or less the same title conditions but in a different page order, we have (following detail scrutiny) ascertained that the copy of the concerned document obtained via the DeedsWeb portal seems to be the most complete document. For the purposes of assessing the existing title conditions contained in Crown Grant G164/1907, our assessment is based on the DeedsWeb portal copy of the fore-mentioned document.

- **Endorsement 1 on page 1 relating to Notarial Deed No. 188/1907S**  
***“A ptn Meas 156 Morgen 150 Sq Rds of within Property is subject to a servitude in favour of the Transvaal Govt. of the right of laying out and maintaining a***

**shooting or rifle range as will more fully appear from Notarial Deed No. 188/1907S”.**

This endorsement relates to the right granted to the Government to erect a rifle or shooting range on the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division I.O., North West Province. The locality of the rifle or shooting range is reflected on Diagram SG No. A4773/1905 (refer **Annexure F2** of the comprehensive Land Development Application and **Figure 4** below) and does not affect the proposed township area due to the location thereof in relation to the proposed township area.

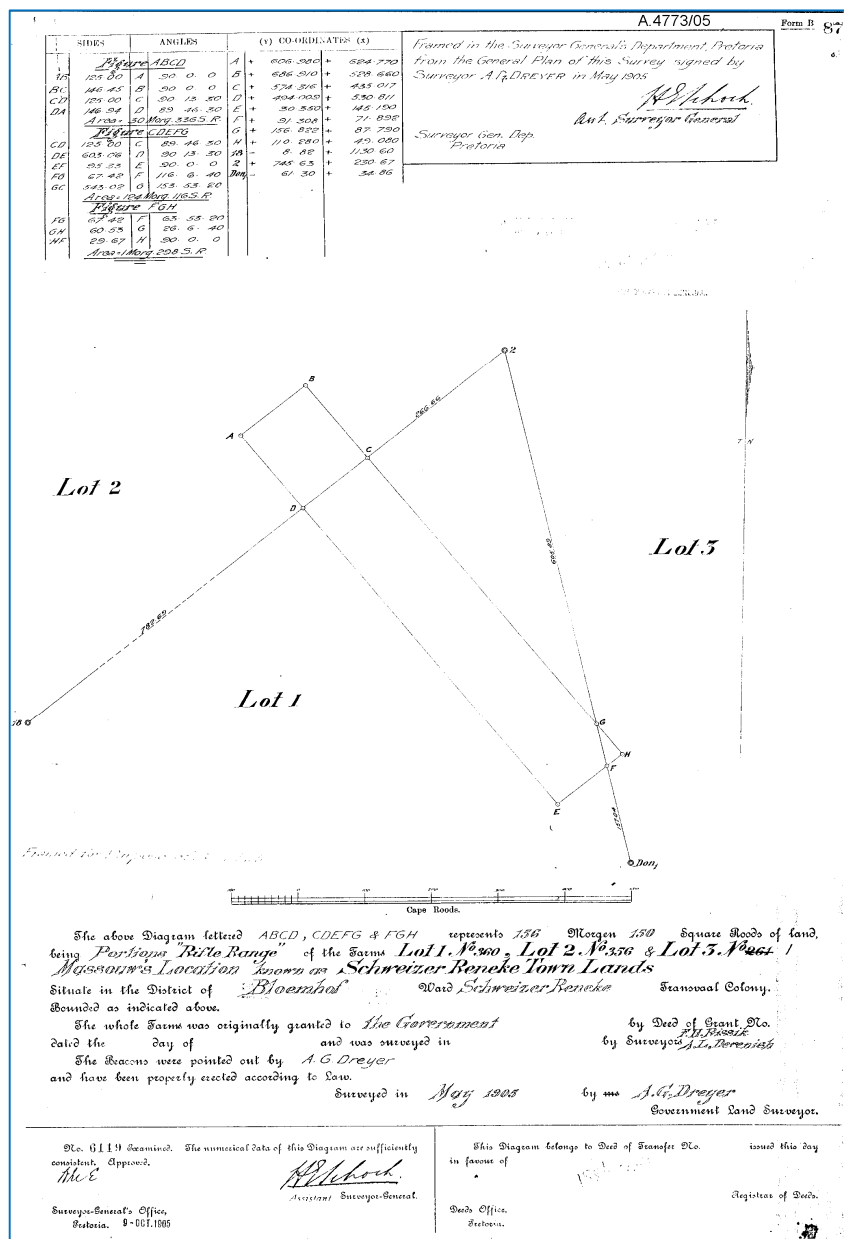


Figure 4: Servitude Diagram SG No. A4773/1905



- **Endorsement on page 1 relating to Notarial Deed No. 46/1933S**

***“The property held hereunder is subject to servitudes of aqueduct, storage and abutment in favour of the Govt. of the Union of S.A. as will more fully appear from Notarial Deed No. 46/1933S”***

This endorsement relates to a servitude of aqueduct, storage and abutment in favour of the Government of the Union of South Africa. On reference to Deed of Servitude No. 46/1933S (refer **Annexure E3** of the comprehensive Land Development Application), it was indicated that the approximate servitude area is indicated on a sketch plan attached to the relevant Deed of Servitude. No such sketch plan could however be found. The location of this servitude has further not been captured on a diagram registered at the office of the Surveyor-General. The proposed township area is located outside the demarcated 1:100 year floodline area of the tributary feeding into the Wentzel Dam. As it will be impractical to pass this servitude on to all the erven in the proposed township area, application is hereby made in terms of Section 67(2) of the Mamusa By-Law on Spatial Planning and Land Use Management for this servitude to be cancelled only where it applies to the proposed township area of Mamusa Garden View and not to be passed on to the Certificate of Registered Title to be registered in respect of the land on which to proposed township area is to be established.

- **Condition (1) on page 3**

***“~~This Grant shall be subject to all conditions and stipulations contained in the Town Lands Ordinance 10-4, and in any amendment thereof and shall be subject to all rights and servitudes which now, affect or at any time hereafter may be found to affect the title to the land hereby transferred or to be binding on the Government in respect of the said land at the date hereof”~~***

This title condition has been partially cancelled (refer endorsement in terms of Section 6(1) of Act 84 of 1967 on page 13) (strikethrough text). The portion of this title condition that is still applicable will not impact negatively on the proposed township area and can be passed on to all the erven in the township area.

- **Unnumbered condition on page 3**

***“This Grant is made on condition that all roads already made over this land by lawful authority shall remain free and unobstructed; that the land shall be subject to an outspan and to grazing for the cattle of travellers, that the said land shall be further subject to such stipulations as have been established or may hereafter be established by the Legislature and finally that the owners shall be liable to the prompt payment of an annual tax as provided in Law No. 4 of 1899 or in any amendment thereof”.***

This condition relates to the retainment of all roads made over the land, an outspan and grazing for the cattle of travellers, to all further stipulations made by the Legislature and to the prompt payment of an annual tax as provided for in Act 4 of 1899 (Regulation of Land Taxes Act). In view of the fact that:

- the township area will include properly proclaimed streets that will not impact on any existing roads;
- all outspans have since been repealed by virtue of Section 53 of the Road Ordinance, 1957 (Ordinance 22 of 1957);
- the subject land is in any way subject to all present legislation affecting such land; and
- Act 4 of 1899 was repealed by virtue of the Pre-Union Statute Law Revision Act, 1967 (Act 78 of 1967)

application is hereby made for the cancellation / removal of this condition in terms of Section 67(2) of the Mamusa By-Law on Spatial Planning and Land Use Management.

○ **Outspan endorsement on page 4**

**“The remaining extent in extent 7795 Morgen 407.32 Sg Rds is subject to a servitude of outspan in extent 1/75 of the whole 7811 Morgen 384.32 Sq. Rds.”**

This condition has since lapsed by virtue of Section 53 of the Road Ordinance, 1957 (Ordinance 22 of 1957) and will not be brought forward in the Certificate of Registered Title to be registered in respect of the land on which the proposed township is to be established.

○ **Endorsement on page 4 relating to Notarial Deed No. 605/1941S**

***“The Rifle Range described in Notarial Deed no 188/07S has been removed to a ptn of ptn of the within property meas 8.0667 mg and lettered ABCD on diagram S.G. no 2975/39 as will more fully appear from Notarial Deed no 605/1941S***

***Deeds Office***

***Pretoria***

***25/10/41”***

This servitude relates to the relocation of the right granted to the Government in respect of the establishment of a rifle or shooting range as initially created by Notarial Deed No. 188/1907S. This Notarial Deed of Servitude allows for the relocation of the initial rifle or shooting range (as established by virtue of Notarial Deed No. 188/1907S) to a new site as reflected on Diagram SG No. A2975/1939 (refer **Annexure F3** of the comprehensive Land Development Application and **Figure 5** below).

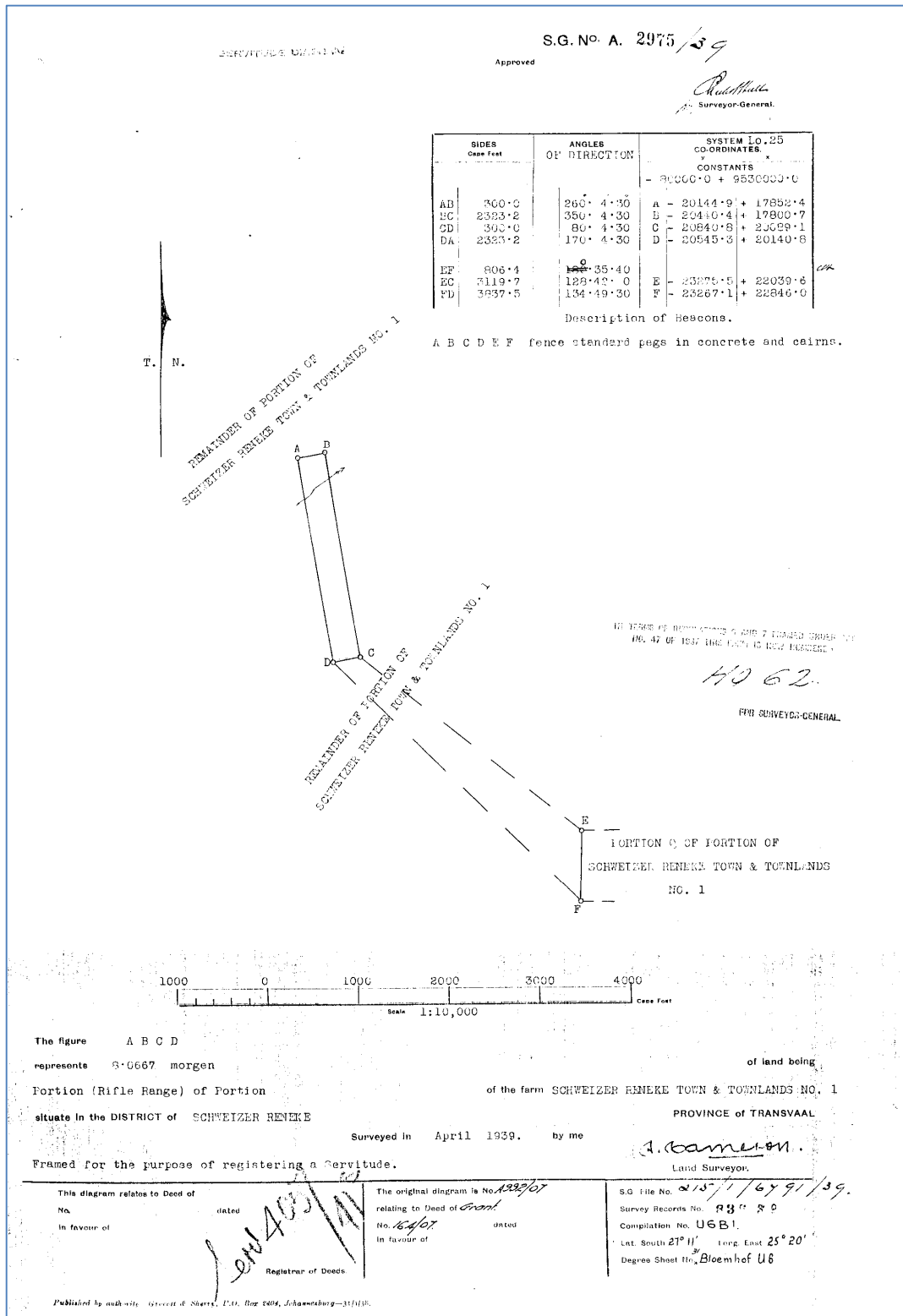


Figure 5: Servitude Diagram SG No. A2975/1939

This servitude does affect the proposed township area due to the location thereof. The location of the fore-mentioned servitude in relation to the proposed township area is referenced on the layout plan attached herewith (refer **Annexure M** of the comprehensive Land Development Application) by the figure a-b-c-d-a (refer also to **Figure 6** overleaf).

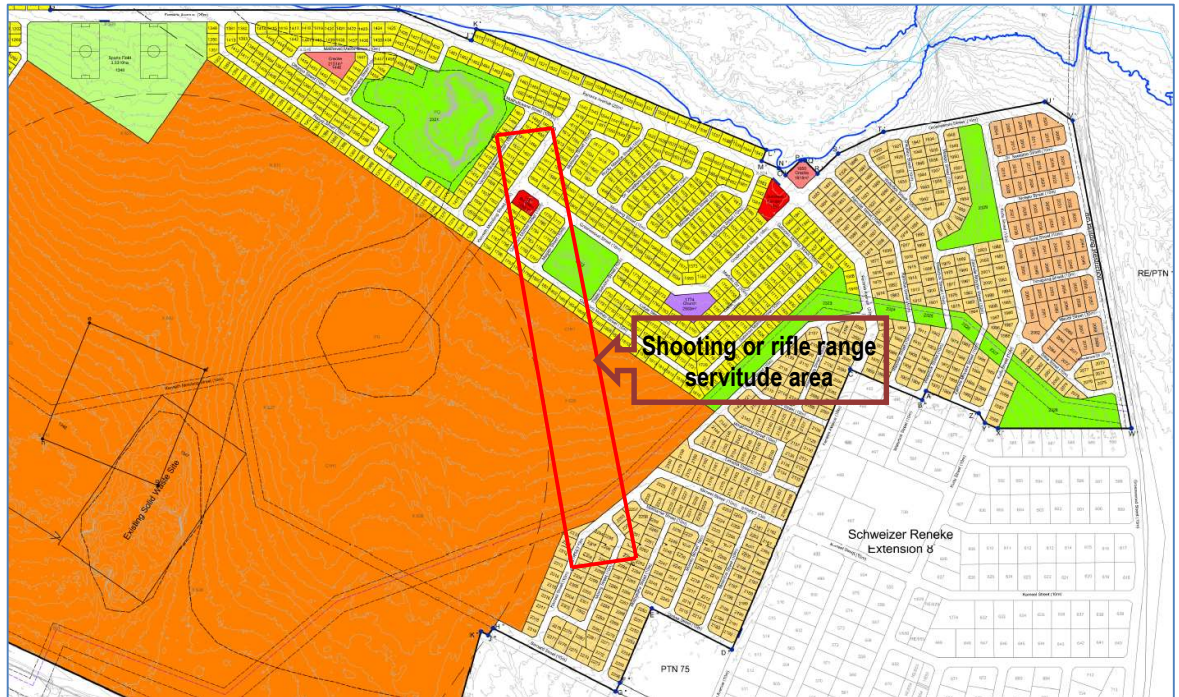


Figure 6: Locality of shooting or rifle range servitude area in relation to the proposed township Mamusa Garden View

Due to the fact that the servitude is no longer in use (evidenced by the absence on site of any infrastructure associated with a shooting or rifle range) as well as the fact that Notarial Deed No. 188/1907S makes provision for the relocation of the rifle or shooting range in the event of the land being required for the extension of the township of Schweizer Reneke (refer paragraph 4 on page 4 of Notarial Deed No. 188/1907S – attached as **Annexure E5** to the comprehensive Land Development Application), application is hereby made for this servitude (Notarial Deed 605/1941S) to be cancelled / removed in terms of Section 67(2) of the Mamusa By-Law on Spatial Planning and Land Use Management.

- **Endorsement on page 7 relating to Notarial Deed No. 1119/1964**

***“By Notarial Deed No. 1119/1964S dated 27/11/1964, the servitude of pipeline in favour of Portion N measuring 21,012 sq ft as created by T5488/32 has been cancelled. As will more fully appear from the said Not Deed”***

This endorsement references the cancellation of a pipeline servitude created by T5488/1932. This endorsement will not be brought forward into the Certificate of Registered Title to be registered in respect of the proposed township area.

- **Endorsements on page 9 relating to a servitude of right of way**

***“Die binnegemelde eiendom is onderhewig aan ‘n serw van Reg van Weg oor figuur ABCD en EFG op Kaart SG No A1055/41 ten gunste van Ged 15 (‘n Ged***



***van Ged 1) en Ged 16 ('n Ged van Ged 1) van die binnegemelde plaas gehou kragtens A/T.11263/43. Ged 10/5/43 soos meer ten volle sal blyk uit gesege Transportakte en Kaart daaraan geheg”***

***“Kragtens Not Akte No 1301/67S ged 29/9/67 is die serw van Reg van weg oor fig ABCD + EFG op Kaart SG No A 1055/41 ten gunste van Ged 15 ('n Ged van ged 1) en Ged 16 ('n Ged van Ged 1) van die binnegemelde plaas gehou kragtens A/T11263/43 gekanselleer soos meer ten volle sal blyk uit gemelde Not Akte”***

The first endorsement on page 9 created a servitude of right of way in favour of Portions 15 and 16 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province as reflected on diagram SG No. A1055/1941. The second endorsement details the cancellation of the servitude of right of way detailed above by virtue of Notarial Deed No. 1301/1967S. These endorsements therefore do not influence the proposed township area and will not be brought forward into the Certificate of Registered Title to be registered in respect of the proposed township area.

- **Endorsement on page 10 relating to Notarial Deed No. 770/1972S**

**“By Notarial Deed No. 770/71 dated 10-3-1972 the within-mentioned property is subject to a servitude of Radio mast [illegible] together with ancillary rights as indicated on diagram annexed hereto in favour of the Republic of South Africa as will more fully appear from reference to the said Notarial Deed, a copy whereof is hereunto annexed.**

This endorsement references a radio mast servitude. The servitude area is reflected on Diagram SG No. A7196/1971 (refer **Annexure F4** of the comprehensive Land Development Application and **Figure 7** overleaf) and does not affect the proposed township area due to the locality thereof.

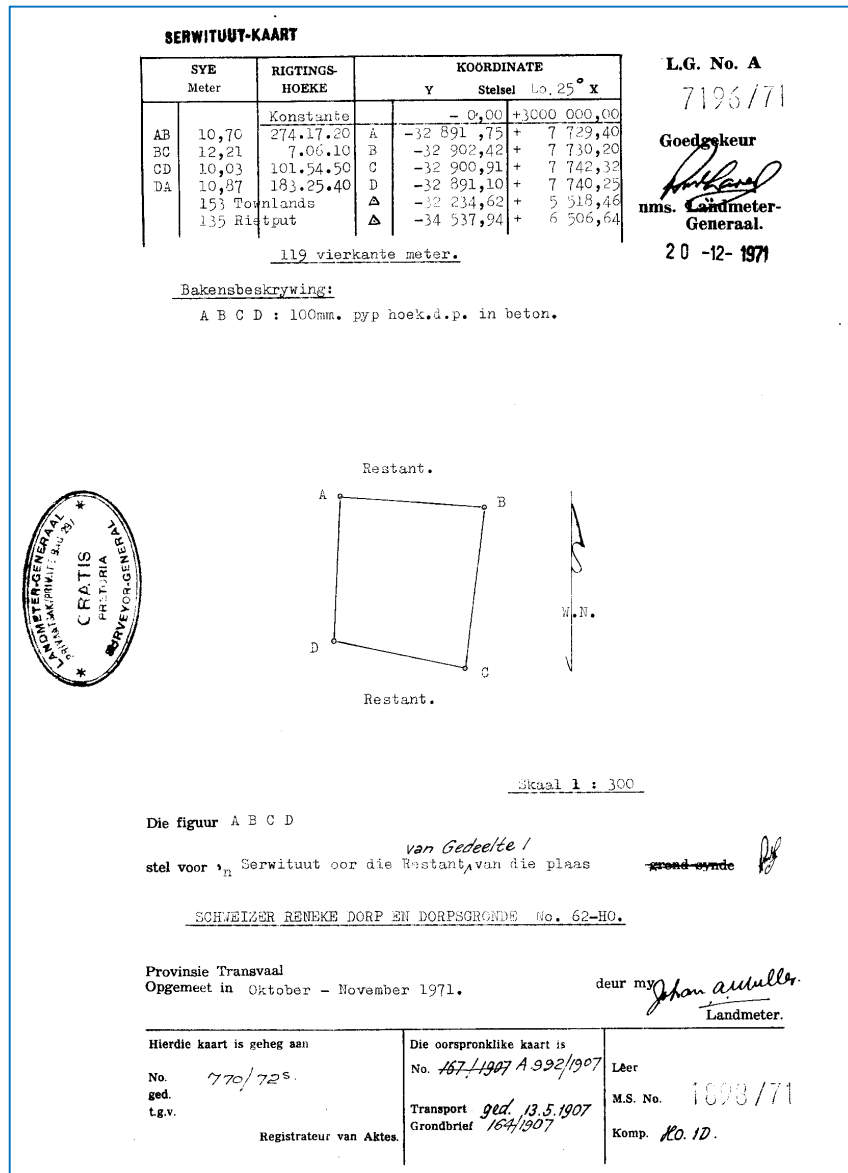


Figure 7: Servitude Diagram SG No. A7196/1971

- Endorsement on page 11 relating to Notarial Deed no. K960/1975S

**“By Notarial Deed K960/1975S, the right has been granted to ESCOM to convey electricity over the property hereby conveyed together with ancillary rights, and subject to conditions as will more fully appear on reference to the said Notarial Deed and diagram LG No. A2317/65, grosse whereof is hereunto annexed”**

This endorsement relates to a servitude in favour of Eskom registered by virtue of Notarial Deed No. K960/1975S. The route of this servitude is reflected on Servitude Diagram SG No. A2317/1965 (refer **Annexure F5** of the comprehensive Land Development Application and **Figure 8** overleaf) and this servitude does not affect the proposed township area due to the location thereof.

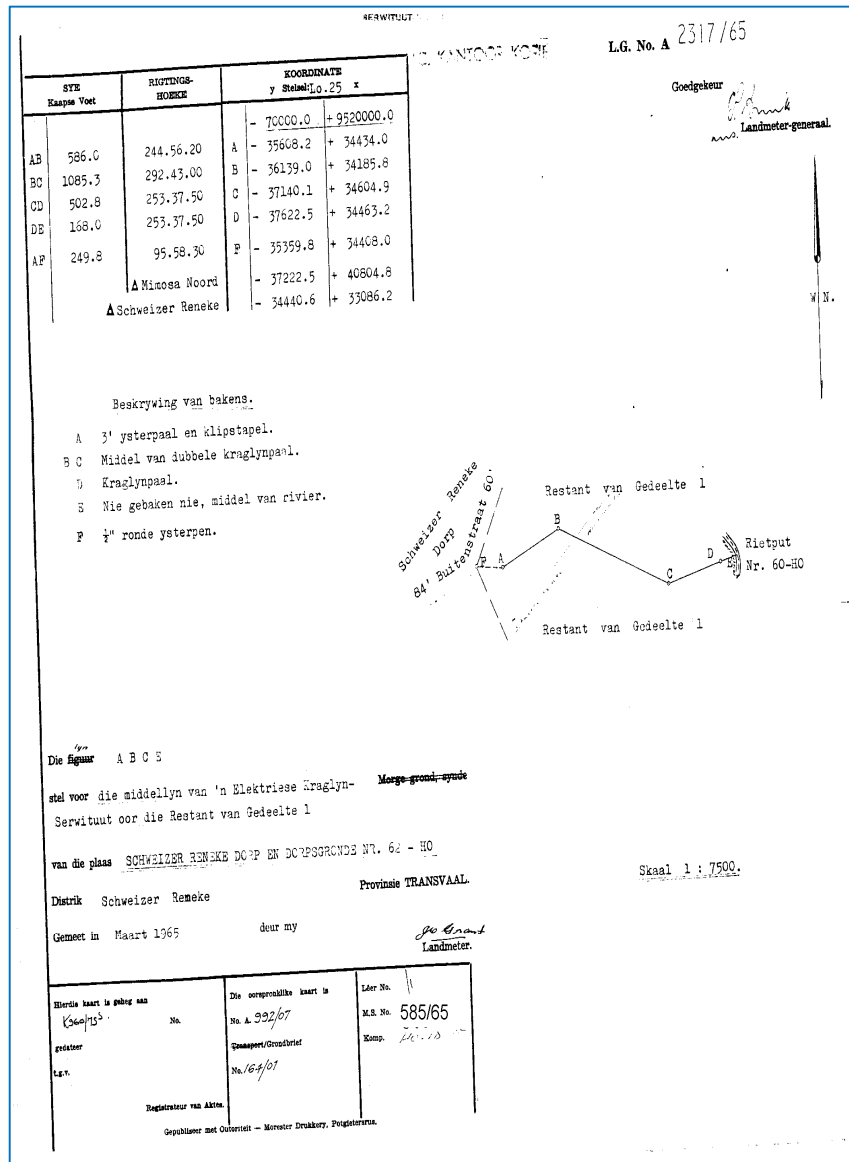


Figure 8: Servitude Diagram SG No. A2317/1965

- Endorsement on page 16 relating to Notarial Deed No. K2299/1986S

**“By Notarial Deed K2299/86S, the right has been granted to EVKOM to convey electricity over the property hereby conveyed together with ancillary rights, and subject to conditions as will more fully appear on reference to the said Notarial Deed and diagram, grosse whereof is hereunto annexed”**

This endorsement relates to a servitude in favour of Eskom registered by virtue of Notarial Deed No. K2299/1986S. This servitude was initially registered in general terms but the route determination thereof was registered by virtue of Notarial Deed of Route Determination K7688/1993S. The route of this servitude is reflected on Servitude Diagram SG No. A1051/1991 (refer **Annexure F6** of the comprehensive Land Development Application and **Figures 9 and 10** overleaf) and this servitude does not affect the proposed township area due to the locality thereof.



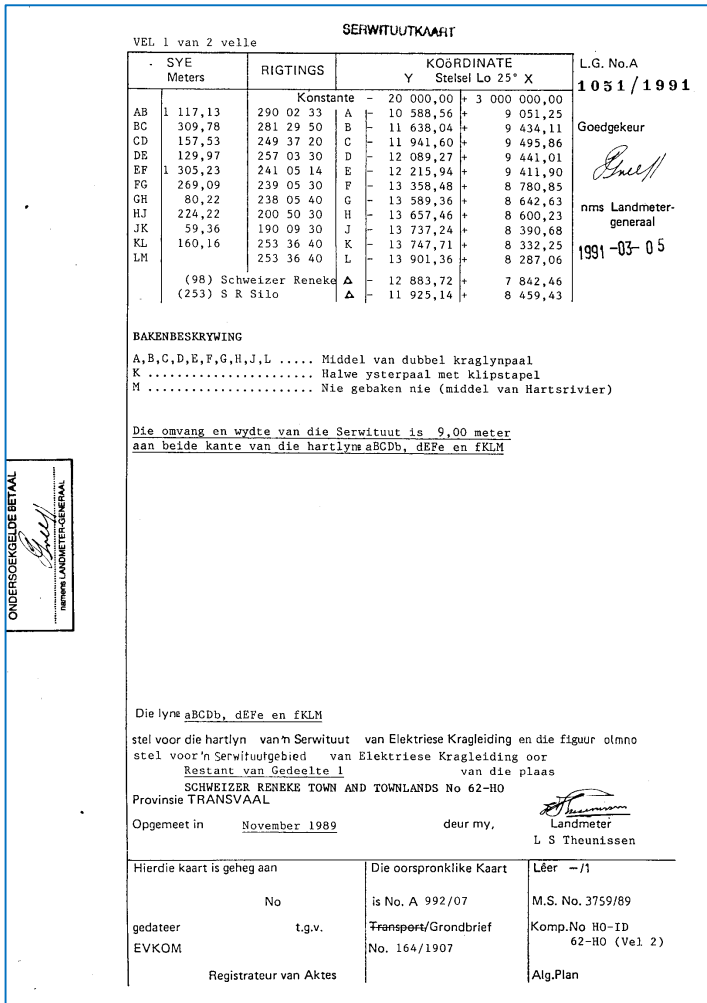


Figure 9: Servitude Diagram SG No. A1051/1991 (Sheet 1)

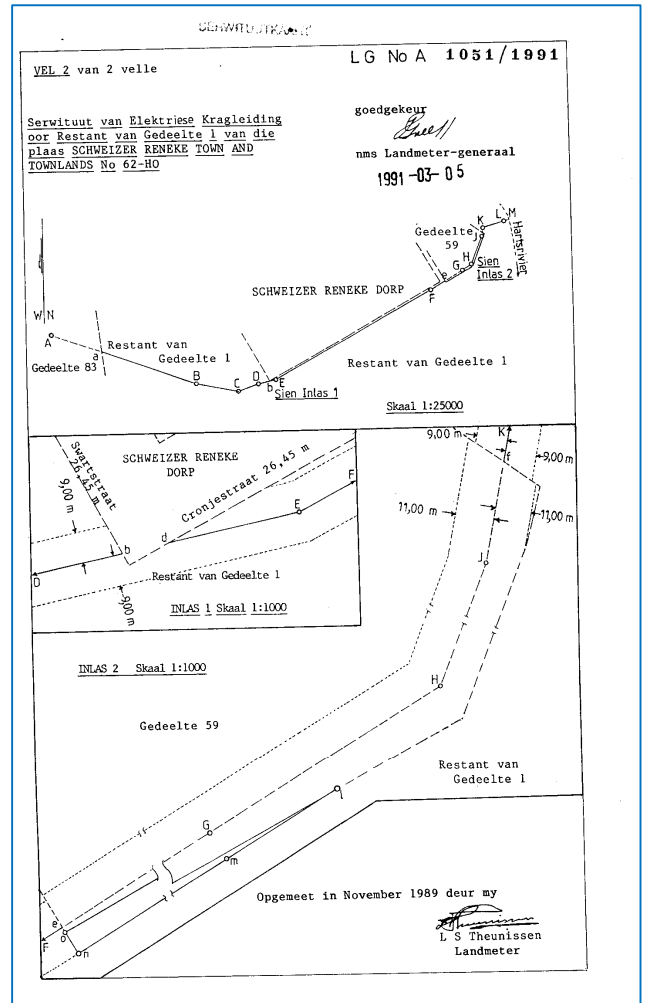


Figure 10: Servitude Diagram SG No. A1051/1991 (Sheet 2)

- Endorsement on page 17 relating to Notarial Deed No. K42/1994S

***“The withinmentioned property is subject to a powerline servitude in favour of ESKOM with ancillary rights.***

***K42/94S***

***05 01 94”***

This endorsement relates to a servitude in favour of Eskom registered by virtue of Notarial Deed No. K42/1994S (refer **Annexure E6** of the comprehensive Land Development Application). This servitude was registered in general terms and has ancillary rights attached thereto. Due to the fact that the exact route of this servitude has not been determined by survey and referenced on a servitude diagram registered in the office of the Surveyor-General, this servitude will have to be brought forward onto all the erven in the proposed township area in accordance with paragraph 5.3.6.6 of Registrar’s Circular 02 of 2019.

- **Endorsement on page 21 in terms of Section 40(4) of Act 7 of 1998**

**“ENDORSEMENT IN TERMS OF SECTION 40(4) OF ACT 7 OF 1998**

***The Minister of transport has, in terms of section 40(1) (a) of South African National Roads Agency Limited and Notional Roads Act, 7 of 1988 in Government Gazette No. 41501 dated 16 March 2018 Notice No. 229, declared National Road R34 Section 2:  
Schweizer Reneke-Bloemhof***

***Application filed with BC.....  
DATE: 2019-09-18”***

This endorsement relates to the declaration of National Road R34 Section 2: Schweizer Reneke – Bloemhof. In Schweizer Reneke, the existing declaration of National Road R34 Section 2 starts at the intersection of Schweizer Street and Olivier Street and continues to the intersection of Olivier Street and Cronje Street. The declaration of 2019 set out above starts at the intersection of Olivier Street and Cronje Street in Schweizer Reneke and continues until the intersection of West Street and Noord Street in Bloemhof. The proclamation of National Road R34 Section 2 does not affect the proposed township area due to the locality thereof in relation to the proposed township area.

- **Endorsement on page 21 relating to EX33/2014**

**“Expropriation by Dept Water Affairs of Ptn of R/E of Ptn 1 of farm Schweizer Reneke measuring approximately = 4,7914 ha.  
EX33/14  
2019-09-18”**

This endorsement relates to the expropriation of a strip of land for a perpetual servitude of aqueduct or water storage as reflected on Diagram SG No. A992/1907 (refer **Annexure F1** of the comprehensive Land Development Application). This servitude is contained in Deed of Cession of Servitude K7735/2014S and the area thereof is reflected on Servitude Diagram SG No. 4657/2009 (refer **Annexure F7** of the comprehensive Land Development Application and **Figure 11** overleaf) . This expropriation and Deed of Cession of Servitude do not affect the proposed township area due to the location thereof.

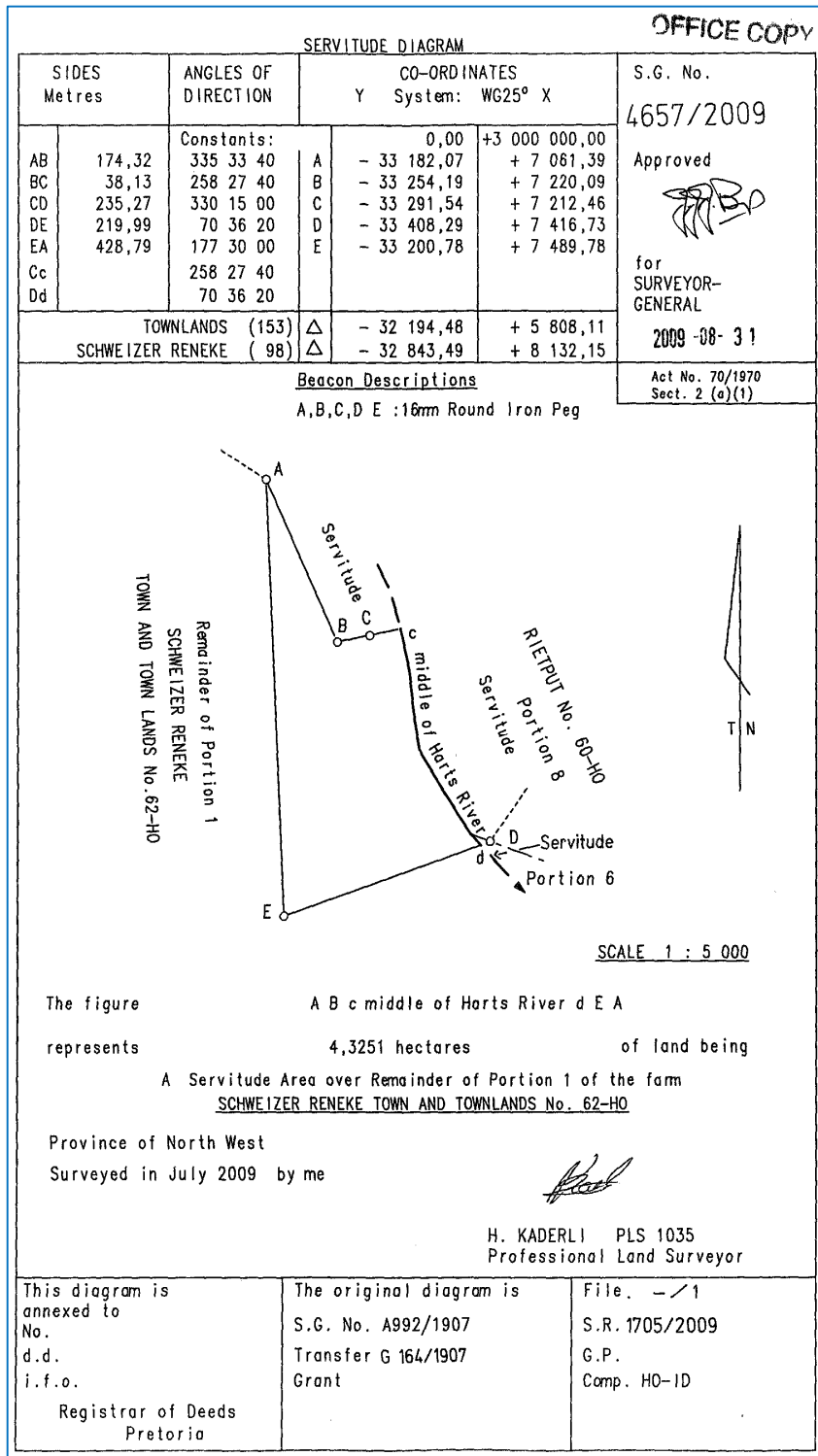


Figure 11: Servitude Diagram SG No. 4657/2009

## 2.9 SERVITUDES

The application site is subject to the following servitudes as detailed in section 2.8 supra:

- Servitude of aqueduct, storage and abutment in favour of the Government of the Union of South Africa as set out in Deed of Servitude No. 46/1933S. All indications

are that this servitude relates to the establishment of the Wentzel Dam and due to the fact that the proposed township area is located outside the 1:100 year floodline of the non-perennial river feeding into the Wentzel Dam, it will be impractical to pass this servitude on to all the erven in the proposed township area. Application is therefore hereby made in terms of Section 67(2) of the Mamusa By-Law on Spatial Planning and Land Use Management for this servitude to be cancelled only where it applies to the proposed township area of Mamusa Garden View and not to be passed on to the Certificate of Registered Title to be registered in respect of the land on which to proposed township area is to be established.

- Notarial Deed No. 605/1941S relating to a servitude in respect of the relocation of the shooting or rifle range as initially established by Notarial Deed No. 188/1907S to a new site as reflected on Diagram SG No. A2975/1939. This servitude does affect the proposed township area due to the location thereof. Due to the fact that the servitude is no longer in use (evidenced by the absence on site of any infrastructure associated with a shooting or rifle range) as well as the fact that Notarial Deed No. 188/1907S makes provision for the relocation of the rifle or shooting range in the event of the land being required for the extension of the township of Schweizer Reneke (refer paragraph 4 on page 4 of Notarial Deed No. 188/1907S), application is hereby also made of the cancellation/ removal of Notarial Deed 605/1941S in terms of Section 67(2) of the Mamusa By-Law on Spatial Planning and Land Use Management. The cancellation / removal of Notarial Deed No. 605/1941S will not affect Notarial Deed No. 188/1907 and the right in respect of a rifle or shooting range can still be exercised on another portion of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province (should same be required) as specifically provided for in Notarial Deed Notarial Deed No. 188/1907.
- The Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province is further subject to Diagram SG No. A657/1913 (refer **Annexure F8** of the comprehensive Land Development Application and **Figure 12** overleaf). This diagram was registered at the office of the Surveyor-General for the purposes of a lease. Following scrutiny of Crown Grant G164/1907 as well as the Aktex Deeds Office Enquiry (refer **Annexure E2** and **E1** of the comprehensive Land Development Application), it is evident that this lease has not been registered. Based on the fact that the lease diagram was approved in 1913, this lease can in any case not exist anymore due to the fact that leases duly registered in the Deeds Office may not exceed a period of 99 years. Application will therefore be made to the office of the Surveyor-General during approval of the General Plan of the proposed township area of Mamusa Garden View for the retraction/ withdrawal / cancellation of Diagram SG No. A657/1913.



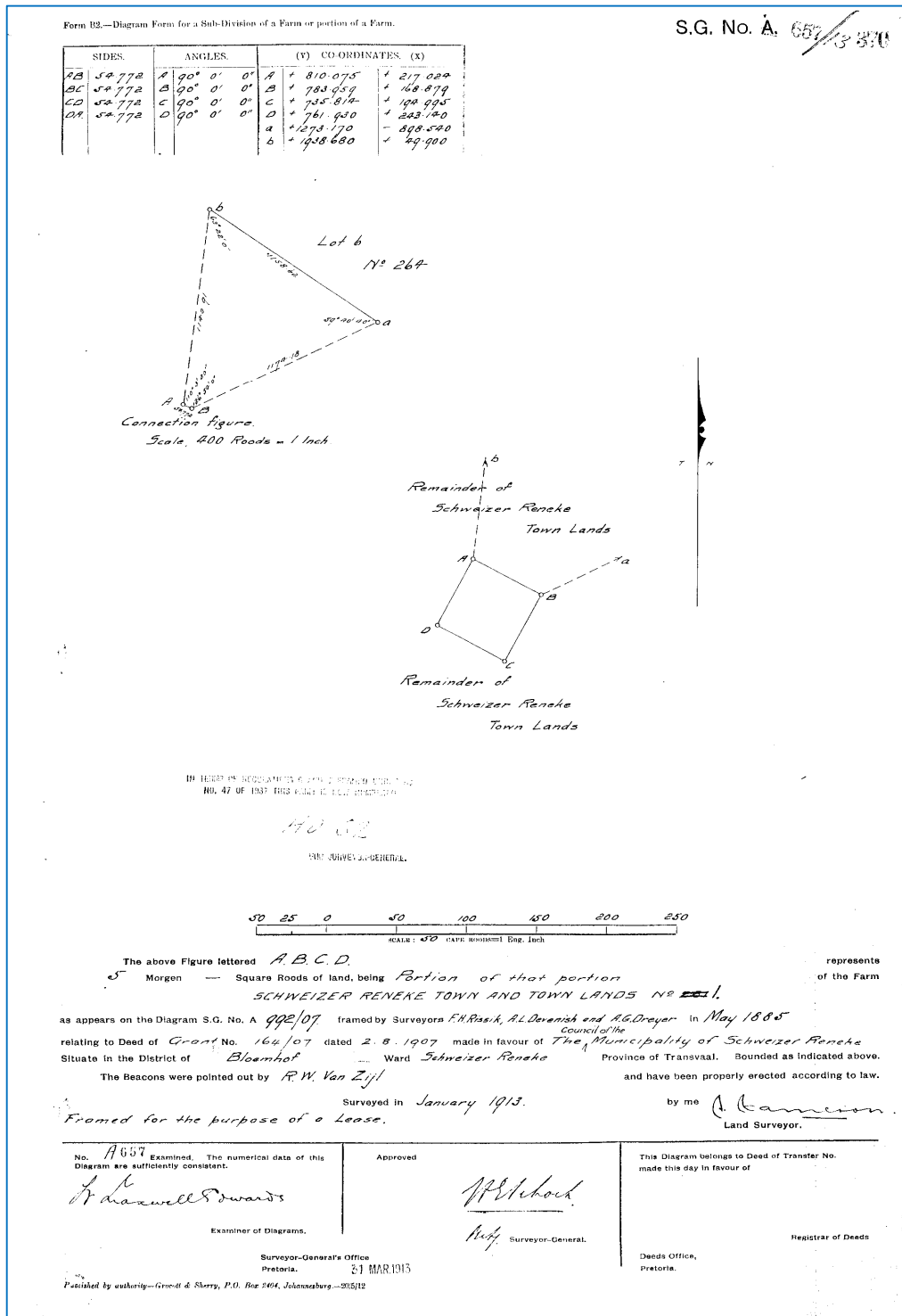


Figure 12: Lease Diagram SG No. A657/1913

## CHAPTER 3: PHYSICAL ASPECTS

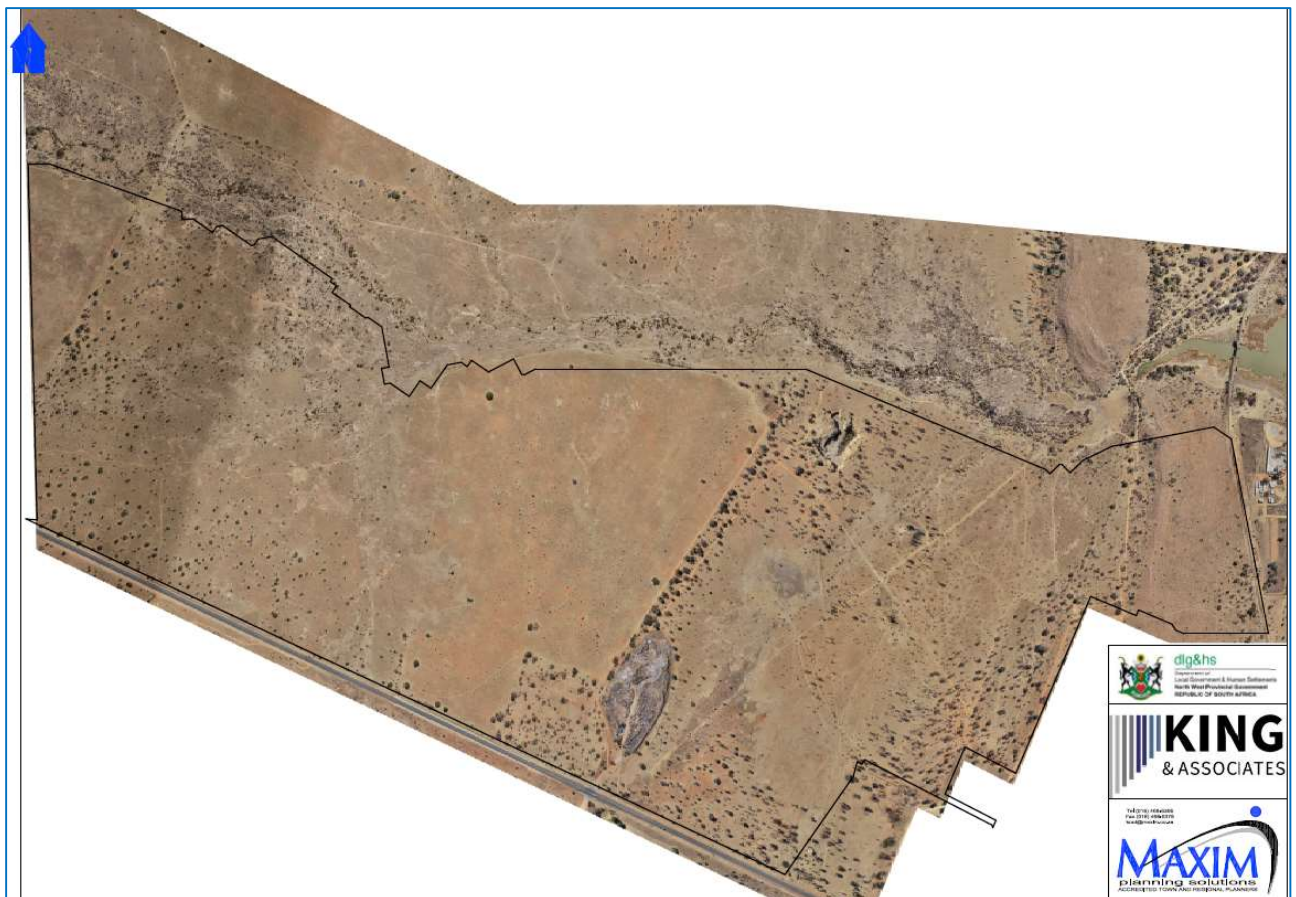
### 3.1 TOPOGRAPHY

As part of the pre-planning studies that were conducted in respect of the development area, an aerial survey was conducted by Calogero Surveyors. This aerial survey included:

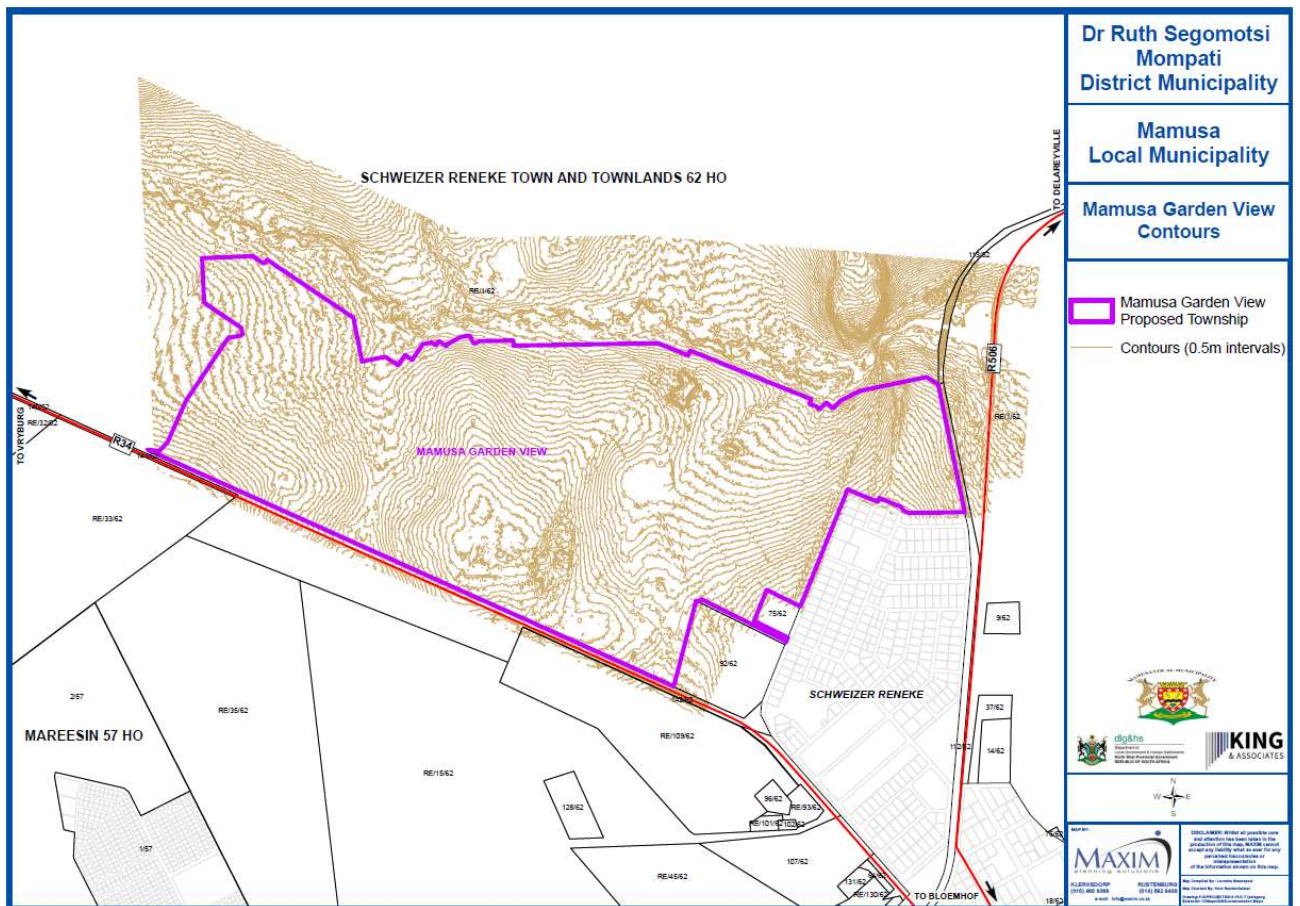
- High resolution aerial photography and the creation of digital aerial photo images (**Map 8 refers**) (refer also to **Annexure G1** of the comprehensive Land Development Application)
- Fieldwork and ground control points
- Line mapping (**Map 9 refers**):
  - Cadastral information
  - Contour mapping (0,5m contour intervals) (refer also to **Annexure G2** of the comprehensive Land Development Application).

The results of the aerial survey and the subsequent line mapping are reflected on **Maps 8 and 9**.

Map 8: Aerial photograph of application site



Map 9: Contour Map



### 3.2 CLIMATE

The region is characterized by summer rainfall with thunderstorms, with annual low rainfall figures of 546mm at Wolmaransstad and 550mm at Schweizer Reneke, recorded at the closest weather station to the site. Winters are dry with frost common. The warmest months are normally December and January and the coldest months are June and July.

An analysis of the data confirms a Weinert’s N-Value in the order of 6 for Schweizer Reneke. The mechanical disintegration of rocks will therefore not be dominant over chemical decomposition, and shallow soil horizons will be expected in areas of poor drainage, underlain by igneous rocks.

Storm water drainage and road pavement design must incorporate the climatic extremes above as well as the relative flatness of the area.

### 3.3 DRAINAGE

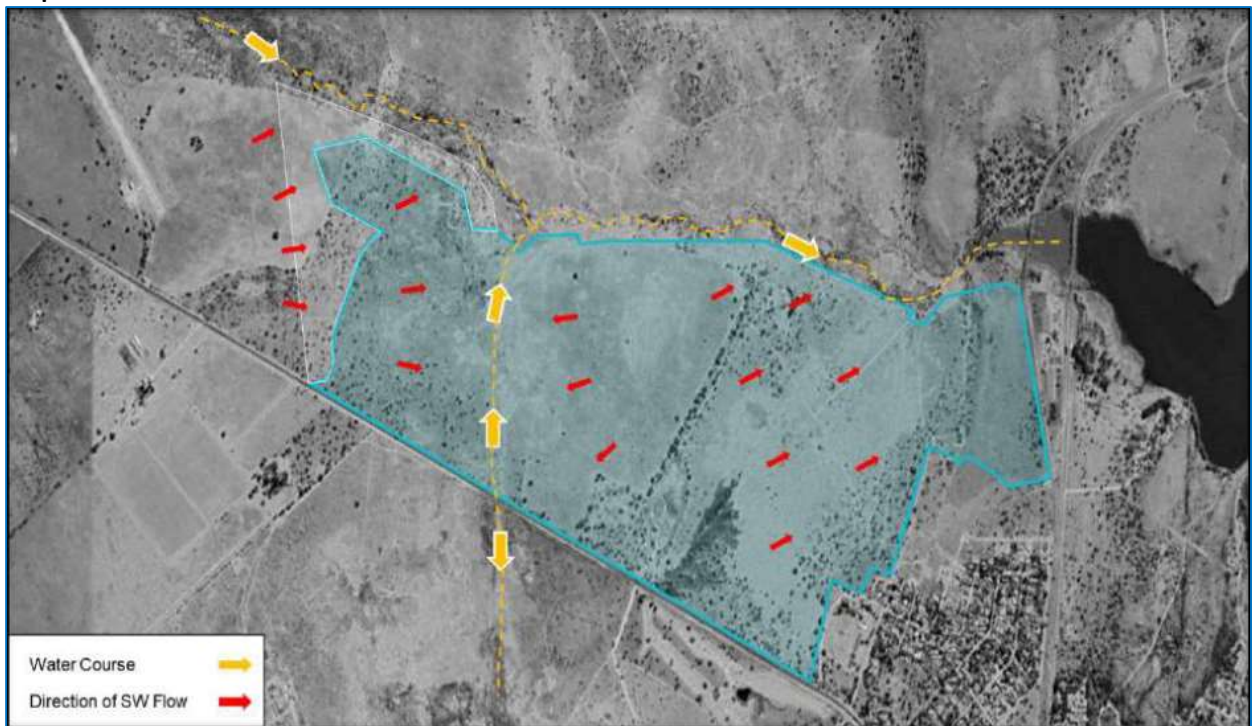
The site is located on a shallow slope towards the northeast. It is situated at between 1302 (at the dam) and 1320 metres above mean sea level. The proposed development is located in a valley with a natural stormwater low-point dividing the eastern and western portions of the development. The natural topography of the area slopes towards the storm water low-



point and a watercourse to the north. Due to the natural topography, the area may be prone to stormwater erosion.

Urbanisation of the demarcated area will increase the peak storm-water runoff (1-in-2 years recurrence interval) from 4.8 m<sup>3</sup>/s to 11.3 m<sup>3</sup>/s. **Map 10** indicates the direction of stormwater flow. Stormwater infrastructure will be designed to accommodate runoff as surface flow in an open system. This will be achieved by designing internal roadways to disperse stormwater towards the watercourses. Comprehensive information on stormwater attenuation should be presented in the detailed design report of internal services for approval by the municipality.

**Map 10: Direction of stormwater flow**



With regard to the water course traversing the proposed development area, as reflected on **Map 10** supra, the Professional Engineer responsible for the 1:100 year floodline determination of the non-perennial stream located north of the development area concluded that the catchment area of the water course is small (8 000 m<sup>2</sup>) and that flows will be in the form of sheet flow. It was indicated that the stormwater run-off towards this natural stormwater low-point will be able to be addressed in the stormwater plan for the proposed township area.

Special care must be taken to ensure adequate surface drainage to prevent the accumulation of water next to structures. Stormwater diversion measures such as ponding pools are recommended to control peak flows during thunderstorms. All embankments must be adequately compacted and planted with grass to stop any excessive erosion and scouring of the landscape.

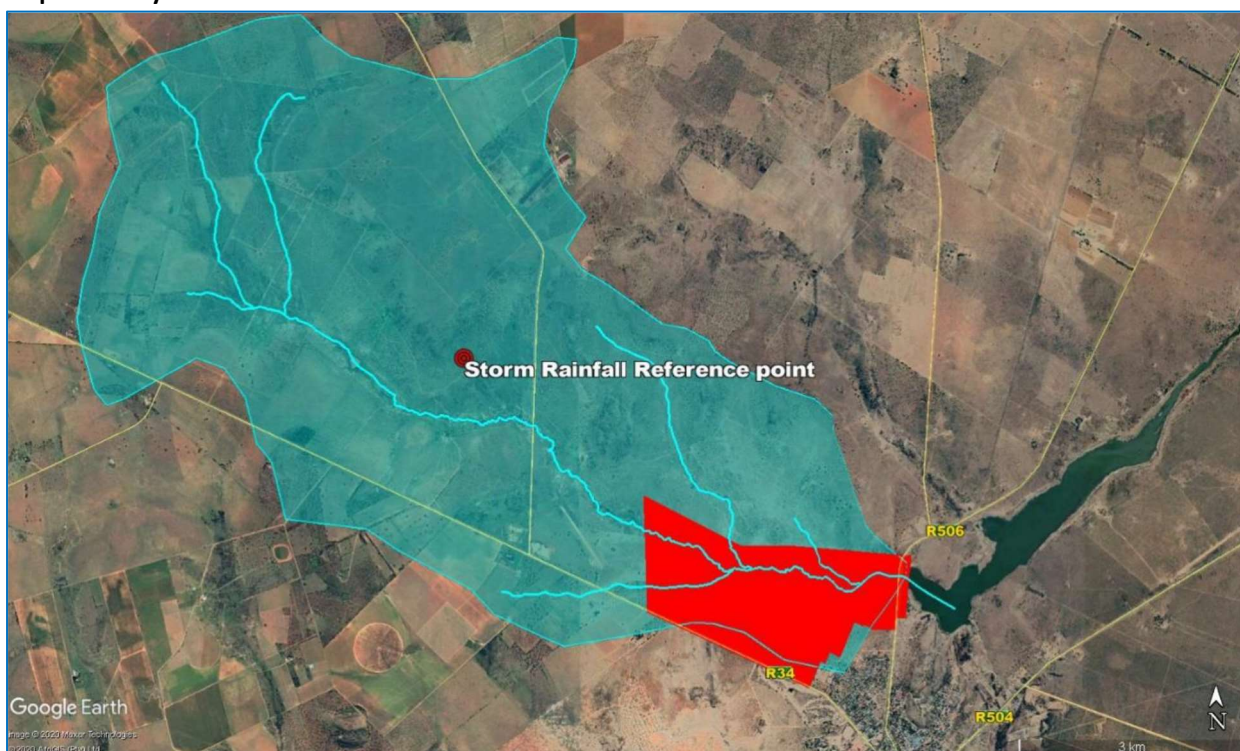


### 3.4 1: 100 YEAR FLOODLINE

Due to the fact that the proposed development area is bordered to the north by a non-perennial river feeding into the Wentzel Dam, CWT Consulting was commissioned to determine the 1:100 year floodline applicable to this drainage feature. The comprehensive 1:100 year floodline study is attached to the comprehensive Land Development Application as **Annexure U** and contains the following results.

The streams draining stormwater to **the study area** are shown below in **Map 11**.

Map 11: Study Area and Catchment



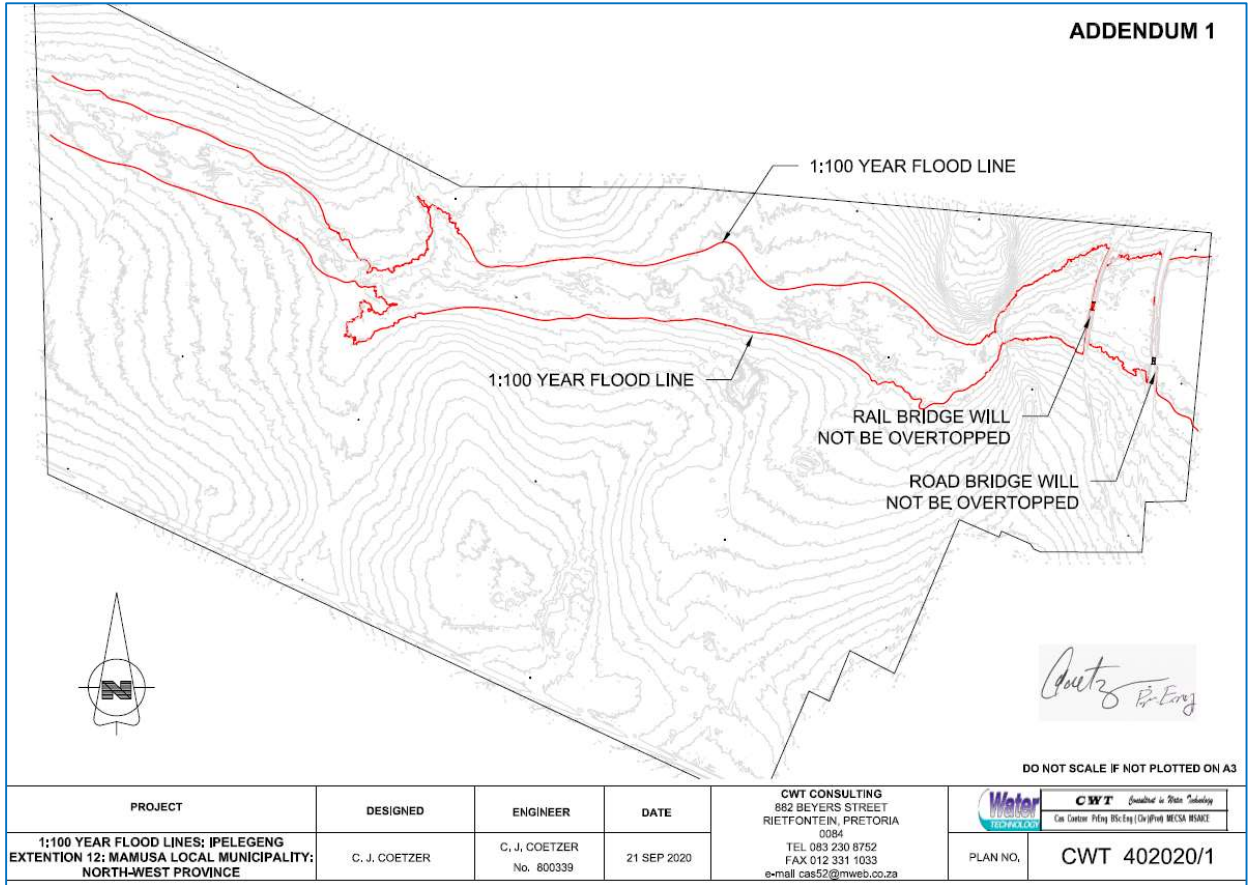
The characteristics of the catchment at the study area are as follows:

|                                  |      |                 |
|----------------------------------|------|-----------------|
| Area of catchment:               | 52,4 | km <sup>2</sup> |
| Length of longest watercourse:   | 13,8 | km              |
| Equal area height difference:    | 76,1 | m               |
| 10 – 85 slope height difference: | 77,3 | m               |
| Distance to catchment centroid:  | 6,6  | km              |
| Time of concentration            | 198  | minutes         |

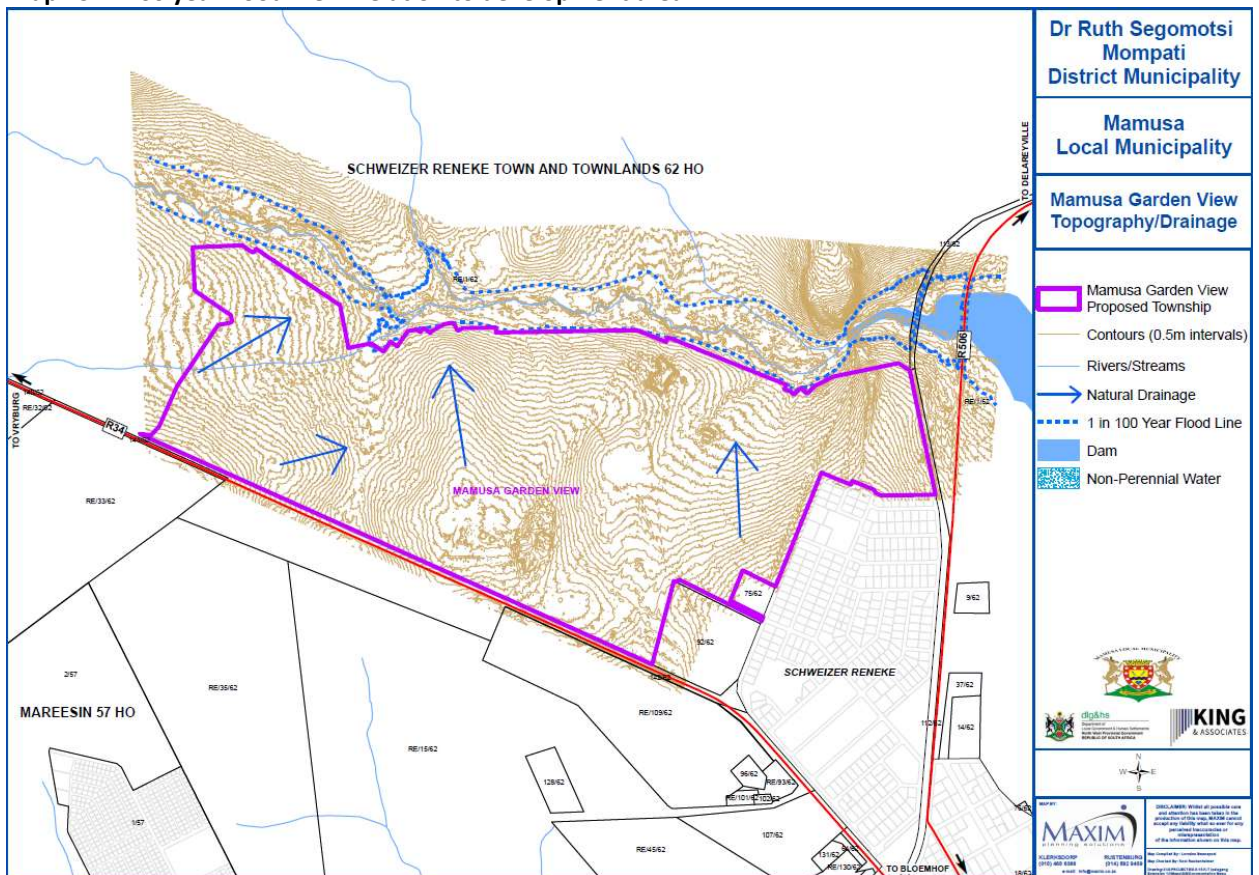
The 1:100 year floodline, as calculated by CWT Consulting is shown in **Map 12** overleaf.

The 1:100 year floodline in relation to the proposed development area is reflected on **Map 13**.

Map 12: 1:100 year floodline



Map 13: 1:100 year floodline in relation to development area



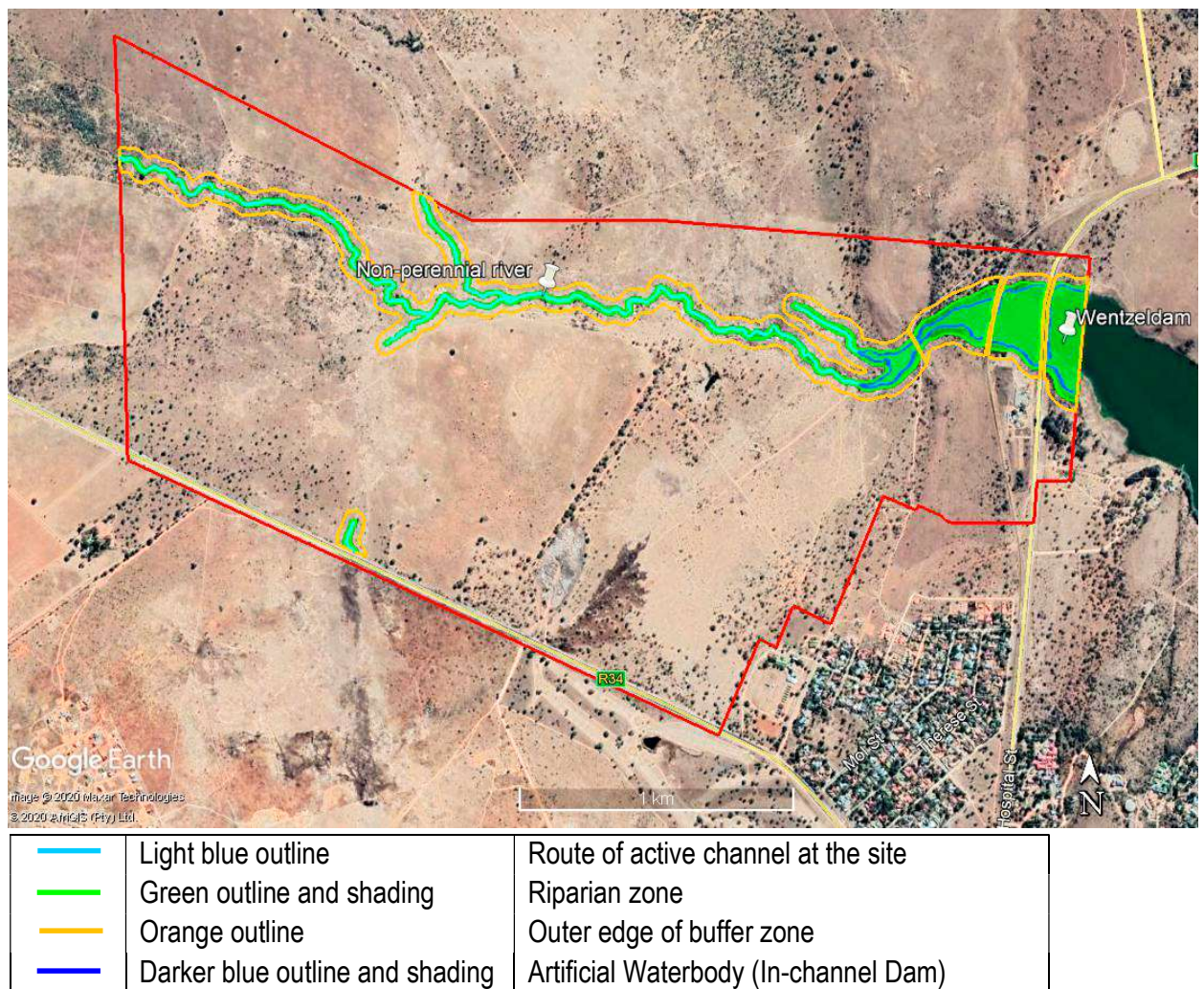


The area affected by the 1:100 year floodline was excluded from the proposed development area and same can be utilized for recreational or grazing purposes.

### 3.5 WETLANDS AND PANS

Due to the presence of a narrow non-perennial river, with its active channel and riparian zone, in the northern part of the application site a wetland assessment was conducted by Reiner F Terblanche (refer to **Annexure Q3** of the comprehensive Land Development Application). Wetlands are defined by the National Water Act (Act 36 of 1998) as: “*land which is transitional between terrestrial and aquatic ecosystems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil*”. However, wetlands that could be classified as Floodplain Wetlands, Channelled Valley-bottom Wetlands, Unchannelled Valley-bottom Wetlands, Depressions (Pans), Seeps or Wetland Flats **appear to be absent at site**.

The report delineated the non-perennial river and in-channel dam, with the riparian zones and buffer zones, as can be seen in **Map 14** below:



Map 14: Riparian and Buffer Zones present on site



Following the investigation on site the report concluded the following:

- A narrow non-perennial river, with its active channel and riparian zone, is present at the northern part of the site, as seen in the photograph below:



Photo 7: Narrow and defined active channel at northern parts of the site

- An in-channel dam, the Wentzel Dam, is present at the north-eastern part of the site. This active channel is narrow but well defined. Note that an existing dirt road with a concrete wall across the watercourse, a railway line as well as a tar road (R506) currently run across the watercourse area which is of medium-high sensitivity. Low concrete wall, where the dirt road crosses at the north-eastern parts of the site, results in seasonal impoundment of water near an inlet of the Wentzel Dam.



Photo 8: Low concrete wall where road crosses at the northeastern parts of the site



- **Wetlands that could be classified as Floodplain Wetlands, Channelled Valley-bottom Wetlands, Unchannelled Valley-bottom Wetlands, Depressions (Pans), Seeps or Wetland Flats appear to be absent at site.**
- Riparian zone along the active channel contains indigenous tree species such as Vachellia karroo, Searsia pyroides, Searsia lancea, Diospyros lycioides and Ziziphus mucronata. Indigenous grass species such as Cynodon dactylon and exotic grass species such as Paspalum dilatatum are also present at the riparian zone. Alien invasive herb species such as Oenothera rosea and Rumex crispus are present at the riparian zone/ fringes of the dam. Persicaria species (Knotweeds) occur at the permanent zones of watercourse. The succulent alien invasive plant species Cylindropuntia imbricata (Umbricate Prickly Pear) is conspicuous at the site and also at and near the riparian zone.
- Present ecological status (PES) of the Non-perennial River at the site is CATEGORY C which means the watercourse is moderately modified but with some loss of natural habitats. Ecological Importance and Sensitivity (EIS) at the site is Category C which is Moderate and refers to watercourses that are considered to be ecologically important and sensitive on a provincial or local scale. The biodiversity of these floodplains is not usually sensitive to flow and habitat modifications. They play a small role in moderating the quantity and quality of water of major rivers.
- Site is part of the Lower Vaal Water Management Area (WMA 10). **The site is not part of a Freshwater Ecosystem Priority Area (FEPA) or wetland cluster** (Nel et al., 2011a, 2011b).
- **The non-perennial river at the site, with its riparian zone and buffer zone, is likely to be impacted by the proposed developments, but to a limited extent.** If the development is approved, the construction should be planned in such a manner that surface flow function well while erosion is limited. There is no distinct indication that interflow plays an important role in the maintenance of the non-perennial river. The geomorphological setting and flow regime should be as similar as possible post development as to prior the development, if the development is approved (in this case there could be some positive impact on the flow regime). **Loss of any wetland animal or plant species of particular conservation importance is not expected.**
- **Loss of wetland Threatened or Near-Threatened Plants, Mammals, Reptiles, Amphibians and Invertebrates at the proposed footprint appears to be unlikely.**
- Rubble or waste could lead to infiltration of unwanted pollutants into the soil. Spilling of petroleum fuels and unwanted chemicals onto the soils that infiltrate these soils could lead to pollution of soils and also impact on water quality when the stream flows. Rubble or waste that could accompany the construction effort, if the development is approved, should be removed during and after construction. Measures should be taken to avoid any spills and infiltration of petroleum fuels or any chemical pollutants into the soil during construction phase.
- A rehabilitation plan which includes the combating of alien invasive plant species at the watercourse is essential. Infestation by alien invasive species could replace indigenous vegetation or potential areas where indigenous vegetation could recover.

Once established, combatting these alien invasive plant species may become very expensive to combat in the long term, especially if species such as Prosopis (Mesquite) and Melia azedarach (Syringa Berry-tree) is allowed to establish. Continued monitoring and eradication of alien invasive plant species are imperative.

- The Negative Risk Rating in accordance with a risk matrix based on Section 21 c and (i) water use Risk Assessment Protocol and Notice 509 of 2016 (Government Gazette No. 40229: 105-133; Republic of South Africa) at the site is Low.

**Kindly refer to Annexure Q3 of the comprehensive Land Development Application for the complete report and more information in this regard.**

### **3.6 VEGETATION**

The area is typically characterized by Kalahari thornveld veld type (Acocks, 1988).

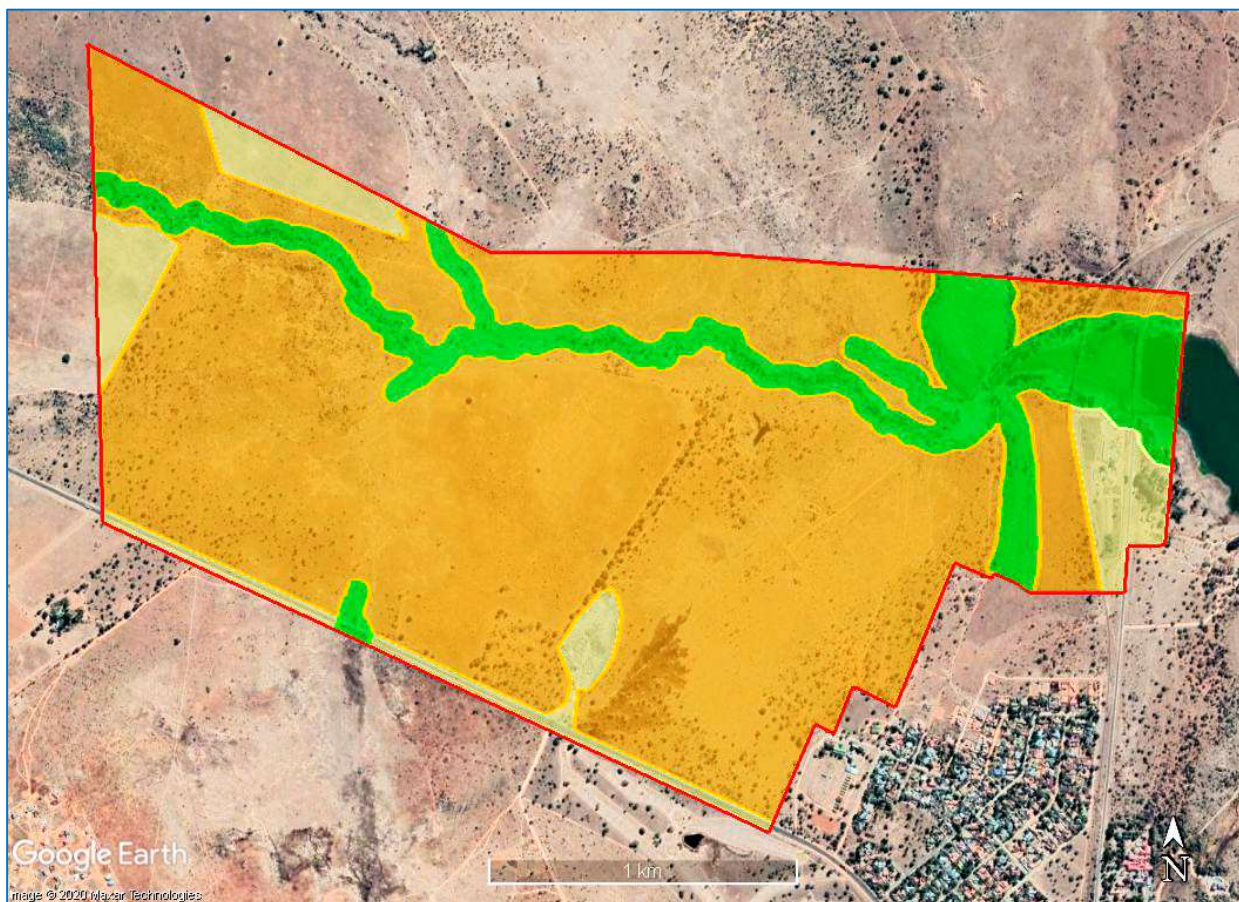
The site itself is covered by sparse grasslands of which some was used as agriculture land, and some typical indigenous trees such as Acacia erioloba (Kameeldoring) are present on site.





### **3.7 FAUNA AND FLORA ASSESSMENT**

To establish the possibility that threatened flora and fauna known to occur in North West Province are likely to occur within the proposed development site (and the immediate surrounding area) or not, an Ecological Fauna and Flora Habitat Survey was commissioned and said survey was conducted by Reinier F Terblanche of Anthene Ecological CC (refer **Annexure Q4** of the comprehensive Land Development Application). Assessment Species which are not threatened but of conservation concern, for example near threatened, data deficient or declining species also received attention in the survey.

#### **3.7.1 Ecological Sensitivity:**

Ecological sensitivity at most of the site is medium. Ecological sensitivity at some of the conspicuously disturbed areas at the site, such as the extensive dumping area is indicated as low. Ecological sensitivity at the non-perennial active channel, in-channel dam and riparian zone, as well as the low rocky ridges and their buffer zones, is medium-high owing to the importance of these watercourses and low rocky ridges as conservation corridors in the larger area. Note that an existing dirt road with a concrete wall across the watercourse, a railway line as well as a tar road (R506) currently run across the area of medium-high sensitivity.



|   |                                  |                         |
|---|----------------------------------|-------------------------|
|  | Red outline                      | Boundaries of the site  |
|  | Light yellow outline and shading | Low Sensitivity         |
|  | Orange outline and shading       | Medium Sensitivity      |
|  | Green outline and shading        | Medium-high Sensitivity |

Map 15: Ecological Sensitivity at the application site

### 3.7.2 Conclusion:

The Ecological Fauna and Flora Habitat Survey concluded as follows:

- Vegetation at most of the site is visibly degraded and cover of vegetation in many areas is conspicuously poor. Vegetation at an informal rubbish dump site is transformed.
- Some areas have been cleared, exposing soil. Fairly large patches of disturbed savanna still remain at the site. *Vachellia hebeclada* (Candlepod Thorn) occurs in many clumps at visibly disturbed areas with noticeable poor plant cover.
- Indigenous trees at the site include *Vachellia erioloba* (Camel Thorn), *Vachellia hebeclada* subsp. *hebeclada* (Candlepod Thorn; shrub-height at site), *Vachellia karroo* (Sweet Thorn), *Tarchonanthus camphoratus* (Camphor Bush) and *Grewia flava* (Velvet Raisin; shrub-height at site). The indigenous shrub *Asparagus laricinus* (Wild Asparagus) is found at disturbed places at the site. Indigenous grass species



include *Eragrostis lehmanianna*, *Eragrostis superba*, *Aristida congesta*, *Pogonarthria squarrosa*, *Heteropogon contortus*, *Melinis repens* and *Tragus berteronianus*. Indigenous forb species and shrublets include *Bulbine narcissifolia*, *Barleria macrostegia* and *Berkheya onopordifolia*. Herbaceous shrub *Gomphocarpus fruticosus* is also found at the site. Dwarf shrubs and shrublets at the site include *Felicia muricata*. The widespread succulent *Aloe grandidentata* occurs at several places at the site.

- A number of alien invasive weed species are present at previously cleared and previously cultivated areas. The succulent alien invasive plant species *Cylindropuntia imbricata* (Umbricate Prickly Pear) is conspicuous at the site.
- **No wetlands appear to be present at the footprint proposed for the development.** A narrow non-perennial river, with its active channel and riparian zone, is present at the northern part of the site. An in-channel dam, the Wentzel Dam, is present at the northeastern part of the site.
- Riparian zone along the active channel contains indigenous tree species such as *Vachellia karroo*, *Searsia pyroides*, *Searsia lancea*, *Diospyros lycioides* and *Ziziphus mucronata*. Indigenous grass species such as *Cynodon dactylon* and exotic grass species such as *Paspalum dilatatum* are also present at the riparian zone. Alien invasive herbaceous species such as *Oenothera rosea* and *Rumex crispus* are present at the riparian zone/ fringes of the dam. *Persicaria* species (Knotweeds) occur at the permanent zones of the watercourse.
- Two low rocky ridges are found at the north-eastern parts of the site.
- Savanna at the site is represented by the Schweizer-Reneke Bushveld vegetation type (SVk 3) which is listed as a Threatened Ecosystem, Vulnerable, according to the National List of Threatened Ecosystems (2011). Terrestrial vegetation at the site has been modified and transformed at parts, in the past and most of the vegetation appears degraded. Some areas contain savanna in fairly natural condition. The scope overall, for the conservation of natural savanna at the site, is small.
- **No Threatened or Near Threatened plant or animal species appear to be resident at the site.**
- One plant species, *Vachellia erioloba* (Camel Thorn) that is not threatened but listed as Protected tree species occurs at the site. In terms of a part of section 15(1) of the National Forests Act No. 84 of 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister. *Vachellia erioloba* is numerous at some areas at the site. A Camel Thorn Tree Forest or large Camel Thorn trees (>10 m) such as at Kathu and Witsand in the Northern Cape Province, are absent at the site. If the development is approved it is likely that some Camel Thorn trees (*Vachellia erioloba*) should be removed, in which case a permit for removal would be imperative and should be applied for.



- Site is part of the Lower Vaal Water Management Area (WMA 10). The site is not part of a Freshwater Ecosystem Priority Area (FEPA) or wetland cluster (Nel *et al.*, 2011a, 2011b).
- **Ecological sensitivity at most of the site is medium.**
- There is little scope for most of the site to be part of a corridor of particular conservation importance, excluding the watercourse (with its buffer zone) and the low rocky ridges. Non-perennial river at the northern part of the site, as well as the low rocky ridges at the north-eastern parts of the site are corridors of particular conservation concern.
- Continued monitoring and eradication of alien invasive plant species are imperative. It is in particular declared alien invasive species such as *Prosopis glandulosa* (Mesquite), *Melia azedarach* (Syringa) and alien invasive Australian *Acacia* species (Australian wattles) that should not be allowed to establish.

**Kindly refer to Annexure Q4 of the comprehensive Land Development Application for the complete report and more information in this regard.**

### **3.8 GROUNDWATER**

Seepage and the presence of perennial fluctuations of ground water were not encountered on site, but a seasonal perched water table may exist. A ferruginised profile indicates that some perennial water level fluctuations occur.

Ground water in the form of seepage was not intersected in any test pits during the investigation, but some problems are foreseen and normal water tightening techniques such as damp course on foundation levels are required. The expected high permeability of the silty sand may lead to leachate from sanitation systems to reach the ground water, and with the relative shallow residual rock, a closed water borne sewage system is recommended.

### **3.9 GEOLOGY**

(Extract from Engineering Geological Investigation Report compiled by Geoset attached as **Annexure T** to the comprehensive land development application)

#### **3.9.1 LOCAL GEOLOGY**

The site is underlain by Archean granite and gneiss of the Archean Basement Complex, from the oldest time span in the Randian Erathem. Surficial deposits include the colluvium and Aeolian sand covering the lithology. Locally a transported layer of diamondiferous river terrace gravel was encountered on the centre portion of the site, which was possibly economically mined in the past. No dolomite occurs in the area and no stability investigation is required.

**On account of the field observations, laboratory results, previous experience and engineering properties of the soil, it is zoned as follows:**

### **Special Development:**

#### **Site Class C2/2A:**

Highly collapsible soil of aeolian origin with thickness in excess of 0,75m, with more than 10mm movement measured at surface characterizes this zone. Foundations will therefore require special foundation techniques such as proper compaction techniques combined with lightly reinforced strip footings with articulation joints at all internal and external doors and openings with light reinforcement (brickforce) in masonry or even soil replacement by an engineered fill soil raft with G5 quality or better. Site drainage and plumbing and service precautions must be used. It is classified as C2 in terms of the SAIEG & NHBC guidelines (1995) or the SAICE Code of practice (1995), and 2A according to the classification for urban development (Partridge, Wood & Brink).

#### **Site Class C1H1/2A2C:**

Medium collapsible soil of aeolian origin underlain by medium expansive and compressible soil with up to 15mm movement measured at surface characterizes this zone. Foundations will therefore require modified normal foundation techniques such as proper compaction techniques and lightly reinforced strip footings with articulation joints at all internal and external doors and openings with light reinforcement (brickforce) in masonry or even soil replacement by an engineered fill soil raft. Site drainage and plumbing and service precautions must be used. It is classified as C1H1 in terms of the SAIEG & NHBC guidelines (1995) or the SAICE Code of practice (1995), and 2A2C after the classification for urban development (Partridge, Wood & Brink).

### **Special Development with Risk**

#### **Site Class CR/1A3F:**

Granite rock outcrop and shallow rock granite or core stones characterize these localized zones, and it will require special tools to reach installation depths for services, inducing a higher than normal cost.

#### **Site Class PQ:**

Borrow pits and quarries or areas where spoil or building rubble were dumped need to be rehabilitated by backfilling them with an engineered fill of G5 quality or better, compacted in layers before any development can take place.

### **Undevelopable:**

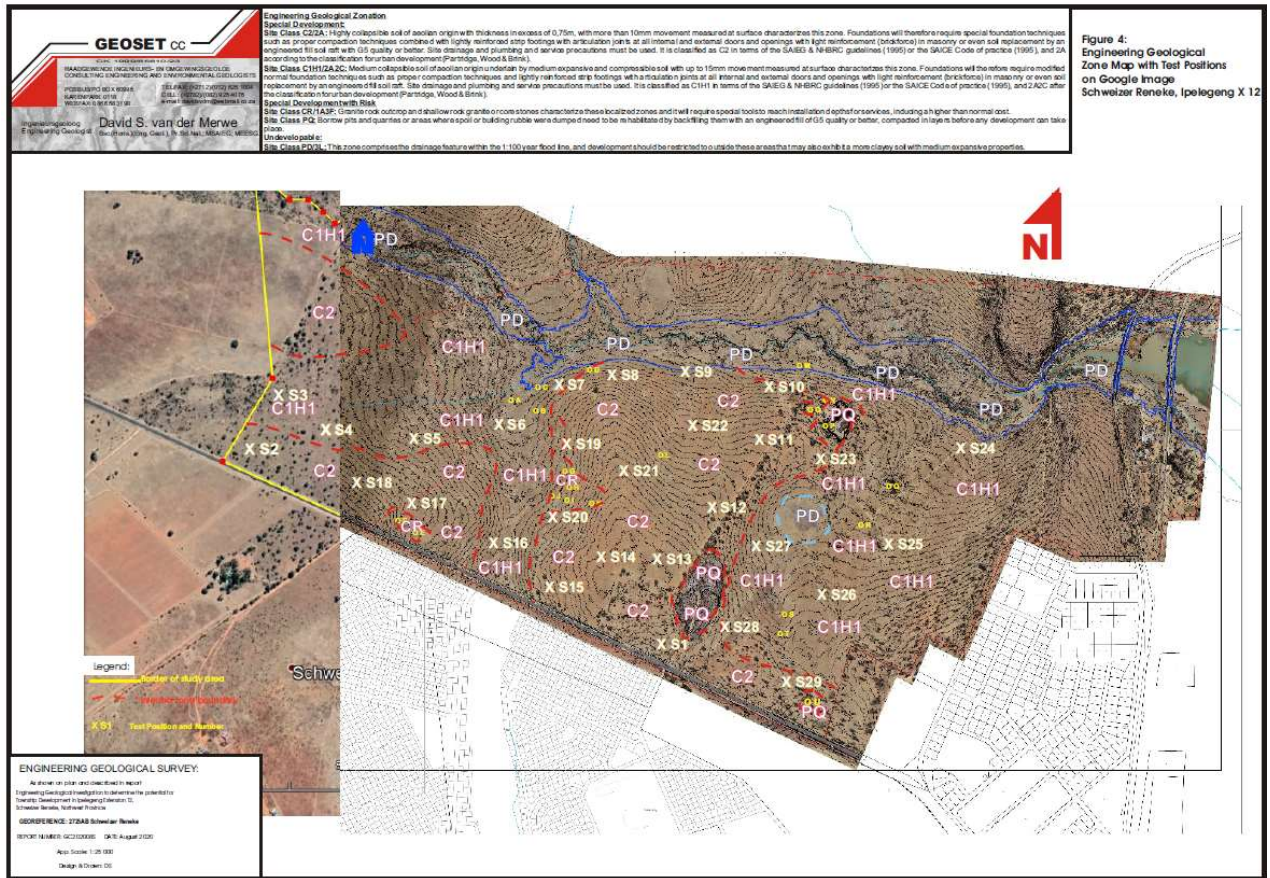
#### **Site Class PD/3L:**

This zone comprises the drainage feature within the 1:100 year flood line, and development should be restricted to outside these areas that may also exhibit a more clayey soil with medium expansive properties.

The geotechnical problems encountered will require modified normal to special foundation techniques and construction, and proper standard compaction techniques and drainage is required.

The zones listed above are illustrated on **Map 16** below:

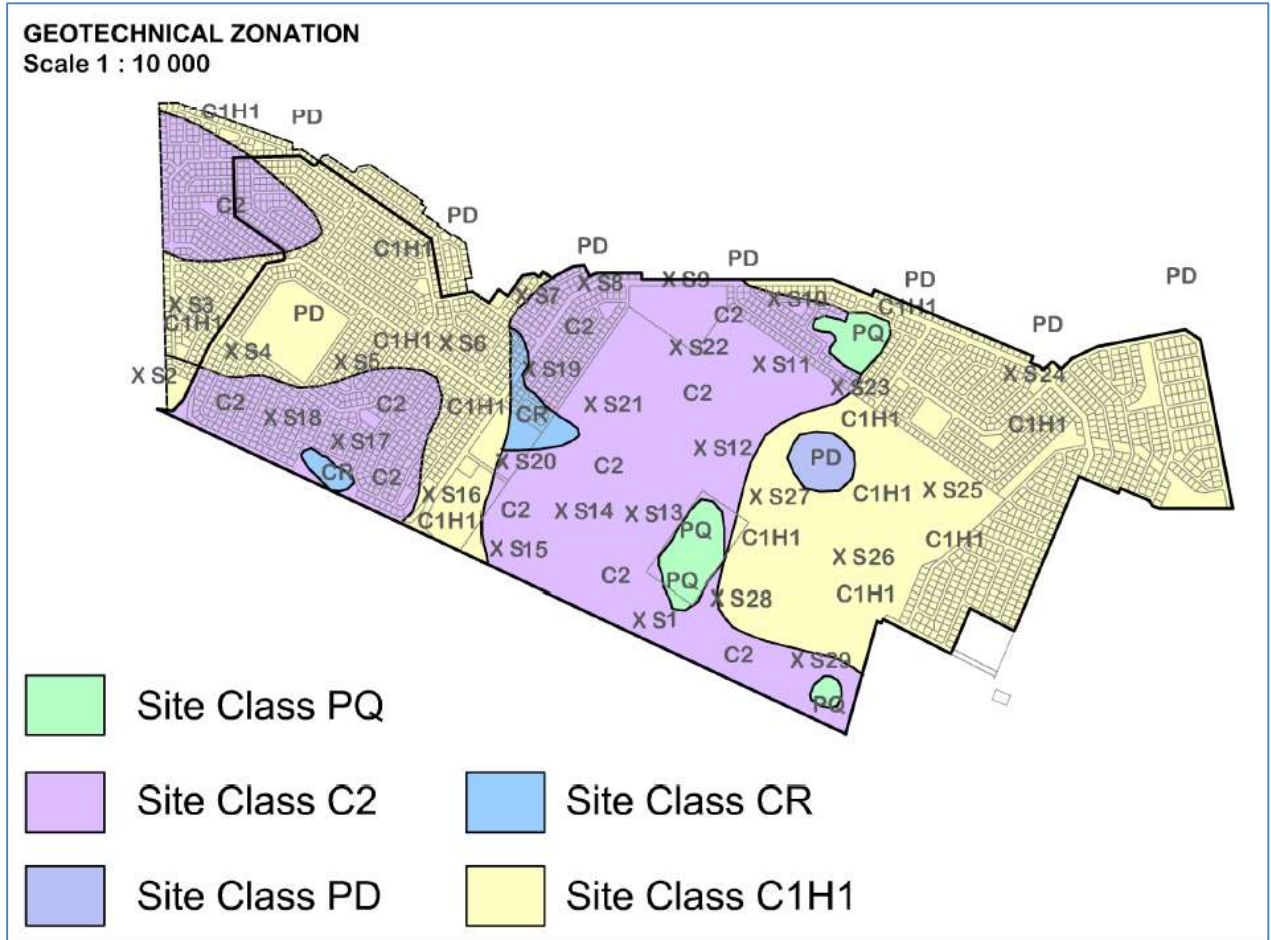
**Map 16: Engineering Geological Zone Map**



The geotechnical soil zones, as they apply to the erven in the proposed township area of Mamusa Garden View, are indicated on **Map 17**.



Map 17: Graphic presentation of the Engineering Geological Zone Map



### 3.9.2 CONCLUSIONS

The geotechnical report concluded as follows:

- A site of approximately 345 hectares, Ipelegeng Extension12, Schweizer Reneke, was investigated to determine the engineering geological properties that will influence township proclamation.
- The site is underlain by Archean granite and gneiss of the Archean Basement Complex, from the oldest time span in the Randian Erathem. Surficial deposits include the hillwash and aeolian sand covering the lithology.
- Some problems are foreseen regarding the excavatability to 1,5m depth on site, and localized granite rock outcrop, sub outcrop and core stones can be expected with inflated cost of **excavations** for the installation of services.
- Zoning of the site revealed zones with constraints regarding the **expansive and collapsible properties** of the material.
- These proposed mitigation measures will be sufficient to successfully address the anticipated geotechnical problems and to ensure the sustainable development as planned.
- **This investigation was done to reveal the geotechnical properties on site with the techniques as described to form our opinion. Although every possible**

factor during the investigation was dealt with, it is possible to encounter variable local conditions. This will require the inspection of foundations by a competent person to verify expected problems.

### 3.10 ENVIRONMENTAL IMPACT ASSESSMENT

AB Enviro-Consult was appointed to conduct an Environmental Impact Assessment in terms of sections 24 and 24(D) of the National Environmental Management Act, 1998 (Act 107 of 1998). The activity is listed in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014.

An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration. In addition to desktop studies and assessed alternatives and site inspections carried out to verify outcomes of the desktop studies, a full Public Participation Process was followed to obtain inputs from interested and affected parties.

The Final Environmental Impact Assessment Report (refer **Annexure Q1** of the comprehensive Land Development Application) was submitted to the Department Economic Development, Environment, Conservation and Tourism (DEDECT, Ref nr: NWP/EIA/28/2020) in December 2021 and did not identify any fatal flaws pertaining to the proposed development.

The following opinion was rendered by the Environmental Assessment Practitioner in the Final Environmental Impact Assessment Report (EIAR):

***“The information contained in this DEIAR and Specialist Studies, provides a detailed and comprehensive description of the proposed project, baseline environment and potential environmental impacts associated with the proposed development. As no significant impacts that cannot be mitigated were identified, AB Enviro Consult is of the opinion that the project should proceed, provided that the necessary mitigation and management measures are implemented.*”**

***Under South African environmental legislation, the Applicant is accountable for the potential impacts of the activities that are undertaken and is responsible for managing these impacts. The Applicant therefore has overall and total environmental responsibility to ensure that the implementation of the construction phase of the EMPR complies with the relevant legislation and the conditions of the environmental authorization. The applicant will thus be responsible for the implementation of the EMPR.***

***The environmental management programme (EMPR) should form part of the contract between the construction company and the applicant. This will help ensure***

***that the EMPR is adhered to. It is suggested that a suitably qualified Environmental Control Officer (ECO) be appointed for the construction phase.”***

The Environmental Authorisation in respect of the development will be forwarded to the Local Authority upon receipt .

### **3.11 HERITAGE RESOURCES**

(The information contained in Section 3.11 below was extracted from the Phase 1 Cultural Heritage Resources Impact Assessment compiled by A Pelser Archaeological Consulting attached as **Annexure Q2** to the comprehensive Land Development Application)

A Pelser Archaeological Consulting was commissioned to conduct a Cultural Heritage Resources Impact Assessment in respect of the proposed development area. The fore-mentioned assessment indicated that a number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. There are no known sites on the specific land parcel, and no culturally significant sites were identified in the study area during the assessment conducted during November 2020.

The topography of the study area is in general flat and open, with no real rocky outcrops or ridges present. Grass cover in sections is relatively dense, while tree cover is fairly limited. The largest part of the study and proposed development area was used in the past for agricultural purposes and currently most of the properties are used for livestock grazing as well. Many of the land parcels are rented from the Municipality by private individuals for this purpose. Access to many of the properties was restricted and this can be seen as a limitation in the study. A large Landfill Site is located in the study area and as indicated a large buffer zone within which no development is allowed will be placed around the landfill area.

Despite the limited access it is believed that it is unlikely that any sites of cultural heritage origin or significance will be present in the area.

***No Stone Age sites or material (stone tools) were identified in the study area during the assessment. If any are to be found they would more than likely be single, out of context, objects scattered around the area.***

***No Iron Age sites or material were identified in the study areas during the assessment.***

No sites, features or material of any real cultural heritage (archaeological and/or historical) origin or significance were identified in the study area during the assessment. The only sites identified are the remains (foundations) of recent farming related structures, but these are of recent age. The dumping of building rubble also occurs in the area in places.





Photo 9: View of building rubble found in some sections

The Heritage Resources Impact Assessment concluded that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of grass cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

The Heritage Consultant concluded that ***“from a cultural heritage point of view the proposed Ipelegeng Extension 12 Township Development should therefore be allowed continue....”***

## CHAPTER 4: PROPOSED DEVELOPMENT

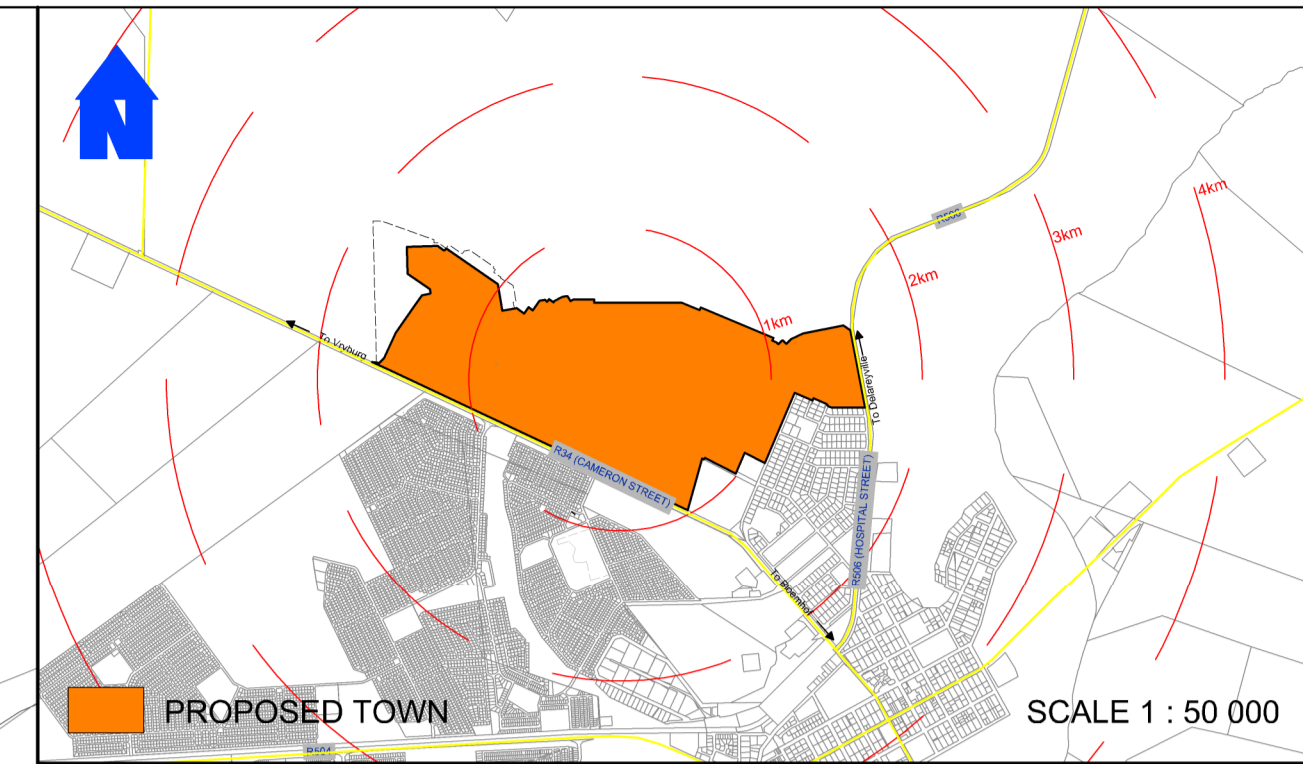
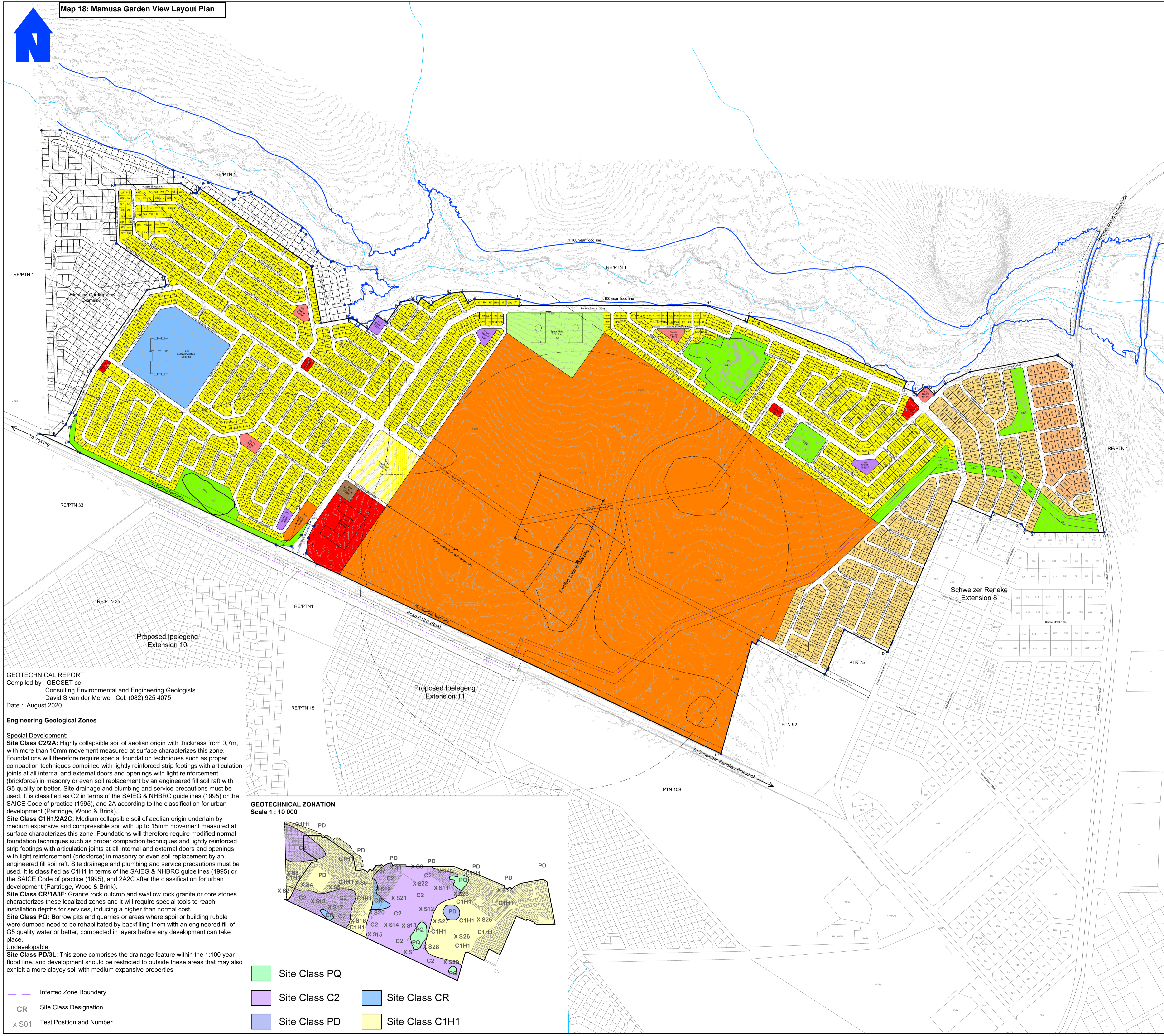
### 4.1 LAND USES

The intention of the township applicant is to utilize the concerned property for a Greenfield development, aimed at creating a viable residential township that can partially address the housing backlog faced in the Mamusa Local Municipality area that has given rise to extensive informal occupation of vacant municipal land where occupants reside in squalid conditions without proper shelter and access to basic services.

The integrated layout plan compiled in respect of the proposed development area makes provision for a variety of erf sizes that can accommodate a variety of different housing typologies including inter alia GAP/FLISP housing, rental housing and bonded housing. In accordance with the policy guidelines contained in the Breaking New Ground (BNG) Principles, it is indicated that new residential township areas should focus on the establishment of integrated human settlements focussing on the provision of erven not only for subsidized/low income households but also addressing the need for other housing typologies such as bonded housing and FLISP projects. In terms of establishing a truly integrated human settlement, the layout plan compiled in respect of the development area also makes provision for the required non-residential-, social, educational, institutional and business facilities.

As alluded to in Section 1.1, the planning of the proposed integrated human settlement area, was conducted in an integrated manner. This integrated planning yielded a township area comprising 2300 residential erven together with an additional 29 erven earmarked for non-residential support functions (exclusive of streets). The layout plan of the proposed township area is reflected on **Map 18** below:





### LEGEND

| Proposed Zoning       | Proposed Land Use                                       | Number of Erven | Erf Number  | Area in Ha        | % of Area   |
|-----------------------|---|-----------------|---|-------------------|-------------|
| Residential 1         | Dwelling house (Average stand size: 360m <sup>2</sup> ) | 1830            | 1-8: 10-235; 237-311; 313-325; 327-640; 642-891; 893-1072; 1074-1131; 1133-1293; 1295-1342; 1344-1445; 1447-1593; 1595-1773; 1775-1780; 1782-1849 | 69,0078ha         | 25,15%      |
|                       | Dwelling house (Average stand size: 450m <sup>2</sup> ) | 400             | 1851-2003; 2073-2319  | 19,2078ha         | 7,00%       |
|                       | Dwelling house (Average stand size: 600m <sup>2</sup> ) | 69              | 2004-2072   | 4,3023ha          | 1,57%       |
| Residential 2         | Flats / Group Housing                                   | 1               | 1343  | 2,6563ha          | 0,97%       |
| Business 1            | Shops / Offices   | 5               | 9; 1073; 1345; 1584; 1791   | 3,9810ha          | 1,45%       |
|                       | Place of Instruction (Secondary School)                 | 1               | 641   | 5,6975ha          | 2,08%       |
| Institutional         | Place of Instruction (Creche)                           | 4               | 236; 892; 1426; 1850  | 0,7810ha          | 0,28%       |
|                       | Place of Worship (Church)                               | 4               | 312; 1132; 1294; 1774   | 0,8010ha          | 0,29%       |
| Municipal             | Municipal   | 3               | 326; 1346-1347  | 113,7941ha        | 41,48%      |
|                       | Taxi Rank   | 1               | 1344  | 0,2488ha          | 0,09%       |
| Recreational          | Sports Ground   | 1               | 1348  | 3,9433ha          | 1,44%       |
| Public Open Space     | Parks   | 10              | 2320-2329   | 11,4857ha         | 4,19%       |
| Existing Public Roads | Public Road (Street)                                    |                 |   | 38,4428ha         | 14,01%      |
| <b>TOTAL</b>          |   | <b>2329</b>     | <b>1-2329</b>   | <b>274,3495ha</b> | <b>100%</b> |

### STREETS

| Reserve Width | Length in Metre | % of Street Length |
|---------------|-----------------|--------------------|
| 10m           | 22861m          | 70,15%             |
| 13m           | 3205m           | 9,84%              |
| 16m           | 3804m           | 11,67%             |
| 20m           | 2719m           | 8,34%              |
| <b>TOTAL</b>  | <b>32590m</b>   | <b>100%</b>        |

**NOTES:**

- The figure A-B-C-D-E-F-G-H-J-K-L-M-N-O-P-Q-R-S-T-U-V-W-X-Y-Z-A'-B'-C'-D'-E'-F'-G'-H'-J'-K'-L'-M'-N'-O'-P'-Q'-R'-S'-T'-U'-V'-W'-X'-Y'-Z'-A'-B'-C'-D'-E'-F'-G'-H'-J'-K'-L'-M'-N'-O'-P'-Q'-R'-S'-T'-U'-V'-W'-X'-Y'-Z'-A'-B'-C'-D'-E'-F'-G'-H'-J'-K'-L'-M'-N'-O'-P'-Q'-R'-S'-T' represents the proposed township area of Mamusa Garden View.
- 16m Building Restriction along the line(s) lettered M'-J'-K'-I and o-p-q-r-s-t as indicated on the layout plan.
- No ingress to or egress from Road P12-2 (R34) along the lines lettered L'-I and Q'-I as indicated on the layout plan.
- No ingress to or egress from Ferreira Avenue along the lines lettered J'-K'-I and n-o-p-q as indicated on the layout plan.
- No ingress to or egress from Kennel Morolong Street along the lines lettered r-s-t-u and v-C-B-A as indicated on the layout plan.

**SERVITUDE NOTES:**

- The figure a-b-c-d-a represents a servitude in respect of a rifle or shooting range vide diagram SG No. A2975/1939 and Notarial Deed of Servitude 605/19415 - Servitude to be cancelled.
- The figure e-f-g-h-e represents a lease area vide diagram SG No. A657/1913 - Diagram to be cancelled.

Average Residential Erven Size : 400m<sup>2</sup>  
 Erf sizes and dimensions subject to final survey.

**STREETS:**  
 Maximum slope 1 : 10  
 Minimum slope 1 : 50

**1 : 100 YEAR FLOODLINE**

It is hereby certified in terms of the provisions of Section 144 of the National Water Act 1998 (Act No.36 of 1998) that the lines shown on this drawing indicate the maximum extent of inundation likely on an average every hundred years by the flood waters from the natural catchment (as determined using present topography).

**DESIGN OF TOWN LAYOUT**

Maxim Planning Solutions (Pty) Ltd  
 K. Raubenheimer Pr. Pln A/924/1996  
 Tel. (018) 468 6366

**CONTOURS**

The contour survey is in accordance with the standards laid down by the Regulations relating to Township Establishment and Land Use.

Digital Orthophoto by:  
**Calogero Surveyors**  
 CELL: +2782 857 9920  
 EMAIL: anthony@calogerosurveyors.co.za  
 SURVEYED: 29 August 2020  
 https://calogerosurveyors.co.za

System : WGS84 Central Meridian : Lo25

## PROPOSED TOWNSHIP MAMUSA GARDEN VIEW

0m 55m 110m 165m 220m 330m 440m 550m  
 1cm = 55m  
 SCALE 1 : 5 500

THE PROPOSED TOWN IS SITUATED ON A PORTION OF THE REMAINING EXTENT OF PORTION 1 OF THE FARM SCHWEIZER RENEKE TOWN AND TOWNLANDS NO. 62 - HO

MAMUSA LOCAL MUNICIPALITY NORTH WEST PROVINCE

**GEOTECHNICAL REPORT**  
 Compiled by : GEOSSET cc  
 Consulting Environmental and Engineering Geologists  
 David S.van der Merwe : Cel: (082) 925 4075  
 Date : August 2020

**Engineering Geological Zones**

**Special Development:**  
**Site Class C2/2A:** Highly collapsible soil of aeolian origin with thickness from 0,7m, with more than 10mm movement measured at surface characterizes this zone. Foundations will therefore require special foundation techniques such as proper compaction techniques combined with lightly reinforced strip footings with articulation joints at all internal and external doors and openings with light reinforcement (brickforce) in masonry or even soil replacement by an engineered fill soil raft with G5 quality or better. Site drainage and plumbing and service precautions must be used. It is classified as C2 in terms of the SAIEG & NHBRC guidelines (1995) or the SAICE Code of practice (1995), and 2A according to the classification for urban development (Partridge, Wood & Brink).

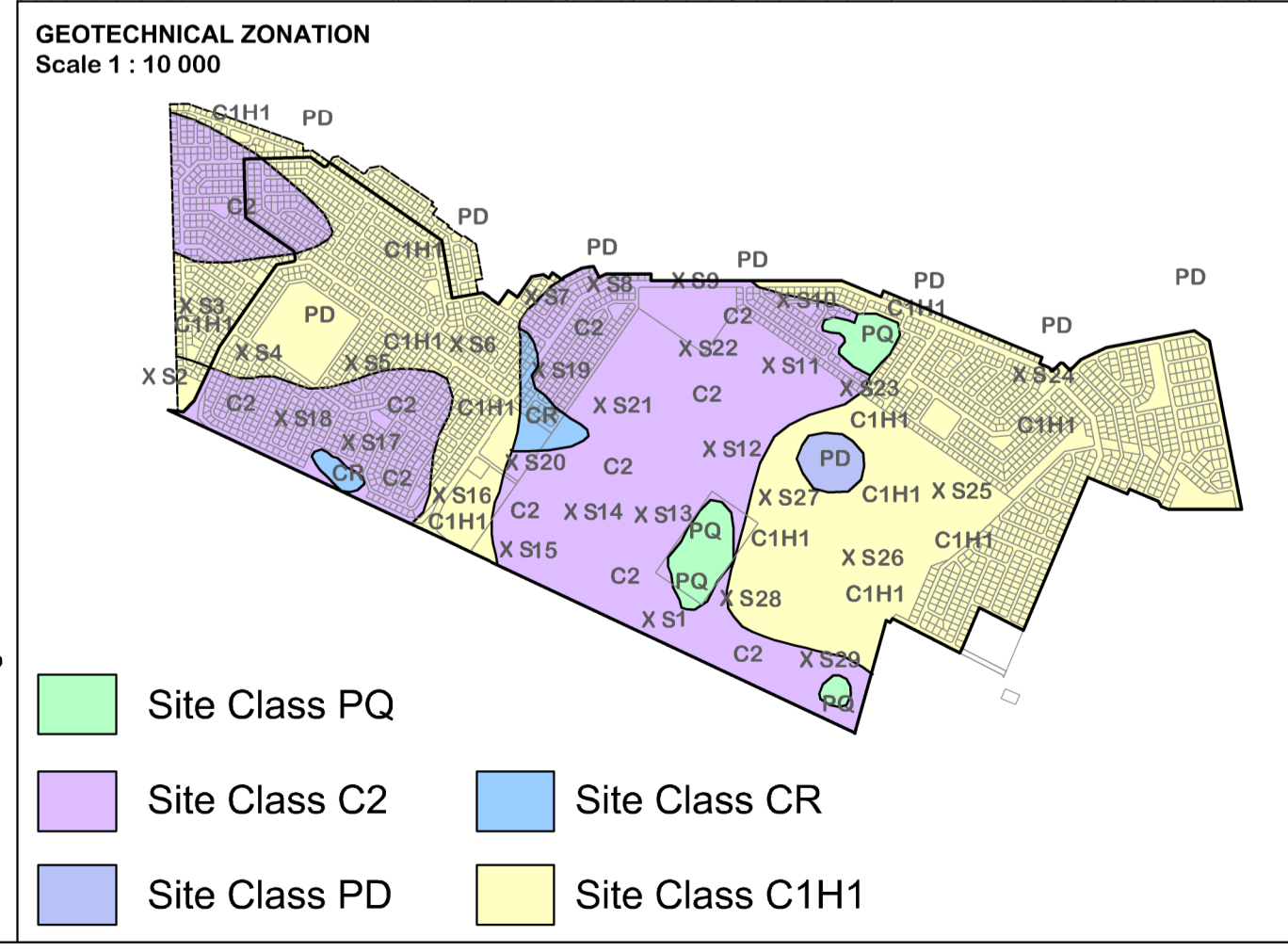
**Site Class C1H1/2A2C:** Medium collapsible soil of aeolian origin underlain by medium expansive and compressible soil with up to 15mm movement measured at surface characterizes this zone. Foundations will therefore require modified normal foundation techniques such as proper compaction techniques and lightly reinforced strip footings with articulation joints at all internal and external doors and openings with light reinforcement (brickforce) in masonry or even soil replacement by an engineered fill soil raft. Site drainage and plumbing and service precautions must be used. It is classified as C1H1 in terms of the SAIEG & NHBRC guidelines (1995) or the SAICE Code of practice (1995), and 2A2C after the classification for urban development (Partridge, Wood & Brink).

**Site Class CR/1A3F:** Granite rock outcrop and swallow rock granite or core stones characterizes these localized zones and it will require special tools to reach installation depths for services, inducing a higher than normal cost.

**Site Class PQ:** Borrow pits and quarries or areas where spoil or building rubble were dumped need to be rehabilitated by backfilling them with an engineered fill of G5 quality water or better, compacted in layers before any development can take place.

**Undevelopable:**  
**Site Class PD/3L:** This zone comprises the drainage feature within the 1:100 year flood line, and development should be restricted to outside these areas that may also exhibit a more clayey soil with medium expansive properties

— Inferred Zone Boundary  
 CR Site Class Designation  
 x S01 Test Position and Number





The layout plan of the proposed township Mamusa Garden View makes provision for the following erven/land uses:

| Proposed Zoning   | Proposed Land Use                                       | Number of Erven | Erf Number  | Area in Ha | % of Area |
|---|---|-----------------|---|------------|-----------|
| Residential 1   | Dwelling house (Average stand size: 360m <sup>2</sup> ) | 1830            | 1-8; 10-235; 237-311; 313-325; 327-640; 642-891; 893-1072; 1074-1131; 1133-1293; 1295-1342; 1349-1445; 1447-1583; 1585-1773; 1775-1790; 1792-1849 | 69,0078ha  | 25,15%    |
|   | Dwelling house (Average stand size: 450m <sup>2</sup> ) | 400             | 1851-2003; 2073- 2319   | 19,2078ha  | 7,00%     |
|   | Dwelling house (Average stand size: 600m <sup>2</sup> ) | 69              | 2004-2072   | 4,3023ha   | 1,57%     |
| Residential 2<br>Density : 80 dwelling units/ha;<br>Height : 3 storey's | Flats / Group Housing                                   | 1               | 1343  | 2,6563ha   | 0,97%     |
| Business 1  | Shops / Offices   | 5               | 9; 1073; 1345; 1584; 1791   | 3,9810ha   | 1,45%     |
| Institutional   | Place of Instruction (Secondary School)                 | 1               | 641   | 5,6975ha   | 2,08%     |
|   | Place of Instruction (Creche)                           | 4               | 236; 892; 1446; 1850  | 0,7810ha   | 0,28%     |
|   | Place of Worship (Church)                               | 4               | 312; 1132; 1294; 1774   | 0,8010ha   | 0,29%     |
| Municipal   | Municipal   | 3               | 326; 1346-1347  | 113,7941ha | 41,48%    |
|   | Taxi Rank   | 1               | 1344  | 0,2488ha   | 0,09%     |
| Recreational  | Sports Ground   | 1               | 1348  | 3,9433ha   | 1,44%     |
| Public Open Space   | Parks   | 10              | 2320-2329   | 11,4857ha  | 4,19%     |
| Existing Public Roads   | Public Road (Street)                                    |                 |   | 38,4428ha  | 14,01%    |
|   | TOTAL   | 2329            | 1-2329  | 274,3495ha | 100%      |

Table 4: Proposed zonings and land uses – Mamusa Garden View

The following should be noted in respect of the land uses mentioned above:

#### 4.1.1 Residential 1

The layout plans of the proposed township areas make provision for 2299 “Residential 1” erven of varying stand sizes. These erven will provide residential properties for the formal property market. In accordance with the policy guidelines contained in the Breaking New Ground (BNG) Principles it is indicated that new residential township areas should focus on the establishment of integrated human settlements focussing on the provision of erven not only for subsidized/low income households but also addressing the need for other housing typologies

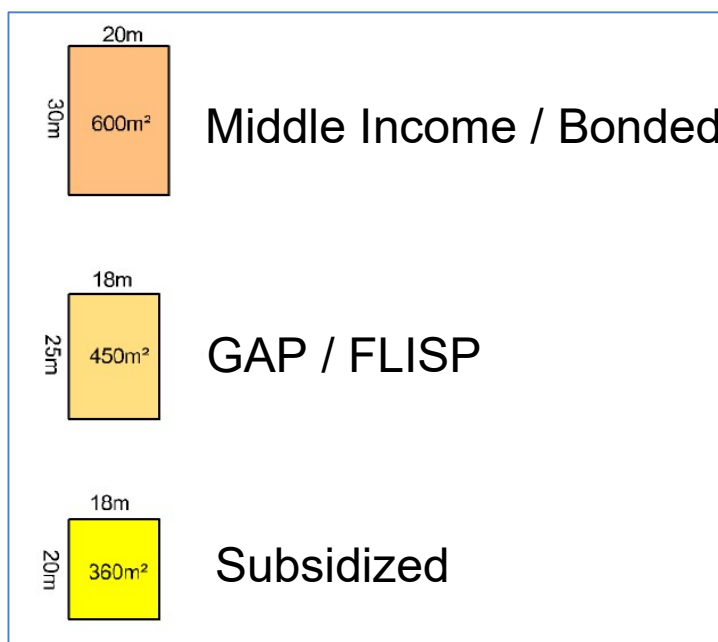


Figure 13: Residential stand sizes

such as rental housing, bonded housing and FLISP projects. The varying property size is therefore ideal to provide erven for a range of socio-economic groups, as envisioned in **Figure 13**.

#### 4.1.1.1 Residential 1 properties (360m<sup>2</sup>)

The proposed layout plan includes 1830 Residential 1 erven of approximately 360m<sup>2</sup> on average. These properties are well-suited to government housing schemes. A housing subsidy is a grant by government to qualifying beneficiaries for housing purposes. This is one of the Department of Human Settlement's areas of responsibility in the delivery of human settlements to the bottom-most end of the market, where it provides housing subsidies to the poor. This is where the bulk of the housing backlog exists, affecting mainly those who earn below R3500 a month. The following subsidy programmes are available from the Department of Human Settlements:

##### ❖ **Integrated Residential Development Programme**

The Integrated Residential Development Programme replaced the Project Linked Subsidy Programme. The programme provides for planning and development of integrated housing projects. Projects can be planned and developed in phases and provides for holistic development orientation:

- Phase 1: Land, Services and Township Proclamation
- Phase 2: Housing Construction (this also includes the sale of stands to non-qualifying beneficiaries and to commercial interests)

##### ❖ **Individual Subsidy**

This programme provides access to state assistance where qualifying households wish to acquire an existing house or a vacant serviced residential stand, linked to a house construction contract through an approved mortgage loan. These properties are available in the normal secondary housing market or have been developed as part of a project not financed through one of the National Housing Programmes

##### ❖ **Enhanced People's Housing Process**

The Enhanced People's Housing Process aims to support households who wish to enhance their housing subsidies by funding their own homes. The Enhanced People's Housing process can be accessed through the Integrated Residential Development Programme, Project Linked Consolidation or Institutional Subsidies.

##### ❖ **People's Housing Process**

This subsidy is given to people who want to build or manage the building of their own homes. Unlike the Project Linked Subsidy where a contractor builds houses for a number of people, the People's Housing Process allows people or beneficiaries to build or organize the building of their homes.

The proposed 1830 erven will be aimed at subsidised housing provision to address the housing backlog in the Mamusa Local Municipality. The creation of more dense settlements without raising the cost of land and housing for the poor is one of the operational principles in the National Development Plan.

Urban studies in South Africa identified low density development as one of the critical factors inhibiting the creation of sustainable settlements. Low density settlements are problematic in that they generate:

- Inadequate population thresholds which are unable to support viable public transport and social facilities.
- High costs for municipalities who must deliver service.
- Infrastructural inefficiencies.

Apart from abovementioned, the disadvantages of large stands in comparison with smaller stands can be summarised as follows:

- More cost-effective provision of services

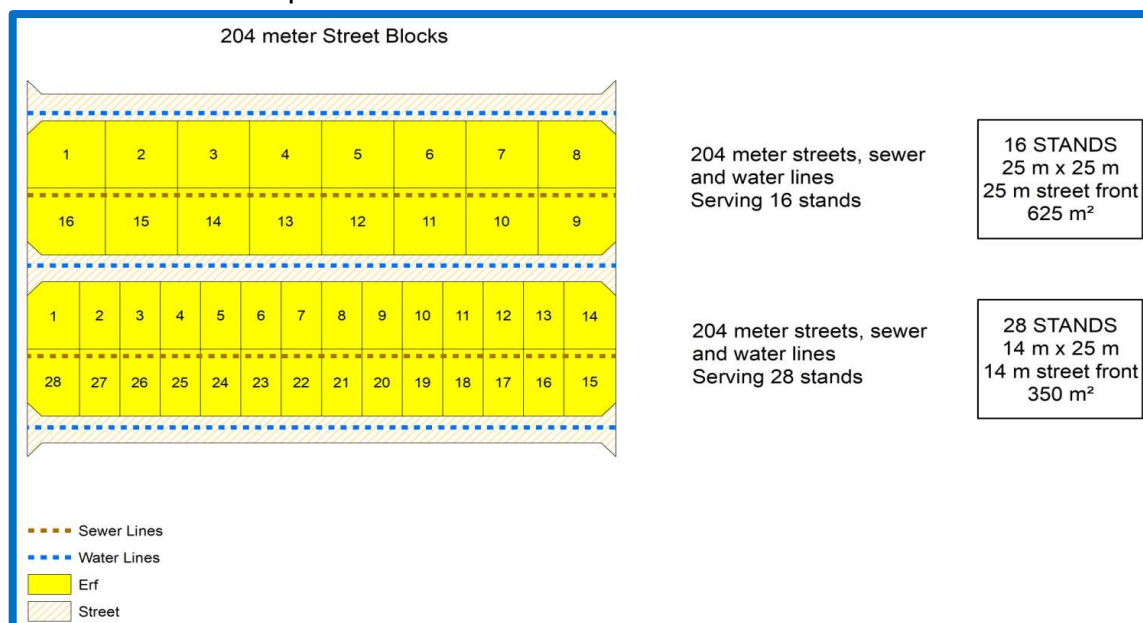


Figure 14: Comparative number of erven provided per fixed linear distance

- Cost breakdown of municipal engineering services (water, sewer and roads – According to National Department of Human Settlements, April 2018)

Table 5: Cost breakdown of Municipal Engineering Services - Direct Costs

| COST BREAKDOWN OF MUNICIPAL ENGINEERING SERVICES - DIRECT COST |                        |              |               |               |              |                    |                   |                     |
|--|------------------------|--------------|---------------|---------------|--------------|--------------------|-------------------|---------------------|
| IMPLEMENTATION DATE: 01 APRIL 2018                             |                        |              |               |               |              |                    |                   |                     |
| A GRADE SERVICES: DIRECT COST                                  |                        |              |               |               |              |                    |                   |                     |
| Zoning   | Size in m <sup>2</sup> | Street front | Cost of water | Cost of sewer | Cost of road | Cost of stormwater | Cost of high mast | Total cost per unit |
| Res1   | 243                    | 9m           | R4 140.11     | R7 210.41     | R23 570.60   | R4 153.81          | R0.00             | <b>R 39 074.93</b>  |
|  | 294                    | 10m          | R4 471.07     | R7 795.38     | R26 516.53   | R5 019.15          | R0.00             | <b>R 43 802.13</b>  |
|  | 122                    | 5m           | R2 803.64     | R4 869.48     | R11 784.77   | R2 076.38          | R0.00             | <b>R 21 534.27</b>  |
|  | 236                    | 10m          | R4 471.07     | R7 795.38     | R26 516.53   | R4 027.33          | R0.00             | <b>R 42 810.32</b>  |



The cost comparison between large stands of 625m<sup>2</sup> (25m X 25m) and smaller stands of 350m<sup>2</sup> (14m X 25m) based on quantum amounts is set out in **Table 6** below.

Table 6: Cost comparison between larger and smaller stands

| Street Front | Water       | Sewer       | Roads       | Total        |
|--------------|-------------|-------------|-------------|--------------|
| 25 metres    | R 11 177-00 | R 27 283-00 | R 66 291-00 | R 104 751-00 |
| 14 metres    | R 6 259-00  | R 10 913-00 | R 37 123-00 | R 54 295-00  |

- Other disadvantages of large residential stands:
  - Higher municipal service tariffs for residents
  - Maintenance costs of outdoor living areas (example: gardens) and fencing

A stand of 300m<sup>2</sup> with a subsidised house of 40m<sup>2</sup> provides more than sufficient outdoor space as well as potential for additions over time.

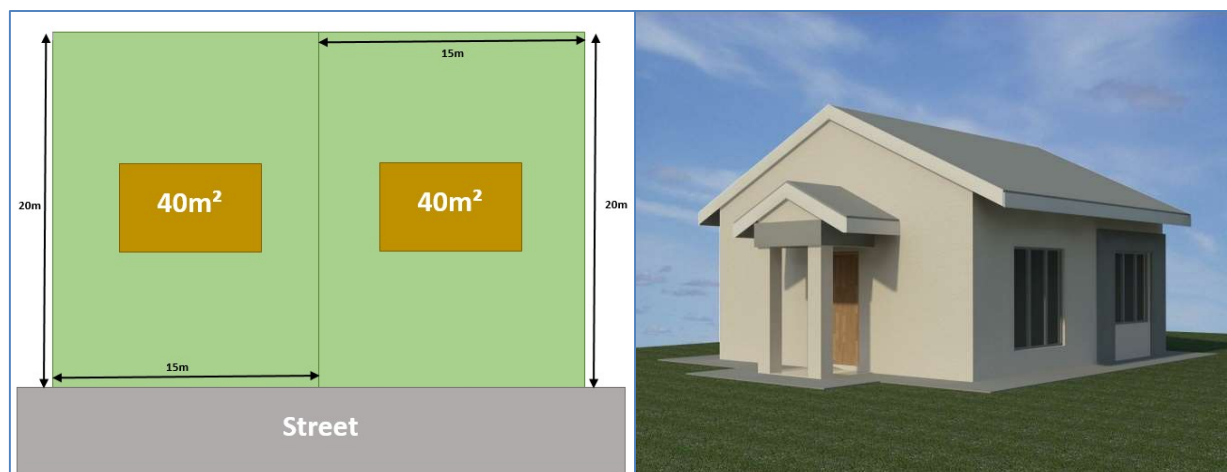


Figure 15: Schematic presentation of 40m<sup>2</sup> subsidised house on 300m<sup>2</sup> erf

#### 4.1.1.2 Residential 1 properties (450m<sup>2</sup>)

The proposed layout also includes 400 Residential 1 erven of approximately 450m<sup>2</sup>. These erven will consist of residential houses aimed at the middle income groups.

Housing the poor was an ingredient of the Department of Human Settlement’s three-part response to the State’s Vision 2030 Strategy. “Gap housing” is a term that describes the shortfall or gap in the market between units supplied by the State and houses delivered by the private sector. The gap housing market comprises people who typically earn between R3500 and R15000 per month, which is too little to enable them to participate in the private property market, yet too much for state assistance. Gap housing is a policy that addresses the housing aspirations of people such as nurses, fire-fighters, teachers, SAPS members and member of the armed forces who

earn between R3500 and R15000 per month and therefore do not qualify for RDP houses and do not earn enough to obtain home loans.

The following figure illustrates the income divide / Need for alternative solutions.

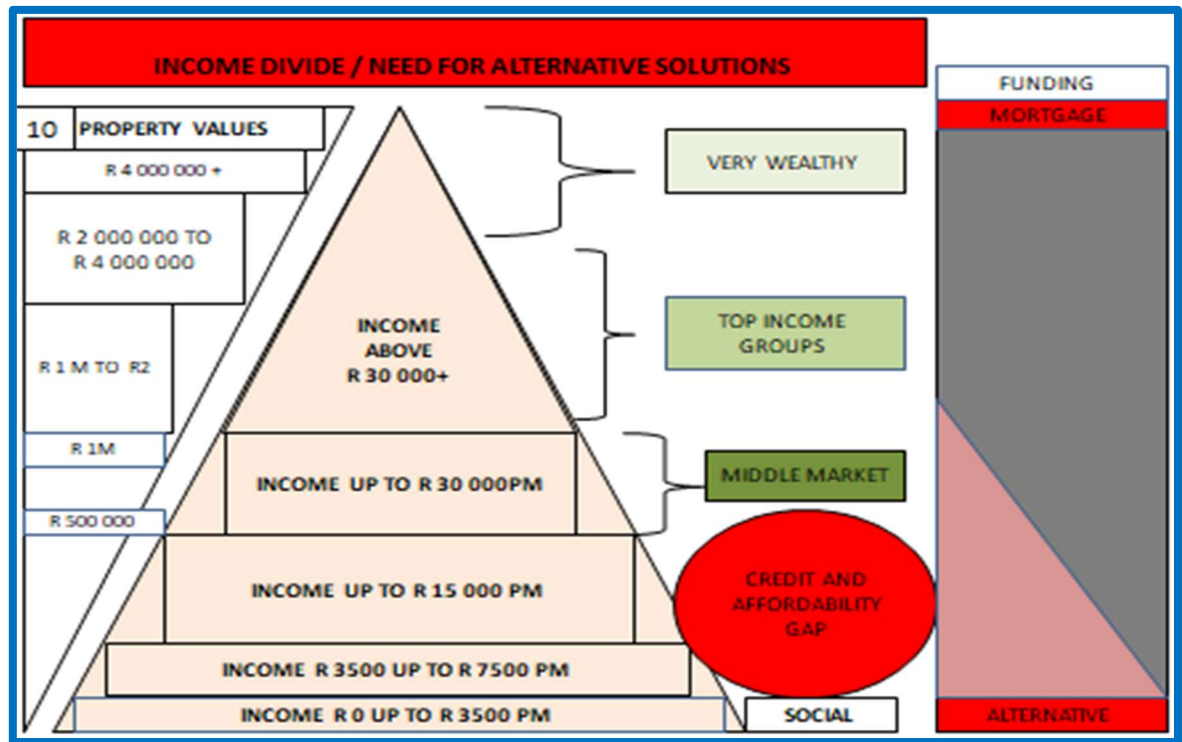


Figure 16: Income Divide / Need for alternative solutions

One of the subsidy programmes further available from the Department of Human Settlements includes the Finance Linked Individual Subsidy Programme (FLISP).

FLISP was developed to enable first time home-ownership to households in the “affordable or gap” market, that is, people earning between R3501 and R15000 per month. Individuals in these salary bands generally find it hard to qualify for housing finance; their income is regarded as low for mortgage finance, but too high to qualify for the government subsidy scheme available to households earning less than R3500 per month. Depending on the applicant’s gross monthly income, their once-off FLISP subsidy qualifying amount may vary between R20 000 and R87 000, as defined in the FLISP Subsidy Quantum. Any residential property acquired with the FLISP subsidy may not exceed the R300 000 price margin. FLISP assists qualifying beneficiaries who wish to obtain mortgage finance from a lender to:

- Acquire ownership of an existing residential property
- Obtain vacant serviced residential stands which are linked to house building contracts with the home builders registered with the National Home Builders Registration Council (NHBRC); or

- Build a new house with the assistance of a home builder registered with the National Home Builders Registration Council (NHBRC) on serviced residential stand that is already owned by the beneficiary.

The objective of the programme is to reduce the initial mortgage loan amount to render the monthly loan repayment instalments affordable over the loan payment term.



Figure 17: Schematic presentation of affordable bonded housing

#### 4.1.1.3 Residential 1 properties (600m<sup>2</sup>)

The proposed layout also includes 400 Residential 1 erven of approximately 600m<sup>2</sup>. These erven will consist of residential houses aimed at the bonded housing market segment.

The proposed “Residential 1” erven detailed in sub-sections 4.1.1.1, 4.1.1.2 and 4.1.1.3 will be subject to the following development parameters imposed in terms of the Mamusa Land Use Scheme, 2020:

Table 7: "Residential 1" development parameters

| Development parameter | Development Parameter Detail   |
|-----------------------|--|
| Primary Use           | <p><b>Dwelling Unit</b> defined as</p> <p><i>A single room or an interconnected suite of rooms that does not include more than one kitchen with or without an ancillary scullery and braai room and the appropriate ablutions, designed for occupation and use by a single family, single person or a maximum of four unrelated persons and which may include such outbuildings as are ordinarily incidental thereto: Provided that a second kitchen, which is to be used for religious purposes and which is physically</i></p> |



|                |  |
|----------------|--|
|                | <p><i>connected with the first kitchen may be provided to the satisfaction of the Municipality.</i></p> <p><b>Cultural Heritage Site</b><br/> <b>Guest House</b><br/> <b>Municipal Purposes</b><br/> <b>Private Road</b><br/> <b>Protected Areas</b></p>   |
| Consent Uses   | <p>Accommodation Enterprise<br/>                 Beauty / Health Spa<br/>                 Boarding House<br/>                 Child Care Centre<br/>                 Children’s Home<br/>                 Commune<br/>                 Home Enterprise<br/>                 House Shop<br/>                 Institution<br/>                 Place of Instruction<br/>                 Place of Worship<br/>                 Second Dwelling Unit<br/>                 Spaza Shop<br/>                 Veterinary Clinic</p> |
| Coverage       | <p>Dwelling Unit: Maximum 50%<br/>                 Other land uses: As per Land Use Scheme</p>   |
| Height         | Maximum 2 storeys  |
| Building lines | <p>≤ 500m<sup>2</sup> = 3m street boundary<br/>                 &gt; 500m<sup>2</sup> = 5m street boundary</p>   |

#### 4.1.2 Residential 2

The proposed layout also includes one (1) “Residential 2” erf comprising a total area of 2,6563 hectares that can be utilized for group housing or flats. Based on the development parameters proposed in respect of the development of this erf, same can be utilized for the establishment of 213 dwelling units or flats.

This erf was specifically provided to allow opportunities for the development of residential rental stock in the form of social housing or community residential units (CRU).

A key model for the delivery of affordable housing is social housing, which provides medium density, affordable, rental housing to low and middle income households. Social Housing contributes to transforming urban spatial patterns as it promotes integration and densification in close proximity to economic and social amenities. Social Housing projects offer well-located rentals to households earning between R1500 to R15 000 per month. These rentals are subsidized by Government, making them much lower than market rates. For any given social housing project the recipients are divided into two groups: primary households with an income of R1500 to R5500 per month, and secondary households earning R5501 to R15000 per month. Primary households must make up at least 30% of

the beneficiaries for the housing project to qualify for both the government grants that can be provided. Most of these households (those with R3500 to R12500 monthly income) fall into what is called the “gap” market; they earn too much to qualify for RDP Housing and they can’t afford to rent privately. So rent-based social housing is often their best option.

Government outsources the development and management of social housing projects to Social Housing Institutions (SHI’s). SHI’s are companies accredited by SHRA (Social Housing Regulatory Authority). In general SHI’s are not-for-profit companies that receive government subsidies for a specific housing project.

It is important to note that people can qualify to be accommodated in a social housing project even if that person has already benefitted from other housing projects in the past but does not currently own property.

In studying the locality of the erf designated for “Residential 2” purposes, it is evident that this erf will promote integration and densification and that it was positioned in close proximity to economic and social amenities.

The proposed “Residential Zone 2” erf will be subject to the following development parameters imposed in terms of the Mamusa Land Use Scheme, 2020:

**Table 8: "Residential 2" development parameters**

| Development parameter | Development Parameter Detail  |
|-----------------------|---|
| Primary Use           | <p><b>Flats</b> defined as<br/> <i>“Means two (2) or more dwelling units of one or more storeys contained in a building with a common entrance or foyer to the dwelling units and may include other communal ancillary and subservient facilities such as a laundry and garages for the residents only”</i></p> <p><b>Cultural Heritage Site</b></p> <p><b>Dwelling Unit</b></p> <p><b>Group Housing</b> defined as<br/> <i>“A group of detached and / or attached dwelling units on a property that forms an integrated harmonious and architectural unit with or without access control and a guard house and includes concepts such as townhouses, simplexes, duplexes but excludes uses included in the definition of residential building or flat”;</i></p> <p><b>Municipal Purposes</b></p> <p><b>Private Road</b></p> <p><b>Protected Areas</b></p> <p><b>Retirement Centre</b></p> <p><b>Second Dwelling Unit</b></p> |
| Consent Uses          | Club House  |

|                |  |
|----------------|--|
|                | Home Enterprise<br>Hostel<br>Hotel<br>Institution<br>Residential Building<br>Spaza Shop  |
| Coverage       | Flats / Group Housing: Maximum 50%<br>Other land uses: As per Land Use Scheme  |
| Height         | Maximum 3 storeys  |
| Building lines | Street boundary: 8m  |
| Parking        | Flats:<br>1 Parking bay per flat with 3 habitable rooms or less. 2<br>Parking bays per flat with 4 habitable rooms or more. 1<br>Parking bay per 3 flats for visitors<br>Group Housing:<br>1 Parking bay per dwelling unit with 2 habitable rooms or<br>less. 2 Parking bays per dwelling unit with 3 habitable<br>rooms or more. 1 Parking bay per 3 dwelling units for<br>visitors |

#### 4.1.3 Business 1

To ensure that a proper integrated human settlement is established, it is imperative that adequate provision also be made for commercial activities that will address the daily needs of the concerned community whilst similarly providing opportunities for job creation. The proposed layout makes provision for five (5) properties zoned for “Business 1”, all conveniently located adjacent to 20m and 16m collector roads for maximum accessibility. These properties will serve as local business centres to the surrounding neighbourhood.

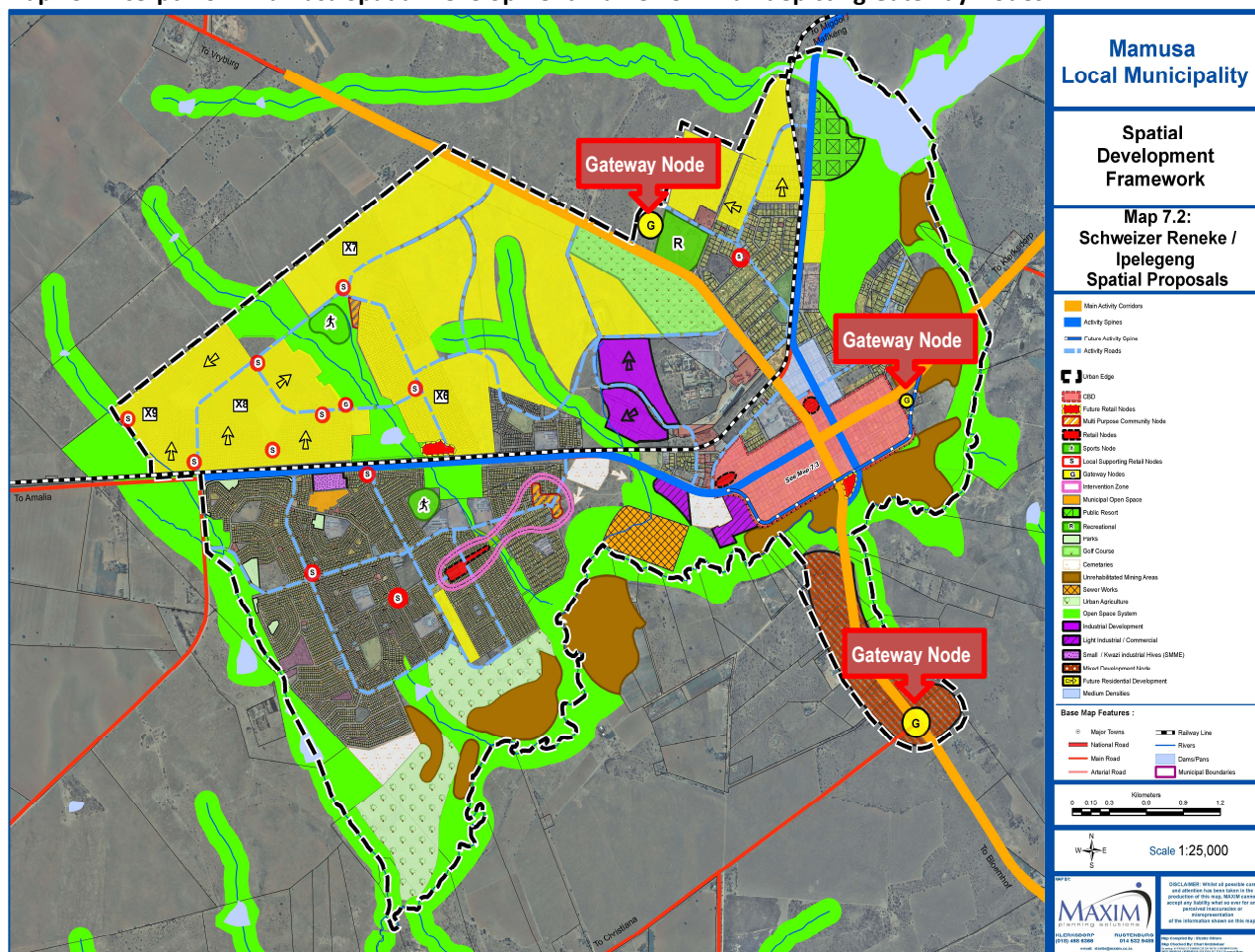
The “Business 1” erven were positioned in such a way to limit walking distances whilst ensuring easy accessibility to these facilities. It will be noted that the one (1) property is situated across from the proposed Municipal erf, at the main entrance to the township area from Road R34. In terms of the current approved Mamusa Spatial Development Framework, provision was made for a “Gateway Node” adjacent to the Vryburg Road and opposite the Schweizer Reneke Golf Course. “Gateways” can be defined as major entry points (normally where higher order roads intersect) to improve the image of the city as they are normally well planned and aesthetically attractive.

Three gateway nodes were proposed in terms of the Mamusa Spatial Development Framework namely at the intersection of the Christiana and Bloemhof provincial roads, adjacent to Schweizer Street at the entrance to the CBD from Wolmaransstad and adjacent to the Vryburg road opposite the golf course.

The initial proposed Gateway Node along the Vryburg Road is reflected on **Map 19** overleaf.



Map 19: Excerpt from Mamusa Spatial Development Framework Plan depicting Gateway Nodes



In view of the fact that gateway localities (especially on development corridors) offer high levels of accessibility, visibility and exposure, certain transport orientated business, commercial development, accommodation enterprises and value centres can also be considered at these nodes, provided that they are properly designed and landscaped, focusing on street frontages, building facades, open spaces and access.

During a Technical Meeting of the Project Steering Committee held on 02 December 2020, the meeting proposed that the envisaged gateway node be relocated to the intersection of Ferreira Avenue where it intersects with Road R34 as this constitutes a higher order intersection not only functioning as the main access to Mamusa Garden View but also to the proposed township areas of Ipelegeng Extensions 10 and 11 located north of the Vryburg Road. This locality would better suit the requirements in respect of a gateway node being at a major entry point and where higher order roads intersect.

The proposed locality of the gateway node is also reflected as such in the draft Mamusa Spatial Development Framework (2021) as reflected on Map 20 overleaf.

Map 20: Excerpt from Mamusa Spatial Development Framework Plan (2021) depicting locality of Gateway Node



The proposed business erf and the municipal erf located at the entrance to the proposed township area along Ferreira Avenue off Road R34 will form a node providing a range of services to the public.

The proposed “Business 1” erven will be subject to the following development parameters imposed in terms of the Mamusa Land Use Scheme, 2020:

Table 9: "Business 1" development parameters

| Development parameter | Development Parameter Detail  |
|-----------------------|---|
| Primary Use           | <p>Accommodation enterprise, Bank, Beauty / Health Spa, Boarding House, Cafeteria, Car Wash, Casino, Child Care Centre, Clinic, Club house, Commercial Use, Commune, Confectionary, Conference Facility, Cultural Heritage Site, Dispensing Chemist, Domestic Service Centre, Drive-in Restaurant, Drive-thru Restaurant, Dry Cleaners, Dwelling Unit, Electrical Purposes, Flea Market, Flat, Funeral Undertaker, Government Purposes, Group Housing, Guest House, Gymnasium, Home Enterprise, Hospital, Hostel, Hotel, House Shop, Institution, Internet Cafes, Kiosk, Laboratories, Laundromat, Liquor Enterprise, Lodge, Medical Consulting Rooms, Nursing Home, Nursery, Office, Parking Lot, Pharmacy, Place of Amusement, Place of Assembly, Place of Instruction, Place of Worship, Place of Refreshment,</p> |



|                |   |
|----------------|---|
|                | <p><b>Private Club, Private Road, Protected Areas, Public Open Space, Public Storage, Railway Purpose, Retail Trade, Retail Industry, Retirement Centre, Second Dwelling Unit, Service Enterprise, Service Industry, Shop</b> defined as</p> <p><i>“Means land and/or building(s) used for retail of goods and services to the public or renting of household equipment / tools directly to the public, and includes a retail concern where goods which are sold in such a concern are manufactured or repaired; provided that the floor space relating to such manufacture or repair shall not comprise more than 40% of the floor space of the shop; shop does not include an industry, service industry, vehicle workshop, filling station, restaurant, noxious use, place of refreshment or liquor enterprise”;</i></p> <p><b>Social Hall, Spaza Shop, Tavern, Taxi Holding Area, Taxi Parking Area, Taxi Rank, Telecommunication, Tourist Accommodation, Tourist Facilities, Transport Depot, Transport Terminus, Vehicle Sales Mart, Vehicle Sales Showroom, Veterinary Clinic, Veterinary Hospital</b></p> |
| Consent Uses   | <p>Auto Body Repair Centre<br/>Bakery<br/>Cellular Telecommunication Infrastructure<br/>Filling Station<br/>Helicopter Landing Pad<br/>Informal Business<br/>Light Industry<br/>Panel Beater<br/>Vehicle Workshop<br/>Warehouse</p>   |
| Coverage       | <p>Shop: Maximum 70%<br/>Other land uses: As per Land Use Scheme</p>  |
| Height         | Maximum 2 storeys   |
| Building lines | Street boundary: 0m   |
| Parking        | <p>Shop: 6 Parking Bays per 100m<sup>2</sup> GFA<br/>Other land uses: As per Land Use Scheme</p>  |

#### 4.1.4 Institutional

The layout plan of the proposed township area makes provision for nine (9) erven to be zoned as “Institutional”:

For this development area to function as a proper integrated human settlement, it is of critical importance to also address the needs of the community for education facilities in the form of early learning centres / crèches, primary / secondary schools and places of worship.



In terms of the CSIR Guidelines for the Provision of Social Facilities in South African Settlements, the following norm is proposed in respect of social facilities:

**Table 10: CSIR Guideline for social facilities**

| Proposed facility                                 | CSIR Guideline                | Number of erven required | Number of erven provided |
|---|-------------------------------|--------------------------|--------------------------|
| Small Crèche / Early childhood development centre | 1 per 2400 – 3000 inhabitants | 4                        | 4                        |
| Primary School                                    | 1 per 7000 inhabitants        | 1                        | 0                        |
| Secondary School                                  | 1 per 12 500 inhabitants      | 0                        | 1                        |
| Place of Worship                                  | 1 per 3000 – 6000 inhabitants | 3                        | 4                        |

(Based on estimated 2 512 households, 4.0 average household size and total estimated inhabitants of 10 048)

In terms of the draft layout plan of the proposed township Mamusa Garden View, provision was made for a primary school within the township area. The draft layout plan was submitted to the North West Department of Education on 01 December 2020 for approval of the school facility provision in respect of all three township areas of Ipelegeng extensions 10, 11 and Mamusa Garden View (at that point in time referred to as Ipelegeng Extension 12).

In a written response received from the North West Department of Education, it was indicated as follows:

*“3.4 The Department kindly requests that land identified for a school in Ipelegeng Extension 12 be classified for Secondary education in accordance with the South African Schools Act, 1996 (Act No. 84 of 1996) Regulations relating to minimum uniform norms and standards for public school infrastructure and CSIR Guidelines for the Provision of Social Facilities in South African Settlements (2015)”.*

Maxim Planning Solutions (Pty) Ltd again approached the North West Department of Education on 27 January 2021 for clarity as to whether the draft layout plan should make provision for a primary as well as a secondary school. In a written response received from the North West Department of Education on 28 January 2021, it was indicated as follows in this regard:

*“The Department would prefer the establishment of a Secondary School only in Extension 12, since Extension 10 and 11 make provision for two Primary Schools.*

The secondary school erf that was provided in the proposed township Mamusa Garden View was positioned in accordance with the locational requirements and prescriptions of the North West Department of Education.

The other Institutional zoned properties (earmarked for creches and places of worship) are dispersed throughout the layout plan to enhance accessibility to the community.

The proposed “Institutional” erven will be subject to the following development parameters imposed in terms of the Klerksdorp Land Use Management Scheme, 2005:

Table 11: "Institutional" development parameters

| Development parameter | Development Parameter Detail   |
|-----------------------|--|
| Primary Use           | <p><b>Cafeteria</b><br/> <b>Child Care Centre</b><br/> <b>Children’s Home</b><br/> <b>Clinic</b><br/> <b>Club House</b><br/> <b>Conference Facility</b><br/> <b>Conservation</b><br/> <b>Cultural Heritage</b><br/> <b>Hospital Hostel</b><br/> <b>Institution</b><br/> <b>Kiosk</b><br/> <b>Laboratories</b><br/> <b>Medical Consulting Rooms</b><br/> <b>Mortuary</b><br/> <b>Nursing Home</b><br/> <b>Office</b><br/> <b>Place of Assembly</b><br/> <b>Place of Instruction</b> defined as<br/> <i>Means land and/or building(s) used as a place for education at pre-school, school or post-school levels, including a child care centre, primary school, secondary school, college, technical education facility, university, research institute, lecture hall, as well as a civic facility for the promotion of knowledge to the community such as a public library, public art gallery, museum and may include associated uses such as boarding hostels, monastery, convent and all uses which are ancillary, directly related to and subservient to this main use but excludes land and/or building(s) which is mainly used as a certified</i></p> |

|                     |  |
|---------------------|--|
|                     | <p><i>reformatory or industrial school (which requires the special consent of the Municipality as contemplated in Clause 77)”;</i></p> <p><b>Place of Worship</b> defined as<br/>Means <i>land</i> and/or <i>building(s)</i> used as a church, chapel, oratory, prayer house, mosque, synagogue or other place of public devotion, and includes a <i>buildings</i> designed to be used as a place of religious institutions and / or a <i>buildings</i> designed for social intercourse and recreation on the same <i>property</i> as and associated with any of the foregoing <i>buildings</i>, and also not more than two <i>dwelling units</i> for occupancy by <i>office</i> bearers connected with the place of worship and may also with the <i>written consent</i> of the <i>Municipality</i> include a <i>wall of remembrance</i> subject to such conditions imposed by the <i>Municipality</i></p> <p><b>Private Road</b></p> <p><b>Protected Areas</b></p> <p><b>Public Open Space</b></p> <p><b>Retirement Centre</b></p> <p><b>Sports Ground</b></p> |
| <p>Consent Uses</p> | <p>Accommodation Enterprise<br/>Aerodrome<br/>Airfield<br/>Beauty / Health Spa<br/>Boarding House<br/>Cellular Telecommunication Infrastructure<br/>Cemetery<br/>Commune<br/>Flat<br/>Group Housing<br/>Guest House<br/>Gymnasium<br/>Helicopter Landing Pad<br/>Internet Café<br/>Pharmacy<br/>Place of refreshment<br/>Private Club<br/>Private Open Space<br/>Residential Building<br/>Retail Trade<br/>Second Dwelling Unit<br/>Service Enterprise<br/>Shop<br/>Social Hall<br/>Sport and Recreational Club<br/>Telecommunication<br/>Veterinary Clinic</p>  |



|                |   |
|----------------|---|
|                | Veterinary Hospital<br>Wall of Remembrance  |
| Coverage       | Place of Instruction / Place of Worship: 70%<br>Other land uses: As per Land Use Scheme                             |
| Building lines | Maximum 2 storeys   |
| Parking        | Place of Instruction: 1 parking bay per classroom<br>and / or office<br>Place of Worship: 1 parking bay per 5 seats |

#### 4.1.5 Municipal

The proposed layout plan makes provision for four (4) erven to be zoned “Municipal”. The existing permitted solid waste site was accommodated on a separate erf that will be zoned “Municipal” whereas the mandatory 500m buffer area surrounding the permitted solid waste site was similarly accommodated on a separate “Municipal” erf. In addition to the fore-mentioned two (2) “Municipal” erven, the layout plan also incorporates one (1) “Municipal” erf located at the entrance to the township from Road R34 and along Ferreira Avenue. This erf is envisaged to be utilized for a multitude of Municipal / Government purposes and will form an integral part of the envisaged gateway node. The fourth “Municipal” erf will be utilized to accommodate a taxi rank which will be located directly adjacent to the gateway node and will function an integral part of this node. This site is ideally located for this purpose as it will also grant inhabitants of other areas easy access to the envisaged multi-purpose government precinct as well as the commercial facilities available at the proposed business centre. The taxi rank will also support the higher density social housing development located directly north thereof and will ensure that transport facilities are in close proximity to the inhabitants of this development where vehicle ownership is anticipated to be low due to the income bracket of qualifying inhabitants.

The development of the erven zoned “Municipal” will be subject to the development restrictions as set out in the Mamusa Land Use Scheme, 2020.

#### 4.1.6 Recreational

The proposed layout plan further makes provision for an erf that can be utilized for private open space / recreational purposes. It is envisaged that this erf can be utilized for the purposes of a sports field.

The property will be used for “Recreation” purposes, defined as follows in the Mamusa Land Use Scheme, 2020:

*“Means land zoned private open space, with or without access control and which can be used as a private ground for sports, play, rest and recreation, or as an ornamental garden; pleasure ground; golf course; or for buildings reasonably required in connection with such uses”.*

The development of the erf zoned “Recreational’ will be subject to the development restrictions as set out in the Mamusa Land Use Scheme, 2020.

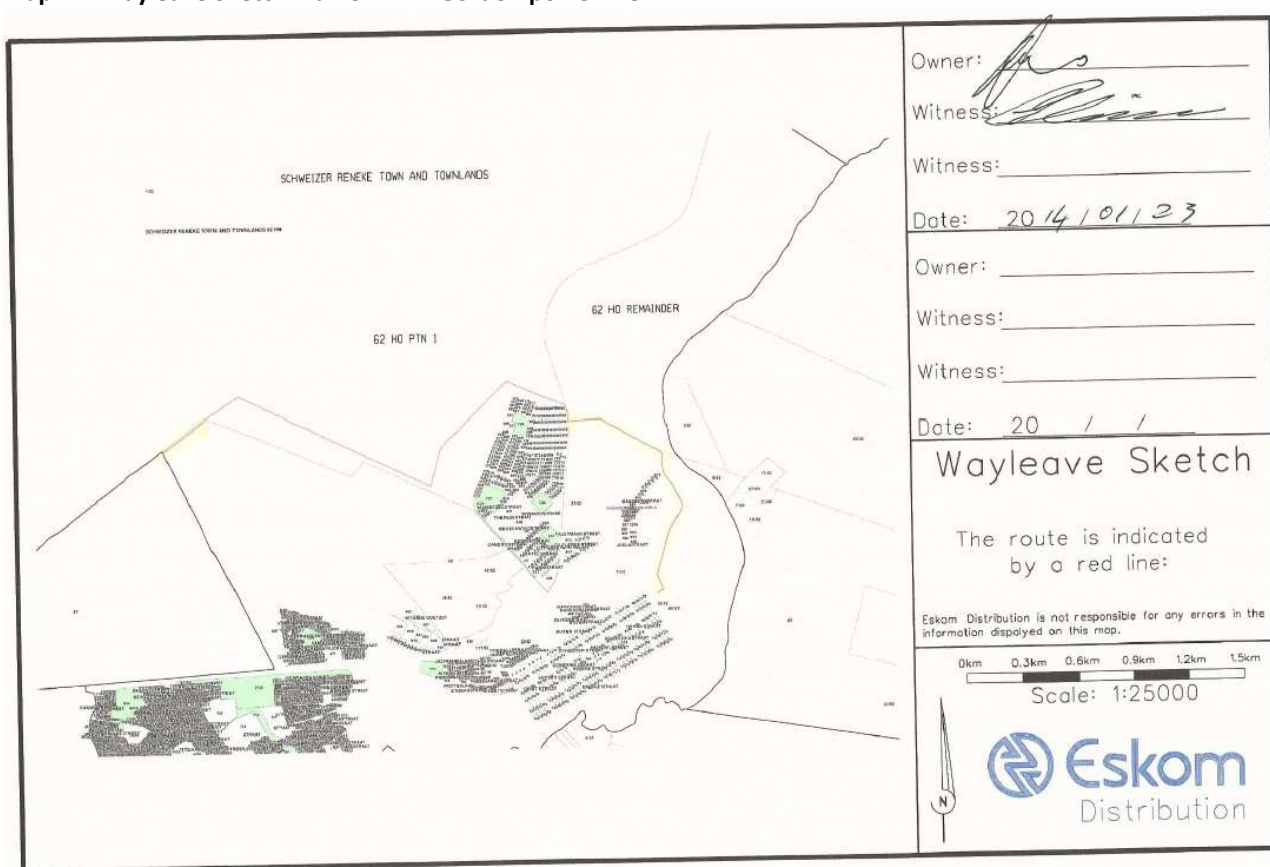
#### 4.1.7 Public Open Space

The proposed layout makes provision for ten (10) erven to be zoned as “Public Open Space”. These properties coincide with the areas not suitable for development due to:

- Unsuitable geotechnical soil conditions;
- Building line restrictions alongside Provincial Road P12-2 (R34);
- Existing powerline traversing the development area;
- Accommodating an additional area to allow for the installation of an additional powerline directly adjacent to the existing powerline and following the same route;

The existing powerline traversing the development area was established by means of a wayleave agreement between Eskom and the Mamusa Local Municipality and is generally referred to as the 11kV Gordon line. The route of this powerline is reflected on the Wayleave sketch plan below (refer **Map 21**) and is also reflected on the layout plan of the proposed township Mamusa Garden View (refer **Map 18**) (layout plan attached as **Annexure M** to the comprehensive Land Development Application).

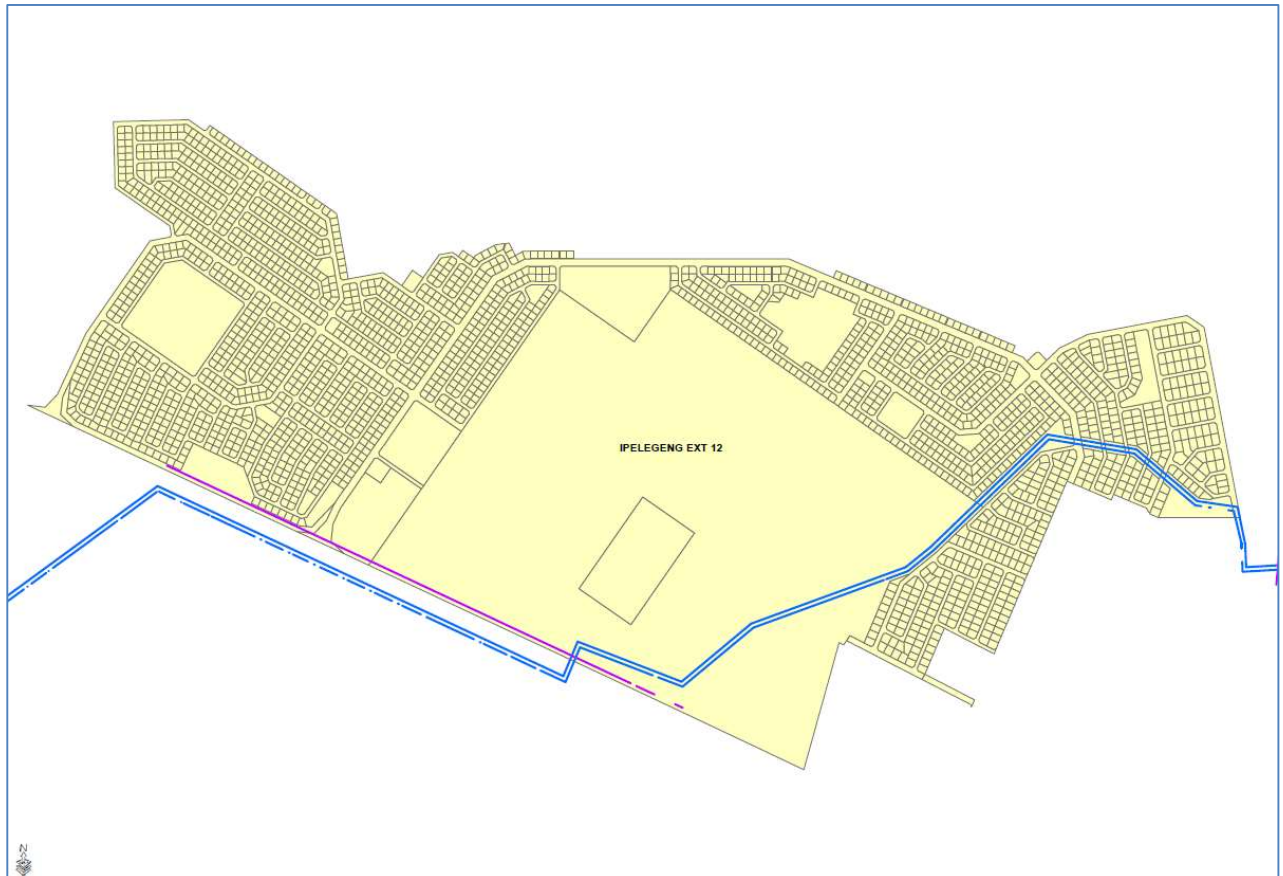
**Map 21: Wayleave Sketch Plan of 11kV Gordon powerline**



Eskom has subsequently also entered into a Wayleave Agreement with the Mamusa Local Municipality dated 12 June 2014 in respect of the erection of the 22kV Anne Powerline which will follow the same route of the Gordon line. The building restriction area applicable to both the fore-mentioned existing and future powerlines was accommodated on the layout plan of the proposed township Mamusa Garden View.

The two (2) Eskom powerlines detailed above are reflected on **Map 22** below.

**Map 22: Eskom 11kV Gordon powerline and proposed 22kV Anne powerline**



The proposed “Public Open Space” erven will be subject to the development parameters imposed in terms of the Mamusa Land Use Scheme, 2020:

#### **4.1.8 Public Roads**

The streets in the proposed township will be zoned “Existing Public Roads”.

## **4.2 FACTORS INFLUENCING THE LAYOUT PLAN**

The layout plan of the proposed township area was influenced by the following factors:



- ✱ Provincial Road P12-2 (R34) that runs along the south-western boundary of the application site has been accommodated by including a 16m building line along the boundary of the township area bordering onto Provincial Road P12-2;
- ✱ A line-of-no-access was also included along the boundary of Provincial Road P12-2, including a 100m line-of-no-access at the proposed access points to Ferreira Avenue and Kenneth Morolong Street;
- ✱ The intersection spacing between the proposed access roads to Mamusa Garden View i.e. Ferreira Avenue and Kenneth Morolong Street was determined at 800m;
- ✱ The road reserve of the Schweizer Reneke – Vryburg Road (P12-2)(R34) was excluded from the township area;
- ✱ The intersection of Ferreira Avenue and Road P12-2 was aligned to the adjacent proposed township area of Ipelegeng Extension 10 to function as a four-way intersection;
- ✱ Accommodating the permitted solid waste site onto an erf in the proposed township area;
- ✱ Accommodating the imposed 500m buffer area applicable around the solid waste site as a municipal erf in the proposed township area;
- ✱ Aligning the street network of the proposed township area with that of the existing adjacent township area of Schweizer Reneke Extension 8;
- ✱ Aligning the northern boundary of the township area to the area located outside the calculated 1:100 year floodline area applicable to the non-perennial stream feeding into the Wentzel Dam;
- ✱ Accommodating the areas deemed least suitable for development purposes into the open space system of the township area;
- ✱ Accommodating the existing Eskom powerline (11kV Gordon line) in the layout plan and providing for the required 9m building restriction applicable along the centre line of this powerline;
- ✱ Accommodating the installation of the proposed Eskom 22kV Anne powerline and providing sufficient space for such powerline adjacent to the existing Eskom powerline. These powerlines were accommodated in various “Public Open Space” erven;
- ✱ Providing for an 8m building restriction adjacent to the Schweizer Reneke – Delareyville railway line located adjacent to the eastern boundary of the proposed development area;
- ✱ Accommodating possible future expansion of the township area in a westerly direction as well as onto the buffer area surrounding the solid waste site (should this site be decommissioned in future);
- ✱ Positioning the proposed Secondary School site in an area complying with the locational requirements of the North West Department of Education.
- ✱ Provision was made for mixed housing typologies through varying stand sizes in order to promote a vibrant and sustainable township. Residential housing typologies including subsidized-, GAP-, FLISP-, and social housing are accommodated in the layout;

- ★ Additional erven were provided that serve the socio-economic needs of the community and include educational and institutional facilities, business properties and authority uses;
- ★ The cumulative impact of the establishment of the proposed Mamusa Garden View and the proposed Ipelegeng Extensions 10 and 11 were taken into account, specifically with regards to service provision and the development of social facilities;
- ★ Social facilities have been disbursed throughout the proposed layout plan in order to improve accessibility to the local community;
- ★ Provision is made for a centrally located node that includes both a large “Business 1” erf and a “Municipal” erf. The node is centrally located along the main 20m access road to Mamusa Garden (i.e. Ferreira Avenue) but will also be accessible to the inhabitants of the adjacent proposed township areas of Ipelegeng Extensions 10 and 11
- ★ Provision is made for road linkages to the west to accommodate any future development in that direction;
- ★ Inputs from the local municipal officials regarding lands uses and property sizes were used to guide the layout plan and land use matrix;
- ★ Increasing the density of the development through the reduction in the sizes of the erven to increase the economic development potential of the township area whilst similarly creating the opportunity to accommodate a larger number of households within this development;
- ★ The average stand size will be  $\pm 360\text{m}^2$  (18m x 20m) (1830 properties) with 400 stands of  $450\text{m}^2$  (18m x 25m) on average and a further 69 erven of  $600\text{m}^2$  (20m x 30m) on average. These stand sizes are in accordance with the Funding Application detailed in Section 1.1 supra and in accordance with the requirements of the Mamusa Local Municipality.

### 4.3 ACCESS

The street layout used in the proposed layout plan aims to create a functional road network that can accommodate public / private transport as well as pedestrian movement. Access to the proposed township area will be provided from Provincial Road P12-2 (R34), a Provincial Class 2 road running along the south-western border of the property. The R34 links Vryburg in the north-west with Bloemhof in the south-east. All accesses will be off this road into the development area.



Photo 10: Photo of Road R34 – direction Vryburg



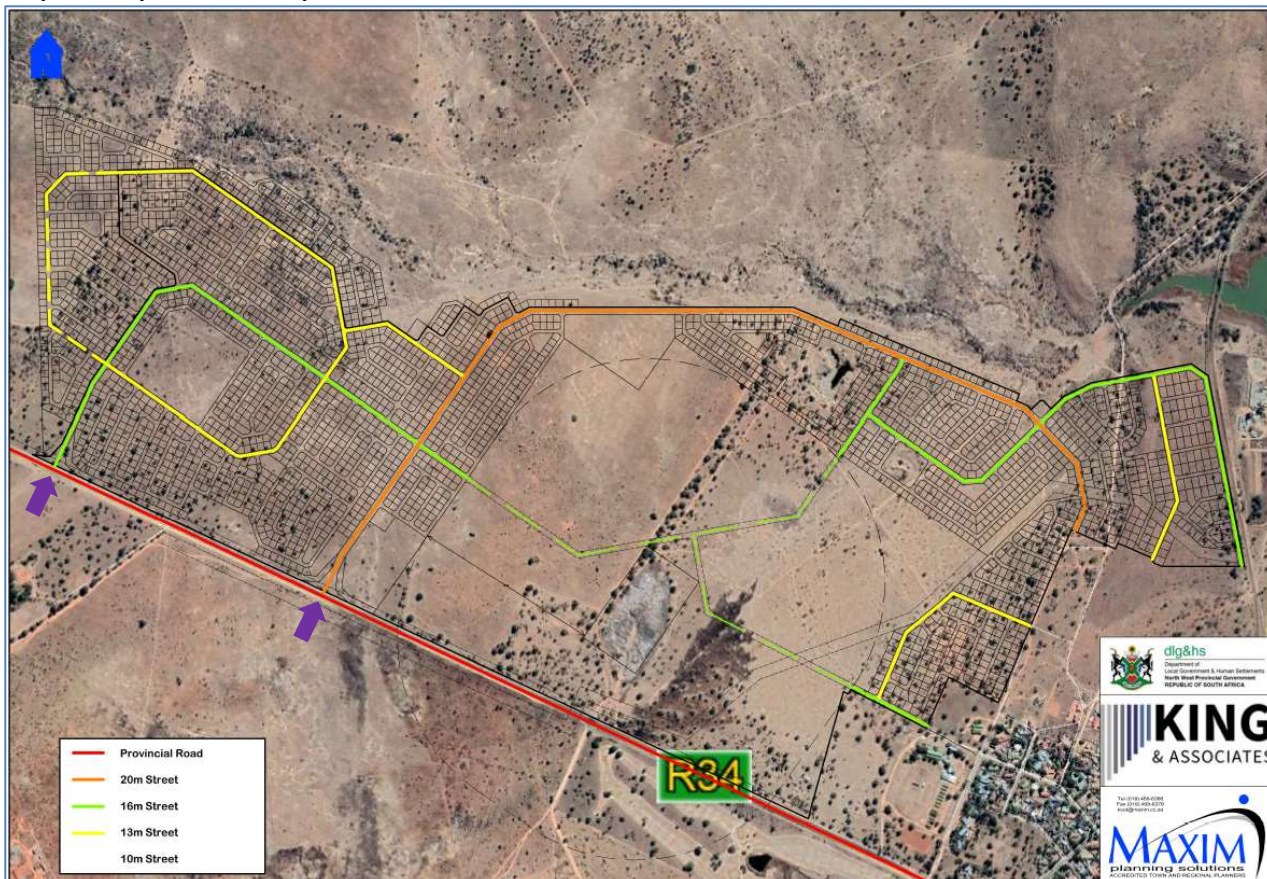
Photo 11: Photo of Road R34 entering Schweizer Reneke from the west

A 20m street (Ferreira Avenue) and a 16m street (Kenneth Morolong Street) within the proposed township area will link with Provincial Road P12-2 (R34) to provide access to the proposed township (indicated in purple below). The main road network in the township area will consist of 20m and 16m primary collector roads (indicated in orange and green respectively below), 13m secondary collector roads (indicated in yellow below) and 10m internal roads.

The internal street network to be implemented in the proposed township area is reflected in **Map 23** overleaf.



Map 23: Proposed township street classes and widths



In order to assess the impact of the proposed township area on the surrounding road network, Route<sup>2</sup> Transport Strategies CC was commissioned to conduct a Traffic Impact Assessment in respect of the proposed township area.

The results of the Traffic Impact Study, extracted from the Traffic Impact Study compiled by Route<sup>2</sup> Transport Strategies (attached as **Annexure S** to the Land Development Application) can be summarized as follows:

#### 4.3.1 STUDY AREA

The extent of the study area is driven by an estimation of the traffic generated by the proposed development of Mamusa Garden View and the intersections likely to be affected by the additional traffic.

This study therefore assesses the worst-case scenario which will be the full extent of the Development. All other land uses other than Residential and subservient uses will highly likely have internal traffic generation.

The study includes the following external intersections which is in line with the 1,5km study area as defined in the COTO Manual TMH16 and the study area for Mamusa Garden View:

- **R34 and Proposed Access Road 1 – proposed priority controlled.**
- **R34 and Proposed Access Road 2 – proposed priority controlled.**
- **R34, Cameron Street and Oertel Street – stop controlled.**
- **Olivier Street (R34) and Buiten Street – stop controlled.**

The peak morning and afternoon traffic counts were conducted on 12 May 2021 at the above intersections.

#### 4.3.2 TRAFFIC FLOWS & TRIP GENERATION

##### 4.3.2.1 Trip Generation (Private Trips)

The COTO Trip Generation Manual (September 2012 TMH 17 Volume 1) recommends a peak hour trip rate of 1,0 trips per unit for Residential 1 which is the primary land use although the following trip rates as per the EMM for low cost housing and what SANRAL allows countrywide was used:

- **Public secondary school: 0,034 and 0,021 trip / student during the AM and PM peak period respectively.**
- **Shopping centre: 0,451 and 2,558 trips /100m<sup>2</sup> for AM and PM peak periods respectively. (These are base rates for formula as per COTO manual)**
- **Residential 1: 0,306 trips /unit for both AM and PM peak periods.**
- **Residential 4: 0, 251 trips / units for both AM and PM peak periods.**

The predicted peak hour traffic to and from the site is summarised in the tables below:

Table 12: AM Peak Hour Trip Generation

| Land use         | Extend | Units          | Trip Rate | Split |     | Trips |     | External Total in & out |
|------------------|--------|----------------|-----------|-------|-----|-------|-----|-------------------------|
|                  |        |                |           | In    | Out | In    | Out |                         |
| Residential 1    | 2 300  | Units          | 0.31      | 25%   | 75% | 178   | 535 | 713                     |
| Residential 2    | 213    | Units          | 0.31      | 25%   | 75% | 17    | 50  | 67                      |
| Secondary School | 1 000  | Students       | 0.03      | 50%   | 50% | 15    | 15  | 30                      |
| Creches          | 200    | Students       | 0.07      | 50%   | 50% | 7     | 7   | 14                      |
| Business         | 2 000  | m <sup>2</sup> | 0.60      | 65%   | 35% | 26    | 14  | 40                      |
|                  |        |                |           |       |     | 243   | 621 | 864                     |

**Table 13: PM Peak Hour Trip Generation**

| Land use         | Extend | Units          | Trip Rate | Split |     | Trips |     | External Total in & out |
|------------------|--------|----------------|-----------|-------|-----|-------|-----|-------------------------|
|                  |        |                |           | In    | Out | In    | Out |                         |
| Residential 1    | 2 300  | Units          | 0.31      | 70%   | 30% | 499   | 214 | 713                     |
| Residential 2    | 213    | Units          | 0.31      | 50%   | 50% | 46    | 20  | 66                      |
| Secondary School | 1 000  | Students       | 0.02      | 50%   | 50% | 10    | 10  | 20                      |
| Creches          | 200    | Students       | 0.07      | 50%   | 50% | 7     | 7   | 14                      |
| Business         | 2 000  | m <sup>2</sup> | 3.40      | 50%   | 50% | 115   | 115 | 230                     |
|                  |        |                |           |       |     | 677   | 366 | 1 043                   |

#### 4.3.2.2 Expected Trip Distribution

The trip distribution is determined from the existing traffic volumes to and from the area, other existing or latent rights developments and/or potential new developments in the area. There are no other Latent Rights developments in the area.

The following distribution was used as determined from the existing peak hour traffic volumes:

- 20% from the north along Buiten Street.
- 20% from the east along Olivier Street.
- 20% from the south along Buiten Street.
- 10% from the west along R34.
- 30% internal trips

#### 4.3.3 CAPACITY ANALYSIS

For the purpose of the capacity analysis, the following intersections were assessed in terms of current and future traffic operations and capacity (the 2021 traffic volumes were grown with a compound of 5% per annum to calculate the future traffic demand).

- ***R34 and Proposed Access Road 1: Kenneth Morolong Street***



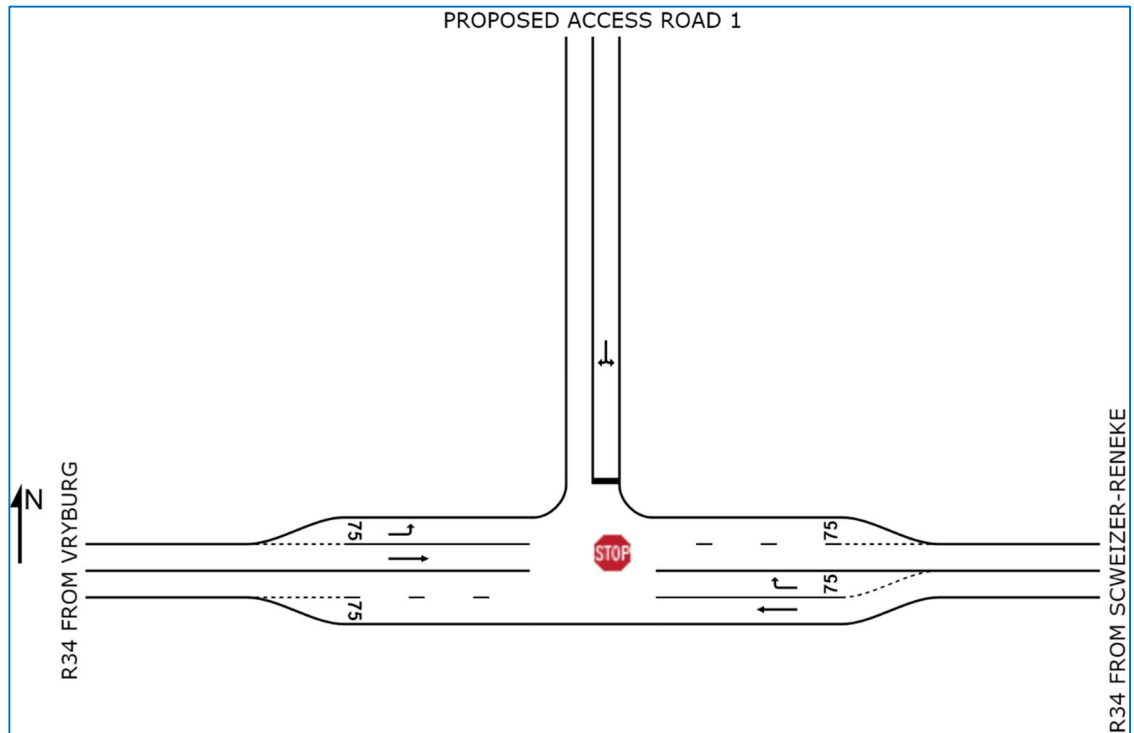


Figure 18: Proposed Layout of R34 and Proposed Access Road 1 – Kenneth Morolong Street

For all the scenarios the intersection operates at acceptable LOS with ample spare capacity.

- **R34 and Proposed Access Road 2: Ferreira Avenue**

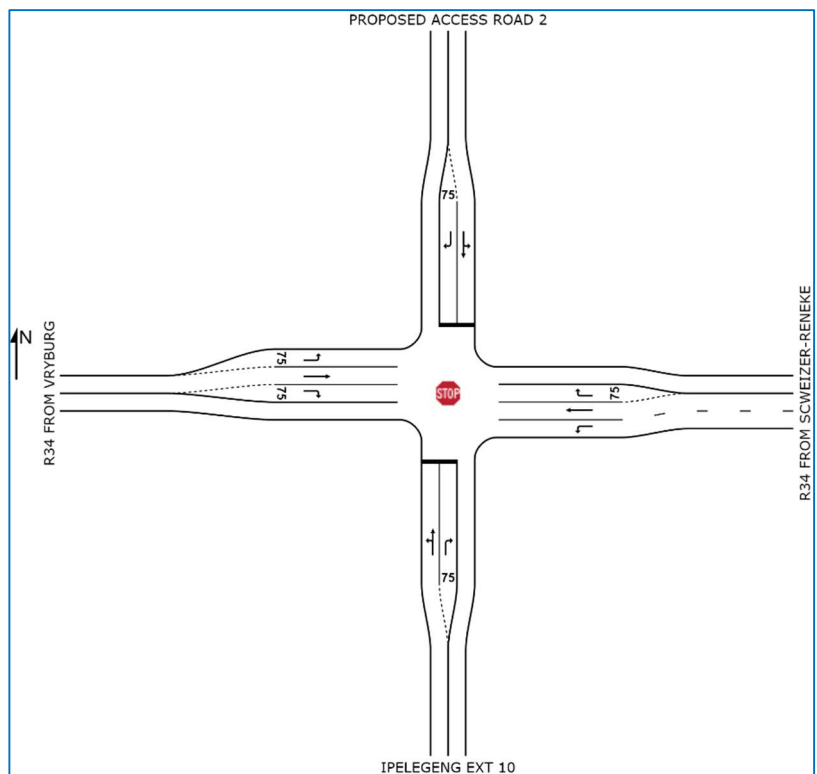


Figure 19: Proposed Layout of R34 and Proposed Access Road 2 – Ferreira Avenue

For all scenarios the proposed intersection will operate sufficiently.

- **R34, Oertel Street and Cameron Street: Intersection 3**

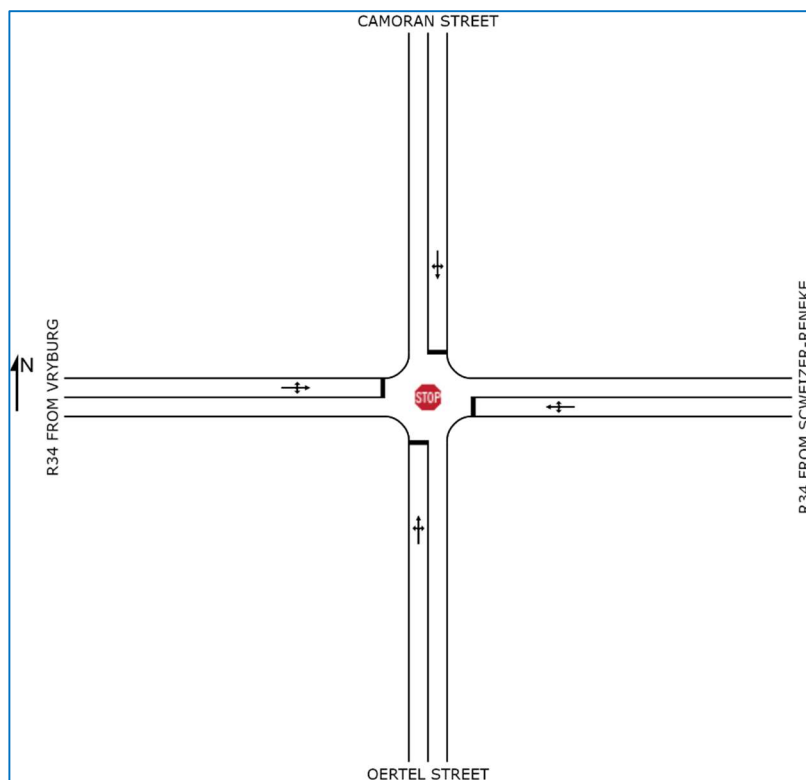


Figure 20: Existing Layout of R34, Oertel Street and Cameron Street – Intersection 3

For the **Existing 2021** scenario the intersection fails during the PM peak hour. To mitigate this, a mini-roundabout is proposed. With including the development traffic, the intersection operation during the AM and PM peak hours will improve considerably if a roundabout is introduced. By **Future 2026** the proposed layout will still operate sufficiently during the respective peak hours.

The proposed layout is illustrated overleaf:

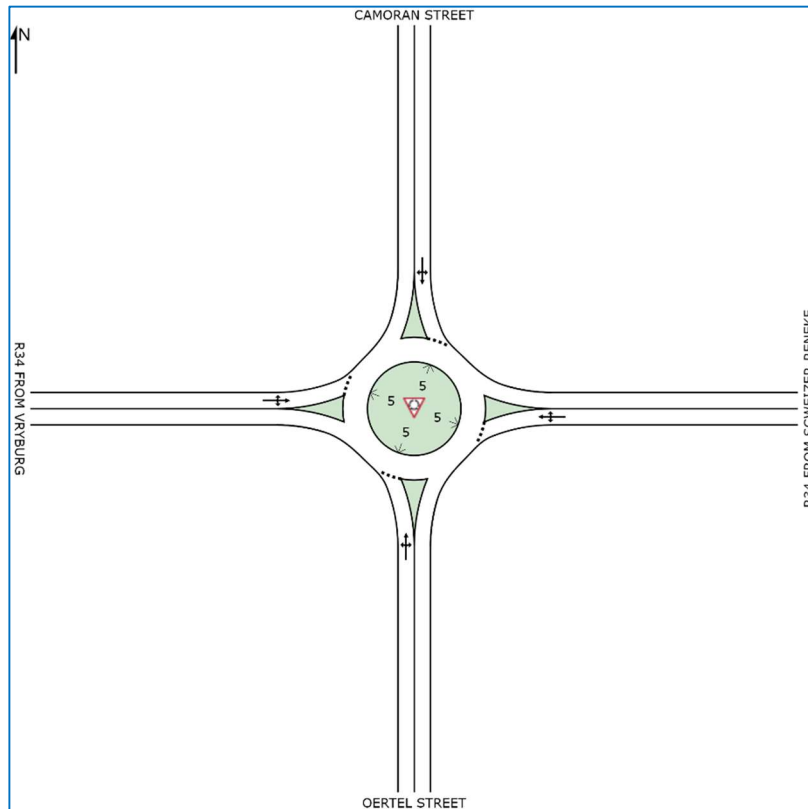


Figure 21: Proposed Layout of R34, Oertel Street and Cameron Street – Intersection 3

- **Olivier Street (R34) and Buiten Street: Intersection 4**

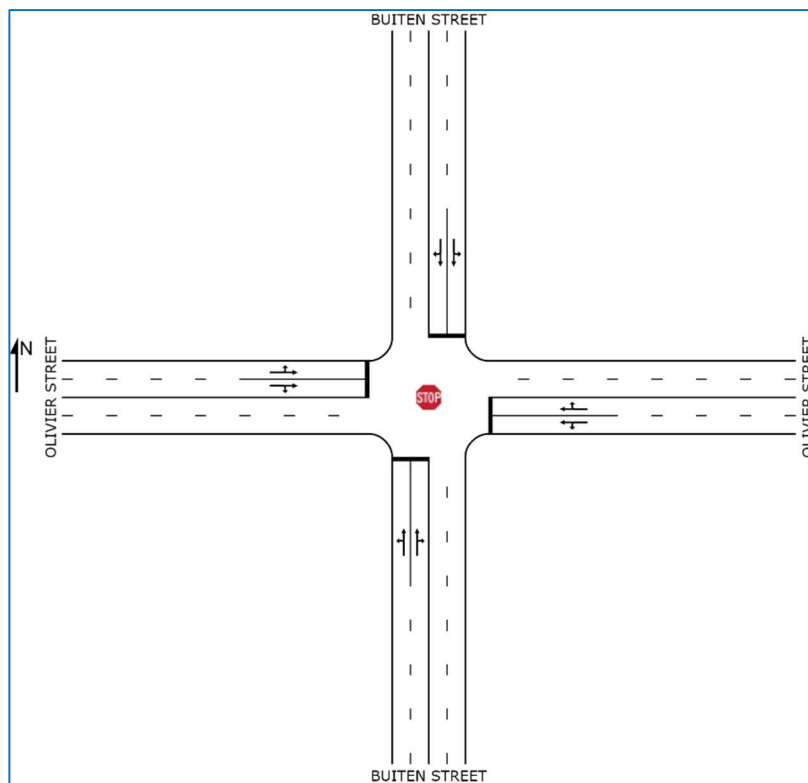


Figure 22: Existing Layout of Olivier (R34) and Buiten Street – Intersection 4



For the **Existing 2021** scenario the intersection operates sufficiently with ample spare capacity. By adding the development traffic some approaches will experience delays although the intersection will still have spare capacity for CBD environments. To mitigate this, traffic signals is proposed only if and when warranted.

The proposed layout is illustrated below:

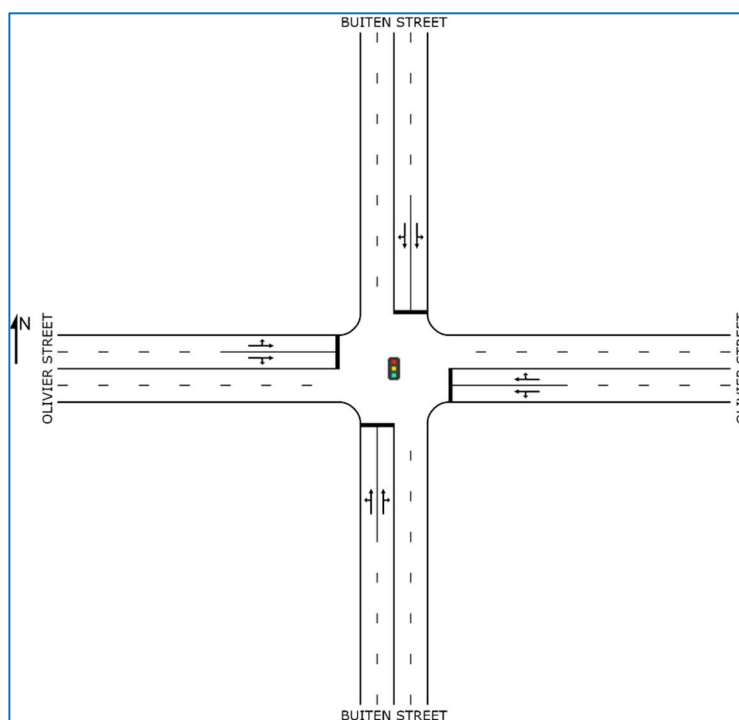


Figure 23: Proposed Layout of Olivier (R34) and Buiten Street – Intersection 4

#### 4.3.4 ESTIMATED PUBLIC TRANSPORT TRIPS

The following modal splits determined from other studies and Statistics South Africa was assumed:

- Private Vehicles 35%
- Minibus-Taxis 50%
- Busses 5%
- Cycling & Walking 10%

It should be noted that the trip generation as used in the analysis should still be the worst-case scenario. **A minibus-taxi rank erf is proposed at the main Business Erf located on the corner of the R34 and the Ferreira Avenue intersection.**

The expected number of vehicles per public transport and non-motorised transport modes to and from the development during the peak hours has been calculated and is presented in **Table 8** below:

Table 14: PM Peak Hour Trip Generation

| Mode AM Peak      | Modal Split | Occupancy | Number of Vehicle Trips |
|-------------------|-------------|-----------|-------------------------|
| Minibus-taxi      | 50%         | 13        | 33                      |
| Bus               | 5%          | 48        | 1                       |
| Cycling & Walking | 10%         | N/A       | N/A                     |
| Mode PM Peak      | Modal Split | Occupancy | Number of Vehicle Trips |
| Minibus-taxi      | 50%         | 13        | 40                      |
| Bus               | 5%          | 48        | 1                       |
| Cycling & Walking | 10%         | N/A       | N/A                     |

#### 4.3.5 CONCLUSION

In addition to the conclusions drawn in sections 4.3.1 to 4.3.4 above, the Traffic Impact Assessment concluded as follows:

***“Based on our site observations, the existing and base traffic volumes shown in the figures, as well as the capacity analysis, it is concluded that the proposed development will have some impact on the external road network.***

***It is proposed and can be concluded:***

- ***Upgrading of the R34, Oertel Street Cameron Street intersection into a mini-roundabout if and when warranted.***
- ***Signalisation of the intersection between Olivier Street (R34) and Buiten Street if and when warranted.***
- ***Provision of the required turning lanes and pass-by lanes at the proposed New Access Road intersections along the R34.***
- ***It is recommended that provision is made for sidewalks along the school site frontages.***
- ***It is recommended that provision is made for traffic calming along the school site frontages”.***

## CHAPTER 5: PROVISION OF ENGINEERING SERVICES

### 5.1 INTRODUCTION

Motla Consulting Engineers and Moedi Consulting Engineers were appointed to investigate and report on the provision of electrical and civil engineering services respectively to the proposed township area.

*As previously mentioned, the calculations used in the engineering services reports are based on the proposed population figures of the proposed Ipelegeng Extensions 10 and 11 and Mamusa Garden View township areas in order to take into account the cumulative effect of these three townships.*

The provision of services to the proposed development areas will be addressed as follows:

- Section 5.2: Civil Engineering Services
- Section 5.3: Electrical Engineering Services

### 5.2 CIVIL ENGINEERING SERVICES

(The information contained in Sections 5.2.1 to 5.2.11 was extracted from the Civil Engineering Services Report for Township Establishment of Ipelegeng Extension 12 (April 2021 compiled by Moedi Consulting Engineers (attached as **Annexure R1** to the Land Development Application).

#### 5.2.1 CURRENT WATER DEMAND

Information with regard to actual water consumption is either not available or unreliable due to the infrequent reading of bulk meters and large-scale water leakages. Several of the bulk meters are out of order and are not repaired or replaced due to financial constraints. There are currently minimal bulk meters installed on supply lines. The MLM does not have the appropriate infrastructure components and management systems in place to measure the extent of such water losses and actual consumer demand.

Due to the lack of the afore-mentioned, the most probable theoretical water demand for the study area is calculated using a rational approach based on water consumption figures derived from the Guidelines for Human Settlement Planning and Design (“Red Book”) published by the CSIR. The following table indicates the derived theoretical current water demand



**Table 15: Derived theoretical Water Demand**

| Area                           | Population    | Water Demand (l/c/d) | AADD (kl/d)  | AADD (Ml/year) | GAADD (kl/d) | GAADD (Ml/year) |
|--------------------------------|---------------|----------------------|--------------|----------------|--------------|-----------------|
| Schweizer-Reneke & Roshunville | 3 973         | 250                  | 993          | 363            | 1093         | 399             |
| Charon                         | 1 029         | 250                  | 257          | 94             | 283          | 103             |
| Ipelegeng X1 – X3              | 20 406        | 130                  | 2 653        | 968            | 2918         | 1065            |
| Ipelegeng X4 – X5              | 8 467         | 80                   | 677          | 247            | 745          | 272             |
| Ipelegeng X6                   | 4 449         | 80                   | 356          | 130            | 391          | 143             |
| Ipelegeng X7                   | 4 014         | 80                   | 321          | 117            | 353          | 129             |
| Ipelegeng X8                   | 4 764         | 80                   | 381          | 139            | 419          | 153             |
| Ipelegeng X9                   | 4 190         | 80                   | 335          | 122            | 369          | 135             |
| <b>Total</b>                   | <b>51 291</b> |                      | <b>5 974</b> | <b>2 180</b>   | <b>6 571</b> | <b>2 399</b>    |

**Table Notes**

**\*AADD - Average Annual Daily Demand**

**\*\*GAADD - Gross Average Annual Daily Demand (AADD x 1.1)**

The following table illustrates the estimated water consumption upon completion of Ipelegeng Extension 10 and 11 & Mamusa Garden View:

**Table 16: Post Development Water Demand**

| Area                           | Population    | Water Demand (l/c/d) | AADD (kl/d)  | AADD (Ml/year) | GAADD (kl/d) | GAADD (Ml/year) |
|--------------------------------|---------------|----------------------|--------------|----------------|--------------|-----------------|
| Schweizer-Reneke & Roshunville | 3 973         | 250                  | 993          | 363            | 1093         | 399             |
| Charon                         | 1 029         | 250                  | 257          | 94             | 283          | 103             |
| Ipelegeng X1 – X3              | 20 406        | 130                  | 2653         | 968            | 2918         | 1065            |
| Ipelegeng X4 – X5              | 8 467         | 80                   | 677          | 247            | 745          | 272             |
| Ipelegeng X6                   | 4 449         | 80                   | 356          | 130            | 391          | 143             |
| Ipelegeng X7                   | 4 014         | 80                   | 321          | 117            | 353          | 129             |
| Ipelegeng X8                   | 4 764         | 80                   | 381          | 139            | 419          | 153             |
| Ipelegeng X9                   | 4 190         | 80                   | 335          | 122            | 369          | 135             |
| Ipelegeng X10 & X11            | 25 625        | 80                   | 1 135        | 414            | 1 248        | 456             |
| Ipelegeng X12 (Res 1)          | 9 430         | 80                   | 754          | 275            | 830          | 303             |
| Ipelegeng X12 (Res 2)          | 426           | 80                   | 34           | 12             | 37           | 14              |
| <b>Total</b>                   | <b>86 772</b> |                      | <b>8 812</b> | <b>3 217</b>   | <b>9 694</b> | <b>3 538</b>    |

## 5.2.2 WATER SOURCE

### 5.2.2.1 Ground Water & Wentzel Dam

Raw water is obtained from four water sources namely the Wentzel dam, the Townlands Borehole Wellfield, the Palachoema boreholes and the Mareesin Farm Borehole Wellfield.

The Wentzel dam is the primary water source of Schweizer-Reneke/ Ipelegeng. The Harts River, which originates near Lichtenburg and flows for approximately 320 km before joining the Vaal River, is the main water source of the Wentzel Dam. The average long-term safe yield of the Wentzel Dam is 2.09 million m<sup>3</sup>/annum. The authorised use from the dam equates to 1.624 million m<sup>3</sup>/annum (4.449 Mℓ/day).

Bulk water provision is supplemented in dry periods by the Townlands Borehole Scheme consisting of 15 boreholes with a supply potential of 1.3797 million m<sup>3</sup>/annum (3.78 Mℓ/day).

The Mareesin Farm Borehole Wellfield consists of six boreholes and has a supply potential of 0.63072 million m<sup>3</sup>/annum (1.728 Mℓ/day). The theoretical safe yield of the combined water sources equates to 9.957 Mℓ/day.

The El Niño phenomena induced a severe drought on arid communities of the North West Province from 2015 to 2018. The prolonged drought depleted surplus water in the Wentzel dam.

Borehole yields decreased over time as precipitation is the primary contributor to the resuscitation of aquifers. The volumetric yield of the borehole wellfields declined drastically until no water could be abstracted from any aquifers during the drought period. The below average precipitation left communities in the region on the verge of collapse during this period. The need for potable water led the inhabitants to drastic and in some cases criminal actions.

### 5.2.2.2 Mamusa Bulk Water Scheme

The Mamusa Bulk Water Supply Scheme project entails water to be conveyed from the Vaal River to the Massouwskop reservoirs reducing the Mamusa community's dependence on unreliable groundwater.

Water is proposed to be abstracted from the Vaal River downstream of the Bloemhof Dam and pumped to Bloemhof WTW. Potable water will be pumped along the Bloemhof/Schweizer-Reneke road (58.5 km) to the Massouwskop Reservoirs.

Additionally, the hydraulic capacity of the Bloemhof abstraction works and water treatment works are proposed to be increased by the bulk project. The pipeline is due to deliver 1.721 million m<sup>3</sup> of water per annum in 2030. The project is implemented by DRSM and funded by the Regional Bulk Infrastructure Grant (RBIG) Programme. The Mamusa portion of the bulk water supply scheme project comprises of the following components:

➤ **Bloemhof Pump Station**

Water will be abstracted from the clear water reservoir at the Bloemhof water treatment works and pumped to the elevated Olievenfontein storage tank.

➤ **Pump line – (Bloemhof PS to Olievenfontein Reservoir)**

The pipeline will be a Ø 355 mm ND uPVC pipeline 25.1 km long.

➤ **Olievenfontein pump station**

Water will be abstracted from the elevated Olievenfontein storage tank and pumped to the Vaalpoort storage tank (Ground Elevated).

➤ **Pump line – (Olievenfontein Reservoir to Vaalpoort Reservoir)**

The pipeline will be a Ø 355 mm ND uPVC pipeline 22.9 km long.

➤ **Vaalpoort storage tank**

Ground Elevated tank

➤ **Supply Main – (Vaalpoort Reservoir to Massouwskop Reservoirs)**

Gravity pipeline will be a combination Ø 400 mm & Ø 355mm uPVC pipeline 11.3 km long

The pipeline was estimated to be commissioned towards the end of 2021. However, the global pandemic affected construction and will invariably delay the completion of the project.

### 5.2.3 WATER QUALITY

Sedibeng Water has been appointed by DRSM for the Operations & Maintenance of the WTP. Water quality test results could not be obtained due to a confidentiality agreement between the water board and the DRSM.

The lobby group AfriForum conducted a national independent evaluation of water quality as well as the quality of WWTW's effluent in 2019. The project utilised the recognised water and wastewater standards to evaluate water quality. The independent report concluded that the drinking water produced by the WTP complied with SANS 241:1 water quality regulation. Recent water quality tests conducted on the water of the Mareesin Farm wellfield

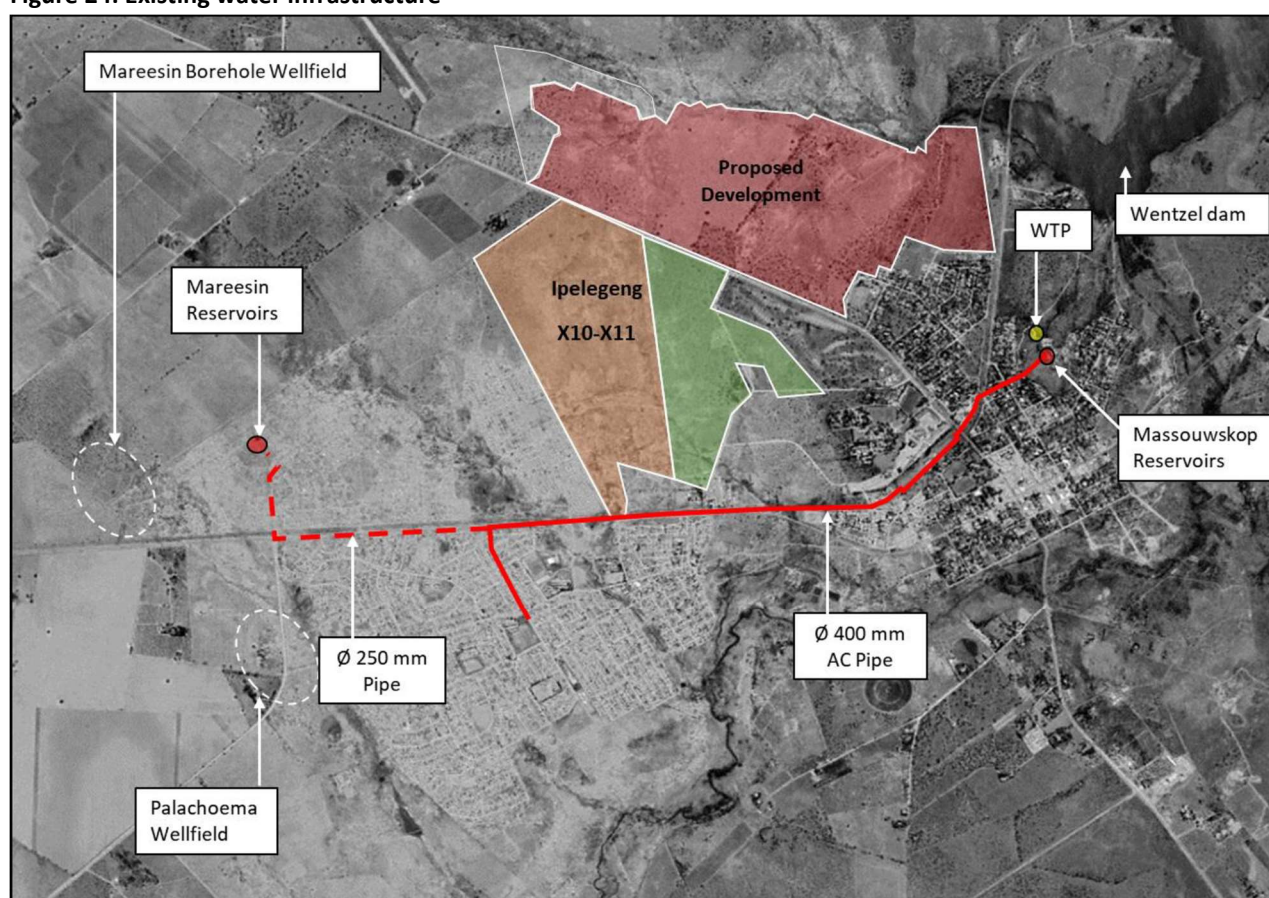


indicated that the abstracted water is fit for human consumption, class 0 (according to SANS 241:2006). No E.coli or Faecal coliforms were detected during microbiological determinant testing however, the test results for “Total Coliforms” exceeded the allowable concentration.

## 5.2.4 BULK WATER INFRASTRUCTURE

The bulk water system of Schweizer-Reneke and Ipelegeng functions interrelated, however for the report purposes the dynamics of the systems will be explained individually. The basic components of the existing water infrastructure of the settlement are graphically illustrated in the figure below:

Figure 24: Existing water infrastructure



The bulk water infrastructure of Schweizer-Reneke functions as follows:

- Raw water is abstracted from the Wentzel dam by means of two multi-stage water pumps located on the southern end of the dam wall and pumped to the WTP
- Additionally, groundwater is pumped from the Townlands Borehole Scheme to the WTP via a 300kl intermediate reservoir located in the vicinity of Wentzel dam
- Raw water is treated at the Schweizer-Reneke WTP and pumped into the Massouwskop reservoirs

- Treated water is distributed to the town of Schweizer-Reneke from the Massouwskop reservoirs

The bulk water infrastructure of Ipelegeng functions as follows:

- Treated water is supplied to Ipelegeng X1 – X5 from the Massouwskop reservoirs via a Ø 400 mm A/C pipeline.
- A Ø 250 mm pipeline is connected to the Ø 400 mm A/C line supplying limited water to the Mareesin Farm reservoirs.
- The Mareesin Farm reservoirs are supplemented with groundwater from the Mareesin Farm Borehole Wellfield as well as the Palachoema boreholes

#### 5.2.4.1 Water Treatment Plant

The current 6Mℓ water treatment plant in Schweizer-Reneke was commissioned in 2004. The WTP utilises a combination of flocculation, sedimentation and filtration treatment techniques preceding chlorination to produce drinking water in compliance with SANS 241:1 water quality regulation. The WTP is designed to treat raw water with a varying degree of quality. The WTP can treat raw water which is highly eutrophic (algae infected) to water containing relatively high solid loads.

As time has passed, some components of the WTP aged due to normal wear and tear. The local municipality that previously operated the plant has kept the plant operating to the best of their ability given the limited financial resources. Substantial refurbishment of the plant has been completed by a previously implemented WSIG funded project implemented in the 2016/2017 financial year.

As previously noted, operation & maintenance of the plant has since been taken over by Sedibeng Water who has been appointed by the DRSM to oversee all bulk infrastructure in the district. Sedibeng has identified some operational challenges and deficiencies on the plant as well as Health & Safety requirements.

A business plan with the motivation to install new bulk water meters was submitted for the project. The project is implementation ready – awaiting funding approval

#### 5.2.4.2 Bulk Water Storage

The water reserves of Ipelegeng and Schweizer-Reneke are stored at two reservoir complexes. The Massouwskop Reservoirs complex consists of a 10 Mℓ, 5 Mℓ and 2.5 Mℓ circular concrete reservoirs respectively. Water is supplied from the 10 Mℓ reservoir to Ipelegeng. The 5 Mℓ and 2.5 Mℓ reservoirs serve as storage nodes for the town of Schweizer-Reneke.

The theoretical water demand (AADD) for the Schweizer-Reneke supply region amounts to 0.993 Mℓ /day and the 4-hour instantaneous peak demand equates to 662 kℓ.

The Mareesin Farm Reservoirs is situated in Ipelegeng Extension 9 and consists of two 0.6 Mℓ steel press tanks constructed on 24 m high tank stands. One of the 0.6 Mℓ steel press tanks have collapsed in March 2021 damaging the stand of the other tank. Thus, currently no water can be stored in either of the reservoirs.

#### 5.2.4.3 Water Distribution System

Ipelegeng Extensions 1 to 9 regularly experiences water shortages resulting in trickle flow at best. The water shortages in the area are the consequence of a combination of factors as briefly discussed below:

- The low water pressures and resulting water shortages in Ipelegeng can be contributed to the inability of the Mareesin Farm Reservoirs to supply water to Ipelegeng Extensions 4 - 9. The unreliable water source (Mareesin Farm Borehole Wellfield) is the root of the water related problems in Ipelegeng. The borehole wellfield does not have adequate capacity to supply the water demand of the supply region.
- The bulk Ø 400 mm AC distribution main supplying water to Ipelegeng has two major leaks causing excessive losses of potable water on a daily basis. Apart from the fact that the pipeline has reached the end of its design lifetime, asbestos cement is considered as a redundant material due to the negative health connotation.
- Ipelegeng Extensions 1 to 5 regularly experiences water shortages resulting in trickle flow at best. The lack of water in the area can be attributed to the problematic Ø 400 mm A/C distribution main as well as the topography of the township. As a result of the frequent water shortages, Ipelegeng Extensions 4 and 5 experience regular blockages and overflows on the sewer network.

Consultants have been appointed by the DRSM to implement a bulk project to rectify the above-mentioned challenges. A technical report was submitted for the project. The project is implementation ready – awaiting funding approval.

The proposed project entails upgrading of the bulk water infrastructure of the greater Schweizer-Reneke aimed at improving the water supply to Ipelegeng Extensions 4 - 9. This will involve the installation of bulk water pipelines of varying diameters as well as the construction of a new water pump station.

Changes to the existing configuration of pipework will also resolve pressure and supply problems experienced in Ipelegeng Extensions 1 - 3.



## 5.2.5 WATER SYSTEM ANALYSIS

### 5.2.5.1 Water Balance

Based on the information derived from sub-sections above, the total potential bulk water supply to the settlement from existing and new infrastructure projects currently under construction is summarised as follows:

Ground Water - Townlands Borehole Scheme = 3.78 Mℓ/day (A)

Ground Water - Mareesin Farm Borehole Wellfield = 1.73 Mℓ/day (B)

Surface Water - Wentzel Dam = 4.45 Mℓ/day (C)

Mamusa Bulk Water Supply Scheme = 4.72 Mℓ/day (D)

**Total = 14.68 Mℓ/day (E)**

From the above, it is evident that adequate potential bulk water supply is theoretically available. However, it must be noted that in reality the actual supply potential will be considerably less than suggested by the figures above. Upon consultation with MLM staff, the report seeks to establish a more realistic estimate of the actual delivery of each water source. The following table presents an estimated actual volumetric supply of each source:

Table 17: Estimated Available Bulk Water

| Water Source                     | Delivery Potential (Mℓ/d) | Estimated Source Exploitation | Estimated Potential (Mℓ/d) |
|----------------------------------|---------------------------|-------------------------------|----------------------------|
| Townlands Borehole Scheme        | 3.78                      | 35 %                          | 1.323                      |
| Mareesin Farm Borehole Wellfield | 1.73                      | 20 %                          | 0.346                      |
| Wentzel Dam                      | 4.45                      | 65 %                          | 2.893                      |
| Mamusa Bulk Water Supply Scheme  | 4.72                      | 90 %                          | 4.248                      |
| <b>Total</b>                     | <b>14.68</b>              |                               | <b>8.801</b>               |

As stated previously, the Proposed Development will increase the total water demand to 8.8 Mℓ/day (AADD). In the event that the respective water sources can meet the estimated potential (8.8 Mℓ/day) the increased water demand can theoretically be accommodated.

### 5.2.5.2 Water Treatment Plant (WTP) Capacity Analysis

The Current AADD equates to 5.9 Mℓ/d and future AADD could increase to 8.8 Mℓ/day (Development of Ipelegeng X10, X11 & Mamusa Garden View). The capacity of the WTP is 6 Mℓ/d. The WTP will not be able to meet the future water demand as is evident from the calculations below:

### **WTP Capacity (Current AADD)**

$$\begin{aligned} &= \text{Design Capacity} - \text{Water Demand} \\ &= 6 - 5.9 \\ &= + 0.1 \text{ M}\ell/\text{d} \end{aligned}$$

### **WTP Capacity (Future AADD)**

$$\begin{aligned} &= \text{Design Capacity} - \text{Future Water Demand} \\ &= 6 - 8.8 \\ &= - 2.8 \text{ M}\ell/\text{d} \end{aligned}$$

The Mamusa Bulk Water Supply Scheme will supply treated water to the Massouwskop Reservoirs. Thus, the capacity shortfall of the WTP can be mitigated by the Mamusa bulk water project.

## **5.2.5.3 Reservoir Capacity Analysis**

In accordance with the Guidelines for Human Settlement Planning and Design (Red Book), the required storage capacity provided should comply with the water demand (AADD) for 48 hours.

### **Reservoir Capacity Analysis - Current**

$$\begin{aligned} &= \text{Existing Storage} - (\text{AADD} \times 2) \\ &= (10.0 + 5.0 + 2.5) - (5.9 \times 2) \\ &= 5.7 \text{ M}\ell \end{aligned}$$

### **Reservoir Capacity Analysis - Future Water Demand (Ipelegeng X10, X11 & Mamusa Garden View)**

$$\begin{aligned} &= \text{Existing Storage} - (\text{AADD} \times 2) \\ &= (10.0 + 5.0 + 2.5) - (8.8 \times 2) \\ &= - 0.1 \text{ M}\ell \end{aligned}$$

As is evident from the above the Proposed Development will severely impact the bulk water balance of the settlement. It must be noted that although the reservoir capacity shortfall is only 0.1 Mℓ, the water balance was conducted on a low water consumption figure (80 ℓ/capita/day). The availability of abundant potable water could alter the water demand patterns. By implication, the water demand could escalate by as much as 3 Mℓ per day, resulting in a reservoir capacity shortfall of an estimated 6 Mℓ. Remedial actions will be addressed in section 5.2.5.4 below.

## **5.2.5.4 Proposed Water Infrastructure Augmentation**

The success of the Proposed Development is dependent on the provision of adequate water to the proposed new townships by integrating the required new bulk water infrastructure into the existing supply system.

It is evident from the “Reservoir Capacity Analysis” section that the total reservoir capacity does not comply with the prescribed guidelines in terms of total storage. The inability of the bulk water system to comply with the prescribed guidelines could have a detrimental effect on the settlement due to numerous negative implications. The area designated for the proposed development is located northwest of the “New town” township of Schweizer-Reneke. The existing adjacent water reticulation network does not have the hydraulic capacity to accommodate the water demand of the proposed development. Thus new dedicated water infrastructure has to be constructed for the Proposed Development.

It is proposed that the total storage capacity be increased to compensate for the storage shortfalls by constructing a new reservoir on Massouwskop. The construction of a new concrete reservoir will have an excessive cost implication. Thus, it is proposed in the interim that the supply volume of the Mamusa Bulk Water Supply Scheme be augmented from existing sources to supplement for the capacity shortfall of the Massouwskop reservoirs. A dynamic hydraulic analysis must be conducted to establish the most economic tank configuration and required capacity.

In addition, it is proposed that a new bulk supply main be constructed to provide sufficient potable water to Ipelegeng Extensions 10 and 11 and Mamusa Garden View from the Massouwskop reservoirs. It is proposed that the new supply main be routed along the R34 provincial road (Vryburg - Schweizer-Reneke). A portion of the pipeline will transect the “New town” township affecting several infrastructure components (Railway, roads, pipes, etc.). Water will be conveyed by means of gravity eliminating the need for a pumping station. The required bulk water infrastructure components are graphically illustrated below:

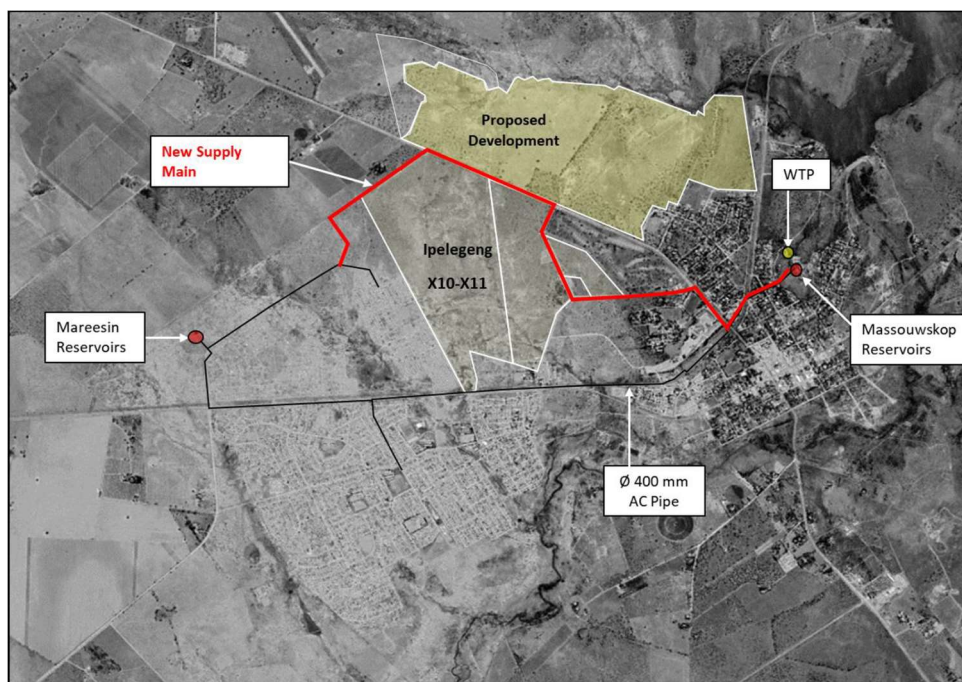


Figure 25: Proposed Bulk Water Infrastructure Augmentation



## 5.2.6 CURRENT WASTEWATER GENERATION

Information regarding actual sewer volumes currently generated could not be obtained due to the absence of recorded influent flow data from the Wastewater Treatment Works (WWTW).

Due to the lack of the afore-mentioned, the most probable theoretical wastewater generation for the study area is calculated using a rational approach based on water consumption figures derived from the Guidelines for Human Settlement Planning and Design (“Red Book”) published by the CSIR. The following table indicates the derived theoretical current wastewater generation:

Table 18: Current Wastewater Generation – Red Book

| Area                           | Population    | Wastewater Generation (l/c/d) | ADWF * (kl/day) | AWWF** (kl/day) | IPWWF*** (l/s) |
|--------------------------------|---------------|-------------------------------|-----------------|-----------------|----------------|
| Schweizer-Reneke & Roshunville | 3 973         | 125                           | 497             | 571             | 17             |
| Charon                         | 1 029         | 125                           | 129             | 148             | 5              |
| Ipelegeng X1 – X3              | 20 406        | 125                           | 2551            | 2 933           | 73             |
| Ipelegeng X4 – X5              | 8 467         | 71                            | 601             | 691             | 19             |
| Ipelegeng X6                   | 4 449         | 71                            | 316             | 363             | 10             |
| Ipelegeng X7                   | 4 014         | 71                            | 285             | 328             | 9              |
| Ipelegeng X8                   | 4 764         | 71                            | 338             | 389             | 11             |
| Ipelegeng X9                   | 4 190         | 71                            | 298             | 342             | 10             |
| <b>Total</b>                   | <b>51 291</b> |                               | <b>5 014</b>    | <b>5 766</b>    | <b>154</b>     |

ADWF - Average Dry Weather Flow

AWWF - Average Wet Weather Flow (ADWF x 1.15)

IPWWF – Instantaneous Peak Wet Weather Flow

The previously mentioned WRC publication was utilized to establish wastewater generation with an alternative method. The method is a rational approach by considering the socio-economic status of the user and applying the applicable unit generation rate. The Van Zyl method yielded an ‘Average Wet Weather Flow’ of 4,4 Mℓ / day for the settlement. In summary, the 5.7 Mℓ / day determined by the CSIR method can be considered as the upper daily wastewater generation limit and the 4,4 Mℓ / day established by the Van Zyl method as the lower wastewater generation volume.

For this development, figures derived from the Red Book (CSIR) will be assumed to provide sufficient accuracy.

### 5.2.6.1 Post Development Wastewater Generation

The following table indicates the calculated future wastewater quantities:

Table 19: Future Wastewater Generation – Red Book

| Area                           | Population    | Wastewater Generation (l/c/d) | ADWF* (kl/day) | AWWF** (kl/day) | IPWWF*** (l/s) |
|--------------------------------|---------------|-------------------------------|----------------|-----------------|----------------|
| Schweizer-Reneke & Roshunville | 3 973         | 125                           | 497            | 571             | 17             |
| Charon                         | 1 029         | 125                           | 129            | 148             | 5              |
| Ipelegeng X1 – X3              | 20 406        | 125                           | 2551           | 2 933           | 73             |
| Ipelegeng X4 – X5              | 8 467         | 71                            | 601            | 691             | 19             |
| Ipelegeng X6                   | 4 449         | 71                            | 316            | 363             | 10             |
| Ipelegeng X7                   | 4 014         | 71                            | 285            | 328             | 9              |
| Ipelegeng X8                   | 4 764         | 71                            | 338            | 389             | 11             |
| Ipelegeng X9                   | 4 190         | 71                            | 298            | 342             | 10             |
| Ipelegeng X10 & X11            | 14 186        | 71                            | 1 007          | 1 158           | 30             |
| Ipelegeng X12 (Res 1)          | 9 430         | 71                            | 670            | 770             | 21             |
| Ipelegeng X12 (Res 2)          | 426           | 71                            | 30             | 35              | 1              |
| <b>Total</b>                   | <b>86 772</b> |                               | <b>7 533</b>   | <b>8 663</b>    | <b>205</b>     |

The Van Zyl method yielded an ‘Average Wet Weather Flow’ of 7,5 Ml / day for the settlement. In summary, the 8.6 Ml / day determined by the CSIR method can be considered as the upper daily wastewater generation limit and the 7,5 Ml / day established by the Van Zyl method as the lower wastewater generation volume.

## 5.2.7 BULK SEWER INFRASTRUCTURE

### 5.2.7.1 Wastewater Treatment Works

The total hydraulic capacity of the Schweizer-Reneke WWTW is 9 Ml/day. The WWTW comprises of two individual biological nutrient removal (BNR) plants that share an inlet works and all the generated sludge is pumped to an anaerobic lagoon scheme. The WWTW implements conventional treatment techniques to reduce the anthropogenic impact and produce an effluent complying with the “Allowable general limits”, as required by the National Water Act, No. 36 of 1998.

Wastewater received by the WWTW tends to be of a low pH resulting in alkaline influent. The low alkalinity has several negative effects on the treatment process. Sedibeng Water has been appointed by DRSM for the Operation & Maintenance of bulk infrastructure in the district. The water board is reluctant to take over the WWTW mainly due to Health & Safety risks on the treatment facility.

Wastewater enters the treatment plant by means of an inlet works consisting of an Archimedean screw pump, mechanical screen, pista trap and venturi flume with an electronic flow meter. Hereafter wastewater flows into the biological reactor. The

primary function of the reactor is to remove the biodegradable fraction of biological oxygen demand (BOD), Phosphorus compounds and Nitrogen. The reactor comprises of an anaerobic zone followed by an anoxic zone, aerobic zone, secondary anoxic zone and secondary aeration zone.

Mixed liquor flows from the biological reactor into a secondary clarifier where the treatment process is designed to remove biological growth and humus from the wastewater.

Settleable solids accumulate at the bottom of the structure and form a substance referred to as sludge. Fundamentally, the secondary clarifier separates wastewater (mixed liquor) and settleable solids (sludge). The effluent flows over the lander and gravitates towards the chlorination tank sump.

Activated sludge flows from the secondary clarifier via the flow control chamber to a sump adjacent to the pumping station. The returned activated sludge (RAS) is pumped from the sump by two RAS pumps to the biological reactor for recirculation. Activated sludge flows from the biological reactor to a sump adjacent to the pumping station. The process is utilized to convey sludge to the sludge lagoons. The waste activated sludge (WAS) is pumped from the sump by two WAS pumps to the sludge lagoons.

Chlorine is applied to the effluent from the secondary clarifier to kill pathogenic micro-organisms before the final effluent discharge into the maturation lagoons. Chlorinated wastewater flows into the maturation lagoons from the contact tank before discharging into the Harts River.

The fundamental purpose of the maturation lagoons is to provide additional treatment in terms of BOD removal and disinfection in the form of exposure to ultraviolet rays to a lesser degree

### 5.2.7.2 Wastewater Reticulation Network

As discussed earlier, Schweizer-Reneke and Ipelegeng consist of a fully waterborne sewer system with the network installed in either midblock or street front position. The estimated length of the sewer lines installed in the two towns amounts to 139.1 km (Ipelegeng = 110.4 km & Schweizer-Reneke = 28.7km).

All wastewater generated gravitate towards nine strategically positioned pumping stations (three located in Schweizer-Reneke & six situated in Ipelegeng) from where sewer is pumped to the treatment works. The flowing figure illustrates the locality of the respective wastewater pumping stations:



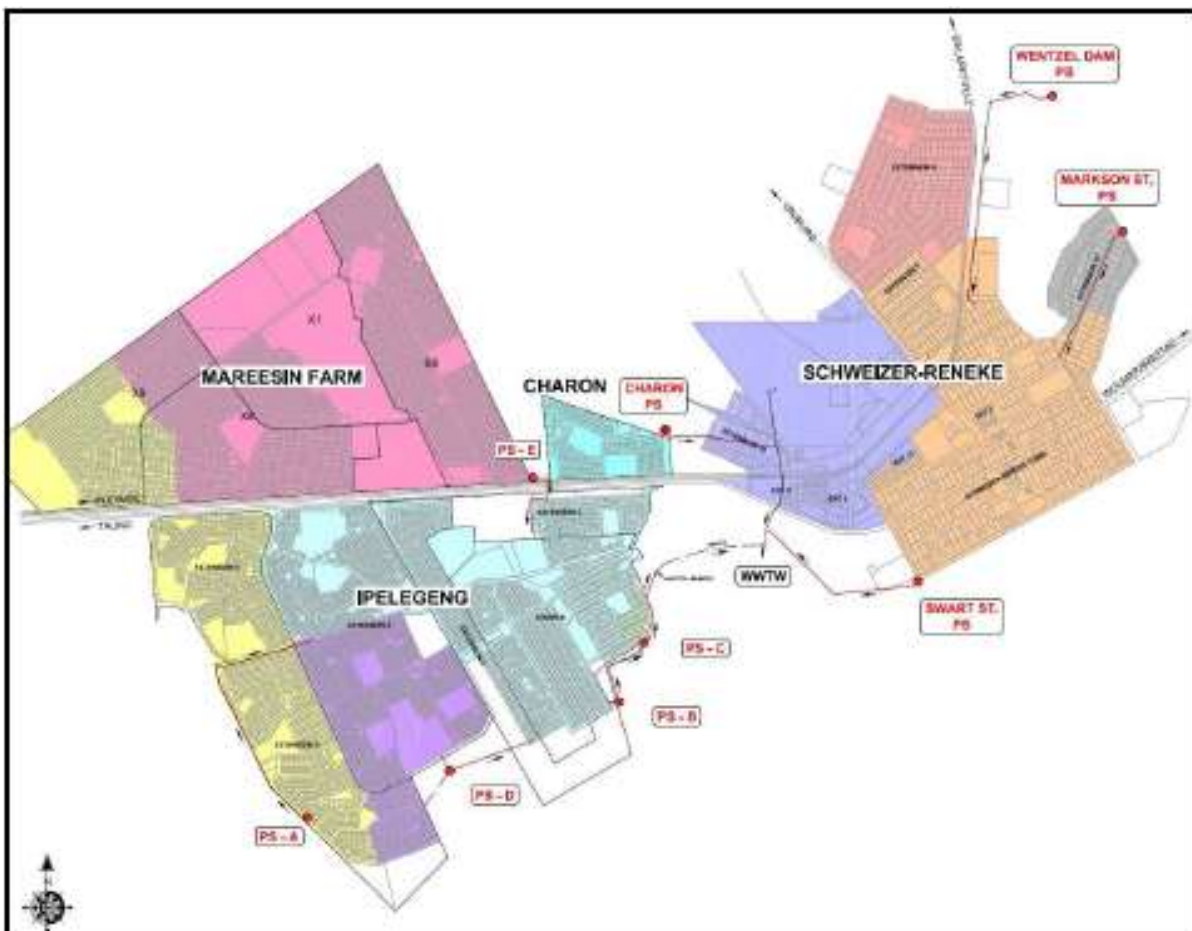


Figure 26: Schweizer Reneke / Ipelegeng Pumping Station Locality Plan

### 5.2.7.3 Capacity of the WTW

The existing WWTW has a combined treatment capacity of 9 Ml/day. As previously stated, the current theoretical wastewater generation of the settlement equates to 5.0 Ml/day and will increase to 8.6 Ml/day. The existing WWTW will have ample capacity to accommodate the increased wastewater loading induced by the Proposed Development as evident from the calculations below:

#### Existing WWTW Capacity – Future Sewer Generation

$$\begin{aligned}
 &= \text{Design Capacity} - \text{Existing Sewer Inflow} \\
 &= 9 - 8.6 \\
 &= 0.4 \text{ Ml/d (4 \% Remaining Capacity)}
 \end{aligned}$$

### 5.2.8 PROPOSED BULK SEWER INFRASTRUCTURE AUGMENTATION

The successful implementation of the Proposed Development requires effective integration with the existing and new bulk sewer infrastructure. The natural topography of the demarcated area slopes in a northern direction towards the natural watercourse. The proposed internal wastewater network will follow the natural contours of the site. The topographical low point of the area is located on the north-eastern boundary of the site.

Due to the natural contours, the proposed new internal wastewater network cannot be integrated into the existing sewer infrastructure. The inability to integrate the wastewater network will require the establishment of several bulk sewer infrastructure components to achieve the successful development of the township.

It is proposed that a new sewer pumping station be constructed on the north-eastern boundary of the site. Additionally, it is proposed that a new rising main as well as a new outfall sewer line be constructed to convey wastewater to the existing WWTW. The aforementioned outfall sewer will be utilized to convey generated wastewater of Ipelegeng Extension 10 & 11 as well.

The proposed new wastewater infrastructure components are graphically illustrated hereafter:

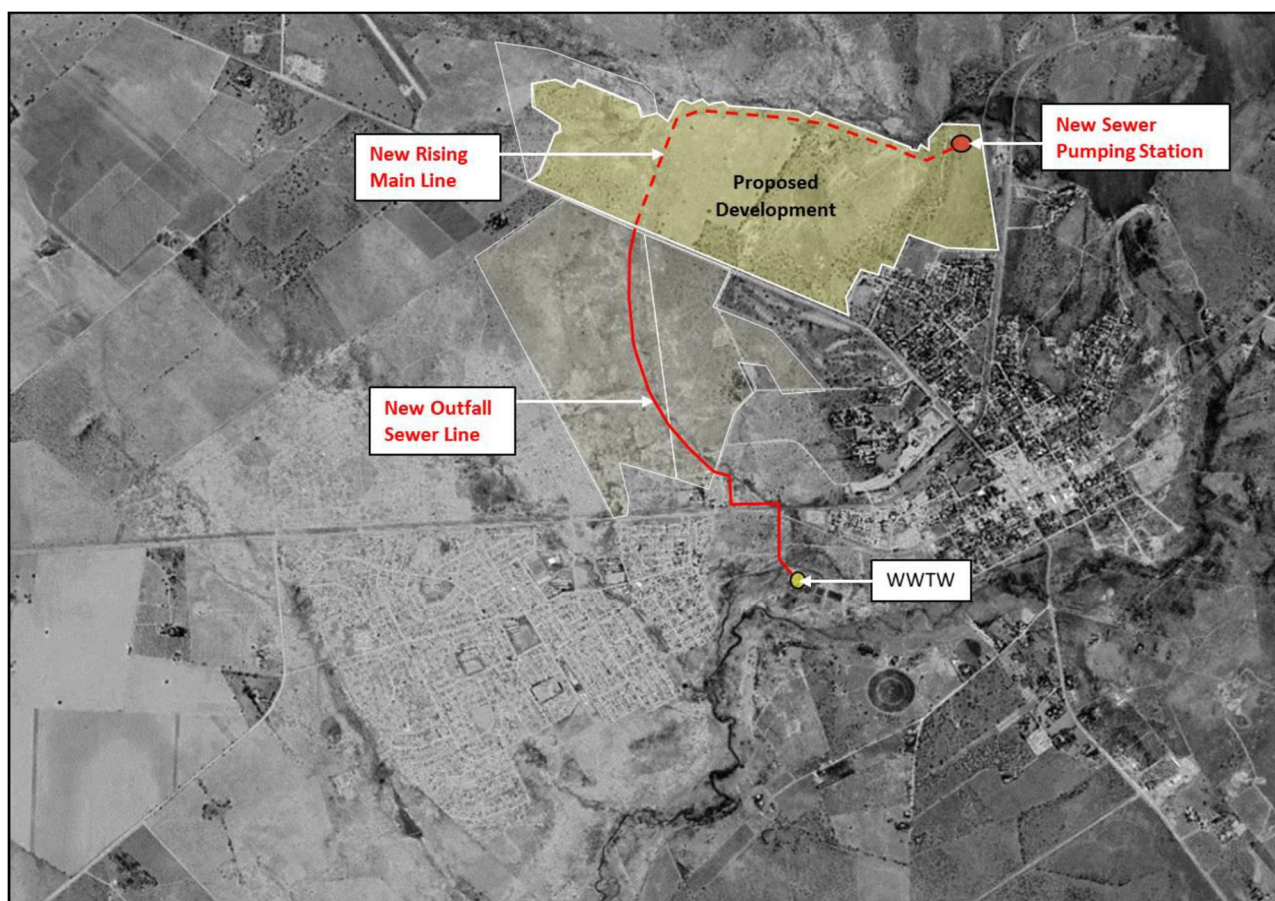


Figure 27: Proposed new Wastewater Infrastructure

### 5.2.9 STORMWATER

The Proposed Development is located in a valley with a natural stormwater low-point dividing the eastern and western portions of the development. The natural topography of the area slopes towards the storm water low-point and a watercourse to the north. Due to the natural topography, the area may be prone to stormwater erosion. Urbanization of the



demarcated area will increase the peak storm-water runoff (1-in-2 years recurrence interval) from 4.8 m<sup>3</sup>/s to 11.3 m<sup>3</sup>/s. The following figure indicates the direction of stormwater flow:

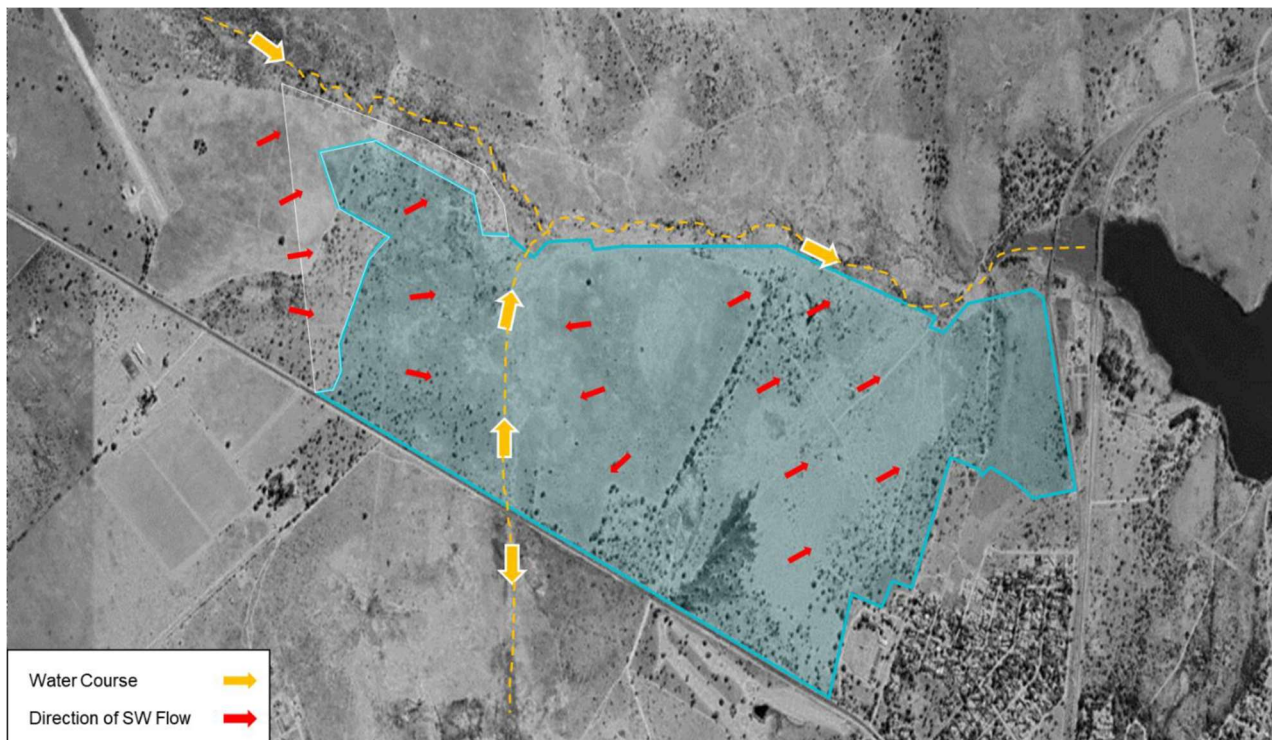


Figure 28: Direction of stormwater flow

Stormwater infrastructure will be designed to accommodate runoff as surface flow in an open system. This will be achieved by designing internal roadways to disperse stormwater towards the watercourses. Comprehensive information on stormwater attenuation should be presented in the detailed design report of internal services for approval by the municipality.

## 5.2.10 MUNICIPAL SOLID WASTE

Municipal Solid Waste (MSW) removal is a function of the Waste & Environmental Management Division of the MLM. According to the SDF: “a black bag system is used and a special refuse truck. Large containers are also used in the industrial and business areas” to facilitate MSW removal.

The community currently theoretically generates an estimated MSW volume of 89.9 tons per day. The Proposed Development will theoretically increase the estimated total MSW to 97.7 tons per day. The estimated increase in MSW will amount to 10.2m<sup>3</sup> per day. The encouragement of an integrated waste management system will dramatically reduce MSW and promote Reduce, Reuse and Recycle practices.

As previously mentioned, the existing landfill site is located within the Proposed Development and operate as a G:S:B - municipal landfill site. According to the permit



conditions the Schweizer-Reneke landfill site requires a 500 m buffer zone. It is proposed that the capacity of the current landfill site must be established and evaluated. The following figure graphically illustrates the landfill site and buffer zone:

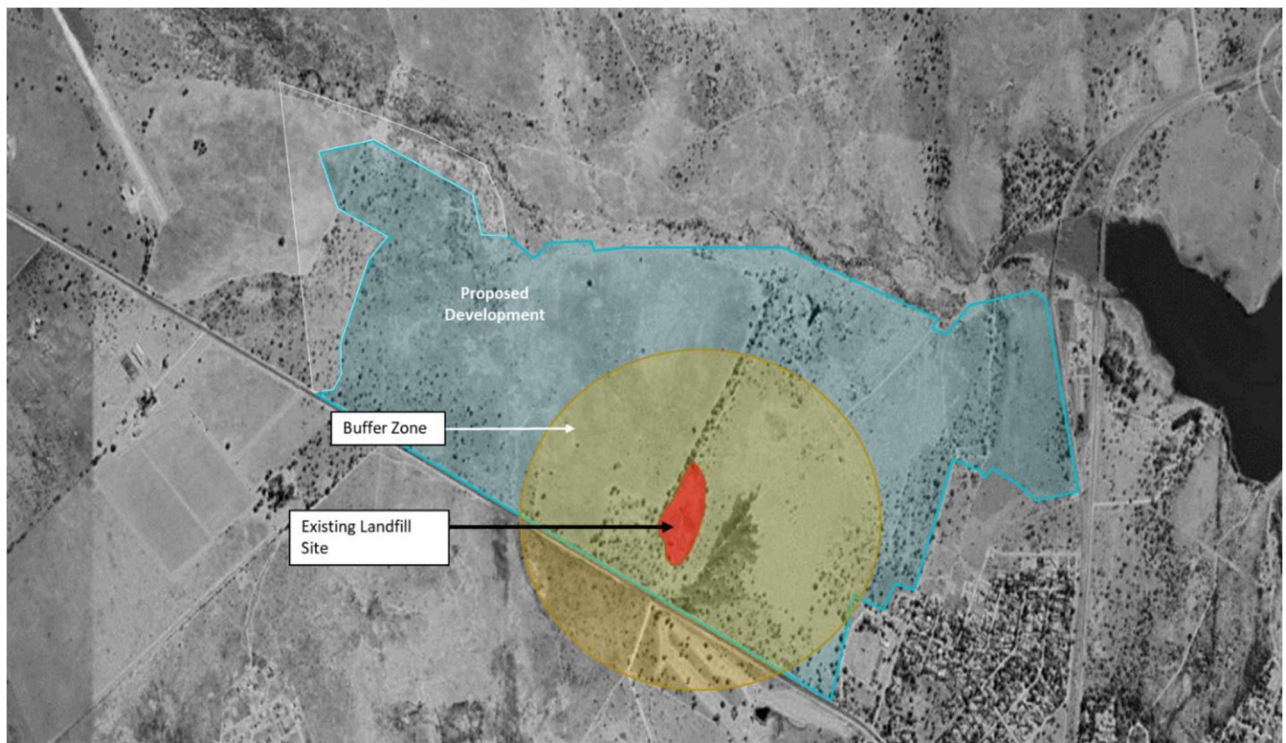


Figure 29: Landfill Site and buffer area

## 5.2.11 INTERNAL SERVICES

### 5.2.11.1 Water

The design of internal services will be dependent on the final proposed development layout. The following design guidelines will be followed:

- The internal water supply network will consist of uPVC and/or HDPE pipes of varying diameter according to designs of the Civil Engineer.
- Sufficient storage capacity for water demand and fire water supply.
- Provision of isolating valves, air release valves and fire hydrants to comply with the requirements of the Local Authority and Building Regulations.
- Cognizance will be taken of pipe diameters and water pressure for firefighting purposes.

### 5.2.11.2 Sewer

Depending on the future development layout, an internal sewer network of Ø 110mm and Ø 160mm pipes with related Y-junction connections and inspection eyes will be installed to comply with the minimum specifications stipulated in the SANS 10400

Building Regulations. Manholes and rodding eyes will be constructed at necessary positions to allow for effective maintenance.

The internal sewer network will be connected to the new gravity outfall sewer as explained in Section 5.2.8 above.

#### **5.2.11.3 Roads & Stormwater**

The design of the internal access roads shall provide for an appropriate road surface with cross sections designed to accommodate the channeling of storm water generated on the development area.

Where storm intensity calculations dictate, sufficiently designed concrete channels will be constructed as part of the road cross section to channel storm water as described in the relevant section above.

Roads and storm water infrastructure will generally be designed to follow the natural runoff patterns to avoid ponding and flooding of properties with associated damage.

#### **5.2.11.4 Refuse Removal**

Refuse removal is currently conducted by the MLM and their services will be extended to the proposed development. Refuse shall be removed by the Municipality at regular intervals as required.

### **5.3 ELECTRICAL ENGINEERING SERVICES**

(The information contained in Sections 5.3.1 to 5.3.5 was extracted from the Electrical Services Report (September 2021 compiled by IQ Solutions (attached as **Annexure R2** to the Land Development Application).

#### **5.3.1 LICENSED SUPPLY AREA**

The Development is situated within the licensed supply area of Mamusa Local Municipality North West Province and the jurisdiction of Dr Ruth Segomotsi Mompati District Municipality.

Electricity is supplied to the area by an 88kV overhead line from The Eskom Mamusa Substation (Grootlaagte Road) to the Eskom Schweizer Reneke Munic 88/11kV Substation as indicated in **Figure 30** and **Photo 12** overleaf.



Figure 30: Route of existing 88kV overhead line



Photo 12: View of existing 88kV overhead line

The electricity supply to Schweizer Reneke town is fed by buried MV cables from the MLM Main Substation next to the Eskom Schweizer Reneke Munic 88/11kV Substation.

An underground 70mm XPLE MV cable is feeding the Swartz Street Substation of the MLM from the Main MLM substation as indicated in **Figure 31** overleaf.



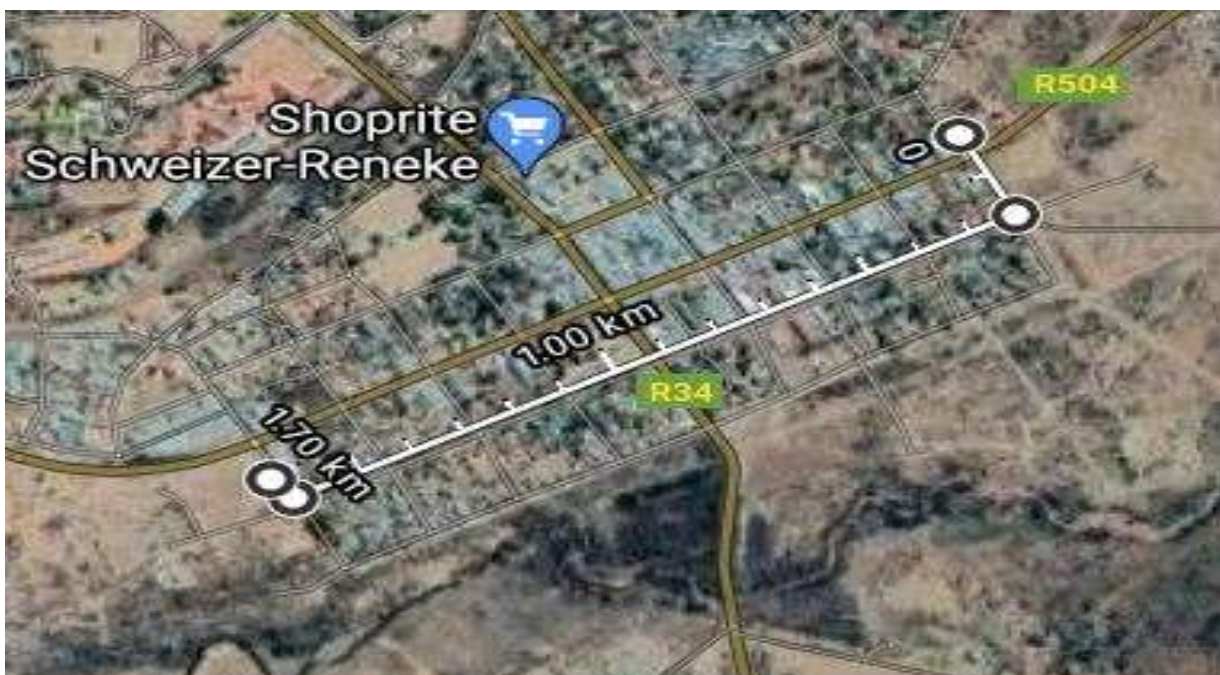


Figure 31: Route of line feeding Swartz Street Substation from Main MLM substation

An overhead line (Inry Line) is also fed from the MLM substation to the area south of the town.

The electricity supply to Charon, Ipelegeng Extension 14, 6 and 7 north of the Schweizer-Reneke to Amalia Road is fed by an overhead MV line from the Swartz Street Substation of Mamusa Local Municipality (MLM) as indicated in **Figure 32** and **Photos 13** and **14**



Figure 32: Route of supply to Sharon, Schweizer Reneke Extension 14 and Ipelegeng Extensions 6 and 7





Photo 13: Start of line at Swartz Street MLM Substation



Photo 14: Ipelegeng Extension 7 endpoint from Swartz Street Substation

The Swartz Street Substation of MLM is also feeding the Mamusa Agricultural Holdings, Palachoema Agricultural Holdings and the town area closed to Swartz Street.

For the above mentioned areas the electricity revenue is for the account of MLM.

The electricity supply to Ipelegeng Extensions 1-5 south of the Schweizer Reneke to Amalia Road (R504) is by Eskom. Power is fed via an 11kV (mink) overhead line from the Eskom Schweizer Reneke Munic 88/11kV Substation as indicated in **Photo 15** overleaf



Photo 15: View of 11kV (mink) overhead line from the Eskom Schweizer Reneke Munic 88/11kV Substation

The electricity supply to Ipelegeng extension 8 and 9 north of the Schweizer Reneke to Amalia Road (R504) is by Eskom feeding via an 11kV (mink) overhead line (Line Number SG) from the Eskom Schweizer Reneke Munic 88/11kV Substation. (Refer **Figure 33** and **Photos 16** and **17**)



Figure 33: Approximate route of Eskom SG line





Photo 16: Eskom Line SG – along Vryburg road



Photo 17: SG line pole No 91 going to Ipelegeng Extensions 8 and 9

For Ipelegeng Extensions 1-5 and 8-9 the electricity revenue is for the account of Eskom

### 5.3.2 EXISTING SERVICES

There are no existing electrical networks or services installed in the new proposed Ipelegeng Ext 10, 11 and 12 area.

It is the intension of MLM to supply electricity to the proposed Extension 10 and 11 as well as to a future Mamusa Garden View (east of the Schweizer Reneke to Vryburg road)

The total estimated load for Extension 10 and 11 is 5273.4kVA or 5.2734MVA

With a future Mamusa Garden View the load will increase to 9.2134MVA.

The capacity at the Eskom SchweizerReneke Munic 88kV/11kV is limited to 10MVA  
Two transformers (88kV /11 kV) are installed.



Photo 18: Transformer No 1

The existing load on the Substation is 7MVA as per MLM.

Application shall be made to Eskom to upgrade the Eskom Schweizer-Reneke Munic Substation (88kV/11kV) to 20MVA.

The additional load on the 88kV line from Grootlaagte will be 66 Amp.

The MLM Substation shall also be upgraded to accommodate the new load for Extension 10, 11 and future 12. This will entail additional MV Circuit breakers to be installed in the MLM Substation.

New 11kV feeders shall be installed from the MLM Substation to the proposed developments.

The proposed route will be approximate the same as the existing SG MV line to Extension 8 and 9. New servitudes will be applied for where required.

### 5.3.3 DESIGN PARAMETERS

#### 5.3.3.1 Proposed configuration

The new 11kV feeders shall be from MLM Substation if the revenue is for MLM

The 11kV feeders can also be from the Schweizer-Reneke Munic Substation if the revenue is for the account of Eskom.

At present the Ipelegeng Ext 1-5, Amalia town and Ipelegeng Ext 8-9 is supplied by Eskom.

#### 5.3.3.2 Design Parameters

Design parameters to be use are as follows:

Table 20: Design Parameters

| Item | Description                     | Unit | Parameters        |
|------|---------------------------------|------|-------------------|
| 1.   | <b>System</b>                   |      |                   |
|      | Source                          |      | MV C/B in MLM SUB |
|      | Nominal system voltage          | kV   | 11                |
|      | Frequency                       | Hz   | 50                |
|      | Phase rotation                  |      | RYB               |
|      | Nominal Voltage at source       | %    | 0.98              |
|      | 3 Phase Fault Level at source   | kA   | 20                |
| 2    | <b>Design Limits</b>            |      |                   |
|      | Voltage drop                    | %    | 10%               |
|      | MV and LV cable thermal loading | %    | 80%               |
|      | TRF Thermal loading             | %    | 80%               |
| 3    | <b>ADMD</b>                     |      |                   |
|      | Method                          |      | Empirical         |
|      | Diversity                       |      | AMEU              |
|      | Unbalance                       |      | AMEU              |
|      | ADMD Stand Residential          | KVA  | 0.6 x 2300 = 3700 |
|      | ADMD Stand Business             | KVA  | 5 x 18 = 90       |
|      | ADMD Stand Municipality         | KVA  | 2 x 5 = 10        |
|      | ADMD Stand Taxi Rank            | KVA  | 1 x 0.6 = 0.6     |
|      | ADMD Sports Fields              | KVA  | 1 x 18 = 18       |
|      | ADMD Stand School               | KVA  | 1 x 18 = 18       |
|      | ADMD Stand Creche               | KVA  | 4 x 5 = 20        |
|      | ADMD Stand Church               | KVA  | 4 x 12 = 48       |
|      | ADMD Stand Open spaces          | KVA  | 18 x 0 = 0        |

The total maximum demand determined for this development is 3904.6kVA or 204.94A, 3-phase.



## 5.3.4 BULK SUPPLY

### 5.3.4.1 General

There are currently no known capacity constraints on the existing network.

A detail Service Agreement with all relevant information for the proposed township establishment need to be compiled and submitted to Eskom for approval.

### 5.3.4.2 Existing Network Analysis

The existing network feeding from Eskom's Mamusa 88kV Substation currently supplies electricity to the surrounding areas of Schweizer –Reneke as indicated in Section 5.3.1 supra.

It is proposed to extend the existing overhead network as indicated in Section 5.3.3.1.

Pole Mounted Transformers with overhead MV and LV networks will be used to create capacity and to distribute supply to the various Households.

## 5.3.5 PROPOSED ELECTRICAL SERVICES

The following electrical services are proposed:

- **Bulk Supply**  
As per Bulk Supply Proposal
- **Medium Voltage reticulation**  
Capacity will be created by way of an overhead MV network and various Pole Mounted Transformers to create low voltage supply capacity.
- **Low Voltage reticulation**  
Electricity will be distributed by overhead ABC bundle conductors.
- **Low Voltage connections**  
Each stand will be connected via 10mm<sup>2</sup> Airdec SNE + 2 Comms wires.
- **Metering**  
Split pre-paid meters will be used  
20A single phase split pre-paid meter to Residential units  
60A 3 phase split pre-paid meter to Business units.
- **Street and Area lighting**  
Street lighting shall be included in designs.  
LED type luminaires shall be used.
- **Servitudes**  
None identified at time of report.

## CHAPTER 6: MOTIVATION

### 6.1 INTRODUCTION

This need and desirability in respect of the proposed township establishment on a portion of the Remaining Extent of Portion 1 of the farm Schweizer Reneke Town and Townlands 62, Registration Division H.O., North West Province will, in addition to the motivational statements already discussed in Sections 1 to 5 above, be motivated based on the following criteria:

- National Development Plan: Vision for 2030
- Constitution of the Republic of South Africa (Act 108 of 1996)
- National Housing Code, 2006
- A Comprehensive Plan for the Development of Sustainable Human Settlement (BNG)
- Urban (UDF) and Rural Development (RDF) Frameworks, 1997
- White Paper on Local Government, 1998
- Municipal Demarcation Act, 1998 (Act 27 of 1998)
- Municipal Systems Act, 2000 (Act 32 of 2000)
- National Housing Act, 1997 (Act 107 of 1997)
- White Paper on Wise Land Use, 2001
- Millennium Development Goals (MDG)
- National Spatial Development Perspective, 2006
- Province Development Plan, 2030
- North West Provincial Spatial Development Framework, 2016
- Dr. Ruth Segomotsi Mompati District Spatial Development Framework
- Mamusa Local Municipality Spatial Development Framework, 2013
- Draft Mamusa Local Municipality Spatial Development Framework, 2021
- Outcome 8 - 2014-2019 Medium Term Strategic Framework (MTSF)
- Spatial Planning and Land Use Management Act Development Principles, 2013
- General

In terms of section 9(1) of the National Housing Act (107 of 1997), every municipality must, as part of the municipality's process of integrated development planning (IDP) take all reasonable and necessary steps to ensure that the inhabitants within its area of jurisdiction have access to adequate housing on a progressive basis by setting housing delivery goals, identifying suitable land for housing development and planning, facilitating, initiating and co-coordinating housing development in its area of jurisdiction.

Housing comprises a series of complex interrelationships between people, their needs and values and resources within a political and legal environment. This complexity requires a focused approach to efforts aimed at providing housing. National Government has started to respond by putting the necessary policy and legislative environment in place.

This framework outlines the roles and responsibilities of different spheres of government in relation to housing, as well as dealing with aspects relating to the design and content of housing policy and legislation. In the context of this framework the Mamusa Local Municipality is required to take all reasonable steps to ensure the provision of adequate housing to its residents.

The core legislation and policies guiding housing planning and development are set out in Sections 6.2 to 6.19 below.

## **6.2 NATIONAL DEVELOPMENT PLAN: VISION 2030**

The National Planning Commission (NPC) (2011) published the NDP: Vision for 2030. Its contents will impact directly and indirectly on the provision of housing within the national spatial system.

Its core focuses include:

- The active efforts and participation of all South Africans in their own development
- Redressing the injustices of the past effectively
- Faster economic growth and higher investment and employment
- Rising standards of education, a healthy population and effective social protection
- Strengthening the links between economic and social strategies
- An effective and capable government
- Collaboration between the private and public sectors
- Leadership from all sectors in society.

Where we live and work matters. Apartheid planning consigned the majority of South Africans to places far away from work, where services could not be sustained, and where it was difficult to access the benefits of society and participate in the economy.

The physical and social environment in which we are born and grow up is one of the most important determinants of every person's wellbeing and life chances.

This environment has a bearing on access to opportunities, good schools, useful social networks, public services and safe environments. Separation between social groups, long distances between jobs and housing, and poor public services exacerbate poverty and inequality. Location affects communities, local economies, labour markets and infrastructure networks. Businesses are also affected by where they are situated. Access to markets and suppliers determines their survival and profitability. This is hugely significant for South Africa's society, economy and environment.

To fundamentally reshape human settlements by 2050 (with significant progress by 2030), South Africa needs:



- To address inequities in the land market that makes it difficult for the poor to access the benefits of life in towns and cities.
- Stronger measures to reconfigure towns and cities towards more efficient and equitable urban forms.
- Housing and land policies that accommodate diverse household types and circumstances.
- Municipalities that put economic development and jobs at the heart of what they do and how they function.

The establishment of the proposed township specifically aims at redressing the injustices of the past by ensuring proper integrated planning in respect of the location of new residential developments in well-located places that are conducive to the health and wellbeing of the community. Varying stand sizes in the proposed township offers opportunities for partnerships between the private and public sector to develop a range of housing typologies. In addition to the residential facilities that will be provided in the township area, provision has also been made for properties that will stimulate economic growth and broaden the economic base of the area whilst similarly addressing the need for accelerated job creation. The proposed layout also makes the necessary provision for supporting land uses (such as institutional and educational sites) that will service the community needs of the residents.

### **6.3 CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA (ACT 108 OF 1996)**

The Constitution of the Republic of South Africa (Act 108 of 1996) is the supreme law of the country. The sections/schedules of the Constitution that are relevant with respect of the delivery of housing are the following:

- Sections 26, 27 and 29 of Chapter 2 – Bill of Rights states that everyone has the right to access to adequate housing, health care services, social security and education.
- Schedules 4 and 5, states that the Province has legislative competence in regard to (inter alia): Environment; Urban and Rural Development; Welfare; Housing; Health Services; Regional planning and development; (concurrent competence with national) and Provincial Planning and Provincial Roads and Traffic (exclusive competence)

In terms of the provisions (Schedule 4) of the Constitution, housing is a functional area of concurrent national and provincial competence. This provision of legislative and administrative powers necessitates alignment between all spheres of government in terms of the IDP process and especially the preparation of the SDF and thus the Housing Chapter.

The development of the proposed township constitutes a collaboration between the provincial housing department and the local authority to provide access to adequate housing, health care services, social security and education for the inhabitants of this community. It is further the objective of this project to provide opportunities for people to

access proper housing either through one of Government's subsidized housing programmes, by accessing bond finance or through the utilization of own funding. The proposed township area makes provision for a multitude of erven to allow for the provision of the full spectrum of social, educational and health facilities that may be required by the concerned community. As will be alluded to in further sections below, the main objectives of this project are specifically to address the need for proper housing.

#### **6.4 NATIONAL HOUSING CODE (2006)**

The National Housing Code (2006) identified the primary role of the municipality as taking all reasonable and necessary steps, within the framework of national and provincial legislation and policy, to ensure that the inhabitants within its area of jurisdiction have access to adequate housing. This entails the following:

- Initiating, planning, facilitating and coordinating appropriate housing development.
- Promoting private sector development and playing the role of developer.
- Preparing a housing delivery strategy and setting up housing development goals.
- Setting aside, planning and managing land for housing.
- Creating a financially and socially viable environment for housing delivery.
- Facilitating the resolution of conflicts arising from housing delivery initiatives.
- Facilitating the provision of bulk services.
- Administrating national programmes.
- Exploring land for housing development.

The project under discussion specifically aims at providing access to housing for the inhabitants of the Mamusa Local Municipality and surrounding towns. Through the provision of erven for a multitude of housing typologies, provision is not only made for the sector of the community who cannot access adequate housing due to financial circumstances coupled with the lack of serviced erven to accommodate said individuals but also for inhabitants requiring other forms of tenure e.g. bonded housing. One of the objectives of the National Housing Code is for national and provincial legislation and policy to initiate, plan, facilitate and coordinate appropriate housing development. The proposed development directly aims at addressing this objective.

The Mamusa Local Municipality will also promote private sector development as the proposed township area makes ample provision for residential erven that can be developed by the private sector or through partnerships between Government, financial institutions and private contractors in terms of the development of FLISP housing. This proposed development area will also provide erven to households that wish to acquire a preferred stand from the Mamusa Local Municipality and erect their own home on the concerned site through a bond from one of the financial institutions. In this manner the Mamusa Local Municipality will also be promoting private sector development. Private sector development

is however not only limited to housing but also incorporates private sector commercial and social facility development.

## **6.5 A COMPREHESIVE PLAN FOR THE DEVELOPMENT OF SUSTAINABLE HUMAN SETTLEMENT (BNG STRATEGY)**

The new "Human Settlements Plan" promotes the achievement of a non-racial, integrated society through the development of sustainable human settlements and quality housing. Housing is to be utilized for the development of sustainable human settlements in support of spatial restructuring.

The aim is to move beyond the provision of basic shelter towards achieving the broader vision of sustainable human settlements and more efficient towns, cities and regions. The following factors will be taken into consideration in order to achieve this vision:

- **Progressive Informal Settlement Eradication:** These settlements must be integrated into the broader urban setup so as to overcome spatial, social and economic exclusion. The plan encourages the eradication of informal settlements through in-situ upgrading in desired locations coupled with the relocation of households where development is not possible or desirable.
- **Promoting Densification and Integration:** The aim is to integrate previously excluded groups into the city so as to enable them to enjoy the benefits it offers and to create more integrated, functional and environmentally sustainable human settlements, towns and cities.
- **Enhancing Spatial Planning:** Greater co-ordination and alignment of various planning instruments and economic policies lies at the heart of sustainable human settlements. This requires more than mere co-ordination between departments but there needs to be a single overarching planning authority and/or instrument to provide macro-level guidance to support the development of sustainable human settlements.
- **Enhancing the location of New Housing Projects:** The location of past housing projects was said to reinforce apartheid spatial settlement patterns. Spatial restructuring aims to achieve a more decisive intervention in land markets. The following interventions are envisaged viz. accessing well located state-owned and parastatal land: acquisition of well-located private land for housing development, funding for land acquisition and fiscal incentives.
- **Supporting Urban Renewal and Inner City Regeneration:** Urban renewal and inner city regeneration often result in the current inhabitants being excluded as a result of the construction of dwelling units they cannot afford. Some municipalities are trying to avoid this by promoting affordable inner city housing. The "Human Settlements Plan" will support this by encouraging social housing.
- **Developing Social and Economic Infrastructure:** The need to move away from a housing-only approach towards a more holistic development of human settlements which includes the provision of social and economic infrastructure is emphasized.



- Enhancing the Housing Product: The aim is to develop more appropriate settlement layouts and housing products and to ensure appropriate housing quality.

This project from the onset aimed at providing a proper integrated human settlement that ascribes to the BNG Principles set out above. This was achieved as follows:

- This project has at its core the eradication of informal settlements through the creation of suitably located serviced residential erven that can be awarded to households residing in informal settlement areas as well as to address the medium term need for residential erven attributed to the natural population growth.
- This project makes provision for a variety of erven that can be utilized for various housing typologies. The largest proportion of the township area will however be aimed at the subsidized housing sector through the implementation of one of Government's subsidized housing programmes as well as the need that exists for people that do not qualify for a Government subsidy, due to either already owning other property or earning in excess of the threshold household income prescribed in respect of the various housing subsidy programmes, but who still wishes to acquire an affordable stand where they can construct their own home.
- As detailed in previous sections, the proposed development focusses on promoting densification through the creation of smaller economical erven to optimise the provision of services to this area. Due to the locality of this development, integration with the existing Ipelegeng extensions to the south-west will also be achieved.
- The proposed township also provides social, educational and commercial support facilities and infrastructure in close proximity to the inhabitants to create a vibrant, sustainable settlement.

## **6.6 URBAN (UDF) AND RURAL DEVELOPMENT (RDF) FRAMEWORKS (1997)**

The UDF aims to promote a consistent urban development policy approach for effective urban reconstruction and development, to guide development policies, strategies and actions of all stakeholders in the urban development process and to steer them towards the achievement of a common vision. The UDF is engaged in four key programmes, namely integrating the city, improving housing and infrastructure, building habitable and safe communities and promoting urban economic development.

The RDF co-ordinates integration of government programmes in rural areas and is aimed at: poverty alleviation through institutional development; investment in basic infrastructure and social service; improving income and employment opportunities; restoration of basic economic rights to marginalized rural areas; and finally justice, equity and security.

## **6.7 WHITE PAPER ON LOCAL GOVERNMENT (1998)**

The White Paper on Local Government adopts development policy guidelines and principles and advocates the developmental role of local government.

The guidelines and principles can be summarized as follows:

- Orientation towards people's needs;
- Poverty alleviation with special consideration of marginalized and disadvantaged groups and gender equity;
- Environmentally sustainable development and a safe and healthy environment;
- Economic growth with creation of income and employment opportunities;
- Involvement of residents, communities and stakeholders;
- Sustainability of services, municipalities and settlements.

The development of the proposed integrated human settlement addresses the majority of the guidelines and principles set forth in the White Paper on Local Government (1998) as:

- The proposed development is specifically aimed at addressing the needs of the people of Mamusa and specifically the most vulnerable of the community;
- In addition to addressing the safety concerns of the community through the provision of proper durable housing structures, this project will also ensure a sustainable healthy environment for the inhabitants through the provision and availability of proper engineering services offering safe drinking water, proper sanitary infrastructure and facilities and a safer environment to live in.
- This development will also give rise to economic growth through the creation of income and employment opportunities. This will not only be attained as a result of the provision of business stands but also through the provision of erven that can be utilized for social- and educational purposes. These facilities also require staff to function properly and will lead to additional jobs being created.
- The application will be advertised to the local community through the publication of notices in a local newspaper and the North West Provincial Gazette, the posting of site notices on the subject property, the notification of all adjacent property owners of the development as well as the involvement of a number of external organizations and departments as integral part of the township establishment process. Concerns raised by the community and stakeholders as part of the public participation process will be considered and addressed.

## **6.8 MUNICIPAL DEMARCATION ACT, 1998 (ACT 27 OF 1998)**

Demarcation objectives: The Demarcation Board determines a Municipal boundary with the objective that it must be able to enable the municipality for that area to fulfil its constitutional

obligations in line with the provision of a democratic and accountable government for communities within a specific geographic area inclusive of:

- The provision of services to the communities in an equitable and sustainable manner.
- The promotion of social and economic development.
- The promotion of a safe and healthy environment.
- Enable effective local governance.
- Enable integrated development.
- Have a tax base as inclusive as possible for the user of municipal services in the municipality.

## **6.9 MUNICIPAL SYSTEMS ACT, 2000 (ACT 32 OF 2000)**

Chapter 5 of the Local Government Municipal Systems Act, 2000 calls upon municipalities to undertake developmentally-orientated planning so as to ensure that it:

- Strives to achieve the objectives of local government set out in Section 152 of the Constitution;
- Gives effect to its development duties as required by section 153 of the Constitution; and
- Together with other organs of state contribute to the progressive realisation of the fundamental rights in respect of, among others, housing.

In the spirit of our democratic dispensation no development can take place without the effective participation of the communities it affects. Section 29(1) (b) of the Local Government: Municipal Systems Act 32 of 2000 requires municipalities to follow certain procedures to consult with communities and procure their participation in the planning process. As these structures have to be in place, they will be available and should be used to involve the relevant communities.

## **6.10 NATIONAL HOUSING ACT, 1997 (ACT 107 OF 1997)**

The National Housing Act (NHA) sets out three general principles, namely: giving priority to the needs of the poor in respect of housing development; consultation with individuals and communities affected by housing development; and ensuring that housing development is economically, fiscally, socially and financially affordable and sustainable.

The NHA lays down general principles applicable to housing development in all spheres of government, defines the functions of national, provincial and local governments in respect of housing development, and promotes the role of the state as a facilitator of housing development.



National government must establish and facilitate a sustainable national housing development process, provincial government must do everything in its power to promote and facilitate the provision of adequate housing in its province within the framework of national housing policy, while municipalities must take reasonable and necessary steps within the framework of national and provincial housing legislation and policy to ensure that the right of access to adequate housing is realised on a progressive basis.

This project will at its core aim at addressing the needs of the poor in respect of the provision of housing. The development of the proposed township area will however not be focussed solely on the needs of the poor but will also address the needs of people that do not qualify to participate in one of the government subsidy programmes or those that wish to construct their own home or wishes to explore other housing options such as rental housing or social housing. This will ensure that the right of access to adequate housing is realised on a progressive basis.

## **6.11 WHITE PAPER ON WISE LAND USE (2001)**

This White Paper intends to show practical ways in which South Africa may move to this approach. The system should satisfy the following specific needs:

- The development of policies which will result in the best use and sustainable management of land.
- Improvement and strengthening planning, management, monitoring and evaluation.
- Strengthening institutions and coordinating mechanisms.
- Creation of mechanisms to facilitate satisfaction of the needs and objectives of communities and people at local level

Integrated planning for sustainable management of land resources should thus ensure:

- That development and developmental programmes are holistic and comprehensive so that all factors in relation to land resources and environmental conservation are addressed and included.
- In considering competing needs for land, and in selecting the "best" use for a given area of land, all possible land-use options must be considered.
- That all activities and inputs are integrated and coordinated with each other, combining the inputs of all disciplines and groups.
- That all actions are based on a clear understanding of the natural and legitimate objectives and needs of individual land users to obtain maximum consensus.
- That institutional structures are put in place to develop, debate and carry out proposals.

Of core importance in the planning and development of housing is the normative planning principles identified in the White Paper:

The basis of the system will be principles and norms aimed at achieving sustainability, equality, efficiency, fairness and good governance in spatial planning and land use management. The decisions of planning authorities, whether related to the formulation of plans such as IDPs or the consideration of land development applications such as rezoning, must all be consistent with these principles and norms. A failure by an authority to affect this enables the Minister to intervene in the decision, either to require that it is reconsidered or in extreme cases to take the decision him or herself.

## **6.12 MILLENNIUM DEVELOPMENT GOALS (MDG)**

The MDG include the following: The eradication of informal settlements by 2014 as one of the policy imperatives of government (Goal 7, Target 11) implies that government and the private sector would have to implement the Social Contract (Social Contract for Rapid Housing Delivery, 2005) commitments to aid the removal of slums in South Africa.

The targets included in the Social Contract consist of:

- The removal or improvement of all slums in South Africa as rapidly as possible, but not later than 2014.
- The fast tracking of the provision of formal housing within human settlements for the poorest of the poor and those who are able to afford rent and/or mortgages.
- The creation of rental stock for a rapidly growing, mobile (migrant) and urban population within inner city and other locations close to employment opportunities.
- To remove administrative blockages that prevent speedy developments and to strive to reduce the time to grant various permissions relating to the built environment to 50% of the current time;
- To ensure consumer education and understanding in all housing development projects.

This project has at its core the provision of formal housing through the establishment of an integrated human settlement. This project also provides an opportunity to create rental stock in the form of social housing.

## **6.13 NATIONAL SPATIAL DEVELOPMENT PERSPECTIVE (2006)**

The NSDP consists of a set of five normative principles for development:

- Principle 1: Rapid economic growth that is sustained and inclusive is a pre-requisite for the achievement of other policy objectives, among which poverty alleviation is key.
- Principle 2: Government has a constitutional obligation to provide basic services to all citizens wherever they reside.

- Principle 3: Government spending on fixed investment should be focused on localities of economic growth and/or economic activities and to create long-term employment opportunities.
- Principle 4: Efforts to address past and current social inequalities should focus on people, not places. In localities where there are both high levels of poverty and demonstrated economic potential, this could include fixed capital investment beyond basic services to exploit the potential of those localities. In localities with low demonstrated economic potential, government should beyond the provision of basic services, concentrate primarily on human development.
- Principle 5: In order to overcome the spatial distortions of apartheid, future settlement and economic development opportunities should be channelled into activity corridors and nodes that are adjacent to or that link the main growth centres. Infrastructure investment should primarily support localities that will become major growth nodes in South Africa and the SADC region to create regional gateways to the global economy.

## 6.14 PROVINCIAL DEVELOPMENT PLAN 2030

In terms of the Provincial Development Plan 2030, Human Settlement and Spatial Transformation are identified as Provincial Priority Area 4 with the following key issues:

- Address the apartheid geography and create the conditions for more humane – and environmentally sustainable – living and working environments.
- It is important to address the entrenched spatial patterns that
- exacerbate social inequality and economic inefficiency, cognisant of the
- unique needs and potentials of different rural and urban areas in line with emerging development corridors.
- Ensure that the delivery of housing contributes to the restructuring of towns and cities and strengthens the livelihood prospects of households.
- Active citizenship in spatial development should be supported through properly funded interventions that encompass citizen-led neighbourhood vision and planning processes; and the introduction of social compacts.
- Settlement planning should ensure the creation of spaces that are liveable, equitable, sustainable, resilient and efficient, and that support economic opportunities and social cohesion.
- Develop the governance and administrative capability to undertake settlement planning.
- Provincial spatial development must include the following **intervention zones / areas**:
  - Competitiveness Corridors
  - Nodes Of Competitiveness
  - Rural Restructuring Zones



- Resource Critical Regions
  - Special Intervention Areas
  - Job Intervention Zones
  - Growth Management Zones
  - Green Economy Zones

The objectives set in respect of human settlement and spatial development in terms of the North West Provincial Development Plan include:

- More people living closer to their places of work.
- Better quality public transport.
- More jobs in or close to dense, urban townships.
- Eradicate informal housing from 21.2 per cent to zero per cent by 2030.

The actions proposed in achieving the objectives in respect of human settlement and spatial development in terms of the North West Provincial Development Plan include:

- Develop common vision for human settlement development and ensure spatial restructuring and the redressing historical segregation.
- Build cohesive, integrated and inclusive human settlements through spatial equity, economic competitiveness and environmental sustainability in spatial planning.
- Regulate human settlement patterns through:
  - Strengthened instruments of land use planning.
  - Diversity in housing choice, spatial mix, flexibility and finance options.
  - Ensured oversight and quality assurance.
- Develop a focused strategy on the NW housing gap market, involving banks, subsidies and employer housing schemes.
- Eradicate informal settlements.
- Create efficiency in the planning system through actions such as strengthening the provincial and municipal planning capabilities and capacity.
- Promote community involvement in spatial planning processes and enable participation across all sectors of society.

In considering the objectives and actions proposed in achieving the objectives in respect of human settlement and spatial development, it is evident that the establishment of the proposed township Mamusa Garden View will address the majority of the objectives and actions required.

## **6.15 NORTH WEST PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK, 2016**

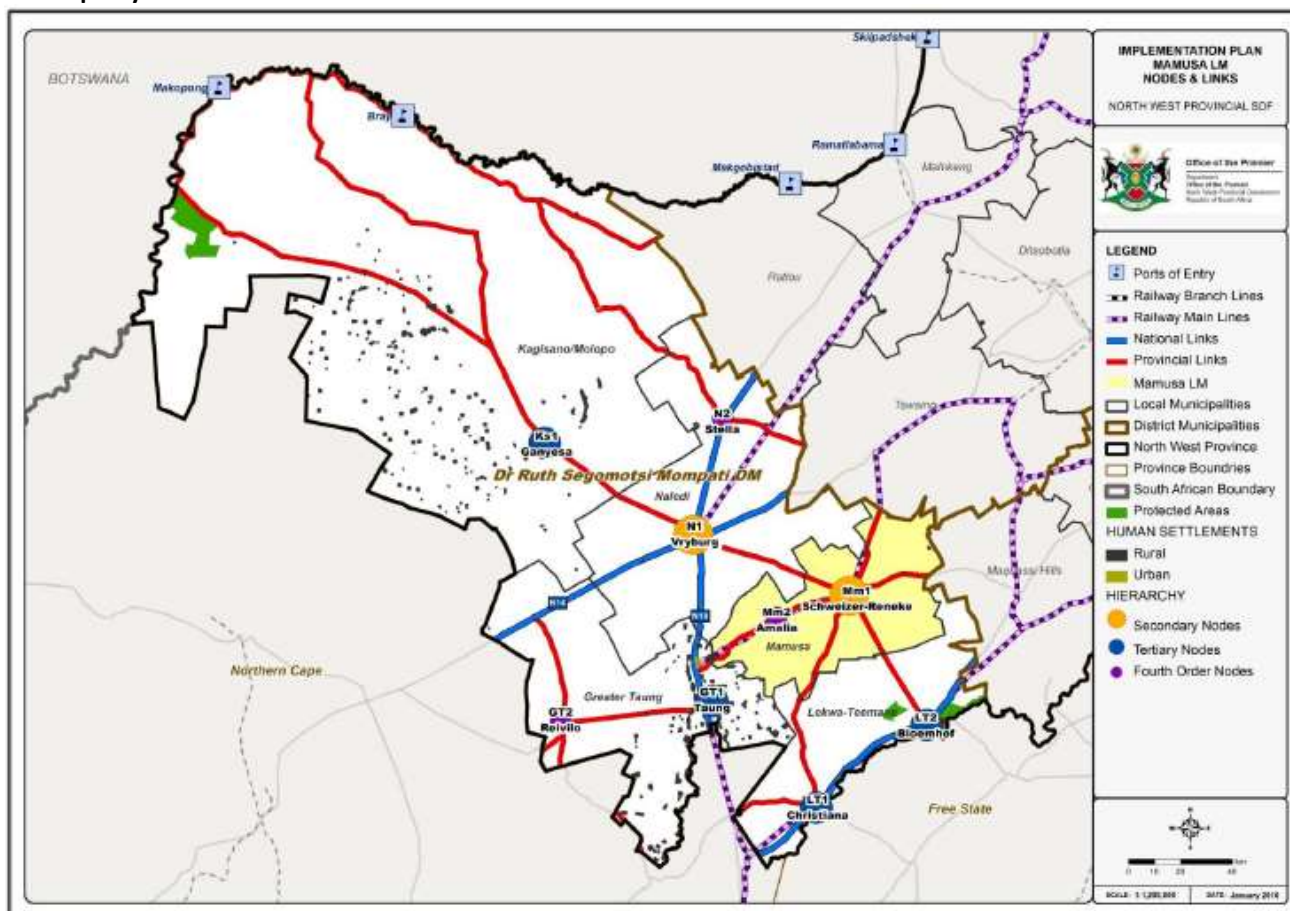
The North West Provincial Spatial Development Framework provides guidance for provincial development. **Providing for the integration of the objectives of sustainable housing** is listed as the 7<sup>th</sup> policy objective of the NWSDF. In this regard the NWSDF states the following with regards to housing:

*“The strong urbanization trend causing an influx of people into towns and dense human settlements puts pressure on housing delivery. All municipalities already experience housing backlogs, which exacerbate the already dismal housing situation. This large demand for housing resulted in the development of informal housing areas on the periphery of existing towns and settlements adding pressure on the existing dysfunctional engineering and social infrastructure and roads. The timely provision of housing is of cardinal importance to the general well-being of urban areas and its people.*

*The provision of housing needs to consider a variety of housing choices involving high, medium and low-density developments to provide in the housing typology needs of all individuals. Sustainable neighborhoods require the integration of all social and economic facilities to serve the daily needs of its people”.*

There is therefore a strong emphasis on sustainable housing provision across the province. The provincial scale of the Framework means that site specific recommendations cannot be provided. However, Mamusa is identified as a secondary node with the basic infrastructure focus area being the eradication of backlogs in water and sanitation, electricity and housing as well as the improvement of basic services.

**Map 24: Dr Ruth Segomotsi Mompati District Implementation Framework (Nodes & Links) – Mamusa Local Municipality**



In order to address the strategic focus area in respect of the development of sustainable cities and towns, urban areas within the North West Province need to:

- Mainly accommodate the urbanisation trend in Primary and Secondary Towns with a regional and sub regional context within which a balanced settlement pattern can take place with regard to:
  - Population distribution.
  - The availability of resources particularly water.
  - Economic potential for growth.
- Within **urban areas** the following spatial guidelines inter alia need to apply:
  - Integrated sustainable human settlements through the following policy priorities:
    - Accelerate the upgrading of informal settlements.
    - Prioritise the regeneration of inner cities preventing urban decay.
    - Provide additional options for accessing urban opportunities.
    - Promote densification including support for backyarding.
    - Redevelop townships.
    - Support inclusionary housing.
    - Identify and fast track land for settlement interventions.
    - Applying urban design principles.
    - Transform public spaces into safe places of community life.

Development guidelines for the Mamusa Local Municipality include the following:

- Focus public sector investment in Schweizer-Reneke to create higher densities and to create a concentration of services. The development of the proposed township Mamusa Garden View is specifically aimed at developing at higher densities whilst still providing for a multitude of housing typologies.
- Maintain infrastructure and basic services in the smaller nodes, e.g. Migdol, Amalia, Glaudina.
- Focus on **backlog eradication** in the smaller nodes, whilst creating **new affordable housing opportunities** in Schweizer-Reneke. The proposed township area makes ample provision for affordable housing opportunities through a wide variety of erven of different sizes as well as an erf that can be utilized for higher density residential development / social housing
- Concentrate basic service delivery in Schweizer-Reneke.
- **Protect** high value agricultural land. This development will not take place on high potential agricultural land (as will be discussed in detail in sections to follow).
- Provide support to the agricultural community.
- Focus on skills development in the agricultural and trade sectors.
- Develop the tourism sector in the areas not suited for agriculture.



- Ensure **land tenure security**. A core component of the township establishment process is to ensure that the inhabitants of this township area can enjoy security of tenure. Security of tenure also affords home owners the opportunity of upward mobility
- Promote linkages between agriculture, agro-manufacturing and tourism potential.
- Maintain rural infrastructure.
- Increase linkages to economic hubs.
- Due to drier climates and resultant lower value agricultural land, it would be beneficial to promote game farming and game breeding attracting people and money to the municipality.
- Ensure the maintenance and adequate management of infrastructure to improve sustainability.
- **Proactive infrastructure development and planning** is crucial in the upgrading of informal settlements and the creation of new settlements.

It is clear from the above that the proposed development is aligned with the development principles contained in the NWSDF.

## **6.16 DR RUTH SEGOMOTSI MOMPATI DISTRICT SPATIAL DEVELOPMENT FRAMEWORK**

The Dr. Ruth Segomotsi Mompoti District Spatial Development Framework sets the following development outcomes and spatial proposals:

- Dr Ruth District Municipality has been listed as one of the beneficiaries in terms of SIP6: Integrated Municipal Infrastructure project
- Schweizer-Reneke has been identified as a Secondary Order Node with a Sub-Regional wide significance (N12 Treasure Corridor)
- Improvement of access between rural and urban nodes through upgrading of existing roads
- The CBD's of all urban nodes to be improved to address the present urban decay (Urban regeneration)
- Bulk engineering services to be upgraded and maintained.
- The **continued low-density urban development needs to be addressed**.
- Support to land reform strategies to be rolled out within urban and rural settlements.
- Introducing change within all urban fragment spatial structure within the existing urban nodes.
- To **spatially formalize informal settlements by identifying vacant land between the formal urban settlements (towns) and existing informal settlements**.
- The development of spatial corridors and nodes to drive urban settlement integration should be investigated and applied.
- Development of spatial integration initiatives should form part of all LM SDF's.

- Urban edge policy to be identified for the integrated urban area.

The District Spatial Development Framework identified the following Spatial Opportunities:

- Rural Revitalisation.
- **Integrated Housing** and Land Reform.
- Urban Renewal.
- Heritage and Natural Resource Conservation.
- Eco-Tourism Development.

## **6.17 MAMUSA LOCAL MUNICIPALITY SPATIAL DEVELOPMENT FRAMEWORK, 2013**

Within municipal context Schweizer-Reneke can be classified as the first order node which also functions as the main economic and administrative centre for the municipal area. Amalia can be classified as a second order node and Glaudina a third order node. Migdol and Nooitgedacht function as rural villages.

The Mamusa Local Municipality Spatial Development Framework, 2013 proposed the following strategic interventions:

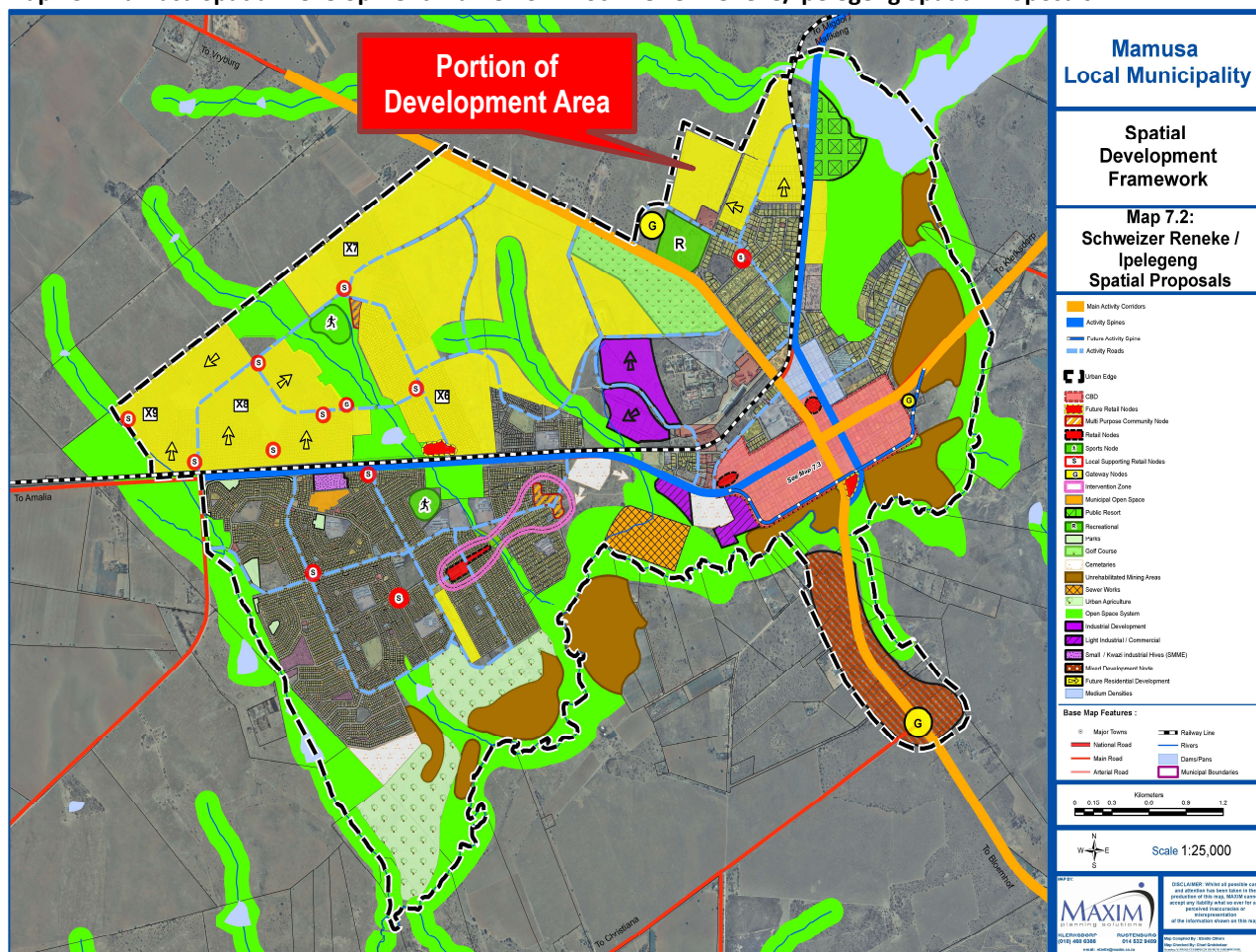
- Urban renewal programmes (neighbourhoods and business areas).
- **Urban infill** (development of vacant areas in build-up area).
- **Densification and integration.**
- Protection and maintenance of environmental sensitive areas (parks) as well as cultural heritage resources.
- Upgrading and proper maintenance of infrastructure.

The establishment of the proposed township Mamusa Garden View is specifically aimed at addressing urban infill as well as densification and integration (as will be addressed in detail in sections to follow).

In terms of the Spatial Proposals contained in the Mamusa Local Municipality Spatial Development Framework, 2013, the area directly adjacent and to the west of the existing township area of Schweizer Reneke Extension 8 was earmarked for future development purposes (as indicated on **Map 25** overleaf). **Map 25** also indicates the locality of the

demarcated urban edge. The area earmarked for future residential development purposes is located inside the demarcated urban edge.

Map 25: Mamusa Spatial Development Framework – Schweizer Reneke/Ipelegeng Spatial Proposals



The SDF also proposed the establishment of three (3) gateway nodes. “Gateways” can be defined as major entry points (normally where higher order roads intersect) to improve the image of the city as they are normally well planned and aesthetically attractive.

Three gateway nodes are proposed at the intersection of the Christiana and Bloemhof provincial roads, adjacent to



Figure 34: Schematic presentation of gateway node



Schweizer Street at the entrance to the CBD from Wolmaransstad and adjacent to the Vryburg road opposite the golf course.

In view of the fact that gateway localities (especially on development corridors) offer high levels of accessibility, visibility and exposure, certain transport orientated business, commercial development, accommodation enterprises and value centres can also be considered at these nodes, provided that they are properly designed and landscaped, focusing on street frontages, building facades, open spaces and access.

In terms of residential development, the objectives set for the development of desired spatial patterns are to a large extent applicable to residential development. These include:

- Enhance compact towns
- Obtain higher densities
- Urban infilling
- Enhance spatial integration.
- Breaking New Grounds Principles

Apart from subsidised housing provision must also be made for affordable (bonded) institutional and low income rental units (CRU). CRU's can play an important role in addressing the housing needs of low income group (up to R3500 p.m.) and can include people who already obtained subsidies in other areas, temporary workers or people not interested in a subsidised house. (Development of CRU's can also be integrated in the urban renewal programmes).

The 2012 physical land use survey indicated 7629 formal houses including rental/flat units (703 for Schweizer-Reneke, 6829 for Ipelegeng and 99 for Charon), and an immediate backlog of 3041 informal structures (2051 for Ipelegeng and 990 for Charon). The findings of the long term growth rate forecast for the municipality indicated that, provision should be made for a total of 3680 units up to 2017. The spatial needs amount to 184ha over the next five (5) years (at a density of 20 units/ha).

The proposed development of the township area of Mamusa Garden View will address the creation of a compact town, the achievement of development at higher densities, urban infilling, enhancing spatial integration as well as compliance to the Breaking New Ground Principles.

## **6.18 MAMUSA LOCAL MUNICIPALITY DRAFT SPATIAL DEVELOPMENT FRAMEWORK, 2021**

The draft Mamusa Spatial Development Framework, 2021 determines as follows in respect of human settlements.

- The only node of the size currently, is Schweizer-Reneke Local Municipality. The other nodes have a small economic functioning as service centres for the rural municipality. Which forms the administrative head of the base as well as small populations, mostly. A Revival Strategy will help to bring growth and investment to the municipality. Although basic service delivery should take place throughout the municipality, most development and investment should focus on one core node of which Schweizer-Reneke would be ideal.
- According to the North West Human Settlements Master Spatial Plan, 2017 housing backlogs for Mamusa counted for **3171 households which accounts for around 40ha of development land required**. Numerous applications for township establishment are in process or approved since the plan was developed and needs to be considered in the Spatial proposals phase.

The draft Mamusa Spatial Development Framework, 2021 identified the following **key issues and opportunities**:

- **SPLUMA**
  - Economic development is predominantly concentrated in Schweizer Reneke and is aligned to the NSDF and the PSDF's strategic intent to consolidate, revitalise and regenerate the urban nodes. Urban Regeneration of the CBD area is required;
  - Housing typologies mainly target the lower income market with little evidence of medium and high-income housing development to stimulate the local revenue base of the Municipality;
  - Segregated development patterns are still evident and supported through urban sprawl patterns;
  - Dysfunctional urban settlement structures are evident which requires urban regeneration;
  - Environmental degradation, especially along the riverine corridors (Critical Biodiversity areas) is a real cause of concern with limited awareness made by the municipality to turn around the existing spatial patterns;
  - Ad-hoc and reactive service delivery patterns are evident;
  - Sustainable transportation systems are lacking in urban areas; and
  - The provision of high densities of mixed land uses within close proximity of economic activity nodes and transportation systems and the enhancement of residential densities are required.
- **SPATIAL STRUCTURING**
  - The spatial approach towards brownfields development should consider urban regeneration/renewal as a key component of any development;
  - Upgrading or resettlement of squatter/ informal communities in urban areas through an **Integrated Housing Development approach that considers all income levels and socio-economic needs**;

- An integrated urban settlement structure within a system of urban activity corridors, nodes, spines supported by sustainable transportation and road systems is required in Urban Nodes;
  - To **contain urban sprawl and providing compact urban development**; establishing a well determined and enforced urban edge that considers the long-term demand for all urban land uses, the **preservation of open space, prime and unique agricultural land**, areas of natural beauty, heritage sites, and critical environmental areas;
  - **Multi-purpose nodes** within previously disadvantaged neighbourhoods such as Ipelegeng represent a powerful vehicle that could serve the community in terms of a diverse range of goods and services. Strengthening of existing nodes should be encouraged.
  - Three **gateway nodes** are proposed in the 2013 Mamusa SDF, namely at the intersection of the Christiana and Bloemhof provincial roads, adjacent to Schweizer Street at the entrance to the CBD from Wolmaransstad and **adjacent to the Vryburg road opposite the golf course**.
- **SETTLEMENT PATTERNS**

When considering the strategic intent of SPLUMA one needs to take the following into consideration towards the future development patterns of the Municipality:

    - **Schweizer Reneke is the only node with development potential** whereas Amalia, Glaudina, Migdol, and Nooitgedacht should be regarded as rural settlements. These rural settlements contain lower order facilities and therefore have vital links to nearby higher order urban settlements within the region.
    - The development and formalisation of economic development nodes or regions within areas that show high numbers of mixed-use activity and economic concentration/diversification.
    - To **limit future spatial sprawl and promoting densification**.
    - They endorse and advocate the **implementation of urban development edges**.
    - Improved land use structure is required in the Municipality, land needs to be earmarked for different land use activities that are supported by the local community, public and private sector investors.
    - Access to land is widely accepted as one of the key restrictions towards improving the development patterns of the municipality. Improved partnerships are required between local government, the provincial government, and the district government to identify solutions towards accessing strategically located to the benefit of all.
    - Opportunity to diversify the local economy lies in the unlocking of strategically located land. The SDF is to present opportunities in this regard.
    - Current significant structuring elements of the spatial form of the municipality, including development corridors, activity spines and economic nodes where



- public and private investment is prioritised and facilitated have been assessed. This includes the quantum of residential and non-residential land uses identified.
- The extent of the need for the provision of farmworker housing in the study area is unknown. Currently, no formal Agri-villages exist in the study area. Due to the challenges associated with bulk services infrastructure and provision of basic services to small residential communities, any isolated new rural settlements, such as an Agri-village, should be discouraged. However, should the need exist for dedicated off-the-farm housing, such housing development should be established within existing rural nodes.

In terms of the Spatial Proposals contained in the draft Mamusa Spatial Development Framework, 2021 relating to integrated rural and urban development, the following land use integration guidelines were identified in respect of urban restructuring:

- Locate activities (residential, transport, work, recreation, etc.) so that at least 50% of them are in walking distance;
- Sensitively locate the income groups within the 1km radius: e.g., very low not right next to the very high income;
- Locate most frequented activities in the most central / accessible localities, e.g., industrial, and commercial; and
- Generally Human Settlement schemes should not be targeted at a single income group exclusively, usually subsidy or Site and Service, but should always include at least a GAP housing and top structure subsidy component even if only comprising 10% or 20% of the units.
- The arrangement of the housing for the various income groups should be according to the principle of the socio-economic gradient with the higher end of the market closest to the main thoroughfare.
- Use all well-located vacant land, i.e., within 1 to 2kms of urban centres.
- Locate all future residential areas within walking distance of urban centres where space permits.
- Locate all future subsidy housing within walking distance of nodal centre where space permits.

It is evident from the fore-mentioned that the proposed integrated human settlement of Mamusa Garden View addresses all the fore-mentioned integration guidelines, namely

- The proposed township area is located in close proximity to the central business area of Schweizer Reneke and in close proximity to the industrial area ensuring that these facilities are within walking distance for the inhabitants;
- The layout plan specifically aims at addressing the need to sensitively locate income groups in such a manner to mix income groups in a natural flowing pattern from high income (bonded housing), medium income (FLIPS / GAP/ Low Bonded) and then low income (subsidized);

- The layout plan proposes the development of a multi-functional activity node (gateway node) at the entrance to the township area off the Schweizer Reneke – Vryburg Provincial Road (along Ferreira Avenue). This activity node will also be readily accessible to the inhabitants of the proposed adjacent township areas of Ipelegeng Extensions 10 and 11 as it will be located along the same road (extension of Ferreira Avenue) also accessing the fore-mentioned township areas off the Schweizer Reneke – Vryburg Provincial Road;
- The proposed integrated human settlement specifically aims at providing erven for a multitude of residential housing typologies ranging from subsidized housing, GAP/FLISP housing, boded housing and social housing;
- The utilization of this portion of land for the development of the proposed integrated human settlement constitutes the development of land that is located closest to the urban centre;
- The proposed integrated human settlement will further be located within walking distance from the existing urban centre but also within walking distance from the CBD of Schweizer Reneke but also the proposed multi-functional activity node proposed at the entrance to the proposed township area.

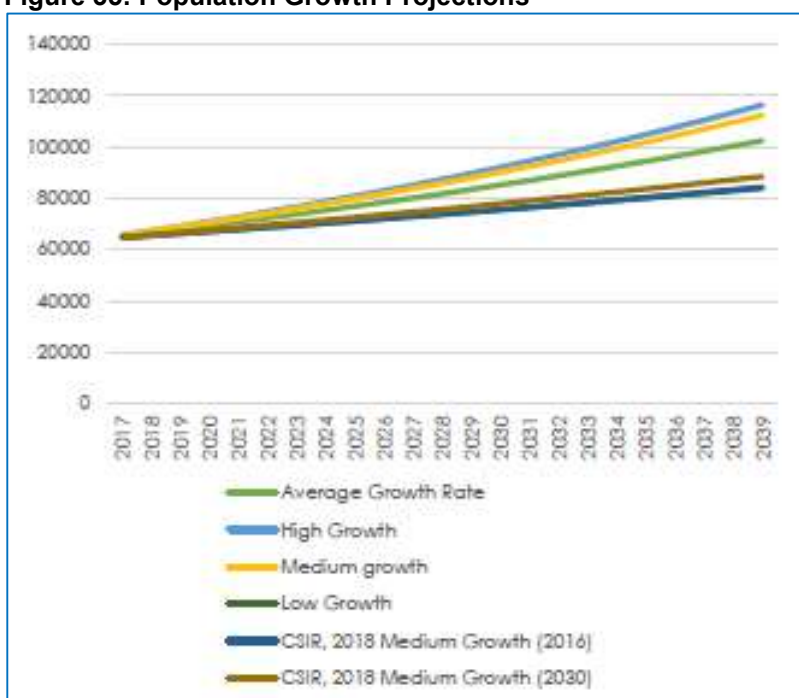
In terms of growth projections, the draft Mamusa Spatial Development Framework, 2021 states that the Projected population and need of sustainable human settlements within Mamusa Local Municipality are based on an average growth projection (2.07 % growth rate per annum, measured between 1996 - 2018), a high growth projection (2.63 % p.a., measured between 1996 and 2001) a medium growth projection (2.48 % p.a., measured between 2001 and 2011) and low growth projection 1.21% p.a., measured between 2011 - 2016). For the projected analysis, **a low growth projection will be adopted**. In addition, population projections by the CSIR (as based in the NSDF) has been used to reaffirm the projections calculated using the above projection rates. Medium to high growth rates projected varies between 2.30% based on 2016 population statistics and 3.30% towards the end of 2040. The NSDF envisage a development shift from the west towards the east of South Africa and this could prevail growth projections experienced between 2011 and 2016. Urbanisation would also have certain growth implications in Schweizer Reneke.

Table 21: Projected future demand for housing development

| Growth Scenarios |                | Less likely scenario  | More likely scenario  | Possible scenario    |
|------------------|----------------|-----------------------|-----------------------|----------------------|
| Actual           | Average Rate   | High Growth           | Medium growth         | Low Growth           |
| 64000 (2016)     | Growth average | Between 1996 and 2001 | Between 2001 and 2011 | Between 2011 to 2016 |
| 2018             | 66675          | 67417                 | 67211                 | 65555                |
| 2025             | 76948          | 80876                 | 79771                 | 71303                |
| 2030             | 85242          | 92106                 | 90156                 | 75714                |
| 2035             | 94430          | 104895                | 101893                | 80399                |
| 2040             | 104608         | 119461                | 115158                | 85373                |

| Growth Scenarios                                  |              | Less likely scenario | More likely scenario | Possible scenario |
|---|--------------|----------------------|----------------------|-------------------|
| Actual  | Average Rate | High Growth          | Medium growth        | Low Growth        |
| Difference  |              | 55460,5              | 51157,6              | 21373,1           |
| Ave. Household Size - 4                           |              | 13865,1              | 12789,4              | 5343,3            |
| Ha Required for Township Establishment (30 du/ha) |              | 470ha                | 430ha                | 180ha             |
| Ha Required for Township Establishment (20 du/ha) |              | 700ha                | 640ha                | 270ha             |

Figure 35: Population Growth Projections



According to the low growth scenario contained in Table 21 supra, an additional 5 343 new households is estimated for Mamusa Local Municipality until 2040 (estimated 12 789 households based on the medium growth scenario). The proposed integrated human settlement area of Mamusa Garden View will be employed to provide some of the erven required to address this growth in households.

In terms of the Spatial Proposals made specifically in respect of the Schweizer Reneke / Ipelegeng areas, the following opportunities were identified that have relevance to the project under consideration:

- Good regional accessibility towards the R34, N14, N12 and N18.
- Schweizer Reneke town have ±633 ha of municipal owned land surrounding the town, especially the area north and south of Ipelegeng, and east and north-east of Schweizer Reneke.

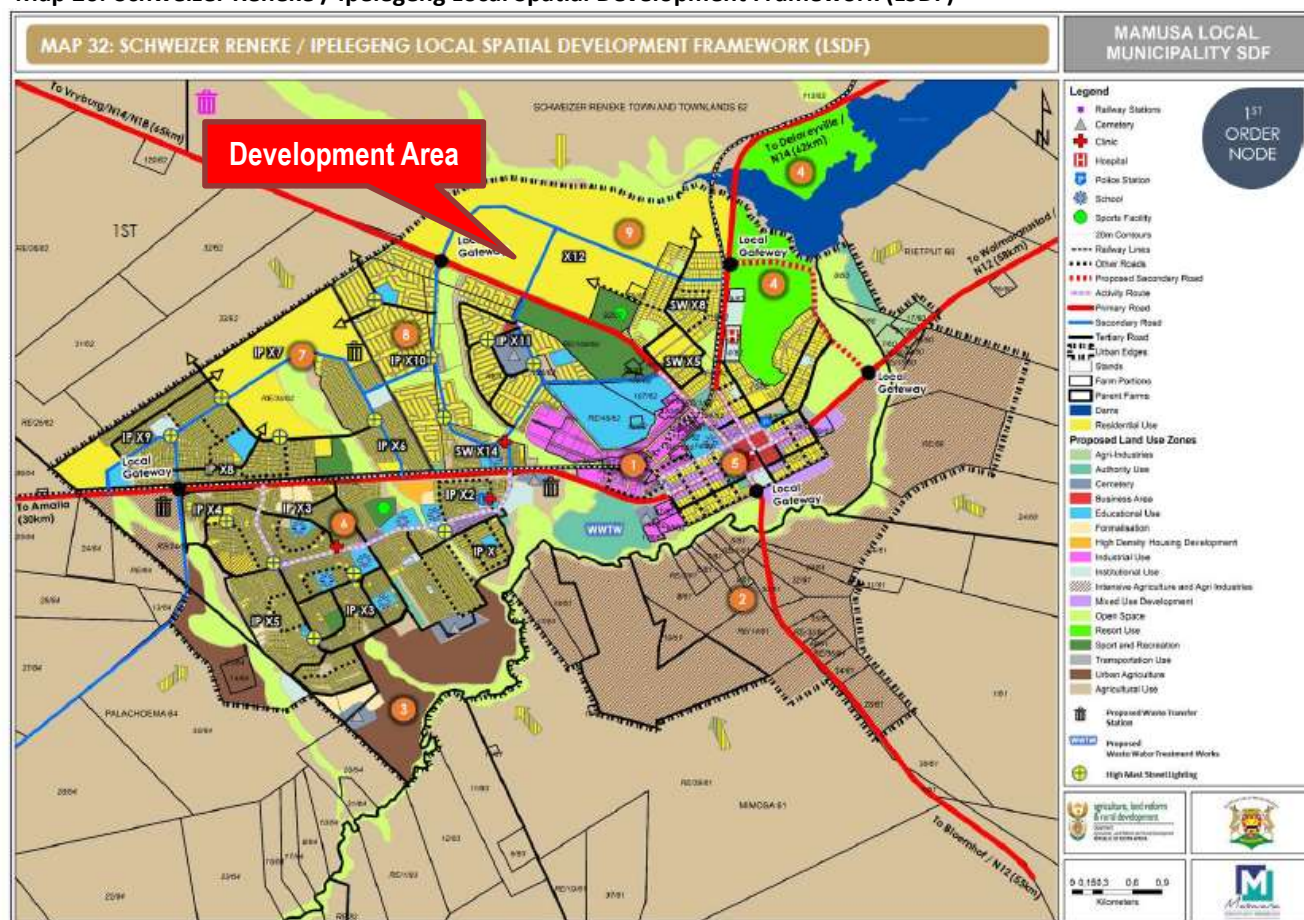


- Affordable and rental housing units.
- Potential for increase housing typologies that could improve the local revenue base (medium and high-income market).

The draft Mamusa Spatial Development Framework also identified the following Strategic Development Areas (SDA's) that are relevant to the development under consideration:

**“9. Residential Development – Formalising the proposed Ipelegeng Extension 12 with the provision of medium density residential development to allow for an improved revenue base. The existing Landfill adjacent to the R34 should be closed and relocated”.**

Map 26: Schweizer Reneke / Ipelegeng Local Spatial Development Framework (LSDF)



In term of the Schweizer Reneke / Ipelegeng Local Spatial Development Framework (LDSF) map referenced above, it is pertinent to note that the proposed development area is located in an area earmarked for residential use. The proposed development area is also partially located inside the demarcated urban edge. In this regard cognisance should be taken of the fact that the commencement of the township establishment process in respect of the proposed township Mamusa Garden View (previously referred to as Ipelegeng Extension 12) commenced prior to the commissioning of the review of the Mamusa Spatial Development Framework. At the onset of the fore-mentioned project, the development area

initially earmarked for the development of the Mamusa Garden View integrated human settlement area was communicated to the consultants appointed of the review of the SDF. During the pre-planning phase of the project, the extensive buffer zone applicable to the existing solid waste site in terms of the permit issued in respect of this facility was identified, this resulted in the limited extension of the proposed development area in a westerly direction in order to achieve the required yield in respect of residential and non-residential facilities. The consultant responsible for the review of the Mamusa SDF has since compiled its draft SDF document where the indicated urban edge still coincides with the initial development area. This fact has been communicated to the relevant consultant for correction in the draft SDF document prior to said document being presented for public review.

## **6.19 OUTCOME 8 – 2014-2019 MEDIUM TERM STRATEGIC FRAMEWORK (MTSF)**

Outcome 8 (sustainable human settlements and improved quality of household life) of government's 2014-2019 Medium Term Strategic Framework (MTSF) guides the Department of Human Settlement's work over the medium term towards ensuring that poor households have access to adequate housing in better living environments, and that institutional capacity and coordination is improved.

Outcome 8 determines that human settlements in future in South Africa must at least consist of:

- The development of suitable located and affordable housing (shelter) and decent human settlements;
- An understanding that human settlements are no longer about building houses;
- Transforming our cities and towns (moving towards efficiency, inclusion and sustainability); and
- Building cohesive, sustainable and caring communities with improved access to work and social amenities, including sports and recreation facilities.

In terms of Outcome 8, sustainable human settlements and improved quality of household life are defined by:

- Access to adequate accommodation that is suitable, relevant, appropriately located, affordable and fiscally sustainable;
- Access to basic services (water, sanitation, refuse removal and electricity);
- Security of tenure irrespective of ownership or rental, formal or informal structures; and
- Access to social services and economic opportunity within reasonable distance.

This outcome is of critical importance as it is a requirement of the Constitution and Bill of Rights. It is secondly core to human dignity and social stability and is a key enabler of

health, education and social cohesion outcomes. With good planning it can also serve as a catalyst for economic development and job creation.

## **6.20 SPATIAL PLANNING AND LAND USE MANAGEMENT ACT, 2013 (SPLUMA) DEVELOPMENT PRINCIPLES**

The act applies to spatial planning, land development and land use management. The following five (5) primary development principles referred to in the Spatial Planning and Land Use management Act, 2013 (Act 16 of 2013) (SPLUMA) and explained in SPLUMA: A Practical Guide compiled by Nic Laubscher, Lizette Hoffman, Ernst Drewes and Jan Nysschen, 2016, need to be taken into consideration:

### **“7. (a) the principle of spatial justice, whereby-**

#### **(i) past spatial and other development imbalances must be redressed through improved access to and use of land;**

The focus of the principle would be on integration or development of rural and/or traditional settlements and urban integration strategies. This development specifically aims at redressing past spatial imbalances in combatting the past planning principles of providing low income residential areas on the periphery of urban areas. This development will provide residents access to land and the use of such land to better their living conditions whilst similarly providing the necessary security of tenure. This project aims at providing 2300 residential erven with the necessary complementary land uses.

#### **(ii) spatial development frameworks and policies at all spheres of government must address the inclusion of persons and areas that were previously excluded, with an emphasis on informal settlements, former homeland areas and areas characterised by widespread poverty and deprivation;**

In terms of the current Mamusa Spatial Development Framework, 2013 as well as the draft revised Mamusa Spatial Development Framework, 2021, the area to which this application applies was already earmarked for residential purposes. This was specifically done to limit further urban sprawl and to enhance integration. The proposed development area will also be located within the demarcated urban edge as defined in terms of the revised draft SDF.

#### **(iii) spatial planning mechanisms, including land use scheme, must incorporate provisions that enable redress in access to land by disadvantage communities and persons;**

The local municipality identified portions of land within the local municipal area, through the Spatial Development Framework, that will redress access to land by previously disadvantaged people whilst also providing housing



opportunities for people that wish to acquire land to build their own home or those that do not qualify to participate in the subsidized housing programmes of government but still require proper housing (e.g. rental housing / social housing). The proposed development will focus on providing a variety of erf sizes to accommodate the needs of the community. This development will provide access to land and security of tenure.

**(iv) land use management systems must include all areas of a municipality and specifically include provisions that are flexible and appropriate for the management of disadvantaged areas, informal settlements and former homeland areas;**

Land uses within the Mamusa Local Municipality municipal area are governed by a functional land use management system. The proposed land uses in the proposed township areas will be regulated by the Mamusa Land Use Scheme, 2020. The opinion is held that the provisions of this scheme that will relate to this development will be totally appropriate for the management of the land uses to be provided within this development.

**(v) land development procedures must include provisions that accommodate access to secure tenure and the incremental upgrading of informal areas; and**

This project has at its core the provision of adequately zoned properties for future expansion of the urban areas of Schweizer Reneke / Ipelegeng. This township establishment process will afford inhabitants of this area the opportunity to obtain access to secure tenure on the development area. The township establishment process aims to create residential erven that can, after proclamation of the township areas, be alienated to the beneficiaries thereof. This new township development will afford the community of Schweizer Reneke / Ipelegeng the opportunity to access land and secure tenure thereof.

**(vi) A Municipal Planning Tribunal considering an application before it, may not be impeded or restricted in the exercise of its discretion solely on ground that the value of land or property is affected by the outcome of the application;**

The proposed development addresses the integration guidelines set in the draft Mamusa Spatial Development Framework, 2021 in respect of urban restructuring:

- Sensitively locate the income groups within the 1km radius: e.g., very low not right next to the very high income;
- Generally Human Settlement schemes should not be targeted at a single income group exclusively, usually subsidy or Site and Service, but should always include at least a GAP housing and top structure subsidy component even if only comprising 10% or 20% of the units.

- Use all well-located vacant land, i.e., within 1 to 2kms of urban centres.

**7. (b) the principle of spatial sustainability, whereby spatial planning and land use management systems must –**

The principle of spatial sustainability should allow for flexibility in dealing with applications and proposals, which may not have been anticipated.

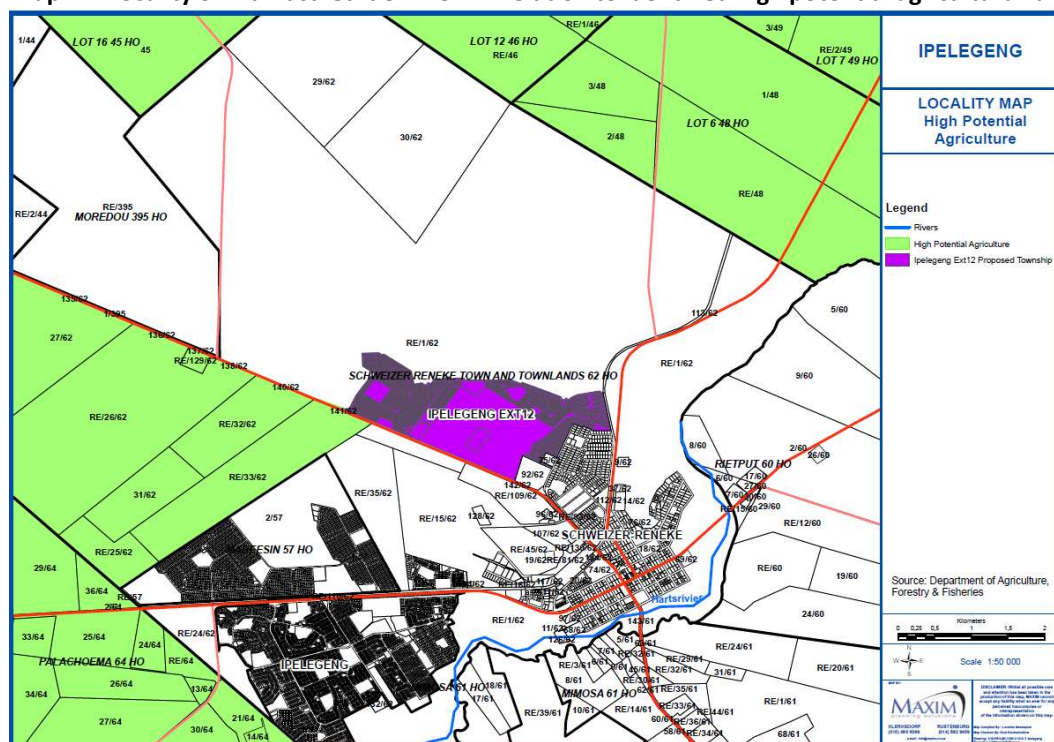
**(i) promote land development that is within the fiscal, institutional and administrative means of the Republic;**

In terms of the sub-principle, the opinion is held that this development will take place within the fiscal, institutional and administrative means of South Africa and specifically the Mamusa Local Municipality with the financial and administrative support of the North West Department of Human Settlements who is supporting the Mamusa Local Municipality fiscally and administratively. The Mamusa Local Municipality will ensure that the development complies with the requirements contained in the Mamusa Land Use Scheme, 2021 and the Mamusa Spatial Development Framework.

**(ii) ensure that special consideration is given to the protection of prime and unique agricultural land;**

The area where the concerned property is situated is not regarded as prime or unique agricultural land. The fore-mentioned statement is based on the following map depicting the location of high potential agricultural land (indicated in green) in relation to the proposed development area (indicated in purple).

**Map 27: Locality of Mamusa Garden View in relation to identified high potential agricultural land**



**(iii) uphold consistency of land use measures in accordance with environmental management instruments;**

Environmental sustainability refers to the relationship between the settlement and the natural landscape.

The development is planned with a full level of infrastructure elements including sewer, water, electricity, access and refuse removal services, thereby reducing the effect that the development will have on the natural surrounding area. For an area to be environmentally sustainable, it should protect the unique amenity and character of the surrounding environment and also prevent degradation. The proposed development further excludes noxious activities.

In considering the environmental management instruments applicable to the proposed development, it is pertinent to note that the activity does indeed constitute a listed activity in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014.

The township applicant appointed a qualified independent Environmental Practitioner to conduct the necessary Environmental Impact Assessment and public participation process as prescribed in terms of the fore-mentioned Act.

The development of this township area as well as the activities conducted from the erven in the township area during the operational phase will be subject to the conditions imposed by the Department of Economic Development, Environment, Conservation and Tourism (DEDECT) and set out in the relevant Environmental Authorisation.

**(iv) promote and stimulate the effective and equitable functioning of land markets;**

The local municipality is in favour of on-going dialogue with private investors and relevant government departments, to promote integrated economic growth.

Principle 7 (b)(iv) recognizes the need for land development to be based on competition and the principle of a competitive economy. The development will contribute to the economic growth of the municipal area. The development represents a public sector initiative, planned and applied for in the context of open market competition. This development will further not be in competition with any other private sector development within the concerned area.



**(v) consider all current and future costs to all parties for the provision of infrastructure and social services in land developments;**

The local municipality needs to comply with the guidelines for the provision of emergency-, social-, education- and engineering services, in terms of the provision of infrastructure and social services.

The provision of services to the proposed development has been addressed in detail in Section 5 supra and it was indicated that the development can be provided with the necessary services subject to the bulk infrastructure upgrades proposed.

**(vi) promote land development in locations that are sustainable and limit urban sprawl; and**

South Africa needs to tackle the legacies of the past. Apartheid left behind urban sprawl and weak urban connectivity, with poor residents on the urban periphery, far from employment and economic opportunity. The result is costly and inefficient public transportation systems, some of which are also suffering from all manner of institutional dysfunction.

Nearly 4 million ‘RDP houses’ have increased the housing stock, but the policy has reinforced urban sprawl and disadvantage because houses have been built on cheap land on the outskirts of cities.

Cities need affordable housing located close to economic opportunities, effective crime reduction, efficient, affordable public transport, and a facilitative environment in which to do business for all firms, large and small.

The concept of ‘housing as urbanism’ considers the social, political and economic components of housing, which, in reality, translates to housing that is closer to employment, municipal services, public spaces, healthcare, schooling facilities and social services, while also providing the household with the physical infrastructure necessary for a good quality of life. These considerations have not been included in the mass roll-out of low-income housing programmes by the South African government to date, as mentioned previously.

Over the long term, the overall cost of housing developments that are better located, subscribing broadly to the principles of ‘housing as urbanism’, is likely to be less expensive to municipalities and the development’s residents than poorly located, sprawled housing developments.

To comply with the development principles set forth in Section 7(a)(i) and 7(b)(iv) of SPLUMA, it is therefore essential to locate new residential developments in areas that will combat urban sprawl and result in a more

compact urban form. This principle is specifically addressed in terms of the location of the proposed township area of Mamusa Garden View.

The proposed development will take place within the demarcated urban edge as set out in the draft Mamusa Local Municipality Spatial Development Framework, 2021 (development area already partially located inside the demarcated urban edge set forth in the Mamusa Local Municipality Spatial Development Framework, 2013). This development will be sustainable and will limit further urban sprawl.

This development intends to promote a more compact city and to prevent the expansive provision of social and engineering services. The Spatial Development Framework addresses the scale of urban growth through planned extensions, infill and redevelopment strategies. The local municipality is aware of the need to integrate urban settlements, with a view to reduce travel distances to the areas of employment opportunities.

The planning practices of the past have resulted in sprawling urban areas that are un-economical. Today, planning policies transformed to mainly focus on infill development on vacant land within an urban environment, in order to combat urban sprawl. The principle also calls for a balance in land development processes. The development is in line with the sub-principle and will combat urban sprawl. The development will also ensure maximum utilization of the concerned property and will lead to the integration with the existing Ipelegeng extensions in the south-west.

**(vii) result in communities that are viable;**

For any development to be sustainable and viable to the community, land development and planning should ensure that communities are located close to job opportunities, social facilities and basic services. The proposed development includes various complementary land uses and is located in close proximity to the Schweizer Reneke Industrial area where employment opportunities exist. The proposed township is also well linked to the existing urban area of Schweizer Reneke to the north via Provincial Road P12-2 (R34) as well as various exiting linkages to the existing urban area of Schweizer Reneke.

**(c) the principle of efficiency, whereby -**

**(i) land development optimizes the use of existing resources and infrastructure;**

The granting of development permissions should be coupled with the provision of adequate infrastructure. The efficient usage of existing resources can promote high density growth, alleviate urban sprawl and optimise the use of land.

The development will ensure the optimum utilization of one of the most valuable resources being land, if used to its full potential, and it was indicated in Section 5 that the development can be supplied with the full spectrum of infrastructure elements such as water, sewer, refuse removal, and access roads; thus reducing the effect of the development on the natural surrounding area.

**(ii) decision-making procedures are designed to minimize negative financial, social, economic or environmental impacts; and**

The opinion is held that the development will not have a negative financial, social, economic or environmental impact on the surrounding properties, as this development will be of a formal and non-noxious nature fitting in with the land uses surrounding the proposed development area. This sub-principle will also be attained through adherence to the integration guidelines set out in the draft Mamusa Local Municipality Spatial Development Framework, 2021 in respect of urban restructuring.

**(iii) development application procedures are efficient and streamlined and timeframes are adhered to by all parties;**

This land development application in respect of the establishment of the proposed township will be processed in accordance with the prescriptions of the Mamusa By-Law on Spatial Planning and Land Use Management (2017). The processes prescribed in terms of this legislation make provision for the necessary community involvement through a public participation process.

**(d) the principle of spatial resilience, whereby flexibility in spatial plans, policies and land use management systems are accommodated to ensure sustainable livelihoods in communities most likely to suffer the impacts of economic and environmental shocks; and -**

Standards for the protection of natural resources, agricultural land, open spaces and ecosystems have been compiled on a national and regional level. The local municipality compiled a Spatial Development Framework to increase resilience for human settlements, focusing on vulnerable and informal areas. The Spatial Development Framework needs to be flexible to adapt to social, economic and technological trends. This development is 100% aligned with the most recent draft Mamusa Local Municipality Spatial Development Framework and gives effect to the proposals set forth in this SDF. This development is specifically aimed at providing opportunities for people that are currently devoid of land for proper housing purposes. In addition to addressing the need for subsidized housing, provision is also made for the provision of housing opportunities to bonded / FLISP / social and rental housing purposes. The provision of proper housing for the landless community of Ipelegeng and surrounding towns will alleviate the plight of



a community who is most vulnerable to suffer the impacts of environmental and economic shock.

**(e) principle of good administration, whereby-;**

**(i) all spheres of government ensure an integrated approach to land use and land development that is guided by the spatial planning and land use management systems as embodied in this Act;**

The Mamusa Local Municipality has a Spatial Development Framework and employs the Mamusa Land Use Scheme, 2020 as part of their land use management system. In terms of the draft Spatial Development Framework the area to which this development applies was specifically earmarked for residential development which renders this proposed development in line with the draft Mamusa Local Municipality Spatial Development Framework (part of development area earmarked for residential purposes in terms of the Mamusa Local Municipality Spatial Development Framework, 2013). The Mamusa Land Use Scheme, 2021, will effectively regulate the land uses to be established within the township.

**(ii) all government departments must provide their sector inputs and comply with any other prescribed requirements during the preparation or amendment of spatial development frameworks;**

Integration between the different levels of government assists to create complimentary and mutually reinforcing policies, while integration between the different sectors will result in positive benefits. Government departments was and will further be consulted during the compilation of the newly revised Spatial Development Framework of the local municipality. In addition to the fore-mentioned consultation, it should be noted that this application for township establishment will also be referred to the following government and non-government departments as integral part of the public participation process:

- Department of Public Works and Roads
- Openserve (Telkom SA Limited)
- Eskom
- Dr. Ruth Segomotsi Mompati District Municipality (DRSMDM)
- Department of Minerals Resources (DMR)
- Department Agriculture, Land Reform and Rural Development (DALRRD)
- Department of Water and Sanitation (DWS)
- Department of Co-operative Governance and Traditional Affairs (COGTA)
- Department of Education
- Department of Health
- South African Post Office (SAPO)

- Transnet Freight Rail
- South African Heritage Resources Agency (SAHRA)
- South African National Roads Agency Limited (SANRAL)
- Sedibeng Water
- Department Economic Development, Environment, Conservation and Tourism (DEDECT)

**(iii) the requirements of any law relating to land development and land use are met timeously;**

The Minister of Rural Development and Land Reform has prescribed timeframes to which land development applicants and decision-makers must adhere to.

**(iv) the preparation and amendment of spatial plans, policies, land use schemes as well as procedures for development applications, include transparent processes of public participation that afford all parties the opportunity to provide inputs on matters affecting them; and;**

Effective procedures for public participation are in place, to afford the residents and other parties the opportunity to provide inputs on development applications and other matters affecting them.

The public participation process undertaken as part of this township establishment application includes the following:

- Publishing notices of the application (as set out in **Annexure C1** of the comprehensive Land Development Application) in the Stellalander as contemplated in Section 98(2)(a) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017);
- Appending notices of the application (as set out in **Annexure C2** of the comprehensive Land Development Application) on the notice board situated at the library as contemplated in Section 98(2)(b) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017);
- Displaying a notice (as set out in **Annexure C3** of the Comprehensive Land Development Application) in a conspicuous place on the land to which the application applies as contemplated in Sections 101(1) and 101(2) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017);
- Notices to adjacent property owners (as set out in **Annexure C4** of the comprehensive Land Development Application) as contemplated in Section 99(1)(c) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017).

- Notices to the following external departments / organizations (as set out in **Annexure C5** of the comprehensive Land Development Application) in order to obtain letters of consent / objection as contemplated in Section 102(e) of the Mamusa By-Law on Spatial Planning and Land Use Management (2017):
  - Department Public Works and Roads
  - Openserve (Telkom SA Limited)
  - Eskom
  - Ngaka Modiri Molema District Municipality (NMMDM)
  - Department Minerals Resources (DMR)
  - Department Agriculture, Land Reform and Rural Development (DALRRD)
  - Department Water and Sanitation (DWS)
  - Department Co-operative Governance and Traditional Affairs (COGTA)
  - North West Department of Education
  - Department Health
  - South African Post Office (SAPO)
  - Transnet Freight Rail
  - South African Heritage Resources Agency (SAHRA)
  - South African National Roads Agency Limited (SANRAL)
  - Sedibeng Water
  - Department Economic Development, Environment, Conservation and Tourism (DEDECT)

The fore-mentioned organizations / departments will be afforded a period of sixty (60) days to comment in this matter. The adjacent property owners and the general public will be afforded a period of thirty (30) days to lodge comments or objections in this matter.

**(v) policies, legislation and procedures must be clearly set in order to inform and empower members of the public;**

The procedures set out in the Mamusa By-Law on Spatial Planning and Land Use Management (2017) afford members of the public the opportunity to not only participate in this process but also to scrutinize the documentation relating to the application. Members of the public will be afforded a period of 30 days to comment or object against this development.

## **6.21 GENERAL**

From a land use and town planning point of view the proposed development area is ideally suited for residential purposes due to the following:



- The purpose of this land development application is to provide for the establishment of a proper integrated human settlement that will not only address the short-term need for residential erven to address the immediate housing backlog, but to also provide a sustainable, vibrant development going forward. This project will also allow for the development of various housing typologies to accommodate the housing needs of the community of Schweizer Reneke and surrounding areas.
- The proposed development area is located directly adjacent to the existing urban area of Schweizer Reneke, in an area earmarked for residential development. The proposed township constitutes the logical extension of the existing built-up urban area of Schweizer Reneke and constitutes infill planning within the proposed delineated urban edge.
- The proposed township area is easily accessible due to its locality directly adjacent to Provincial Road P12-2 (R34) (Schweizer Reneke – Vryburg road), a provincial class 2 road linking to Schweizer Reneke in the east.
- The layout plan that was compiled in respect of the township area comprehensively addresses the issues identified during the pre-planning studies relating inter alia to the following:
  - Providing adequate spacing and limiting the number of direct accesses to the proposed township area from Provincial Road P12-2 (R34) and in compliance with the standards of the Department of Public Works and Roads;
  - Integrating the proposed road network with that of the existing township area of Schweizer Reneke Extension 8 as well as the proposed Ipelegeng Extensions 10 and 11 located south-west of the R34;
  - Providing for the development of complementary land uses on site to provide essential business and social services to the community;
  - Accommodating the existing infrastructure (powerlines, solid waste site and buffer zone) on site on appropriately zoned erven;
  - Engineering services can be provided to the proposed township area;
  - Traffic generated by the development can be accommodated within the existing road network subject to the necessary road and intersection upgrades proposed in terms of the Traffic Impact Study;
  - The geotechnical report conducted in respect of the development area concluded that the site is suitable for development purposes;
  - The proposed development will be located outside the calculated 1:100 year floodline area of the non-perennial stream located north of the development area;
  - The comprehensive Environmental Impact Assessment concluded that no significant impacts that cannot be mitigated were identified and the Environmental Impact Assessment Practitioner's opinion is that the project

should proceed, provided that the necessary mitigation and management measures are implemented.

In view of the fore-mentioned, we trust that this application will be considered favorably.

**K. RAUBENHEIMER**

**Pr. Pln A/924/1996**