

# MOTIVATION REPORT

29 October 2021

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## PROPOSED SUBDIVISION, CONSOLIDATION AND TOWNSHIP ESTABLISHMENT ON:

- A Portion of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province and a Portion of the Remaining Extent of the Farm Uraan 295, Registration Division I.P., North West Province

## TO CREATE TIGANE EXTENSIONS 7 AND 8

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## **MOTIVATION REPORT**

***PROPOSED SUBDIVISION, CONSOLIDATION AND TOWNSHIP ESTABLISHMENT ON A PORTION OF THE REMAINING EXTENT OF THE FARM VOGELSTRUISFONTEIN 273, REGISTRATION DIVISION I.P., NORTH WEST PROVINCE AND THE REMAINING EXTENT OF THE FARM URAAN 295, REGISTRATION DIVISION I.P., NORTH WEST PROVINCE,***

***IN TERMS OF SECTIONS 67(2), 73(1) AND 56(1) OF THE CITY OF MATLOSANA SPATIAL PLANNING AND LAND USE MANAGEMENT MUNICIPAL BY-LAW ON SPATIAL PLANNING AND LAND USE MANAGEMENT, 2016, 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***

***TIGANE EXTENSION 7 COMPRISING ERVEN 4235 TO 4807 & 4809 TO 5834***

***AND***

***TIGANE EXTENSION 8 COMPRISING ERVEN 5835 TO 7236***

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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 to attend to the establishment of the proposed township areas of Tigane Extension 7 and Tigane Extension 8 to address the housing backlog and need for erven in the City of Municipality Local Municipality area of jurisdiction. The project is one of several undertaken by the Local Authority to create vibrant and sustainable neighbourhoods within the municipal area. This specific application serves to create 2977 residential erven (1584 in Tigane Extension 7 and 1393 in Tigane Extension 8), with complementary land uses (ranging between business use and social/educational facilities) to service the future communities. The proposed townships will be well integrated with one another and facilitate the successful expansion of the existing Tigane area to the north. As can be seen in **Figure 1** below, several informal structures have already been erected on the application sites in recent years due to the housing need experienced in Tigane.

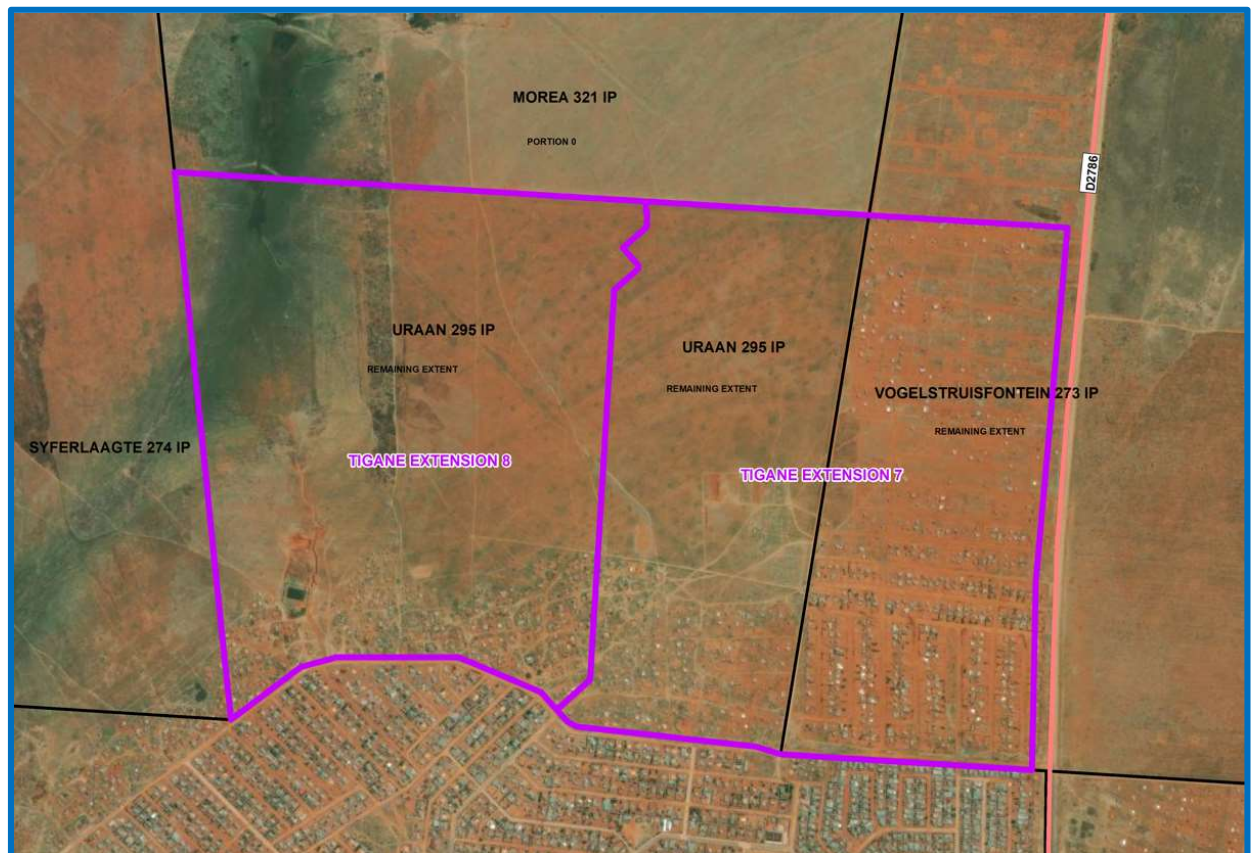


Figure 1: Informal structures on application site

The planning of the proposed new township areas at Tigane was conducted in an integrated manner and focussed on the entire designated development area. This integrated planning yielded a township area comprising 2977 residential erven, together with an additional 25 erven earmarked for non-residential support functions (exclusive of streets), as seen in **Table 1** and **Table 2** below:

**Table 1: Proposed erven - Tigane X7**

Proposed Zoning	Proposed Land use	Number of Erven	Erf Number	Area in Ha	% of Area
Residential 1	Residential house (Minimum 300m <sup>2</sup> )	1584	4235-4340; 4342-4437; 4439-4669; 4671-4672; 4671-4709; 4711-4923; 4925-5245; 4247-5292; 5294-5305; 5307-5789; 5791-5828	51.5731ha	56.99%
Business 1	Shop	3	4924; 5246; 5293	0.4452ha	0.49%
Institutional	Creche	2	4673; 5306	0.3025ha	0.33%
	Church	2	4341; 4438	0.3073ha	0.34%
	Primary School	1	4670	3.0775ha	3.40%
Municipal	Community Facility	1	5790	0.1614ha	0.18%
	Cemetery	1	4710	11.0775ha	12.24%
Public Open Space	Park	6	5829-5834	3.3415ha	3.69%
Public Roads	Street			20.2118ha	22.34%
<b>TOTAL</b>		<b>1600</b>	<b>4235-5834</b>	<b>90.4978ha</b>	<b>100%</b>

**Table 2: Proposed erven - Tigane X8**

Proposed Zoning	Proposed Land use	Number of Erven	Erf Number	Area in Ha	% of Area
Residential 1	Residential house	1393	5835-6007; 6009-6613; 6616-6667; 6670-6956; 6958-7233	43.5001ha	57.53%
Business 1	Shop	1	6615	0.3742ha	0.49%
Institutional	Creche	1	6956	0.1157ha	0.15%
	Church	1	6008	0.1528ha	0.20%
Institutional (Including shops)	Institutional & shops	1	6668	2.0600ha	2.72%
Municipal	Community Facility	1	6614	0.1570ha	0.20%
	Municipal	1	6669	1.6041ha	2.12%
Public Open Space	Park	3	7234-7236	13.0242ha	17.23%
Public Roads	Street			14.6391ha	19.36%
<b>TOTAL</b>		<b>1403</b>	<b>5835-7236</b>	<b>75.6272ha</b>	<b>100%</b>

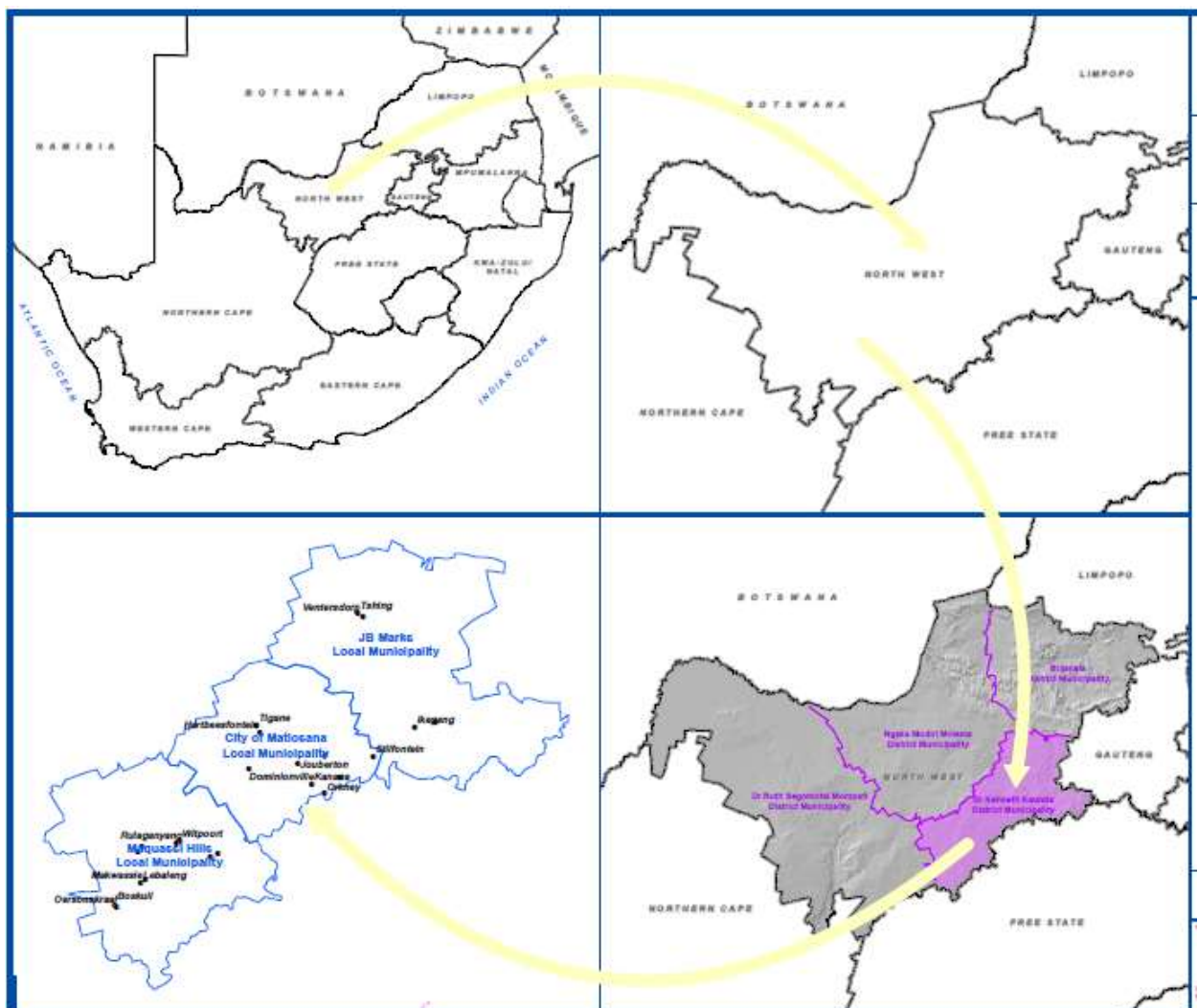


## 1.2 BACKGROUND OF CITY OF MATLOSANA LOCAL MUNICIPALITY

### 1.2.1 REGIONAL LOCALITY

The City of Matlosana Local Municipality (NW403) is located in the south-eastern part of the North West Province. The municipal area covers the central part of the Dr. Kenneth Kaunda District Municipality area and is bordered by JB Marks (Potchefstroom & Ventersdorp) municipal area in the east and north-east, Maquassi Hills municipal area in the west and the Free State Province in the south. The municipality comprises a total area of 3162km<sup>2</sup> and is located on the N12 Treasure Corridor (SDI) linking the municipal area with Gauteng Province in the east and the Northern Cape in the south-west. The municipality is one of four located in the Dr Kenneth Kaunda District Municipality. The municipality consists of a vast rural / commercial farming area, mining area as well as the urban areas of Klerksdorp / Jouberton, Orkney / Kanana, Stilfontein / Khuma and Hartbeesfontein / Tigane.

Map 1: Regional locality of City of Matlosana Municipality



The municipality was previously known as the City Council of Klerksdorp and is classified as a Category B municipality. The municipality was officially renamed on 1 July 2005. The name Matlosana is said to mean “People helping each other to move from one area to the other”. The main economic sectors in the municipal area include mining, agriculture, manufacturing, services, construction and transport.

**The urban area of Tigane is located to the north of Hartbeesfontein, approximately 32km north-west of Klerksdorp.**

### 1.2.2 DEMOGRAPHICS

The demographic profile detailed below provides an economic overview of the City of Matlosana Local Municipality (NW403) in respect of the sectoral composition (GVA) and employment trends, the population and households as well as household income. A short summary of the economy and demographics is provided in **Table 3** below:



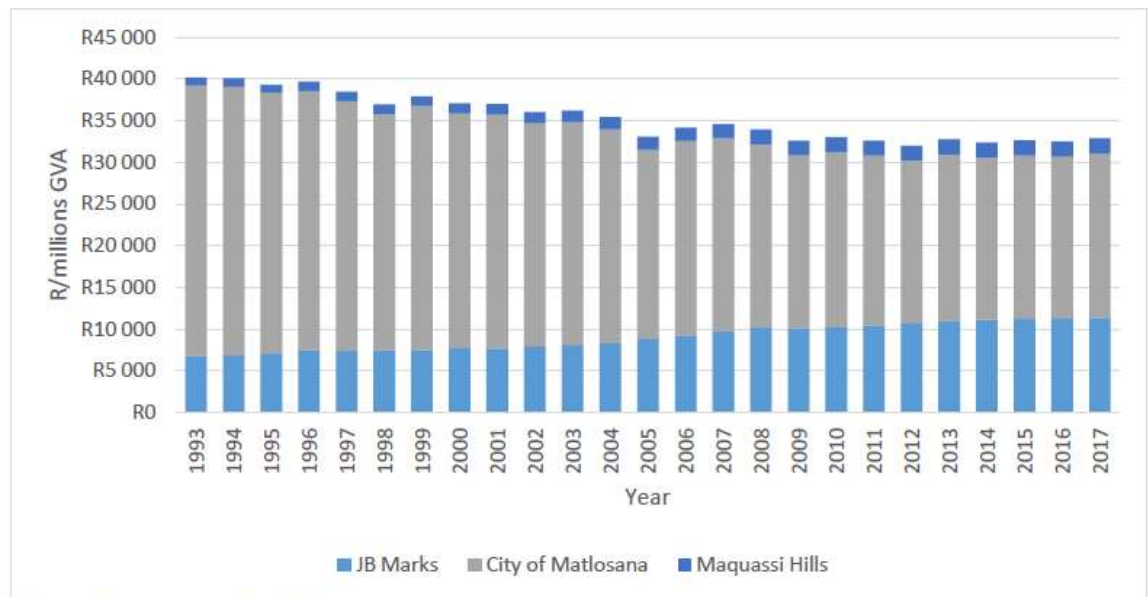
**Table 3: Snapshot of the Matlosana economy & demographics**

	2016	2017
<b>Economic Indicators</b>		
Size of the economy (GVA)	R19.4 billion	R19.6 billion ▲
Economic growth <sup>1</sup>	-0.6%	0.9% ▲
Main economic sector(s)	1. Finance & business (R3.8 Bn.) 2. General government (R3.2 Bn.) 3. Retail trade (R3.1 Bn.)	1. Finance & business (R3.8 Bn.) 2. General government (R3.3 Bn.) 3. Retail trade (R3.1 Bn.)
<b>Labour</b>		
Total employment	135 184	137 036 ▲
Employment growth <sup>1</sup>	0%	1.4% ▲
Main employment sector(s)	1. Mining (29 631) 2. Retail trade (25 641) 3. Community & personal (23 188)	1. Mining (29 251) 2. Retail trade (26 857) 3. Community & personal (24 290)
Unemployment rate	27.2%	28.2% ▲
<b>Demographics</b>		
People	425 272	430 801 ▲
Households	124 435	126 052 ▲
Average monthly household Income	R 9 550	R 10 242 ▲

The information contained in sections 1.2.2.1 to 1.2.2.4 is based on data obtained from StatsSA, the City of Matlosana Integrated Development Plan (2020 – 2021), a socio-economic study conducted by Quantec in 2019 as part of the review process of the local Spatial Development Framework, a socio economic study compiled by Dr. Dyason for the Dr Kenneth Kaunda District Municipality as part of the review of the Spatial Development Framework and the draft City of Matlosana Human Settlements Sector Plan, 2020.

### 1.2.2.1 Economic Overview

The City of Matlosana municipality has the largest economy of the three municipalities in the Dr Kenneth Kaunda District Municipality, as seen in **Figure 2** below:

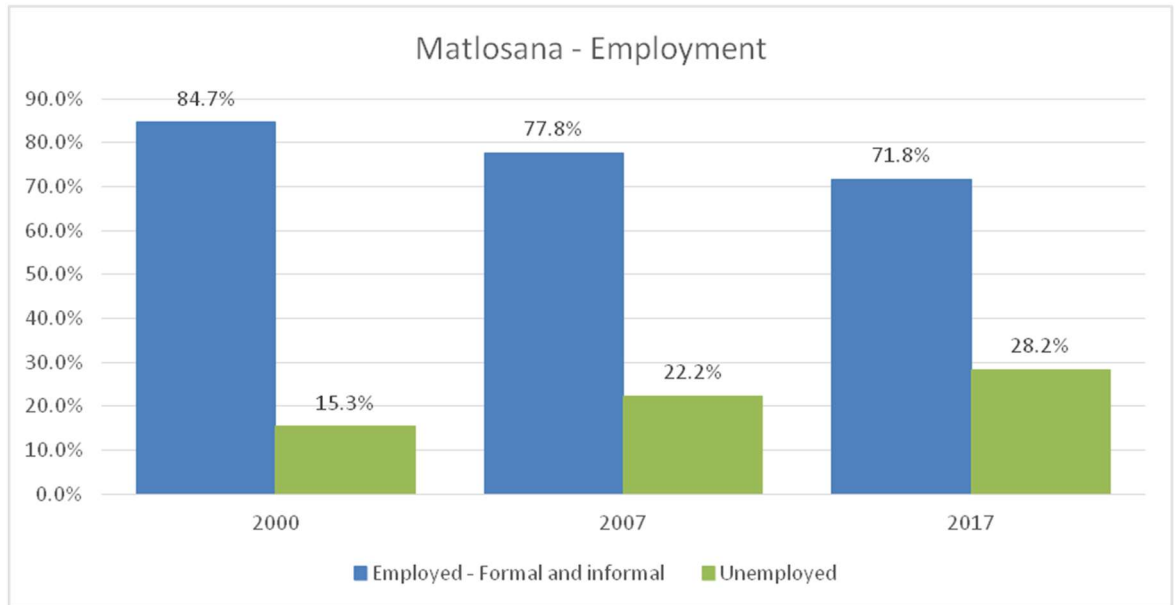


Source: Author ex. Quantec, 2019

Figure 2: Economic value of the Dr Kenneth Kaunda District, 1993 - 2017

However, the economy of the City of Matlosana has continued to decrease from its high in 1993. Since 2012, the size of the local economy has stabilised around R19.5 billion GVA. The main reason for this decrease has been the decrease in mining activity. Since 2012 the local economy has stabilised and even showed first signs of positive economic growth. For the period 2012 to 2017, the local economy has had an average annual growth of 0.1%. The data suggest that the bottom has been reached and that positive growth could be expected for the local economy.

The unemployment rate for the municipality is 28.2% in 2017 as illustrated in **Figure 3** overleaf. The municipal area has a higher unemployment level when compared to the national average (26%) in 2017. The long-term trend shows an increase in the level of unemployment in the local economy.

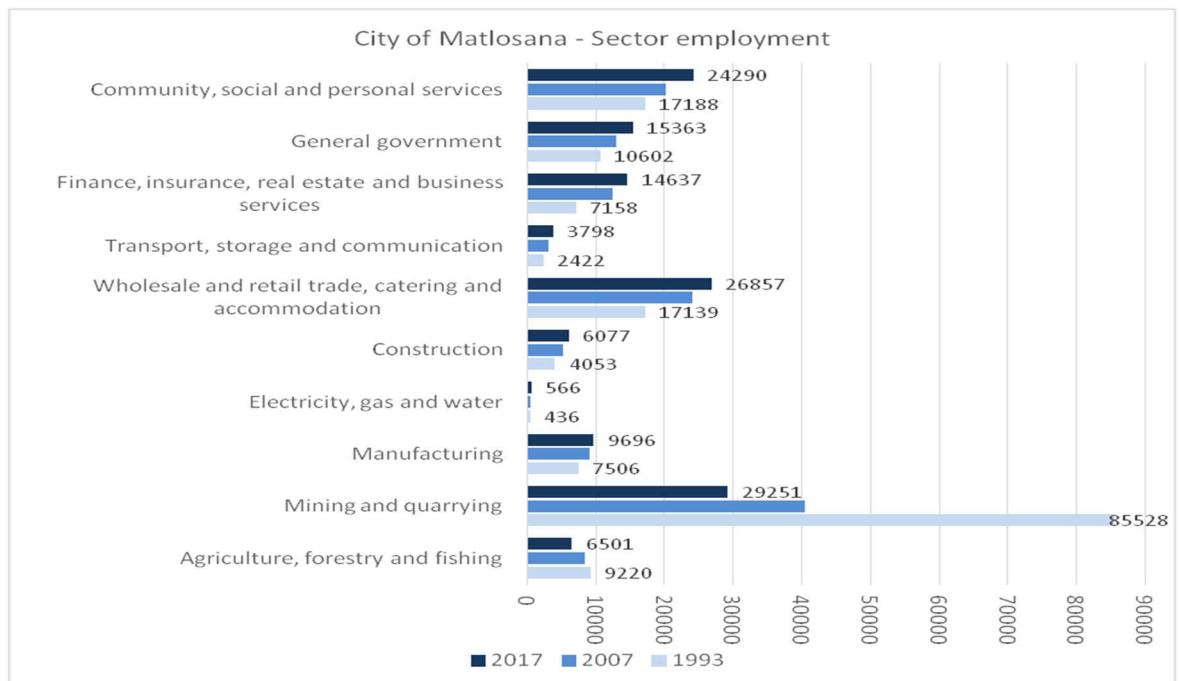


Source: Quantec, 2019

Figure 3: Level of employment - 2000, 2007 & 2017

Tigane in particular has an unemployment rate of 31% (Quantec, 2019).

137 036 jobs are however provided locally in the following sectors:



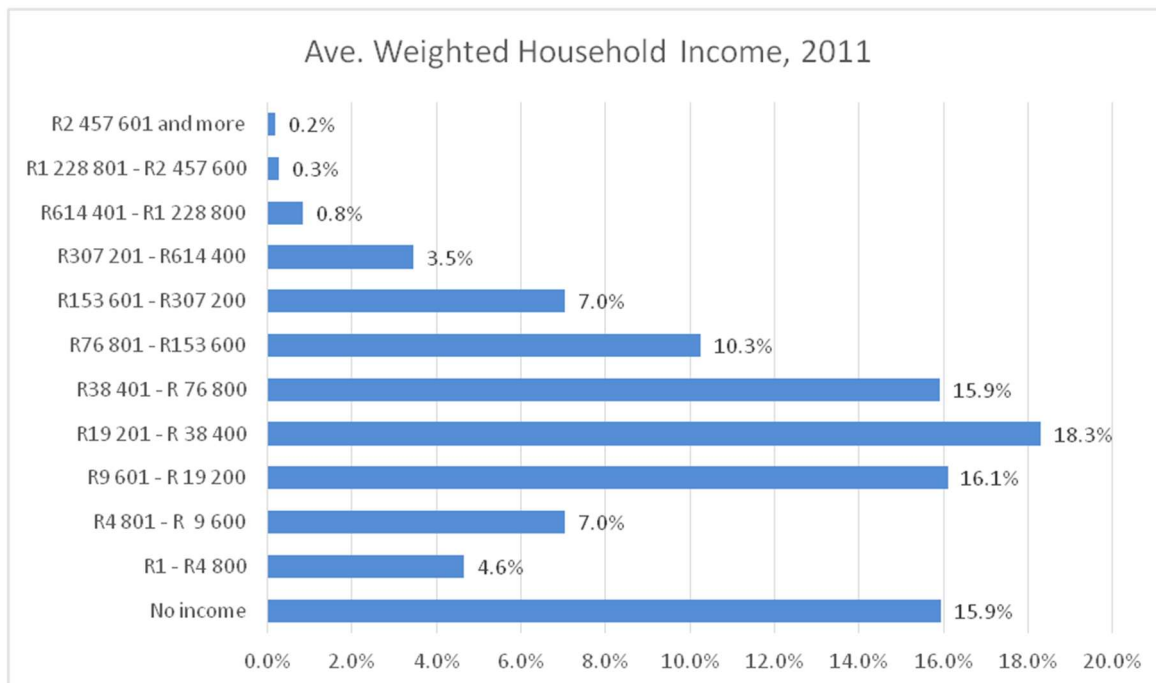
Source: Quantec, 2019

Figure 4: Employment per sector - 1993, 2007 & 2017

The sector employment in the economy has changed significantly between 1993 and 2017. This change is as a result of the decrease in the number of people

employed in mining activity and an increase in tertiary sectors (retail trade, business services, community, personal and social services and government sectors).

The average annual household income for the municipality is illustrated in **Figure 5** below:



**Figure 5: Average annual household income, 2011**

The figure shows that the majority (78%) of households earn below R76 800 per annum. A large segment of the market earns no income at all, representing 15.9% of all households.

- Average annual household income for the municipal area in **2011 was R80 790 per annum or R6 732 per month.**
- Average annual household income for the municipal area in **2019 is R141 343 per annum of R11 779 per month.**

**The average monthly household income for Tigane in 2019 is estimated at R5 300-00.**

In terms of housing provision, the following three monthly income ranges are used:

- R0 – R3 500 (qualify for government subsidy and CRU units)
- R3 500 – R7 500 (qualify for social housing)
- R7 500 and higher (qualify for bonded houses)

The affordability profile for the municipal area shows that a total of 62 486 households fall within the residential market for government subsidy and CRU units, 40 867 for bonded houses and 25 998 for social housing.

### 1.2.2.2 Population Overview

The City of Matlosana has had positive population growth over the past decade. The population growth rate between 2008 and 2017 (10 years) was 1.3% per annum with the household growth at 1.35% annually. This translates into an average annual increase of 3 686 people and 1 079 households annually within the municipal area.

The population density for the municipality is estimated at 112 persons per km<sup>2</sup> with an average household size of 3.2 people. Approximately 36.7% of households in the municipality are headed by women and the gender split in the municipality is 50:50.

The municipal population total is estimated at 442 074 and the households at 129 351 for 2019, based on census data of 2011 (StatsSA). The 2024 totals are forecasted to be 471 566 and 137 980 respectively. This represents an increase over the next 5 years of 29 492 people and 8 629 households. The population of Tigane is estimated to be as follows:

**Table 4: Population figures of Tigane**

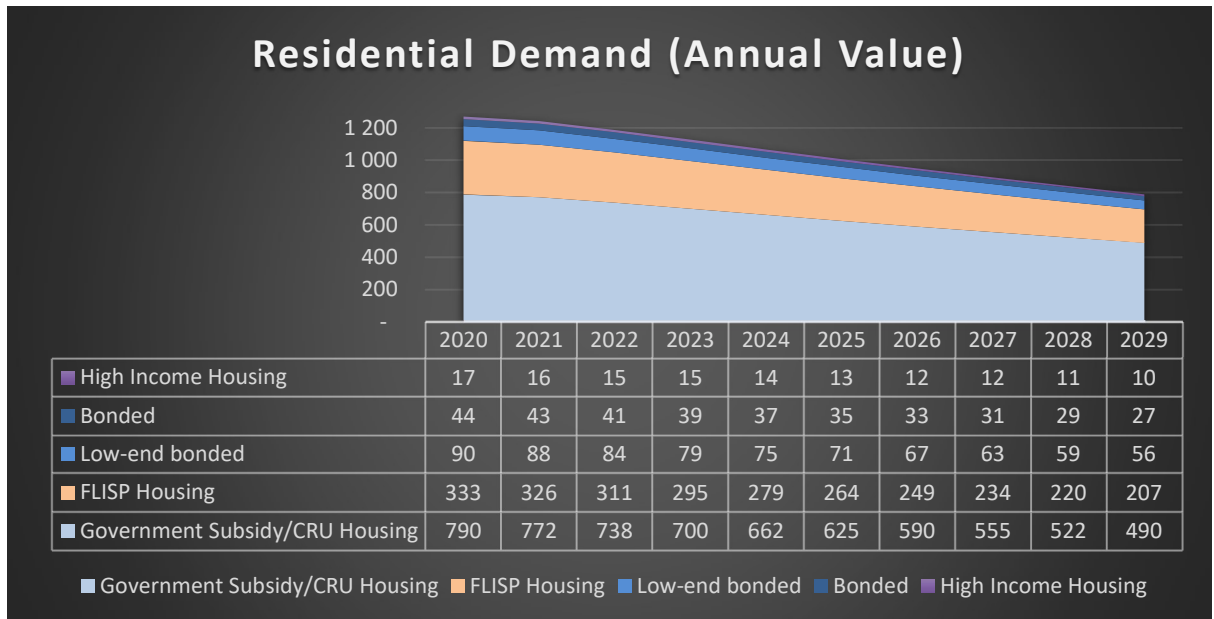
Subplace	Population total	Household total
Tigane	17 141	4 031

The age profile of the COM is as follows: 0 - 14 years: 28.8%; 15 - 64 years: 66.4%; and older than 65: 5.4%. It is not that different from the national profile on Census 2011 (i.e. 0 - 14 years: 31.03%; 15 - 64 years: 63.59%; and older than 65: 5.39%).

### 1.2.2.3 Housing Profile

**Figure 6** below provides an overview of the residential market demand for the Matlosana area for the next 10 years. The figure also shows the growth in units for each residential sub-market for the corresponding year. The residential market in South Africa is generally divided into the following segments:

1. Government subsidy
2. Social housing
3. FLISP
4. Low-end bonded
5. Bonded
6. High-end bonded



**Figure 6: Residential market demand up to 2029**

The largest segment of the residential market is for government subsidy and CRU houses (62%). This includes households earning below R3 500 per month. FLISP housing (26.2%) represent the segment of the market that earns between R3 500 and R22 000 monthly and is the second largest segment in the market. The low-end bonded, bonded and high income (13.8%) housing represents all the households that earn more than R22 000 monthly.

The cumulative housing need by 2029 is therefore as follows:

- High income housing: 135 units
- Bonded housing: 359 units
- Low-end bonded housing: 731 units
- FLISP housing: 2719 units
- Government subsidy/CRU housing: 6446 units

It is evident from the above figures that the municipality is experiencing a severe housing backlog. This is also clear when reviewing the dwelling types found in each sub-place. **Table 5** below provides a summary of dwelling types in Tigane specifically, as obtained from the 2011 Census data:

**Table 5: Dwelling Types in Tigane**

	Tigane
House or brick structure	3302
Traditional dwelling structure	33
Flat in a block of flats	14
Townhouse	5
Semi-detached house	37



House/ flat/ room in backyard	190
Informal dwelling (shack; in backyard)	256
Informal dwelling (in an informal settlement)	434
Room	3
Other	14
<b>Total</b>	<b>4288</b>

As can be seen in the table above, a large number of Tigane residents are still living in informal dwellings without tenure. Based on the aerial survey of the proposed development area, it is quite evident that the extent of informal occupation of land by households residing in informal dwelling units has increased drastically.

The fore-mentioned statement is further supported by the recently promulgated City of Matlosana Spatial Development Framework, 2021 which identified the existing informal settlements in the Hartbeesfontein and Tigane urban areas as indicated in **Table 6** below.

**Table 6: List of areas with informal settlements**

Area	Name	Location	Estimated Number of Informal dwellings	
<b>Hartbeesfontein</b>	Hartbeesfontein Informal 1	West of Hartbeesfontein	22	28
	Hartbeesfontein Informal 2	South East of Hartbeesfontein	18	29
<b>Subtotal Hartbeesfontein:</b>			<b>40</b>	
<b>Tigane</b>	Tigane Informal 1	North and north-west of Tigane	340	30
	Tigane Informal 2	North of Tigane ext.	335	31
	Tigane Informal 3	South-west of Tigane X 5	13	32
	Tigane Informal 4	South-east of Tigane	17	33
	Tigane in Road Reserve	Road Reserve	28	34
<b>Subtotal Tigane:</b>			<b>733</b>	

An undeniable housing need exists in the City of Matlosana municipality. 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 UAV Industries;
- Generation of contour based on aerial survey conducted by UAV Industries;
- Floodline Delineation conducted by CWT Water Technology;
- Engineering Geological Investigation conducted by Geoset CC (September 2019);
- Phase 1 Heritage Impact Assessment conducted by A Pelsers Archaeological Consulting CC;
- Ecological Fauna and Flora Habitat Survey conducted by Reinier F. Terblanche;
- Desktop Palaeontological Study conducted by Prof. Bruce Rubidge from the Evolutionary Studies Institute at the University of the Witwatersrand;
- Detail civil engineering services investigation conducted by Rajasamway Family Holdings;
- Detail electrical engineering services investigation conducted by Motla Consulting Engineers;
- Environmental Impact Assessment (Section 24G Rectification Application) conducted by AB Enviro-Consult;
- Wetland Assessment conducted by Reinier F Terblanche;
- Traffic Impact Study conducted by Route<sup>2</sup> Transport Strategies.

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 City of Matlosana Local Municipality (NW403), is hereby applying to the City of Matlosana Local Municipality in terms of:

- Section 67(2) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-law on Spatial Planning and Land Use Management, 2016, read together with the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) for the subdivision of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province into three (3) portions (one of which will comprise the Remainder of the subject property);
- Section 67(2) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-law on Spatial Planning and Land Use Management, 2016, read together with the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) for the subdivision of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province into two (2) portions (one of which will comprise the Remainder of the subject property);
- Section 73(1) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-law on Spatial Planning and Land Use Management, 2016, read together with the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) for the consolidation of a portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province and a portion of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province; and
- Section 56(1) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016, read with the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013), and with Chapter IV of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986), for the establishment of the proposed townships:
  - Tigane Extension 7 on a portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province and a portion of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P.,

North West Province, comprising approximately 1584 erven zoned “Residential 1”, 3 erven zoned “Business 1”, 5 erven zoned “Institutional”, 2 erven zoned “Municipal”, 6 erven zoned “Public Open Space” and the associated public streets that will be zoned “Existing Public Roads”

- Tigane Extension 8 on a portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province, comprising approximately 1393 erven zoned “Residential 1”, 1 erf zoned “Business 1”, 2 erven zoned “Institutional”, 1 erf zoned “Institutional” (including shops), 2 erven zoned “Municipal”, 3 erven zoned “Public Open Space” and the associated public streets that will be zoned “Existing Public Roads”.

## 1.5 **PUBLIC PARTICIPATION**

The proposed township establishment application will be advertised in terms of Sections 94(1)(b), 94(1)(g) and 94(1)(h) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-law on Spatial Planning and Land Use Management, 2016. 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 the Klerksdorp Rekord in Afrikaans & English as contemplated in Section 94(2)(a) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.
- 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 94(2)(b) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.
- 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 97(1)(a) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.
- Notices to adjacent property owners (as set out in **Annexure C4** of the comprehensive Land Development Application) as contemplated in Section 95(1)(c) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.
- 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 97(1)(f) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.
  - Department of Public Works and Roads
  - Openserve (Telkom SA Limited)

- Eskom
- Dr. Kenneth Kaunda District Municipality (DRKKDM)
- 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 (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)
- Midvaal Water
- Department of Economic Development, Environment, Conservation and Tourism (DEDECT)

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.

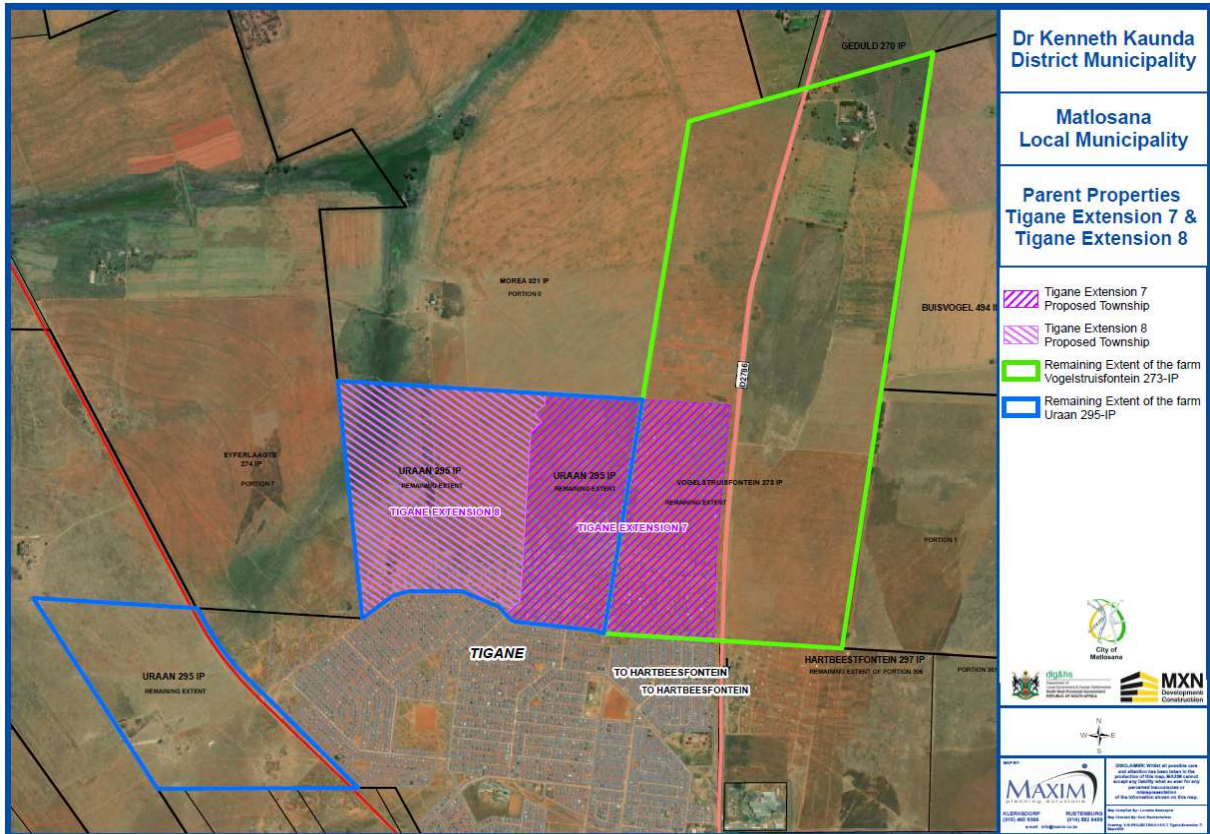
## 1.6 STUDY AREA DELINEATION

The proposed development area comprises a portion of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province and a portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province. The locality of the parent farms is reflected on **Map 2** overleaf.

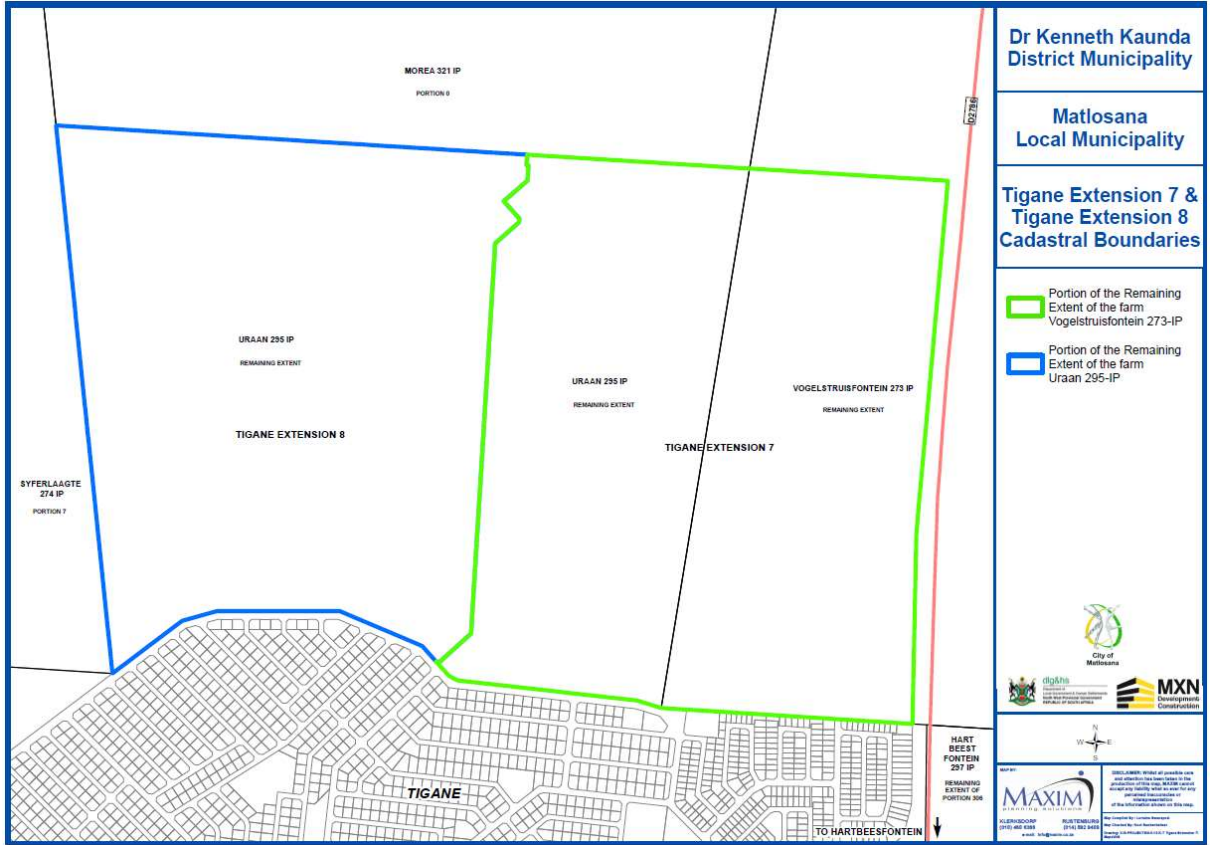
The proposed township area of Tigane Extension 7 will be located on a portion of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province and a portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province as reflected on **Map 3** overleaf.

The proposed township area of Tigane Extension 8 will be located on a portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province as reflected on **Map 3** overleaf.





Map 2: Locality of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province and the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province



Map 3: Locality of the township areas on respective farm portions



## 1.7 REPORT OUTLINE

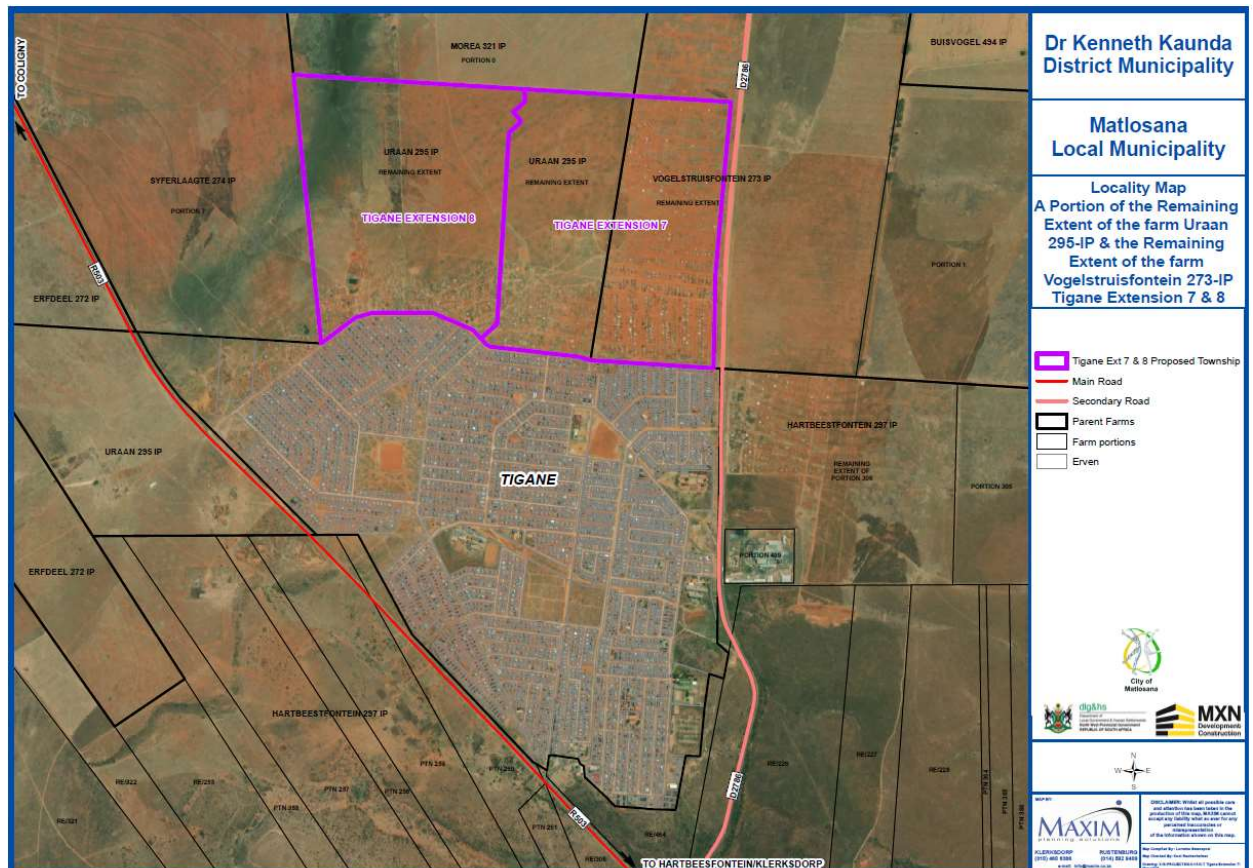
The remainder of the report is structured in terms of the following main headings:

- 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 (directly north) of the existing Tigane Extension 3 and Tigane Extension 6 township areas, generally north of the Tigane urban area and approximately 4 km north of Hartbeesfontein (**Map 4** below).



**Map 4: Locality of the township areas on respective farm portions**

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

The Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province is reflected on diagram A7437/54 together with the deduction sheets attached thereto (attached as **Annexure F1** to the comprehensive Land Development Application).

The Remaining Extent of the Farm Vogelstruisfontein 273, Registration Division I.P., North West Province is reflected on diagram 10544/1893 (attached as **Annexure F2** to the comprehensive Land Development Application).

## 2.3 OWNER

The application site is currently registered as follows:

**Table 7: Ownership details**

Property Description	Registered Owner	Deed of Transfer Number
Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province	City of Matlosana Local Municipality	T82306/2019
Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province	City of Matlosana Local Municipality	T37334/1999

(Refer **Annexures E1 & E2** of the comprehensive Land Development Application for copies of the Windeed Enquiries conducted in respect of the above-mentioned properties as well as **Annexure E3 & E4** for the relevant Deeds of Transfer).

## 2.4 BONDHOLDER

The two (2) properties to which this application applies, are currently not subject to a bond (refer **Annexures E1 & E2** of the comprehensive Land Development Application for Windeed Enquiries that confirm the absence of any bonds as well as **Annexure K** for the Conveyancer Certificate to the same effect).

## 2.5 AREA

As discussed, the application only applies to portions of the parent farms, as detailed below:

Proposed Township	Parent Farm	Area occupied
Tigane Extension 7	Portion of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province	± 45,6561 hectares
	Portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province	44,8417 hectares
Tigane Extension 8	Portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province	±75,6272 hectares

(Refer **Annexure M** and **Annexure N** of the comprehensive Land Development Application for the proposed subdivision and consolidation maps).

## 2.6 **EXISTING LAND USE AND ZONING**

### 2.6.1 **CURRENT LAND USES**

A site visit was conducted by Maxim Planning Solutions on 18 November 2019, where it was found that portions of the application sites have already been occupied informally. From Google Earth imagery it is visible that the properties have been informally occupied since at least 2003, increasing in size over the years.

A sewer pump station for Tigane Extension 6 is located on the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province and has been accommodated accordingly as a municipal property in the proposed layout plan for Tigane Extension 8. In addition, an existing cemetery is also located on the fore-mentioned farm portion. This existing demarcated cemetery site together with space reserved for future expansion thereof has been accommodated accordingly on the layout plan of the proposed township Tigane Extension 7. Cognisance should be taken of the fact that an Environmental Authorisation in respect of the cemetery was issued by the Department Economic Development, Environment, Conservation and Tourism (DEDECT) on 28 September 2012 by virtue of NWP/EIA/121/2010.

A powerline was also noted on the southern boundary of the property, which has been incorporated into the layout plan accordingly. Above mentioned land uses are indicated in the aerial photograph below (**Figure 7**):

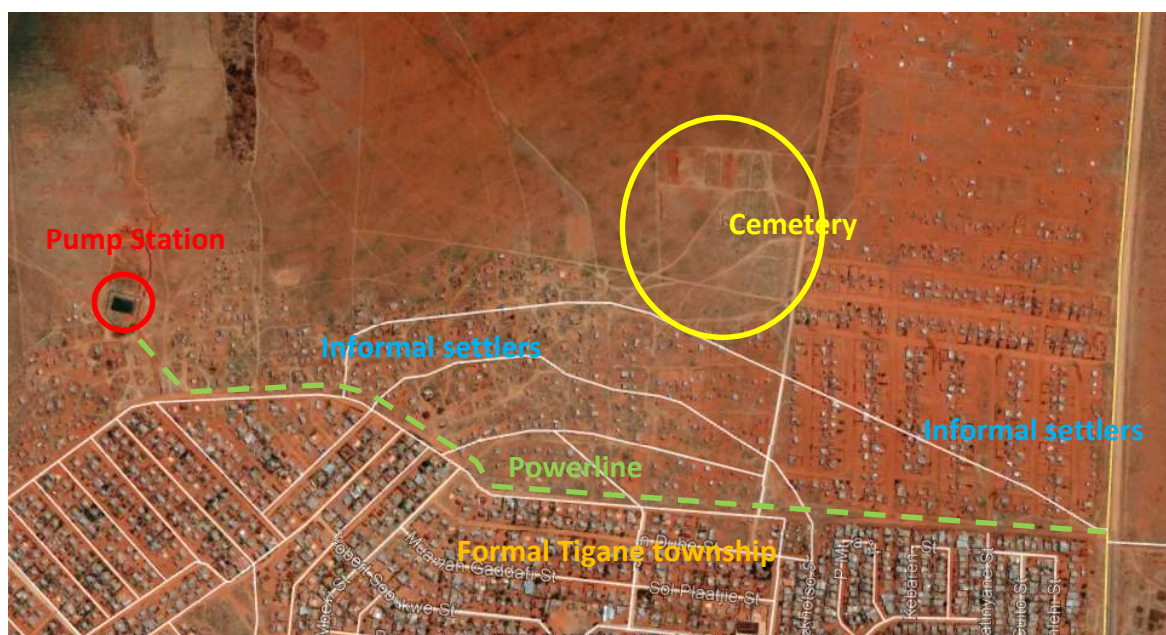


Figure 7: Location of Existing Land Uses



The photographs below were taken during the site visit and indicate the land uses on site.



Photo 1: Existing Pump Station on Site (Tigane X8)



Photo 2: Existing cemetery on site (Tigane X7)



Photo 3: Informal dwellings on site





Photo 4: Informal dwellings on site



Photo 5: Existing powerline

Due to the dire circumstances of the inhabitants of this informal settlement, the City of Matlosana commissioned contractors during May 2020 to commence with the installation of civil engineering services in respect of the proposed township areas of Tigane Extension 7 and 8. The extent of the installation of services as at 08 April 2021 is evident from the Google Earth Image of the development area reflected on **Figure 8** overleaf.

In referencing **Figure 8**, it is also evident that the extent of informal occupation of the development area has increased exponentially since the date of the aerial survey of the development area during October 2019 and comprises a large portion of the eastern and southern part of the development area. The growth in respect of the informal settlement further highlights the urgent need that exists in the Tigane urban area for additional, properly planned and services residential erven.



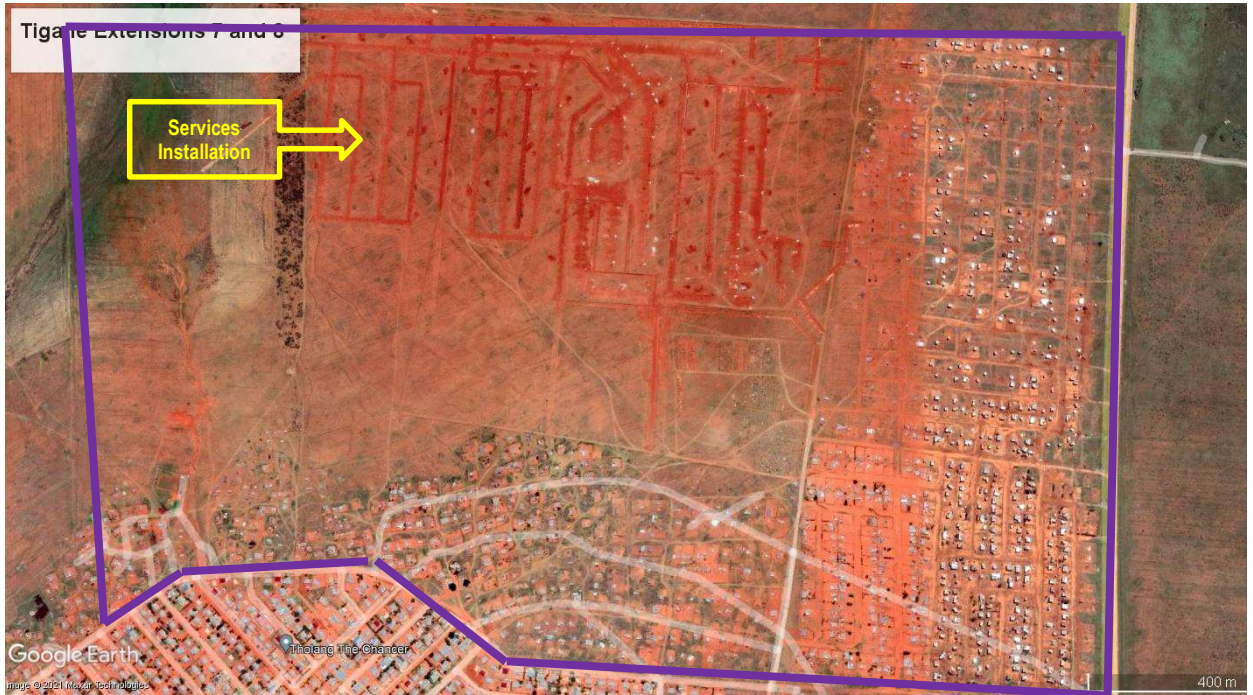
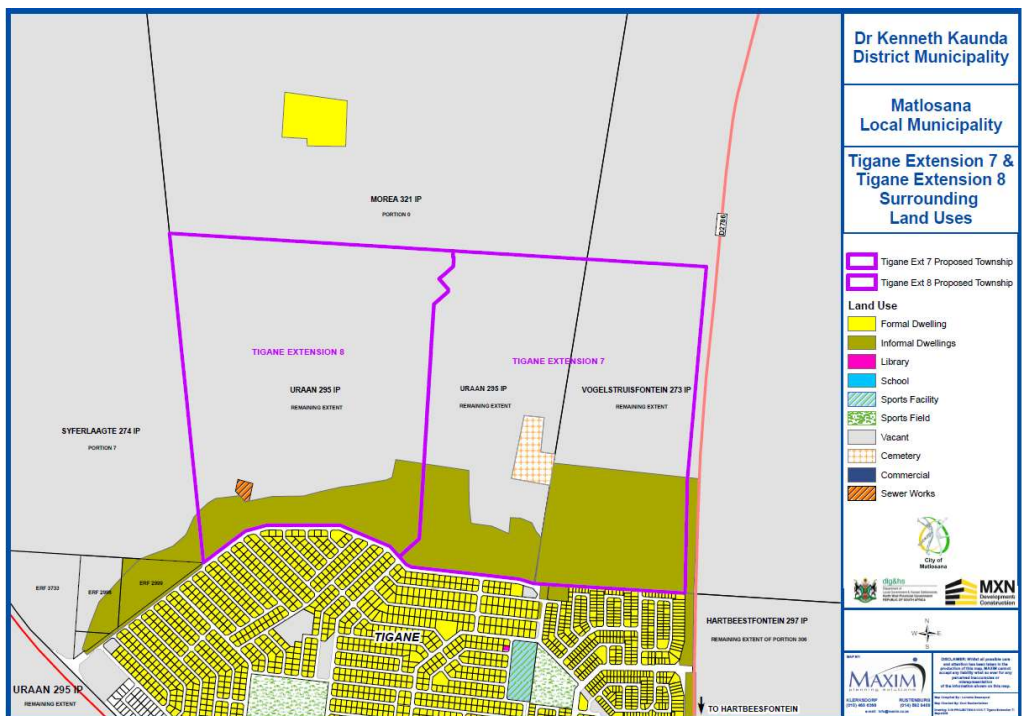


Figure 8: Google Earth Image reflecting extent of services installation (development area outlined in purple)

### 2.6.2 SURROUNDING LAND USES

As indicated in **Map 5** below, the application sites are situated adjacent to the existing Tigane urban area and more specifically the existing proclaimed township areas of Tigane Extension 3 and Tigane Extension 6. The land uses to the south of the application site are therefore primarily residential in nature. Land directly north, west and east of the site is still undeveloped and used for agricultural purposes.



Map 5: Surrounding Land Uses

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

### 2.6.3 CURRENT ZONING

The parent farms to which the land development application applies are currently zoned “Agricultural” in terms of the Klerksdorp Land Use Management Scheme, 2005 (refer to Zoning Certificate attached as **Annexure O** of the comprehensive Land Development Application).

## 2.7 MINERAL RIGHTS

Condition B on page 3 of the Deed of Transfer T37334/1999 relates to the reservation of one half share of the rights to minerals, mineral substances and metals, oil, precious stones and coal in respect of a portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province in favour of Jacob Wilkens by virtue of Certificate of Mineral Rights 741/1944RM dated 28 November 1944.

The reservation of rights to minerals is 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 which stipulates that all unused old order rights will lapse on 01 May 2005 if not exercised and now vest in the State as the custodian of all mineral rights. 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 RESTRICTIVE TITLE CONDITIONS

According to the Conveyancer Certificate compiled by Coetzer & Steyn Attorneys (attached as **Annexure K** to the comprehensive Land Development Application), the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province is subject to the following title condition as contained in Deed of Transfer T37334/1999 (refer **Annexure E3** of the comprehensive Land Development Application):

- **“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 THE SOUTH AFRICAN NATIONAL ROADS AGENCY LIMITED AND NATIONAL ROADS ACT, 7 OF 1998 IN GOVERNMENT GAZETTE No: 41512 DATED 23 MARCH 2018 READ WITH NOTICE No: 263 DECLARED NATIONAL ROAD R503 SECTION 1: KLERKSDORP – COLIGNY**

**AS WILL MORE FULLY APPEAR IN THE APPLICATION FILED UNDER**

**BC000054781 \* 2019**

**DATE: 2019-08-2019”**

This condition relates to the declaration of National Road R503 Section 1: Klerksdorp – Coligny. The locality of National Road R503 Section 1: Klerksdorp – Coligny is known and does not affect the proposed township area due to the location thereof in relation to the proposed township area. This condition has been addressed accordingly in the draft Conditions of Establishment (attached as **Annexure U** to the comprehensive Land Development Application)

In terms of the Conveyancer Certificate (refer **Annexure K** to the comprehensive Land Development Application) and Deed of Transfer T82306/2019, the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province is not subject to any restrictive title conditions.

Based on the fore-mentioned it is evident that there are no title conditions contained in Deeds of Transfer T82306/2019 or T37334/1999 that will prohibit or restrict the development of the proposed township areas of Tigane Extensions 7 and 8 on a portion of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province and a portion of the Remaining Extent of the farm Uraan 295, Registration Division I.P., North West Province.

## **2.9 SERVITUDES**

There are currently no servitudes registered against either of the subject properties.



## CHAPTER 3: PHYSICAL ASPECTS

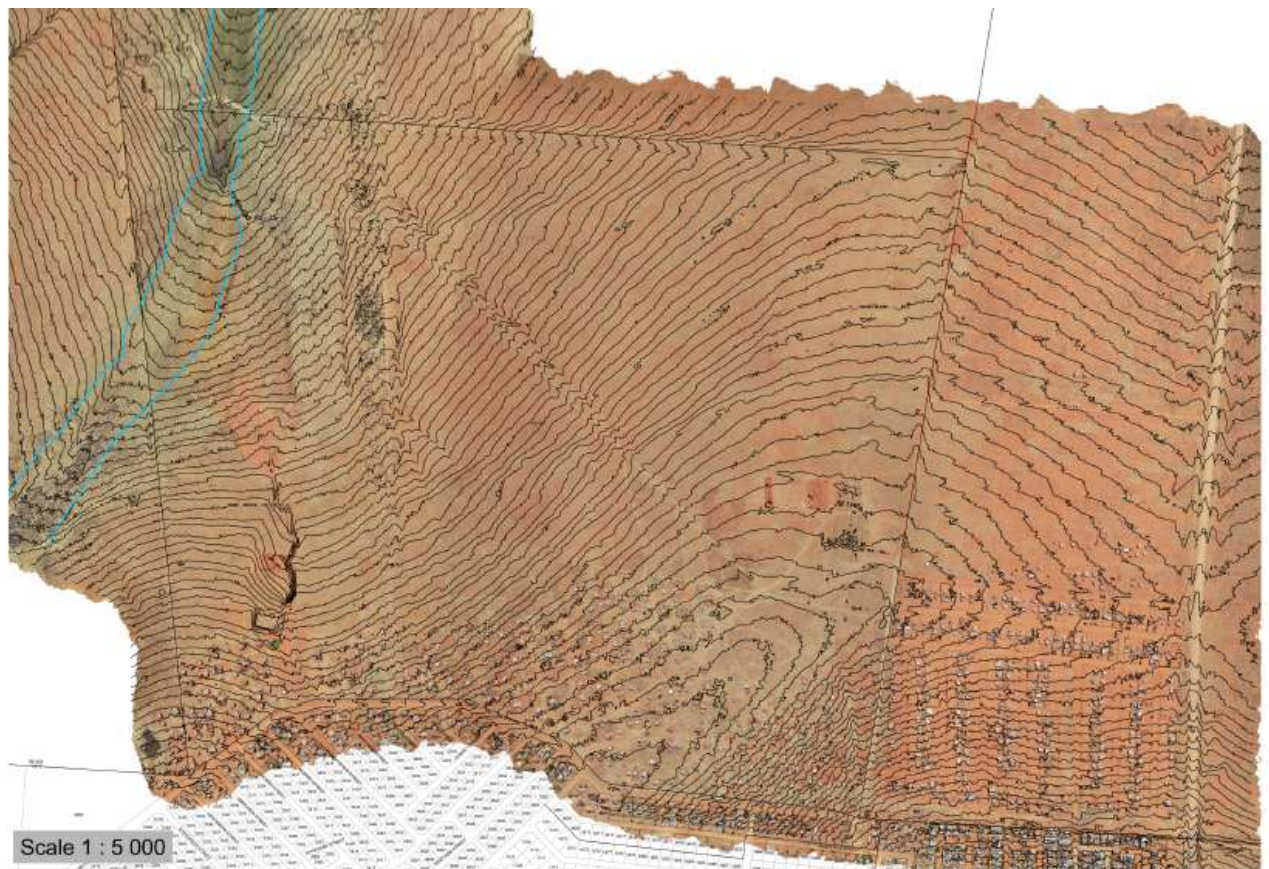
### 3.1 TOPOGRAPHY & DRAINAGE

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

- High resolution aerial photography and the creation of digital aerial photo images (**Map 6 refers**) (refer also to **Annexure G1** of the comprehensive Land Development Application)
- Fieldwork and ground control points
- Line mapping (**Map 6 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 **Map 6**.

**Map 6: Aerial photograph & contour mapping of application site**





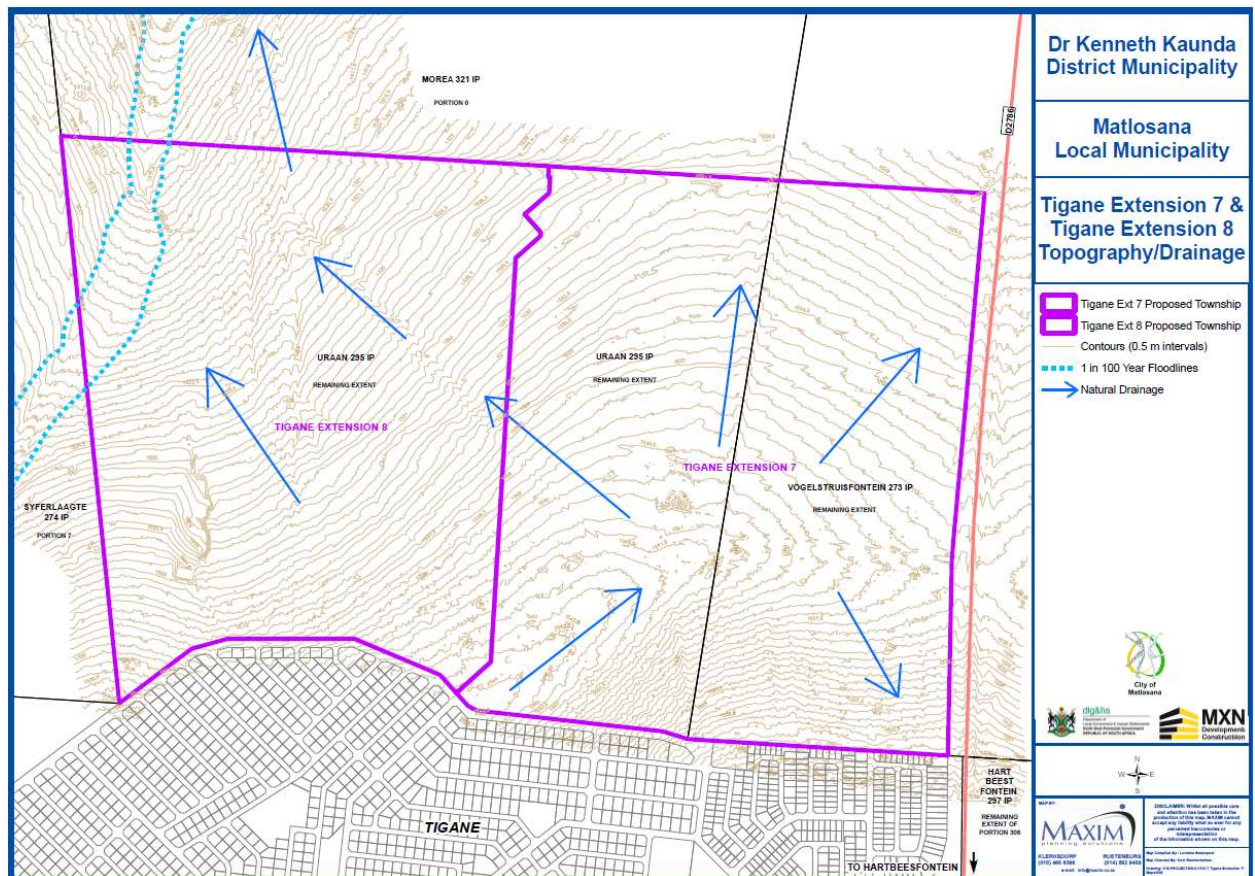
### 3.2 CLIMATE

The region is characterized by summer rainfall with thunderstorms, with annual low rainfall figures of 625 mm (Potchefstroom - Agriculture), 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.

The Weinerts N value for this area is in the order of 2.4, indicating that the chemical decomposition of rocks will be dominant over mechanical disintegration.

### 3.3 FRESHWATER SYSTEM / DRAINAGE

Plate flow is the dominant drainage pattern on the site, and a prominent drainage feature or channel intersects the site towards the northwestern portion. The site is drained in a northerly and north-westerly direction towards the Buisfontein Spruit, and then eastwards towards the Schoon Spruit east of the site, as seen in **Map 7** below:



Map 7: Topography and Drainage

The Geotechnical investigation that was conducted in respect of the development area by Geoset CC (attached as **Annexure S** to the comprehensive Land Development Application) concluded as follows in respect of the drainage of the development area:



The affected area has been incorporated as a Public Open Space (park) erf in the attached layout plan for Tigane Extension 8. No residential development will therefore be affected by the floodline and both layout plans have been certified as such in terms of the relevant legislation.

The complete floodline delineation report is attached to the Comprehensive Land Development Application under **Annexure T**.

### **3.5 WETLANDS AND PANS**

A Wetland Assessment was conducted by Reinier F Terblanche and is attached as **Annexure P4** to 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”*.

The proposed development area is part of the Upper Vaal Water Management Area (WMA 9). The site is not part of a Freshwater Ecosystem Priority Area (FEPA) or wetland cluster.

The study found **no wetlands** that could be classified as Floodplain Wetlands, Channeled Valley-bottom Wetlands, Unchanneled Valley-bottom Wetlands, Depressions (Pans), Seeps or Wetland Flats on site. A small non-perennial streambed, with its active channel and riparian zone, is present at the north-western parts of the site. A small artificial waterbody which is an in-channel dam (with a broken groundwall) is present in this tributary at the north-western parts of the site.



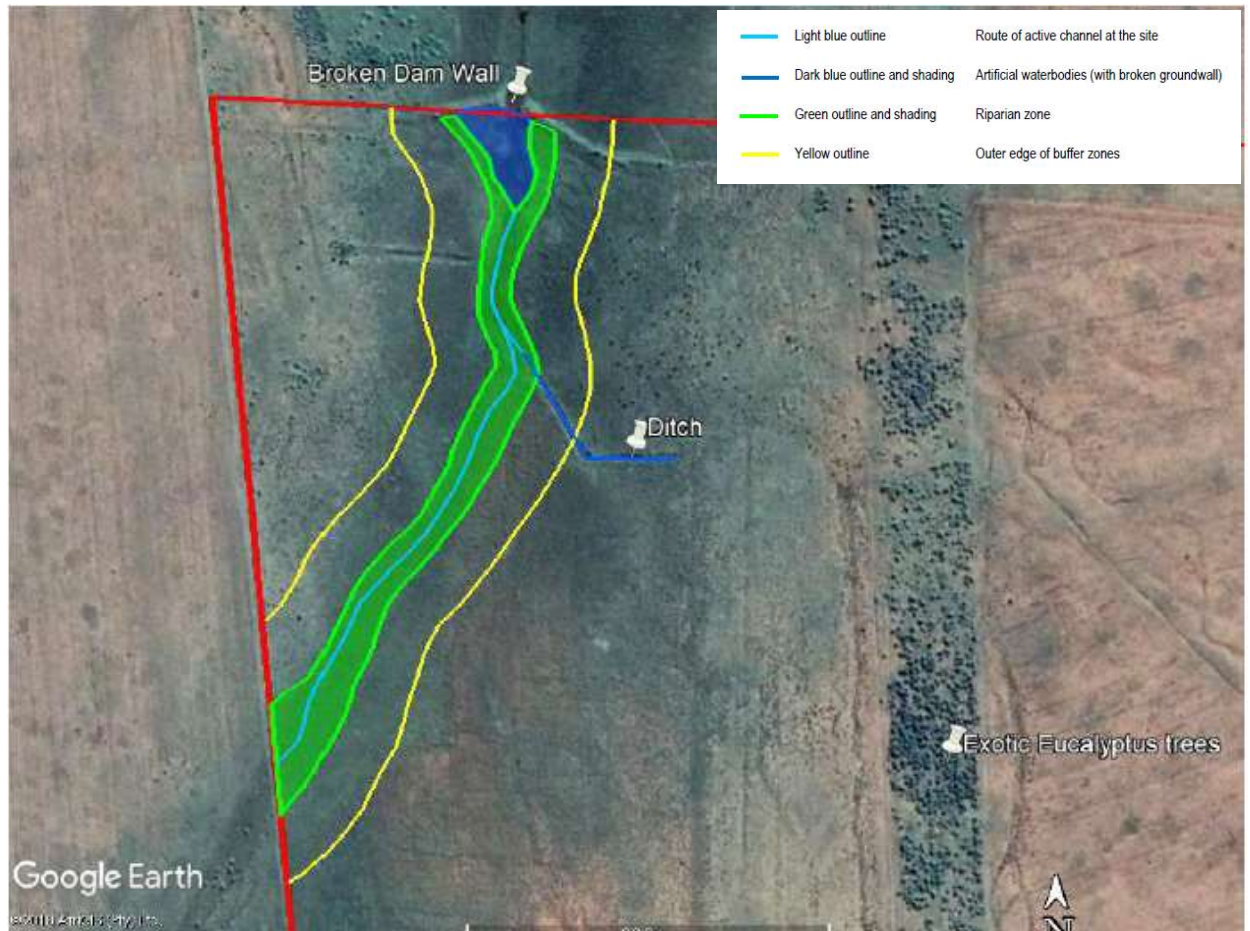


Figure 9: Findings of wetland assessment

No Threatened or Near Threatened plant or animal species appear to be resident at the site. No other plant or animal species of particular conservation concern appear to be present at the site. There is little scope for most of the site to be part of a corridor of particular conservation importance. Non-perennial river at the north-western part of the site is a corridor of particular conservation concern.



Photo 6: Erosion present on site



**Extensive erosion is present at some parts of the site probably owing to stormwater from residential areas further up as well as exposure of soil owing to clearings and ecological disturbances. If the development is approved an opportunity presents itself to address these concerns.**

### **3.6 VEGETATION**

The area is typically characterized by sourish mixed bushveld *veld type* (Acocks, 1988). The site itself is covered by sparse grasslands of which some was used as agricultural land, and few indigenous thorn trees are present on site within the stands. None of the Threatened and Near Threatened plant species are likely to occur on the site. No other plant species of particular conservation concern is likely to occur at the site. Protected tree species appear to be absent at the 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 (refer **Annexure P3** to 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 low. The immediate surroundings outside the bufferzone of the riparian zone is considered to be of medium ecological sensitivity. Ecological sensitivity at the non-perennial active channel, in-channel dam and riparian zone is medium-high owing to its importance as a conservation corridor in the larger area. This area has been included in its entirety in the open space system of the proposed township area of Tigane Extension 8.



Map 9: Ecological Sensitivity

### 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. Most of the site contains hitherto cultivated fields. Informal settlements have transformed vegetation in some areas. Some areas have been cleared, exposing soil. Free roaming goats and cattle likely cause overgrazing. Old plantation with relatively short alien invasive *Eucalyptus camaldulensis* is also present at the site. Overall, the site is characterized by a **highly modified or transformed grassland where the soil is exposed in many areas**.
- *Seriphium plumosum* (Bankrupt Bush) is noticeable at some areas. Very few indigenous trees remain at the site which include *Vachellia karroo* (Sweet Thorn) and *Ziziphus mucronata* (Buffalo Thorn). The indigenous shrub *Protasparagus laricinus* (Wild Asparagus) is found at disturbed places at the site. Indigenous pioneer grass species remain at the site. Some diversity of indigenous herbaceous plant species and a few dwarf shrub species are still present at the site. Alien invasive weeds are conspicuous at disturbed and hitherto cleared areas at the site.
- No wetlands or rocky ridges appear to be present at the footprint proposed for the development. A small non-perennial streambed, with its active channel and riparian zone, is present at the north-western part of the site. A small artificial waterbody which is an in-channel dam (with a broken groundwall) is present in this tributary at the northwestern parts of the site.



Photo 7: Broken groundwall of small in-channel dam at the site.

- Wet areas at the active channel and small dam contains exotic plant species such as the grass *Paspalum dilatatum*, the herb *Oxalis corniculata*. Indigenous plant species such as *Stachys spathulata* and *Helichrysum aureonitens* occur near or at the watercourses at the site. *Persicaria* species (Knotweeds) occur at the permanent zone of the small artificial waterbody (small dam). Terrestrial plant species appear to encroach at the watercourse. Megagraminoids (large grasses such as reeds) are absent.
- Grassland at the site is represented by the Vaal-Vet Sandy Grassland vegetation type (Gh 10) which is listed as a Threatened Ecosystem, Endangered, 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 is currently considerably degraded.** The scope for the restoration and conservation of natural grassland at the site is small.
- **No Threatened or Near Threatened plant or animal species appear to be resident at the site. No other plant or animal species of particular conservation concern appear to be present at the site.**
- There is little scope for most of the site to be part of a corridor of particular conservation importance, excluding the watercourse at the northwestern part of the site.
- **Non-perennial river at the north-western part of the site is a corridor of particular conservation concern.**
- Site is part of the Upper Vaal Water Management Area (WMA 9). 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 low.** The immediate surroundings outside the buffer zone of the riparian zone are considered to be of medium ecological sensitivity. Ecological sensitivity at the non-perennial active channel, in-channel dam and riparian zone is medium-high owing to its importance as a conservation corridor in the larger area.
- Continued monitoring and eradication of alien invasive plant species are imperative. It is in particular declared alien invasive species such as *Melia azedarach* (*Syringa*)

and alien invasive Australian Acacia species (Australian wattles) that should not be allowed to establish.

- Extensive erosion is present at some parts of the site probably owing to stormwater from residential areas further up as well as exposure of soil owing to clearings and ecological disturbances. If the development is approved an opportunity presents itself to address these concerns.

### 3.8 **GROUNDWATER**

The permanent or perched water table on site is deeper than 1,5m below ground surface. Slow percolation of water within the clay is expected.

The Geotechnical investigation that was conducted in respect of the development area by Geoset CC (attached as **Annexure S** to the comprehensive Land Development Application) concluded as follows in respect of the groundwater conditions expected within the development area:

- Seepage and the presence of perennial fluctuations of ground water were encountered on site, proving that a seasonal perched water table may exist. A ferruginised profile or ferricrete indicates that some perennial water level fluctuations may occur.
- Ground water in the form of seepage was not intersected in any test pit during the investigation, but normal water tightening techniques such as damp course on foundation levels are required.
- The expected high permeability of the sand will increase the possibility that leachate from sanitation systems to reach the ground water along the quartzite bedrock, and a closed water borne sewage system is recommended as the high percolation rate through this material may result in leachate reaching and polluting water systems.
- There is also a good possibility that unstable side walls of pits may cave in.
- The depth of excavation also restricts the use of open pit latrines on the site in certain areas.

As alluded to in section 2.6.1 supra, the City of Matlosana during May 2020 authorized that the installation of civil engineering services commences to alleviate the plight of the households living in squalid conditions in informal settlement areas within the Tigane urban complex and specifically those also occupying the development area. During the course of the installation of services, the appointed contractor and resident civil engineering consultant informed us that they encountered groundwater within some of the services trenches that were excavated for the installation of services in close proximity to the unnamed non-perennial stream. A site meeting was convened and a detail site inspection was conducted during May 2021 to inspect the water ingress into the services



trenches. It was concluded that the water encountered in the services trenches was from a raised water table resulting primarily from a very wet Summer rainfall season.

The resident engineer and contractor furnished us with a map delineating the area where the ingress of groundwater was encountered and based on this delineation, the residential- and non-residential erven initially provided in this area were removed from the layout plan to avoid wet foundation conditions and rising damp that could negatively influence housing structures. The erven identified for removal from the initial layout plan as a precautionary measure are reflected on **Map 10**.



Map 10: Erven identified for removal from layout plan due to water seepage into services trenches

The amendments effected to the layout plan as a result of the seepage encountered in the services trenches resulted in the reduction in the number of residential erven provided in the proposed township area of Tigane Extension 8 by 101 from 1494 erven to 1393 erven.

### 3.9 GEOLOGY

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

### 3.9.1 LOCAL GEOLOGY

The area is underlain by quartzite, conglomerate & greywacke, of the Bothaville Formation, Platberg Group of the Ventersdorp Supergroup. Surficial deposits on site include quaternary ferricrete and hillwash, covering the lithology. 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:**

Table 8: Geotechnical zonation

<b>Modified Normal to Special Development</b>	<b>Site Class C2/2A:</b>	Hillwash comprising orange to dark reddish brown silty clayey sand sometimes with fine gravel represents a medium to highly collapsible soil, with thickness in excess of 0,75m, and an expected range of up to 15mm of total soil movement measured at surface, form this zone on site. Foundations will therefore require modified normal foundation techniques such as lightly reinforced strip footings or reinforced boxed steel in slightly widened strip foundations, the use of split construction techniques or articulation joints at all internal and external doors and openings with light reinforcement (brickforce) in masonry, or soil replacement by an engineered fill soil raft with a COLTO classification of G5 or better, by removing all or part of the expansive horizon to 1,0m beyond the perimeter of the structure and replacing with inert backfill, compacted to 93%MOD ASSHTO density at or near optimum moisture content, where after normal strip footing foundations can be used. Site drainage, a concrete apron of 1,0m around all structures and plumbing and service precautions are advised. It is classified as C2 in terms of the NHBRC guidelines (1995) or the SAICE Code of practice (1995) and 2A after the classification for urban development (Partridge, Wood & Brink).
<b>Suitable for development with precaution</b>	<b>Site Class PR</b>	Quartzite rock outcrop and sub-outcrop will restrict excavatability required during service installation as well as foundation excavations. Blasting or difficult excavation operations will dramatically increase the development cost in this zone.
	<b>Site Class PQ</b>	Areas where small quarries or filling or dumping of spoil were identified must be rehabilitated before any construction can be allowed, and backfilling with an engineer's material with a COLTO classification of G5 or better may improve the developability of these zones, but these operations will dramatically increase the development cost in this zone.
	<b>Site Class PM</b>	Areas adjacent to the drainage features are subject to perennial wetness where seasonal marshy conditions may be encountered with a perched water table (PM). The installation of a proper drainage system will be required to minimize the influence on development.
<b>Undevelopable</b>	<b>Site Class PD:</b>	Perennial drainage features where the 1:100 year flood line (PD) will determine or specify the allowable distance of development from rivers, usually at least 32m from the center of the river.

The geotechnical soil zones listed above are illustrated on **Map 11** overleaf:







### 3.9.2 CONCLUSIONS

- Some problems are foreseen regarding the excavatability to 1,5m depth on portions of the site.
- Special care must be taken to ensure adequate surface drainage to prevent the accumulation of water next to structures. A concrete apron of at least 1,0m around structures are prescribed, and we recommend no gardening around structures to keep the moisture content as stable as possible.
- Zoning of the site revealed zones with constraints regarding the **compressibility, as well as the expansive properties** of the soil, and **shallow rock and core stones** may hamper the placement of services.
- **Special construction techniques** must be used to enable proper development including the use of **compaction techniques** with steel reinforcement or soil rafts and even piled foundations or stiffened or cellular rafts as described.
- 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 CC was appointed by the City of Matlosana Local Municipality to apply for the Legalization of the unlawful commencement of the clearance of 174 ha of indigenous vegetation, located within a critical biodiversity area (CBA 2) and within 30 meters of a non-perennial stream and the construction of a bridge over the watercourse, in order to establish a Township located on a portion of the Remaining Extent of the farm Uraan No. 295-IP and a portion of the Remaining Extent of the farm Vogelstruisfontein No 273-IP, City of Matlosana Local Municipality, North West Province.

AB Enviro-Consult CC was initially appointed during August 2019 to submit an application for Environmental Authorization for the proposed township establishment on a portion of the Remaining Extent of the farm Uraan No. 295-IP and a portion of the Remaining Extent of the farm Vogelstruisfontein No 273-IP, City of Matlosana Local Municipality, North West Province. Initial site inspections and specialist studies were conducted and results from these site inspections and studies were provided to Maxim Planning Solutions (Pty) Ltd to incorporate these findings into the final layout plan.

Once all of the relevant information was available, an application for Environmental Authorization was submitted to the Department Economic Development, Environment, Conservation and Tourism (DEDECT) on 23 September 2020 and was accepted on 13 October 2020. Once the acceptance letter was received, a full Public Participation Process was commissioned (dated 16 October 2020). This process included the submission of a Draft Scoping Report to DEDECT (received by the Department on 20

October 2020) and a site inspection undertaken by the Departmental Official Ms. Thembekile Makuwa and Ms. Hannie du Plooy of AB Enviro-Consult CC on 03 November 2020.

To alleviate the plight of the inhabitants of the informal settlement located on the proposed development area as well as within other areas within the Tigane urban complex, the City of Matlosana during May 2020 authorised that the installation of civil engineering services in the township areas of Tigane Extension 7 and Tigane Extension 8 should commence. This process commenced with the installation of water pipelines.

As integral part of the Environmental Impact Assessment process, the Departmental officer from the Department Economic Development, Environment, Conservation and Tourism (DEDECT) assigned to the Environmental Impact Assessment process conducted a mandatory site inspection during which the construction activities taking place on the development area were noted.

Upon consultation with DEDECT, it was confirmed that this constitutes the commencement of the listed activities as was applied for and as such, the unauthorised installing of Municipal services in the form of water pipelines are viewed as commencement of the listed activities and therefore, this triggered the necessity for a Section 24G of the National Environmental Management Act, 1998 (Act 107 of 1998) as amended, application. This was confirmed in a letter from DEDECT dated 26 November 2020.

The prescribed Section 24G Rectification Application has already been lodged with the Department Economic Development, Environment, Conservation and Tourism (DEDECT) (Reference: REC04/2020NW) and the City of Matlosana was issued with an administrative fine on 19 April 2021. The City of Matlosana has subsequently lodged an appeal to the Department Economic Development, Environment, Conservation and Tourism (DEDECT) for a reduction in the imposed administrative fine and this matter is currently still under consideration.

Following payment of the anticipated reduced administrative fine, the Department Economic Development, Environment, Conservation and Tourism (DEDECT) will continue with the further processes to authorise the project in terms of the National Environmental Management Act, 1998 (Act 107 of 1998).

The Environmental Assessment Practitioner (EAP) concluded as follows in the Section 24G Rectification Application in respect of the proposed development of the township areas of Tigane Extensions 7 and 8:

- ***As no significant impacts that cannot be mitigated were identified, AB Enviro-Consult CC 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 authorisation. 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 final Section 24G Rectification Application that was submitted to the Department Economic Development, Environment, Conservation and Tourism (DEDECT) is attached to the comprehensive Land Development Application as **Annexure P1**. The Environmental Authorisation from the Department will be forwarded to the City of Matlosana upon receipt thereof.

### **3.11 CULTURAL HERITAGE AREAS**

A Pelsers 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.

In terms of the Heritage Resources Impact Assessment, the topography of the study area is generally flat and open, with no rocky outcrops or ridges occurring. Although in some sections the grass cover was fairly dense there is very little tree cover and visibility was in general good. The study area itself has been utilized in the past for agricultural purposes while informal residential settlement has already encroached onto sections of the study area. The area around and bordering the proposed development consist of existing Township/Residential Settlements and as a result the original character of the area has been extensively altered in recent years. If any cultural heritage (archaeological and/or historical) sites, features or material did exist here in the past it would have been disturbed or even destroyed as a result.

No sites, features or material of cultural heritage (archaeological and/or historical) nature, origin or significance was identified and recorded in the study area during the field assessment. The area has been heavily impacted and disturbed in the recent past by agricultural and current ongoing residential and related activities. If any did exist here in the past it would have been disturbed or destroyed as a result. Informal housing has already encroached onto sections of the study area as well.





Photo 8: Photo of application site

The only site of Cultural Heritage Significance found in the area is a large formal cemetery. The proposed development should incorporate this cemetery in its planning and management and any negative impacts on it should be avoided at all costs.

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 Township Establishment should therefore be allowed to continue”***.

### **3.12 DESKTOP PALAEOLOGICAL IMPACT ASSESSMENT**

In response to the comments received from and requirements of the South African Heritage Resources Agency (SAHRA) in respect of the proposed township areas of Tigane Extensions 7 and 8 (received as part of the Environmental Impact Assessment process), a desktop Palaeontological Impact Assessment was compiled by Prof. Bruce Rubidge of the Evolutionary Studies Institute at the University of the Witwatersrand (attached as **Annexure P5** to the comprehensive Land Development Application). The study concluded that:

- *The application sites are underlain by Precambrian aged rocks of the Ventersdorp Supergroup. As such, it is extremely unlikely that fossils will be exposed as a result of the development.*
- ***From a palaeontological perspective, the proposed township development should proceed** but, if fossils are uncovered in superficial soil deposits in the course of construction activities, the developer must immediately call in a qualified palaeontologist to assess the situation and, if necessary, undertake excavation of the fossils.*

## CHAPTER 4: PROPOSED DEVELOPMENT

### 4.1 LAND USES

The intention of the township applicant is to utilize the concerned properties to formalise the existing residential uses on site and to extend these by means of a Greenfield development. The project is aimed at creating a viable residential township that can partially address the housing backlog faced in the City of Matlosana through the anticipated provision of subsidised 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. 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 can be seen in **Map 13** below the two townships are well integrated with one another as well as with the existing Tigane urban area to the south. Sufficient provision is made for linkages with the existing Tigane neighbourhood and between the proposed Extension 7 and Extension 8. The individual layout plans are indicated on Maps 14 and 15 overleaf.

**Map 13: Conceptual layout - Tigane Extensions 7 and 8**

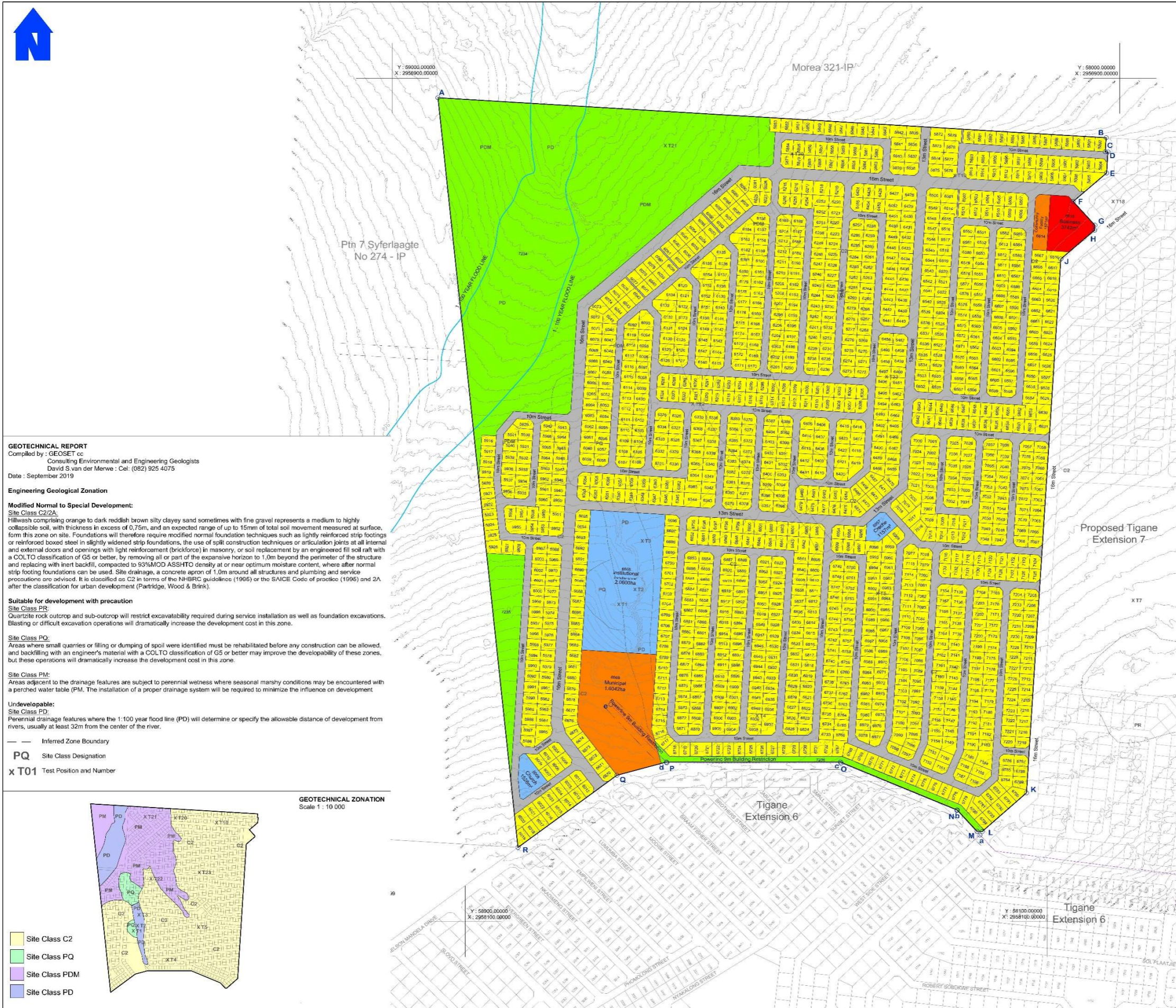








Map 15: Tigane Extension 7 Conceptual Layout Plan



**GEOTECHNICAL REPORT**  
 Compiled by: GEOSSET cc  
 Consulting Environmental and Engineering Geologists  
 David S van der Merwe : Cel: (082) 925 4075  
 Date : September 2019

**Engineering Geological Zonation**  
 Modified Normal to Special Development:  
 Site Class C2/2A

Hillwash comprising orange to dark reddish brown silty clayey sand sometimes with fine gravel represents a medium to highly collapsible soil, with thickness in excess of 0,75m, and an expected range of up to 15mm of total soil movement measured at surface, form this zone on site. Foundations will therefore require modified normal foundation techniques such as lightly reinforced strip footings or reinforced boxed steel in slightly widened strip foundations, the use of split construction techniques or articulation joints at all internal and external doors and openings with light reinforcement (brickforce) in masonry, or soil replacement by an engineered fill soil raft with a COLTO classification of G5 or better, by removing all or part of the expansive horizon to 1,0m beyond the perimeter of the structure and replacing with inert backfill, compacted to 93%MOD ASSHTO density at or near optimum moisture content, where after normal strip footing foundations can be used. Site drainage, a concrete apron of 1,0m around all structures and plumbing and service precautions are advised. It is classified as C2 in terms of the NHBRG guidelines (1995) and 2A after the classification for urban development (Partridge, Wood & Brink).

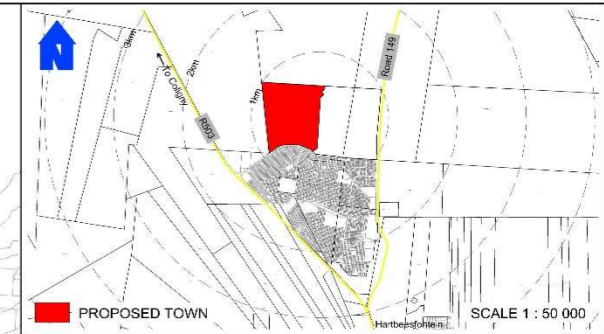
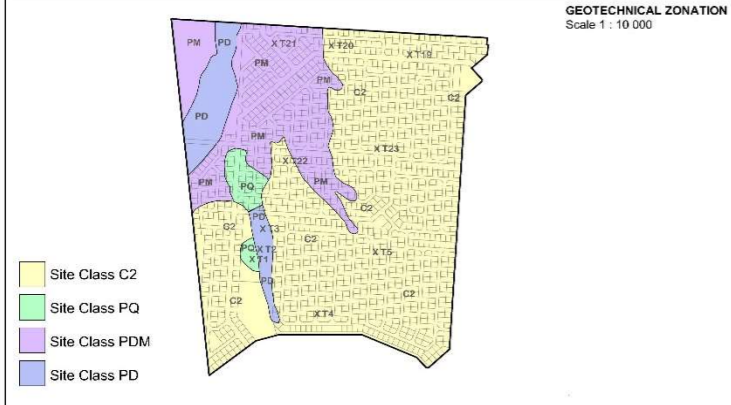
**Suitable for development with precaution**  
 Site Class PQ  
 Quartzite rock outcrop and sub-outcrop will restrict excavatability required during service installation as well as foundation excavations. Blasting or difficult excavation operations will dramatically increase the development cost in this zone.

**Site Class PD**  
 Areas where small quarries or filling or dumping of spoil were identified must be rehabilitated before any construction can be allowed, and backfilling with an engineer's material with a COLTO classification of G5 or better may improve the developability of these zones, but these operations will dramatically increase the development cost in this zone.

**Site Class PM**  
 Areas adjacent to the drainage features are subject to perennial wetness where seasonal marshy conditions may be encountered with a perched water table (PM). The installation of a proper drainage system will be required to minimize the influence on development

**Undevelopable:**  
 Site Class PD  
 Perennial drainage features where the 1:100 year flood line (PD) will determine or specify the allowable distance of development from rivers, usually at least 32m from the center of the river.

— Inferred Zone Boundary  
 PQ Site Class Designation  
 x T01 Test Position and Number



**LEGEND**

Proposed Zoning	Proposed Land use	Number of Erven	Erf Number	Area in Ha	% of Area
Residential 1	Residential house	1393	5835-6067; 6009-6613; 6616-6667; 6670-6956; 6958-7233	43.5001ha	57.53%
Business 1	Shop	1	6615	0.3742ha	0.49%
Institutional	Creche	1	6956	0.1157ha	0.15%
	Church	1	6008	0.1528ha	0.20%
Institutional (including shops)	Institutional & shops	1	6668	2.0600ha	2.72%
Municipal	Community Facility	1	6614	0.1570ha	0.20%
	Municipal	1	6669	1.6041ha	2.12%
Public Open Space	Park	3	7234-7236	13.0242ha	17.23%
Public Roads	Street			14.6391ha	19.36%
<b>TOTAL</b>		<b>1403</b>	<b>5835-7236</b>	<b>75.6272ha</b>	<b>100%</b>

**STREETS**

Reserve Width	Length in Metre	% of Street Length
10m	11 131m	81.95%
13m	990m	7.28%
16m	1 463m	10.77%
<b>TOTAL</b>	<b>13 584m</b>	<b>100%</b>

**NOTES:**  
 The figure A-B-C-D-E-F-G-H-J-K-L-M-N-O-P-Q-R-A represents the proposed town Tigane Extension 8.  
 9m Building Restriction on both sides of the line(s) lettered a-b-c-d-e as indicated on the layout plan.

Powerline

Average Residential Erven Size : 313m<sup>2</sup>  
 Erf sizes and dimensions subject to final survey.

**STREETS:**  
 Maximum slope 1 : 18  
 Minimum slope 1 : 130

**DESIGN OF TOWN LAYOUT**  
 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).

Maxim Planning Solutions (Pty) Ltd  
 K. Raubenheimer Pr. Pin A/924/1996  
 Tel. (018) 466 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:  
 UAV Industries  
 PO Box 125  
 CapeTown International Airport  
 7525  
 Date of Photography : 30 September 2019  
 System : WGS84 Central Meridian : Lo27

**PROPOSED TOWNSHIP TIGANE EXTENSION 8**

0m 25m 50m 75m 100m 150m 200m 250m  
 1cm = 25m

SCALE 1 : 2 500

THE PROPOSED TOWN IS SITUATED ON A PORTION OF THE REMAINING EXTENT OF THE FARM URAAN NO. 295 - IP.

CITY OF MATLOSANA NORTH WEST PROVINCE

Drawing Compiled by: C.Cloete  
 Drawings Nr.: 8/5/16/K/T  
 Date: 2021-05-25  
 Revision:

Caddie File : \\SERVER1\Maxim\8-PROJECTS\8-5-16-K-T Tigane Extension 8\Map\CAD

Tel (018) 466-6366  
 Fax (018) 466-6378  
 kcoot@maxim.co.za

ACCREDITED TOWN AND REGIONAL PLANNERS



The layout plans of the proposed township areas of Tigane Extensions 7 and 8 make provision for the following erven/land uses:

**Table 9: Proposed zonings and land uses - Tigane Extension 7**

Proposed Zoning	Proposed Land use	Number of Erven	Erf Number	Area in Ha	% of Area
Residential 1	Residential house (Minimum 300m <sup>2</sup> )	1584	4235-4340; 4342-4437; 4439-4669; 4671-4672; 4671-4709; 4711-4807; 4809-4923; 4925-5245; 4247-5292; 5294-5305; 5307-5789; 5791-5828	51.5731ha	56.99%
Business 1	Shop	3	4924; 5246; 5293	0.4452ha	0.49%
Institutional	Creche	2	4673; 5306	0.3025ha	0.33%
	Church	2	4341; 4438	0.3073ha	0.34%
	Primary School	1	4670	3.0775ha	3.40%
Municipal	Community Facility	1	5790	0.1614ha	0.18%
	Cemetery	1	4710	11.0775ha	12.24%
Public Open Space	Park	6	5829-5834	3.3415ha	3.69%
Public Roads	Street			20.2118ha	22.34%
<b>TOTAL</b>		1600	4235-4807; 4809-5834	90.4978ha	100%

**Table 10: Proposed zonings and land uses - Tigane Extension 8**

Proposed Zoning	Proposed Land use	Number of Erven	Erf Number	Area in Ha	% of Area
Residential 1	Residential house	1393	5835-6007; 6009-6613; 6616-6667; 6670-6956; 6958-7233	43.5001ha	57.53%
Business 1	Shop	1	6615	0.3742ha	0.49%
Institutional	Creche	1	6956	0.1157ha	0.15%
	Church	1	6008	0.1528ha	0.20%
Institutional (Including shops)	Institutional & shops	1	6668	2.0600ha	2.72%
Municipal	Community Facility	1	6614	0.1570ha	0.20%
	Municipal	1	6669	1.6041ha	2.12%
Public Open Space	Park	3	7234-7236	13.0242ha	17.23%
Public Roads	Street			14.6391ha	19.36%
<b>TOTAL</b>		1403	5835-7236	75.6272ha	100%

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 a combined 2977 “Residential 1” erven on average between 313m<sup>2</sup> and 325m<sup>2</sup>. 1584 “Residential 1” erven are proposed for Tigane Extension 7 and 1393 “Residential 1” erven are proposed for Tigane Extension 8. 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:

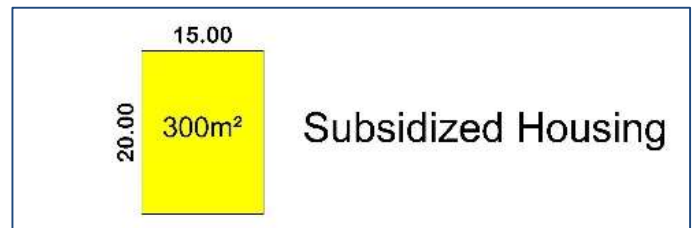


Figure 10: Residential stand sizes

##### ❖ **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.

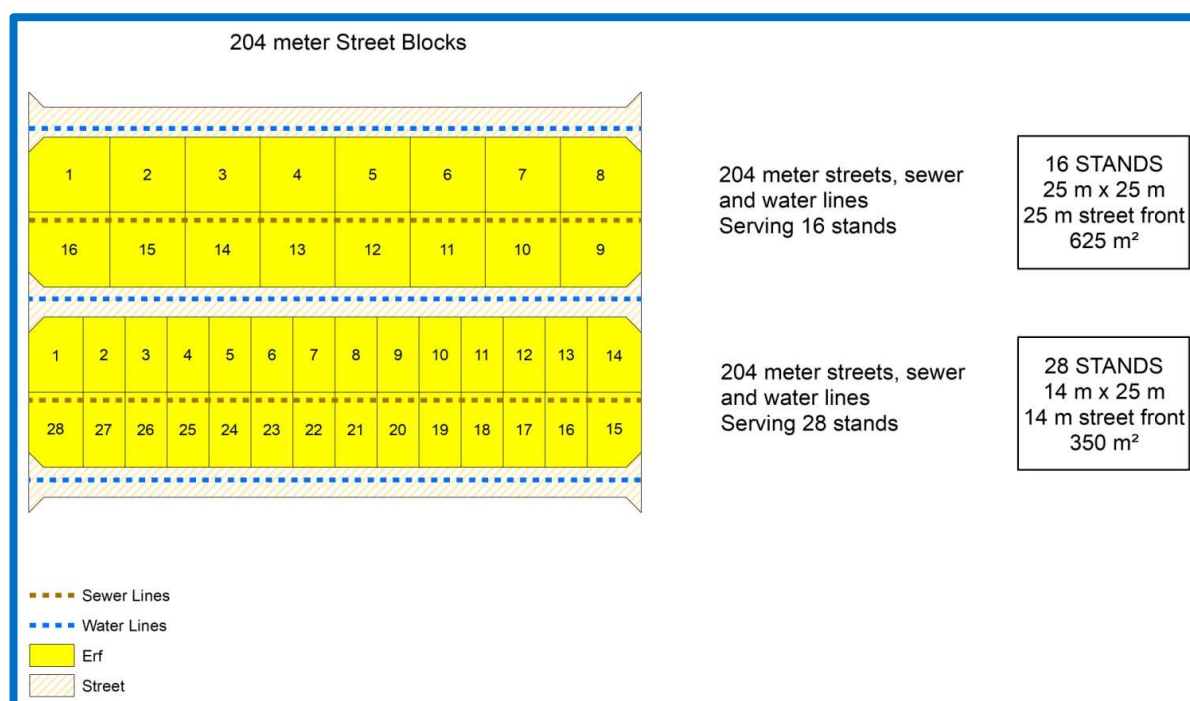
The proposed 2977 erven will be aimed at subsidised housing provision to address the housing backlog of the City of Matlosana Local Municipality. The creation of more dense settlements without raising the cost of land and housing for the poor is one of the operational principles in the National Development 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 11: 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 11: 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	R4140.11	R7210.41	R23570.60	R4153.81	R0.00	R 3904.94
	294	10m	R4471.07	R7795.38	R26516.53	R5019.15	R0.00	R 43802.13
	122	5m	R2803.64	R4869.48	R11784.77	R2076.38	R0.00	R 21534.27
	236	10m	R4471.07	R7795.38	R26516.53	R4027.33	R0.00	R 42810.32

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 12** below.

**Table 12: Cost comparison between larger and smaller stands**

Street Front	Water	Sewer	Roads	Total
<b>25 metre</b>	R 11 177-00	R 27 283-00	R 66 291-00	R 104 751-00
<b>14 metre</b>	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 12: Schematic presentation of 40m<sup>2</sup> subsidised house on 300m<sup>2</sup> erf**

The proposed “Residential 1” erven will be subject to the following development parameters imposed in terms of the Klerksdorp Land Use Management Scheme, 2005:



**Table 13: "Residential 1" development parameters**

Development parameter	Development Parameter Detail
Primary Use	Dwelling Unit defined as <i>An interconnected suite of rooms which does not include more than one kitchen, designed for occupation and use by a single family or extended family and which may include such outbuildings and servants quarters as are ordinarily incidental thereto.</i> Cultural Heritage Site Protected Areas
Consent Uses	Commune Guesthouse Home Enterprise Informal Structure Place of Instruction Public Worship 2 <sup>nd</sup> Dwelling Unit
Coverage	Height Zone 0: Maximum 50%
Height	Height Zone 0: Maximum 2 storeys
Building lines	Erven ≤ 500m <sup>2</sup> = 3m Erven ≥ 500m <sup>2</sup> = 5m

#### 4.1.2 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 plans make provision for four (4) properties to be zoned for "Business 1" purposes, one (1) in Tigane Extension 8 and three (3) in Tigane Extension 7. All "Business 1" properties are located along 16m wide collector roads to maximise accessibility and visibility. These properties will serve as local business centres to the surrounding neighbourhood. The sites are distributed throughout the layout plans in order to limit walking distances and serve the wider community.

Two (2) of the proposed "Business 1" properties are located adjacent to the proposed access routes to Tigane Extension 7 from District Road 149 running along the eastern boundary of the application site. The location of these sites will greatly improve visibility and accessibility.

In addition, two (2) of the "Business 1" properties are situated across from proposed Municipal erven, to be developed as community facilities. The grouping of these zonings will create local nodes in the community, providing a range of services to the public.

The proposed “Business 1” erven will be subject to the development parameters imposed in terms of the Klerksdorp Land Use Management Scheme, 2005 (Table A).

#### 4.1.3 INSTITUTIONAL

The layout plans of the proposed township areas make provision for eight (8) 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 schools and public 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 14: 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	3
Primary School	1 per 7000 inhabitants	1	1
Place of Worship	1 per 3000 – 6000 inhabitants	2	3

(Based on estimated 2 977 households, 3.9 average household size and total estimated inhabitants of 11 610)

In addition to the erven mentioned above, a large Institutional erf is included in the layout for Tigane Extension 8, which can accommodate various land uses based on the need experienced in future. Provision is also made for the erection of shops on this property to allow of this site to be developed into a higher order service node in future.

The erf earmarked for use as a school was positioned in such a manner to limit walking distance for learners. The other Institutional zoned properties (earmarked for creches and places of worship) are dispersed throughout the layout plan to enhance accessibility by 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 15: "Institutional" development parameters

Development parameter	Development Parameter Detail
Primary Use	<p><b>Place of instruction</b> defined as  <i>A building designed for use as a <b>school</b>, college, technical or academic institution, <b>creche</b>, lecture hall, nursery school, after school care centre, or other educational centre and a hostel in connection therewith and includes a convent or monastery, a library, art gallery and museum.</i></p> <p><b>Public Worship</b> defined as  <i>A building designed for use or used as a church, chapel, oratory, prayer house, mosque, synagogue or other place of public devotion, and includes a building designed to be used as a place of religious institution and / or a building designed for social intercourse and recreation on the same property as and associated with any of the foregoing buildings, and also not more than two dwelling units for occupancy by office bearers connected with public worship and may also with the written consent of the Local Authority include a wall of remembrance subject to such conditions imposed by the Local Authority.</i></p> <p><b>Shop</b> defined as  <i>land used or a building designed or used for the purpose of carrying on retail trade and the necessary accompanying storage and packing and includes any accompanying uses on the same property appurtenant but ancillary to the retail trade being carried on. The following uses are not regarded as appurtenant to a shop: A "Noxious Use", "Drive-in-restaurant", "Place of refreshment", "Drive-thru restaurant", "Internet café", "Liquor Enterprise", "Scrapyard", "Parking garage", "Vehicle workshop" and "Filling station".</i></p>
Consent Uses	As per Table A of Klerksdorp Land Use Management Scheme, 2005
Coverage	Height Zone 0: Maximum 70% Height Zone 1: Maximum 80%
Building lines	5m
Parking	Public Worship: 1 p/b per 6 seats Place of Instruction: 1 p/b per classroom/office



#### 4.1.4 PUBLIC OPEN SPACE

The proposed layouts make provision for nine (9) erven to be zoned as “Public Open Space”: These properties coincide with the areas not suitable for development due to

- Building line restrictions alongside District Road 149, located along the eastern boundary of the proposed township area of Tigane Extension 7;
- The 1:100 year floodline applicable along the unnamed non-perennial stream traversing the north-western corner of the application site; and
- 9m Building line restrictions (on either side) of the existing powerline located along the southern boundary of the application sites.

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

Table 16: "Public Open Space" development parameters

Development parameter	Development Parameter Detail
Primary Use	Public open spaces defined as <i>Land used or intended for use by members of the public as undeveloped land, a park, garden, conservation area, a playground, a square or recreation ground.</i>
Building Lines	5m

#### 4.1.5 MUNICIPAL

Both Tigane Extension 7 and Tigane Extension 8 township areas make provision for two (2) erven respectively to be zoned for “Municipal” purposes. The larger of the two properties, located in Tigane Extension 7, will accommodate the existing cemetery on site, and also makes provision for the future expansion of the existing demarcated cemetery. Similarly, the larger of the two “Municipal” sites in Tigane Extension 8 is provided to accommodate the existing pump station and municipal infrastructure on site.

As previously discussed, the two (2) additional “Municipal” properties to be provided in each of the proposed township areas are both located across from “Business 1” stands. These sites will create local nodes providing a variety of services to the surrounding community. The properties enjoy a high degree of accessibility being located along the 16m residential collector road running through the proposed townships. These two sites are earmarked for the development of community facilities, as per the needs of the residents.

The proposed “Municipal” erf will be subject to the development parameters imposed in terms of the Klerksdorp Land Use Management Scheme, 2005 (Table A).

#### 4.1.6 PUBLIC ROADS

“Street(s) or Road(s)”, defined as follows in the Klerksdorp Land Use Management Scheme, 2005 will provide access to all erven in the proposed township:

*“The area or part of any street, road, bridge, subway, avenue, lane, sanitary lane, thoroughfare or right of way, as shown on the general plan of a township or agricultural holdings or division of land in respect of which the public has acquired a prescription or other right of way”.*

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

#### 4.2 FACTORS INFLUENCING THE LAYOUT PLAN

The layout plans of the proposed township areas were influenced by the following factors:

- ★ The district road that runs along the eastern boundary of the proposed Tigane Extension 7. Adequate provision has been made for a building lines (16m) along the western boundary of this road;
- ★ With regards to the above-mentioned road, the intersection spacing between the two proposed access points were taken into consideration;
- ★ Providing a line of no access along the boundary of the erven bordering onto District Road 149;
- ★ Existing land uses (cemetery and pump station) have been accommodated accordingly on erven zoned for “Municipal” purposes. Provision was made for the future expansion of the existing cemetery;
- ★ 9m building restrictions on either side of the existing powerline along the southern boundary of the application sites have been incorporated as “Public Open Space” erven;
- ★ The 1:100 year floodline present on site (as determined by a certified professional) has been incorporated into the open space system of the proposed township Tigane Extension 8 and was accommodated on an erf zoned as “Public Open Space”;
- ★ Additional erven were provided that serve the socio-economic needs of the community and include educational and institutional facilities, business properties and municipal uses;
- ★ The cumulative impact of the establishment of the proposed Tigane Extension 7 and Tigane Extension 8 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 road linkages to the south (existing Tigane Extension 6 and Tigane Extension 3 townships) to integrate the township areas and encourage shared facilities and limited travelling distances; Where possible, these linkages have been aligned with the existing road network of Tigane Extension 6.

- ★ Provision is also made for future linkages to the north to accommodate future development / expansion in a northerly 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 though the reduction in the sizes of the erven to increase the economic development potential of the township area;
- ★ The average residential stand size will be  $\pm 319\text{m}^2$ . These stand sizes have been approved by the local authority and the relevant community;
- ★ Providing a line of no access along the boundary of the erven bordering onto District Road 149;
- ★ In response to the water ingress encountered in services trenches specifically along the unnamed non-perennial stream (1:100 year floodline area), the layout plan of the proposed township area of Tigane Extension 8 was amended to exclude 101 residential erven anticipated to be affected by the perched water table.

### 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. Two new access roads are proposed from District Road 149, located along the eastern boundary of the proposed Tigane Extension 7 towards Geduld (indicated below with red arrows). Furthermore, access is proposed from the existing Nelson Mandela Drive, as indicated below with blue arrows. Where possible, new access points were aligned with the existing road network in Tigane. Linkages to possible future township areas to the north of the development area are indicated by purple arrows on **Map 16**.

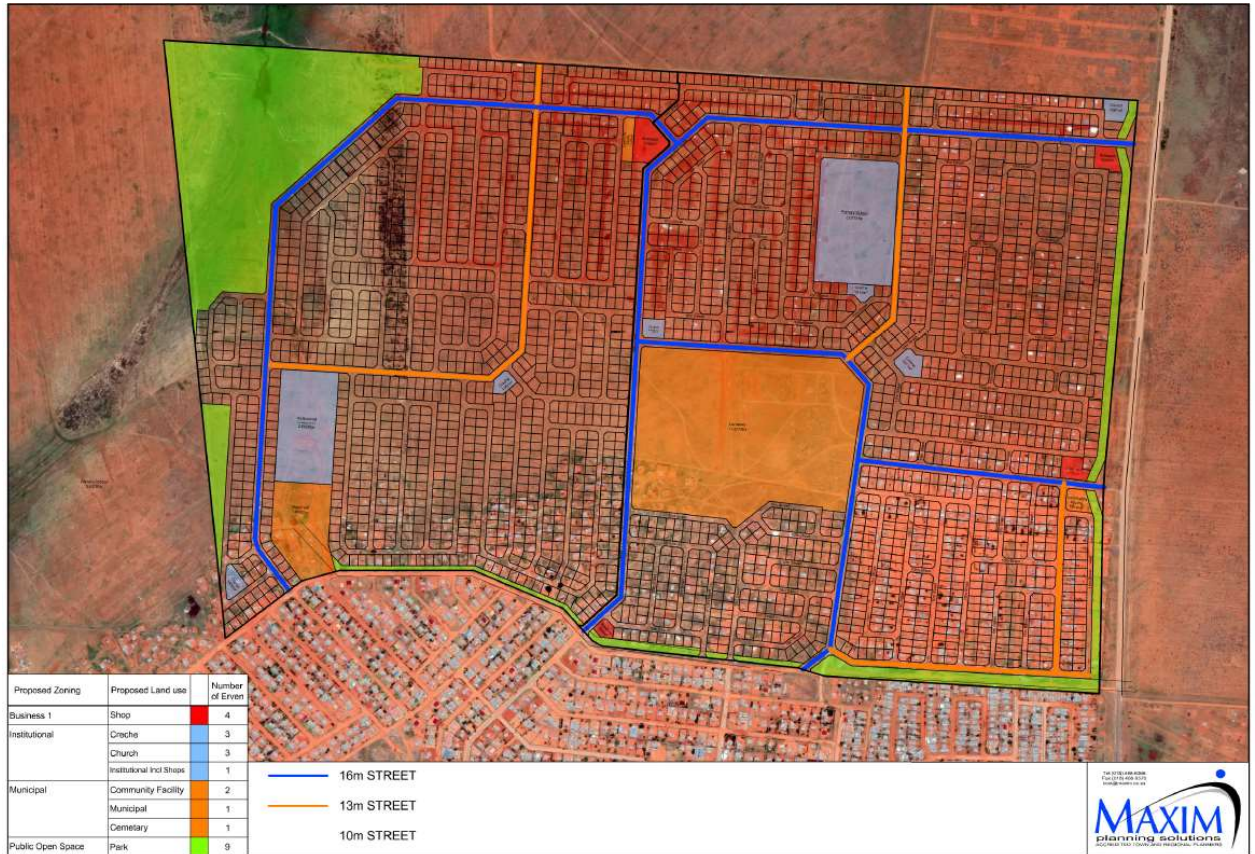
Map 16: Proposed Access to Tigane X7 and X8





The main road network in the township area will consist of 16m primary collector roads, 13m secondary collector roads and 10m internal roads. The movement network adopted in respect of the proposed township areas of Tigane Extensions 7 and 8 is reflected on **Map 17** below.

**Map 17: Proposed Movement Network for Tigane Extensions 7 and 8**



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 areas.

The results of the Traffic Impact Study can be summarized as follows:

#### 4.3.1 STUDY AREA

As discussed, the professional studies that were conducted with regards to the proposed township establishment include both Tigane Extension 7 and Tigane Extension 8 to provide a cumulative and more accurate view of the impact of the proposed development. The traffic impact study therefore considers both townships and the intersections likely to be affected by the additional traffic of both.

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 Tigane Extension 7 & Tigane Extension 8:

1. **R 503 and Road to Geduld – priority controlled;**
2. **Road to Geduld and Access Road 1 – proposed priority controlled intersection; and**
3. **Road to Geduld and Access Road 2 – proposed priority controlled intersection.**

The peak morning and afternoon traffic counts were conducted on Wednesday 02 October 2019 at the intersection of R503 and the Road to Geduld.

#### 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. Other trip rates as per the EMM for low cost housing and what SANRAL allows countrywide was also included in the calculations. **A reduction of 40% for low vehicle ownership was also applied.**

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

Table 17: AM Peak Hour Trip Generation

Land use	Extend	Units	Trip Rate	Split		Trips		External Total in & out
				In	Out	In	Out	
Residential 1	2 977	Stands	0.31	25%	75%	139	415	554

Table 18: PM Peak Hour Trip Generation

Land use	Extend	Units	Trip Rate	Split		Trips		External Total in & out
				In	Out	In	Out	
Residential 1	2 977	Stands	0.31	70%	30%	388	166	554

##### 3.3.2.2 Trip Generation (Public Transport Trips)

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 19** overleaf:

**Table 19: Modal Split AM & PM Peak Hour\***

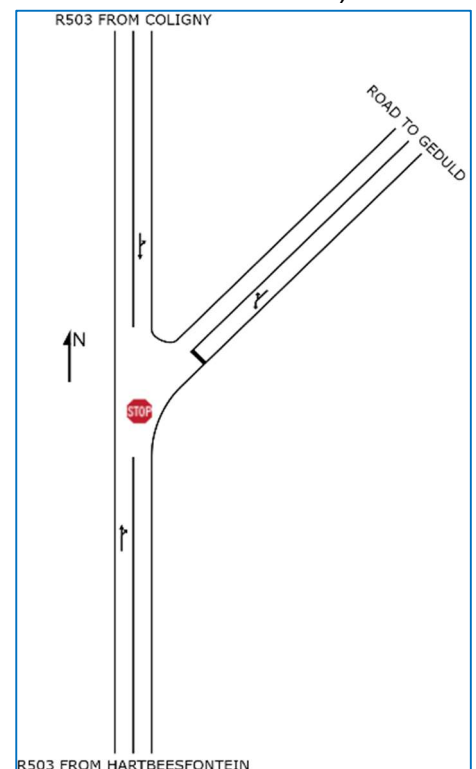
Mode AM Peak	Modal Split	Occupancy	Number of Vehicle Trips
Minibus-taxi	50%	13	21
Bus	5%	48	1
Cycling & Walking	10%	N/A	N/A
Mode PM Peak	Modal Split	Occupancy	Number of Vehicle Trips
Minibus-taxi	50%	13	21
Bus	5%	48	1
Cycling & Walking	10%	N/A	N/A

\* It should be noted that the trip generation as used in the analysis should still be seen as the worst-case scenario.

### 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 2019 traffic volumes were grown with a compound of 3% per annum to calculate the future traffic demand).

- **R503 and Road to Geduld (Intersection No: 1)**
  - For all of the scenarios the intersection operates at acceptable LOS with ample spare capacity. No upgrades will therefore be required.



**Figure 13: Existing Layout of Intersection 1**



- **Road to Geduld and Access Road 1** (Intersection No: 2)
  - For all of the scenarios the proposed intersection will operate at acceptable LOS with ample spare capacity.

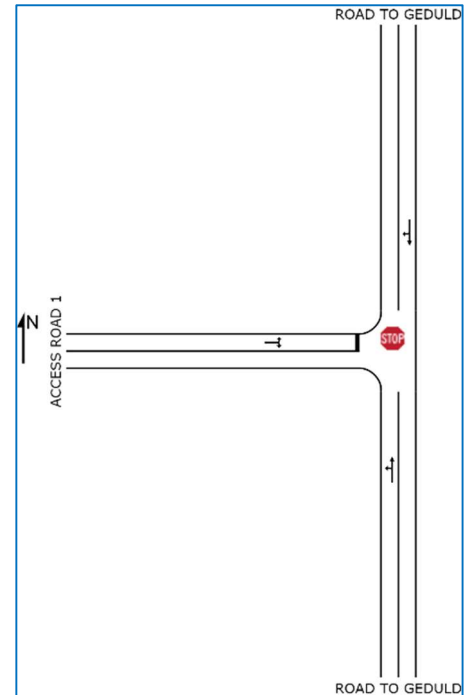


Figure 14: Proposed Layout of Intersection 2

- **Road to Geduld and Access Road 2** (Intersection No: 3)
  - For all of the scenarios the proposed intersection will operate at acceptable LOS with ample spare capacity.

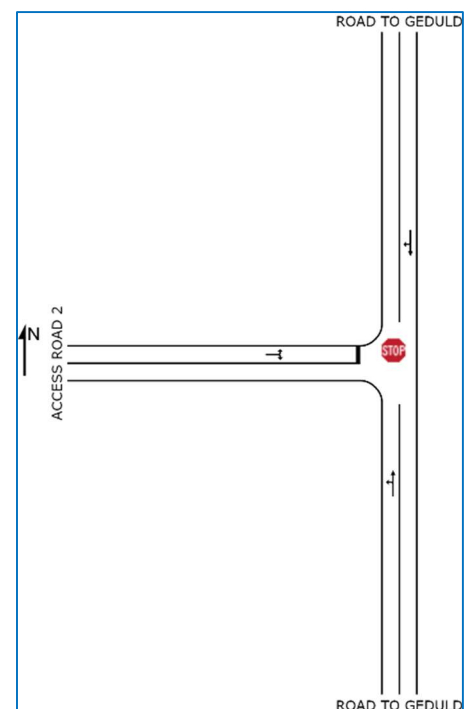


Figure 15: Proposed Layout of Intersection 3

#### 4.3.4 PUBLIC TRANSPORT

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 seen as the worst-case scenario.

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 20** below:

**Table 20: Modal Split AM & PM Peak Hour**

<b>Mode AM Peak</b>	<b>Modal Split</b>	<b>Occupancy</b>	<b>Number of Vehicle Trips</b>
Minibus-taxi	50%	13	21
Bus	5%	48	1
Cycling & Walking	10%	N/A	N/A
<b>Mode PM Peak</b>	<b>Modal Split</b>	<b>Occupancy</b>	<b>Number of Vehicle Trips</b>
Minibus-taxi	50%	13	21
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 little impact on the external road network”***

The Traffic Impact Assessment concluded as follows:

- No external road and/or intersection upgrades will be required.
- It is proposed that the Road to Geduld is surfaced from where it ends up in gravel up to the proposed Access Road 2.
- It is recommended that provision is made for pedestrian sidewalks along the school frontages. Furthermore, with regards to the school site
  - All parking and drop-off should occur on the site.
  - Traffic calming along school site roads should be provided.
  - Separate pedestrian gates to be provided at the school.

## CHAPTER 5: PROVISION OF ENGINEERING SERVICES

### 5.1 INTRODUCTION

Rajasamway Family Holdings was appointed to investigate and report on the provision of civil engineering services and Motla Consulting Engineers appointed to investigate and report on the provision of electrical engineering services to the proposed township areas.

*As previously mentioned, the calculations used in the engineering services reports are based on the proposed population figures of both the proposed Tigane Extension 7 and Tigane Extension 8 in order to take into account the cumulative effect of these two 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

(Extract from the civil engineering services report compiled by Rajasamway Family Holdings (attached as Annexure Q1 to the comprehensive land development application))

Kindly note that the civil engineering services report was compiled based on the initial layout plans for Tigane Extension 7 that included 1583 Residential 1 stands, as opposed to the proposed 1584 Residential 1 stands and for Tigane Extension 8 that included 1494 Residential 1 stands, as opposed to the proposed 1393 Residential 1 stands and excluded the large institutional stand (including shops). The changes to the initial layout plans were due to the “wet” conditions encountered on site during the installation of civil services (as discussed in detail in section 3.8 supra). Where needed we have included provisional demand calculations based on the changes in the layout plan. **It will be noted that the impact on demand calculations was minimal and that the available capacity levels are not exceeded in terms of the new demand calculations.**



## 5.2.1 WATER – STATUS QUO

### 5.2.1.1 Water Services in Study Area

The potable water for Tigane is obtained from the Midvaal Water Company purification works next to the Vaal River near Vaal Reefs town. The treatment works which abstracts raw water from the Vaal River has enough extra capacity to cater for the demand of the proposed new Tigane Ext 7 and Ext 8 development. Tigane is serviced by the Hartbeesfontein Reservoirs. The total capacity of the reservoirs is 18.5ML broken down as follows:

- i. Reservoir 1 - 3.5ML
- ii. Reservoir 2 – 5ML
- iii. Reservoir 3 – 10ML

The Hartbeesfontein Reservoirs have been designed to provide in the future development of Tigane.

There are two existing elevated steel water towers in Tigane for pressure with the following capacities:

- i. Tank 1 - 0.25ML
- ii. Tank 2 – 0.5ML

The rising main conveying potable water to the Hartbeesfontein reservoirs has a pipe diameter of 300mm. From the outlet of the Hartbeesfontein Reservoir, water gravitates to the Tigane Pump station through a 250mm diameter gravity main. From the Tigane Pump Station, the water is pumped to the Tigane Pressure Tanks

through a 200mm diameter rising main. The water from the tanks gravitates to Tigane through a 160mm diameter gravity main.

## 5.2.2 DEVELOPMENT'S TOTAL WATER DEMAND

**\* All calculations are based on Red Book and PW 345 Standards \***

The water demand for Tigane Extension 7 and Extension 8 was calculated in **Table 21** and **Table 22** below as follows:

**Table 21: Water Demand Calculations – Tigane Extension 7**

Land Use		Stand Size	Water Demand (unit AADD)Range	Water Demand (unit AADD)	No.	Consumption (AADD)kl/d
<b>Residential 1</b>	High density, small sized (waterborne sanitation)	270m <sup>2</sup> to 400m <sup>2</sup>	0.30 to .40kl/unit/d	0.35kl/unit/d	1583	554.05
Businesses						
<b>Business 1</b>		0.4452ha		21kl/ha/d	3	9.3492
Community Facilities						
<b>Church</b>		0.3073ha		12kl/ha	2	3.6875
<b>Crèche</b>		0.3025ha		12kl/ha	2	3.63
<b>Community facility</b>		0.1614ha		12kl/ha	1	1.9368
<b>Primary School</b>		3.0775ha		20kl/ha	1	61.55
<b>Cemetery</b>		11.0775		12kl/ha	1	132.93
<b>Park</b>		3.3415ha		12kl/ha	6	40.098
<b>Initial Water Demand*</b>						<b>807.23kl/d</b>

\* Total Water Consumption per day (kl/day)

***\* If the additional Residential 1 stand is taken into account, the Initial Water Demand for Tigane Extension 7 is estimated at 807.58kl/d***

**Table 22: Water Demand Calculations - Tigane Extension 8**

Land Use		Stand Size	Water Demand (unit AADD)Range	Water Demand (unit AADD)	No.	Consumption (AADD)kl/d
<b>Residential 1</b>	High density, small sized (waterborne sanitation)	270m <sup>2</sup> to 400m <sup>2</sup>	0.30 to .40kl/unit/d	0.35kl/unit/d	1494	522.9
Businesses						
<b>Business 1</b>		0.3742ha		21kl/ha/d	1	7.8582
Community Facilities						
<b>Church</b>		0.3361ha		12kl/ha	2	4.0332
<b>Creche</b>		0.2419ha		12kl/ha	2	2.9028
<b>Community facility</b>		0.1571ha		12kl/ha	1	1.8852
<b>Park</b>		10.2376ha		12kl/ha	1	122.8512
<b>Municipal</b>		1.6042ha		20kl/ha	1	32
<b>Initial Water* Demand)</b>						<b>694.43kl/d</b>

***\* If the subsequent changes in the layout plan are taken into account, the Initial Water Demand for Tigane Extension 8 is estimated at 735.9118kl/d***

Therefore, the combined Average Annual Daily Demand (AADD) is **1501.66kl/d (1543.4918kl/d based on the latest revised layout plan)**, and the Ultimate Water Demand is **1846.88kl/d (1898.3272kl/d based on the latest revised layout plan)** (based on a design period of 20 years and population growth rate of 1.04%). The Peak Hour Consumption = **76.95l/s (79.097l/s based on the latest revised layout plan)** and the Total Water Consumption = **101.953l/s (104.097l/s based on the latest layout plan)**.

### 5.2.3 BULK SUPPLY: POTABLE WATER

The report recommends the following in terms of water provision for the proposed development:

- *A 200mm diameter (ID) pipe will have sufficient capacity to service the proposed development in the next 20 years.*
- *The existing 250mm diameter gravity mains from the Hartbeesfontein reservoirs to Tigane Pump Station has sufficient capacity to service the proposed development.*
- *A new 200mm diameter rising main needs to be constructed from the Tigane Pump Station to the proposed new Tigane Ext. 7 & 8 elevated steel water tanks.*
- *Two (2) New 160mm diameter gravity mains need to be constructed from the proposed Tigane Ext. 7 & 8 elevated water towers to Tigane Extension 7 and Extension 8 respectively.*
- *The Hartbeesfontein Reservoir with a combined capacity of 18.5ML has spare capacity to cater for the proposed development.*
- *Two (2) 0.5ML elevated Pres Pressure Towers should be constructed to service Tigane Extension 7 & 8 with the initial water demand.*
- *An additional one 0.5ML elevated Pres Pressure Towers should be constructed in the future to add on the two (2) Pres Pressure Towers to service Tigane Extension 7 & 8 with the future water demand.*
- *In principle, an additional 1.5ML of storage is required to cater for the proposed development.*

### 5.2.4 SANITATION – STATUS QUO

#### 5.2.4.1 Sanitation Services in Study Area

The proposed Tigane Extension 7 and 8 settlements fall within an area serviced by the Hartbeesfontein Wastewater Treatment Plant (WTP). The Hartbeesfontein Wastewater Treatment Plant is owned and operated by City of Matlosana. The proposed Tigane Extension 7 and 8 settlements will discharge their sewer into the Hartbeesfontein WTP. The Hartbeesfontein WTP was upgraded to 8 ML/day in 2013. Currently it is receiving 3.8 ML/day. This implies that it has spare capacity of 4.2 ML/day.



During a site visit and inspection that was conducted on the 29th of June 2020 in the company of municipal personnel, it was established that the Hartbeesfontein/Tigane outfall sewer is in a fair condition. 2 new sewer pump stations on the lower north-western part and north-eastern part of Tigane Ext. 8 and Ext 7 will be constructed to pump sewer to the existing bulk sewer system in Tigane since the major part of the development is on a low-lying area with respect to Tigane.

## 5.2.5 DEVELOPMENT'S TOTAL EFFLUENT GENERATION

**\* The peak flow from the businesses (after 08:00 and before 16:00), does not flow at the same time as the peak flow from the erven (before 08:00 and after 16:00), This also applies to the church and therefore no provision needs to be made for simultaneous peak flows. The approach used is to ignore the peak flows of the businesses and church \***

The wastewater demand for Tigane Extension 7 and Extension 8 was calculated in **Table 23** and **Table 24** below as follows:

**Table 23: Sewer Demand Calculations - Tigane Extension 7**

Land Use		Stand Size	Water Demand (unit AADD)	No.	Sewer flow (Unit PDDWF)		PDDWF (kl/d)	IPWWF (Allow for 15% Infiltration)kl/d
					%AADD	kl/unit/d		
<b>Stands for low-income housing (waterborne sanitation)</b>	Residential 1 - High density, small sized	270m <sup>2</sup> to 400m <sup>2</sup>	0.35kl/unit/d	1583	92.5%	0.325	514.475kl/d	591.646kl/d
<b>Businesses</b>								
<b>Business 1</b>		0.4452ha	21kl/ha/d	1	80%	16.8kl/ha/d	7.4794 kl/d	8.601kl/d
<b>Community Facilities</b>								
<b>Primary School</b>		3.0775ha	20kl/ha/d	1	80%	16kl/ha/d	49.24kl/d	56.626kl/d
<b>Creche</b>		0.3025ha	20kl/ha/d	1	80%	16kl/ha/d	4.84kl/d	5.566kl/d
<b>Church</b>		0.3073ha	20kl/ha/d	1	80%	16kl/ha/d	4.917kl/d	5.654kl/d
<b>Community facility</b>		0.1614ha	13kl/ha/d	1	80%	10.4kl/ha/d	1.679kl/d	1.930kl/d
<b>Parks/Play Areas</b>		3.3415ha	12kl/ha	6	n/a	n/a	n/a	n/a
<b>Cemetery</b>		11.0775ha	12kl/ha	1	n/a	n/a	n/a	n/a
Initial Wastewater Demand - Total Wastewater Demand per day (l/s)								<b>7.75l/s</b>
Initial Wastewater Demand - Total Wastewater Demand per day (kl/day)								<b>670.023kl/d</b>

**Table 24: Sewer Demand Calculations - Tigane Extension 8**

Land Use		Stand Size	Water Demand (unit AADD)	No.	Sewer flow (Unit PDDWF)		PDDWF (kl/d)	IPWWF (Allow for 15% Infiltration)kl/d
					%AADD	kl/unit/d		
<b>Stands for low-income housing (waterborne sanitation)</b>	Residential 1 - High density, small sized	270m <sup>2</sup> to 400m <sup>2</sup>	0.35kl/unit/d	1494	92.5%	0.325	485.55kl/d	558.383kl/d
	Businesses							
<b>Business 1</b>		0.3742ha	21kl/ha/d	1	80%	16.8kl/ha/d	6.28656 kl/d	7.230kl/d
Community Facilities								
<b>Creche</b>		0.2419ha	20kl/ha/d	1	80%	16kl/ha/d	3.8704kl/d	4.451kl/d
<b>Church</b>		0.3361ha	20kl/ha/d	1	80%	16kl/ha/d	5.3776kl/d	6.184kl/d
<b>Community facility</b>		0.1571ha	13kl/ha/d	1	80%	10.4kl/ha/d	1.63384kl/d	1.879kl/d
<b>Parks/Play Areas</b>		10.2376ha	12kl/ha	1	n/a	n/a	n/a	n/a
<b>Municipal</b>		1.6042ha	12kl/ha	1	n/a	n/a	n/a	n/a
Initial Wastewater Demand - Total Wastewater Demand per day (l/s)								<b>6.69l/s</b>
Initial Wastewater Demand - Total Wastewater Demand per day (kl/day)								<b>578.127kl/d</b>

Therefore, the combined IPWWF for Tigane Extension 7 and Extension 8 is **14.45l/s (14.69l/s based on the latest revised layout plan)**, and the Ultimate Wastewater Demand is **17.77l/s (18.06l/s based on the revised layout plan)** (based on a design period of 20 years and population growth rate of 1.04%). The total expected daily effluent runoff (Wet Weather Flow) from Tigane Extension 7 and Extension 8 to the Hartbeesfontein WWTP including infiltration is **1248.357kl/d (or 14.45l/s avg) (1268.815kl/d or 14.69l/s based on the latest revised layout plan)**

The total expected daily effluent runoff (Wet Weather Flow) from Tigane Extension 7 and Tigane Extension 8 to the Hartbeesfontein WWTP in the next 20 years including infiltration is **1535.33kl/d (or 17.77l/s avg) (1560.50kl/d or 18,06l/s avg based on the latest revised layout plan)**

The Peak Flow was calculated at **3120.8925kl/d (or 36.12/s) (3172.0375kl/d or 36.71l/s based on the latest revised layout plan)** and the Ultimate Peak Flow (20 years) at **3838.325kl/d (or 44.43l/s) (3901.25kl/d or 45.14l/s based on the latest revised layout plan)**.

Therefore, a 200mm diameter bulk sewer pipe will be required to convey the combined Ext 7 and 8 sewer to the existing bulk sewer network in Tigane.

## 5.2.6 SANITATION – PROPOSED BULK INFRASTRUCTURE

The proposed development will generate an ultimate waste water flow of **1.54ML/d (1.56ML/d based on the latest revised layout plan)**. This implies that the existing Hartbeesfontein Wastewater Treatment Plant will have sufficient capacity to cater for sewer inflow from the proposed development for the next 20 years.

## 5.2.7 STORM WATER – STATUS QUO

The proposed development will drain storm water run-off towards the natural low-lying watercourse on the north-western side of the development through the road network in combination with sub-soil drainage pipe network system. A formalized system will discharge the bulk storm water in a north-westerly direction.

## 5.2.8 SOLID WASTE – STATUS QUO

The Matlosana Municipality will extend its existing refuse removal service to include the new development areas. The refuse will be dumped and managed at the formal licensed dumping site of Klerksdorp which has the capacity to receive the additional refuse.

**PLEASE REFER TO THE COMPLETE CIVIL ENGINEERING SERVICES REPORT ATTACHED AS ANNEXURE Q1 TO THE COMPREHENSIVE LAND DEVELOPMENT APPLICATION, FOR MORE INFORMATION**

## 5.3 ELECTRICAL ENGINEERING SERVICES

**(Extract from the electrical engineering services report compiled by Motla Consulting Engineers (attached as Annexure Q2 to the comprehensive Land Development Application))**

### 5.3.1 DEMAND ESTIMATION

The maximum demand for the proposed development is based on the draft layout plan and calculated in accordance with the requirements set out in SANS 204 and SANS 10142-1.

**Table 25: Maximum Demand Estimation – Tigane X7 (electrical)**

MAXIMUM DEMAND ESTIMATION FOR TIGANE EXT 7					
Item	Zoning	Land Use	No of Stands	kVA per Erf	MD (kVA)
1	Residential 1	Dwelling Unit Minimum 300m <sup>2</sup>	1584	2.4	3802
2	Business 1	Business	3	175	525
3	Church	Public Place of Worship	2	20	40
4	Creche	Place of Instruction	2	50	100
5	Primary School	Place of Instruction	1	80	80
6	Cemetery	Place of Laying to Rest	1	0	0
7	Community Facility	Community Hall	1	80	80
8	Park	Public Open Space	6	0	0
9	Street	Public Street	4	0	0
10	TOTAL				4627



**Table 26: Maximum Demand Estimation - Tigane X8 (electrical)**

MAXIMUM DEMAND ESTIMATION FOR TIGANE EXT 8					
Item	Zoning	Land Use	No of Stands	kVA per Erf	MD (kVA)
1	Residential 1	Dwelling Unit Minimum 300m <sup>2</sup>	1393	2.4	3343
2	Business 1	Business	1	175	175
3	Church	Public Place of Worship	1	20	20
4	Creche	Place of Instruction	1	50	50
5	Institutional (shops included)	Community hall / shops	1	80	80
6	Municipal	Business / Light Industrial	1	80	80
7	Community Facility	Community Hall	1	80	80
8	Park	Public Street	5	0	0
9	Street	Public Street		0	0
<b>10</b>	<b>TOTAL</b>				<b>3828</b>

## 5.3.2 BULK SUPPLY

### 5.3.2.1 General

Bulk electricity supply to Tigane Town is currently from Eskom’s Roan substation which is approximately 10km from Hartbeesfontein. The City of Matlosana Local Municipality is responsible for operations and maintenance of the electrical network inside Tigane Town and receives electricity supply at pole RTT-185 (Roan Tigane Town).

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

### 5.3.2.2 Existing Network Analysis

An existing 22kV overhead network feeding from Eskom’s Roan Substation currently supplies electricity to Tigane Town at RTT-185.

An internal overhead electrical network inside Tigane Town supplies electricity to various Pole Mounted Transformers which supply electricity via Bundle Conductors to various Households equipped with a pre-paid metering system.

The Pre-paid metering system is connected to the electricity network via overhead concentric cables from Pole Top Boxes.

### 5.3.2.3 Bulk Supply Proposal

It is proposed to extend the existing RTT overhead network after Pole RTT-185 to create a new feeder to supply Tigane Extension 7 & 8 with electricity.

The following electrical services are proposed:

- a) **Bulk Supply:** As per bulk supply proposal.
- b) **MV Reticulation:** Capacity will be created by way of an overhead MV network and various Pole Mounted Transformers to create capacity.
- c) **LV Reticulation:** Electricity will be distributed throughout the development by way of overhead ABC conductors.
- d) **LV Connections:** LV connections (10mm<sup>2</sup> Airdac SNE + 2 Comms) will be provided for each residential stand.
- e) **Metering:** 20 Amp Split Meters will be installed.
- f) **Street & Area Lighting:** Street and Area Lighting are optional and can be included on recommendation of the Developer or requirement from the Local Municipality.
- g) **The detail of the above will be determined during the detail design phase of the project and will be dependent on the final SDP's to be submitted for review and approval to the relevant supply authorities.**

## CHAPTER 6: MOTIVATION

### 6.1 INTRODUCTION

This need and desirability in respect of the proposed township establishments on a portion of the Remaining Extent of the farm Vogelstruisfontein 273, Registration Division I.P., North West Province and portions the Remaining Extent of the Farm Uraan 295, Registration Division I.P., 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
- North West Province Spatial Development Framework, 2016
- Dr Kenneth Kaunda District Spatial Development Framework, 2011
- City of Matlosana Local Municipality Integrated Development Plan, 2020-2021
- City of Matlosana 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 City of Matlosana 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 6.20 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 areas of Tigane Extensions 7 and 8 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. In addition to the residential facilities that will be provided in the respective township areas, 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 plans also make 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 townships constitutes a collaboration between the provincial housing department, local authority and private developer (appointed to oversee project implementation) 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 areas make 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 objective of this project is specifically to address the need for proper housing which is evident from the extensive informal occupation that has already taken place on site due to the non-availability of vacant residential erven for settlement purposes.

#### **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 projects under discussion specifically aim at providing access to housing for the inhabitants of the City of Matlosana Local Municipality and surrounding towns who currently reside in informal settlement areas and have to live in squalid conditions without basic services and a lack of proper shelter. The township establishment projects, to which this application applies, have at its core the provision of residential erven to that sector of the community who cannot access adequate housing due to financial circumstances coupled with the lack of serviced erven to accommodate said individuals. 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.



## 6.5 **A COMPREHENSIVE 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. These erven will 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 Tigane extensions to the south 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 City of Matlosana 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 Gazette, the posting of site notices on the subject properties, 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 and the eradication of the existing informal settlement on site.

## 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 comprising the proposed township areas of Tigane Extensions 7 and 8.

## **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 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. Specifically, 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, Tigane is identified as a potential development node within the municipal area of City of Matlosana (Table 3-6 on page 80). It is noted within the PSDF that informal settlements are more more evident in the areas with high economic potential or areas closer to urban developments such as Tigane (page 126).

Development within these areas is therefore encouraged as part of the NWSDF. Development guidelines for the City of Matlosana Municipality include the following:

- Promote public-private sector partnerships
  - The proposed development promotes public-private sector partnerships between the City of Matlosana Local Municipality, the Department of Human Settlement and MXN Development Construction CC. In addition, the proposed development will be eligible for government subsidy housing projects once approved.
- The municipality has a large informal component that needs to be formalised
  - The proposed development will create formalised erven with the necessary infrastructure to form part of the formal housing market of Tigane.

- Housing development should not only focus on backlog eradication, but provide suitable options for future demand
  - The proposed development will provide adequately serviced erven to house the residents currently occupying the application sites, and additional erven to be allocated by the Local Municipality to future residents.
- Ensure effective integration between Kanana, Jouberton, Ellaton and Matlosana to ensure high levels of accessibility to services and employment opportunities
  - The proposed development is one of several housing projects being undertaken by the Local Municipality. Separate township establishment applications were already submitted in respect of the proposed township areas of Jouberton Extension 34 and Kanana Extension 16.
- Maintain and upgrade infrastructure
  - The proposed development will provide all basic services related to housing needs. Please refer to the engineering studies attached in Annexure Q
- Enhance the image of the city to attract investment from the private sector
  - The eradication of housing backlogs and provision of formal residential erven with proper, functional service networks will greatly improve the image of the municipality as a well-functioning entity

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

## **6.15 DR KENNETH KAUNDA DISTRICT SPATIAL DEVELOPMENT FRAMEWORK, 2011**

The Dr Kenneth Kaunda District Spatial Development Framework was compiled in 2011 to direct development on a district level. Due to the scale of the document, details are not provided on a site-specific level. However, the document does provide interventions to ensure compact and integrated development at an urban level, specifically with regards to new residential developments (page 68). These interventions are:

- **Availability of Bulk Services**
  - As discussed in Chapter 5 and indicated in the engineering services reports (attached as **Annexure Q** to the comprehensive Land Development Application), adequate bulk services are available for the proposed development.
- **Access to Social Amenities and Economic Opportunities**
  - The layout plans in respect of the proposed two (2) township areas, include several stands zoned as “Institutional”, “Business 1” and “Municipal” in order to ensure the social and economic needs of the residents are met.
- **Access to Public Transportation**
  - The proposed road network will integrate with the existing road network in Tigane and as such the public transportation system (taxi routes) will be extended to include the proposed Tigane Extension 7 and Tigane Extension 8

urban areas. In this regard special attention was give during the layout planning process to create a functional movement network that includes road reserves that can accommodate public transport modes

- **Integration of Urban Structure**

- The proposed development will integrate seamlessly with the existing township areas of Tigane Extension 6 and Tigane Extension 3 to the south and to the greater urban area of Tigane as a whole. The presence of informal dwellings on the application site is proof of the need for residential erven in the area and the normal direction of growth of Tigane. The project will serve to formalize the existing informal settlement on site.

- **Located withing Urban Edge**

- The proposed development is located within the Urban Edge of Tigane, as discussed in more detail in the following section regarding the City of Matlosana SDF, 2021.

Although the 2011 SDF does not mention specific development guidelines for Tigane, it is prudent to note that the SDF is currently in the process of being reviewed. The Draft SDF (2021) is informed by the newly promulgated City of Matlosana SDF and lists the proposed development as a housing project.

## **6.16 CITY OF MATLOSANA LOCAL MUNICIPALITY INTEGRATED DEVELOPMENT PLAN 2017-2022 (2020 REVIEW)**

The Local IDP recognises the settlement pattern across the municipality. It is noted that the largest population concentrations are located in Jouberton (31%), Kanana, Khuma and Tigane, which represent 67% of the total urban population. The need for residential development therefore exists in these areas to address the population growth.

Township establishment at Tigane was listed as an unfunded project in the 2017 – 2022 IDP. This has since changed as funding has been awarded for this project through the 136 Priority Human Settlements and Housing Development Areas (PHSHDAs) declared by the Department of Human Settlements, Water and Sanitation. The PHSHDAs intend to advance Human Settlements Spatial Transformation and Consolidation by ensuring that the delivery of housing is used to restructure and revitalise towns and cities, strengthen the livelihood prospects of households and overcome apartheid spatial patterns by fostering integrated urban forms. The proposed development will directly address this objective by establishing 3003 formal erven, to be known as Tigane Extension 7 and Tigane Extension 8.

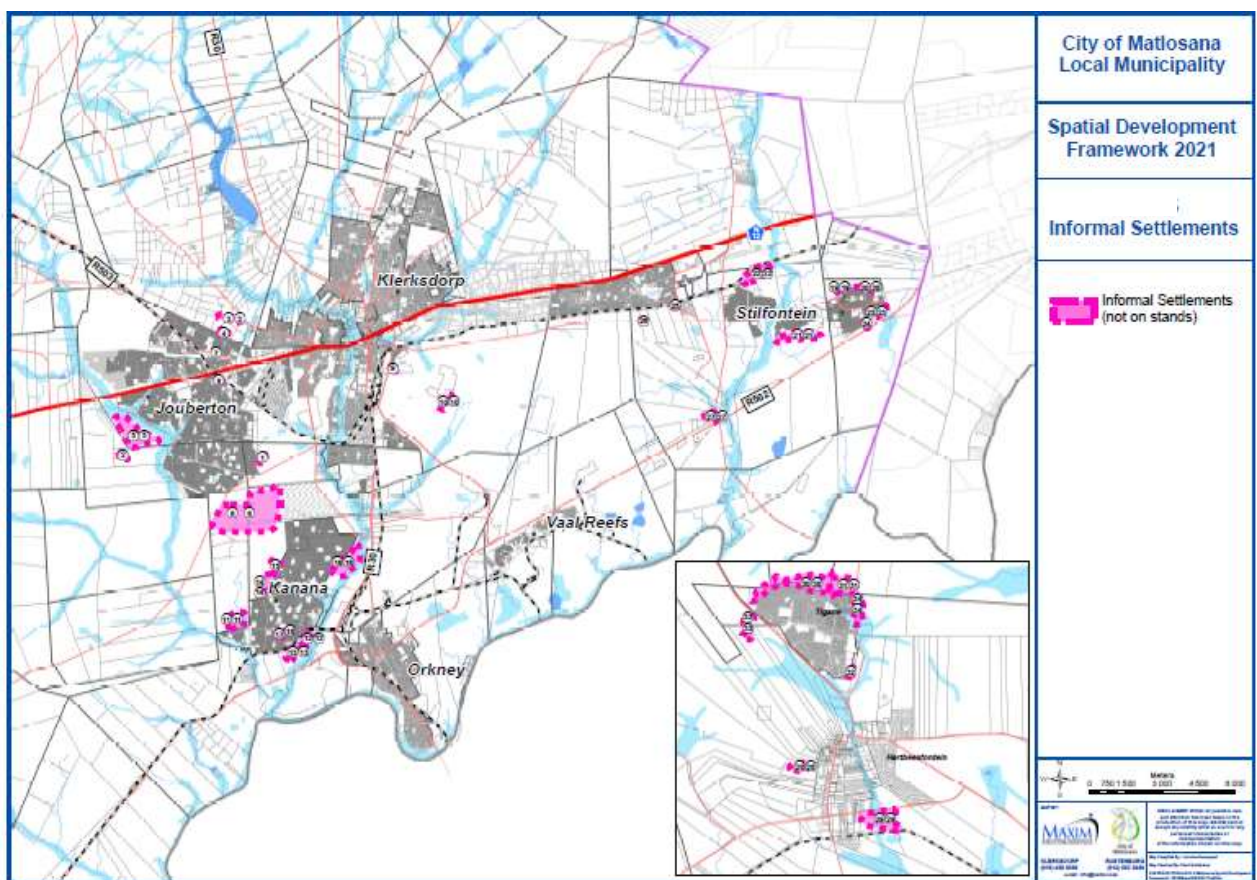
## **6.17 CITY OF MATLOSANA SPATIAL DEVELOPMENT FRAMEWORK, 2021**

In terms of the newly promulgated City of Matlosana Spatial Development Framework (2021), that came into operation on 29 June 2021, the housing situation in the City of Matlosana improved significantly from 1995 to 2013 to 2016.

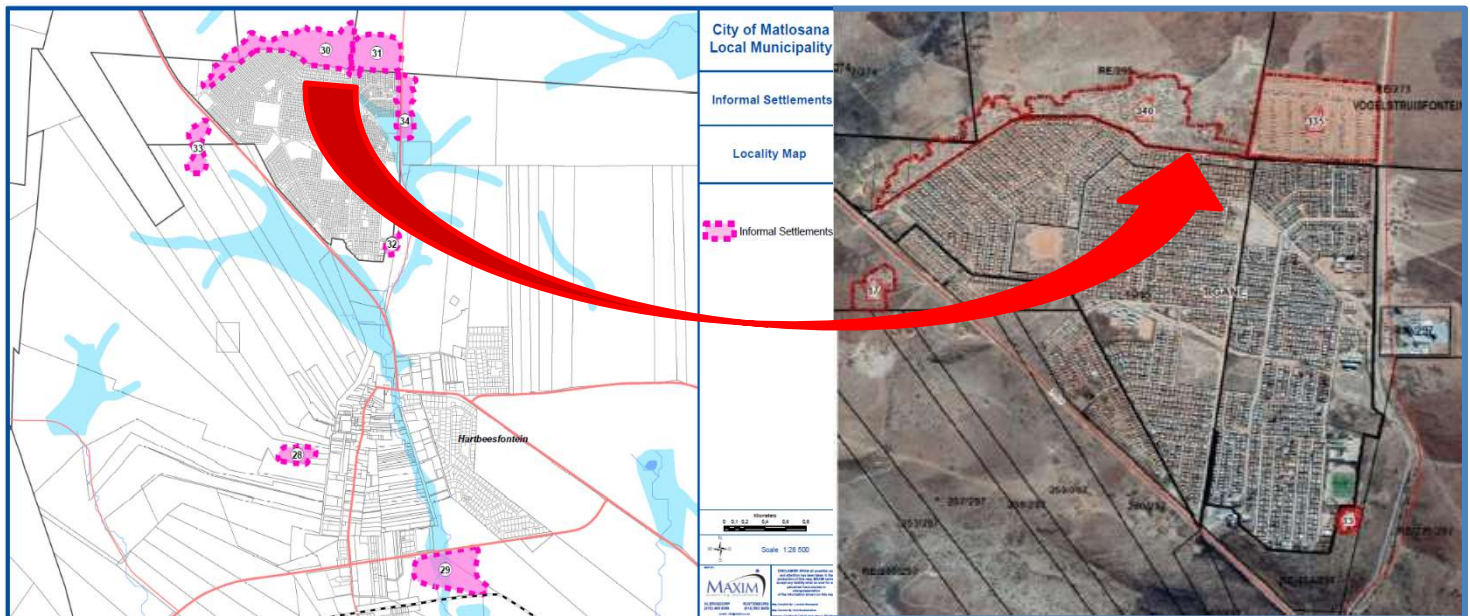


- The number of households residing in a house or brick structure more than doubled from 41,106 to 92,052 in 2013 and increased further to 108,300 in 2016;
- The number of informal dwelling/shacks decreased by almost half from 24,546 – 12,929 in 2013. However, the IHS Market figures show an increase to 16,200 in 2016.

In terms of Table 3 (page 16) extracted from the City of Matlosana Spatial Development Framework 2021, it was estimated that the number of informal dwellings in backyards and informal dwellings in informal /squatter settlements amount to 16 200 units throughout the municipal area. **Maps 18 and 19** indicate the location of the existing informal settlements in the Matlosana area as well as in the Tigane/Hartbeesfontein urban complex specifically.



Map 18: Locality of informal settlement areas in the Matlosana area



**Map 19: Locality of informal settlement areas in the Matlosana area**

The establishment of the proposed township areas of Tigane Extension 7 and Tigane Extension 9 is a concerted effort by the City of Matlosana to alleviate the plight of the inhabitants of these informal settlement areas through the provision of 2 997 residential erven for low cost housing purposes.

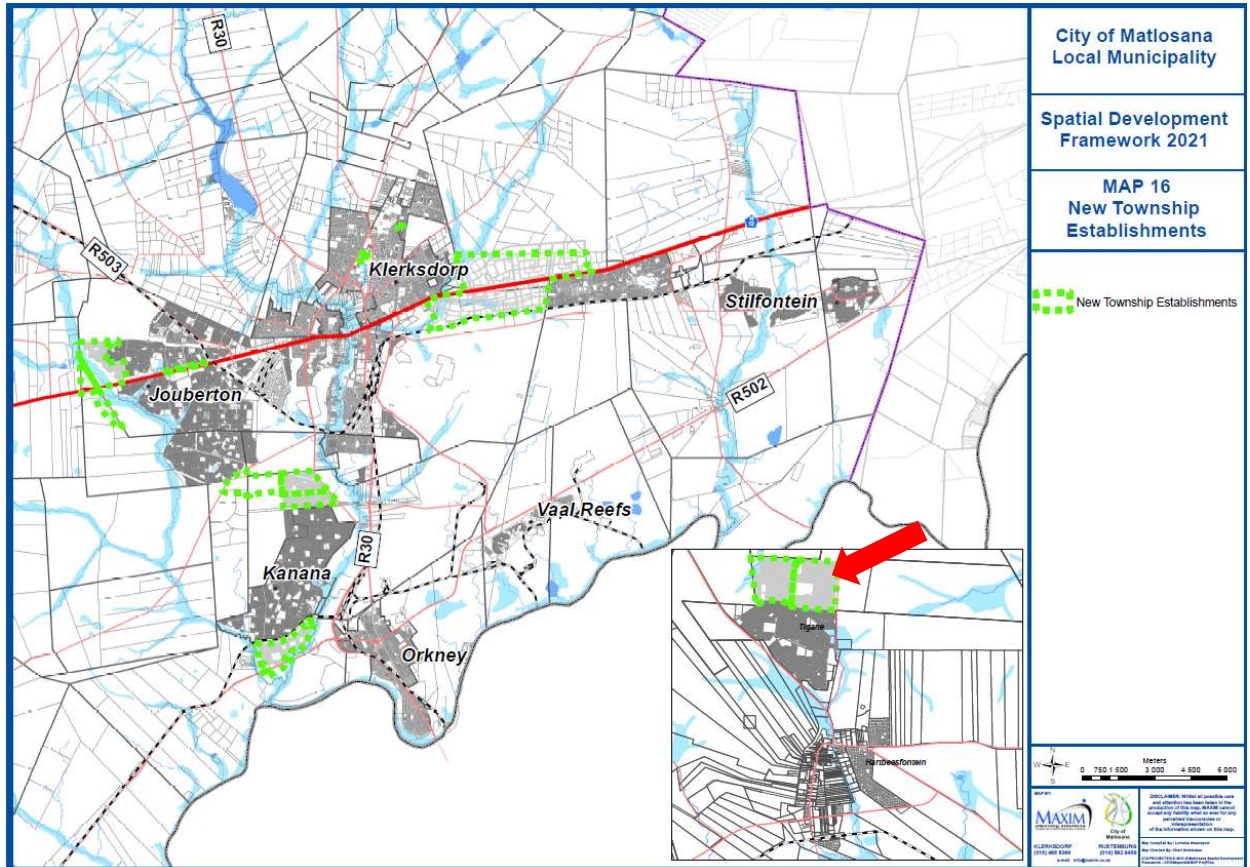
In terms of the City of Matlosana Spatial Development Framework (2021), the **housing backlog** was estimated at 45 500 units in Matlosana in 2015:

- Total housing need in terms of the housing register of the Municipality – 45 500 units.
  - Jouberton area - 15 000 units
  - Kanana area - 11 000 units
  - Khuma area - 9 000 units
  - **Tigane area - 7 000 units**
  - Alabama area - 3 500 units

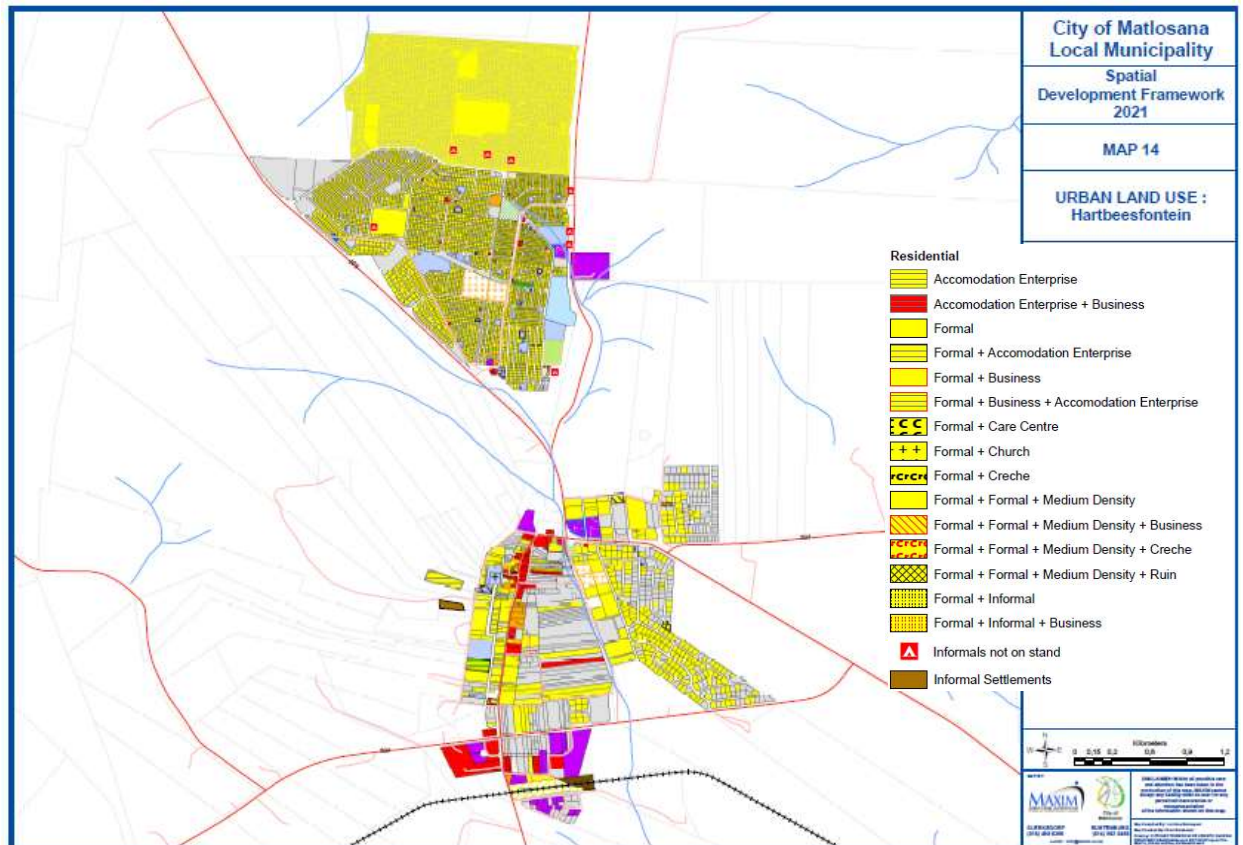
Since 2015, no additional households were registered on the municipal waiting list.

The proposed development is already included as a new township establishment in the SDF and is earmarked for residential development as can be seen in **Map 20** and **Map 21**.





Map 20: New township establishment underway in the Matlosana area



Map 21: Urban Land Use - Tigane



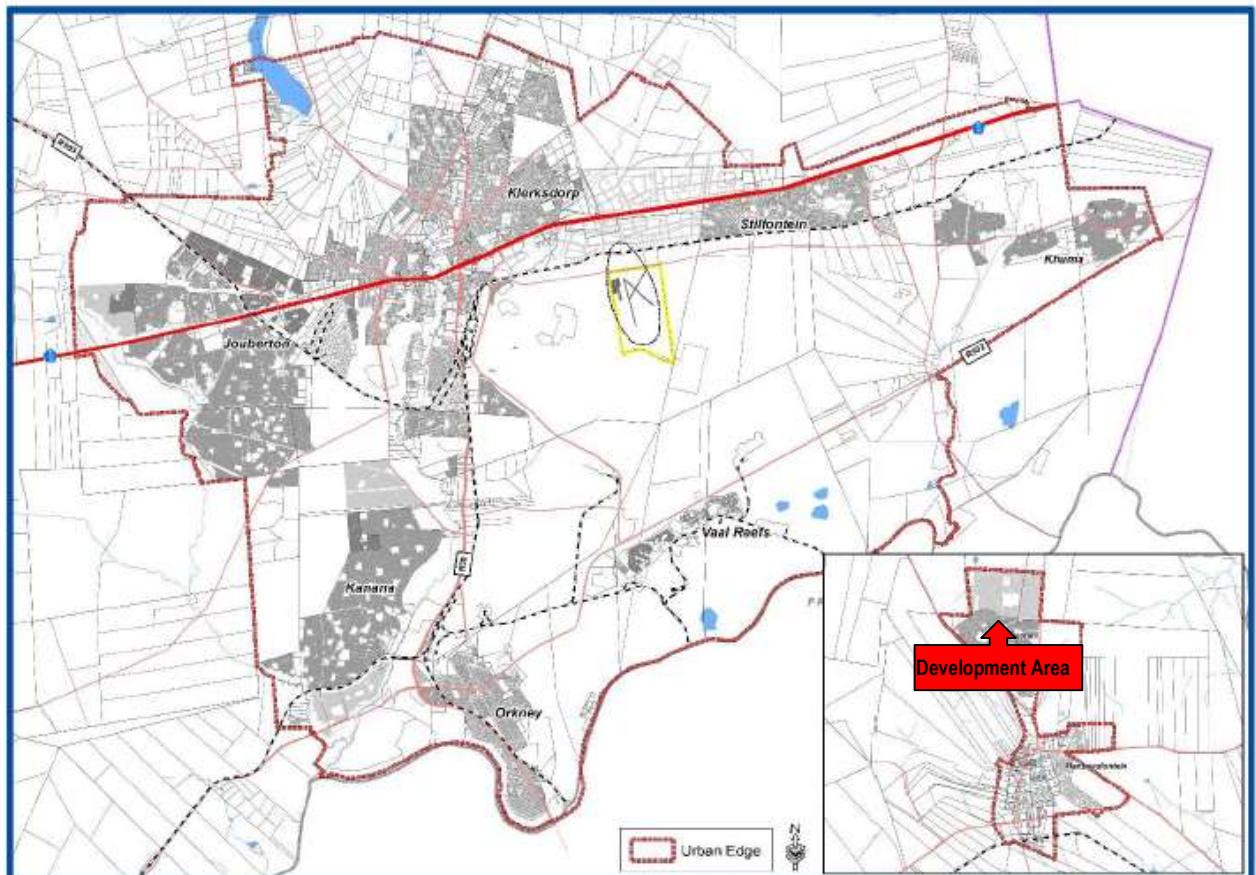
The City of Matlosana Spatial Development Framework determines as follows in respect of the urban edge

***“The urban edge is the demarcated outer boundary of urban areas and marks the transition between urban and rural land uses. The main function of the urban edge is to restrict urban sprawl, promote densification of areas and the protection of agricultural and environment resources. The urban edge includes the built-up areas as well as the expected short-medium term development (10 years).”***

As far as development is concerned, the following strategic interventions should be applicable within the urban edge-:

- Urban built-up areas:
  - Densification and integration
  - Urban infill
  - Upgrading and proper maintenance of infrastructure
  - Urban renewal
  - Protection and rehabilitation of environmentally significant local open spaces
  - Protection of cultural heritage resources
- Area between built-up and urban edge boundary
  - Planning and provision of bulk infrastructure for new development areas
  - Planning and development of new township establishment in such a manner that it will enhance integration of areas.

The urban edge, as defined in terms of the newly promulgated City of Matlosana Spatial Development Framework (2021), in relation to the proposed township area of Tigane Extension 7 and Tigane Extension 8 is reflected on **Map 22** overleaf.



Map 22: Matlosana Urban Edge as defined in terms of City of Matlosana Spatial Development Framework (2021)

As is evident from **Map 22**, the proposed township areas of Tigane Extension 7 and Tigane Extension 8 are located inside the demarcated Urban Edge and will address the majority of strategic interventions in respect of densification and integration, urban infill, the planning and provision of bulk infrastructure for new development areas as well as the planning and development of new township establishment in such a manner that it will enhance integration of areas.

The proposed development will provide for an integrated human settlement focussing primarily on subsidized housing. It also aims at addressing the Millennium Development Goals set in respect of the eradication of informal settlements, promoting the integration of areas and infill development and will also discourage the illegal occupation of land.

With regard to housing needs / demand, the current backlog in housing is estimated at 38 500 stands and houses (this excludes the current housing projects and blocked projects). The residential mix according to the most recent market analysis is estimated as follows:

- Subsidised (62%) - 24 532
- FLISP (26.2%) - 10 366
- Affordable (11.8%) - 4 669

Above-mentioned include the backlog as well as the expected 5 year growth.

The estimated housing and land needs per urban area (based on population size), as determined in terms of the recently promulgated City of Matlosana Spatial Development Framework (2021), are set out in **Table 27** below.

**Table 27: Estimated Housing and Land Needs per urban area (based on population size)**

Number of stands	Klerksdorp / Jouberton / Alabama	Stilfontein / Khuma	Orkney / Kanana	Hartbeesfontein / Tigane
Subsidised	12 748	4 240	6 298	1 246
FLISP	5 387	1 792	2 661	526
Affordable	2 426	807	1 199	237
<b>TOTAL</b>	<b>20 562</b>	<b>6 839</b>	<b>10 158</b>	<b>2 009</b>
Land Requirements	Klerksdorp / Jouberton / Alabama	Stilfontein / Khuma	Orkney / Kanana	Hartbeesfontein / Tigane
Subsidised	637 ha	212 ha	315 ha	62 ha
FLISP	337 ha	166 ha	112 ha	33 ha
Affordable	162 ha	80 ha	54 ha	16 ha
<b>TOTAL</b>	<b>1136 ha</b>	<b>458 ha</b>	<b>481 ha</b>	<b>111 ha</b>

The proposed development will address the current as well as the medium term need/demand for residential erven in the Tigane urban area and will formalise the existing informal settlement on site.

From the above it is clear that the proposed development is in line with the development proposals contained in the local SDF.

## **6.18 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.

## **6.19 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 2997 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 City of Matlosana Local Municipality Spatial Development Framework, 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 is also within the demarcated urban edge as defined in terms of the 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. This development will provide access to land and security of tenure to a disadvantaged community and residents of an informal settlement residing in squalid conditions without basic services.

- (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 City of Matlosana 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 Klerksdorp Land Use Management Scheme, 2005 (and any subsequent amendments thereof). 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 existing urban area of Tigane. 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. These new township developments will afford the community of Tigane 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 will positively affect not only the value of this property but also those of the surrounding areas as it entails the eradication of an informal settlement area where residents resided in squalid conditions. The provision of suitable housing and proper, functional services networks will address the plight of the inhabitants and will give rise to a properly integrated human settlement area that integrates with the remainder of the existing urban area of Tigane.

- 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 the City of Matlosana Local Municipality has sufficient fiscal, institutional and administrative capacity and resources to administer the development. The City of Matlosana Local Municipality will ensure that the development complies with the requirements contained in the Klerksdorp Land Use Management Scheme, 2005 and the City of Matlosana Spatial Development Framework, 2021.

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

The area where the concerned properties are situated is not regarded as prime or unique 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 development will not be situated in an ecological sensitive area or in places of hazard or high risk, such as within the flood plain. 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 Economic Development, Environment, Conservation and Tourism (DEDECT) and set out in the relevant Environmental Authorisation, to be forwarded to the Local Authority upon receipt thereof.

**(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**

The proposed development will take place within the demarcated urban edge as set out in the City of Matlosana Spatial Development Framework, 2021. 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 or 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 Tigane extensions in the south.

**(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. It is evident from the existing informal settlement on site that the proposed residential uses are viable and that the need for adequate housing exists in this area. In addition, the proposed layout plan has made provision for complementary land uses to support the residential component, such as educational, social and economic facilities.

**(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.

**(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 areas of Tigane Extension 7 and 8 will be processed in accordance with the prescriptions of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management (2016). 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 specifically aimed at providing opportunities for people that are currently devoid of land for proper housing purposes. The provision of proper housing for the landless community of Tigane



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 City of Matlosana Local Municipality has a Spatial Development Framework and employs the Klerksdorp Land Use Management Scheme, 2005 as part of its land use management system. In terms of the 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 Spatial Development Framework. The Klerksdorp Land Use Management Scheme, 2005, 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 have been consulted during the compilation of the 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. Kenneth Kaunda District Municipality (DRKKDM)
- 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 (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)
- Midvaal Water
- Department of 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 to be undertaken as part of this township establishment application will include the following:

- Publishing notices of the application (as set out in **Annexure C1** of the comprehensive Land Development Application) in the Klerksdorp Rekord in Afrikaans & English as contemplated in Section 94(2)(a) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.
- 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 94(2)(b) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.
- 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 97(1)(a) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.

- Notices to adjacent property owners (as set out in **Annexure C4** of the comprehensive Land Development Application) as contemplated in Section 95(1)(c) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.
- 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 97(1)(f) of the City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016.
  - Department of Public Works and Roads
  - Openserve (Telkom SA Limited)
  - Eskom
  - Dr. Kenneth Kaunda District Municipality (DRKKDM)
  - 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 (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)
  - Midvaal Water
  - Department of 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 City of Matlosana Spatial Planning and Land Use Management Municipal By-Law on Spatial Planning and Land Use Management, 2016 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.



## 6.20 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 two (2) proper integrated human settlements 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. The proposed development will afford the current residents on site the opportunity to obtain tenure and will formalise the existing informal settlement on site.
- The proposed development area is located north of the existing Tigane, in an area earmarked for residential development purposes. The proposed townships constitute the logical extension of the existing built-up urban area of Tigane within the delineated urban edge. Several informal dwellings are already present on site, indicating the natural growth direction of Tigane.
- The proposed township areas are easily accessible due to their location in close proximity to District Road 149 and will integrate well with the existing road network in Tigane Extensions 3 and 6.
- The layout plans that were compiled in respect of the township areas comprehensively address 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 areas from District Road 149 in the east;
  - Integrating the proposed road network with that of the existing Tigane Extensions 3 and 6 in the south;
  - Accommodating the 1:100 year flood line in the north-western corner of the application site to ensure no erven are affected thereby;
  - On discovery of seepage in the services trenches specifically in the area adjacent to the unnamed non-perennial stream, the initial layout plan of the proposed township Tigane Extension 8 was revised to remove the erven that could be affected negatively by the perched water table;
  - Providing for the development of complementary land uses on site to provide essential business and social services to the community;
  - Accommodating the existing cemetery on site and making adequate provision for future expansion thereof;
  - Engineering services can be provided to the proposed township area;
  - The Heritage Resources Impact Assessment concluded that the proposed development will not impact negatively on existing heritage resources and

the subsequent Desktop Palaeontological Impact Assessment similarly concluded that it is extremely unlikely that fossils will be exposed as a result of this development

- Traffic generated by the development can be accommodated within the existing road network subject to the necessary road and intersections upgrades proposed in terms of the Traffic Impact Study;
- The Environmental Impact Assessment Practitioner also concluded that no significant impacts that cannot be mitigated were identified and that the development 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. PIn A/924/1996**