

## **PART ONE: INTRODUCTION**

### **1.1 BACKGROUND**

According to section 26 of the Municipal System Act (Act No. 32 of 2000), the Spatial Development framework is a legally required component of the Municipal's IDP. The spatial development document seeks to provide more detail to the spatial planning and land use management approach set out in the IDP.

When approved by the Municipal council, the Spatial development framework becomes an official planning tool, serving to guide and inform all decision made by the Polokwane Municipality on spatial development and land use management in its area of jurisdiction.

The spatial development framework is however not to be regarded as a comprehensive blue print plan. It is rather a flexible framework which aims to guide spatial development decision-making and management, in order to implement the municipality's vision out in the IDP.

### **1.2 PURPOSE OF THE SPATIAL DEVELOPMENT FRAMEWORK**

The SDF is aims to:

- Function as a strategic, indicative and flexible forward planning tool, to guide decisions on land development.
- Develop a set of policies, principles and an approach to the management of spatial development in Sebayeng, which is clear enough to guide decision-makers in dealing with land development applications. It will serve to inform the formulation of a new land use management system.
- Provide a clear and logical framework for spatial development by providing an indication of where the public sector would support certain form of development, and where state investment is likely to be targeted in the short to medium term.
- Based on this, provide a clear spatial logistic that would facilitate private sector decisions on investment in the built environment:
- Facilitate the social, economic and environmental sustainability of the area.
- In a rural context, provide a framework for dealing with key issues such as natural resources management, land reform, subdivision of rural land and the conservation of prime agricultural land.

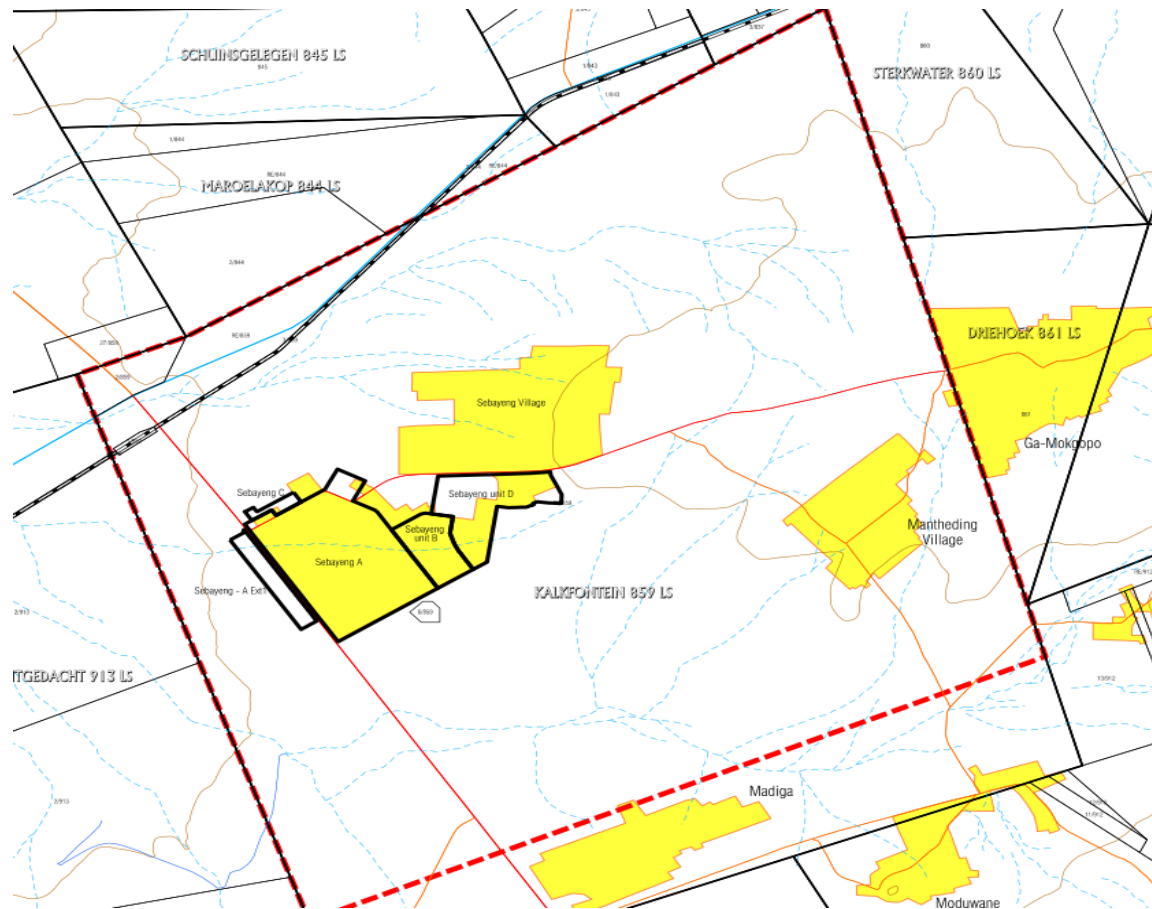
### **1.3 STUDY AREA**

The Sebayeng area is situated approximately 30 km to the north east of the city of Polokwane in the Capricorn District of Limpopo. The settlement is a product of the historic apartheid spatial pattern in that it is one of the many clusters of less formal settlements situated on the outskirts of the formal economy of Polokwane.

The study area consists of 16,396 people which translate into 4,099 households. The households are dominantly Black Africans, with a large portion of young and adolescent inhabitants. There is also a strong component of youth and an older more stable adult population. The residents reflect a low level of education, but more than two thirds are currently employed. This translates to a moderate dependency ratio. The main sectors of employment for the households are in community, social, wholesale and retail trade, manufacturing, transport and communication. The inhabitants are pre-dominantly employed as service and shop

workers, clerks, technicians and associate professionals. The average monthly income is approximately R3, 031.60 per household. This amounts to R36, 378.60 per household annually. The main modes of transportation include minibus and bus transport as well as walking.

Figure 1: Study area



## 1.4 RELATIONSHIP BETWEEN SDF AND IDP

The Spatial development framework, a component of IDP serves to inform the IDP on strategies for identified spatial issues. It provide a common vision and objective for orderly spatial development.

The SDF will also deal with the development of an appropriate Land Use Management System, based on the different requirements of different area within a municipality.

## 1.5 STRATEGIC FRAMEWORK FOR SPATIAL DEVELOPMENT

The spatial development framework aims to guide the municipality's priority spending in terms of development. This is in line with the vision of the municipality which is defined in the IDP. This SDF clearly indicates the spatial form as well as the direction of growth of Sebayeng.

Alignment between the IDP and the SDF will be guided by the other planning disciplines like the Municipal, District and Provincial Development Framework

City of Polokwane Spatial Development Framework

The CPSDF approach on development is as follows:

- Promotion of sustainable urban development
- Maximizing return on capital spend on projects
- Social upliftment and the alleviation of poverty- increase in living standards.
- Promotion of higher level of social and community services in close proximity to residents.
- Cost-effective promotion of higher level of civil services.

There are specific spatial principles, which the CPSDF takes cognizance of when formulating a strategic approach to spatial development and management. They are noted as follows:

- The verification of the proposed urban edge in order to promote compactness and prevent urban sprawl
- The integration of the settlements by way of urban infilling along corridors.
- Capitalization on the activity corridors and spines running through the area for the establishment of activity nodes. Those nodes could include inter alia business, offices, social amenities, recreation and higher residential densities especially Sebayeng A and B, and Ga-Mokgopo should be encouraged to develop towards the R81.
- The formalization of informal settlements that forms part of this cluster should be viewed as a high priority.
- The identification of an open space system which will protect sensitive areas such as hills and ridges, streams and wetlands, but also reserve/zones area for future sport and recreational purposes.

- The integration of local economic development (LED) initiates with spatial development in order to create job opportunities in close proximity to where people stay. This could include the provision of urban-agriculture, agri-industries and cooperatives and transport related activities.

There are three basic level of approach for strategic investment. They are noted as follows:

### **Basic need to all – Level 1**

Providing basic services, at RDP standards level to urban and rural settlements based on:

- Available resources with guidance given by backlogs in these areas
- Proximity of existing bulk infrastructure and priorities.

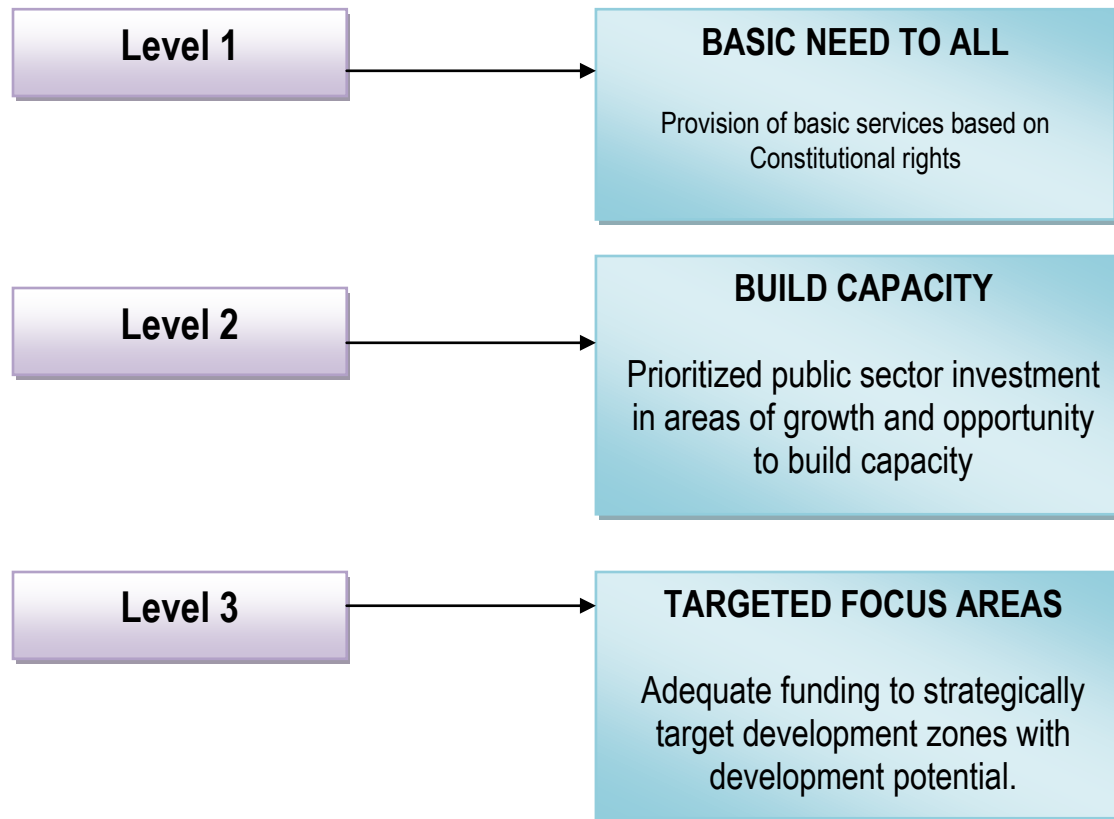
### **Capacity Building –Level 2**

Strengthening of Local Capacity through proper management of investment of public with adequate funding in urban and rural areas. Capacity building would include institutional capacity building, skills transfer and community empowerment. Maximum use of existing resources through upgrading infrastructure.

### **Targeted Focus Area – Level 3**

- Development zones, nodal areas and corridors with potential area provided with adequate funding.
- Development focused in areas with special characteristics to attract public and private investors.
- In an urban area development could occur at a transport interchange to gain SMME spin-offs for the local community. In rural area investment could be channeled in areas where potential exists for community-based tourism, private sector tourism and agriculture.

## Policy Approach



## 1.6 OVERVIEW OF PROJECT METHODOLOGY

### Phase 1 – Analysis

This stage involves gathering information regarding the status quo of Sebayeng. Planning principles and concepts are used as guidelines for purposes of analyzing the information.

### Phase 2 – Key Issues, Objectives and Strategies

The key issues formed the basis of deriving objectives and strategies with the guidance of planning principles and concepts

### Phase 3 – Development Framework

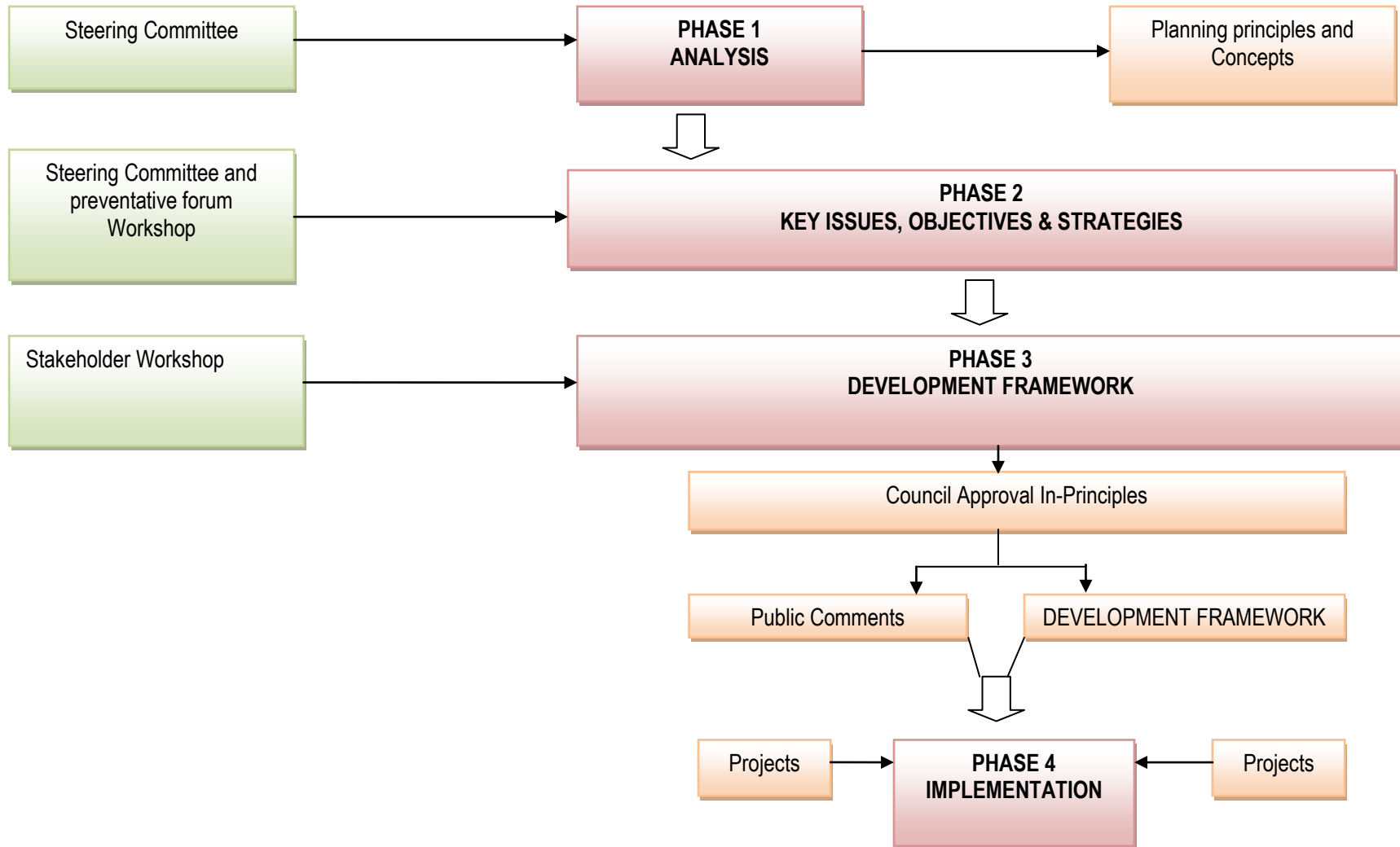
Project proposals were practical implements formulate to carry out the identified objectives and strategies. Project proposals which give a clear picture of the spatial form and direction of growth will be clearly illustrated on maps with guidance of planning principles and concepts. Land use management guidance will also form part of the development framework.

### Phase 4 – Implementation Plan

This phase is aimed at informing the municipality's planning on how the project proposals are to be implemented in terms of budget allocations and institutional capacity. An implantation programme will be development and aligned with the budget. After the third phase the draft Development framework will be presented to council and to the public for comments.

The process outlined above is illustrated in diagram below:

## Overview of project Methodology



## 1.7 INTEGRATED ENVIRONMENTAL MANAGEMENT INTO PLANNING

City of Polokwane Integrated development Plan (2012 -2013/15) identified sustainable development and sound environmental management as one its principles. Sustainable development, defines as “development that delivers basic environmental, social and economic services to all without threatening the viability of the natural, built and social systems upon which these services depend”, is presently questionable within Sebayeng context.

Because of its rural setting, most of Sebayeng’s inhabitants rely heavy on land resources to make living. Livelihood strategies utilize environmental resources, with utilization far outweighing management of these resources. This mismatch has resulted in degradation, which, if not addressed, could affect opportunities for the local population to make a living.

## 1.8 THE STRATEGIC ENVIRONMENTAL ASSESSMENT TOOL FOR SEBAYENG

Sebayeng has made a decision to use the Strategic Environmental Assessment (SEA) tool as a means of striking a balance between promoting economic development, utilizing land resources, and effective environmental protection.

The SEA is a formalized, systematic and comprehensive process through which environmental protection and sustainable development may be considered and factored into decision regarding government plans and programmes. It is a formalized, systematic and comprehensive process, which identifies and evaluates the environmental consequences of proposed policies, plans or programmes. They ensure that they are fully included and appropriately addressed at the earliest possible stage of decision-making on par with economic and social considerations.

SEA is a highly effective means of integration environmental (social, biological, physical and economic) issues into land-use management and development planning.

It is important to note that SEA does not replace or reduce the need for project-level Environmental Impact Assessment (EIA), but can help to streamlines the incorporation of environmental concerns into the decision-making, thus making project-level EIA a more effective process

## 1.9 ENVIRONMENTAL ASSESSMENT METHODOLOGY

The methodology and proposed outcomes are outlines below:

- Identification and analysis of the key environmental (social-economic, bio-physical and institutional) needs, opportunities and constrains components.
- Understanding of the environmental needs of the community within Sebayeng.
- Understanding of the relationship between people, environment and the economy in order to achieve Integrated Environmental Management (IEM)
- Establishment of a vision and framework that positions Sebayeng in a broader context and within which development needs and opportunities of Sebayeng can be realized and
- Recommendations and guidelines for the sustainable development of Sebayeng.



## 1.10 SIGNIFICANCE OF THE ENVIRONMENTAL ASSESSMENT

The purpose of the assessment and report is to integrate environmental considerations into the development framework, determine and document environmental implications of the proposed development framework, together with the potential development and production activities could result from the recommendations of the framework.

## PART TWO: GUIDING POLICY FRAMEWORK

Prior to 1994, the country was previously marked by racial laws and policies that controlled and manipulated land use and development. This characteristic of the legal system gave rise to certain political and socio-economic spatial patterns, which resulted in fragmented and segregated developments. As a result, South Africa spelt out evidence of biased trends and non-flexible planning systems.

The new democratic government seeks to do away with inequities by developing laws and policies that support integrated, principle-led planning and development while addressing people's rights. This can be achieved by using facilitation as a process for achieving transformed development.

The approach to this new spatial form is influenced and guided by the following legislative and policy norms:

### National:

- The Municipal Systems Act (Act 32 of 2000)
- The white paper on wise Land Use: (Spatial Planning and land Use Management March 2001)
- The draft Land Use Management Bill
- National Environmental Management Act
- National Environmental Conservation Act
- National Environmental Management Biodiversity Act
- Housing Act, Act No 107 of 1997
- The National Water Act 39 of 1998
- Prevention and remedying effect of pollution

### Provincial:

- Sustainable Livelihood Approach
- Limpopo Spatial Rational
- Limpopo Provincial Growth & Development Strategy

### Local :

- Polokwane IDP 2012-2013/15
- City of Polokwane Spatial Development Framework
- Polokwane LED
- Polokwane Neighborhood Development Partnership Gran: Transportation Assessment
- Polokwane Neighborhood Development Partnership Grant

## **2.1 NATIONAL**

### **2.1.1 THE MUNICIPAL SYSTEM ACT**

The Municipal System Act of 2000 recognizes the IDP as a major planning tool which guides and informs all decisions with to planning, management and development in a Municipality.

The Spatial Development Framework, a component of the IDP will now fulfill role of being a forward plan describing the intended nature of spatial development system in a municipal area. In terms of Section 35(2) of the Act. "An SDF contained in an IDP prevails over a plan as defined in section 1 of the Physical Planning Act (act No.125 of 1991)

### **2.1.2 THE WHITE PAPER ON WISE LAND USE: (SPATIAL PLANNING AND LAND USE MANAGEMENT)**

The white paper recognizes the preparation and approval of a SDF, as the most critical spatial planning responsibility within all three spheres of government. It further states that the framework will thus become a central element in the system of co-operative governance and developmental local government.

The white paper builds on the conceptual approach to land use and development outlined in the development facilitation Act and also emphasizes on the normative approach to spatial planning and land use management.

As SDF is to be aligned with legislative principles and norms through it should provide guiding solutions to the spatial problems prevailing in its region of jurisdiction. The SDF seeks to give practical effects to the principles and norms established in law.

### **2.1.3 THE LAND USE MANAGEMENT BILL**

The purpose of formulation of the Draft land Use management bill is to substitute the physical Planning Act and other land use and Spatial Acts and ordinances. The objective of the Bill is to enable government and especially local government to address, confront and resolve the spatial economic social and environmental problems of the country.

the bill will also provide a framework necessary for the land development activities of all sectors and sphere of the overarching development needs of society as well as form a comprehensive framework for local authority embarking on Integrated development Planning.

Laws can be enabling, in that they provide legal support for positive action as well incentives for that action. However neither policy nor laws have any effectiveness unless proper institutional arrangements and a commitment and capacity to implement the powers given to those institutions by the individual involved, are in place.

### 2.1.4 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NEMA) 107 OF 1998

The NEMA principles serve as guidelines for utilizing environmental resources and guide the interpretation of the law concerned with the environment with reference to protection or management of the environment.

According to NEMA

- Environment management must place people and their needs at the forefront of it concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
- Development must be socially, environmentally and economically sustainable.
- Development must avoid and/or minimis disturbance of ecosystems and loss of biological diversity, and avoid pollution and degradation of the environment.
- Disturbance of landscapes and sites that constitute the nation's cultural heritage must be avoided.
- Mininimising, re-use and recycling of waste must be pursued.
- Over-exploitation of non-renewable natural resources must be avoided.
- Negative impacts on the environmental options and environmental rights be anticipated and prevented.
- Best practicable environmental options and environmental justice must be pursued to avoid unfair discrimination against any person, particularly vulnerable and disadvantaged persons.
- Equitable access to environmental resources, benefits and services to meet basic human needs and ensure access by disadvantaged persons.
- Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, services or activity should exist throughout its life cycle.

### 2.1.5 ENVIRONMENTAL CONSERVATION ACT, 1989

Sections of the South African legislation quoted below are those to be most applicable to Sebayeng based on observations and discussions with stakeholders.

#### A. Control of environmental pollution: prohibition of littering

No person shall discard, dump or leave any litter on any land or water surface, street, road or site in or on any place to which the public has access, except in a container or at a place which has been specially indicated, provided or set apart for such purposes.

Every person or authority in control of responsible for the maintenance of any place to which the public has access shall at all times ensure that containers or rubbish disposal areas are provided which will normally be adequate and suitable for the discarding of litter by the public.

#### B. Control of Environmental pollution: waste management

No person shall establish, provide or operate any disposal site without a permit issued by the Minister of water affairs and that minister may

Sebayeng Framework Plan 2012 -Macro

(a) Issue a permit subject to such conditions as he may deem fit:

(b) Alter or cancel any permit or condition in a permit

(c) Refuse to issue a permit

**C. Control of activities which may detrimental effect on environmental effect on the environment: Identification of activates which will probably have detrimental effects to the environmental**

The Minister may by notice in the Gazette identify those activities, which in his opinion may have a substantial detrimental effect on the environment, whether in general or in respect of certain areas.

Activates which are identified in terms of subsection (1) may include any activates in any of the following categories, provided that this Notices is not applicable to an activity that was commenced with before the date of commencement fixed in respect of that activity as indicated in the said schedule, but are not limited thereto:

(a) Land use and transformation;

(b) Water use and disposal;

(c) Resources renewal, including natural living resources:

(d) Resource renewal;

(e) Agricultural processes;

(f) Industrial processes;

(g) Transportation;

**D. Regulations regarding environmental impact reports**

The Minister or a competent authority, may make regulations with regard to any activity identified or prohibited concerning:

(a) The scope and content of environmental impact reports,

(b) The drafting and evolution of environmental impact reports and of the effect of the activity in question and the alternative activities on the environment: and

(c) The procedure to be followed in the course of and after the performance of the activity in question or the alternative activities in order to substantiate the estimations of the environmental impact report and to provide for preventative or additional actions if deemed necessary or desirable.

**E. Regulations regarding limited development areas**

The competent authority may make regulations with regard to limited development areas, concerning:

(a) The imposition of restrictions on the nature and extent of development or activities in connection with development in such areas;

(b) The procedure to be followed for obtaining permission for development in such area; and

(c) The repair of damage to the environment in such areas by unauthorized development or activities

## **2.1.6 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, ACT NO.10, 2004**

### **A. Protection of threatened or protected ecosystems**

The law provide for protection of critically endangered and vulnerable ecosystems protection. Wetlands are important ecosystems and can therefore qualify as threatened ecosystems that need for special protection. Based on criteria of the Act, Sebayeng wetlands could qualify as vulnerable ecosystems, being ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention.

### **B. Protection of threatened or protected species**

The indigenous forest at Sebayeng does not qualify as a protected ecosystem, being ecosystems that are of low conservation value or of low national or provincial importance. Indigenous forests are protected in South Africa.

Based on the act, an organ of state that must prepare an environmental implementation or environmental management Act, and the municipality that must adopt an IDP in terms of the local Government: Municipal System Act, 2000 ( Act No.32 of 2000), must take into account the need for the protection of listed ecosystems.

### **C. Duty of care relating to listed invasive species**

According to section 73 (1) of the Act, a person who is the owner of land on which a listed invasive species occurs must-

- (a) Notify any relevant competent authority, in writing, of the listed invasive species occurring on the land;
- (b) Take steps to control and eradicate the listed invasive species and to prevent it from spreading; and
- (c) Take all the required steps to prevent or minimize harm to biodiversity. Control and eradication of a listed invasive species concerned and the environment in which it occurs.

## **2.1.7 HOUSING ACT, ACT NO. 107 OF 1997**

Principles of the general principles applicable to housing development states that national, provincial and local spheres of government must take due cognizance of the impact and housing development on the environment;

All spheres of government have to ensure that housing is economically, fiscally, socially and financially affordable and sustainable

As part of integrated development planning, one of the stated functions of Municipalities according of the Act is to ensure that services in respect of water, sanitation, electricity, roads, storm water drainage and transport are provided in a manner which is economical efficient and sustainable.

### **2.1.8 NATIONAL WATER ACT: ACT NO 36 OF 1998**

The national water act provides guidelines on the proper uses of South African Water resources taking into account:

- Scarcity of water resources around the country,
- Uneven distribution,
- The right to equal access by all citizens of the Republic,
- Government's responsibility for equitable allocation,
- The need for sustainable water resources management,
- The need to maintain good quality water for all, and
- The need for the delegation of management functions to a regional or catchment level bodies so as to enable everyone to participate.

### **2.1.9 PREVENTION AND REMEDYING EFFECTS OF POLLUTION**

- (1) An owner of land, a person in control of land or a person who occupies or uses the land on which:
  - (a) Any activity or process is or was performed or undertaken: or
  - (b) Any other situation exist, which causes, has caused or is likely to cause pollution of a water resources, must take all reasonable measures to prevent any or such pollution from occurring, continuing or recurring.
  
- (2) The measures referred to in subsection (1) may include measures to:
  - (a) Cease, modify or control any act or process causing the pollution;
  - (b) Comply with any prescribed waste standard or management practice;
  - (c) Contain or prevent the movement of pollutants;
  - (d) Eliminate any source of the pollution;
  - (e) Remedy the effects of the pollution; and
  - (f) Remedy the effects of any disturbance to the bed and banks of a watercourse

## **2.2 PROVINCIAL**

### **2.2.1 SUSTAINABLE LIVELIHOOD APPROACH**

In an endeavor to bring about development, the municipality has adopted sustainable livelihoods as a development approach.

Sustainable livelihood approaches are centred on people and their livelihoods. As a development approach, sustainable livelihoods represent a positive evolution in thinking around poverty elimination, and differs from other approaches to development in that:

- It puts people at the centre of development. People, rather than the resources they use or the governments that serve them, are a priority.
- It builds upon people's strengths rather than their needs.
- It brings together all relevant aspects of people's lives and livelihoods into development planning, implementation and evaluation.
- It unifies different sectors behind a common framework.
- It takes into account how development decisions affect distinct groups, such as women, youth and disabled as compared to other groupings.
- It emphasizes the importance of understanding the links between policy decisions and household level activities.
- It draws in relevant partners whether State, civil or private, local, national, regional or international.
- It responds quickly to changing circumstances.

### 2.2.2 LIMPOPO SPATIAL RATIONALE

The Limpopo Spatial Rationale has created a hierarchy of settlements from provincial growth points to scattered settlements. Development interventions are proposed in terms of infrastructure provision and government services in such a manner that the natural economic potential of growth points is realized.

- Interventions at scattered settlements are such that basic services are provided to ensure that the quality of life objective in the Growth and Development Strategy is achieved, but that prevents over investment in places that are depopulating.
- The Spatial Rationale reaffirms Polokwane as the main provincial growth point of Limpopo

### 2.2.3 LIMPOPO PROVINCIAL GROWTH & DEVELOPMENT STRATEGY

In line with the broader national growth strategy, the Limpopo Provincial Government has adopted a Provincial Growth and Development Strategy.

The strategy hinges upon the following five development objectives:

- The need to improve the quality of life of the population of Limpopo.
- Develop human resources.
- Improve health and social statuses of population.
- Reduce crime and corruption.
- Meet basic needs of people.
- Promote safe and healthy environment.
- Meet needs of specific communities.

### Growing the economy of the Province:

---

Sebayeng Framework Plan 2012 -Macro



- Job creation.
- Increase investments.
- Develop and improve economic infrastructure.

**Attain regional integration:**

- Establish partnerships nationally and with neighboring states.

**Enhance innovation and competitiveness:**

- Undertake research and development.
- Improve capacity and knowledge of manufacturing sector
- Bridge the digital divide and build information society in Limpopo.

**Improve the institutional efficiency and effectiveness of government:**

- Improve customer satisfaction.
- Increase institutional capacity.
- Implement e-government strategy
- Co-operative governance.

## 2.3 LOCAL

### 2.3.1 POLOKWANE IDP 2012-2013/15

**The Vision of the Polokwane Municipality is to achieve:**

“A safe, prosperous and caring municipality, free of poverty and inequality; promoting participatory development and providing sustainable quality services for a better life for all.”

**The Mission of the Polokwane Municipality states as follows:**

“To build prosperity, eradicate poverty and inequality, and promote the social, political and economic empowerment of all our people through sustainable delivery of quality services, community participation and smart administration.”

Against the backdrop of the Vision and Mission, the municipality defined the following Key Performance Areas:

- Service Delivery and Infrastructure Investment.
- Local Economic Development.
- Sustainability.
- Municipal Transformation and Institutional Development.
- Good Governance and Public Participation.

### 2.3.2 CITY OF POLOKWANE SPATIAL DEVELOPMENT FRAMEWORK 2010

The Polokwane Spatial Development Framework is aligned to the Limpopo Provincial Spatial Rationale and comprises the three levels of plans, namely a macro spatial development framework, local spatial development frameworks and local framework plans or specific policies, which guide spatial planning and land use management.

Polokwane Macro Spatial Development Framework mainly comprises the following:

#### **Hierarchy of Settlements:**

- First to fifth order Settlements.
- Provincial, district and municipal growth points.
- Five dominant clusters.
- Strategic Development Areas.
- Functional Development Areas.

#### **Macro Land Use and areas of importance:**

- Open space system and nature conservation areas.
- Macro Land Uses and areas of significant importance, including the proposed Industrial Development Zone.
- Radial road network.
- Future Spatial Form and Major directions of desired growth.
- National and Provincial Corridor and routes and strategic development initiatives.

### 2.3.3 POLOKWANE LED

The mission of the municipality is to build prosperity, eradicate poverty and inequality, and promote the social, political and economic empowerment of all our people through sustainable delivery of quality services, community participation and smart administration.

The value statement is noteworthy: “We shall strive, in all our activities and programs to be responsive, efficient, effective, transparent, informative, competitive, accountable, representative, consultative, loyal, honest and empowering.”

Five major strategic thrusts aimed at achieving the LED objective:

- Service Level Improvement for increased local area competitiveness.
- Competitive cluster promotion (logistics, agriculture, tourism and mining supply).
- Skills development and innovation.
- Informal economy support.

#### **2.3.4 POLOKWANE NEIGHBORHOOD DEVELOPMENT PARTNERSHIP GRANT: TRANSPORTATION ASSESSMENT**

The report was specifically compiled for Sebayeng and aims to provide guidance to the NDPG officials in identifying transport projects within the NDPG chosen neighborhoods. The report provides sufficient information to allow the NDPG officials to make informed decisions with regard to project prioritization and implementation. The purpose of the exercise was to assess the area according to a range of measures that would indicate its effectiveness based on the objectives of strategic plans and frameworks for the municipality, as well as for the province and country where applicable. The outcome of this assessment and the subsequent implementation of projects would result in a suitable/acceptable quality transport infrastructure and operations in the area which would form the platform for future economic investment and land use development.

#### **2.3.4 POLOKWANE NEIGHBORHOOD DEVELOPMENT PARTNERSHIP GRANT**

The purpose of this policy is to:

- Diversify local economy to catalyze growth
- Expand educational and entrepreneurial value chain into SMME development – entry to formal economy
- Promote investment through strategic partnerships in accordance with new economy principles –consumer based goods and services

## SECTION THREE: STATUS QUO REPORT

### 3.1 SOCIO-ECONOMIC CONDITIONS

Sebayeng is the third largest growth point of Polokwane Municipality. The area hosts a population of 16 396 people according to the 2011 national census, a growth of 27.1% from 12,900 in the 2001 census. The rapid increase of urbanization and in-migration increases pressure to address scattered and segregated settlements distorted by the apartheid legacy.

When the Sebayeng is compared to other similar nodal point with Polokwane Municipality, it is clear that although the five nodal points are of similar location in terms of population, the income and purchasing power of Sebayeng's inhabitants is less, suggesting a lower standard of living for most citizens.

56, 3% of Sebayeng live under the minimum living levels (MLL) as defined Quantec, which is high in comparison to the Polokwane Municipality's rate of 46.2%.

Sebayeng average annual household income is R 36, 378 compared to R 62, 523 for Seshego and R122, 291 for Mankweng/Nobody. The lower average income within Sebayeng remains a primary concern. According to NGPG 2010, 83 % o households earned less than R36, 378 per annual (or a maximum of R 3 031 per month, excluding social grants).

### 3.2 POPULATION GROWTH

Population growth is not equally distributed across Sebayeng. **Table 3.1** illustrates the population growth rates across Sebayeng's three areas between 2009 and 2011.

**Table 3.1: Population growth rates across Sebayeng's three areas (2009-2011)**

Area	2009 (No of People)	2010 (No of people)	2011 (No of People)
Sebayeng A	6244	6420	6584
Sebayeng B	7108	7308	7496
Mantheding	2192	2256	2316
<b>Total of Sebayeng</b>	<b>15544</b>	<b>15984</b>	<b>16396</b>

**Table 3.2: House Hold growth rates across Sebayeng's three areas (2009-2011)**

Area	2009 (No of HH)	2010 (No of HH)	2011 (No of HH)
Sebayeng A	1561	1605	548
Sebayeng B	1777	1827	564
Mantheding	2192	1874	579
<b>Total of Sebayeng</b>	<b>3886</b>	<b>13996</b>	<b>4099</b>

In the three years between 2009 and 2011, Sebayeng grew by 2.6%. This suggests that annually, the population grew by 852 persons – and most of this in the most impoverished, marginalized, predominantly rural areas, Assuming an average household size of 4 people this translated into a growth in housing demand by roughly 103 units annually.

### 3.3 LAND OWNERSHIP

Almost the entire study area belong to state, the farm Kalkfontein 859 LS which covers the whole study area, registered under the name of South African Native Trust. The farm is allocated to Dikgale tribal Authority.

The Municipality only owns Sebayeng A, A Ext 1, B, C and D, where residential and commercial stands are privately owned.

Sebayeng and Mantheding Village are under Dikgale Tribal Authority. The tribal authority control development within the two villages.

### 3.4 LAND USES

The general area is mainly used for subsistence farming, which includes grazing. Formally developed areas are found in the Sebayeng A, B, C and D .Sebayeng Village and Mantheding Village. Sebayeng B and D were allocated for RDP housing development and have been well established. The Sebayeng A can be described as a functional township, and has various basic services provided for in the area such as schools, clinic, filling station, shops and paved roads. Although some sections of the Sebayeng A are formally planned it is clear that the natural expansion of the area is inevitable. It is therefore of utmost importance that proper planning for the expansion of the village is undertaken. The Western boundary of the Sebayeng A is bordered by a road connecting Sebayeng and Mankweng. The area proposed for the expansion of the township is located to the North of the Sebayeng A, between Sebayeng A and the railway line. This area is mainly used for grazing purposes

There are two hatcheries located within the study area that is managed by LUNDS. The hatcheries however do not seem to function at full capacity and could be considered as a community project. Several informal sports fields have been established in the general area. **See Map 2: Zoning and Land Use Map**

## Non Residential land uses of within Sebayeng

**Table 3.3: Land uses in Sebayeng A**

non residential zoning	Erf numbers	Total number of non residential zoning
Industrial 1	(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24)	24
Municipal		1
Educational	(1248)	2
Institutional		1

**Table 3.4: Land uses in Sebayeng D**

Non residential zoning	Erf numbers	Total number of non residential zoning
Business 1	(116,103,104,105,106,107)	6
Educational	(259,203)	2
Public open space	(550)	1
Institutional	(218)	1

**Table 3.5: Land uses in Sebayeng Village**

Non residential zoning	Erf numbers	Total number of non residential zoning
Business 2		13
Educational		7
Private open space		2
Institutional		5
Municipal		8
Industrial		5

**Table 3.6: Land uses in Mantheding Village**

Non residential zoning	Erf numbers	Total number of non residential zoning
Business 2		10
Educational		3
Private open space		2
Institutional		3
Municipal		4

### 3.5 TRANSPORT MODAL

Transport modal was obtained from Polokwane Neighbourhood Development Partnership Grant: Transportation Assessment – Sebayeng

These inputs are subsequently discussed

- Public Transport
- Road Infrastructure
- Non-Motorized Transport
- Road Safety

Transportation modes within the Sebayeng are strongly related to income levels. The majority of low-income groups are dependent on public transport, both bus and Mini-bus. Middle- income groups are more dependent on private vehicular modes of transport.

#### 3.5.1 Public Transport

The minibus taxis are the main mode of public transport in Sebayeng. An informal bus stop was noted along one of the Class 5 roads, but no buses were observed in the area. Taxi operations predominantly occur along the paved roads, Route A and B. No public transport was identified on the Class 5 roads. Route A and B have the highest public transport demand and people converge over long distances for public transport along the entirety of these roads. Areas of particular high intensity uses such as schools are also located on these routes. A couple of taxi lay-bys are provided (refer to *Figure 1* and *Figure 2*); however they are not always located near high intensity land uses, causing taxis to stop randomly on the side of the road.

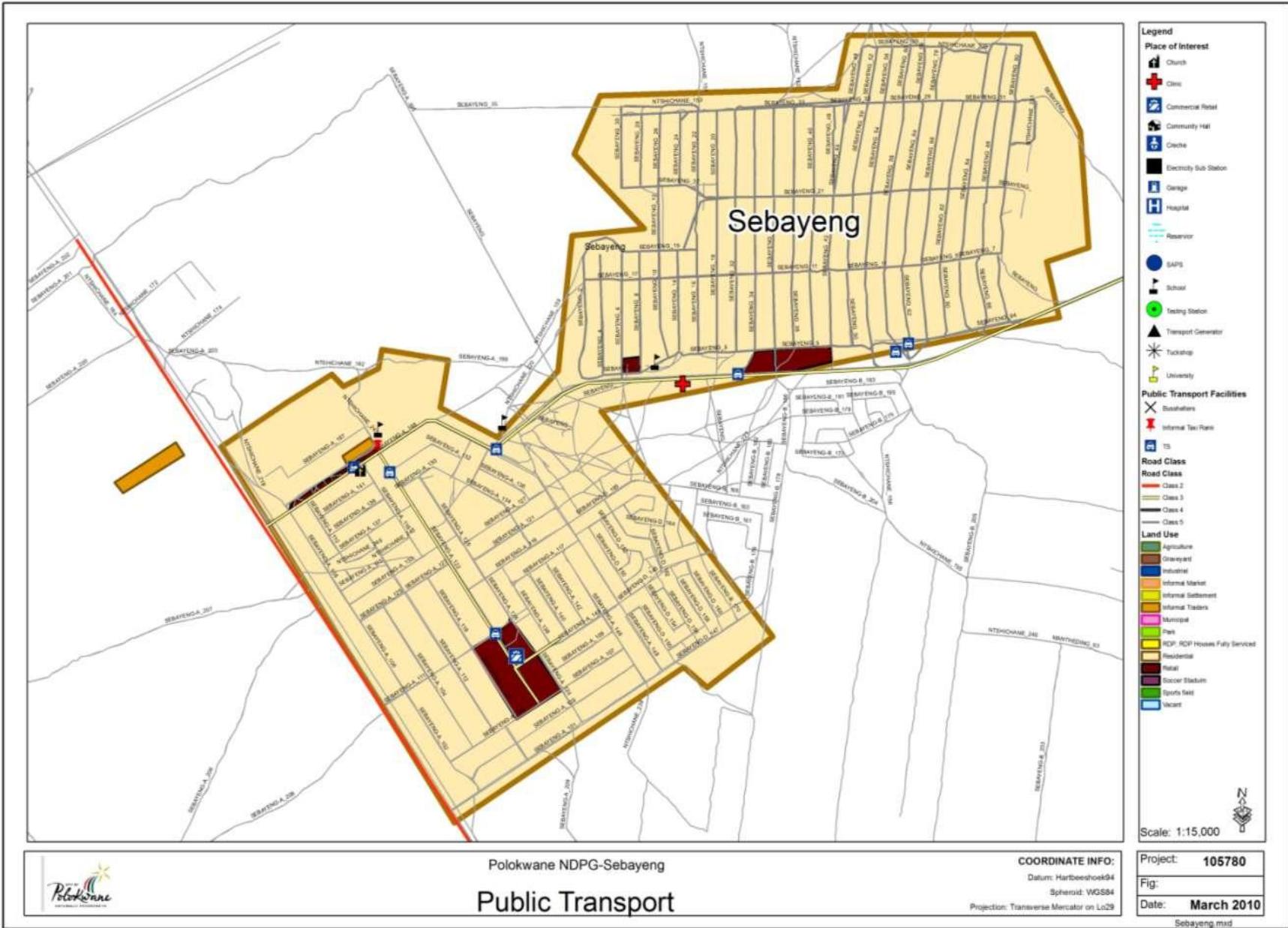
Figure 1: Current Taxi Lay-bys



Figure 2: Informal Taxi Holding Areas







Sebayeng Framework Plan 2012 -Macro



## Problems Identified

- The poor infrastructure provided for taxi operations
- No bus service was identified during the survey
- Limited formal taxi stops are provided within the township, lay-bys and shelters should be provided at 1 km intervals.
- No Public Transport amenities are provided.
- Lay-bys are not provided with proper shelters and where the shelters are present, they need to be upgraded.
- Taxies were observed picking up and off loading passengers at multiple informal locations.

### 3.5.2 Road Infrastructure

Route A and B are Class 3 and 4 roads respectively, which during the survey were found to be the only roads that are paved. Both roads have lane widths that are approximately 3m wide and can accommodate the current traffic, and although no street lighting is provided, a few large masts make up for their absence (refer to *Figure3* ). No stormwater infrastructure has been provided on either road. The condition of Route A is generally fair, however Route B was found to be poor and in need of urgent upgrading. Each road has varying degrees of potholes, road edges that are breaking off and paint marking maintenance requirements. As explained, Route A's urgency is the lesser of the two.

*Figure 3: High Mast Lighting in Sebayeng*



The majority of Class 5 or local residential streets are gravel roads that were cleared and widened. No form of stormwater and erosion management has been implemented resulting in the road material being weakened and washed away downstream by rainwater, ultimately forging ravines on the road. The roads that are

affected by this surface run-off have deep and uneven channels that impair driving, impede the movement of pedestrians and are a danger to children, specifically during wet conditions. The condition of the road network that is unpaved is illustrated in **Figure 4**. Almost no public lighting was found on the Class 5 roads. Street lighting is deemed an important part of street infrastructure, particularly from a safety and security point of view.

Control signs are occasionally provided on Route A, with a couple of intersections missing stop signs. No warning, symbolic and command signs were seen near schools, gentle curves and locations where animals were seen grazing along the road. Route B and the local residential streets are in dire need of road signs.

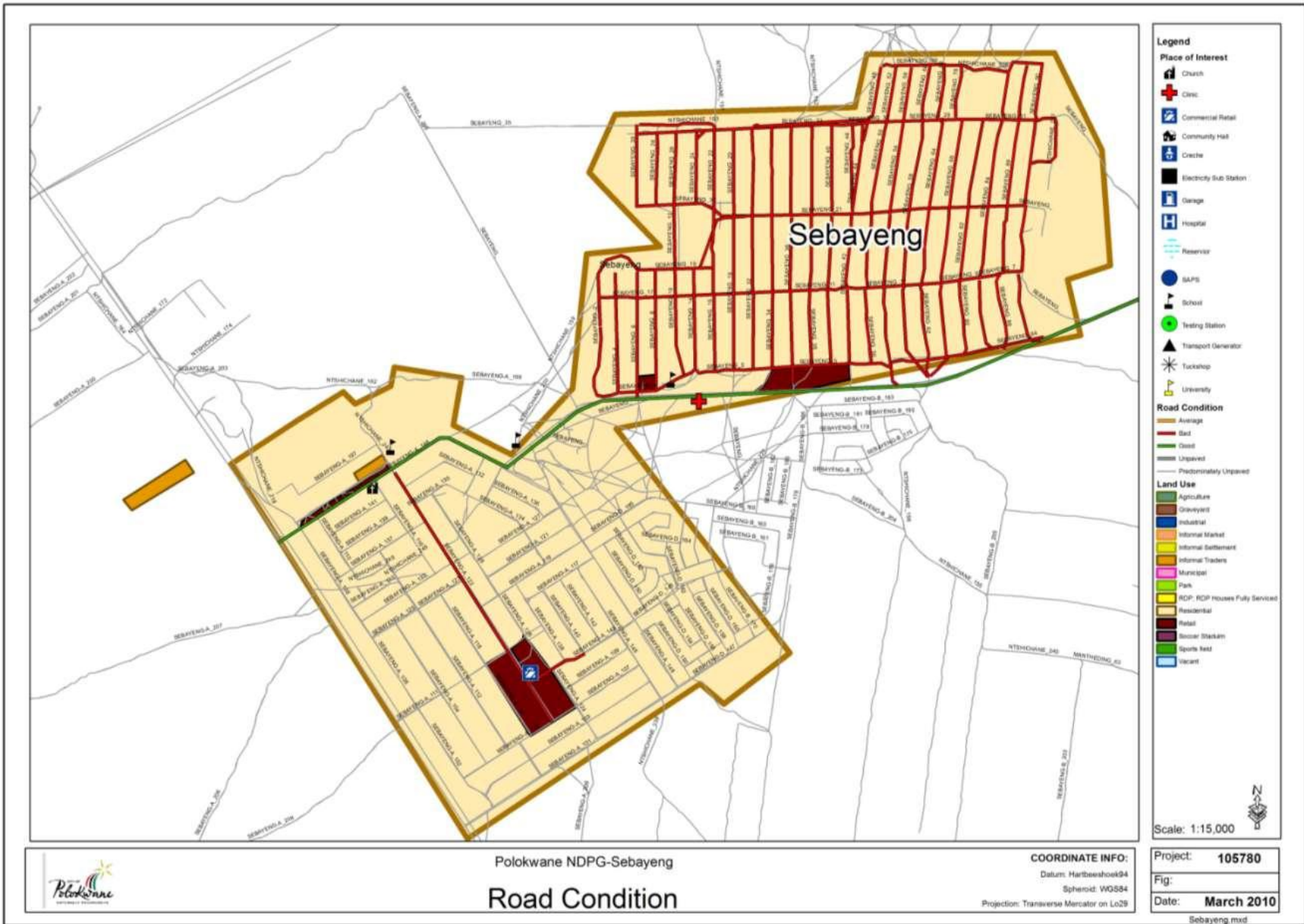
*Figure 4: Erosion due to Lack of Stormwater Infrastructure road infrastructure*



### Problems Identified

The main problems with regard to road infrastructure in Sebayeng include:

- Many poor and unpaved Class 5 streets,
- No stormwater infrastructure,
- Route B is in very poor condition



Sebayeng Framework Plan 2012 -Macro



### 3.5.3 Traffic operation

The road operations in Sebayeng are only in place on Route A and take the form of stop control. No further intersection control was observed. The map below (*Figure 5*) shows the traffic control at each intersection along with the recommended speed limits indicated.

The signs on Route A are in a good condition and compliant with SADC RTSM. *Figure 5* shows the typical condition of road signs found in Sebayeng.

The road hierarchy even though not formally defined seems sufficient to address the needs of the neighbourhood. Two higher order roads (Route A and Route B) provide access to vital land uses and the lower order gravel roads throughout the neighbourhood. The level of access for motorists onto higher order roads is appropriate. Access for pedestrians on Route A is restricted since pedestrian crossings are minimally provided near a few schools. No traffic calming exists near land uses such as clinics, churches and community centres.

*Figure 5: Typical Road Signage*



### Problems Identified

The road operational problem observed in Sebayeng includes:

- Very little signage throughout the entire area.
- Few traffic calming measures along surfaced roads



### 3.5.4 Non-Motorized Transport

NMT demand exists throughout the whole of Sebayeng, but its need is more extensive along Route A and B where residents gather to gain access to public transport. NMT conditions are poor throughout, particularly on the Class 5 roads where stormwater has undercut road edges and eroded deep furrows along the road, causing pathways to wash away and forcing pedestrians to share the road with vehicles. The pathways that are distinct are unpaved and no lighting, shelter, security, kerb ramps or any form of NMT infrastructure is provided.

A few painted pedestrian crossings and the corresponding symbolic signs are in place near some of the schools but overall, traffic calming is not evenly provided throughout Sebayeng. This impairs accessibility for pedestrians. No other traffic calming measures were identified. Initiatives that would improve the lives of the disabled and other special needs users in the area have not been implemented.

A map indicating the locations of pedestrian crossings in Sebayeng is given in *Figure 6*.

It is concerning that an area in which residents are so dependent upon other means of transport than private vehicles have so little infrastructure and systems benefitting such users. Pedestrians, cyclists and other NMT users are forced to either share the road with vehicles or make use of the side of the road which is either dusty or muddy depending on the weather. Either way NMT users are forced to make their way to their destinations in unsafe and uncomfortable conditions. The situation which pedestrians and other NMT users are forced to negotiate is illustrated in *Figure 6* below.

The road network, even if generally not pedestrian friendly is fairly permeable and has the potential of becoming quite an inviting NMT environment should proper infrastructure be installed and safety concerns be addressed.

*Figure 6: NMT Environment in Sebayeng*

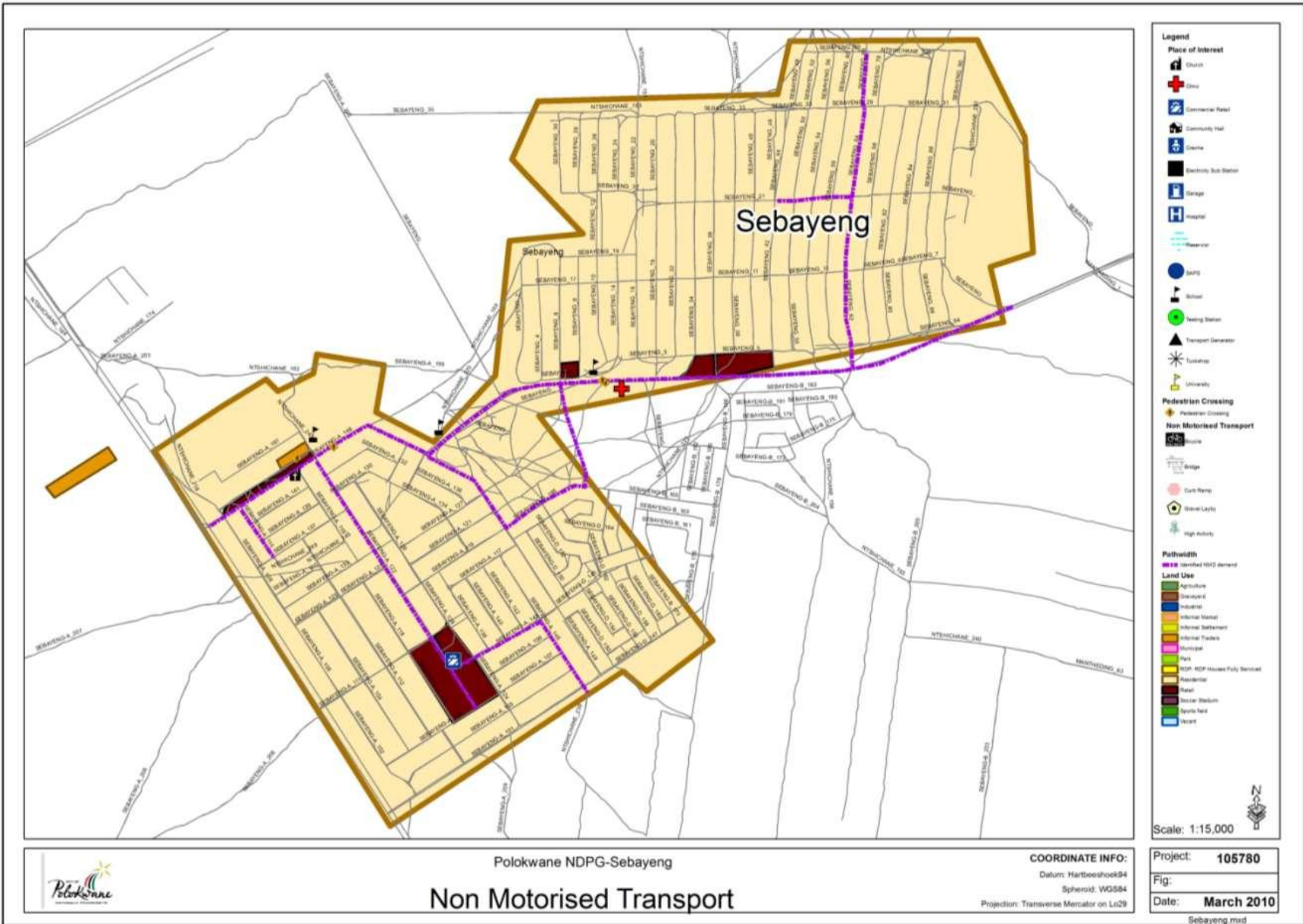


## Problems Identified

The problems with the Sebayeng Transport System, from a NMT point of view are:

- NMT infrastructure is not provided,
- Pedestrian crossings are not to standard and unsafe,
- No safety zones provided around high intensity uses





Sebayeng Framework Plan 2012 -Macro



### 3.5.5 Road Safety

Findings in terms of road safety can generally be categorized within the other survey categories, and are reiterated under this section in order to highlight a comprehensive summary of road safety findings.

The road operations in Sebayeng were predominantly found to be „informal“. Many intersections have no form of control and it would seem that a practice of negotiating conflicting traffic per situation is in place. Additionally many streets, particularly the Class 5 roads, do not have road signs where required.

Limited pedestrian crossings are provided near schools, which however are not raised and are in need of remarking. Land uses such as clinics and commercial retail are yet to receive any traffic calming. Safety zones for pedestrians were not found at the taxi stops.

Although there is some electricity in the area, street lighting is almost non-existent. Poor erosion control has resulted in gravel roads being washed away, creating dangerous situations for pedestrians and vehicles, more so at night and even more in wet conditions (refer to **Figure 7**). Potholes and the lack of signage were identified as a major concern.

Refer to **Figure 7** for a map of safety concerns in Sebayeng.

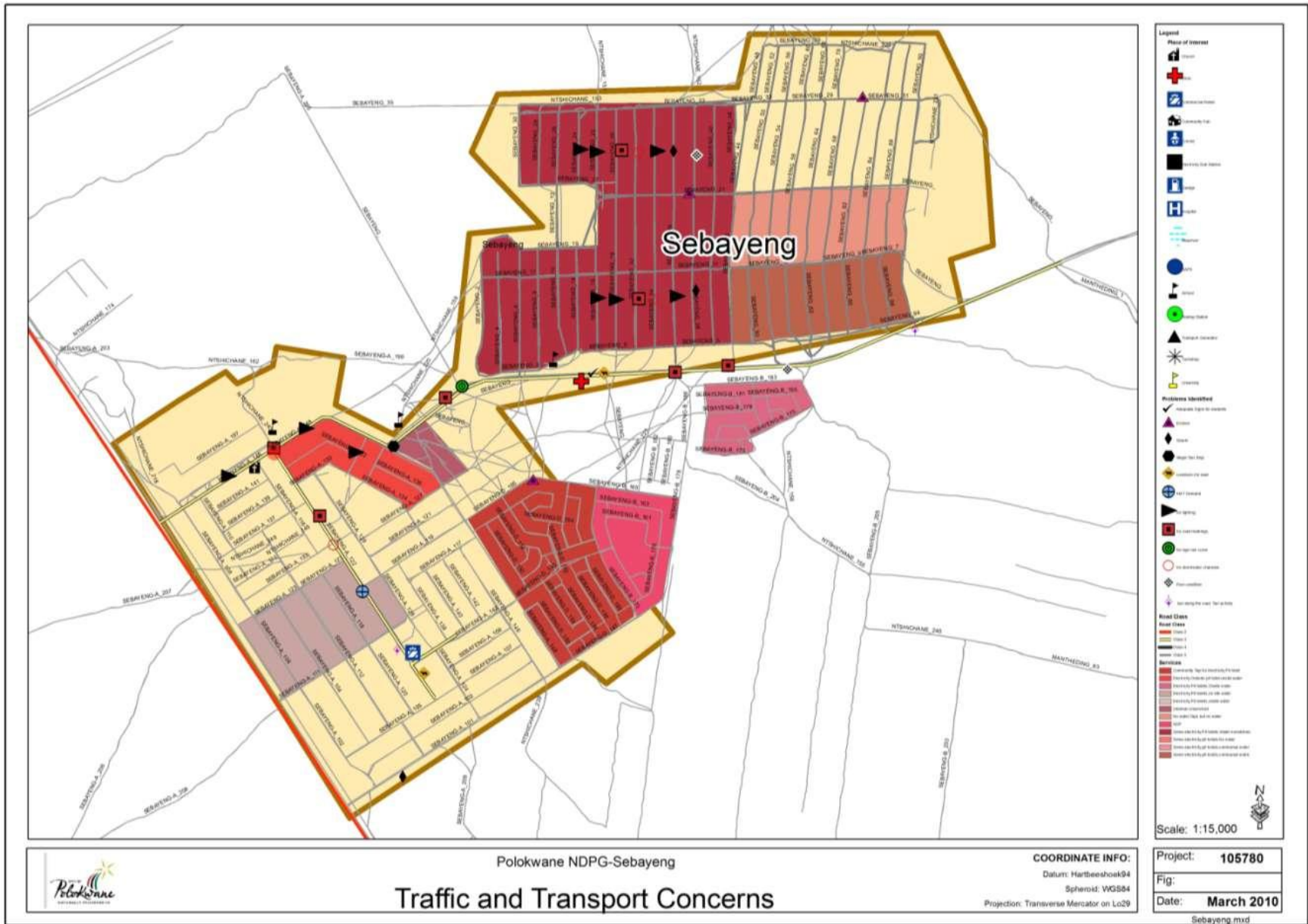
*Figure 7: Condition of Gravel Roads*



### Problems Identified

The problems areas with regard to road safety in Sebayeng can be summarized as follows: Many intersections have no formal traffic control in place,

- Road paint markings need to be remarked
- No stormwater infrastructure exists.
- NMT infrastructure is not provided sufficien



Sebayeng Framework Plan 2012 -Macro



### 3.6 ENVIRONMENTAL

Approximately a quarter of the general Sebayeng area has been developed as domestic housing in the rural context of South Africa. The area in general has suffered mild to severe degradation in some areas. The remainder of the area is utilized for grazing and subsistence farming. The rocky section of the area is not used for subsistence farming at all and to limited extent used for grazing purposes.

#### 3.6.1 SEA

An SEA focuses on integrating environmental issues into the formulation of plans and program's. The process aims at evaluating the opportunities that the environment offers to development and the constraints that it imposes. Tonk and Verheem (1998) define a SEA to be a structured, proactive process that strengthens the role of environmental issues in strategic decision making, and Sadler (1995) recognizes the need to integrate environmental (biophysical, social and economic) considerations into the earliest stages of planning development. Essentially a SEA is an instrument that should be used to encourage and promote sustainable utilization.

#### 3.6.2 Soils

The central bushveld bioregion is known for the deep red weakly structured soil with a loamy to clay texture. The two soil groups dominating the central bushveld is soil group A4 and E1. Soil group A4 is red, massive or weakly structured soil with medium to high base status. It includes well drained Lixisols, Cambisols and Luvisols. The land type is known as Ae. The soil group E1 has limited pedological development, it is usually on hard and weathering rock, with or with intermittent diverse soils. It includes Leptosols, Regosols, Calcisols and Durisols. The land types for this soil group includes Af and Ha.

In the general Sebayeng area the G1 soil group should also be mentioned. G1 is rock with limited soils which includes Leptosols, Regosols, Durisols, Calcisols and Plinthosols. The land types associated with this soil group is Ib and Ic. Various soil types has been identified in the general area surrounding Sebayeng including: Glenrosa, Bainsvlei, Mispah. Course sandy soils with low organic content occur throughout the study area. The area is underlain by quartzite and granitic material. The soils are relatively deep and have a reddish sandy loam A-horizon of 1m to 1, m deep.

Figure 8: Glenrosa soil vorm

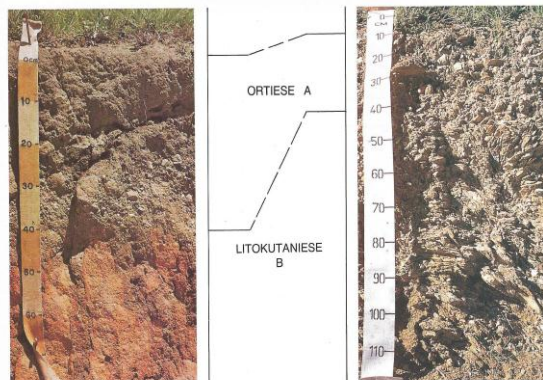


Figure 9: Mispah soil vorm

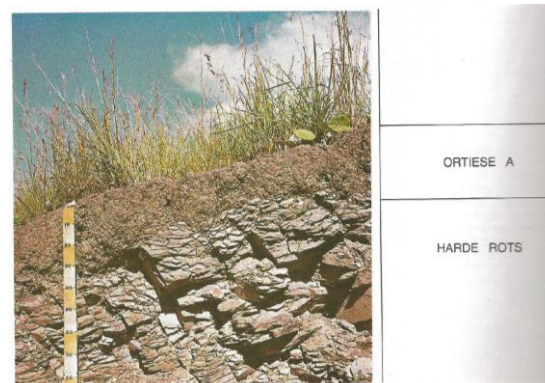
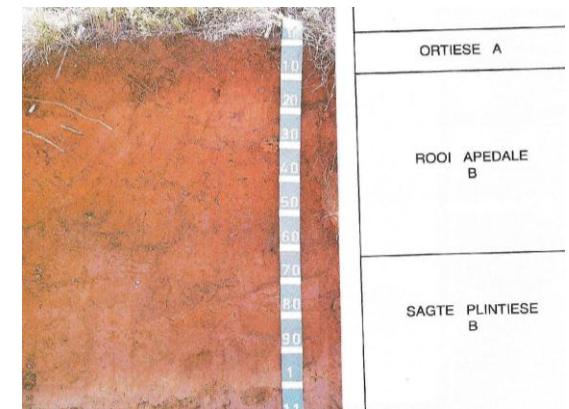


Figure 10: Bainsvlei soil vorm

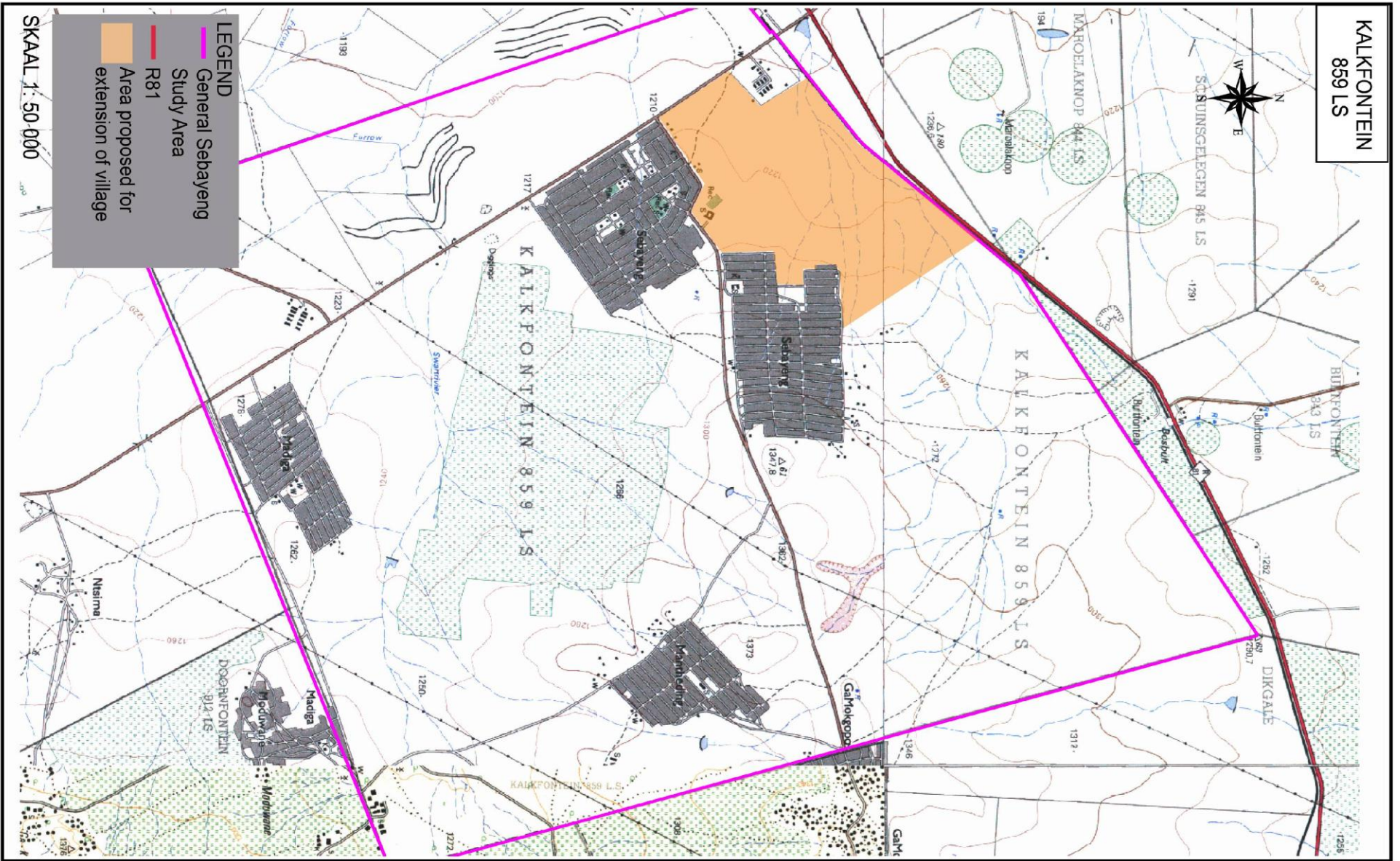


### 3.6.3 Hydrology

The entire project area contains well-drained deep soils. There are two main streams with their tributaries that drain the study area. These are the Swart River and the Turfloop river, both of which are large non-perennial streams. The proposed development area lies north of the Swart River and east of the Turfloop river, and will not cross either river, but crosses a number of tributaries of the Turfloop River. It is however proposed that the proponent consider the investigation of alternative sites within the area to ensure that the proposed area for development is the most appropriate. In the area it is difficult to observe the difference between the average plant growth and that of the river bed and subsistence farming is practiced right up to the centre of the river. On the aerial photograph one can clearly make out the river, but upon investigation during the site visit, it was clear that the river contains similar plant growth to its surrounding area and only a little denser than that of the surrounding plant growth. There are several detention ponds in the area, but no dams were observed as such. Seasonal wetlands occur in some areas within the general study area and close to the river. No prominent wetland features were observed in the proposed development area.

### 3.6.4 Wetlands

Wetlands are areas where terrestrial and aquatic ecosystems come together. In a wetland, the water table is at or near the surface of the ground. The land is either temporarily or permanently covered with shallow water. The depth of the water table changes from year to year and season to season, depending on the amount of rainfall and how much groundwater is used (e.g. absorbed by plants or pumped out by people with bore holes and well points). Wetlands can be found from the tops of mountains right down to the sea. Rivers link the wetlands within a catchment. Typical Wetland plants include emergent plants like reeds, rushes and sedges found in this section of the western tributary. Wetlands are home to a wide variety of both invertebrates and vertebrates, which depend on the water for all or part of their life cycles. Animal groups that are plentiful in wetland areas include insects (both larvae and adults), fish, amphibians, birds and mammals. Wetlands are a very important migratory habitat and form a very important part in migration corridors. Wetlands are constantly under threat and in South Africa more than 50% of wetlands have already been destroyed. Wetlands play a vital role in the natural purification of water as well as a habitat for endemic species. It is therefore of utmost importance that the green corridor be maintained and that the wetland be protected.



Sebayeng Framework Plan 2012 -Macro



### 3.6.5 Topography and Drainage

The study area slopes fairly gently (average slope 1:24 or 4%) from east to west over most of the area, with the northern and southern quadrants sloping to the north and south respectively. There are a number of non-perennial drainage lines that cross the site, although they are not obvious on the ground. The only named stream in the study area is the Swart River which flows in the southern third of the study area, also in a westerly direction. All these drainage lines generally feed into the Turfloop River, which flows in the low-lying areas on the western boundary of the site.

The highest point in the study area is located close to the eastern boundary of the study area, and is occupied by the Village of Mantheding. There are some rock outcrops in this area that form a habitat for natural vegetation and fauna.

### 3.6.6 Climate and Atmosphere

Climatic information is based on statistics from the Pietersburg Weather Station recorded between 1961 and 1990.

The study area lies in the summer rainfall region and has a warm climate. Frost is rare. The highest temperatures occur during December and January. The daily average high is 28,1 degrees Celsius in January and the highest recorded temperature is 36,8 degrees Celsius. The average minimum winter temperature is 4,4 degrees Celsius in July with a record low of -3,5 degrees Celsius in 1964. The mean annual daily variation is 15 degrees Celsius.

The mean annual precipitation for the region is 478mm. Most precipitation falls between October and March with the peak period being December/January. Rainfall between the months of May and September is generally low with the average precipitation rate for the period June to August being 4,6mm.

Large-scale surface airflow over the region is dominated throughout the year by easterly and north-easterly winds. October and November are typically windy with wind speeds up to 13.8m/s. The frequency of southerly winds increases during June and July.

The ambient air quality was not measured, but a visual inspection showed no point sources of pollution and clear air in general.

### 3.6.7 Fauna and Flora

The general Sebayeng area falls within the Savanna biome. Almost the entire Limpopo Province can be classified as part of the Savanna biome. The Savanna biome does not occur at high altitudes and is found at altitudes between 1500 to 1800 meters. The savanna biome is generally associated with seasonal rainfall, with wet summer and dry winter months. The savanna also has a distinct dry season.

It is widely known that the savanna is occupied by the earth's richest large mammal fauna. Many of these fauna are directly or indirectly dependent on plants. Within the general Sebayeng area the veld is utilised for grazing purposes by domestic cattle and donkeys. These type of grazers can be considered as bulk grazers, that do not exercise a high degree of selective grazing. There are also limited amounts of goats that is classified as concentrate grazers.

The site contains two habitats with higher than average biodiversity levels, namely the drainage lines and the granite koppies/outcrops in the Mantheding area. Since these areas harbour above average levels of biodiversity they should be assigned a use that is compatible with conserving and increasing the existing biodiversity, (e.g. Public Open Space, conservation, etc).

Figure 11: Flora

Flora



Aloe marlothii



Typical shrubs and groundcover in the general area



Granite koppie



Plants displaying invasive properties



Chondropetalum tectorum



Bulb specie



Opuntia humifosa



Acacia karroo



Exotic shrub



### 3.6.8 Vegetation type

The central bushveld features plains with a layer of low to medium-high deciduous trees and shrubs. The central bushveld is also known for its almost continuous herbaceous layer that is dominated by grass species. The vegetation type within which the Sebayeng study area falls is the Polokwane Plateau Bushveld located on the higher lying plains around Polokwane. The tree layer is short and open. In general this vegetation type has a very well developed grass layer that is predominantly utilised for grazing.

**Table 3.3: Important taxa recorded in the Polokwane Plateau Bushveld vegetation type (Mucina & Rutherford, 2006)**

Scientific name	Scientific name	Scientific name
<i>Acacia caffra</i>	<i>Lippia javanica</i>	<i>Asparagus africanus</i>
<i>Acacia permixta</i>	<i>Rhus pyroides</i> var <i>pyroides</i>	<i>Momordica balsamina</i>
<i>Acacia rehmanniana</i>	<i>Tephrosia rhodesica</i>	<i>Rubia petiolaris</i>
<i>Acacia karroo</i>	<i>Triumfetta pilosa</i> var <i>tomentosa</i>	<i>Aristida diffusa</i>
<i>Acacia tortilis</i> subsp. <i>Heteracantha</i>	<i>Anthospermum rigidum</i> subsp. <i>Rigidum</i>	<i>Bracharia nigropedata</i>
<i>Combretum molle</i>	<i>Gymnosporia glaucaphylla</i>	<i>Digitaria eriantha</i> subsp. <i>Eriantha</i>
<i>Ormocarpum kirkia</i>	<i>Hirpicium bechuanense</i>	<i>Eragrostis curvula</i>
<i>Ziziphus mucronata</i>	<i>Lantana rugosa</i>	<i>Themeda triandra</i>
<i>Aloe marlothii</i> subsp. <i>Marlothii</i>	<i>Senecio burchellii</i>	<i>Aristida congesta</i>
<i>Acacia hebeclada</i> subsp. <i>hebeclada</i>	<i>Sida rhombifolia</i>	<i>Cymbopogon caesius</i>
<i>Gymnosporia senegalensis</i>	<i>Solanum panduriforme</i>	<i>Cynodon dactylon</i>
<i>Combretum hereroense</i>	<i>Aloe cryptopoda</i>	<i>Digitaria diagonalis</i>
<i>Diospyros lycioides</i> subsp. <i>Sericea</i>	<i>Eragrostis racemosa</i>	<i>Diheteropogon amplexans</i>
<i>Euclea crispa</i> subsp. <i>crispa</i>	<i>Eragrostis superba</i>	<i>Elionurus muticus</i>
<i>Heteromorpha arborescens</i> var. <i>abyssinaca</i>	<i>Eustachys paspaloides</i>	<i>Eragrostis gummiflua</i>
<i>Hermibstaedtia odorata</i>	<i>Panicum maximum</i>	<i>Hypoxis hemerocallidae</i>
<i>Pollichia camprestris</i>	<i>Pogonarthria squarrosa</i>	<i>Aloe greatheadii</i> var. <i>greatheadii</i>
<i>Eulophia petersii</i>	<i>Sporobolus africanus</i>	
	<i>Felicia mossamedensis</i>	

### 3.6.9 Heritage resources

In a previous impact assessment undertaken by Newtown Landscape Architects a phase 1 archeological survey was undertaken. During this survey a historically significant site was encountered. The site is thought to be a pre-colonial African (Sotho or Ndebele) settlement of around 2 hectares in extent. The archaeological

sites are located within the general study area, but a detailed study was not undertaken for the proposed area for development. It is therefore recommended that a detailed archaeological study be undertaken for the specific area.

Map 6 (Google earth, 2012)

The centre of the settlement has the following co-ordinates:

23° 47" 20' S

29° 41" 05.6' E



Sebayeng Framework Plan 2012 -Macro



### 3.7 ENGINEERING SERVICES

SETSHABA CONSULTING ENGINEERS (PTY) LTD. were appointed by HANNES LERM & ASSOCIATES to render professional civil engineering services and more specifically for the compilation of an Engineering Services Report for the use of future planning, design and implementation based on the current status quo of the following existing infrastructure at Sebayeng and Mantheding villages. Their research covered the following:

#### 3.7 Bulk supply

At present, there are two functional existing concrete storage reservoirs. The service supply storage reservoir at Sebayeng has a capacity of 1,6Ml and at Mantheding there is a 60 Kl concrete storage reservoir.



Sebayeng-Dikgale Regional  
Water Scheme: Reservoir



Cellphone antenna and reservoir

The sufficiency of water storage at present is found to be sufficient but the capacity will have to increase by 27% in order to meet the demand in 10 years from now (by 2022). The existing reservoirs have been found to be structurally sound with no visible problems.

Following the water demand calculations, a storage shortfall of 447Kl can be expected by the year 2022 in order to be in compliance with the following criteria:

Emergency Domestic Storage	48 hours average daily demand
Balancing storage	12 hours average daily demand
Fire storage:	1 hour at flow rate of 350 l/min

## A. Water Supply Sources

At present there are six groundwater sources, all equipped and electrified. All six these boreholes are operational, however, the individual yields are unknown. These infrastructures are indicated on the map.

All six these boreholes are linked from where one single supply rising main supply water to one concrete reservoir. From here water is transferred using a transfer booster pump which supply water through a secondary rising main to the main 1,6 Ml storage reservoir.

The boreholes are all electricity dependant and mechanical maintenance is required on an ongoing basis. Due to the latter including the fluctuation of the water table, these sources are not regarded as sustainable. It is recommended that a bulk supply line be installed from the Ebenezer pipeline located approximately 20 km south, which could be utilized for water distribution throughout the greater Dikgale area.

## B. Network

The existing water main supply line (gravitational main) from the 1, 6 Ml storage reservoir ranges between 150 mm to 250 mm diameter uPVC and steel those gravitate and connect to the existing reticulation network. None of the stands have metered connections however yard connections do exist throughout Sebayeng and stand pipes are located in the streets of Mantheding.

### 3.7.2 SANITATION

#### Existing Situation

Given that the existing village and surrounding areas do not have waterborne sanitation systems, most feasible option will be to construct oxidation ponds. Currently the only sanitation systems that are in place are individual Ventilated Improved Pit Latrines (VIP's).

#### Bulk Sewerage

Should additional VIP's not be constructed, the collection and outfall of internal sewer will have to be discharged into oxidation ponds.

Peak flow from the proposed development is calculated as follows:

Average domestic flow =  $500 \text{ l/stand/day} \times 2286 \text{ stands} / (24/60/60) = 13,23 \text{ l/s}$

Peak design flow =  $13,23 \text{ l/s} \times 2,5 \times 1,15 = \underline{\underline{38,03 \text{ l/s}}}$

### 3.7.3 ELECTRICITY

Eskom presently supplies electricity to Sebayeng. The existing electric infrastructures in Sebayeng are in good condition. The responsibilities of Eskom in Sebayeng are as follows:

- Provide Electricity as required by the Municipality or any applicant.
- Maintaining of existing infrastructure.
- Selling of electric power.

### 3.8 TELECOMMUNICATIONS

The majority of home owners in Sebayeng have private telephone services. Public telephones are available at Sebayeng and cellular telephone coverage is provided by Vodacom, Telkom – 8.ta, Cell C and MTN

### 3.9 HOUSING CONDITIONS

South Africa as a nation is struggling in the housing sector. However, national, provincial and local government is still faced with a mammoth task of providing RDP houses for the disadvantaged communities. Sebayeng is currently in a state where there is a demand for residential sites. In 2006 the demarcation of 307 stands was done by COGHSTA; these stands are currently vacant at the moment, and Polokwane municipality to provide a coordinated the allocation of residential erven in Sebayeng.