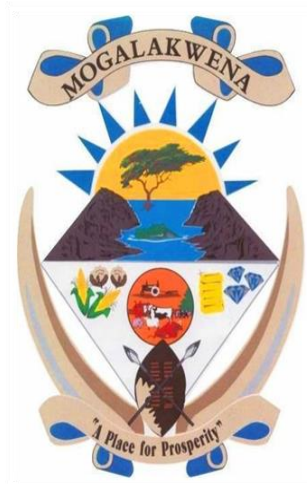


# INTEGRATED WASTE MANAGEMENT PLAN (IWMP)



26 October 2015

Mogalakwena Local Municipality



## **EXECUTIVE SUMMARY**

In terms of the 1999 National Waste Management Strategy (DEAT, 1999), local municipalities are required to develop first generation Integrated Waste Management Plans (IWMPs) and submit such plans to their respective provincial environmental departments. The strategy was however not supported by legislation resulting in voluntary development of IWMPs by municipalities. With the enactment of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008), the development of IWMPs became a statutory requirement. Section 4(a) of this Act as amended states that each municipality should prepare and submit an IWMP to the relevant MEC for endorsement (RSA, 2008). The endorsed IWMP should then be incorporated into the municipal Integrated Development Plan (IDP) as contemplated in Chapter 5 of the Municipal Systems Act, 2000 (Act 32 of 2000).

The primary objective of IWM planning is to integrate and optimise waste management services, thereby maximising efficiency and improving the quality of life of all citizens while the associated environmental impacts and financial costs are minimised (DEAT, 2000). The guideline document for the development of IWM Plans further emphasises that the integration must be both horizontal and vertical within the government departments, as well as in other sectors and throughout the 'waste life-cycle' (DEAT, 2000).

Effective integration, coordination and alignment of the actions of government at national, provincial and local spheres remain an important aspect in ensuring efficient and effective provision of basic services within Mogalakwena Local Municipality.

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## DEFINITIONS

**Buy-back Centre** means a location where discarded materials can be exchanged for money for further transportation to a recycling facility. The price for the waste is determined by the current markets and the quantities of waste.

**Disposal** means the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into, or onto, any land.

**Domestic solid waste (General Waste)** is solid waste generated by single or multifamily residential dwellings, and solid waste of a non-hazardous nature, generated by wholesale, retail, institutional or service establishments such as office buildings, stores, markets, restaurants, theatres, hotels, warehouses, industrial operations and manufacturing processes.

**Hazardous waste** is any waste, which by reason of chemical reactivity or toxic, explosive, corrosive or other characteristics causes danger or is likely to cause danger to human health or the environment, whether alone or in combination with other wastes. Hazardous waste is categorized in four hazard ratings with 1 being the most hazardous and 4 being the least hazardous.

**Incineration** is the controlled combustion of solid waste employing closed combustion chambers, controlled combustion air, temperature monitoring and control to insure complete combustion of organic matter with a minimum of undesirable air emissions and wastewater discharges.

**Medical waste** is any waste generated by hospitals, clinics, nursing homes, doctor's offices, Medical laboratories, research facilities and veterinarians, which are infectious or potentially Infectious;

**Peri urban** are areas that are adjacent to town and township.

**Recycling** is the sorting, processing, and transportation of solid waste materials, products or Containers for the purpose of remanufacturing or reusing.

**Reduce**

## **Re use**

**Scavenging** is the unauthorised separation of solid waste for recyclable materials and food for human consumption.

**Solid Waste** is waste of a solid nature generated by a person, business or industry.

**Solid Waste Management facility** is any facility used for the transportation, processing or disposal of solid waste, and includes transfer stations, recycling facilities, composting facilities, waste incinerators, and sanitary landfills.

**Sorting** is the authorised separation of solid waste materials for the purpose of recycling or disposal, either at the source of generation or at a solid waste management facility.

**Transfer Station** is a facility that receives solid waste from collection vehicles and reloads that waste into larger vehicles for transfer to a disposal or processing facility.

**Treatment** means any method, technique or process that is designed to— (a) change the physical, biological or chemical character or composition of a waste; or (b) remove, separate, concentrate or recover a hazardous or toxic component of a waste; or (c) destroy or reduce the toxicity of a waste, in order to minimise the impact of the waste on the environment prior to further use or disposal.

**Waste Minimisation** means techniques used to keep waste generation at a minimum level in order to divert materials from landfill. The term waste minimisation is also applied to recycling and other efforts to reduce the amount of waste going into the waste stream

**Waste** means any substance, whether or not that substance can be reduced, re-used, recycled and recovered—

- (a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of;
- (b) Which the generator has no further use of for the purposes of production;
- (c) That must be treated or disposed of; or
- (d) That is identified as a waste by the Minister by notice in the *Gazette*, and includes waste

generated by the mining, medical or other sector, but—

(i) a by-product is not considered waste; and

(ii) any portion of waste, once re-used, recycled and recovered, ceases to be waste.

## **ABBREVIATIONS**

**DEA** - Department of Environmental Affairs

**DWA** - Department of Water Affairs

**ECA** - Environment Conservation Act, Act No. 73 of 1989

**IWMP** - Integrated Waste Management Plan

**MLM** -Mogalakwena Local Municipality

**NEMA** - National Environmental Management Act, Act No. 107 of 1998

**NEMWA** - National Environmental Management Waste Act, Act No. 59 of 2008

**SDA** – Service Delivery Areas

**LEDET**- Limpopo Economic Development, Environment and Tourism

## 1. INTRODUCTION

In terms of the National Environmental Management Waste Amendment Act 2014 (Act no. 26 of 2014), Mogalakwena Local Municipality must develop Integrated Waste Management Plan (IWMP). The objective of the IWMP is to align with the new developments in the South African waste management legislation. The objectives of this study include:

- Updating the status quo information relating to waste management in Mogalakwena e.g. demographics, socio-economic profile of the Mogalakwena, waste quantities and existing waste management practices.
- Identify the mandate of the Mogalakwena in relation to national and provincial legal prescripts, particularly as it relates to waste management.
- Develop IWMP to ensure compliance and alignment with national and provincial legislation, policies, strategies and plans relating to waste management.

### 1.1 Scope of work

The IWMP has to address the following:

- Relevant Legislation.
- Gaps and Needs Analysis.
- A Waste Generation Model.
- Economic Analysis of Options concerning Landfill Sites.

- Collection Needs.
- Waste Transportation and Waste Transfer Needs.
- Identifying Recycling and Re-use Initiatives.
- Formulate a Programme for the Implementation of a Waste Information System
- Building and Possible Job Creation where Applicable.
- Development of Goals and Objectives.
- Develop an Implementation Programme and Implementation Budget.

## **1.2 Background of IWMP**

In terms of the 1999 National Waste Management Strategy (DEAT, 1999), local municipalities are required to develop first generation Integrated Waste Management Plans (IWMPs) and to submit such plans to their respective Provincial/National Environmental Departments. The strategy was however not supported by legislation resulting in voluntary development of IWMPs by municipalities. With the enactment of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008), the development of IWMPs became a statutory requirement. Section 4(a) of this Act as amended states that each municipality should prepare and submit an IWMP to the relevant MEC for endorsement (LEDET).

The endorsed IWMP should then be incorporated into the municipal Integrated Development Plan (IDP) which is contemplated in Chapter 5 of the Municipal Systems Act, 2000 (Act 32 of 2000). As per the terms of reference of this project, the development of status quo information will not entail new primary data collection, but the collation of existing data from the Municipality, various published and unpublished sources.

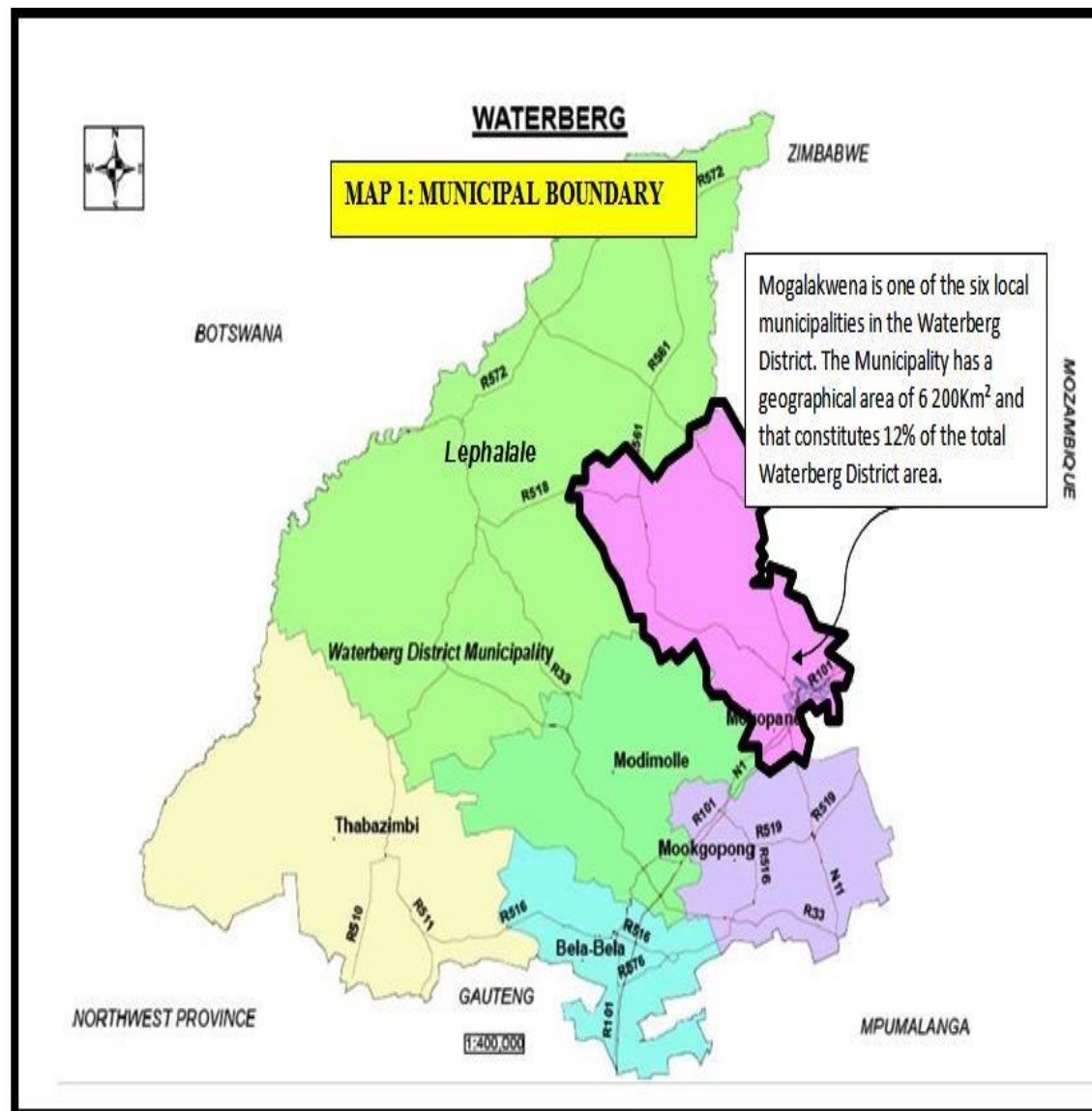
### **1.3 Geographical Area of Mogalakwena Local Municipality**

Mogalakwena falls under the Waterberg District Municipality and has a wide range of socio-demographic profile underscored by the spatial and physical diversity reflected in all aspects of local development. Mogalakwena functions largely as the interface between the Waterberg District Municipality and the Capricorn District and is surrounded by the largely deep rural areas of Lephalale Local Municipality to the North West. To the North lies the City of Polokwane, to the South Mookgophong and Modimolle Local Municipalities (See Map1 below).

Mogalakwena has a very well defined and established development footprint. It consists of 3 proclaimed townships and 178 villages. The proclaimed townships are Mokopane, Mahwelereng and Rebone area. The municipality also has three Service Delivery Areas (SDA's) namely Bakenberg, Mapela and Mokopane. The Municipality has been demarcated into 32 wards and 25 Community Development Workers have been assigned to various wards.

The Municipal area also covers a range of smaller settlements in the area between Mokopane and Rebone about 100km to the north along the N11 and Marken along the R518. The N1, N11, and R518, together with the Mogalakwena River and mountains provide very strong structural elements that shaped the development in the municipal area. One should link this to the rich history and cultural diversity; add the physical resource base that predetermined the agricultural and mining activity base and one gets an understanding of patterns that drive development in the municipal area.

Map 1: Municipal Boundary



## 2. SITUATION ANALYSIS

### 2.1. Demographics (Population and development profiles)

Mogalakwena Municipality contains over 45% of the Waterberg district's population with a total population of 307 682 and 79 396 households. The Africans are in majority (295 796) and constitute approximately 96% of the total Mogalakwena Municipality population. The white population is 9274, coloured population is 403 and the Indian/Asian population is 1646. Just over 53% of the population is females. The table below compares municipal demographics per racial group and gender. The population growth rate is estimated at 0.31% in 2011. (Source – Stats SA Census 2011).

Figure 1: Population by racial group and gender

POPULATION GROUP	MALES		FEMALES		TOTAL		2011 CENSUS
	NUMBER OF PERSONS	PERCENTAGE OF POPULATION	NUMBER OF PERSONS	PERCENTAGE OF POPULATION	TOTAL POPULATION	TOTAL POPULATION IN %	% OF THE POPULATION IN WATERBERG DISTRICT
Black African	137512	95.7%	158285	96.5%	295797	96.1%	43.5%
White	4583	3.2%	4691	2.9%	9274	3.0%	1.4%
Coloured	208	0.1%	195	0.1%	403	0.1%	0.1%
Indians	984	0.7%	661	0.4%	1645	0.5%	0.2%
other	415	0.3%	148	0.1%	563	0.2%	0.1%
<b>Total Population</b>	<b>143702</b>	<b>100%</b>	<b>163980</b>	<b>100%</b>	<b>307682</b>	<b>100%</b>	<b>45%</b>

**Figure 2: Households income**

Number of residents per income type	No income		R1 - R400		R401 - R800		R801 - R1 600		R1 601 - R3 200		R3 201 - R6 400	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
	1 028	132 367	7 158	83 069	8 135	8 658	7 240	41 578	6 146	10 729	4 958	7 126
	R6 401 - R12 800		R12 801 - R25 600		R25 601 - R51 200		R51 201 - R102 400		R102 401 - R204 800		R204 801 or more	
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011
	1 711	6 660	466	4 110	144	975	65	229	18	149	11	120
<b>Source:</b> Statistics South Africa (Stats SA), Census 2011												

**Figure 3: Key population statistics**

Key statistics	
Total population	307,682
Young(0-14)	34,3%
Working Age	58,3%
Elderly(65+)	7,4%
Dependency ratio	71,5%
Sex ratio	87,6
Growth rate	0,31% (2001-2011)
Population density	50 persons/km2
Unemployment rate	40,2%
Youth unemployment rate	51,7%
No schooling aged 20+	15,9%
Higher education aged 20+	8,5%
Matric aged 20+	21,7%
Number of households	79,395
Number of Agricultural households	26,089
Average household size	3,8

Female headed households	52,3%
Formal dwellings	93,6%
Flush toilet connected to sewerage	25,8%
Piped water inside dwelling	20,2%
Electricity for lighting	91,8%
<b>Source:</b> Statistics South Africa (Stats SA), Census 2011	

**Figure 4 : Population Graph by Gender ( Male and Females; Youth, Middle Age and Old Age Graphs to be plotted) (Employed, Unemployed; Education – Primary, Secondary and Tertiary Graphs)**

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## POPULATION BY AGE GROUP ANALYSIS

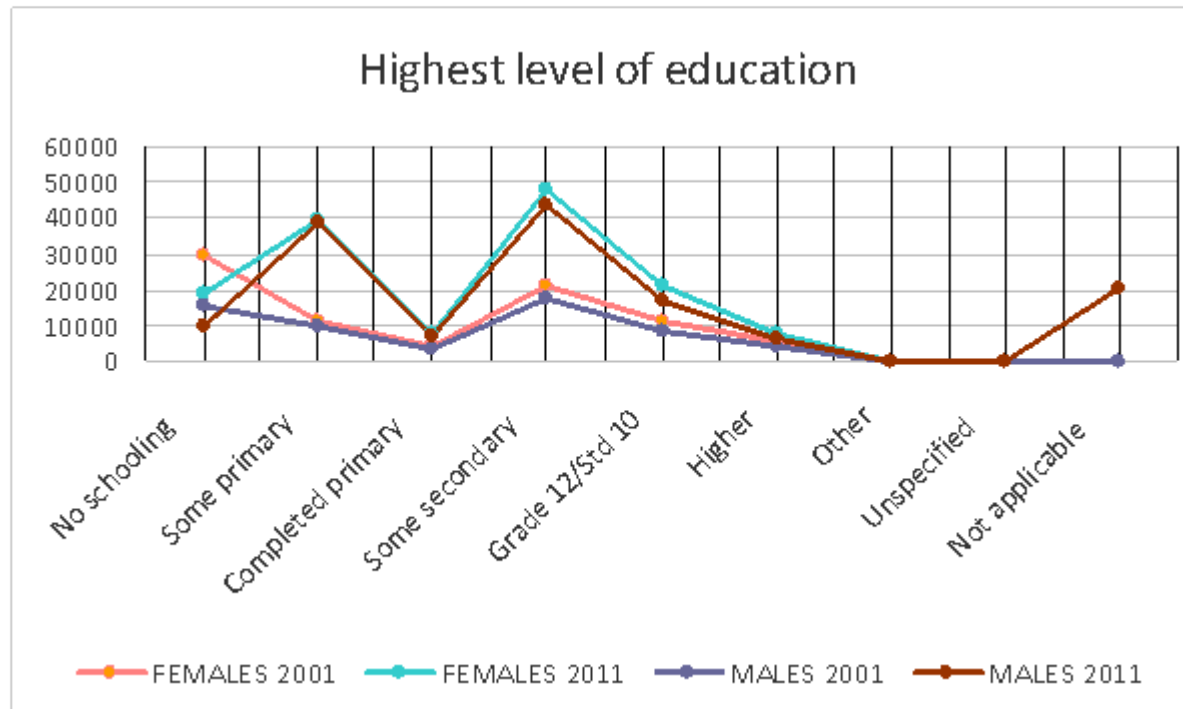
The majority of the population is aged between 0 and 19 followed by those aged between 20 and 34, which suggests that the municipality is dominated by people who are both socially and economically active. In addition, the municipal area has a high dependency ratio due to the majority of the population aged between 0-19. However, the Municipality has to prioritize social programmes and projects which will be able to address the socio-economic needs of the people. For example, there is a need to increase the number and improve the quality of social amenities in the municipal area, preferably within the municipal growth points. There is also a high probability of the spread of Sexually Transmitted Diseases, such as HIV/AIDS. The Municipality should therefore encourage and support HIV/AIDS programmes in at least all the nodal points.

## Education Profile

Over the years there has been a steady decline in the number of persons who have not received an education. The percentage of persons with no schooling have decreased from 15% in 2001 to 9% in 2011, whilst those with education higher than grade 12 has increased from 3% in

2001 to 5% in 2011. Most of the individuals without schooling were females but even so their numbers have decreased from 18% to 11% in 2011. There is also a good trend of more females attaining higher education.

### Levels of Education



### Waste Generation

**Current Estimated Waste Quantities and Estimated Future Quantities at 5% increment**

Waste Type	Estimated Waste Quantities (tons)	Estimated Waste Quantities (%)	Estimated Future Quantities at 5% increment
General Municipal Waste	25 530 tons p/a	84.24%	26 806.5 tons p/a
Organic Waste	2 772 tons p/a	9.14%	2 910.6 tons p/a
Construction and Demolition Waste	2005 tons p/a	6.61%	2 105.3 tons p/a
Total	30 307 tons per annum (p/a)	99.99 % which is = 100%	31 822.4 tons p/a

Refer to the Waste Flagship Programme

### 2.3 Service Area and Refuse Collection

The waste service delivery areas of MLM are co-coordinated from Mokopane, Mahwelereng, Rebone Township and Peri Urban Areas. The municipality is rendering the following services:

- Kerbsides refuse collection (domestic) once a week in residential areas.
- Removal of waste in Central Business areas is done on daily basis.
- Street sweeping and litter picking also indicate when
- Cleaning or emptying of street litter bins.
- Bulk waste removal from industrial and business areas.
- Landfill operation and management.

Collection services from residential areas are rendered from 07H00 am according to the schedule each day. The municipality has obtained 5000 separation at source bins with the capacity of **120ℓ** bin per household from the National Department of Environmental Affairs through Dyambini Construction and Solution Project which is an implementing agent for the Youth Jobs in Waste Programme. The bins have been distributed to the residents in Mokopane Town for recycling purposes, and a local recycling company follows the municipal waste collection route and collects all the recyclable waste materials found in the bins for recycling purposes.

Weekly refuse removal services is rendered to **16 441** rate payers (commercial, industrial and residential) whom are counted for according to the billing system. Collection in rural areas is uncounted for as it's not done per household and is partially carried out due to the breakdowns that are encountered.

## **2.4. Waste quantities and types**

### **2.4.1 QUANTITIES**

These quantities are estimates, based on waste volumes, as waste disposed of at the landfill is not currently weighed. Private companies (IBuhle, SanuMed Environmental Services, Sharpmed, Compass Waste Services etc) manage all medical waste from Mogalakwena Municipality, which is transported to Hazardous landfill sites in Gauteng Province for incineration. The information on the quantities of hazardous waste is not yet available to the Municipality. Private contractor handles all hazardous waste from the various industries; these are transported to the Holfontein H: H landfill site for safe disposal.

Combined total of general waste recycled within the Mogalakwena Local Municipality area is not yet known as Recyclables are collected from source by informal recyclers and private companies.

A spread sheet is used to estimate the quantities of waste into the landfill, and this information is used to report monthly at the South African Waste Information System, e.g. an LDV is estimated as 1m<sup>3</sup>, while a compactor truck is estimated to be 22m<sup>3</sup>. Currently there is no weigh bridge for proper measurement of waste;

### **WASTE STREAM ANALYSIS**

Waste is classified into two categories, namely: General and Hazardous waste in terms of the National Environmental Management Waste Amendment Act, 2014 (Act No 26 of 2014). Mogalakwena Local Municipality have two Licensed General landfill sites (Potgietersrus/Mokopane and Rebone) which only cater for disposal of general domestic waste. General waste can be subdivided into the following categories:

- Paper
- Metals
- Glass
- Plastics
- Organic
- Inert material(e.g. building rubble)

Hazardous waste is broken into nine classes each with their own requirements for treatment. The hazardous waste classes include the following:

- Class 1 Explosives
- Class 2 Gases
- Class 3 Flammable Liquids
- Class 4 Flammable Solids
- Class 5 Oxidising Substances
- Class 6 Toxic and Infectious Substances
- Class 7 Radioactive Substances
- Class 8 Corrosives
- Class 9 Other Miscellaneous Substances e.g. electronic waste

This report will mainly deal with general waste from domestic, commercial and industrial origin. General waste as described above is divided into the following waste types for Mogalakwena Municipality Area, namely:

### **Waste Types**

Domestic
Commercial
Non-hazardous Industrial waste
Garden
Building rubbles

## **2.4 Waste recycling, treatment and disposal**

### **2.4.1. STATUS QUO OF WASTE RECYCLERS**

The Municipality has established waste separation at source in Greater Mokopane (Wards 31 and 32) in 2015 as a pilot project. The Municipality has provided residents with 120L Wheelie bins for separation of recyclable waste materials. Informal recyclers are recycling material such as paper, plastics, cardboard; scrap metal, glass, textiles and rubber, community members (informal recyclers) sell the recyclable material to the buyback centres around Mokopane, while the buyback centres transport such materials to Gauteng. These are collected from source, mainly through separation bins placed at industrial and commercial, for which the recycler receives a financial incentive, or reduction in removal fees of non-recyclable waste. Recyclable material is also procured from informal recyclers that bring recyclables to the company's warehouse or collections from rural areas. Some of these recyclers find the recyclables mainly by scavenging from the refuse bag on the day of Municipal kerbside waste collection. The following buy back centres are operating within the Municipality:

<b><i>Tsena Scrap Metals</i></b>	
Ownership	Private
Type/ stream of waste recycled per month (in Ton/kg)	Ferrous and Non-ferrous metals

<b><i>Cc Metals</i></b>	
Ownership	Private
Type/ stream of waste recycled per month (in Ton/kg)	Ferrous and Non-Ferrous

<b><i>Potties Scrap Metal</i></b>	
Ownership	Private
Type/ stream of waste recycled per month (in Ton/kg)	Ferrous and Non-Ferrous Metals

<b><i>Nieuwco Limpopo</i></b>	
Ownership	Private
Type/ stream of waste recycled per month (in Ton/kg)	Ferrous and Non-ferrous metals

<b><i>Reclam</i></b>	
Ownership	Private
Type/ stream of waste recycled per month (in Ton/kg)	Scrap metals (Ferrous and non-ferrous metals)

<b>Anti Waste</b> <i>verify for the new name</i>	
Ownership	Private
Type/ stream of waste recycled per month (in Ton/kg)	box, paper, glass, plastic, plastic bottles, cans

<b>Enviro circle/Delta</b>	
Ownership	Private
Type/ stream of waste recycled per month (in Ton/kg)	hazardous waste

## **STATUS QUO OF WASTE TREATMENT FACILITIES**

Currently there is no treatment facility within Mogalakwena Local Municipality.

## **STATUS QUO OF WASTE DISPOSAL FACILITIES**

The Municipality owns two general landfill sites licensed in terms of Environmental Conservation Act, 1989 (Act No. 73 of 1989) and National environmental Management Act (Act No. 107 of 1998). Rebone Landfill site is classified as G: S: B- situated in the Northern hemisphere of Mokopane Town and receives only waste from Rebone Township which consists of 1500 households and local businesses. Potgietersrus(Mokopane) Landfill site is located approximately 4 km east of Mokopane CBD and is classified as G:M:B-. Estimated current landfill airspace are summarized in Table 1 and 2 below (Volume density estimation system).

( Refer to Grap Report on landfill audit– Finance Department has the report 2019/2020 fy)

Table 1

<b>Rebone Landfill Site</b>	
Status	Licensed
Total capacity	l
Existing/used capacity	± 9.5 years
Available airspace	28 000m³

Table 2

<b>Potgietersrus Landfill Site</b>	
Status	Licensed
Total capacity	
Existing capacity	The landfill has got capacity for ± 6 years (Jeffares and Green)
Available airspace	28 000m³ (Jeffares and Green)

## 2.5 Status of waste collection services

A total number of 16 441 household, industrial and business facilities inclusive of bulk waste removal receive waste collection services. This includes domestic, commercial, industrial, and urban areas. There is a dire need to extend waste collection services within the municipality due to the concern of waste management raised by residents in most of the unserved areas (Refer to IDP on the Total households and subtract the serviced) within the municipality.

## 2.6 Financing of Waste Management

### 2.6.1 BUDGET: INCOME AND EXPENDITURE -

Item	Amount
<b>Collection</b>	
Transportation	0
Capex-purchase (vehicles)	0
Receptacles	Falls under capex budget
General	0
<b>Subtotal</b>	<b>0</b>
<b>Governance</b>	
Staff (remuneration)	42,616,770.00

Education and awareness	89,129.00
IWMPS	145,847.00
By-laws	nil
<b>Subtotal</b>	<b>42,851,746.00</b>
<b>Disposal</b>	
Transfer station	nil
Disposal sites	nil
Acquisition of land, equipment	nil
Regulatory compliance, EIA's and licence	nil
<b>Subtotal</b>	
<b>Total</b>	<b>42,851,746.00</b>

2.6.2 REVENUE SOURCES -

Source	Amount
Funding sources	
MIG Funding	
Equitable share funding	
EPIP	
Revenue from waste disposal fees	R 0.00 no disposal tariffs
Total	

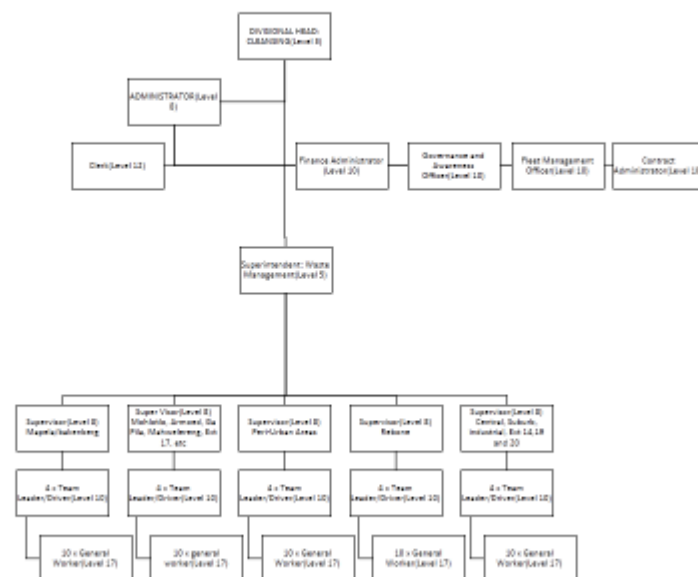
### 2.6.3 ORGANISATIONAL AND INSTITUTIONAL MATTERS

The MLM administrative structure is represented by the Municipal Manager. The approved structure is represented in the figure below:

**Organogram:** Revisit the Organogram ( State / list the filled and vacant posts)

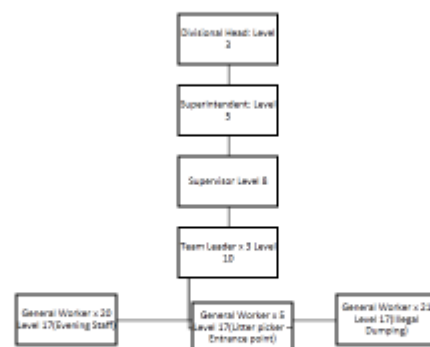


## Refuse Removal

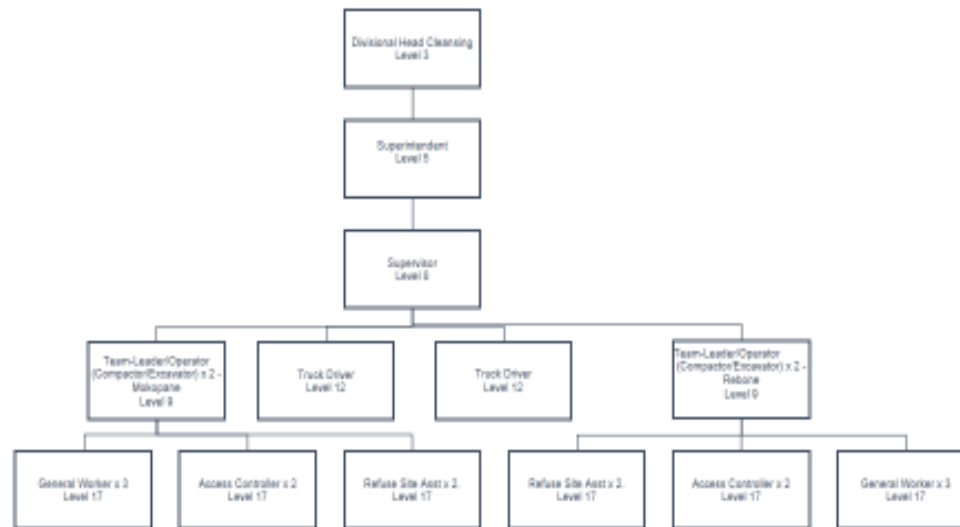


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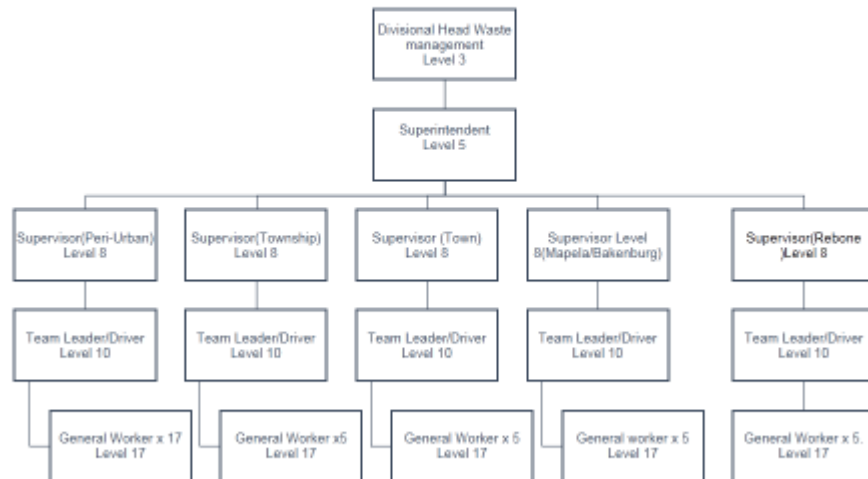
## STREET CLEANING



## LANDFILL MANAGEMENT



## SEPARATION AT SOURCE



### **3. DESIRED END STATE**

#### **3.1 Setting strategic goals, targets and indicators**

The priority issues of concern identified in the gaps and needs analysis are:

- Promote recycling and recovery of waste.
- Ensure the effective and efficient delivery of waste services
- Ensure that legislative tools are developed as per the Waste Act and other applicable legislation.
- Sound budgeting and financing of waste management services.
- Ensure the safe and proper disposal of waste.
- Education and awareness
- Compliance and enforcement

## Goal 1: Promote recycling and recovery of waste

Objectives	Targets	Activities	Time frame
Mainstream source separation of waste within all areas in the municipality	<ul style="list-style-type: none"> <li>-Promote and improve the separation at source system within the middle income</li> <li>- Establish the clear or blue bag system within the other income areas</li> <li>- Divert 60% of recyclable materials from the landfill for recycling through separation at source.</li> </ul>	<ul style="list-style-type: none"> <li>-Identify willing households to participate in source separation.</li> <li>-Pilot source separation in lower income areas</li> <li>-Monitor and evaluate separation at source pilot project</li> </ul>	2021 – Ongoing
Formalise the recyclers	<ul style="list-style-type: none"> <li>-Establish a formalised program for the recovery of recyclables from waste disposal sites.</li> <li>-Recover and recycle/ reuse organic and builders rubble</li> </ul>	<ul style="list-style-type: none"> <li>-Create job opportunities in recovery and recycling of waste at Potgietersrus and Rebone landfills</li> <li>-Provide training and PPE to the recyclers for the recovery of recyclables</li> <li>-Conduct a feasibility study to explore different options for recycling or reuse of organic and builders rubble</li> </ul>	2021 – Ongoing
Establishment of material recovery facility at Mokopane	<ul style="list-style-type: none"> <li>- 1 Material Recovery Facility</li> </ul>	<ul style="list-style-type: none"> <li>-Conduct a feasibility study</li> </ul>	2021 - Ongoing

Goal 2: Ensure the effective and efficient delivery of waste services			
Objectives	Targets	Activities	Timeframe (2021 - 2026)
Progressively expand access to waste services to at least a basic level of services	Provide waste collection services to all households within the municipality.	Extend basic waste collection services to rural areas	2021 - Ongoing
	Ensure the provision of adequate and reliable vehicles, equipment and machinery	Source, upgrade and maintain all vehicles, equipment and machinery.	2021 - Ongoing
Safe disposal of waste into Compliant licensed landfill sites	Mokopane landfill site to comply with Disposal of waste into landfill regulations and any other environmental legislation and or license conditions	-Upgrading of Mokopane Landfill site to include recycling and composting facility	2021 - Ongoing

Goal 3: growing the contribution of the waste sector to green economy			
Objectives	Targets	Activities	Timeframe
Stimulate Job creation in the waste sector	100 jobs to be created in the waste sector	EPWP collect waste in rural areas (100 participants to be temporarily employed per annum)	2021 - Ongoing
Broaden participation by SSMEs and marginalised communities in waste sector	12 SMMEs or cooperatives to be established.	Establishment of SSMEs to promote waste recycling	2021 - Ongoing

Goal 4: Education and awareness			
Objectives	Targets	Activities	Timeframe

Creation of waste awareness campaigns. Establishment of cleanest school and wards competition	Four community waste awareness campaign per annum. All schools and wards to participate in the competition.	<ul style="list-style-type: none"> <li>-Establish and support waste recycling within schools through the provision of receptacles</li> <li>- Conduct awareness sessions in collaboration with different stakeholders through public private partnerships</li> <li>-Establish and implement the blue bag system within all communities</li> <li>-Develop awareness raising materials e.g. Pamphlets, rates accounts, local newspapers for dissemination of information within communities and civic association.</li> </ul>	2021 on going
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Goal 5: Achieve Integrated Waste Management Planning			
Objectives	Targets	Activities	Timeframe
Establish and maintain information base on waste flows	Have waste quantification system at Mokopane landfill site	Installation of weighbridge at Mokopane Landfill site	2022

Goal 6: Sound budgeting and financing of waste management services			
Objectives	Targets	Activities	Timeframe
Ensure full cost accounting for waste management services	Conduct full cost accounting for waste services	To conduct full cost accounting	2021 - ongoing

Implement cost reflective and volumetric tariffs	Implement ation of the cost reflective tariff for waste services	Conducting public participation before implementation Exploring more funding opportunities within environment sector as well private donors.	2021

Goal 7: Effective Compliance and enforcement of the waste Act(copy from Modimolle)			
Objectives	Targets	Activities	Timeframe
Systematically Monitor and enforce compliance with regulations, authorizations conditions and plans EMI capacity expanded to enforce the Waste Act.	-75 percent of successful enforcement actions against non-complaint facilities or persons.  -Have 8 EMI personnel capacitated to enforce waste management by laws and waste act.	-Development and implementation of compliance monitoring plan -Conduct compliance and enforcement inspections. -Communicate compliance audits reports and monitor the progress of audit actions implemented. -Monitor contraventions of the waste act and municipal by-laws -Determine licensing requirements for facilities. -Review the existing municipal by-law. Designation of EMI's and or Training and Designation of EMI's	2021

## IDENTIFY, EVALUATE AND SELECT ALTERNATIVES

### 4.1 Strategic goals, targets, timeframe, budget

Goal 1: Promote recycling and recovery of waste				
Objectives	Targets	Activities	Time frame	Budget
Mainstream source separation of waste within all areas in the municipality	<ul style="list-style-type: none"> <li>-Promote and improve the separation at source system within the middle income</li> <li>- Establish the clear or blue bag system within the other income areas</li> <li>- Divert 60% of recyclable materials from the landfill for recycling through separation at source.</li> </ul>	<ul style="list-style-type: none"> <li>-Identify willing households to participate in source separation.</li> <li>-Pilot source separation in lower income areas</li> <li>-Monitor and evaluate separation at source pilot project</li> </ul>	2021 - Ongoing  2021 - Ongoing	R 1 000 000.00
Formalise the recyclers	<ul style="list-style-type: none"> <li>-Establish a formalised program for the recovery of recyclables from waste disposal sites.</li> <li>-Recover and recycle/ reuse organic and builders rubble</li> </ul>	<ul style="list-style-type: none"> <li>-Create job opportunities in recovery and recycling</li> <li>-Provide training and PPE to the recyclers for the recovery of recyclables</li> <li>-Conduct a feasibility study to explore different options for recycling or reuse of organic and builders rubble</li> </ul>	2021	R 1 000 000.00
Establishment of material recovery	<ul style="list-style-type: none"> <li>- 1 Material Recovery Facility</li> </ul>	<ul style="list-style-type: none"> <li>-Conduct a feasibility study</li> </ul>	2021	R1 000 000.00

facility at Mokopane				
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Goal 2: Ensure the effective and efficient delivery of waste services				
Objectives	Targets	Activities	Timeframe	Budget
Progressively expand access to waste services to at least a basic level of services				
	Provide waste collection services to all households within the municipality.	Extend basic waste collection services to rural areas	2021 - Ongoing	R40 000 000.00
	Ensure the provision of adequate and reliable vehicles, equipment and machinery	Source, upgrade and maintain all vehicles, equipment and machinery.	2021 - Ongoing	R 5 000 000.00
Safe disposal of waste into Compliant licensed landfill sites	Mokopane landfill site to comply with Disposal of waste to land regulations and any other environmental legislation and or license conditions	-Upgrading of Mokopane Landfill site to include recycling and composting facility	2022	R2 000 000.00

Goal 3: Growing the contribution of the waste sector to green economy				
Objectives	Targets	Activities	Timeframe	Budget
Stimulate Job creation in the waste sector	100 jobs to be created in the waste sector	EPWP collect waste in rural areas (100 participants to be temporarily employed per annum)	2022 - Ongoing	R20 000 000.00

Goal 4: Education and awareness				
Objectives	Targets	Activities	Timeframe (2021-2026)	Budget
Creation of waste awareness campaigns. Establishment of cleanest school and wards competition	Four community waste awareness campaign per annum. All schools and wards to participate in the competition.	<ul style="list-style-type: none"> <li>-Establish and support waste recycling within schools through the provision of receptacles</li> <li>- Conduct awareness sessions in collaboration with different stakeholders through public private partnerships</li> <li>-Establish and implement the blue bag system within all communities</li> <li>-Develop awareness raising materials e.g. Pamphlets, rates accounts, local newspapers for dissemination of information within communities and civic association.</li> </ul>	2022 on going	R 1 000 000 .00
Broaden participation by SSMEs and marginalised communities in waste sector	12 SMMEs or cooperatives to be established.	Establish of SSMEs to promote in the waste management operations or activities	2022	R 20 000.00

Goal 5: Achieve Integrated Waste Management Planning				
Objectives	Targets	Activities	Timeframe	Budget
Establish and maintain	Have waste quantification	Installation of weighbridge at	2022	R 1 500 000.00

## Goal 6: Sound budgeting and financing of waste management services

Objectives	Targets	Activities	Timeframe	Budget
Ensure full cost accounting for waste management services	Conduct full cost accounting for waste services	To conduct full cost accounting	2022	R 1 000 000.00
Implement cost reflective and volumetric tariffs	Implementation of the cost reflective tariff for waste services	Conducting public participation before implementation Exploring more funding opportunities within environment sector as well private donors.	2022 - Ongoing	R 1 000 000.00
information base on waste flows	system at Mokopane landfill site	Mokopane Landfill site		

Goal 7: Effective Compliance and enforcement of the waste Act(copy from Modimolle)				
Objectives	Targets	Activities	Timeframe (2021-2026)	Budget
Development of the waste management by-laws	-Compliance to the waste act and regulations	Development and approval waste management by-laws	2022	R500 000
EMI training to enhance enforcement of the waste by-laws	-Senior officials in waste management should be properly trained to enforce compliance to the by-law Appointment of EMIs (x4)	-Training by accredited institutions	2022/2023	R200 000
Adherence to national waste management strategy including norms and standards	Ensure that the regulated community adheres to the set norms and standards on waste management	Promoting, enforcing the waste act through the enforcement of the waste By-laws	2022 – Ongoing	R00.

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## **5. COMMUNICATION AND STAKEHOLDER PARTICIPATION**

### **5.1 Consultation Process Summary (to be edited after public consultation)**

Several communication actions are needed to raise awareness about integrated waste management actions. These actions include communications between government departments, within government departments, between the government and industry/businesses, and between the government and the public. Communication should be such that every person understands the importance of responsible waste management and is empowered to take part in initiatives with confidence. Chapter 3 of the Constitution places an obligation on all spheres of government and organs of state to comply with the principles of co-operative governance. This implies that certain levels of communication and consultation is needed between different spheres of government to enhance the understanding of roles and responsibilities towards integrated waste management. Ultimately, such an understanding will lead to co-operation towards the implementation of all waste management strategies, as well as reaching waste management targets. Through consultative processes, members of the public have the right to take part in the decision making (Sections 72 and 73 of NEMWA). Therefore, it is the responsibility of the municipal council to create an enabling environment for community participation in municipal decision-making processes.

#### **5.1.1 PUBLIC PARTICIPATION**

Communication is a two-way process. Information needs to go from the Mogalakwena Municipality to the public, but simultaneously the public must receive the opportunity to comment on all proposed Mogalakwena Municipality decisions. Examples of participatory initiatives that create awareness include:

- Ward meetings: regular public meetings between municipal officials and municipal residents
- Community projects: While there is merit in the traditional cleaning up campaigns,
- Community projects to create a sense of pride in their environment as well as the will to take responsibility for their immediate surroundings and the environment.
- This will only be achieved if the Mogalakwena Municipality shows a serious drive towards e.g. combating illegal dumping and ensuring a clean environment for all municipal residents. Through community projects, unsightly areas prone to illegal dumping can be turned into gardens, play parks or recreation areas.
- Targeted door-to-door education campaigns could add value as a two-way communication method to create buy-in in areas where waste management can be improved
- Reporting of incidents: Providing a mechanism to report bad waste management practices, including e.g. poor service delivery and illegal dumping, will give the public a sense of responsibility, and pride, in their immediate environment.

### **6.1.2 INFORMATION TRANSFER**

Examples of information transfer include the dissemination of relevant information via the following communication channels:

- Bill boards
- Local newspapers, e.g. regular informative articles
- Local radio stations, e.g. talk shows and advertisements
- Newsletters, including electronic newsletters
- Flyers
- Educational material in collaboration with the Department of Education

- Presentations and hands-on shows at schools, e.g. a positive preventative message will make learners aware of how the environment should be protected and conserved.
- Discussions with businesses and industry to create win-win situations related to waste management

Stakeholder	Issues raised/ Concerns	Municipality's response	General comments

## 6. IMPLEMENTATION INSTRUMENTS

### 6.1 Partnerships

Mogalakwena Local Municipality will make partnerships with other public sector entities and departments to build capacity and reduce the financial burden of equipment and salaries in relation to waste management. Several opportunities exist in relation to the Department of Environmental Affairs, including funding job creation projects involving waste through the department's Environmental Protection and Infrastructure Programme (EPIP), which is used to implement Extended Public Works Projects.

Partnerships with community based SMMEs and cooperatives around composting and recycling represent important opportunities for diverting waste from landfill and stimulating the waste economy. The municipality can play an important role in facilitating finance and partnering with private companies. These partnerships can provide an alternative to uncontrolled and unhygienic scavenging on landfill sites.

### 6.2 Legislative instruments: Development and enforcement of by-laws

The following is a short summary of all the relevant legislation pertaining to waste management that need to be considered in parallel to the development of an IWMP. The South African Constitution, 1996 (Act No. 108 of 1996) is the supreme law of the land. All laws, including environmental Waste Management Planning must comply with the Constitution.

The Constitution states that the people of South Africa have the right to an environment that is not detrimental to human health, and imposes a duty on the state to promulgate legislation and to implement policies to ensure that this right is upheld. All departments of state or administration in the national, provincial or local levels of government have similar obligations. The principles of cooperative governance are also set out in the Constitution and the roles and responsibilities of the three levels of government are defined.

According to the Constitution, responsibility for waste management functions is to be devolved to the lowest possible level of government. Local Government is therefore assigned the responsibility for refuse removal, refuse dumps and solid waste disposal. Provincial Government has the exclusive responsibility to ensure that local government carries out these functions effectively.

In addition to the Constitution, a number of government policies and statutes are relevant to waste management at the Local Government Level, which includes but is not limited to, the following:

- National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) [NEMWA];
- NEM waste amendment act, 2014 (act no 26 of 2014)
- National Environmental Management Act, 1998 (Act No. 107 of 1998) [NEMA];
- Municipal Demarcation Act, 1998 (Act No. 27 of 1998);
- Municipal Finance Management Act, 2003 (Act No. 56 of 2003) [MFMA]
- Municipal Structures Act, 1998 (Act No. 117 of 1998);
- Municipal Systems Act, 2000 (Act No. 32 of 2000);
- The Development Facilitation Act, 1995 (Act No. 67 of 1995);
- Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965);
- National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) [NEMAQA];
- National Water Act, 1998 (Act No. 36 of 1998);
- Health Act, 1977 (Act No. 63 of 1977);
- White Paper on Environmental Management Notice 749 of 1998;
- White Paper on Integrated Pollution and Waste Management for South Africa, Notice 227 of 2000;
- Minimum Requirements for Waste Disposal by Landfill, 2nd edition, 1998
- Minimum Requirements for the Handling and Disposal of Hazardous Waste, 2nd Edition, 1998;
- Minimum Requirements for Water Monitoring at Waste Management Facilities, 2nd edition, 1998; 28 Strategic Environmental Focus (Pty) Ltd WRDM: IWMP- 502664

- National Waste Management Strategy and Action Plans;
- Relevant Provincial Legislation;
- Local Government By-Laws on waste management; and Relevant International Treaties and Declarations (Johannesburg Plan of Implementation, Millennium Development Goals, etc). Acts, such as the National Road Traffic Act, 1996 (Act No. 93 of 1996) under section 54 for transportation of dangerous goods, and the Nuclear Energy Regulator Act, 1999 (Act No. 46 of 1999) also impact on waste management, especially where mines are involved.

### **6.2.1 National Environmental Management: Waste Act, 2008 (act no. 59 of 2008) [NEMWA]**

NEMWA came into effect on 01 July 2009. NEMWA aims to consolidate most of the previous waste legislation into one framework Act. NEMWA has been developed as part of the law reform process enacted through the White Paper on Integrated Pollution and Waste Management and the National Waste Management Strategy (NWMS). However, current legislation will have to be complied with, especially when implementing the IWMP. The underlying government policy driving NEMWA is the NWMS (currently under review) with the general aim of complying with the following requirements:

- Provide waste management services and the management of waste disposal facilities;
- Compile and implement integrated waste management plans;
- Compile and implement a waste management policy as part of the IDP; and Develop and implement by-laws and ordinances in line with the national waste management policy and within provincial legislation and policies The objectives of the Act are:

a) to protect health, well-being and the environment by providing reasonable measures for—

- (i) Minimizing the consumption of natural resources;
- (ii) Avoiding and minimizing the generation of waste;
- (iii) Reducing, re-using, recycling and recovering waste;

- (iv) Treating and safely disposing of waste as a last resort;
- (v) Preventing pollution and ecological degradation;
- (vi) Securing ecologically sustainable development while promoting justifiable economic and social development;
- (vii) Promoting and ensuring the effective delivery of waste services;
- (viii) Remediating land where contamination presents, or may present, a significant risk of harm to health or the environment: and
- (ix) Achieving integrated waste management reporting and planning;

- b) to ensure that people are aware of the impact of waste on their health, well-being and the environment;
- c) to provide for compliance with the measures set out in paragraph (a); and
- d) generally, to give effect to section 24 of the Constitution in order to secure an environment that is not harmful to health and well-being.

### **6.2.2 National Environmental Management Act, 1998 (Act no. 107 of 1998) [NEMA]**

NEMA provides for co-operative governance by establishing principles and procedures for decision-makers on matters affecting the environment. An important function of the Act is to serve as an enabling Act for the promulgation of legislation to effectively address integrated environmental management. Some of the principles in the Act are accountability; affordability; cradle to grave management; equity; integration; open information; polluter pays; subsidiary; waste avoidance and minimisation; co-operative governance; sustainable development; and environmental protection and justice.

**Chapter 2** of NEMA makes provision for the establishment of the Committee for Environmental Co-ordination (CEC). The objective of the committee is to promote the integration and co-ordination of environmental functions by the relevant Organs of State and in particular to promote the achievement of the purpose and objectives of environmental implementation plans and environmental management plans.

**Chapter 3** requires that national government departments, which have waste

management responsibilities, as well as every province, develop Environmental Implementation Plans (EIPs) every four years and an Environmental Management Plan (EMP). Local Government is obliged to exercise its responsibilities in accordance with these plans and to report annually within four months from the end of its financial year on implementation of the EMP or EIP. Provincial Government must ensure that municipalities adhere to the relevant EIP and EMPs within its province, as well as the principles in the preparation of any policy, programme or plan, including the establishment of IDPs and Land Development Objectives (LDOs).

**Chapter 7** imposes a duty of care in respect of pollution and environmental degradation. Any person who has caused significant pollution or degradation of the environment must take steps to stop or minimize the pollution. Where an incident occurs that is potentially detrimental to the environment, the person who is responsible for the incident or the employer must, within 14 days of the incident, report to the Director-General, Provincial Head of Department and relevant municipality. The relevant municipality may specify measures to address the problem and remediate the area within 7 days. The Act also attach consequences for breaching the duty of care, namely that government authorities are empowered to issue directions and to remediate the situation and recover costs where the directions are not complied with.

**Chapter 8** provides that the Minister and every MEC and municipality may enter into an environmental management cooperation agreement with any person or community for the purpose of promoting compliance with the principals laid down in NEMA. Environmental Cooperation Agreements may contain an undertaking by the person or community concerned to improve the standards laid down by law for the protection of the environment and a set of measurable targets and a timeframe for fulfilling the undertaking.

**Chapter 9** allows the Minister to make model By-Laws aimed at establishing measures for the management of environmental impacts of any development within the jurisdiction of the municipality, which may be adopted by the Municipality as By-Laws. Any municipality may request the Director-General to assist it with its preparation of By-Laws on matters affecting the environment and the Director-General may not unreasonably refuse such a request. The Director-General may institute programmes to assist municipalities with the preparation of By-Laws for the purposes of

implementing this Act.

### **6.2.3 Municipal Demarcation Act, 1998 (Act no. 27 of 1998)**

The Municipal Demarcation Act provides criteria and procedures for the determination of municipal boundaries by an independent authority. In terms of the Act, the Municipal Demarcation Board is established to determine municipal boundaries.

**Section 24** provides that when demarcating a municipal boundary, the Board must aim to establish an area that would enable the municipality to fulfil its Constitutional obligations, including the provision of services in an equitable and sustainable manner, the promotion of social and economic development and the promotion of a safe and healthy environment. The tax base must also be as inclusive as possible of users of municipal services in the municipality.

### **6.2.4 Organised Local Government act, 1997 (Act no. 52 of 1997)**

The Organised Local Government Act provides for the recognition of national and provincial organizations representing the different categories of municipalities and determines various procedures concerning local government, including procedures by which local government may consult with national and provincial government.

### **6.2.5 Municipal Structures Act, 1998 (Act no. 117 of 1998)**

The main object of this Act is to provide for the establishment of municipalities in accordance with the requirements relating to categories and types of municipality and to provide for an appropriate division of functions and powers between categories of municipality.

This Act forms part of the legislation that is aimed at the transformation of local government into a more financially sustainable and performance orientated sphere of government. The Act is aimed at creating the permanent structures mandated by the Constitution, which will replace the transitional structures created by the Local Government Transition Act, 1993 (Act 209 of 1993). Municipalities are categorized either as A, B1, B2 or C. depending on the level of development. Chapter 5 sets out

the functions and powers of the municipalities in accordance with the Constitution.

#### **6.2.6 Municipal Systems Act, 2000 (Act no. 32 of 2000)**

The Municipal Systems Act describes the core principles, mechanisms, and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of communities and ensure access to services that are affordable to all. Its focus is primarily on the internal systems and administration of the municipality.

The Act enables the process of decentralization of functions through assigning powers of general competence to Local Government. Municipal By-Laws are regulated to achieve harmony with national and provincial legislation.

As service authorities, municipalities remain responsible for the effective delivery of services and must provide an appropriate policy and regulatory framework. This can be achieved through the most appropriate service provider, ranging from internal departmental delivery to corporatization and joint ventures to private sector delivery options.

Performance management systems are to be developed to measure and evaluate performance in priority areas, which are to be reported annually to citizens and other spheres of government.

Furthermore, the process to be followed in planning, drafting and adopting the IDP is set out in this Act.

#### **6.2.8 National Environment Management: Air Quality Act, 2004 (Act no. 39 of 2004) [NEMAQA]**

On the 1st of April 2010 the NEMAQA came into full effect and the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965) (APPA) was repealed. The object of this Act is to protect the environment by providing reasonable measures for:

- The protection and enhancement of the quality of air in the Republic;
- The prevention of air pollution and ecological degradation; and

- Securing ecologically sustainable development while promoting justifiable economic and social development. The Act further will generally give effect to Section 24(b) of the Constitution in order to enhance the quality of ambient air for the sake of securing an environment that is not harmful to the health and well-being of people.

The Act also requires the minister or MEC to identify and publish activities which result in atmospheric emissions that requires an Atmospheric Emission License (AEL) before they can operate. 1 April 2010 also marked the date when the new list of activities requiring AELs to operate were to be promulgated and, with this, the leveling of the atmospheric emission “playing field” through the setting of minimum emissions standards for all these listed activities.

#### **6.2.9 National Water Act, 1998 (Act no. 36 of 1998) [NWA]**

The NWA contains a number of provisions that impact on waste management, including the disposing of waste in a manner, which detrimentally impacts on a water resource and the discharge of waste into a water resource. The Act allows the Minister to make regulations for:

- Prescribing waste standards, which specify the quantity, quality and temperature of waste that may be discharged or deposited into or allowed to enter a water resource;
- Prescribe the outcome or effect, which must be achieved through management practices for the treatment of waste before it is discharged or deposited into or allowed to enter a water resource; and
- Requiring that waste discharged or deposited into or allowed to enter a water resource be monitored and analyzed according to prescribed mechanisms.

#### **6.2.10 HEALTH ACT, 2003 (ACT NO.61 OF 2003)**

The Act provides measures for the promotion of health, for the rendering of health services and defines duties of certain authorities which render health services in the Republic. **Section 20** sets out the duties and powers of LMs. It provides that

every Local Government is obliged to take measures to maintain its municipality in a clean and hygienic condition and to prevent the occurrence of any nuisance, unhygienic or offensive condition or any other condition, which could be of danger to the health of any person. A “nuisance” includes any accumulation of refuse or other matter that is offensive or is injurious or dangerous to health. The local government is obliged to abate the nuisance or remedy the condition and to prevent the pollution of any water intended for the use of the inhabitants of its municipality. Draft regulations for the control of environmental conditions constituting a danger to health or a nuisance were published in Government Notice Regulation 21 of 14 January 2000. In terms of the proposed regulations, registration is required for: concerns that to carry out a scheduled trade, including waste incineration, waste (including Health Care Risk Waste) disposal sites and waste collecting, sorting, treating or processing sites.

#### **6.2.12 White Paper on Integrated Pollution and Waste Management for South Africa, Notice 227 of 2000**

This White Paper represents formal government policy regarding integrated pollution and waste management. Integrated pollution and waste management is defined as a holistic and integrated system and process of management aimed at pollution prevention and Minimization at source, managing the impact of pollution and waste on the receiving environment and remediating damaged environments. Waste management is to be implemented in a holistic and integrated manner and extend over the entire waste cycle from cradle-to-grave and will include the generation, storage, collection, transportation, treatment and disposal of waste.

The overarching goal reflected in the policy is integrated pollution and waste management, with the intention being to move away from fragmented and uncoordinated pollution control and waste management towards integrated pollution and waste management as well as waste minimization. Within this framework of the overarching goal, the following strategic goals apply:

- Effective institutional framework and legislation;
- Pollution and waste minimization, impact management and remediation; and
- Holistic and integrated planning - the intention is to develop mechanisms to

ensure that integrated pollution and waste management considerations are integrated into the development of government policies, strategies and programs as well as all spatial and economic development planning processes and in all economic activity. The strategic mechanisms include the following:

- The incorporation of integrated environmental management principles and methodologies in spatial development planning as it relates to pollution and waste management;
- Making timely and appropriate provision for adequate waste disposal facilities;
- Developing management instruments and mechanisms for the integration of pollution and waste management concerns in development planning and land allocation;
- Developing appropriate, and agreed upon, indicators to measure performance for inclusion in EIPs and EMPs as provided for in NEMA;
- Participation and partnerships in integrated pollution and waste management governance; and
- Empowerment and education in integrated pollution and waste management, information management, and international co-operation.

#### **6.2.13 Department of Water Affairs and Forestry Minimum Requirements for Waste Disposal by Landfill, 2nd Edition, 1998**

The DWAF Minimum Requirements provide applicable waste management standards or specifications that must be met, as well as providing a point of departure against which environmentally acceptable waste disposal practices can be assessed. The objectives of setting Minimum Requirements are to:

- Prevent water pollution and to ensure sustained fitness for use of South Africa's water resources;
- Attain and maintain minimum waste management standards in order to protect human health and the environment from the possible harmful effects caused by

the handling, treatment, storage and disposal of waste;

- Effectively administer and provide a systematic and nationally uniform approach to the waste disposal process;
- Endeavour to make South African waste management practices internationally acceptable; and
- Before a waste disposal site permit is issued, adherence to the Minimum Requirement conditions will be required from the permit applicant. The Minimum Requirements promote the hierarchical approach to waste management, as well as a holistic approach to the environment.

#### **6.2.14 National Waste Management Strategy (NWMS) and Action Plans**

The overall objective of this strategy is to reduce the generation of waste and the environmental impact of all forms of waste and thereby ensure that the socio-economic development of South Africa, the health of the people and the quality of its environmental resources are no longer adversely affected by uncontrolled and uncoordinated waste management.

The internationally accepted waste hierarchical approach was adopted of waste prevention/minimization, recycle/reuse, treatment and finally disposal. The strategy outlines the functions and responsibilities of the three levels of government and where possible, firm plans and targets are specified. During the development of the strategy a number of priority strategic initiatives were identified which were categorized into short-term (by the year 2004), medium-term (by the year 2008) and long-term (by the year 2012) initiatives.

Action plans have been developed for the short-term initiatives for integrated waste management planning, a waste information system, waste minimization and recycling, general waste collection, waste treatment and disposal, and capacity building, education, awareness and communication. A logical framework analysis approach was adopted to develop the Action Plans that analyzed the problems, stakeholders, and the risks to successful implementation followed by the development of outputs, activities, inputs and assumptions, as well as a proposed allocation of functions, roles,

and responsibilities of the three levels of government.

The roles and responsibilities in terms of the NWMS for local government include:

- Integrated waste management planning: Local Government will be responsible for the compilation of general waste management plans for submission to Provincial Government; and
- Waste information system: Local Government will be responsible for data collection. The NWMS is currently under review and it is expected that the strategy will be amended.

## 7. Funding mechanisms

The implementation of the IWMP would require sufficient funds for the recruitment and training of staff, procurement of facilities and machinery, closure Licenses and application for new landfill sites Licenses, among others. The implementation of the IWMP should be done in a phased manner, taking into cognisance the MLM priorities at the time. Additional sources of funding must be investigated, particularly with, *inter alia*, the following institutions: MIG, Development Bank of Southern Africa, DEA and other donor funding.

**Tariff structure:** The MLM must ensure that the tariff structure takes into consideration the

(1) Current situation in the municipality, (2) self-sufficiency and (3) continued feasibility. The structure must be reviewed at regular intervals and updated if necessary. The allocation of waste related funds must go to waste projects and infrastructure.

## 7.1 Implementation Plan (Summary of an IWMP Planning Process)

Situation Analysis	Desired end state (Goals)	Targets	21/22	22/23	23/24	24/25	25/26	Selected alternatives	(Implementation mechanisms) Resources		
									Human Resource (HR)	Equipment (EQP)	Finance (HR+EQP)
Two partially compliant licensed landfill site (Mokopane and Rebone)	Compliance landfill site	<p>Ensure that Mokopane and Rebone landfill sites are complying with relevant legislations</p> <p>Establish the blue/clear bag system within the municipality (middle and low income areas) Mahwelereng, Rebone and</p>	X e.g Mahwelereng zone 1	Zone 2	Zone 3			<p>Conversion of Rebone landfill site into a transfer station</p> <p>Continually roll out separation at source to other areas in order to achieve the set targets.</p>	2 additional personnel (remuneration)	Waste receptacles	R500 000

		Extensions (14,19,20)									
Rural areas and informal settlement are not receiving proper waste management	Ensure the effective and efficient delivery of waste services	Increase the roll out of waste collection services to 70% of households (including indigents)		Introduction and implementation of rural Waste Services	Introduction and implementation of rural Waste Services	Introduction and implementation of rural Waste Services	Introduction and implementation of rural Waste Services	Labour intensive collection model/ approach	2 additional personnel (remuneration)	Establish a transfer station in rural areas and informal settlements	
Illegal dumping	Illegal dumping prevention Programmes undertaken	Enforce by laws			X			Monitor and enforce by-laws on illegal			

								dumping on an ongoing basis.			
The municipality does not have education and awareness programme or strategy in place	Development of Awareness and Education Strategy or plan	Achieve education and awareness through integrated waste management within schools, communities, businesses and other institutions		X				Appoint education personnel	Appoint 2 additional staff members	Develop material to conduct education, awareness and advocacy	2 000 000
There is no law enforcement	Compliance and enforcement	Training of EMI's			X			Roll out enforcement and monitoring of by-laws	2 additional officers	Vehicles Laptops Cell phones	1000000

## 8. REPORTING ON MONITORING

Monitoring and evaluation will be undertaken using the framework provided by the Logical Framework and the Implementation Plan. The Logical Framework provides an evaluation framework in the form of indicators and targets that are measureable and realistic and time bound. The implementation plan, which includes a detailed list of activities, approximate budgets and timelines, provides a means of monitoring progress towards the objectives of the IWMP. Mitigating measures and appropriate interventions should be taken if the IWMP process falls behind in reaching its goals to bring implementation back on track. Annual monitoring is required to ensure that the implementation of the IWMP is on track; thereafter the IWMP should then be reviewed after a five-year cycle.

Monitoring activities will include:

- General operational issues: These include budget allocations, human resources, waste generation rates, tariff payments, and establishment of an waste management system
- Waste prevention and minimization (e.g. annual reports of waste minimization programmes and projects regarding the installation of buy-back centres and garden sites; and information exchange and the establishment of waste minimization records)
- Collection and transportation (e.g. annual reports on the implementation of collection and transportation services and payment received, annual reports regarding the establishment of transfer stations and collection points and drop-off sites)
- Reuse, Recycling and Recovery (e.g. annual reports on waste reuse, recycling and recovery programmes and projects; information exchange between stakeholders; stakeholder forums coordinating new reuse, recycling and recovery activities; etc.)

## 8.1 Strategic issues

The over-arching goal is to develop an effective IWMP, which aspires to reduce generation and environmental impact of all forms of waste, so that the socio-economic development of Mogalakwena, the health of its populace and the quality of its environmental resources will no longer be adversely affected by uncontrolled and uncoordinated waste management. The desired strategic outcomes prior to the IWMP can be outlined as follows:

- Provision of a more effective and efficient service;
- Implementation of effective waste information system;
- To ensure legal compliance, improved Land-fill facilities and their operation therein;
- To provide an integrated waste management strategy combining all methods of waste management with regard to the waste hierarchy concept;
- To optimistically reduce the amount of waste which is currently disposed;
- To encourage and concurrently increase waste minimization and recycling tendency;
- To treat and dispose of all the waste within Mogalakwena; and
- Minimization of adverse environmental and social impacts related to waste management and thereby improve the quality of life for all the inhabitants of Mogalakwena Local Municipality
- Green municipality towards a green economy

## 8.2 Performance

The IWMP is a living document which has to be reviewed on an on-going basis. An IWMP is intrinsically linked to the IDP hence its review cycle should be aligned with that of the IDP process. An IWMP is ideally reviewed every 5 years. An annual update is however encouraged to ensure that the IWMP remains relevant and effective. This will also facilitate the updating of the IWMP in view of the targets set in the plans/strategies/policies as per the Action Plan developed in this IWMP.

## 8.3 Public Accountability.

Households and industry shall avoid negative impacts from waste on the environment and also play a role in terms of separation of waste at source, waste exchange and cleaner production. Changes in consumption patterns will reduce generation of waste and save our precious non renewable natural resources.

In terms of waste avoidance and minimization, the co-operation and additional effort of the manufacturers and producers in terms of “Cleaner Production and Sustainable Consumption” and “Extended Producer Responsibility” (EPR) initiatives, and participation by the consumers of goods as part of individual waste minimization effort is required. In this regard the responsibilities of residents, visitors or entities inside the urban boundaries include the following:

- All stakeholders must avoid generating waste as far as possible;
- All residents, property owners, government departments, non-governmental or community service organizations, and business entities handling waste must be registered with on the Mogalakwena waste information system.
- All entities and individuals wishing to engage in commercial waste minimization and recycling activities inside urban area that will divert waste from landfill must be accredited and licensed by the Mogalakwena to operate in the urban areas;
- All events organized and hosted in the Mogalakwena must have a waste management plan that includes source separation and a provision for the cost of associated waste management services.

- Industrial and health care entities must have a contract with a legitimate private sector service provider able to provide a service according to the nature of the waste that must be collected, and/or treated, and/or recycled, and/or disposed;
- Health care risk waste generators, transporters and facility operators must have a valid permit and/or licence issued by ,Mogalakwena Health Department or the Provincial Government;
- Property owners, traders or businesses may only use the receptacles provided for their own use at the site and for the purpose it has been provided, or can apply for additional receptacles or enhanced services at additional cost;
- The occupant of a dwelling or property, manager of a facility, amenity or a business entity, or entrepreneur that generates waste, must ensure that recyclable waste is separated and stored in an approved container;
- The waste generator must transport recyclables or have these collected at own cost to a specially provided facility, where the recyclable materials must be placed in separate bulk containers or a separate area provided at the facility;
- Property owners of vacant land and occupants of occupied property are responsible for maintaining cleanliness and hygiene standards inside the boundaries of the property in terms of Mogalakwena applicable by-laws. Mogalakwena Local Municipality reserves the right to clean waste and overgrowth that accumulates on such land at the owner's expense at the cost of cleaning and disposing of the waste.
- Property owners and/or developers of land and buildings must provide for waste management infrastructure according to Mogalakwena guidelines, and must submit a waste management plan as part of the Mogalakwena plans approval process.
- All relevant stakeholders in terms of the Action Plans set in this plan must develop operating plans and ensure regular reporting on progress of implementation of the plan to the Waste management directorate.

## 8.4 Communication and public participation plan

Awareness-raising and education are an integral part to a successful waste management process. Communication on the implementation of the IWMP and its implication to behavioural change, especially behaviour relating to illegal dumping, burning and burying of waste as a waste minimization strategy, has to be strengthened within the municipality.

There is generally a lack of awareness about the requirements of the law in relation to the Cradle to Grave Principles of waste management. Awareness of legal implications on illegal dumping of waste is also of concern to both the health and wellbeing of the community including their surrounding environment. The awareness through educational campaigns is very important to inform, educate and transfer knowledge thereby empowering the community with information related to best practice in relation to waste management and environmental protection. This process is important even during the development of By-Laws to ensure that communities are aware when the By-Laws are enforced and what the implications of non-adherence are.

Various methods and media will be used for transferring the knowledge and creating awareness in the regions, for example, the community workshops could provide an insight of what media appeals mostly to people. Linkages with already existing awareness and educational programs can also assist in the development of an efficient, practical, user-friendly awareness campaign that is representative of all the community members within the area.

### Public Participation

In compliance with the Municipal Systems Act and the NWMS, the integrated waste management plan was developed in consultation with stakeholders. A database of stakeholders will be compiled and maintained throughout the project. A list of key stakeholders will be in consultation with stakeholder and local communities. The participant will include

- Ward Councillors;
- Members of the traditional council;
- Limpopo Department of Economic Development, Environment and Tourism.

- Regional Water Affairs Office;
- Department of Agriculture ;
- Business and Industry;
- Community members;
- Non-governmental organisations.
- COGHSTA
- Department of Health

Stakeholder meetings will be conducted for the duration of the development of the final IWMP.

The consultative stakeholder workshops will be planned well in advance, with invitations to participants, workshop agendas and documents forwarded to key stakeholders at least two weeks prior to the workshop. A record of workshop proceedings will be kept, with comments made during the sessions well documented for record purposes. The workshop facilitation process will be conducted in an interactive and participative manner, allowing stakeholders the opportunity to discuss And debate relevant issues.

## 8.4 Financial plan

The MLM has several financial resources options available to them for the implementation of the various recommendations. The first is resources from the Municipal budget.

A second option available is in the form of Municipal Infrastructure Grants (MIG). This MIG grant is from the National Government and is generally only applicable to the building of Infrastructure within a Municipal area, but waste equipment may be considered.

A third option is funding from the development bank, DEA and international development organizations, such as the Finnish Environmental Institute. Several International organizations are currently involved in Solid Waste Management and this therefore seems a very viable option.

The Equitable Share provided by the government is at the moment generally used for water and electricity subsidies. It should however be noted that this subsidy should also be used for subsidizing refuse removal tariffs.

The implementation plan represents the ideal or complete solution for waste management within the MLM. Due to the fact that the MLM at the moment does not have the financial resources to implement all of the recommendations it is essential that the Municipality prioritize the recommendations and actions.

The following is a breakdown of the tasks according to priority and responsibility:

Focus Area	Priority	Requirements or Responsibility
<b>Infrastructure Development</b>	Continue to operate the Mokopane and Rebone Landfill in accordance with the Minimum Requirements and Permit Conditions, until closure.	Municipality
	Identify, licence and construct a new replacement landfill site for Rebone(Why Replacing Rebone)	Municipality
	Properly close and rehabilitate the used cells at Mokopane landfill site (once the extension site is operational)	Municipality
	Identify and construct a transfer station suitably located to service the unserved areas( Rebone, Mapela, Bakenberg)	Municipality
<b>Waste Collection</b>	Compile Fleet Replacement Plan and Implement Savings Plan, Replace existing old vehicles and purchase additional waste collection vehicles	Municipality

	Extend services, Standardize Collection and Optimize Collection route	Municipality
<b>Human resources</b>	Appoint personnel at proposed transfer stations (1 x site supervisor, 1 x Gate guard, 2 x General Workers to assist with off-loading, 1 x litter picker), and additional drivers (8) and general workers (15) for waste collection.	Municipality
	Train staff	Municipality
<b>Management of illegal activities</b>	Review By-laws on regular basis	Legal expert / Municipality
<b>Community awareness</b>	Community awareness and community watch	Municipality
<b>Dissemination of Information</b>	Develop and Maintain WIS	DEA/ Municipality
<b>Waste Minimization</b>	Community Awareness, Promote recycling, continue and extend current initiatives	Waste Recycler/ Municipality
	Provide Recycling Containers throughout towns	Municipality
	Develop Garden Refuse Strategy and Investigate Feasibility to Establish Composting Facility at Mokopane Landfill.	Municipality / Consultant

## 8.5 Waste management implementation programme

FOCUS AREA	RECOMMENDATION	ACTION				
		2021/2022	2022/2023	2023/2024	2024/2025	25/26
Waste collection infrastructure	<b>Extend services to unserviced areas in Municipal Area.</b>		Extend services to unserviced areas and add new residential development areas as it develops(NO of households to be added or the name of the unserviced area)	Extend services to unserviced areas and add new residential development areas as it develops Same as previous	Add new residential development areas as it develops Same as previous	Add new residential development areas as it develops Same as previous
Proposed Budget	<b>No costs assigned to be done by MLM</b>	No costs assigned	No costs assigned New collection vehicles may be needed and also	No costs assigned	No costs assigned	No costs assigned

			additional human resources			
	<b>Extend &amp; Maintain Collection Fleet</b>	Compile Equipment Replacement Plan Maintain current collection fleet	Implement Equipment Savings Plan Purchase additional vehicles i.e. 2 x single diff axle compactor trucks, 1 Excavator and 1 x roll of roll on truck Maintain current collection fleet	Replace equipment as Required Negotiate Maintenance Contract Maintain current collection fleet	Replace equipment as Required Negotiate Maintenance Maintain current collection fleet	Maintain current collection fleet
Proposed Budget		R 80 000	R 7 000 000 for vehicles	No costs assigned	No costs assigned	No costs assigned
	<b>Optimise Collection Route</b>	Optimise Collection Route	Include new Areas into Collection Route			



	<b>Incentive Schemes for In-House Recycling</b>		Develop Discount System for Businesses Implement Discount Strategy	Maintain and Evolve Discount System Incorporate New Businesses
				No costs assigned to be conducted by municipality
	<b>Develop Garden Refuse Strategy and Investigate Feasibility to Establish Composting Facility at Mokopane Landfill.</b>	Develop Garden Refuse Strategy	Investigate feasibility for establishment of composting facility at Mokopane landfill	Design, construct, authorize composting facility, if prove to be feasible
<b>Disposal Infrastructure Development</b>	<b>Operate the Mokopane and Rebone landfill site according to permit conditions, and/or Minimum Requirements and approved Operational Plan.</b>	<b>-Regular compacting and covering of waste and proper record keeping.</b> <b>-Operate the Mokopane and Rebone landfill site according to permit conditions, and/or Minimum Requirements and approved Operational Plan.</b> <b>-Audit management of landfill sites</b>		

<b>Budget</b>	<b>No cost assigned as landfill management is done in house(Operational and Maintenance budget)</b>	R600,000.00	R700,000.00	R850, 000.00	R950, 000.00	R1,200, 000
	<b>Identify and licence a new replacement landfill sites for Mokopane in the medium Term and Rebone in the Long term(?????)</b>	Site selection for extension Of Mokopane landfill site	Apply for licence extension from LEDET for establishment and operation of extended site. Investigations should inter alia include an EIA, geotechnical, geohydrological study, design and operation	Construct landfill in accordance with approved design plan	Site Selection for new landfill site at Rebone	Audit management new or extended landfill site
Budget			R500 000	R1 300 000	R500 000	R100 000

	<b>Properly close and rehabilitate the used cell at Mokopane landfill site and Rebone landfill (once the new replacement</b>			Compile closure design plans for Mokopane landfill	Properly close and rehabilitate the used cells at Mokopane landfill site in accordance with approved closure design plan and Minimum Requirements for Closure and Rehabilitation.	Compile closure design plans for Rebone landfill
				R150 000	R 1 500 000	R200 000
	<b>Identify and establish a transfer station suitably located to service the unserviced areas</b>			Compile design plans for transfer station  R100 000	Construct transfer station in accordance with approved design plan  R1 700 000	Audit Management of transfer station  To be done by the municipality

<b>Institutional Capacity &amp; Human Resources</b>	<b>Employ Additional Staff to service new areas and to manage disposal facilities</b>		Appoint additional drivers (8) and general workers (15) for waste collection,	Appoint personnel at proposed transfer stations (1 x site supervisor, 1 x Gate guard, 2 x General Workers to assist with offloading, 1 x litter picker	Employ Staff as Vacancies Develop	
	<b>R 1 000 000</b>					
	<b>Locally Train Low Level Staff Specialized Training for Specialized Posts</b>	Train New Staff (High First Year Costs Followed by Updating Training if Required) Ensure Training of Landfill Operators				
	<b>R100 000</b>	R 50 000 each year				

<b>Financial Resources</b>	<b>Implement Standardized Tariff Structure</b>		Evaluate Level of Service Delivery Develop Standardized Tariffs for Specific Levels of Service.	Update Tariffs as Service Levels Improve Increase Tariffs to Combat Inflation
			No costs	No costs
<b>Dissemination of Information / Communication</b>	<b>Develop WIS</b>	Appoint Consultant to Develop WIS  <b>No Costs Assigned. Generic WIS being designed by DEAT</b>	Maintain and Update WIS as Situation Change in Municipality  No costs	
	<b>Attend Workshops</b>	Attend Quarterly Waste Management Workshops		

		No costs				
	<b>Build Community Awareness</b>	Publish Newspaper Notices and Flyers. Conduct Road Shows	Publish Newspaper Notices and Flyers.	Publish Newspaper Notices and Flyers. Conduct Road Shows	Publish Newspaper Notices and Flyers.	Publish Newspaper Notices and Flyers. Conduct Road Shows
		R60 000	R45 000	R85 000	R55 000	R100 00
<b>Management of Illegal Activities</b>	<b>Establish Community Watch Programme</b>	Inform Communities of Proposed Program	Establish Community Watch System Implement Incentive Schemes	Incorporate New Neighborhoods into the Community Watch System		
		25 000	30 000	No costs		
	<b>Review By-Laws as required</b>	Review and update By-Laws as required				

		No costs to be done internally	
	<b>Provide Skips Throughout Town</b>	Purchase Skips for Existing Neighborhoods	Purchase Skips for New Developments as the Need Arise and for proposed transfer stations
		R450 000	R450 000

## ANNEXURE OR REFERENCES (OPTIONAL)

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