



INTEGRATED WASTE MANAGEMENT PLAN (IWMP) GOVAN MBEKI MUNICIPALITY

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EXECUTIVE SUMMARY

The development of an Integrated Waste Management Plan (IWMP) is a requirement for all government spheres responsible for waste management in terms of section 11 of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) and the municipality must submit the IWMP to the MEC for endorsement. The approved IWMP must be included into the approved Integrated Development Plan (IDP) of the municipality contemplated in terms of Chapter 5 of the Municipal Systems Act. Before finalizing the IWMP, the municipality need to follow a consultative process in terms of section 29 of the Municipal Systems Act.

The IWMP includes a situational analysis of services rendered within GMM, how the municipality intends to give effect, in respect of waste management, to the objects of the Waste Act; identify and address the negative impact of poor waste management practices on health and the environment; provide for the implementation of waste minimization, reduce, re-use, recycling and recovery targets and initiatives; the delivery of waste management services to residential premises, the implementation of the Republic's obligations in respect of any relevant international agreements and give effect to best environmental practice in respect of waste management.

1 INTRODUCTION

The development of an Integrated Waste Management Plan (IWMP) is a requirement for certain organs of state in terms of Section 11 of the National Environment: Waste Act, 2008 (Act. 59 of 2008) (NEMWA) for government to properly plan and manage waste. The compilation of this IWMP will be done in line with the “Guideline for the Development of Integrated Waste Management Plans (IWMP’s) (DEA, 2012) and in accordance with Section 12 of NEMWA.

The IWMP will consist of a “Situation Analysis” and the determination of the “Desired End State” for waste management within the Municipal Jurisdiction. The desired end state consists of identifying, evaluating and selecting alternative methods/approaches for achieving the desired end state. The Municipality is responsible for the implementation of the IWMP and the evaluating and reviewing of the plan to ensure that the respective objectives are being met.

The content and objective of this report is for the development of the IWMP i.e. the waste management situation analysis for the Municipality.

2 LEGISLATIVE REQUIREMENTS

2.1 THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT: (ACT NO. 59 OF 2008)

Chapter 3, section 11 of the Waste Act requires that certain organs of state must develop Integrated Waste Management Plans (IWMPs). Section 12 of the Waste Act outlines what the contents of integrated waste management plans should be, whilst section 13 stipulates the reporting mechanisms on the implementation of IWMP's.

In terms of section 11 (4) (a) (ii) of the Waste Act, municipalities must incorporate the approved IWMP in their IDP's as called for by chapter 5 of Municipal Systems Act, 2000 (Act 32 of 2000) (hereinafter referred to as the "MSA"). The MSA. Chapter 5, sections 23-37 deals with the process of developing Integrated Development Plans. Section 36 of the MSA states that, a Municipality must give effect to its IDP and conduct its affairs in a manner which is consistent with its IDP. This means that the development and implementation of the IWMP must be aligned with the IDP.

Waste is managed by different pieces of legislation such as the National Environmental Management: Waste Act, 2008 (Act 59 of 2008), National Water Act, (Act 36 of 1998); Hazardous Substances Act, (Act 15 of 1973); and the National Health Act, 2003 (Act 61 of 2003).

Other applicable policies and standards including municipal by-laws are listed below which should be considered when developing an IWMP:

2.2 REGULATIONS IN TERMS OF THE WASTE ACT:

2.2.1 National Waste Information Regulations

On 13 August 2012, the Minister of Water and Environmental Affairs, Ms Edna Molewa published under section 69(1)(y), (aa) and (ee) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (Waste Act) the National Waste Information Regulations, 2012 in Gazette No. 35583 for implementation on 1 January 2013. Any person who conducts activities which are listed in Annexure 1 of the Regulations needs to register on the South African Waste Information System at www.sawic.org.za. The purpose of the national waste information regulations, 2012 is to regulate the collection of data and information to fulfil the objectives of the South African Waste Information System (SAWIS) as set out in section 61 of the Waste Act. The Municipality should therefore comply with these regulations and follow the procedure and criteria to register on SAWIS (as required in Section 4 of the Regulations) and submit a quarterly report containing the information as prescribed in Annexure 2 of

the Regulations, within 30 days of the end of a reporting period (as required in Section 7 of the Regulations).

2.2.2 National Waste Classification and Management regulations;

The National Waste Classification and Management regulations were published in terms of R634 of 23 August 2013 under the National Environmental Management Waste Act 2008. The purpose of the regulations is to regulate the classification and management of waste in a manner which supports and implements the provisions of the Act, establish a mechanism and procedure for the listing of waste management activities that do not require a waste management license; prescribe requirements for waste disposal by landfill; prescribe requirements and timeframes for the management of certain wastes; and prescribe general duties of waste generators, transporters and managers. These regulations do not apply to generators of domestic waste which is collected by the municipality.

2.2.3 Waste tire regulations 2009

The waste tire regulations is published in terms of R149 of 13 February 2009 and amended in terms of R1394 of 02 December 2016 under the National Environmental Management Waste Act, 2008. The purpose of these regulations is to regulate the management of waste tyres.

2.3 NORMS AND STANDARDS IN TERMS OF THE WASTE ACT

2.3.1 National Domestic Waste Collection Standards;

The National Domestic Waste Collection Standards is published in terms of R21 of 21 January 2011 under the National Environmental Management Waste Act 2008. The purpose of the standards is to ensure the provision of waste collection services to all South Africans to improve the quality of life of the entire community and to ensure a more acceptable place to work and live in. The standards are based on equity, affordability and availability of resources within municipalities, clarity and ease at which the standards can be implemented, practicality and community participation in design of applicable and appropriate collection systems.

2.3.2 National Norms and Standards for the Assessment of Waste for Landfill Disposal;

The National Norms and Standards for the Assessment of Waste for Landfill disposal was published in terms of R635 of 23 August 2013 under the National Environmental Management Waste Act, 2008.

The purpose of the norms and standards is to prescribe requirements for the assessment of waste prior to disposal to landfill.

2.3.3 National Norms and Standards Remediation of contaminated land and soil quality;

The National Norms and Standards for the remediation of contaminated land and soil quality is published in terms of R331 of 2 May 2014 under the National Environmental Management Waste Act 2008. The purpose of these norms and standards is to provide a uniform national approach to determine the contamination status of an investigation area; limit uncertainties about the most appropriate criteria and method to apply in the assessment of contaminated land; and provide minimum standards for assessing necessary environmental protection measures for remediation activities. The requirements set out in these norms and standards apply to an owner of land or any person who undertakes site assessment and remediation activity in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008). These norms and standards must be used for the screening of a site after a site assessment report is required as a result of declaration of an investigation area as contemplated in section 36 of the National Environmental Management Act, 2008 (Act No. 59 of 2008).

2.3.4 National Standards for the extraction, flaring and recovery of landfill gas;

The National Standards for the extraction, flaring and recovery of landfill gas is published in terms of R924 of 29 November 2013. The standards aim at controlling the extraction, flaring and recovery of landfill gas at a facility that falls within the threshold of paragraph 4 of the standards, in order to prevent or minimize the potential negative impacts on the bio-physical and socio-economic environment.

2.3.5 National Standards for the scrapping and recovery of motor vehicles;

These standards is published in terms of R925 of 29 November 2013. The standards aim at controlling the scrapping of motor vehicles at a facility that falls within the threshold of paragraph 4 of the standards, with an operational area in excess of 500m², in order to prevent or minimize the potential negative impacts on the bio-physical and socio-economic environment.

2.3.6 National Norms and Standards for the Storage of waste;

These standards are published in terms of R926 of 29 November 2013 with the purpose to provide a uniform national approach relating to the management of waste storage facilities, ensure best practice

in the management of waste storage facilities, and provide minimum standards for the design and operation of new and existing waste storage facilities.

2.4 POLICIES UNDER THE WASTE ACT 2008

2.4.1 National policy for the provision of basic refuse removal services to indigent households

This policy provides for the provision of basic refuse removal for Indigent households. The policy defines basic refuse removal service level as the most appropriate level of waste removal service that should be provided and this is based on site specific circumstances. Such a basic level of service be it in an urban or rural set-up, is attained when a Municipality provides or facilitates waste removal. The policy further outlines the appropriate levels of service for different settlement densities, frequency of collection and provision of waste receptacles amongst others.

2.5 THE NATIONAL WASTE MANAGEMENT STRATEGY 2020 (NWMS)

The National Waste Management Strategy is published in R56 of 21 January 2021 in terms of the National Environmental Management Waste Act 2008.

The NWMS provides a coherent framework and strategy for the implementation of the Waste Act and outlines government's policy and strategic approach to waste management within the South African government's context and agenda of socio- economic development that is "equitable, inclusive, sustainable and environmentally sound ". The NWMS 2020, achieves the following: Assimilates our strategic approach to waste management with the commitments and directives of the Sustainable Development Goals 2030 and South Africa's National Development Plan: Vision 2030; Unequivocally locates waste management as one of the key underpinnings of South Africa's economy and social fabric; and Integrates and provides an enabling environment for the DEFF's 2017 Chemicals and Waste Economy Phakisa and government's 2019 Good Green Deeds Programme.

2.6 THE SOUTH AFRICAN CONSTITUTION, 1996 (ACT 108 OF 1996)

Section 24 of the Bill of rights of the Constitution of South Africa clearly states that everyone has the right to:

(a) An environment that is not harmful to their health or well-being; and

(b) Should have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:

- (i) prevent pollution and ecological degradation;
- (ii) Promote conservation; and
- (iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The Constitution places an emphasis on the need to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures i.e. IWMP. It is within this provision that IWMP's must strive or come up with measures to uphold the rights of all citizens within the jurisdiction of the Municipality and should enhance and promote environmental protection from any form of degradation as enshrined by the South African Constitution.

2.7 NATIONAL ENVIRONMENT MANAGEMENT ACT, (ACT 107 OF 1998) NEMA

The purpose of NEMA is to uphold the provisions of section 24 of the Bill of rights (The Constitution of the Republic of South Africa). It aims to promote and uphold the rights of South African citizens to live in an environment that is not harmful to its health or well-being.

It places sustainable development at the centre of every development process that has the potential to have an impact on social, economic and environment whereby it requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations.

2.8 MUNICIPAL SYSTEMS ACT, 2000 (ACT 32 OF 2000)

In terms of Section 25 of the MSA each municipal council must, within a prescribed period after the start of its elected term, adopt a single, inclusive and strategic plan (IDP) for the development of the Municipality. In relation to waste management, the IDP is required to include sectoral environmental plans which would be an IWMP for waste management. In their IDP's municipalities are required to ensure proper resource allocation to achieve the targets set in the respective plans.

2.9 NATIONAL HEALTH ACT, 2003 (ACT 61 OF 2003)

The National Health Act 61 of 2003 provides a framework for a structured uniform health system within the Republic, taking into account the obligations imposed by the Constitution and other laws on the national, provincial and local governments with regard to health services; and to provide for matters connected therewith.

Section 32 of the Health Act (Act 61 of 2003) requires provincial Health MECs to assign environmental health functions to district and metropolitan municipalities. The definition of these functions in the Health Act includes environmental pollution control, waste management and water quality monitoring.

3 SITUATION ANALYSIS

The main objective of a situation analysis is to analyse and quantify all aspects pertaining to the management of waste within the Municipality. It includes the current status with regards to the delivery of waste services, number of residents in the Municipality, demographic profile and social-economic composition. It also includes the amount and type of waste that is being generated, recycled, recovered treated and disposed. Information on resources i.e., financial and human capital including equipment is included in this phase. Chapter 3 section 12 of the Waste Act stipulates that a situation analysis must at least include the following:

- (i) A description of the population and development profiles of the area to which the plan relates,
- (ii) An assessment of the quantities and types of wastes that are generated in an area.
- (iii) A description of the services that are provided, or that are available, for collection, minimisation, re-use, recycling and recovery, treatment and disposal of waste, and
- (iv) The number of households in the area who are receiving and who are not receiving waste collection services.

3.1 METHODOLOGY

The following methodology was followed for the situation analysis:

3.1.1 Information Sources

The following methodology was followed for the situation analysis investigation:

- (i) The 2015 IWMP for Govan Mbeki Municipality.
- (ii) Landfill licenses
- (iii) Much of the general information was obtained from the IDP (2017 – 2022) or Stats SA 2011 data and Stats SA community survey 2016.
- (iv) All of the above were incorporated into this Situational Analysis document.

3.2 BACKGROUND

The Govan Mbeki Municipality is one of seven municipalities within the Gert Sibande District Municipality in Mpumalanga Province. The municipality is a mainly rural municipality, with a number of service centres and settlements distributed throughout the area. The service towns within the

municipality area are Bethal/ eMzinoni, Charl Cilliers, Eendracht, eMbalenhle, Evander, Kinross, Leslie/ Lebohang, Secunda and Trichardt.

The total population of the Municipality is 340 091 people and the average population growth rate between 2011 and 2016 is 3.27% (Reference: Stats SA Community Survey 2016).

3.3 LOCALITY

The municipality is situated in the centre of the Gert Sibande District Municipality. The Municipality head office is seated in Secunda. Govan Mbeki Municipality consist of 108894 (Community Survey 2016) households. The Municipality consists of 32 wards and has a geographical area of 2 958km².

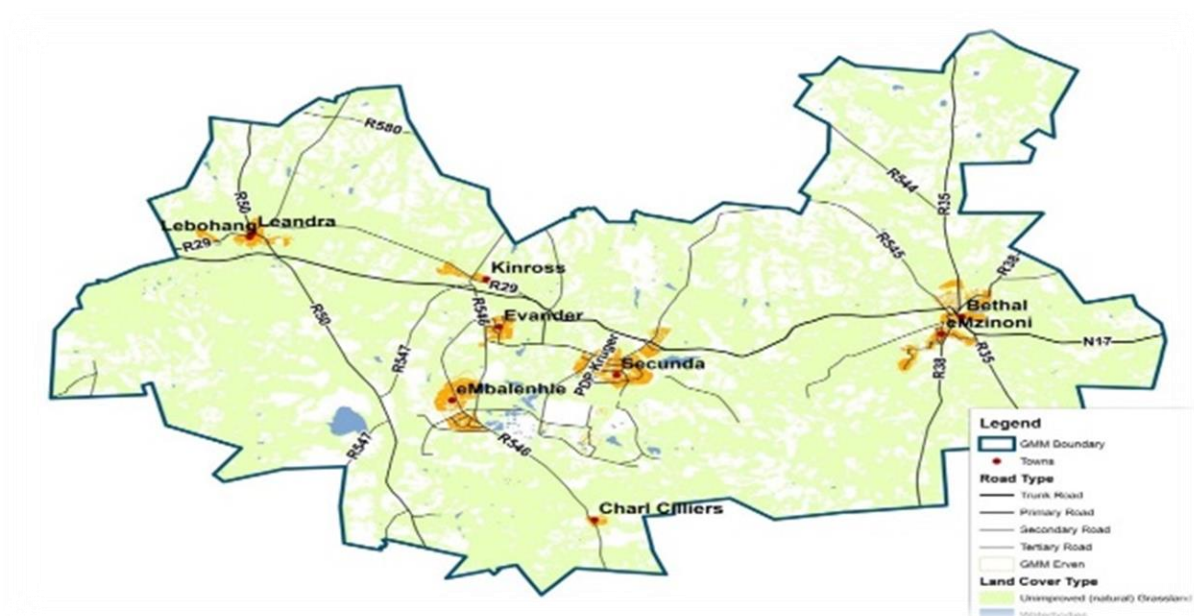


Figure 1: Location of the Municipality

STUDY AREA

The following towns are situated within the Municipality:

- Secunda
- Evander
- Leslie
- Kinross/ Thistle Grove

- Bethal
- Trichardt
- Charl Cilliers
- Eendracht

The following are township areas that are also included in the Govan Mbeki Municipal Area:

- eMzinoni
- Lebohang
- eMbalenhle
- Kinross ext. 25

The towns mentioned above can be seen on the locality plan in **Figure 1**.

3.4 Municipal Wards

The municipality comprises of 8 towns and structured into 32 electoral wards which cover an area of 2 958m2.

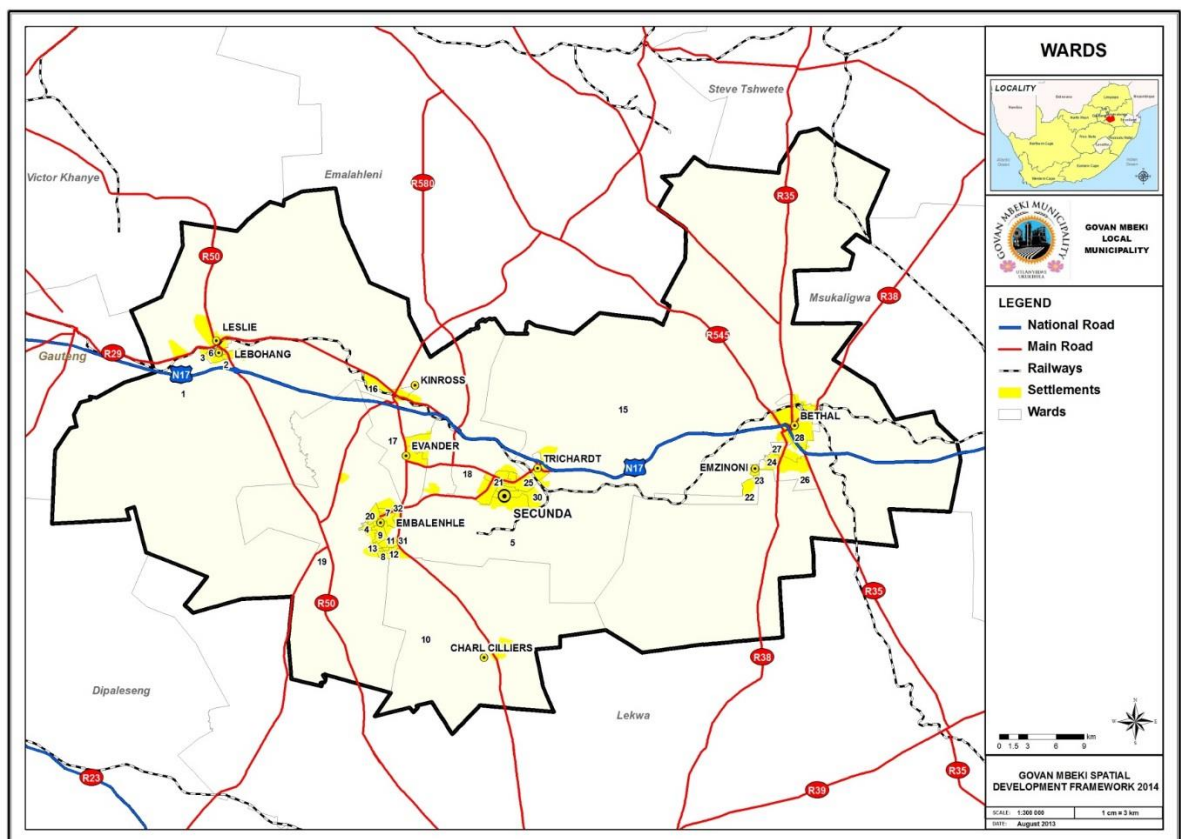


Figure 2: Locality of GMM 32 wards

A breakdown of the 32 wards within the municipality are tabled in **Table 1** below.

Table 1: Breakdown of ward details

Ward number	WARD NAME/ AREA	Ward number	WARD NAME/ AREA
1	Leandra and part of Kinross	17	Evander and farms
2	Lebohang	18	Evander and Secunda
3	Lebohang	19	eMbalenhle and farms
4	eMbalenhle	20	eMbalenhle
5	Secunda	21	Secunda
6	Lebohang	22	eMzinoni
7	eMbalenhle	23	eMzinoni
8	eMbalenhle	24	eMzinoni
9	eMbalenhle	25	Secunda and Trichardt
10	eMbalenhle and Charl Cilliers	26	eMzinoni
11	eMbalenhle	27	eMzinoni
12	eMbalenhle	28	Bethal and eMzinoni
13	eMbalenhle	29	eMbalenhle
14	eMbalenhle	30	Secunda
15	Bethal	31	eMbalenhle
16	Kinross	32	eMbalenhle

3.5 DEMOGRAPHIC OVERVIEW OF GOVAN MBEKI MUNICIPALITY

Demographics can be defined as the most recent statistical characteristics of a population in a given area at a specified time. The most commonly examined demographics include gender, race, age, economic and social status/profile, number of households and their distribution, poverty levels, education and employment status. For the purpose of this report, the focus will only be on the population profile and size, household profile and services and refuse removal.

According to the Community Survey 2016, the Municipality has shown a steady increase in the number of households that receive a refuse removal service from the municipality or from private contracted waste management companies. The number of households that do not receive a refuse removal service

can in this case also be attributed to farms and informal settlements in rural areas that are remotely located and which are not easily accessible to the Municipality to render a waste removal service.

3.5.1 POPULATION PROFILE AND SIZE

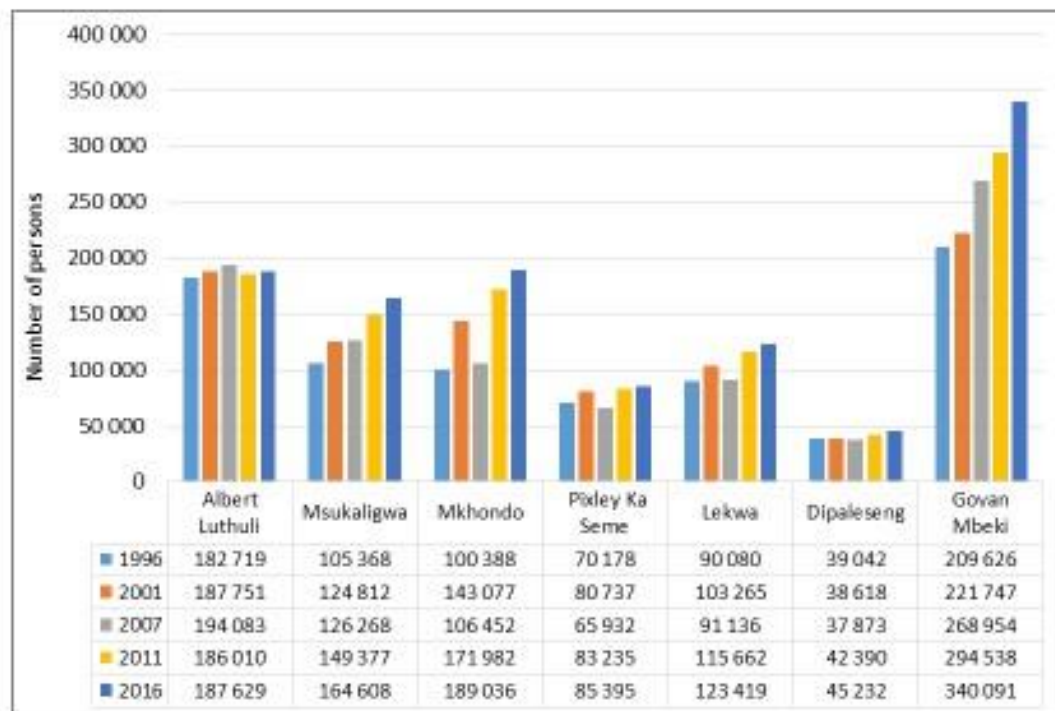
According to Stats SA (2016 Community Survey - CS), Govan Mbeki's population increased from 294 538 in 2011 to 340 091 people in 2016 – 5th largest population in the province and 30% of total population of Gert Sibande in 2016 making it the 1st largest population in the Gert Sibande District.

This could be the result of people migrating to the municipality seeking job opportunities as the Govan Mbeki Municipality area is considered to be an economical hub within the province for job seekers. The population grew by 45 553 in the relevant period and recorded a population growth rate of 3.27%, the 2nd highest in Mpumalanga per annum between 2011 & 2016.

The number of households in Govan Mbeki increased from 83 874 in 2011 to 108 894 households (25 020 households increase) in 2016 - represents 32.6% of the Gert Sibande household figure – household size declining from 3.5 to 3.1 in the same period.

The figure below indicates the population distribution of Govan Mbeki Municipality in comparison to the Gert Sibande district and it is clear that the Govan Mbeki Municipal area is under increasingly pressure to deliver municipal services due to increase in population growth.

POPULATION DISTRIBUTION



Source: Stats SA Community Profile (1996, 2001, 2007, 2011 & 2016)

Figure 3: Population distribution of Govan Mbeki Municipality

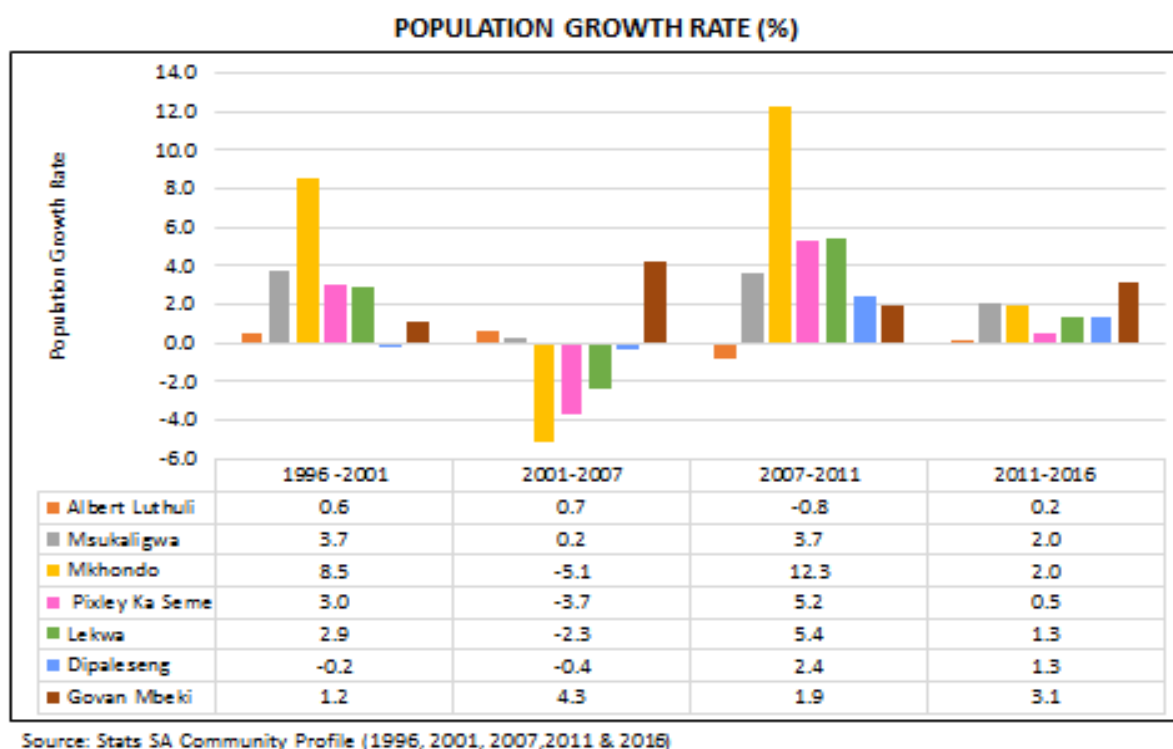


Figure 4: Percentage population growth rate

3.6 HOUSEHOLD PROFILE AND SERVICES

This section also provides information on the household profile and services for residents living within the Govan Mbeki municipal area. To ensure basic service delivery to all, municipal budget allocations should be informed by credible and accurate assumption regarding the number of households within a municipal area. According to Census 2011 and the recent 2016 Community Survey done by Stats SA.

The number of households for the Govan Mbeki Municipal Area increased from 83874 in 2011 to 108894 in 2016. The statistical data offers insight into the fact that Govan Mbeki has experienced the highest population and household growth annually.

An annual growth increase of 5.80% in the total number of households within the municipal area and rank Govan Mbeki as the fastest growing population in Gert Sibande district with an Average Household size of 3.12.

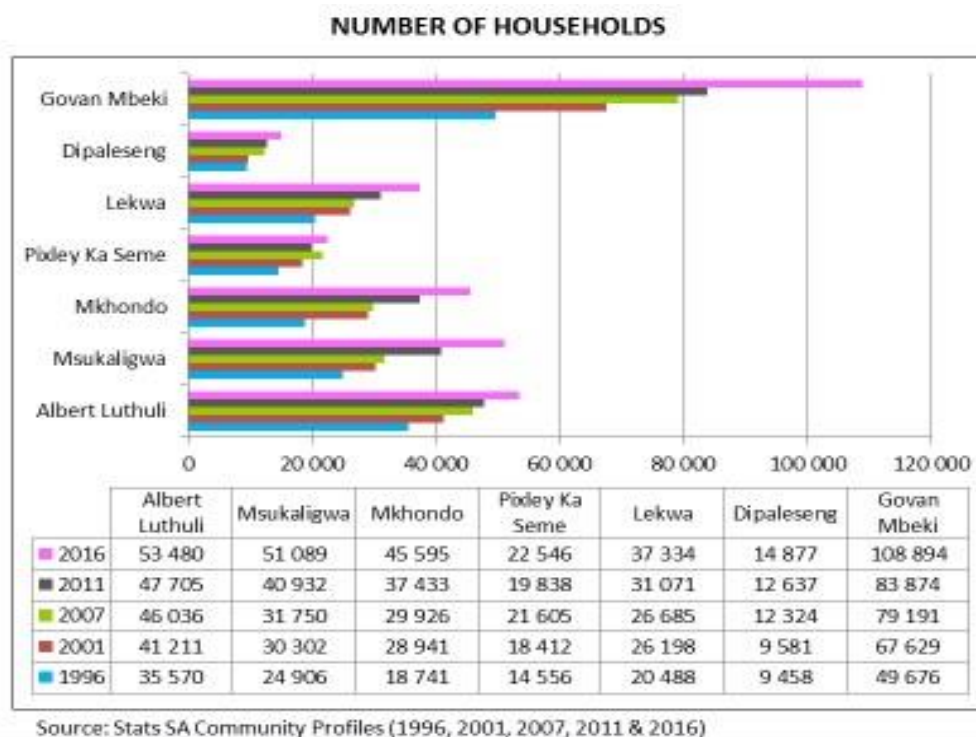


Figure 5: Number of households within GMM

A sizeable number of the households within the municipality do have access to basic services such as water, electricity, sanitation and refuse removal. The number of households receiving a refuse removal service in 1996, 2001, 2011 and Community Survey 2016 is depicted in Figure 6 below.

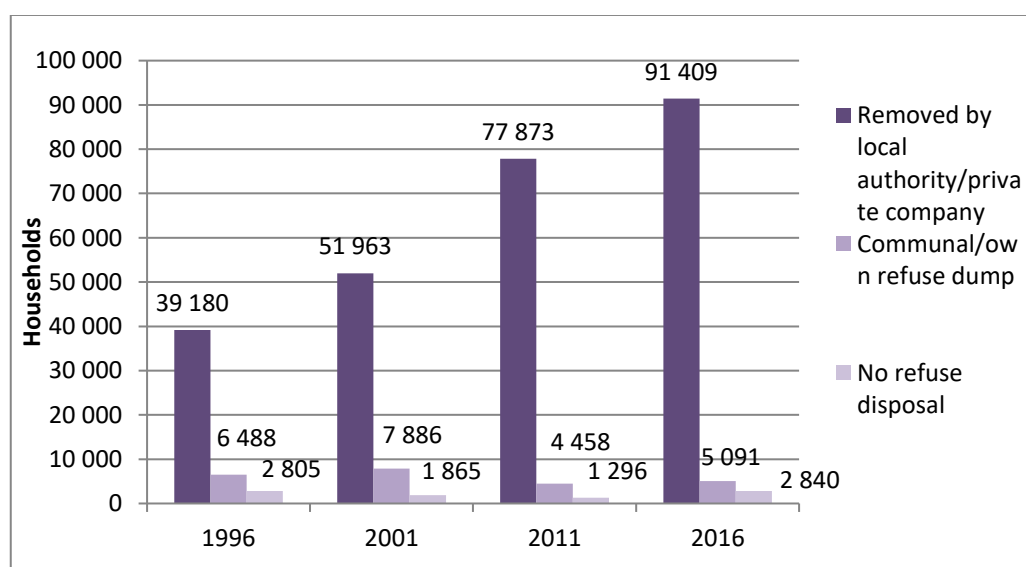


Figure 6 illustrates the distribution of households by refuse removal

The municipality has had a significant increase in the number of households that receive a refuse removal service. There has been an increase in communal/own refuse dumps and well as the number of households that receive no refuse removal. The number of households that do not receive a refuse removal service can in this case also be attributed to farms and informal settlements that are at times not accessible by the Municipality for waste removal service.

Therefore, the above figures show that the municipality is performing well in terms of moving towards a 100% refuse removal service.

3.7 SOCIO-ECONOMIC DEVELOPMENT

The Socio-Economic Development Indicators of Govan Mbeki Local Municipality are recorded as per below table. The table illustrates the distribution of average monthly household income within the GMM. Households in this instance can be classified as poor, when their average monthly household income equates to anything between the margins of no income to R3 200 per month. When taking this into consideration with the information provided in the table above the majority of employed persons in the municipality earn a low income. Approximately 62% of the employed population earn a salary between R1 and R38 400 annually, which sets the basis for a low paid labour force and high poverty rates in GMM.

Socio-Economic Development		Years	Mpumalanga	Gert Sibande	Govan Mbeki
Human Development Index (includes literacy rate, life expectancy & HH income: 0= worst to 1=best)		2001		1	1
		2010		1	1
Gini-coefficient		2001		1	1
		2010		1	1
Poverty Rate		2001		51	36
		2010		47	34
	General (15-65 years)	1996	35	33	30

Unemployment rate (strict definition)		2001	43	43	40
		2011	32	30	26
	Persons with Disability (15-65 years)	1996	41	42	40
		2001	44	46	46
	Women (15-65 years)	1996	47	47	48
		2001	54	55	56
		2011	39	38	35
	Youth (15-35 years)	1996	42	40	37
		2001	53	52	51
		2011	40	38	34
Socio-Economic Development		Years	Mpumalanga	Gert Sibande	Govan Mbeki
Household Income	R 1 - R 4800	2011	56 376	13 166	2 994
	R 4801 - R 9600		94 174	21 798	4 585
	R 9601 - R 19 600		199 651	49 366	10 574
	R 19 601 - R 38 200		213 459	54 122	13 821
	R 38 201 - R 76 400		142 599	37 104	12 620
	R 76 401 - R 153 800		94 878	25 450	9 773
	R 153 801 - R 307 600		66 100	18 013	7 601
	R 307 601 - R 614 400		36 749	10 275	5 354
	R 614 001 - R 1 228 800		11 052	3 253	2 124
	R 1 228 801 - R 2 457 600		3 045	974	588
	R 2 457 601 or more		2 204	613	280
Social grant beneficiaries in absolute numbers (Sept 2012)	Old Age	(Sept 2012)	200 618	50 184	7 272
	War Veteran		26	5	0
	Disability		75 385	22 617	2 802
	Foster Care		23 799	7 371	1 094
	Care Dependency		7 592	1 930	195

	Child Support		517 273	121 401	10 321
	Grant-in-Aid		2 428	510	85

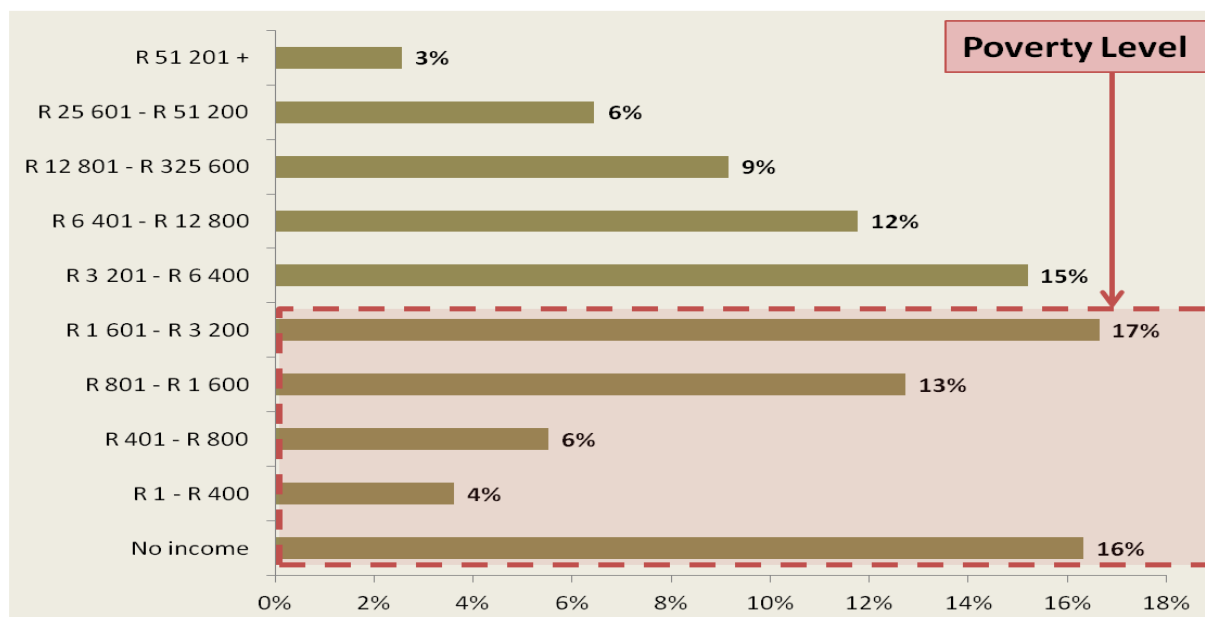
Table 2: Socio economic status within Govan Mbeki Municipality

(Source for the illustration is based on the Stats SA census 2011 and Stats SA, Community Survey 2016)

Of the total number of households within Govan Mbeki LM, 56% fall within the poverty range as can be seen from the illustration below. This poses significant challenges when related to the quality of life of these households, not being able to afford school fees, lack of medical care, lack of food and lack of services.

The share of population in Govan Mbeki is below the so-called lower-bound poverty line (of Stats SA) deteriorated from 30.2% in 2014 to 34.6% in 2017. Govan Mbeki's share of population below the lower-bound poverty line was however, the 4th lowest (favourable) among the municipal areas. The number of people below the lower bound poverty line was high at almost 111 815. According to the 2016 CS of Stats SA, the so-called poverty headcount (multi-dimensionally) of Govan Mbeki however, improved from 4.5% in 2011 to 3.9% in 2016 and was lowest in the province – the so-called poverty intensity, increased also slightly from 42.0% to 42.5% in the same period.

Figure 7: Poverty Level with regards to Households monthly income distribution in the Govan Mbeki Municipality



(Source for the illustration is based on the Stats SA census 2011)

3.8 HIGHEST EDUCATIONAL ATTAINMENT (20+ YEARS)

The table below is an indication of the education levels of persons 20 years of age and higher within the Govan Mbeki.

Socio-Economic Development		Years	Mpumalanga	Gert Sibande	Govan Mbeki
Highest Educational attainment (20+ years)	No schooling	1996	30	29	20
	Matric only		15	13	16
	Matric +		5	5	7
	No schooling	2001	29	26	16
	Matric only		18	16	21
	Matric +		6	5	7
	No schooling	2011	14	13	8
	Matric only		30	29	33
	Matric+		9	9	12

Socio-Economic Development		Years	Mpumalanga	Gert Sibande	Govan Mbeki
	No schooling	2016	18	17	13
	Matric only		21	21	26
	Matric+		4	4	6

Table 3: Educational levels within Govan Mbeki Municipality

(Source for the illustration is based on the Stats SA census 2011 and Stats SA, Community Survey 2016)

According to the 2016 CS of Stats SA, the population in Govan Mbeki aged 20+ completed grade 12, increased from 82 235 in 2011 to 107 061 (increase of 24 286) in 2016 – an increase of 30.2% in the relevant period.

Govan Mbeki's grade 12 pass rate improved from 71.3% in 2011 to 73.0% in 2017 – 6th lowest/worst among the municipal areas of the province.

3.9 WASTE QUANTITIES AND TYPES

A Municipality must determine the quantities and the types of waste generated in its area of jurisdiction. This involves establishing the current quantities of waste generated, recycled, treated and disposed of. Waste quantities are usually measured by mass (kilograms or tons).

3.9.1 Waste Generation

Waste generation quantities can be calculated using one of the following three methods:

- Option1: Weighbridge - Using a weighbridge a Municipality must record the amounts of waste entering its waste disposal facility, by weighing the vehicles at the point of entry and again on the way out. The difference in the mass of the vehicle between the 'in' and 'out' provides the mass of the waste.
- Option 2: -Without a weighbridge: Municipalities can estimate the amount of waste generated by using a volume density-based estimation. This requires accurate records.
- Option 3: Sampling or conducting a waste stream analysis at a household/Ward level. Waste stream analysis or a waste audit can be conducted by selecting a representative sample of an area which should at least comprise of 30 % of the total sample area. In residential areas, these

could be households from different Wards in order to ensure inclusivity and representation. Once that is known, the participating households can then be provided with receptacles and these could be different coloured plastic bags such as a black bag for mixed waste and a clear bag for recyclables. The participating households could also be provided with instructions/training on the objectives of the study, what is required of them and how the audit will be carried out.

The municipality does not currently use any of the above-mentioned methods to determine the waste generation rates for the area. An alternative method is therefore used to estimate the waste generation figures for the Municipality i.e., an estimate based on per capita waste generation rates.

3.9.2 Waste Generation per Capita

The average income level in the municipality is R230, 700 per annum which falls into the median income level. Therefore, the estimated waste generation value is taken as 0.63kg per capita per day. The Municipality had between 2011 and 2016 an average population growth rate of 3.27%. Therefore, the current population figure is estimated at 340091 with a total waste generation figure of 94858 tons per annum. The calculation is shown in the following **Table 4**.

Table 4: Current waste generation figures

Year	Population Growth (%)	Population	Per Capita Waste Generation (kg/ca/day)	Total/Day (ton)	Total/Month (ton)	Total/Annum (ton)	CUM (ton)
2016	3.27	340091	0.63	214	6517	78204	512709
2017	3.27	351212	0.63	221	6730	80761	593470
2018	3.27	362697	0.63	228	6950	83402	676872
2019	3.27	374557	0.63	236	7177	86129	763002
2020	3.27	386805	0.63	244	7412	88946	851947
2021	3.27	399453	0.63	252	7655	91854	943802
2022	3.27	412515	0.63	260	7905	94858	1038660
2023	3.27	426005	0.63	268	8163	97960	1136619

3.9.3 Future Waste Generation Rates and Quantities

With the assumption that the future population growth rates and growth estimates remained constant for the next 10 years and the per capita waste generation rates also remained constant then results would be as follows:

Table 5: Future population figures and waste generation rates

Year	Population Growth (%)	Population	Per Capita Waste Generation (kg/ca/day)	Total/Day (ton)	Total/Month (ton)	Total/Annum (ton)	CUM (ton)
2016	3.27	340091	0.63	214	6517	78204	512709
2017	3.27	351212	0.63	221	6730	80761	593470
2018	3.27	362697	0.63	228	6950	83402	676872
2019	3.27	374557	0.63	236	7177	86129	763002
2020	3.27	386805	0.63	244	7412	88946	851947
2021	3.27	399453	0.63	252	7655	91854	943802
2022	3.27	412515	0.63	260	7905	94858	1038660
2023	3.27	426005	0.63	268	8163	97960	1136619
2024	3.27	439935	0.63	277	8430	101163	1237782
2025	3.27	454321	0.63	286	8706	104471	1342254
2026	3.27	469177	0.63	296	8991	107887	1450141
2027	3.27	484519	0.63	305	9285	111415	1561556
2028	3.27	500363	0.63	315	9588	115058	1676615
2029	3.27	516725	0.63	326	9902	118821	1795435
2030	3.27	533622	0.63	336	10226	122706	1918142

The above results show that if the current population and waste generation trend remains constant in the next 10 years from 2021 to 2030 the municipality will produce an estimated total of 1,918,142 tons of waste for which they will have to make provision for in terms of landfill airspace, transport, and personnel.

Note: The above figure does not take into account any possible recycling, reduction or reuse initiative the Municipality is likely to put into place in the next 10 years which could reduce the final disposal to landfill volume.

3.9.4 Waste Type Analysis

3.9.4.1 WASTE STREAM CHARACTERIZATION

The methodology applied was as follows:

The waste stream analysis was calculated by selecting a representative sample (an 85L bin was used as a standard) of the High income, Middle income and Low-income waste generating areas located in the Municipality. The Municipality collected 85L black bags from the above areas and delivered them to a central point for sorting. To ensure that a standard was maintained, 5 bags from each area were used. In some cases, the waste was already collected from the area and the municipality went door to door to obtain a sample.

The black bags were opened sorted into the different waste fractions and weighed. The following waste fractions were used:

- Paper.
- Plastics.
- Glass.
- Card board boxes.
- Metal (tins).
- Green waste.
- Non-Recyclables.

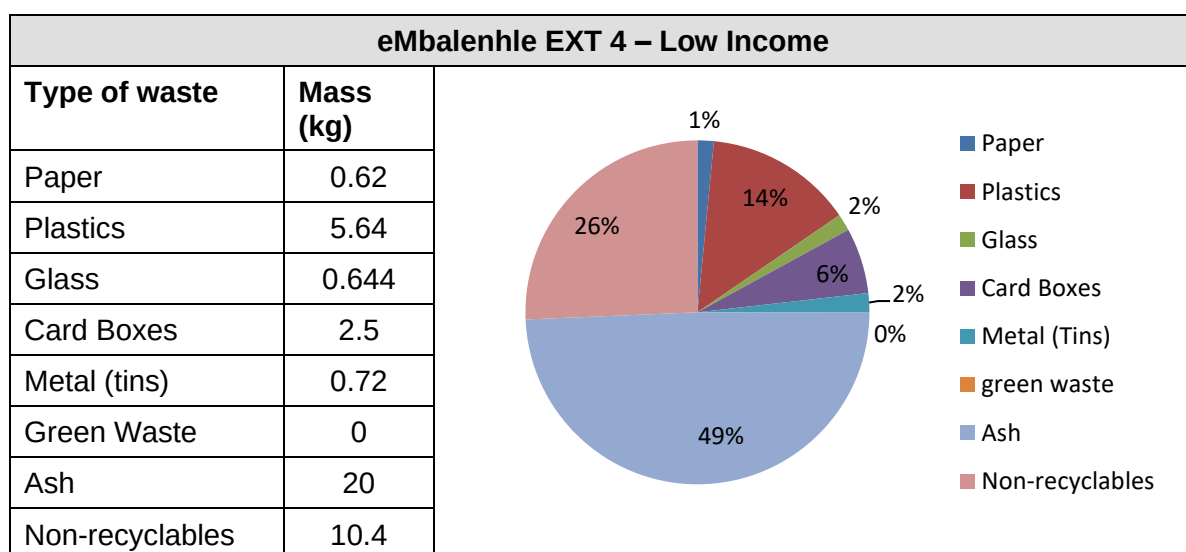


Figure 8: Standard 85L bin and Scale used



Figure 9: Typical Plastic fraction sample ready to be weighed Secunda Town

From the above samples taken the results can be seen in figures below:



Total mass in sample	40.524	
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Figure 10: eMbalenhle Low Income Area – Waste Characterisation

Half of the waste stream for the low-income area in eMbalenhle is ash which means a lot of the waste is being burned. There was also a large number of non-recyclables which conforms to the trends of low-income areas.

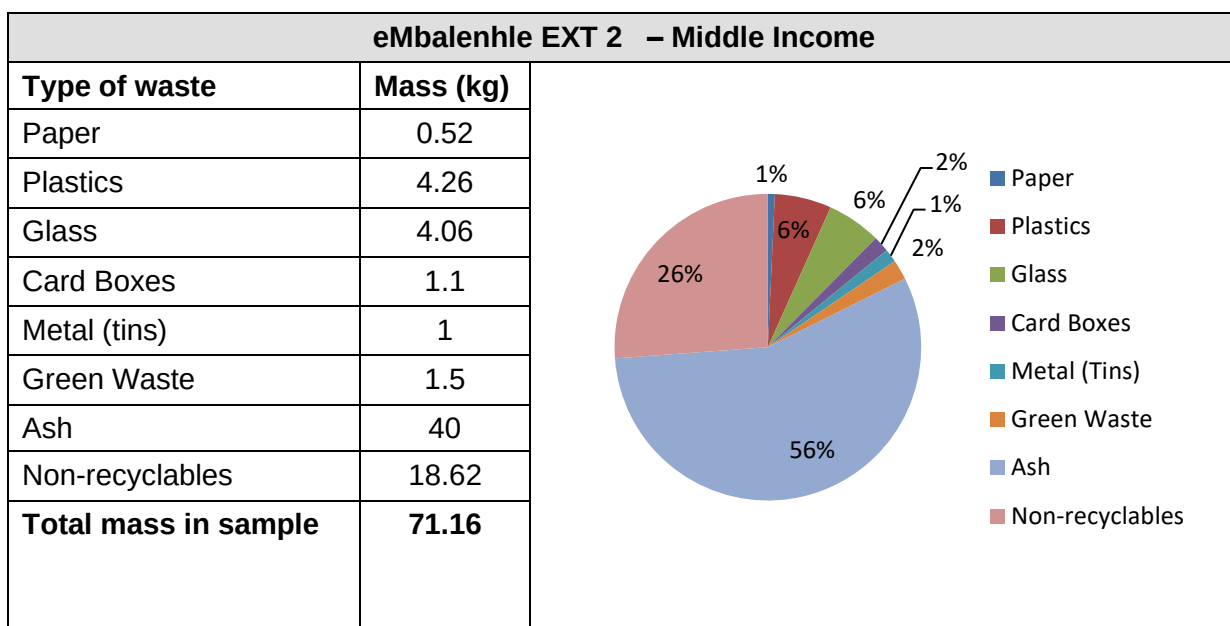


Figure 11: eMbalenhle Middle Income Area – Waste Characterisation

In middle income areas still has a high percentage of ash as well as non-recyclables that's been surveyed in the waste streams, but less card boxes and plastic was observed. Normally the ash content in the middle-income areas would be lower or non-existent, therefore the samples taken therefore would be assumed as not representative of the standard mean for a middle-income area.

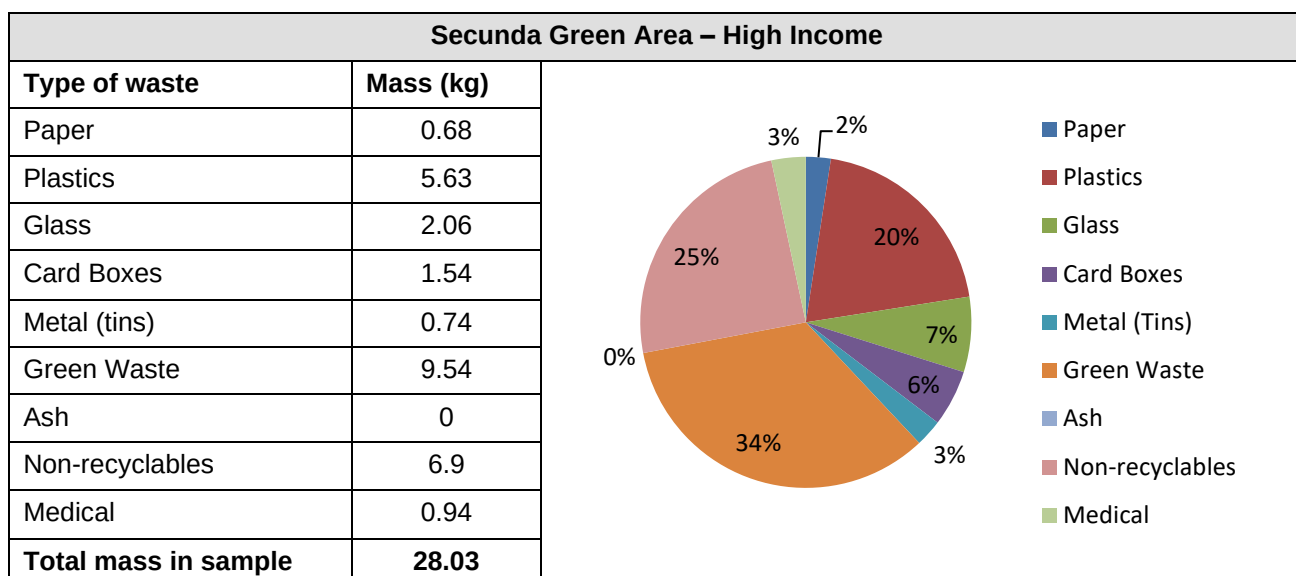


Figure 12: Secunda High Income Area – Waste Characterisation

A major component of the waste stream analysis for Secunda High Income Area is green waste and non-recyclables. The non-recyclables are not consistent with trends of high-income areas. Recyclables such as glass, paper and plastic waste are more prevalent in high income areas.

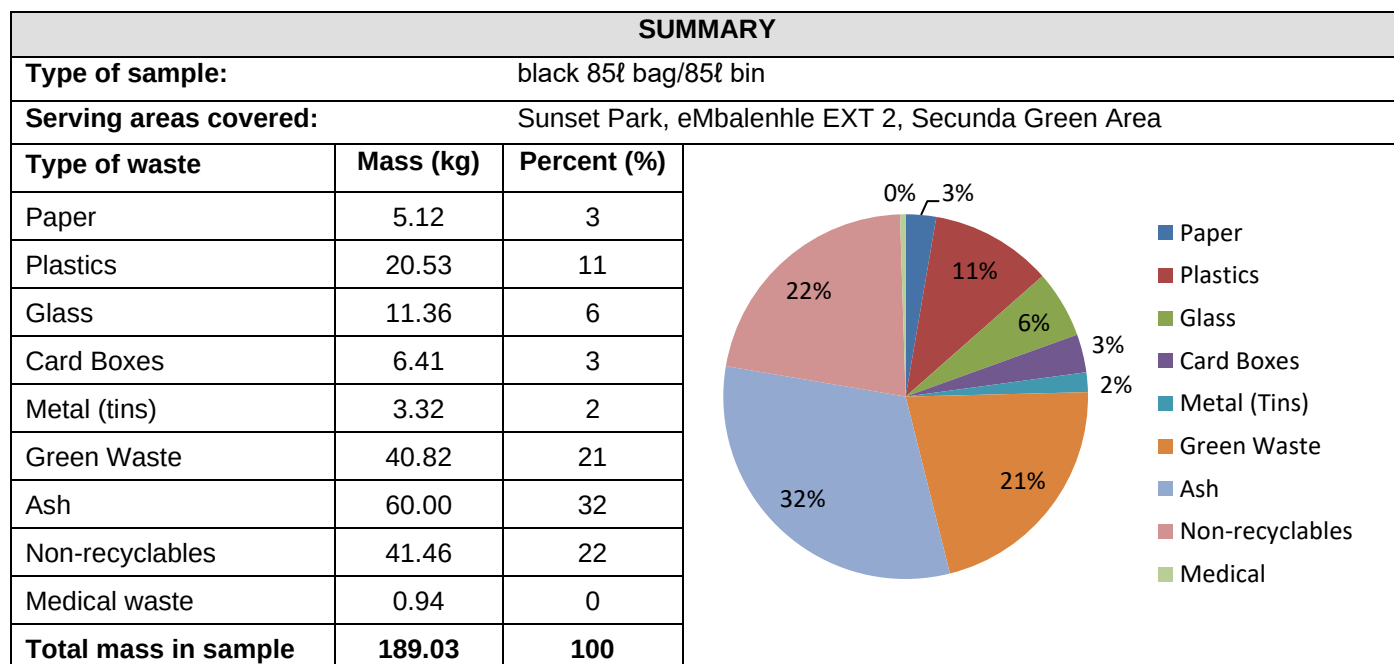


Figure 13: Total of all samples – Waste Characterisation

The above figure shows that the typical waste stream for the Govan Mbeki Municipality consists mainly of non-recyclable material and burnt waste. This study shows for the Govan Mbeki Municipality, the total amount of recyclables present in the waste body is 46%.

3.10 RECYCLING, TREATMENT AND DISPOSAL

3.10.1 Recycling

The Municipality is involved with various recycling initiatives. Local communities are encouraged via awareness and educational campaigns to minimize their waste by re-using, reducing, and repairing. Businesses are encouraged to separate the recyclables from non-recyclables and to make use of recycling companies to collect recyclables. All new business, group housing and township developments is requested to submit a business IWMP to the Municipality, clearly stipulating, how they will manage recyclables and submit proof of recycling companies collecting. Once proof of submitted and the IWMP is approved, the business waste audit is based on the information and indirectly paying less for refuse removal.

The Municipality has a buy-back centre situated in eMbalenhle, managed by cooperatives. The buy-back centre has recycled **310 tons** of material from November 2020 until October 2021.

Private buy-back centres have recycled **1941 tons** of material from November 2020 until October 2021.

All businesses are encouraged to make use of a private service provider to dispose fluorescent and energy saving light bulbs, tyres and any other hazardous waste.

3.10.2 Garden Refuse

Limited volumes of garden refuse are collected with the general household waste where services are rendered. Residents mostly make use of private garden services who dispose the garden refuse at the local landfill sites in the Municipality. The exact volume of garden refuse and builders' rubble generated are not known since no record-keeping takes place at the landfill entrances.

3.10.3 Treatment and Disposal

The Municipality do have a record of all licensed waste disposal facilities under its area of jurisdiction and should keep record of hazardous waste treatment facilities (even if they are owned and operated by the private sector). The Municipality is required to ensure that waste is properly managed and disposed of according to waste license conditions and to establish the size of their waste disposal facilities; the anticipated lifespan and/ or available airspace, types and quantities of waste disposed, and take note of whether these are operated in a sound and environmentally acceptable manner.

3.10.4 Landfill sites

The Govan Mbeki Municipality have eight licensed landfill sites of which four are operational and four non-operational. Three of the four operational sites, namely the Bethal, Secunda, and Leandra landfill

sites are licensed for operation, whilst the Kinross landfill received a closure license during the licensing process in 2017 and need to close.

The Evander, Lebohang, Embalenhle and Bethal-Morgenzon Road landfill sites are non-operational and all were issued with a closure license in terms of the National Environmental Management: Waste Act, Act 59 of 2008.

Site information for the 4 operational landfills is summarised in Table 6 below:

Table 6: Site information of operational and closed landfill sites

Name of the landfill	Location	Co-ordinates	Size of the site	Estimated remaining lifespan
Bethal landfill site	Stand 9946 Extension 11 eMzinoni (portion of the farm Blesbokspruit IS)	26°29'35.07"S and 29°27'42.60"E	441,277.59m ²	± 20 years
Kinross landfill site	Portion 11 of the Farm Zondagsfontein 124-IS	26°25'35.63"S and 29°6'23.65"E	123,415.69m ²	0 years (The landfill had to be closed by end of 2020 based on the closure license conditions)
Leandra landfill site	Portion 4 of the Farm Brakfontein 310-IR	26°20'51.60"S and 28°54'15.38"E	1,996,967.18m ²	± 50 years plus
Secunda landfill site	Portion 40 of the Farm Goedehoop 290-IS	26°31'56.84"S and 29°27'29.64"E	265,484.91m ²	± 1 year

Name of the landfill	Location	Co-ordinates	Size of the site	Estimated remaining lifespan
eMbalenhle landfill site (closed)	Situated within eMbalenhle on the farm Langverwaght 282/20 (ext.9), Portion 282/1 of portion 282/20, erf 5478 extension 9, and erf 5623 ext. 9.	26°32'01.40" S and 29°05'05.36" E	29,151.19m ² 25,764.00m ² 48,937.07m ² 39,530.63m ² Total: 143,382.89m ²	Closed
Evander landfill site	Portion 104 of the farm Winkelhaak 135 IS	26°29'22.39"S and 29° 7'3.80"E	2 ha	Closed
Bethal-Morgenzon Rd landfill site	Portion of the Farm Blesbokspruit 150 IS (erf 4617/0 ext. 23 & erf 11759/0 ext. 23 Bethal)	26°29'05.61"S and 29° 28'51.98"E 26°29'04.77"S and 29° 28'55.63"E 26°29'04.73"S and 29° 28'57.12"E 26°29'08.76"S and 29° 28'58.76"E		Closed
Lebohang landfill site	Portion of the farm Watervalshoek 352 IR	26°23'20.84"S and 28° 55'11.95"E		Closed

All the operational landfills are experiencing operational problems in varying degrees, but mainly as a result of a severe equipment and personnel shortage as well as interference by uncontrolled reclaiming activities on daily operations. Most of the sites are not covered on a daily basis and wind-blown litter, vectors, dust and odours are common concerns.

3.10.4.1 SECUNDA LANDFILL SITE

The **Secunda Landfill** is operational and located south east of Secunda town on portion 40 of the farm Goedehoop 290IS. The landfill is licenced in terms of Section 45 of NEMWA, 2008 and no formal method of operation is being followed.

The Secunda landfill site started operations in approximately 1991 by the former Secunda Town Council and was established in an old borrow pit. No environmental impact assessment studies were done prior to the starting of operations and the site was not operated according to proven engineering principles as detailed in the “Minimum Requirements for Waste Disposal by Landfill”; the site was basically operated as a “refuse dump”. The site has no infrastructure such as a site office with weighbridge, no engineered cell construction with liners, gas or leachate management. The site is fenced, with poor access control and recording of waste quantities entering the site. Two boreholes are situated within the facility, which are not properly secured.

The site is currently managed by a service provider and is responsible for the daily operation and maintenance of the site. The Secunda landfill site receives approximately 4000 tons of waste per month and has a remaining life of approximately 1 year.

Recyclers/ reclaimers are present on site and needs to be formalised.

Operations need to be upgraded to comply with the Minimum Requirements for Waste Disposal by Landfill requirements document published by DWAF in 1998, the Disposal by Landfill regulations in terms of NEMWA and standard waste disposal practices.

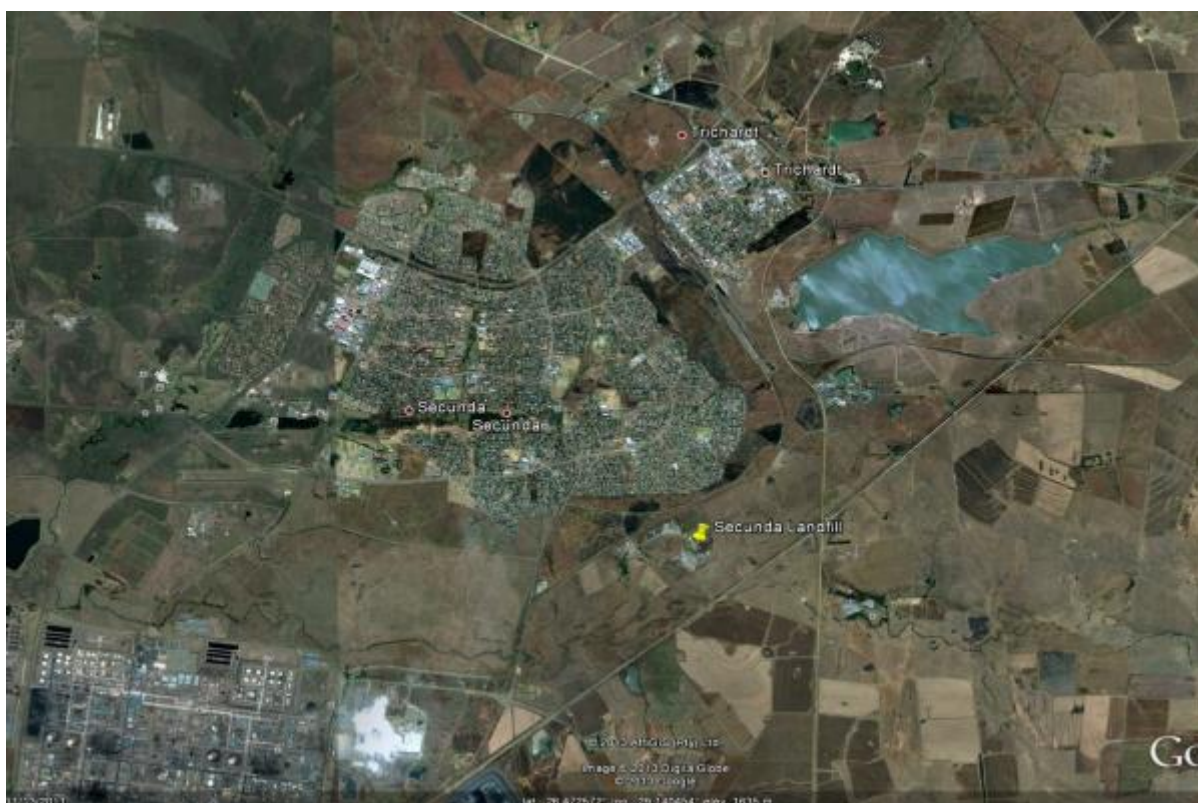


Figure 14: Locality of Secunda Landfill site

The status of the **Secunda Landfill** is summarised below in **Table 7**:

Table 7: The status of the Secunda Landfill

Position of site:	Portion 40 of the farm Goedehoop 290IS (Co-ordinates: 26°31'52.68"S and 29°13'29.79"E).
License:	17/4/WL/MP307/13/01
Year issued:	2015
Classification of site:	Class G:M:B-
Type of Operation (end – tip, trench, cell):	Cell method
Estimated size of site:	Approximately 23.4 ha
Estimated remaining life of site:	± 1 year. (Need to be determined)
Separation of fresh and contaminated water:	Yes
Groundwater monitoring:	Yes

Estimated Volumes per day, week or month:	172 tons/ day
Is cover material available?	Yes
Is the drainage sufficient?	Yes
Is there access control?	Yes, but needs improvement
Is the site fenced?	Yes, but broken at some places
Does the site have a sufficient buffer zone?	Yes
Type of equipment utilised on site:	Landfill compactor
Operating hours:	Officially: 07:30 – 16:30 daily
Site facilities, i.e. ablutions, guard house:	Guard house
Estimated cost for closure	R59,740,000.00 (2020)
Savings plan for closure	No savings plan in place for the closure of the site

3.10.4.2 BETHAL LANDFILL SITE

The **Bethal Landfill** is a licensed facility and located on erf 9946 ext.11 (Portion 6 of the farm Blesbokspruit 150IS) and started operations in approximately 1991 by the former eMzinoni Town Council. The site was established in an old quarry, not permitted and no environmental impact assessment studies were done prior to the starting of operations. The site is not operated according to proven engineering principles as detailed in the “Minimum Requirements for Waste Disposal by Waste disposal” and is basically operated as a “refuse dump”. The site has no infrastructure such as fencing and gate control, site office with weighbridge, no engineered cell construction with liners, gas or leachate management. There are no personnel present on the site to supervise or manage the site operations and the municipality is currently operating the site with its own front-end loader and no waste compaction is done. The site receives an average of 2000 tons of waste per month and has a remaining life of approximately 20 years (no scientific calculations done to determine the remaining life).

Illegal dumping of waste is taking place along the access road to the workplace, mainly due to uncontrolled reclaimers stopping vehicular access before it reaches the workplace. Waste has been disposed outside the official boundaries of the site. Illegal mining of gravel is currently taking place around the landfill site and as a result the official boundaries and boreholes (a legal requirement), is destroyed. As the official boundaries of the site are mined, the site cannot be fenced, unless the area is rehabilitated. The original boreholes are vandalised/ destroyed due to the mining activities around the site.

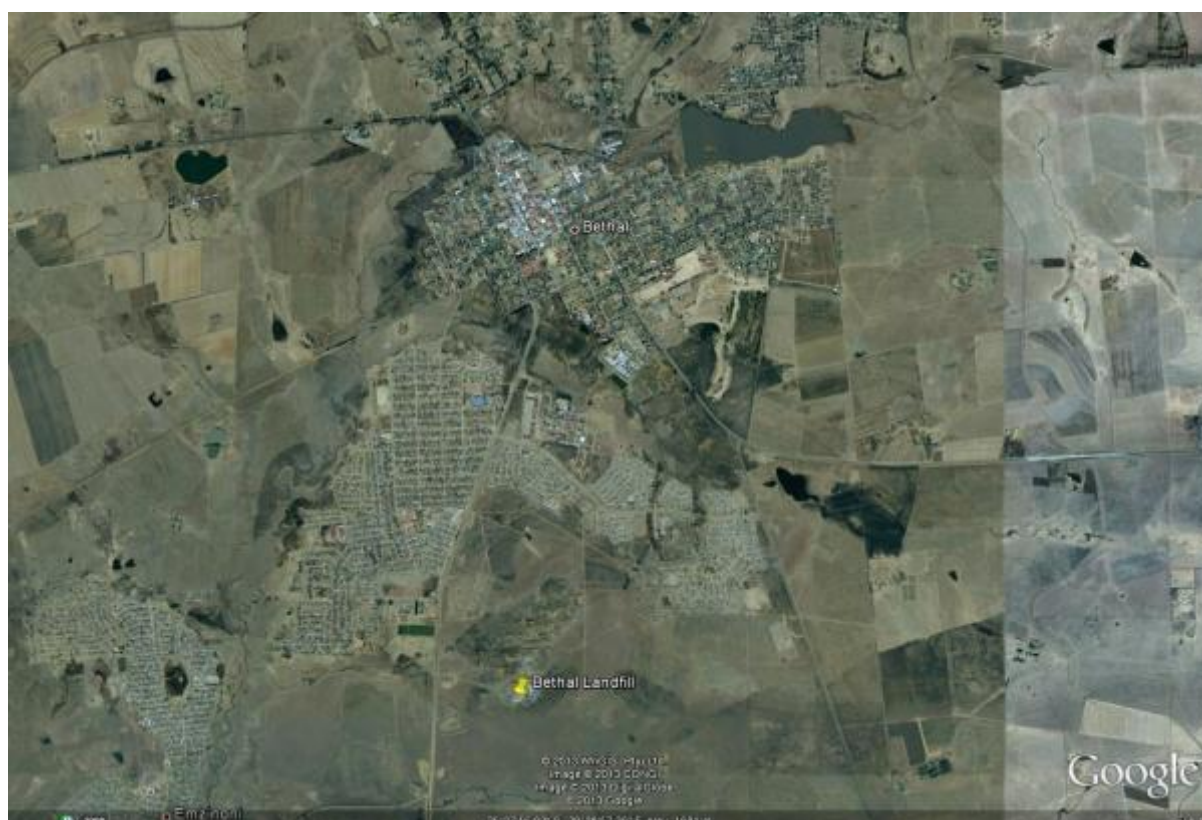


Figure 15: Locality of Bethal Landfill site

The status of the **Bethal Landfill** is summarised below in **Table 8:**

Table 8: The status of the Bethal Landfill

Position of site:	Erf 9946 ext. 11 Bethal (Portion 6 of the farm Blesbokspuit 150) (Co-ordinates: 26°29'35.07"S and 29°27'42.60"E).
License:	17/4/WL/MP307/13/02
Year issued:	08/12/2014
Classification of site:	Class G:M:B (Expected)

Type of Operation (end – tip, trench, cell):	No operation method is apparent. Waste is not dumped at a concentrated dumping face
Estimated size of site:	Approximately 2.5 ha
Estimated remaining life of site:	20 years.
Separation of fresh and contaminated water:	No
Groundwater monitoring:	No
Estimated Volumes per day, week or month:	25 tons/day
Is cover material available?	Yes, but covering does not occur as required
Is the drainage sufficient?	Yes
Is there access control?	No
Is the site fenced?	No
Does the site have a sufficient buffer zone?	No
Type of equipment utilised on site:	Front-end loader
Operating hours:	Officially: 07:30 – 16:00 daily
Site facilities, i.e. ablutions, guard house:	None.
Estimating cost for closure:	R156,440,000.00
Savings plan for closure:	There is no savings plan in place for the closure of the site.

3.10.4.3 LEANDRA LANDFILL SITE

The **Leandra Landfill** is located on portion 4 of the farm Brakfontein 310-IR. The landfill is licenced in terms Section 45 of NEMWA and not operated in accordance with an operational plan.

The Leandra landfill site started operations in approximately 1987 by the former Leandra Town Council and was established in an old borrow pit. No environmental impact assessment studies were done prior to the starting of operations and the site was not operated according to proven engineering principles as detailed in the “Minimum Requirements for Waste Disposal by Landfill”. The site was basically operated as a “refuse dump”. The site has no infrastructure such as fencing and gate control, site office with weigh bridge, no engineered cell construction with liners, gas or leachate management.

The site is currently managed by a local service provider and is responsible for the daily operation and maintenance of the site. The landfill site has an estimated lifespan of 50 years plus and will be developed in phases.

During the licensing process of the landfill site, the whole portion 4 of the farm Brakfontein 310-IR, consisting of 233ha, was licensed as a landfill site in terms of the Waste Act. The site is planned to be the regional landfill site for Govan Mbeki Municipality due to the availability of land in the municipality. In order to comply with the regulations published within the Waste Act and Department of Water Affairs “minimum requirements for the disposal of waste by landfill”, infrastructure need to be developed in the form of cell construction, leachate and methane gas control, fencing, site offices, weighbridge to name few. It will not be possible to start with operations on site if the site is not planned and developed correctly from the onset, before disposing waste. In order to achieve the goal, professional designs are required and will require professional engineers for the task.

Currently, waste is disposed of without cover and without compaction. No formal method of operation is being followed. The site is not fenced; thus, access control needs to be improved and incoming waste should be recorded. Dust, odours, vectors and windblown litter are therefore prevalent. The site should be upgraded (properly fenced with ablution facilities and storm water control measures) and the site operations should upgrade (access controlled, incoming waste volumes recorded, waste compacted and covered on a regular basis).



Figure 16: Locality of Leandra Landfill site

The status of the **Leandra Landfill** is summarised below in **Table 9:**

Table 9: The status of the Leandra Landfill

Position of site:	Portion 4 of the farm Brakfontein 310-IR 26°20'51.60"S and 28°54'15.38"E
License:	17/4/WL/MP307/14/03
Year issued:	30.09.2015
Classification of site:	
Type of Operation (end – tip, trench, cell):	No operation method is apparent. Waste is not dumped at a concentrated dumping face
Estimated size of site:	199.69 ha
Estimated remaining life of site:	50 years.
Separation of fresh and contaminated water:	Yes
Groundwater monitoring:	No
Estimated Volumes per day, week or month:	70 tons/day
Is cover material available?	No
Is the drainage sufficient?	Yes
Is there access control?	No
Is the site fenced?	No
Does the site have a sufficient buffer zone?	Yes
Type of equipment utilised on site:	Dozer
Operating hours:	Officially: 07:30 – 16:30 daily
Site facilities, i.e. ablutions, guard house:	None
Estimating cost for closure:	R35,600,000.00
Savings plan for closure:	There is no savings plan in place for the closure of the site

3.10.4.4 KINROSS LANDFILL SITE

The **Kinross Landfill** is located Portion 11 of the Farm Zondagsfontein 124-IS and is licenced for closure in terms of Section 45 of NEMWA.

The Kinross landfill site started operations with the former Kinross Town Council and was established in an old borrow pit. No environmental impact assessment studies were done prior to the starting of operations and the site was not operated according to proven engineering principles as detailed in the "Minimum Requirements for Waste Disposal by Landfill" and therefore the site was basically operated as a "refuse dump". Since February 2020 the municipality has taken over the management of the site with own plant and equipment. The site receives an average between 1000 and 1500 tons of waste per month.

In terms of the closure license no: 17/4/WL/MP307/15/01, the site needed to close by end of 2020. No alternative waste disposal site is available for the Kinross/Evander community, and therefore a mini-transfer station needs to be in place before final closure of the site.

Currently, waste is disposed of without cover and without compaction. No formal method of operation is being followed. The site is not fenced, with no access control. The site should be upgraded (with ablution facilities and storm water control measures) and the site operations should upgrade (access controlled, incoming waste volumes recorded, waste compacted and covered on a regular basis).

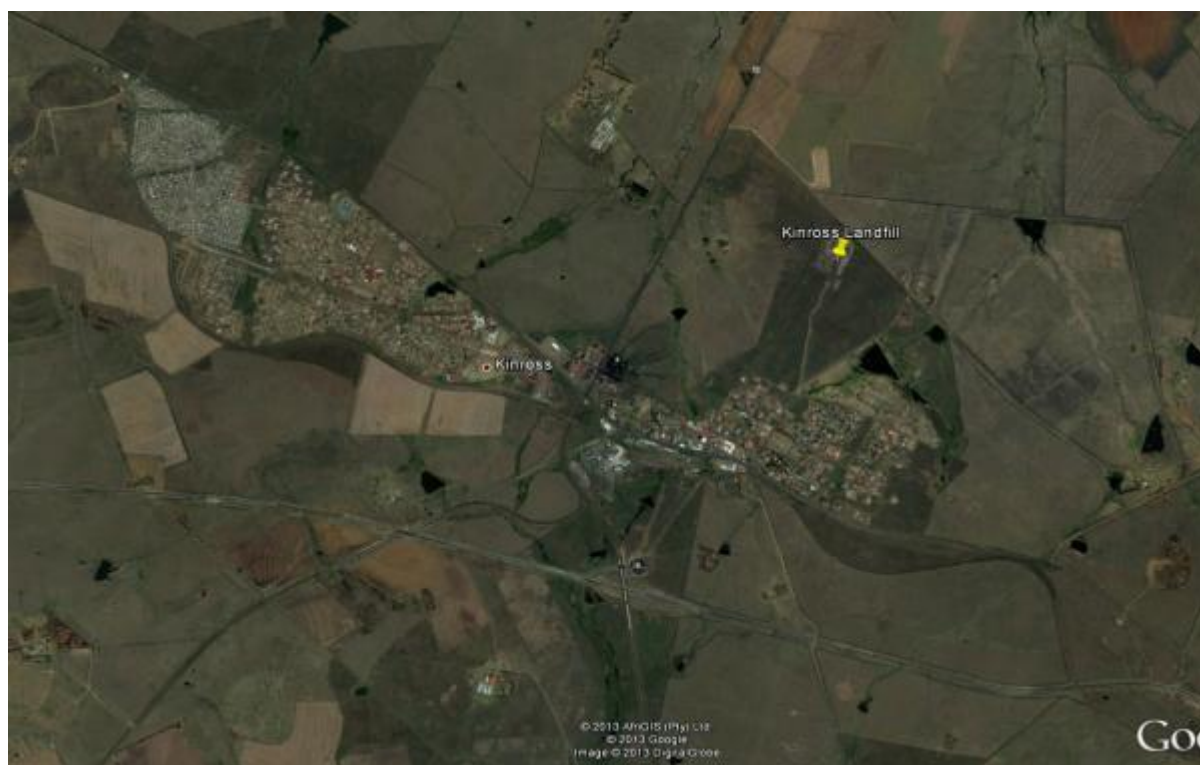


Figure 17: Locality of Kinross Landfill site

The status of the **Kinross Landfill** is summarised below in **Table 10**

Table 10: The status of the Kinross Landfill

Position of site:	Portion 11 of the Farm Zondagsfontein 124-IS (Co-ordinates: 26°24'35.60"S and 29° 6'24.43"E).
License:	Yes 17/4/WL/MP307/15/01
Year issued:	28/09/2016
Classification of site:	Closure

Type of Operation (end – tip, trench, cell):	No operation method is apparent. Waste is not dumped at a concentrated dumping face
Estimated size of site:	12.34ha
Estimated remaining life of site:	The site should close in terms of the license issued.
Separation of fresh and contaminated water:	Yes
Groundwater monitoring:	No
Estimated Volumes per day, week or month:	26 tons/day
Is cover material available?	No
Is the drainage sufficient?	Yes
Is there access control?	No access control
Is the site fenced?	No
Does the site have a sufficient buffer zone?	Yes
Type of equipment utilised on site:	Front End Loader
Operating hours:	Officially: 07:30 – 16:30 daily
Site facilities, i.e. ablutions, guard house:	None.
Estimating cost for closure:	R51,500,000.00
Savings plan for closure:	No savings plan in place for the closure of the site

3.10.4.5 EMBALENHLE LANDFILL SITE

The **Closed EMBalenhle Landfill** is not operational. The landfill is licenced for closure in terms of Section 45 of NEMWA. The site is not fenced and is not properly rehabilitated. The site should be closed and rehabilitated.

The status of the eMbalenhle landfill site is summarised below in **Table 11**

Table 11: The status of the eMbalenhle Landfill

Position of site:	Situated within eMbalenhle on the farm Langverwacht 282/20 (ext.9), Portion 282/1 of portion 282/20, erf 5478 extension 9, and erf 5623 ext. 9.
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License:	Yes, 17/4/WL/MP307/15/04
Year issued:	28/09/2016
Classification of site:	N/A
Type of Operation (end – tip, trench, cell):	N/A
Estimated size of site:	2 Ha
Estimated remaining life of site:	Closed
Separation of fresh and contaminated water:	No
Groundwater monitoring:	No
Estimated Volumes per day, week or month:	None
Is cover material available?	N/A
Is the drainage sufficient?	No
Is there access control?	N/A
Is the site fenced?	No
Does the site have a sufficient buffer zone?	N/A
Type of equipment utilised on site:	N/A
Operating hours:	N/A (Closed site)
Site facilities, i.e., ablutions, guard house:	None.
Estimating cost for closure:	R34,600,000.00
Savings plan for closure:	There is currently no savings plan in place for the closure of the site.

3.10.4.6 EVANDER LANDFILL SITE

The closed **Evander Landfill** is not operational and is located south of the Evander town centre. The landfill is licenced for closure in terms of Section 45 of NEMWA. Waste is illegally disposed along the road of the closed site and needs to be addressed. The site is not fenced and is not properly rehabilitated. The site should be closed and rehabilitated

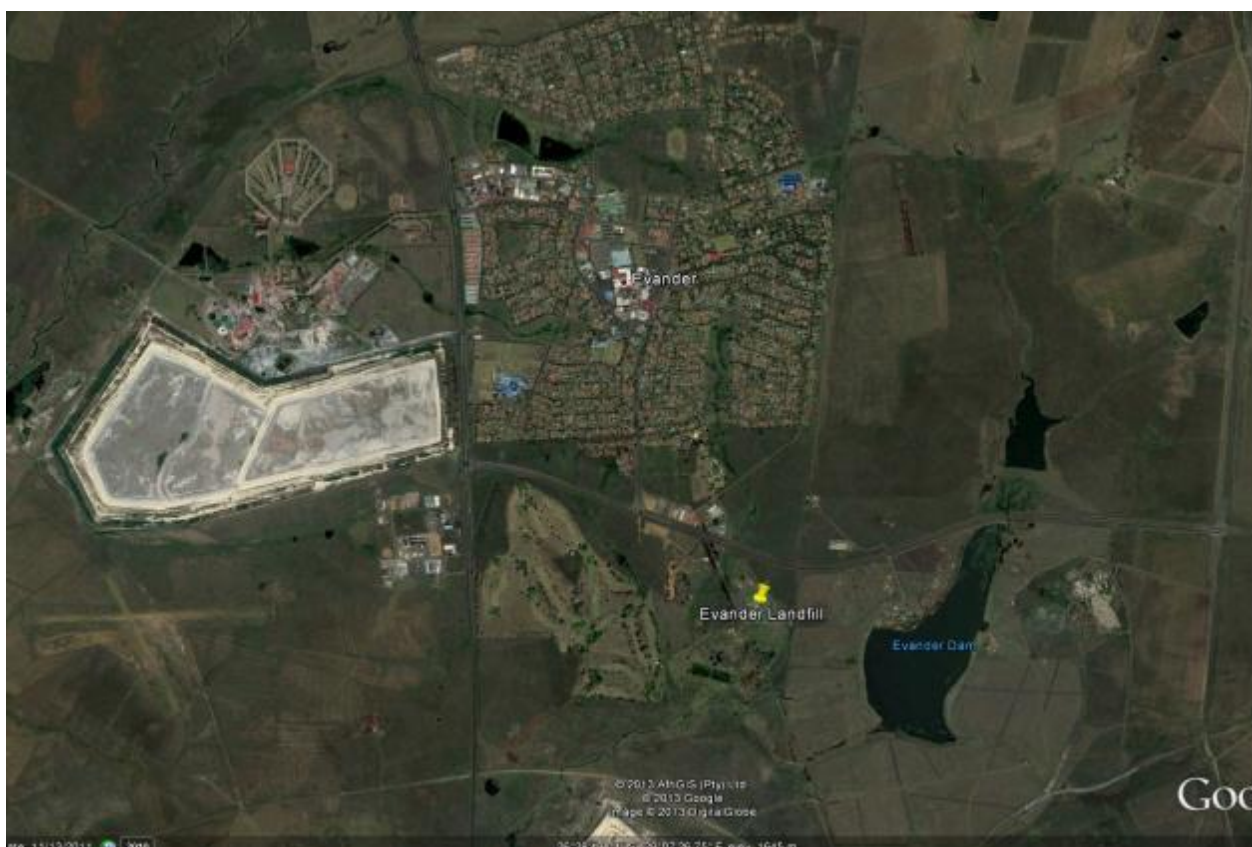


Figure 18: Locality of Evander Landfill site

The status of the **Evander Landfill** is summarised below in **Table 12:**

Table 12: The status of the Evander Landfill

Position of site:	Portion 104 of the farm Winkelhaak 135 IS. (Co-ordinates: 26°29'22.39"S and 29° 7'3.80"E).
License:	17/4/WL/Mp307/14/01
Year issued:	30.09.2014
Classification of site:	N/A
Type of Operation (end – tip, trench, cell):	None
Estimated size of site:	2 Ha
Estimated remaining life of site:	N/A
Separation of fresh and contaminated water:	No
Groundwater monitoring:	No
Volumes per day, week or month:	None
Is cover material available?	N/A
Is the drainage sufficient?	Yes
Is there access control?	N/A
Is the site fenced?	No

Does the site have a sufficient buffer zone?	N/A
Type of equipment utilised on site:	N/A
Operating hours:	N/A (Closed site)
Site facilities, i.e. ablutions, guard house:	None.
Estimating cost for closure:	R 17,730,000.00
Savings plan for closure:	There is currently no savings plan in place for the closure of the site.

3.10.4.7 BETHAL-MORGENZON ROAD LANDFILL SITE

The closed **Bethal-Morgenzon Road Landfill** is not operational and is located along the R35 Morgenzon road next to the Emandulo cemetery (New Bethal cemetery). The landfill is licenced for closure in terms of Section 45 of NEMWA. The community of ext. 23 has developed cattle pens on the landfill site and needs to be addressed. The site is not fenced and is not properly rehabilitated.

The status of the **Bethal-Morgenzon Road Landfill site** is summarised below in **Table 13**:

Table 13: The status of the Bethal-Morgenzon Road Landfill

Position of site:	Portion of the Farm Blesbokspruit 150 IS (erf 4617/0 ext. 23 & erf 11759/0 ext. 23 Bethal)
License:	17/4/WL/MP307/15/03
Year issued:	15.11.2016
Classification of site:	N/A
Type of Operation (end – tip, trench, cell):	None
Estimated size of site:	
Estimated remaining life of site:	N/A
Separation of fresh and contaminated water:	No
Groundwater monitoring:	No
Volumes per day, week or month:	None
Is cover material available?	N/A
Is the drainage sufficient?	Yes
Is there access control?	N/A
Is the site fenced?	No
Does the site have a sufficient buffer zone?	No
Type of equipment utilised on site:	N/A
Operating hours:	N/A (Closed site)

Site facilities, i.e., ablutions, guard house:	None.
Estimating cost for closure:	R 27,330,000.00
Savings plan for closure:	There is currently no savings plan in place for the closure of the site.

3.10.4.8 LEBOHANG LANDFILL SITE

The closed **Lebohang Landfill** is not operational. The landfill is licenced for closure in terms of Section 45 of NEMWA. The site is not fenced and is not properly rehabilitated.

The status of Lebohang landfill site is summarised below in **Table 14**

Table 14: The status of the Lebohang Landfill site

Position of site:	Portion of the farm Watervalshoek 352 IR
License:	17/4/WL/MP307/15/02
Year issued:	28.09.2016
Classification of site:	N/A
Type of Operation (end – tip, trench, cell):	None
Estimated size of site:	
Estimated remaining life of site:	N/A
Separation of fresh and contaminated water:	No
Groundwater monitoring:	No
Volumes per day, week or month:	None
Is cover material available?	N/A
Is the drainage sufficient?	Yes
Is there access control?	N/A
Is the site fenced?	No
Does the site have a sufficient buffer zone?	No
Type of equipment utilised on site:	N/A
Operating hours:	N/A (Closed site)
Site facilities, i.e. ablutions, guard house:	None.
Estimating cost for closure:	R27,810,000.00
Savings plan for closure:	There is currently no savings plan in place for the closure of the site.

3.10.5 Transfer Stations

The Govan Mbeki Municipality has no transfer stations in its area of jurisdiction.

3.10.6 GMM Buy-back center

The Department of Environmental Affairs, sponsored an amount of R7, 000,000.00 via EPIP “Environmental Protection and Infrastructure programme” in 2013 for the construction of the eMbalenhle Buy-Back Centre, which form part of a first prize during the “Cleanest Municipality Competition” GMM has won during 2007.

The eMbalenhle buy-back is situated on erf number 26423 Extension 26 was approved for the construction of the Buyback center by Council (Council Resolution B11/11/2013). The buy-back center is a licensed facility with license number 17/4/WL/MP307/14/02 issued on 08 December 2014.

The eMbalenhle buy back center is managed by cooperatives and was handed over during November 2015. The buy-back center receives recyclables mainly from individuals within the community and the ones that they scavenge on their own within the community. An integrated waste management program-initiated Govan Mbeki Municipality (GMM) and its corporate partner, Sasol assisted the buy-back center as all recyclables collected during illegal dumped waste removal, are diverted to the center.

At the Buy Back Centre, they manage to recycle on average **310 tons** of waste per annum, diverted from landing at the landfill site by collecting them from the community to the Buy Back Centre using tricycles and walk ins by the community.

3.11 STATUS OF WASTE COLLECTION SERVICES

A list containing areas that receive a waste collection service and areas that do not receive waste services was developed. For indigent households, municipalities are required to register indigent households on an indigent register and should be ensured that it is kept up to date. The National Domestic Waste Collection Standards can be used as a guideline on the acceptable collection standards for the different settlement types.

The Govan Mbeki Municipal Area is divided into three regions. The service towns in each region are as follows:

Region 1 - Bethal and eMzinoni.

Region 2 – Eendracht, Evander, Kinross, Leslie, Lebohang, Secunda and Trichardt.

Region 3 - eMbalenhle and Charl Cilliers.

Currently, waste services are rendered to all developed, proclaimed and certain un-proclaimed areas in all three regions.

The section Solid Waste Management are divided into 5 depots, namely, Bethal, Secunda, Evander, Leandra and eMbalenhle from where all activities are taking place.

3.11.1 Residential refuse collection:

Residential refuse collection services are provided by the Municipality. The Municipality derives income by billing residents in accordance with the annually revised tariff policy. Services to indigent households are deemed “free basic services”, and are funded from government grants and cross-subsidised by a portion of the collected tariffs.

All residential households must make use of the municipal refuse collection service and are responsible for the monthly refuse tariff charged on the municipal services account, irrespective if the service is used or not.

The standard service level for households is a once-a-week, kerbside containerised waste collection service. All households, including backyard dwellings, need to provide its own container, in the form of a 240-litre wheelie bin, an 85-litre bin liner and the waste generator must ensure that all general waste is stored in the bin. The bin may only be placed outside the property boundary for waste collection on the scheduled day.

3.11.2 Business refuse collection:

Businesses within the CBD areas of various towns, such as Secunda, Bethal, Evander, Kinross, eMbalenhle and Leslie, receives three times refuse collection service and businesses outside the CBD a twice per week refuse collection service. The municipality does not issue/ provide refuse bins to businesses, which need to provide its own container. Businesses are billed based on the volume and frequency of collection.

Businesses are encouraged to do on site waste management and recycling, by separation at the source.

3.11.3 Residential and business refuse collection schedule

The service provided is summarised below in **Table 15** as per refuse collection schedule per region.

Table 15: Service provided for Govan Mbeki Local Municipality

DAY	REGION 1		REGION 2						REGION 3	
	BETHAL	EMZINONI	SECUNDA	TRICHARDT	LEANDRA	LEBOHANG	EVANDER	KINROSS	CHARL CILLIERS	EMBALENH LE
Monday	Ext 1, 2, 4, 5 & CBD Businesses	1 st to 17 th street between Victor Khayiyane road & 1st Avenue	X00, X05, X09, X19, CBD, & Outside Centres	All business	Businesses	Businesses, Ext 16, 18, 19, 20, 21, 22, & 23	Businesses and Ex 4 and 5	Businesses		Ext 4,5,9,11,12,24 & CBD
Tuesday	Ext 3, Bethal North, Bethal Rand, Small & Agricultural Holdings & Outside	Ext 2, EH & New Stand	X16, X17, X18, X00, Industrial area (SAPS and Albany), Restaurants, Secunda Mall (Don't Waste), Checkers Hyper, From	X00		Ext 10, Part of Ext 11, Part of ext. 17, 9, 5, and 7	Ext 2, 1 and 00			Ext 2,6,7,8,10, 25 & CBD

DAY	REGION 1		REGION 2						REGION 3	
	BETHAL	EMZINONI	SECUNDA	TRICHARDT	LEANDRA	LEBOHANG	EVANDER	KINROSS	CHARL CILLIERS	EMBALENH LE
	Businesses		Lilian Ngoyi up to Waterfront, Kruik, Fundu Park & Silkaatskop							
Wednesday	CBD Businesses	Milan Park, 1st to 17th street between Victor Khayiyane & Standerton Road, Ext 13, 22, & 23	X22, X23, CBD & Outside Centres	X01, X02 & X00	Businesses, Eendracht, part of ext. 2, Ext 1,3 & 6	Part of ext. 6, 11, 12, 13,	Businesses	Businesses, piece of thistle groove and the whole of Kinross	Businesses & households	Ext 18,19,20, & CBD

DAY	REGION 1		REGION 2						REGION 3	
	BETHAL	EMZINONI	SECUNDA	TRICHARDT	LEANDRA	LEBOHANG	EVANDER	KINROSS	CHARL CILLIERS	EMBALENHLE
Thursday	Outside Businesses	Cow Village, ext. 4, Azapo & Kanana	X02, X06, X08, X10, X12, Industrial area (SAPS and Albany), Restaurants, Secunda Mall (Don't Waste), Checkers Hyper, From Lilian Ngoyi up to Waterfront, Kruik, Fundu Park & Silkaatskop.		eMbalenhle	eMbalenhle		Kinross Extension 25 & Half of Thistle Grove' houses		Ext14, PORTION OF EXT 15,21, 26, portion of EXT 16 & CBD

DAY	REGION 1		REGION 2						REGION 3	
	BETHAL	EMZINONI	SECUNDA	TRICHARDT	LEANDRA	LEBOHANG	EVANDER	KINROSS	CHARL CILLIERS	EMBALENHLE
Friday	CBD Businesses	Ext 5, 6, Chris Hani, 2000, & Thambo	X07, X15, X20, Secunda-CBD & Outside Centres	All business	Businesses and eMbalenhle	eMbalenhle	Other half of Ext 4 and businesses	Other half of Ext 21 in Thistle groove. Wildebeest substation	Charl Cilliers	Ext 15 AND 17, Ext 22 & CBD

All business and residential households have to buy their own containers and plastic bags.

3.11.4 Litter picking

The frequency of street cleaning is indicated in **Table 16** below:

Table 16: Litter picking services in Govan Mbeki Municipality

Area	Frequency of collection
<u>Secunda:</u> 1. Residential areas and access roads 2. CBD area:	1. Litter picking is done with EPWP or CWP along access roads and residential areas, when the need arises. Hence SASOL is assisting with the cleaning of main access roads within Secunda. 2. Monday to Friday. No litter picking during weekends and public holidays.
<u>Bethal:</u> 1. Residential areas and access roads 2. CBD area	1. Litter picking is done with EPWP or CWP along access roads and residential areas, when the need arises or during cleaning campaigns. 2. Monday to Friday. No litter picking during weekends and public holidays
<u>Kinross:</u> 1. Residential areas and access roads 2. CBD area	1. Litter picking is done with EPWP or CWP along access roads and residential areas, when the need arises or during cleaning campaigns. 2. Monday to Friday. No litter picking during weekends and public holidays

<u>Evander</u> 1. Residential areas and access roads 2. CBD area:	1. Litter picking is done with EPWP or CWP along access roads and residential areas, when the need arises or during cleaning campaigns. 2. Monday to Friday. No litter picking during weekends and public holidays
<u>Leandra</u> 1. Residential areas and access roads 2. CBD area:	1. Litter picking is done with EPWP or CWP along access roads and residential areas, when the need arises or during cleaning campaigns. 2. Monday to Friday. No litter picking during weekends and public holidays
<u>eMbalenhle:</u> 1. Residential areas and access roads 2. CBD area:	1. Litter picking is done with EPWP or CWP along access roads and residential areas, when the need arises or during cleaning campaigns. 2. Monday to Friday. No litter picking during weekends and public holidays

3.11.5 Illegal dumped waste removal

Illegal dumping of waste within GMM is an ongoing challenge and the municipality need to spend thousands on clean-up costs. The composition of the illegally dumped waste varies and includes building rubble, domestic waste, tires and ash from coal stoves.

The Section Solid Waste have 5 tipper trucks and two front-end loaders, removing illegally dumped waste in all regions.

3.11.6 Hazardous waste

The municipality do not collect hazardous waste, nor may any hazardous waste be disposed at any of the landfill sites. It is the responsibility of the hazardous waste generator to dispose it at a hazardous waste landfill site of which the closest is Holfontein in Gauteng.

3.11.7 Health care/ Medical waste

The municipality do not collect or remove any health care waste/medical waste, nor may any be disposed of at any landfill site. It is the responsibility of health care waste/ medical waste generators to make use of private health care medical waste service providers to collect and dispose at a medical waste disposal facility.

3.11.8 Building rubble

The municipality do not render a service to remove building rubble/ soil and residents need to make use of a private service provider to the safe storage and removal of such.

3.11.9 Sewage sludge

A need is identified for the safe storage and collection of sewage sludge from waste water treatment works and pump stations.

3.11.10 Animal carcasses

The municipality do not collect or remove any animal carcasses from animal clinics/ veterinarians/ animal hospitals and the disposal of carcasses are discouraged at any of the landfills. It is the responsibility of these facilities to make use of private service providers for the safe removal and disposal of animal carcasses.

3.11.11 Waste tires

The municipality do not accept any waste tires at landfills, nor collect any waste tires for disposal. It is the responsibility of tire companies to return old used tires to suppliers for recycling or disposal.

3.11.12 Collection Needs

All proclaimed erven and certain non-proclaimed erven within the municipality are currently being serviced. Areas not receiving a weekly refuse collection service within the municipal area, needs to be included in the refuse collection schedule. Areas not receiving a refuse collection service are tabled below:

Table 17: Areas not receiving a weekly refuse collection service

Holfontein settlement near Trichardt
Terra Nova township Trichardt
Naudesfontein farm Bethal

3.11.13 Equipment

Insufficient and unsuitable equipment, fleet age and maintenance issues are impeding service delivery both for landfill operation and refuse collection.

The equipment list of the Solid Waste Management section for Govan Mbeki Municipality is listed below in **Table 18**.

Table 18: Waste Management vehicle summary

	Type of vehicle	Number of fleet
1	Waste Compactors	21
2	Tipper trucks	5
3	Front-end loaders	4
4	LDV's	4
	Total no of fleet	34

Vehicle registration number	Year	Make	Vehicle Type	Vehicle status
JRR 778 MP	1995	BELL L1204C	FRONT-END-LOADER	Non-operational
DHF 081 MP	2006	JCB	FRONT-END-LOADER	Operational
DJP 661 MP	2006	ISUZU	WASTE COMPACTOR	Non-operational
DJR 951 MP	2006	ISUZU	WASTE COMPACTOR	Operational
DLC 675 MP	2006	ISUZU DIESEL	WASTE COMPACTOR	Operational
DZW 581 MP	2009	MERCEDES BENZ	WASTE COMPACTOR	Operational
DZW 586 MP	2009	MERCEDES BENZ	WASTE COMPACTOR	Operational
DZW 589 MP	2009	MERCEDES-BENZ	WASTE COMPACTOR	Operational
DZX 057 MP	2009	MERCEDES BENZ	WASTE COMPACTOR	Operational
FDM 813 MP	2006	ISUZU	WASTE COMPACTOR	Operational
FXS968MP	2012	ISUZU	LDV	Operational
HBK 265 MP	2013	MERCEDES BENZ AXOR	WASTE COMPACTOR	Operational
HBK 266 MP	2013	MERCEDES BENZ AXOR	WASTE COMPACTOR	Operational
HBK 267 MP	2013	MERCEDES BENZ AXOR	WASTE COMPACTOR	Operational

Vehicle registration number	Year	Make	Vehicle Type	Vehicle status
HDZ 379 MP	2013	MERCEDES BENZ AXOR	WASTE COMPACTOR	Operational
HLG 259 MP	2014	HINO	TIPPER	Operational
JMY 691 MP	2018	NISSAN NP 300 2,0i HARDBODY	LIGHT DUTY VEHICLE	Operational
JMY 693 MP	2018	NISSAN NP 300 2,0i HARDBODY	LIGHT DUTY VEHICLE	Operational
JSD 551 MP	2018	UD CWE330	WASTE COMPACTOR	Operational
JSD 526 MP	2018	UD CWE330	WASTE COMPACTOR	Operational
JSD 532 MP	2018	UD CWE330	WASTE COMPACTOR	Operational
JSD 543 MP	2018	UD CWE330	WASTE COMPACTOR	Operational
JSD 546 MP	2018	UD CWE330	WASTE COMPACTOR	Operational
JTZ 436 MP	2019	NISSAN NP 300 2,5D HARDBODY	LIGHT DUTY VEHICLE	Operational
KFN 122 MP	2020	UD CRONER	CWE330 COMPACTOR BODY	Operational
KFN 123 MP	2020	UD CRONER	CWE330 COMPACTOR BODY	Operational
KFN 616 MP	2020	UD CRONER	CWE330 COMPACTOR BODY	Operational

Vehicle registration number	Year	Make	Vehicle Type	Vehicle status
KGP 162 MP	2021	JCB 432ZX	FRONT-END-LOADER	Operational
KGP 164 MP	2021	JCB 432ZX	FRONT-END-LOADER	Operational
KKC 927 MP	2021	UD CWE330	TIPPER	Operational
KKC 938 MP	2021	UD CWE330	TIPPER	Operational
KKC 958 MP	2021	UD CWE330	TIPPER	Operational
KKC 968 MP	2021	UD CWE330	TIPPER	Operational

Note that the VEHICLE CONDITION is a subjective assessment of the vehicles and no mechanical assessment of the vehicles had been conducted for this study.

21 of the waste management trucks are older than 10 years and 4 LDV's are older than 5 years. The majority of these vehicles are non-operational and should be sold and replaced.

based on the above assessment of the vehicle fleet, the Fleet section of the Department of Technical Services should compile a vehicle replacement plan based on the approved fleet policy to ensure that future planning for the replacement of the vehicles is done at the appropriate time.

3.12 FINANCING FOR WASTE MANAGEMENT

The Municipal Systems Act, 2000 (Act 32 of 2000) (Chapter 8, ss73-86A) requires that municipalities must ensure proper budgeting in order to deliver on their Constitutional mandate with regards to the provision of waste services. In order for a Municipality to successfully implement its IWMP, it is important to establish the current available resources in terms of finance; human resources, technical skills to deliver on the Municipality's mandate and to implement the goals and targets contained in the plan i.e., development of by-laws and lastly, funding for operational and maintenance costs for equipment for the effective delivery of waste services and establishment of waste disposal facilities. Further, financial management/budgeting is key as it will assist in identifying future resource needs i.e., if there is an increase in the number of households requiring waste collection services what additional resources will be required to deliver the service.

3.12.1 Budget for Waste Management

The waste management budget for the 2022/2023 financial year is tabled below.

Table 19: Solid Waste Management Budget for 2021/2022 financial year

Capital Budget 2022/2023	Operational budget incl. salaries	Total budget for waste management 2022/2023
R2,400,000.00	R87,835,347.00	R90,235,347.00

According to the budget, the tariffs were increased by 4.8% for the 2022/23 financial year.

3.12.2 Funding of Services for the Indigent

Waste management services for the indigent is supported through the Council's Indigent Fund.

3.12.3 Current Tariff Structure for Waste Collection

GOVAN MBEKI MUNICIPALITY DETERMINATION OF TARIFFS SOLID WASTE FOR THE PERIOD 1 JULY 2022 TO 30 JUNE 2023

Table 20: Tariff Structure for Govan Mbeki

DETERMINATION OF TARIFFS SOLID WASTE DISPOSAL FOR THE PERIOD 1 JULY 2022 TO 30 JUNE 2023						
Applicable From 1 st July 2022						
Domestic Solid Waste Disposal	TARIFFS 2021/2022	REFUSE REMOVAL	TOWN CLEANSING	REHABILITATION OF LANDFILL SITE	TARIFFS 2022/2023	% INCREASE
Domestic- Secunda, Bethal, Evander, Kinross & Leandra.	161.44				169.19	4.8
Domestic – eMbalenhle, eMzinoni, Lebohang, Kinross Ext 25 & Charl Cilliers.	149.16				156.32	4.8

Domestic Vacant ERF / Stands	161.44				169.14	4.8
Commercial Vacant ERF / Stands	161.44				169.19	4.8
Business, Industrial, Schools & Institutions:- Tariff = Type of Bin x Frequency of Removal. 1 x 85 Litre Refuse Bin or Part thereof = 1 Unit. 1 x 240 Litre Refuse Bin or Part thereof = 3 Units. 1 x 750 Litre Refuse Bin or Part thereof = 9 Units. 1 x 1, 000 Litre Refuse Bin or Part thereof = 12 Units. 1 x 1, 100 Litre Refuse Bin or Part thereof = 13 Units.						

FREQUENCY OF REMOVAL PER BIN	TARIFF 2021/2022	91.66% REFUSE REMOVAL	1.39% TOWN CLEANSING	6.96% REHABILITATION LANDFILL SITE	TARIFF 2022/2023	% INCREASE
1 x Per Week	137.97				144.59	4.8
	240 LITRE BIN				240 LITRE BIN	
	413.92				433.79	4.8
	750 LITER BIN				750 LITER BIN	
	1, 241.76				1,301.37	4.8
	1, 000 LITRE BIN				1, 000 LITRE BIN	
	1, 655.64				1,735.11	4.8
	1, 100 LITRE BIN				1, 100 LITRE BIN	
	1, 793.61				1,879.70	4.8

FREQUENCY OF REMOVAL PER BIN	TARIFF 2021/2022 85 LITRE BIN/BIN LINER	91.66% REFUSE REMOVAL	1.39% TOWN CLEANSING	6.96% REHABILITATION LANDFILL SITE	TARIFF 2022/2023 85 LITRE BIN/BIN LINER	% INCREASE
2 x Per Week	275.92				289.16	4.8
	240 LITRE BIN				240 LITRE BIN	
	827.77				867.50	4.8
	750 LITER BIN				750 LITER BIN	
	2, 482.69				2,601.86	4.8
	1, 000 LITRE BIN				1, 000 LITRE BIN	
	3, 038.95				3,184.82	4.8
	1, 100 LITRE BIN				1, 100 LITRE BIN	
	3, 291.09				3,449.06	4.8

FREQUENCY OF REMOVAL PER BIN	TARIFF 2021/2022 85 LITRE BIN/BIN LINER	91.66% REFUSE REMOVAL	1.39% TOWN CLEANSING	6.96% REHABILITATION LANDFILL SITE	TARIFF 2022/2023 85 LITRE BIN/BIN LINER	% INCREASE
3 x Per Week	413.92				433.79	4.8
	240 LITRE BIN				240 LITRE BIN	
	1, 241.76				1,301.36	4.8
	750 LITER BIN				750 LITER BIN	
	3, 725.25				3,904.06	4.8
	1, 000				1, 000 LITRE BIN	

	LITRE BIN					
	4, 965.34				5,203.68	4.8
	1, 100 LITRE BIN				1, 100 LITRE BIN	
	5, 380.82				5,639.10	4.8

FREQUENCY OF REMOVAL PER BIN	TARIFF 2021/2022	91.66% REFUSE REMOVAL	1.39% TOWN CLEANSING	6.96% REHABILITATION LANDFILL SITE	TARIFF 2022/2023	% INCREASE
4 x Per Week	547.13				573.39	4.8
	240 LITRE BIN				240 LITRE BIN	
	1, 633.85				1,712.27	4.8
	750 LITER BIN				750 LITER BIN	
	4, 966.91				5,205.32	4.8
	1, 000 LITRE BIN				1, 000 LITRE BIN	
	6, 622.58				6,940.46	4.8
	1, 100 LITRE BIN				1, 100 LITRE BIN	
	7, 174.45				7,518.82	4.8

FREQUENCY OF REMOVAL PER BIN	TARIFF 2021/2022	91.66% REFUSE REMOVAL	1.39% TOWN CLEANSING	6.96% REHABILITATION LANDFILL SITE	TARIFF 2022/2023	% INCREASE
5 x Per Week	689.85				722.96	4.8
	240				240	

	LITRE BIN				LITRE BIN	
	2, 069.56				2,168.90	4.8
	750				750	
	LITER BIN				LITER BIN	
	6, 208.68				6,506.70	4.8
	1, 000				1, 000	
	LITRE BIN				LITRE BIN	
	8, 278.18				8,675.53	4.8
	1, 100				1, 100	
	LITRE BIN				LITRE BIN	
	8, 967.86				9,398.32	4.8

FREQUENCY OF REMOVAL PER BIN	TARIFF 2021/2022 85 LITRE BIN/BIN LINER	91.66% REFUSE REMOVAL	1.39% TOWN CLEANSING	6.96% REHABILITATION LANDFILL SITE	TARIFF 2022/2023 85 LITRE BIN/BIN LINER	% INCREASE
6 x Per Week	827.80				867.53	4.8
	240				240	
	LITRE BIN				LITRE BIN	
	2, 483.39				2,602.59	4.8
	750				750	
	LITER BIN				LITER BIN	
	7, 275.35				7,624.57	4.8
	1, 000				1, 000	
	LITRE BIN				LITRE BIN	
	9, 933.82				10,410.64	4.8
	1, 100				1, 100	
	LITRE BIN				LITRE BIN	
	10, 834.21				11,354.25	4.8

3.13 ORGANISATIONAL AND INSTITUTIONAL MATTERS

3.13.1 Waste Management Officer

Section 10(3) of the National Environmental Management: Waste Act, 2008 requires the Municipality to designate in writing a waste management officer: “Each municipality authorised to carry out waste management services by the Municipal Structures Act, 1998 (Act No.117 of 1998), must designate in writing a waste management officer from its administration to be responsible for co-ordinating matters pertaining to waste management in that municipality.”

To confirm the abovementioned, and to comply with Section 10(3) of the National Environmental Management: Waste Act, 2008, Council has appointed the Manager Solid Waste Management as the Municipalities Waste Management Officer, responsible for co-ordinating matters pertaining to waste management.

3.13.2 Waste Management Structure

The municipality need an organogram in order to determine the available human resources to deliver waste services. The organogram will highlight the number of available staff under each section such as staff to perform management duties, waste collection, litter picking and disposal. Further the organizational structure could potentially be used to evaluate gaps in areas where there are new functions that must be performed in order to fulfil the Waste Act's requirements.

The total staff complement for the Govan Mbeki Local Municipality Community Services Organogram is attached in **Appendix 1**.

Table 21: Waste management staff component

Position	Post level	No of positions on the structure	No of positions filled	No of positions vacant
Deputy Director Solid Waste & Environmental Services	2	1	1	0
Manager Solid Waste Management	3	1	1	0
Regional Waste Management Coordinator	5	5	1	4
Cleansing Supervisor: Waste Management	8	6	6	0
Admin Clerk: Solid Waste Management	9	1	0	1
Heavy Vehicle Driver: Waste Collection	11	26	24	2
Heavy Duty Machine Operator	11	4	0	4
Driver; Streets & Open Spaces	13	6	4	2
General Worker: Waste collection	16	120	113	7
General Worker: Streets & Public Spaces	16	35	33	2
General Worker: Landfill site	16	2	1	0
TOTAL:		207	184	23

A detailed organizational structure is attached as Annexure 1

4 LEGAL MATTERS

4.1 Legal Compliance

The Municipality's current legal compliance pertaining to waste collection and their disposal facilities is shown on the **Table 22** below.

Table 22: Legal compliance for the waste management facilities

Waste Management Facility	Licensed	Operated according to licence conditions or minimum requirements
Secunda landfill site	Compliance	Non-Compliance
Bethal landfill site	Compliance	Non-Compliance
Evander landfill site	Compliance	Non-Compliance
Leandra landfill site	Compliance	Non-Compliance
Kinross landfill site	Compliance	Non-Compliance
Lebohang landfill site	Compliance	Non-Compliance
eMbalenhle landfill site	Compliance	Non-Compliance
Bethal-Morgenzon landfill site	Compliance	Non-Compliance
eMbalenhle buy-back centre	Compliance	Non-Compliance

4.2 Municipal By-Laws Pertaining to Waste

The Municipality has a set of waste management by-laws, namely the "Cleansing Services/ Solid waste Management By-Laws as published in LA Notice 92 of 9 May 2003. The municipality has reviewed the current bylaws and has developed a draft Integrated Waste Management By-Law, which need to be finalised and approved by Council.

The current by-laws cover all aspects of waste management including aspects such as collection and removal of business and domestic refuse, industrial and trade refuse, garden, special domestic and bulky refuse, builders refuse, special industrial, hazardous, medical and infectious refuse, the solid waste landfill site management, littering, offences and penalties.

In assessing the National Environmental Management: Waste Act, it was evident that clear responsibilities are assigned to each sphere of government in relation to waste management activities.

Local Government is responsible for the provision of waste management services, which includes waste removal, waste storage and waste disposal services, as per Schedule 5b of the Constitution.

Municipalities are obliged to designate a waste management officer from their administration to co-ordinate matters pertaining to waste management. They must also submit an integrated waste management plan to the MEC for approval. The IWMP needs to be integrated into municipal integrated development plans (IDP), and the municipal annual performance report must include information on the implementation of the IWMP.

At the discretion of the Govan Mbeki Municipality, they may set local waste service standards for waste separation, compacting of waste, management and disposal of solid waste, amongst others. The local standards must be aligned with any provincial and national norms and standards where these exist. In particular, the existing draft bylaws must be aligned with Chapter 4 Part 6 of NEMWA. The Govan Mbeki may also require transporters of waste to register on a list of waste transporters.

The following section describes how the bylaws must be aligned with Chapter 4 Part 6 of NEMWA and how the strategic priorities for the disposal of waste needs to be implemented in terms of the regulatory framework provided by NEMWA. Chapter 4 Part 6 of NEMWA prohibits the unauthorised disposal of waste, and requires that where there is no household waste collection service the waste must be disposed of in the most environmentally and economically feasible manner. Section 26(1)(b) requires that waste disposal must be explicitly authorised and accomplished without polluting the environment or harming human health and well-being.

In terms of Section 68(1) of NEMWA a maximum penalty of R10, 000,000 or a jail sentence of up to 10 years can be imposed for unauthorised waste disposal, depending on the severity of the impact on health and the environment.

Section 27(1) of NEMWA provides regulatory instruments focused specifically on littering. It stipulates that private land owners that provide public access to their property must provide suitable receptacles for litter and ensure that it is disposed of (in an authorised manner) before it becomes a nuisance. This is reinforced by Section 27 (2), which prohibits littering of public places by individuals.

In terms of Section 68(2) a maximum fine up to R5, 000,000 or imprisonment for up to 5 years can be imposed for littering offences, depending on the severity of the offence.

The waste disposal and anti-littering measures provided in NEMWA must be implemented through the aligned by-laws and should be enforced by local law enforcement agencies. These measures should be seen as providing the minimum requirements that need to be implemented in terms of the by-laws.

Proper provision for monitoring, compliance, and enforcement, as well as the role of the Municipal Waste Management Officers (WMOs) should be described in the existing draft by-laws.

The responsibilities of the WMO in the Govan Mbeki Municipality will be as follows:

- Stakeholder management in relation to implementation of NEMWA.

- Liaison with Environmental Management Inspector (EMI) compliance monitoring activities in the Municipality.
- Municipal and local IWMP: alignment of planning and reporting cycles.
- Capacity building in relation to NEMWA implementation.
- Monitoring adherence to norms and standards in the delivery of waste services.

Chapter 7 of NEMWA addresses compliance and enforcement matters and stipulates the powers of the Minister in relation to the NEMWA provisions for:

- Preventing and remedying the effects of pollution.
- Rectifying contraventions of NEMWA.
- Obtaining a high court interdict against any person contravening the NEMWA.

Chapter 7, Section 66 of the Act provides for Waste Impact Reports which can be requested by EMIs in cases where a contravention of the Waste Act is suspected and by WMOs where a review of a waste management license is undertaken.

Section 67 of NEMWA lists provisions of NEMWA which constitute an offence if not complied with. The penalties for the offences are listed in section 68 of NEMWA, as mentioned earlier in this section of the report.

Section 6(1)(e) of NEMWA requires that the National Waste Management Strategy which is in the process to be developed provides approaches for securing compliance with the provisions of NEMWA, including “monitoring of compliance”. Effective capacity to undertake compliance monitoring and the concomitant action where required is essential for the achievement of the objectives of NEMWA.

Chapter 7 of the National Environmental Management Act, 107 of 1998 (NEMA) provides for Environmental Management Inspectors (EMIs) to be designated by the Minister and MECs. EMIs are situated at all three levels of government. A key principle to inform the allocation of responsibilities is that an institution cannot police itself. A principle specifically relevant to the Govan Mbeki Municipality is that in circumstances where the NEMWA act regulates or controls issues that are typically covered by the by-laws and that fall within the competence of the local Municipality (e.g., public nuisance/cleansing), these issues need to be dealt with by the Local Municipality.

The role of EMIs in the Govan Mbeki Municipality will therefore be as follows:

- Local EMIs will work in conjunction with provincial and national EMIs to execute compliance activities in respect of waste management licenses (reacting to complaints and conducting

routine inspections). In accordance with the principal that an institution cannot police itself, local EMI's are not expected to monitor the municipalities' compliance.

The Municipality may address non-compliance in that the EMI or WMO may request a waste impact report. The findings of the waste impact report may trigger an enforcement procedure to correct the illegal activity.

The Department of Environmental Affairs will develop norms and standards which will be promulgated in terms of Section 7(1) of the Waste Act. The by-laws can refer to these norms and standards which will address norms and standards for the operation, maintenance and reporting requirements for general landfills that will be built on the existing Minimum Requirements for Waste Disposal by Landfill guidelines.

The Municipality should take cognisance of the indigent policy on the provision of free basic services. Reference to the criteria for qualification should be set out in the by-laws.

Chapter 4 of the National Domestic Waste Collection Standards can be incorporated into the amended by-laws. It addresses separation at source, collection of recyclable waste, receptacles, bulk containers, communal collection points and frequency of collection.

In conclusion, it is clear that the existing draft by-laws are aligned with the NEMA requirements, but could be improved to put more emphasis on recycling and/or waste minimisation. Separation at source should also be addressed.

4.3 Illegal Dumping

Illegal dumping of waste is common all over the Municipal area and is especially a problem in the former townships. There are some strategies to prevent illegal disposal within the Municipality currently in place. Education and awareness campaigns are done in schools, EPWP, GGD and Y COPs employees are utilized to rehabilitate illegal dumping spots by planting tyres and a programme is followed at regions to remove illegal dumps.

5 REVIEW OF THE 2015 IWMP

The previous IWMP for the Municipality was reviewed. The recommendations from the 2015 IWMP of is displayed in a table below to authenticate that those recommendations were implemented, partially implemented or not implemented.

Table 23: Implementation of the IWMP as of 30 June 2017

Goal	No of targets	No of actions within the targets	No of actions achieved	No of actions not achieved
Goal 1: Safe and proper disposal of waste	1	6	4	2
Goal 2: Provide the effective and efficient delivery of waste services	3	3	1	2
Goal 3: Ensure sufficient resources to provide an effective waste management service	2	4	2	2
Goal 4: Promote waste minimization, reuse, recycling and recovery	5	10	5	5
Goal 5: Ensure the development of legislative tools to enforce the waste act and other applicable legislation	2	2	1	1
Goal 6: Maintain waste information system to achieve proper waste management planning	2	2	2	0

Goal 7: Ensure that people are aware of the impact of waste on their health, well-being and the environment	2	2	1	1
		29	16	13

Table 24: Targets for the implementation of the 2015 IWMP

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
GOAL 1: SAFE AND PROPER DISPOSAL OF WASTE										
Target 1: Train the waste disposal facility manager in order to operate the waste disposal sites according to the permit/license conditions.	Provide training for waste disposal facility supervisors and operators to improve and upgrade operations at the waste disposal sites	X						Waste disposal facility operators and supervisors should attend courses to have the “know how” to operate waste disposal facilities.	Annual target not achieved	No

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
									No terrain models for landfill sites Feasibility study: A service provider, BTW & Associates (PTY) Ltd was appointed during August 2015 to do a feasibility study on the regionalization of landfills and alternative waste disposal options within GMM. A final report is submitted 14 March 2016	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
	Upgrade operations at all four waste disposal sites	X					Privatisation of waste management at the waste disposal sites	Secunda waste disposal site operations should be upgraded to comply with the license conditions and/or Minimum Requirements for Waste Disposal by Landfill document, published by DWAF in 1998. The site is fenced, but access control needs to be improved and incoming waste should be	Secunda landfill site: The Municipality has appointed a service provider, Interwaste, for the operation and maintenance of the Secunda landfill site for a period of 36 months. The appointment was done during July 2015. The site is operated in terms of the minimum requirements.	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								recorded. The site should be upgraded (with ablution facilities and storm water control measures) and the site operations should be upgraded (access controlled, incoming waste volumes recorded, waste compacted and covered on a regular basis). Bethal waste disposal site should be		

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								upgraded (properly fenced with ablution facilities and storm water control measures) and the site operations should be upgraded (access controlled, incoming waste volumes recorded, waste compacted and covered on a regular basis). In general operating the waste disposal site in accordance with its permit conditions and the	Bethal landfill site: The Municipality has advertised in bid 8/3/1-27/2015 for the appointment of a service provider for the operation and maintenance of the Bethal landfill site. Sandmix Construction is appointed during	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								Minimum requirements Leandra waste disposal site should be upgraded (properly fenced with ablution facilities and storm water control measures) and the site operations should be upgraded (access controlled, incoming waste volumes recorded, waste compacted)	March 2016 for a period of 36 months	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								and covered on a regular basis). Kinross waste disposal site should be upgraded (with ablution facilities and storm water control measures) and the site operations should be upgraded (access controlled, incoming waste volumes recorded, waste compacted and covered on a regular basis).	Leandra landfill site: The Municipality has advertised in bid 8/3/1-28/2015 for the appointment of a service provider for the operation and maintenance of the Leandra landfill site. Vuma Konke is appointed during March 2016 for a period of 36 months	

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
									Kinross landfill site: The Municipality has advertised in bid 8/3/1-29/2015 for the appointment of a service provider for the operation and maintenance of the Kinross landfill site. De Great Madododana JV Great Dimensions is appointed during November 2016 for a period of 36 months	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
	Conduct Audit Management of waste disposal sites to maintain favourable operations	X	X	X	X	X		A professional service provider should be appointed on an annual basis to audit each of the waste disposal sites according to license conditions or waste disposal site management according Minimum Requirements. The waste disposal site audit reports will enable the Municipality to take corrective steps on non-conformance	Annual targets not met.	No

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								items in order to improve the management at the landfill sites and in order to comply with applicable legislation.		
	Appoint service providers to prepare upgrade designs, and put out tenders for the construction work			X			Investigate the feasibility for waste disposal regionalisation within the Municipality	A professional service provider should be appointed by the municipality to compile upgrade designs for each of the waste disposal sites and prepare drawings for contraction. The service provider will	Feasibility study: A service provider, BTW & Associates (PTY) Ltd is appointed during August 2015 to do a feasibility study on the regionalization of landfills and alternative waste disposal options within GMM. Final	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								also assist with the tender letting process and site supervision of the construction work.	report received 14 March 2016 Upgrade of designs of landfill sites: Target not achieved	No
	Apply for closure licenses for the closed unlicensed waste disposal sites				X			The site licensing procedure must be done in accordance with the Minimum Requirements for Waste Disposal by Landfill and the Licensing Process in terms of Section 45 of the NEMWA Investigations inter	DEA has licensed the closed landfill sites on behalf of GMM. The sites include the eMbalenhle, Lebohang, and Bethal Morgenzon-road landfill sites. The sites were licensed during November 2016.	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								alia includes a topographical and cadastral survey for closure designs and a Basic Assessment. EMBALENHLE LICENSE NO. 17/4/WL/MP307/15/04 LEBOGANG LICENSE NO. 17/4/WL/MP307/15/02 MORGENZON- BETHAL ROAD LICENSE NO. 17/4/WL/MP307/15/03		
GOAL 2: PROVIDE THE EFFECTIVE AND EFFICIENT DELIVERY OF WASTE SERVICES										
Target 1: Maintain	Extend waste services to	X	X	X	X	X		The Municipality should identify all	All households within the urban areas do	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
current service delivery to all areas within the Municipality. Identify and compile a map or schedule of serviced and un-serviced areas within the municipality.	ensure that 95% of urban households and 75% of rural households have access to adequate levels of waste collection services by 2016							areas and/or new developments which currently do not receive a waste management service to include in future waste management services and also extend the free basic refuse removal service to indigents in un-serviced settlements on an on-going basis.	receive a weekly removal service. Households in rural areas do not receive a refuse collection service.	
Target 2: Establish	Continue with current refuse	X	X	X				Continue with current refuse	Bid 8/3/1-16/2014 supply and delivery of	No

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
receptacle requirements within the Municipality and supply the receptacles to residents in order to optimise collection efforts	collection system and phase in receptacles to existing development							removal system, but phase in Standard Refuse Receptacles with new collection equipment	4000 x 85 litre refuse bins was advertised and bids received evaluated. The project could not be implemented as the budget amount for the purchasing of refuse bins was removed. No provision was made in the 2015/2016, 2016/2017 financial year for the purchasing of refuse bins.	

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
Target 3: Apply for funding through available funding mechanisms in order to conduct a Municipal Services Partnership (MSP) / Section 78 study.	Conduct MSP study to determine whether waste management services should be rendered internally by the Municipality or whether the service should be outsourced.		X				Privatised waste collection	Draft TOR and advertise to appoint service provider to conduct investigation		No
GOAL 3: ENSURE SUFFICIENT RESOURCES TO PROVIDE AN EFFECTIVE WASTE MANAGEMENT SERVICE										

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
Target 1: Review existing organogram to ensure effective structure and extension of human resources	Fill current vacant positions and employ additional staff to service new areas and to manage disposal facilities	X						It is recommended that the Municipality fill all vacant positions and employ additional staff to service new areas and to manage disposal facilities.	The municipality has reviewed all the structures including solid waste management. Not all the positions in the new structure are filled.	No
	Employ new staff as vacancies develop	X	X					Fill current vacant positions and create posts to extend human resources capacity to fulfil service requirements, if necessary.	Not all vacant positions are filled.	No

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
Target 2: Extend and maintain waste collection fleet for service delivery	Compile equipment replacement plan	X	X	X	X	X	1. Privatisation of Waste Collection. 2. Waste collection by community based collection models	Compile equipment replacement plan	Fleet requirements were submitted to the assistant Manager Fleet Management. The budget and procuring of fleet is done by the Fleet Managers office.	Yes
	Purchase required equipment and replace equipment as and when required	X	X	X	X	X		Ensure budgeting and/or funding is in place to replace fleet as and when required by the replacement plan.	The Council is within the process to investigate and secure fleet in terms of the fleet needs submitted.	No
	Maintain equipment	X	X	X	X	X		Maintain current collection fleet and	The maintenance of fleet is still a	No

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								negotiate maintenance contracts with vehicle suppliers.	challenge. The municipality is currently investigating maintenance options in terms of the procuring of fleet.	
Target 3: Effective Financial management for waste management	Performed Detailed Financial Investigation to ring fence the service	X						Draft TOR to appoint professional service provider to perform Detailed Financial investigation.	Annual target not met	No
Target 4: Implement	Evaluate level of service delivery and	X	X	X	X	X		Review tariffs in terms of the tariffs policy which must	Tariffs were increased by 6%	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
improved tariff model	develop standardised tariffs for specific levels of service and update on a yearly basis							adopted in terms of section 74 of the Municipal Systems Act. To provide a cost effective waste management service, the payment of service tariffs should be improved and the tariff structure should be investigated to be viable and be standardised.	during the 2016/2017 financial year. DEA tariff model was used to determine if GMM waste tariffs were in line. The tariffs are in line.	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								The distinction between the tariffs for waste collection at domestic, businesses and Government institutions is supported and will ensure that the generators of waste pay for the waste they generate. This can also be an incentive for businesses to minimise their waste streams.	Businesses must submit an Industry waste management plan (IndWMP) for approval by the section. The focus is on waste minimization and the handling of specific categories of waste such as hazardous waste, health care	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
									etc. Onsite waste management is compulsory before any approval of an application. Included within the process, a waste audit is done and businesses is only paying for the waste the municipality is removing.	
GOAL 4: PROMOTE WASTE MINIMISATION, REUSE, RECYCLING AND RECOVERY										
Target 1: Formalise and encourage recycling activities.	Provide recycling containers throughout town	X						Identify strategic locations throughout town and provide recycling	300 Recycling-street litter bins were distributed in eMbalenhle and Secunda CBD. Recycling street litter	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
								containers on these locations.	bins in eMbalenhle mostly vandalised.	
	Add additional containers to service new development areas		X	X	X	X		Place additional recycling containers in new development areas.	Annual target not met. Continuous process.	No
Target 2: Encourage waste minimisation	Promote waste minimisation under residents and businesses	X	X	X	X	X		Promote waste minimisation under residents and businesses	Majority of businesses are separating waste at the source. On site waste management is	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
									promoted at shopping centres and malls. Informal separation of waste is encouraged and is taking place at households.	
	Regular forum meetings with stakeholders to coordinate waste minimisation and to encourage growth on the	X	X	X	X	X		Regular forum meetings with stakeholders to coordinate waste minimisation and to encourage growth on the recycling section.	Regular meetings with municipal buy-back centre and private buy-back centres to ensure waste minimization at the source.	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
	recycling section									
	Implement incentive schemes for in-house recycling for business and homes		X					Implement incentive schemes for in-house recycling for business and homes	Businesses are only paying for the volume of waste removed by the municipality (determined by a waste audit) and therefore saving on the waste bill.	Yes
	Investigate the option of establishing a composting facility at a central location			X				Investigate the option of establishing a composting facility at a central location	Target to be implemented by 2016.	No

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
Target 3: Conduct waste minimisation study	Conduct a waste minimisations study	X						A waste minimisation study should be undertaken in order to determine from existing and new initiatives the volumes of waste that is currently being recycled, reused and recovered.	Annual target not achieved.	No
GOAL 5: ENSURE THE DEVELOPMENT OF LEGISLATIVE TOOLS TO ENFORCE THE WASTE ACT AND OTHER APPLICABLE LEGISLATION										
Target 1: Review the by-	Draft updated bylaws to	X	X	X	X	X		Appoint service provider to review	GMM is within the process to review its	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
laws to address the NEMWA requirements.	address NEMWA requirements. Enforce by-laws							by-laws or use DEA guidelines to draft standard by-laws	own bylaws in terms of DEA guidelines. Final draft will go out for comments soon.	
Target 2: Develop a system for residents to report waste transgressions , for example illegal dumping.	Establish community watch programme with incentive schemes	X	X	X	X	X		Establish community watch programme with incentive schemes.	Targets not met.	No
GOAL 6: MAINTAIN WASTE INFORMATION SYSTEM (WIS) TO ACHIEVE PROPER WASTE MANAGEMENT PLANNING										
Target 1: Update and	Update and Maintain WIS	X	X	X	X	X		Update and Maintain WIS	WIS is updated monthly	Yes

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
maintain the Waste Information System (WIS)										
Target 2: Contribute to Inter Municipal Waste Information Workshops	Attend workshops	X	X	X	X	X		Attend workshops	All National, Provincial and District workshops offered for free are attended. Conferences etc. is attended after approval from MM office.	Yes
GOAL 7: ENSURE THAT PEOPLE ARE AWARE OF THE IMPACT OF WASTE ON THEIR HEALTH, WELL-BEING AND THE ENVIRONMENT										

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
Target 1: Recruit environmental/waste education personnel.	Recruit environmental / waste education personnel	X	X	X	X	X		Develop an education and awareness strategy and training materials to roll out education and awareness campaigns.	Making use of EPWP and Council employees to do education and awareness. No education & awareness strategy developed yet. Study material is available for awareness. Monthly education and awareness campaigns held.	No

TARGET	ACTION	2014	2015	2016	2017	2018	ALTERNATIVE	IMPLEMENTATION DETAIL	PROGRESS REPORT	TARGET ACHIEVED YES/NO
Target 2: Build community awareness	Build community awareness through newspaper notices and flyers. Conduct road shows	X	X	X	X	X		Build community awareness through newspaper notices and flyers. Conduct road shows	Responses to newspaper articles are done in an educational method.	Yes

6 GAPS AND NEEDS ANALYSIS

After reviewing the 2015 IWMP, certain needs pertaining to the waste disposal service in the Govan Mbeki were identified that requires attention. These needs are summarised below.

- Should any new developments take place within Govan Mbeki Municipality, the Municipality should include new developments for the provision of a waste collection and disposal service. It is essential that in conjunction with the Department of Planning & Development Town Planning Section that future residential and business area expansion are catered for in terms of refuse removal. This will allow the Municipality to, at an early stage, determine the possible costs involved and therefore will be able to adjust their budget accordingly. This will allow the Municipality to service the new areas when they are developed.
- The illegal disposal of waste is common all over the municipal area. The illegal disposal should be addressed in order to manage and minimise the illegal activities pertaining to waste disposal.
- The existing draft Municipal By-Laws should be amended to address all aspects of the waste management hierarchy as required in terms of the National Environmental Management: Waste Management Act, 2008.
- The Municipality has a severe shortage of personnel for waste collection and for the proper management of the disposal facilities. There is an urgent need to increase personnel, create new positions and fill them.
- The Secunda Landfill is licenced in terms of Section 45 of NEMWA, 2008. Hence, the landfill is not operated in accordance with an operational plan. The site is fenced, but access control needs to be improved and incoming waste should be recorded. The site should be upgraded (with ablution facilities and storm water control measures) and the site operations should upgrade (access controlled, incoming waste volumes recorded, waste compacted and covered on a regular basis). There is limited available airspace at the Secunda landfill site and the possibility that it will reach its capacity within the next five years are great. An assessment needs to be done to determine the exact remaining airspace available before closure. The development and construction of a mini-transfer station at Secunda landfill should be considered before closure of the site.
- The Bethal Landfill is licenced in terms of Section 45 of NEMWA. The site is not fenced; therefore, access is not controlled. There are no personnel present on the site to supervise or manage the site operations. There is limited equipment present on site to utilise during site operations. The site should be upgraded (properly fenced with ablution facilities and storm

water control measures) and the site operations should upgrade (access controlled, incoming waste volumes recorded, waste compacted and covered on a regular basis).

- The Leandra Landfill is licenced in terms of Section 45 of NEMWA and were identified as a regional or central landfill site for GMM as Secunda landfill are reaching its capacity and the Kinross landfill site needs to close. In order to comply with the regulations published within the Waste Act and Department of Water Affairs “minimum requirements for the disposal of waste by landfill”, infrastructure need to be developed in the form of cell construction, leachate and methane gas control, fencing, site offices, weighbridge to name few. It will not be possible to start with operations on site if the site is not planned and developed correctly from the onset, before disposing waste. In order to achieve the goal, professional designs are required and will require professional engineers for the task.

Currently the site is not fenced; therefore, access is not controlled. There are no personnel present on the site to supervise or manage the site operations. There is also no equipment present on site to utilise during site operations. The site should be upgraded (properly fenced with ablution facilities and storm water control measures) and the site operations should upgrade (access controlled, incoming waste volumes recorded, waste compacted and covered on a regular basis).

- The Kinross Landfill is licenced for closure in terms of Section 45 of NEMWA, hence still operational and a closure plan should be developed to close the site. Currently, waste is disposed of without cover and without compaction and no formal method of operation is being followed. The site is not fenced and access control is not controlled. The site should be upgraded in preparation for closure with the relevant infrastructure. A mini-transfer station should be developed to cater for future disposal of waste after the closure of the site.
- The Evander Landfill is closed and not operational. The landfill is licenced for closure in terms of Section 45 of NEMWA. Waste is illegally disposed of along the road next to the site and needs to be addressed. Illegal mining activities is taking place next to and at the landfill site and should be addressed. The site is not fenced and properly rehabilitated. The closure and end use plan is not implemented and should be addressed.
- The eMbalenhle Landfill is closed and not operational. The landfill is licenced for closure in terms of Section 45 of NEMWA. The site is not fenced and properly rehabilitated. The site should be closed and rehabilitated.
- The Lebohang Landfill is closed and not operational. The landfill is licenced in terms of Section 45 of NEMWA. The site should be properly rehabilitated.
- The Bethal-Morgenzon Landfill is closed and not operational. The landfill is licenced for closure in terms of Section 45 of NEMWA.

- A complete transportation study needs to be done to optimize waste collection.

7 DESIRED END STATE

7.1 Introduction

Seven focus areas have been identified for the compilation of an IWMP. Based on the Gaps and Needs identified in the previous section, a Desired End State has been identified for each of the seven goals or focus areas.

It is important to align the Desired End State (or goals and objectives) in accordance with the National Waste Management Strategy. The official hierarchy adopted in the Government waste management hierarchy, in order of preference, is as follows:

- Waste avoidance
- Waste minimisation
- Waste re-use
- Waste recycling
- Waste treatment
- Waste disposal

It is important that there should be a target date by which these municipal strategic goals and objectives are to be attained within the five years from the date the IWMP has been approved. The following timeframes are suggested for the strategic goals:

- Immediate: 1 year
- Short-term: 2 to 3 years
- Medium term: 3 to 5 years
- Long term: 5 to 10 years

Please note that implementation actions will be included in the IWMP.

7.2 Waste Disposal Infrastructure

This section relates to the development, upgrading and legal compliance of the waste disposal infrastructure. This includes the identification of new infrastructure required, upgrading of the current infrastructure as well as the improvement of waste management practices. Table 25: Goal 1: Desired end state of waste disposal infrastructure below provides the Desired End State for Waste Disposal Infrastructure in the Municipality.

Table 25: Goal 1: Desired end state of waste disposal infrastructure

GOAL 1: WASTE DISPOSAL INFRASTRUCTURE			
IMMEDIATE GOALS (1 year)	SHORT TERM GOALS (2 to 3 years)	MEDIUM TERM GOAL (3 to 5 years)	LONG TERM GOALS (5 year plus)
Apply for funding through available funding mechanisms for the construction and infrastructure of the regional landfill site in Leandra	Appoint a specialist for the designs of the Leandra landfill site, which includes cell construction, leachate, methane gas and storm water management, site development.	Construction of the Leandra landfill site in line with the minimum requirements for waste disposal at landfill and regulations in terms of the waste act.	Start operations as a regional landfill site at Leandra.
Apply for funding through available funding mechanisms for the application for a waste license for the establishment of a new central transfer station in Evander.	Apply for licensing for the establishment of a central transfer station in Evander. Conduct all required specialist investigations.	Construct new central transfer station in Evander and operate according to license conditions.	Continue operation according to the license conditions. Audit and monitor transfer station operations.
Apply for funding through available funding mechanisms for the construction and infrastructure of a central transfer station in Evander	Appoint a specialist for the designs of the central transfer station.	Construction of the central transfer station in Evander	Start operations at the central transfer station in Evander

GOAL 1: WASTE DISPOSAL INFRASTRUCTURE			
IMMEDIATE GOALS (1 year)	SHORT TERM GOALS (2 to 3 years)	MEDIUM TERM GOAL (3 to 5 years)	LONG TERM GOALS (5 year plus)
Apply for licensing for the establishment of a transfer station in eMbalenhle. Conduct all required specialist studies (EIA)	Construct new transfer station in eMbalenhle and operate according to license conditions.	Continue operation according to the license conditions. Audit and monitor transfer station operations.	
Investigate the possibility and identification of a suitable alternative landfill site centrally located to Secunda, Evander and eMbalenhle to be developed as a landfill site	If a suitable land portion is identified, negotiate to buy the land and make provision in the budget to purchase.	Do EIA and obtain waste license for the site	Apply for funding to develop the new landfill site. Develop the new site in line with the regulations published in terms of the Waste Act.

GOAL 1: WASTE DISPOSAL INFRASTRUCTURE			
IMMEDIATE GOALS (1 year)	SHORT TERM GOALS (2 to 3 years)	MEDIUM TERM GOAL (3 to 5 years)	LONG TERM GOALS (5 year plus)
Apply for funding through available funding mechanisms for the application for a waste license for the establishment of a new mini transfer stations at: - Kinross landfill site - Kinross ext.25 - eMbalenhle (4 stations) - Secunda landfill site - Bethal/eMzinoni (3 stations) - Charl Cilliers - Trichardt - Evander - Eendracht	Apply for licensing for the establishment of mini-transfer stations. Conduct all required specialist investigations.	Construct new mini- transfer stations within GMM and operate according to license conditions.	Continue operation according to the license conditions. Audit and monitor mini-transfer station operations.
Identify shortcomings with regard to operational requirements according to the waste license conditions of the Secunda, Bethal and Leandra landfill sites.	Resolve the identified operational shortcomings. Continue operation according to license conditions.	Continue operation according to license conditions.	Continue operation according to license conditions. Audit and monitor landfill site operations.

GOAL 1: WASTE DISPOSAL INFRASTRUCTURE			
IMMEDIATE GOALS (1 year)	SHORT TERM GOALS (2 to 3 years)	MEDIUM TERM GOAL (3 to 5 years)	LONG TERM GOALS (5 year plus)
Develop a closure and rehabilitation plan for the Kinross, Evander, eMbalenhle, Lebohang and Bethal-Morgenzon landfills.	Apply for funding through available funding mechanisms for the closure and rehabilitation of Kinross, Evander, eMbalenhle, Lebohang and Bethal-Morgenzon landfills.	Conduct closure process for the Kinross, Evander, eMbalenhle, Lebohang and Bethal-Morgenzon landfill site. Rehabilitate closed landfill sites according to closure plan.	Monitor closed landfill sites in line with the license conditions.

7.3 Waste Collection

The shortcomings in the available waste collection infrastructure have been identified. This will involve possible waste receptacles, new developments, un-serviced areas and route planning. **Table 26** below provides the Desired End State for Waste Collection in the Municipality.

Table 26: Desired End State for Waste Collection

GOAL 2: WASTE COLLECTION			
IMMEDIATE GOALS	SHORT TERM GOALS	MEDIUM TERM GOAL	LONG TERM GOALS
Identify new developments in the municipal area.	Implement waste collection services to new developments.	Implement waste collection services to new developments.	Implement waste collection services to new developments.
Identify and compile a map or schedule of serviced and un-serviced areas within the municipality.	Identify various service points for the serviced and un-serviced areas.	Extend services to un-serviced areas.	Update and manage the schedule to ensure all areas are receiving collection services.
Budget for funding through available funding mechanisms in order to conduct a transportation study (route planning vs number of erven to be serviced per truck per day).	Appoint a service provider to conduct a transportation study of the waste collection area.	Implement optimum waste collection route as determined in transportation study.	Implement optimum waste collection route and make amendments for new developments.
Re-work the collection schedule to ensure all collection service areas are covered with available resources and equipment.	Weekly refuse collection service to all proclaimed and certain un-proclaimed erven.	Weekly refuse collection service to all proclaimed and certain un-proclaimed erven.	Weekly refuse collection service to all proclaimed and certain un-proclaimed erven.

7.4 Resource Extension

This area involves the identification of shortcomings in the personnel, financial and equipment resources and development of strategies to ensure that the requirements are satisfied. The existing financial resources are analysed and new structures and strategies are developed. **Table 27** below provides the Desired End State for Resource Extension in the Municipality.

Table 27: Desired End State for Resource Extension

GOAL 3: RESOURCE EXTENSION			
IMMEDIATE GOALS	SHORT TERM GOALS	MEDIUM TERM GOAL	LONG TERM GOALS
<i>Personnel Resources</i>			
Develop a proposed organogram of waste management personnel and submit during the review of the institutional organizational structure for consideration and approval.	Recommend the filling of waste management vacant positions.	Recommend the filling of waste management vacant positions.	Recommend the filling of waste management vacant positions.
<i>Financial Resources</i>			
Prepare a detail financial proposal (Capital and operational) for proper waste management budgeting for each financial year and submit during the budget planning and review process.	Implementation of the capital and operational budget.	Implementation of the capital and operational budget.	Implementation of the capital and operational budget.

GOAL 3: RESOURCE EXTENSION			
IMMEDIATE GOALS	SHORT TERM GOALS	MEDIUM TERM GOAL	LONG TERM GOALS
Review tariffs for waste collection and disposal and identify shortcomings.	Implement tariff model (as developed by DEA).	Implement tariff model and amend as required.	Implement tariff model and amend as required
<i>Equipment Resources</i>			
Review current equipment and identify equipment that needs maintenance and/or replacement.	Develop an equipment replacement plan and acquire funding for the implementation of this replacement plan.	Replace equipment or extend vehicle fleet as required.	Update and amend equipment replacement plan and implement accordingly.

7.5 Waste Minimization

This section involves the identification of specific waste minimisation strategies. This can include separation and collection at source, privatisation of reclamation activities and development of collection points throughout the area. **Table 28** below provides the Desired End State for Waste Minimisation in the Municipality.

Table 28: Desired End State for Waste Minimisation

GOAL 4: WASTE MINIMISATION			
IMMEDIATE GOALS	SHORT TERM GOALS	MEDIUM TERM GOAL	LONG TERM GOALS
Conduct a study to determine whether the following are feasible: Waste minimisation/ recycling at households	If feasible , apply for funding through available funding mechanisms for the establishment of waste minimisation infrastructure.	Establish, operate and maintain the waste minimisation infrastructure.	Establish, operate and maintain the waste minimisation infrastructure.
	If feasible , establish mechanisms for promoting separation at source.	Roll out separation at source to 30% of households.	Roll out separation at source to 70% of households.

7.6 Management of Illegal Activities

This relates especially to illegal dumping activities within the municipal area. This involves identification of possible illegal dumping hot spots, development of clean up and anti-dumping campaigns, possible revision of bylaws as well as revision of collection strategies. **Table 29** below provides the Desired End State for the Management of Illegal Activities in the Municipality.

Table 29: Desired End State for Management of Illegal Activities

GOAL 5: MANAGEMENT OF ILLEGAL ACTIVITIES			
IMMEDIATE GOALS	SHORT TERM GOALS	MEDIUM TERM GOAL	LONG TERM GOALS
Clean up illegal dumping areas.	Continue cleaning up illegal dumping areas.	Continue cleaning up illegal dumping areas.	Continue cleaning up illegal dumping areas.
Update the by-laws to address the NEMWA requirements.	Draft and promulgate by-laws.	Proper enforcement of by-laws.	Proper enforcement of by-laws and amend if necessary.

7.7 Waste Information System

This section covers the need for effective record keeping and development of a Waste Information System (WIS) as well as the sharing of available information and the co-operation of the various stakeholders within the Municipality. **Table 30** below provides the Desired End State for Waste Information System in the Municipality.

Table 30: Desired End State for Waste Information System

GOAL 6: WASTE INFORMATION SYSTEM			
IMMEDIATE GOALS	SHORT TERM GOALS	MEDIUM TERM GOAL	LONG TERM GOALS
Update the reporting on the Waste Information System (SAWIC).	Keep proper records of waste quantities and types received at the waste management facilities.	Use records for proper planning and decision making.	Ensure that the future planning is effectively carried out.
Compile a list or database of all industries, private landfills and medical facilities in the municipal area.	Compile a list of industry waste management facilities.	Ensure that all industrial and medical waste are disposed of in a responsible manner.	Ensure that all industrial and medical waste are disposed of in a responsible manner.

Current Situation	Desired end state (Goals)	Activities	Y1	Y2	Y3	Y4	Y5	Selected alternatives	(Implementation mechanisms) Resources		
									Human Resource (HR)	Equipment (EQP)	Finance (HR+EQP)
No formalised recycling and waste minimisation activities taking place.	Promote waste minimisation, re-use, recycling and recovery of waste.	Develop a database of recyclers in the municipality.	✓					Promote waste minimisation, re-use, recycling and recovery of waste.	Existing staff	none	none
		Update the database of recyclers.	✓						Existing staff	none	none
		Encourage large waste generators to submit an Ind.WMP for approval by the municipality		✓					Existing staff	none	None
Identify areas that do not receive waste management services – hence the extension of the service to the un-serviced/new areas	Ensure that there is effective and efficient delivery of waste services in all various areas (including those went serviced and that were	Identify and update new un-serviced areas on waste collection.	✓					Ensure that there is effective and efficient delivery of waste services in all various areas (including those went serviced and that were	Existing staff	none	none
		Extend waste collection services to informal					✓		Additional staff	Trucks Compactor trucks	

	newly developed).	settlements/ un-serviced areas and new settlements						newly developed).		Skip loader trucks	
		Review and update the waste collection schedule.					✓		RWMO (vacant) staff	none	none
Site not operated according to the minimum requirements/ license conditions.	Ensure safe and proper disposal of waste in line with the license conditions.	Conduct landfill sites audits (Secunda & Leandra)	✓	✓	✓	✓	✓	Ensure safe and proper disposal of waste in line with the license conditions.	Internal & Service providers	none	Finance section
		Develop and review a landfill operation & maintenance plan (Secunda & Leandra)			✓				Internal & Service providers	none	none
Education and Awareness	Aim to ensure that the communities are aware of the impact of waste on their health, wellbeing and the environment.	Develop an education and awareness programme.	✓					Ensure that the communities are aware of the impact of waste on their health, wellbeing and the environment.	- CWP - EPWP - Y-COP	none	none
		Conduct education and awareness campaigns.	✓	✓	✓	✓	✓		- CWP - EPWP - Y-COP	- gloves - Dust masks - Refuse bags	R500 000

										Litter tongs	
Review existing by-laws.	Aim to establish efficient and effective compliance mechanism of enforcement.	Review of existing WM Bylaws and submit to Council for approval		✓				Establish efficient and effective compliance mechanism of enforcement.	Existing Internal staff	None	
		Submit approved WM Bylaws for gazetting		✓					Internal staff	None	R100,000
Waste Information System		Update and maintain the Waste Information System (WIS)	✓	✓	✓	✓	✓	Establish efficient and effective compliance mechanism.	Service provider (Secunda & Leandra)	None	R5,000,000

8 FINANCIAL RESOURCES

8.1 Budget (Capital projects)

PROJECT	ESTIMATED AMOUNT	SOURCE OF FUNDING	TIMEFRAME
Engineering designs for the upgrading of the Leandra landfill site	R1,200,000.00	GMM (Unfunded)	June 2023
Upgrading of the Leandra landfill site, which includes cell construction, fencing, site office, methane and leachate control. (Legislative requirement)	R60,000,000.00	GMM (Unfunded)	June 2027
Identification and procurement of an alternative landfill site centrally situated to Secunda, Evander and eMbalenhle	R20,000,000.00	GMM (unfunded)	June 2024
Licensing of the Evander transfer station	R1,400,000.00	GMM (Unfunded)	June 2024
Designs for the Evander transfer station Submission of business plan	R500,000.00	GMM (Unfunded)	June 2025
Construction of the Evander transfer station with infrastructure	R20,000,000.00	GMM (Unfunded)	June 2027

PROJECT	ESTIMATED AMOUNT	SOURCE OF FUNDING	TIMEFRAME
Kinross landfill site mini-transfer station • Licensing, • Design • Construction	R6,600,000.00 (R1,400,000.00) (R1,200,000.00) (R4,000,000.00)	GMM (unfunded)	June 2024 June 2025 June 2026

	Estimated amount	Source of funding	
Procurement of Skip loader trucks with 20 x 6m3 skips for the Evander and Kinross transfer station: • X 2 Skip loader trucks and 8 skips • X 2 Skip loader trucks and 6 skips • X 2 Skip loader trucks and 6 skips	R14,000,000.00	GMM (Unfunded) SLP	2023 2024 2025
Licensing of the Embalenhle transfer station • Design • Construction	R1,400,000.00	GMM SLP SLP	June 2023
Closure designs of closed landfill sites: Evander landfill site Kinross landfill site eMbalenhle landfill site Lebohang landfill site Bethal-Morgenzon Road landfill site	R5,000,000.00	GMM (Unfunded) SLP	2022 to 2027

Rehabilitation of closed landfill sites:			
Evander landfill site	R10,000,000.00	GMM	2022 to 2027
Kinross landfill site	R10,000,000.00	(Unfunded)	
eMbalenhle landfill site	R10,000,000.00	SLP	
Lebohang landfill site	R10,000,000.00	MIG	
Bethal-Morgenzon Road landfill site	R10,000,000.00		
Upgrading of the Bethal landfill site, which includes cell construction, fencing and site office, leachate and methane gas control. (Legislative requirement)	R60,000,000.00	GMM (Unfunded)	June 2027
Upgrading of the Secunda landfill site. (Legislative requirement)	R20,000,000.00	GMM (Unfunded)	June 2027
Procurement of 2 x refuse removal compactor trucks (19m ³) per year.	R5,200,000.00 R5,400,000.00 R5,600,000.00 R5,800,000.00 R6,000,000.00		2022 2023 2024 2025 2026
Procurement of 4 x 10m ³ tipper trucks for illegal waste dumped removal for:		GMM (Unfunded)	
Region 1 Bethal eMzinoni	R2,500,000.00		2023
Region 2 Evander Kinross	R2,600,000.00		2024
Region 2 Leslie, Lebohang and Eendracht	R2,700,000.00		2025
Region 3 eMbalenhle, Charl Cilliers	R2,800,000.00		2026

Procurement of 4 x roll-on load-lugger refuse trucks for the Evander/ eMbalenhle transfer station after completion with 16 skips	R6,200,000.00 R6,400,000.00	GMM	Upon completion of the transfer stations
TOTAL COST OF ALL WASTE MANAGEMENT PROJECTS FOR THE NEXT 5 YEARS 2022 TO 2027	R311,300,000.00		

9 PERFORMANCE OF THE MUNICIPALITY

The Municipality has increased the service delivery to all households and to indigents in the municipal area. With regard to the landfills in the municipal area, it does not seem as if there are any major improvements. The Municipality is still experiencing staff shortages and shortages of equipment to render a sustainable waste management service in the Municipality. The Municipality is in the process of licensing the Secunda and Bethal landfill sites. A service provider is appointed to operate the Secunda landfill in terms of the Minimum Requirements.

10 REVIEW OF THE IWMP

The IWMP need to be reviewed every 5 years in terms of section 11 of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) and therefore the 2022/2027 plan is due for reviewal in 2027.

APPENDIX 1 – WASTE MANAGEMENT STAFF

Emp No.	Employee Name	Occupation Description	DEPT / Branch / Buss Unit	Sub Sub Section Description	P/Level
101209	TLOU A M	Driver: Street and Public Spaces (SWM)	Community Services	Solid Waste Management	13
101104	BODUMELA K D	General Worker: Landfill Site	Community Services	Solid Waste Management	16
102183	BOPAPE MC	Regional Waste Management Coordinator	Community Services	Solid Waste Management	5
100323	GREYLING H G	Cleansing Supervisor: Waste Management	Community Services	Solid Waste Management	8
101251	SMIT G F	Cleansing Supervisor: Waste Management	Community Services	Solid Waste Management	8
101871	PEETE M	Cleansing Supervisor: Waste Management	Community Services	Solid Waste Management	8
102129	MAHLANGU SA	Cleansing Supervisor: Waste Management	Community Services	Solid Waste Management	8
102185	MORAJANE ML	Cleansing Supervisor: Waste Management	Community Services	Solid Waste Management	8
102432	NKOSI MS	Cleansing Supervisor: Waste Management	Community Services	Solid Waste Management	8
100587	VAN DER MERWE H L	Deputy Director: Solid Waste and Environmental Management	Community Services	Solid Waste and Environmental Management	2
101207	SIBEKO VS	Driver: Street and Public Spaces (SWM)	Community Services	Solid Waste Management	13
102130	DLAMINI VS	Driver: Street and Public Spaces (SWM)	Community Services	Solid Waste Management	13
102751	MAHLANGU A	Driver: Street and Public Spaces (SWM)	Community Services	Solid Waste Management	13
100191	MAKHATHINI A N	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
100310	NKANGANA D	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
100650	MZINYANE F P	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
100946	NGOBESE J L	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
100996	MASOMBUKA M J	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
101030	SIMELANE N J	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
101638	NTAME Z	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
101873	MAYABA D J	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
101879	MADONSELA S M	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102029	VILAKAZI L G	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102229	NKABINI VF	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16

102246	DLADLA HM	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102427	NKOSI PS	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102601	JANTJIES JZ	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102603	DLADLA PL	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102604	KUMALO NP	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102606	TIBANE JN	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102607	MOFOKENG RG	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102618	TSHABALALA VE	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102630	HLANZE WK	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102635	TSHABALALA ML	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102676	MKWANAZI DI	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
102773	MAHLANGU HS	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
103112	KWADI DJ	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
103113	ZWANE MS	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
103114	SIMELANE DM	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
103115	GABA NB	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
103116	NKOSI PP	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
103117	NTULO T	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	16
100250	BHENGU Z W	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	70
100256	NTLOKWANA I M	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	70
100808	MAHLANGU J M	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	70
101152	MPANDE M	General Worker: Streets and Public Spaces	Community Services	Solid Waste Management	PT116
100126	DHLAMINI B E	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100152	MTSWENI E M	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100206	MTSWENI A V	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100262	NGUBO C B	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100283	MATHEBULA Z J	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100309	RADEBE B R	General Worker: Waste Collection	Community Services	Solid Waste Management	16

100375	MAHLANGU MP	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100440	MPAKUMPAKU M B	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100577	MASEKO I B	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100584	MASOMBUKA R	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100686	MOTHA M E	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100758	SIBIYA M D	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100990	MAGCANYA S	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101008	SHONGWE E E	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101010	MAGAYIYANE M A	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101096	SILANGWE L	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101121	HLOKWENI B C	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101136	MBHELE E M	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101223	NKOSI V P	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101904	DZANIBE M C	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101905	MOTLOUNG M P	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101907	ZULU M R	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101908	MAHLANGU D S	General Worker: Waste Collection	Community Services	Solid Waste Management	16
101910	NHLANHLA P J	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102226	MBATHA LG	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102227	MAYABA DJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102228	MASUKU LM	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102230	MKHWEBANE HM	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102231	MAHLANGU BJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102232	NHLAPHO VV	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102235	THUKWANE MJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102236	MORAJANE CP	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102238	MASINA PP	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102239	NGWENYA HP	General Worker: Waste Collection	Community Services	Solid Waste Management	16

102242	MASEKO SJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102243	THELA SZV	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102248	JELE JW	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102261	SECHABA WB	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102333	MATHEBULA KW	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102417	NKONYANE KB	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102422	NYEMBE CM	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102423	NKOSI MJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102424	MASEKO TM	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102425	NDLOTOYI V	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102426	METHULA MP	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102428	SIBIYA PM	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102429	NKOSI JS	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102430	MAYISA GB	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102434	MADONSELA TN	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102435	NZIMANDE SH	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102436	HLOPHE NK	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102437	DLUDLU PRM	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102438	MKHONZA DJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102439	XABA JM	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102631	MAGUBANE TS	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102634	NKOSI MP	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102637	NKOSI BW	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102638	MASHILWANE JS	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102639	MBATHA MM	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102640	KUMALO ZV	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102641	GUMBI OJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102675	NKOSI SS	General Worker: Waste Collection	Community Services	Solid Waste Management	16

102678	MASEMOLA SD	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102679	MASEKO SZ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102680	MASEKO VN	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102681	KHUMALO TP	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102683	NXONGO AS	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102684	MAHLANGU VE	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102686	NDLOVU TC	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102687	LEBAEA A	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102688	MODISE L	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102689	MADONSELA MJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102690	MAYISA MD	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102772	RADEBE KA	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102774	MTHOMBENI SS	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102775	DHLAMINI LJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102777	DLUDLU BA	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102778	NDIMANDE P	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102779	MASUKU JN	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102780	MASEKO JZ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102782	SIDU DR	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102783	SHISANE SF	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102784	THWALA SV	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102785	MNGUNI RM	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102786	DHLAMINI BS	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102787	MAHLANGU DS	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102789	MALINGA P	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102790	MTSWENI ST	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102791	SITHOLE MS	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102966	MAKHANYE SB	General Worker: Waste Collection	Community Services	Solid Waste Management	16

102967	NKOSI BS.	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102969	SIMELANE SS	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102970	SIMELANE SG	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102973	RADEBE ZI	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102974	MIRA T	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102976	SINDANE SP	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102978	MKOKO EE	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102979	PHUNGWAYO MD	General Worker: Waste Collection	Community Services	Solid Waste Management	16
102982	NKAMBULE VA	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103098	ZWANE VA	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103099	MASHININI GH	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103100	MOTLOU WT	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103101	NKABINDE SD	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103102	MTSWENI AF	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103103	METHULA LT	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103104	DLAMINI SW	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103105	SHABANGU MA	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103106	YENDE SV	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103107	SHONGWE NJ	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103108	MAVIMBELA MD	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103109	FAKUDE SB	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103110	ZUMA MR	General Worker: Waste Collection	Community Services	Solid Waste Management	16
103111	MAHLANGU SA.	General Worker: Waste Collection	Community Services	Solid Waste Management	16
100467	MKHWANAZI G J	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
100541	GININDA M R	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
100599	SHABALALA M O	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
100653	ZULU M I	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
101991	MAZIBUKO MJ	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11

102127	MAHLANGU PS	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102685	NGOMANE TP	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102972	NGULUBE OB	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
100140	MASEKO M P	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
100166	TSOTETSI J M	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
100249	MATHEBULA P M	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
100602	FAKUDE S G	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
101060	HLATSWAYO M J	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
101206	QODLANA M	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
101594	SHONGWE M P	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102123	TSHAVHUNGWE MR	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102125	DLADLA EM	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102131	SHABALALA VS	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102132	KHUMALO MS	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102420	MASHILOANE ND	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102431	MASEKO MS	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102587	ZULU RM	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102588	NTLOKWANA SEM	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11
102750	MPANDE SA	Heavy Vehicle Driver: Waste Collection	Community Services	Solid Waste Management	11

APPENDIX 2 – BY-LAWS

