



Prepared for:
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RAYMOND MHLABA LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

IMPLEMENTATION PLAN

DRAFT REPORT
REVISION 00

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EXECUTIVE SUMMARY

The Department of Forestry Fisheries and the Environment (DFFE) has appointed Delta Built Environment Consultants (Delta BEC) to draft an Integrated Waste Management Plan (IWMP) for the Raymond Mhlaba Local Municipality (RMLM).

The primary objective of drafting an IWMP for the RMLM is to ensure that waste management practices in the RMLM comply with the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and all other relevant legislation.

The purpose of this report is to analyse and quantify all aspects related to current waste management services and practices carried out by the RMLM to use this information as a basis for future planning. It includes an evaluation of relevant waste management legislation, policies and strategies, a description of the population and development profiles of the Municipality, an assessment of the quantities and types of waste that are generated in the Municipality, a description of waste management services provided by the Municipality in terms of minimisation, recycling and recovery, collection, transport, transfer (where required), treatment and disposal of waste and a description of private waste management activities undertaken in the Municipality's area of jurisdiction.

The IWMP to be developed for the Raymond Mhlaba Local Municipality is developed in line with all the relevant legislation and policies (including amendments) listed below, forming the legal framework to which the IWMP must be aligned.

- The South African Constitution (Act No. 108 Of 1996)
- The National Environmental Management Act (Act No. 107 Of 1998)
- The National Environmental Management: Waste Act as amended (Act No. 59 Of 2008)
- The Hazardous Substances Act (Act No. 15 of 1973)
- The Municipal Systems Act (Act No. 32 of 2000)
- The National Waste Management Strategy (2020)
- National Domestic Waste Collection Standards, 2011
- National Waste Information Regulations, 2012
- National Norms and Standards for the Storage of Waste, 2013
- National Standards for the Extraction and Flaring of Landfill Gas, 2013
- National Waste Classification and Management System regulations (GNR 634, August 2013)
- National Norms and Standards for The Remediation of Contaminated Land and Soil Quality, 2014
- National norms and standards for organic waste composting, 2021
- Eastern Cape Integrated Waste Management Plan, 2022
- Raymond Mhlaba Local Municipality Solid Waste Disposal By-Law.

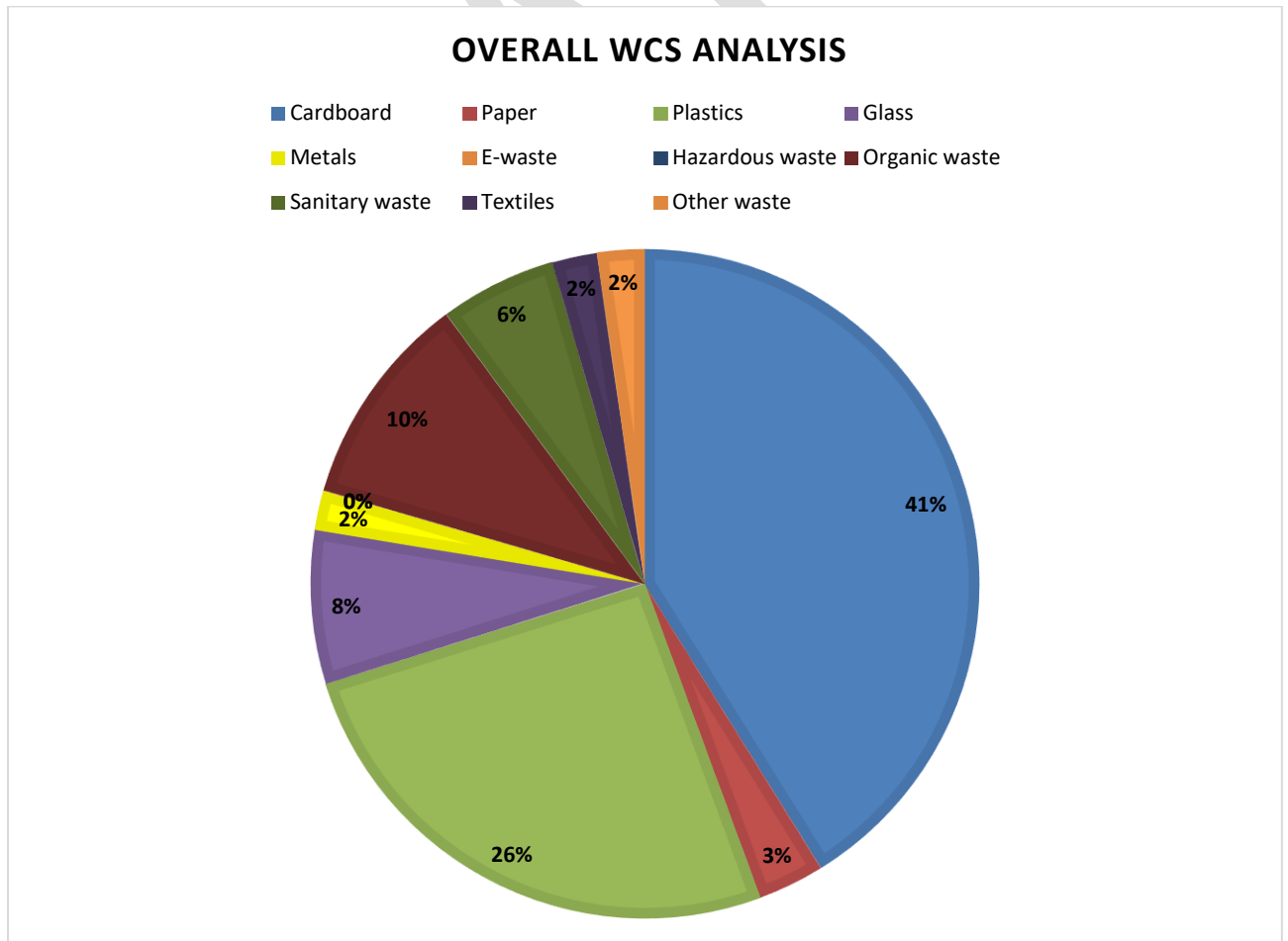
DEMOGRAPHICS

According to the latest statistics released by Statistics SA as part of the 2022 Census, the total population for the RMLM is 178 594. According to the IDP (2022), the RMLM has a large indigent population. The RMLM fully subsidises refuse removal for registered indigent

households per the municipal Indigent Policy. Provisions are made for subsidies in the annual municipal budget (IDP, 2022). 88.6% of the population of RMLM resides in formal dwellings, 8.6% of the population resides in Traditional dwellings, and 2.5% of the population resides in informal dwellings. The remaining 0.3% of the population, according to the 2022 Census data, reside in what is classified as other dwellings. The Census 2022 (Stats SA) data was used to calculate the annual growth rate for the RMLM population from 2022-2030. The annual growth rate for the RMLM was determined to be 1.6%.

WASTE TYPES

A waste characterisation study was conducted over a three-day period to identify the type of waste generated within the municipality. The waste characterisation study took place at the Alice and Bedford waste disposal sites, respectively. The municipal waste collection schedule was used to determine from what areas the waste was collected and subsequently disposed of. Waste generation is affected greatly by seasonal variation; therefore, ideally, waste analysis should be carried out at three-month intervals. It should be noted that due to cost-, time- and resource constraints, the waste categorisation study for RMLM was only conducted in one season of the year. The waste categorisation study for RMLM will be added as a future project to be implemented by the RMLM on a continuous basis in the updated IWMP. From the WCS, the conclusion can be drawn that there is high potential for plastic and cardboard diversion and recycling initiatives.



RECYCLING, TREATMENT AND DISPOSAL

During the ground truthing, Bra Recycling and Waste Management was identified as a privately owned company operating out of Kwa Maqoma. PPNG Trading was identified as a private recycling facility operating outside the town of Alice on the same property as the Alice waste disposal site. Waste is collected directly from the Alice waste disposal site. Subsequently, waste is bailed at the facility and stored until a sufficient amount of waste is available for collection from an external company. The bailed waste is sold to an external company, which transports the waste to Johannesburg (Gauteng) to be sold to recycling organisations and companies.

Disposal within the RMLM occurs at three licenced waste disposal sites, namely:

- Alice Waste Disposal Site
- Bedford Waste Disposal Site
- Middledrift Waste Disposal Site.

A waste transfer station in Kwa Maqoma is commissioned for operation within the RMLM but is currently not operational.

WASTE COLLECTION

Waste collection, transportation and disposal in the RMLM is conducted via the municipal waste collection schedule. The municipality consists of a sufficient municipal waste fleet to service the formal areas of the RMLM. Villages and outlying rural areas within the RMLM are not serviced by the municipality.

RESOURCES

To guarantee that there is continuous communication regarding the Waste Act's implementation between all three spheres of government, it is crucial that municipalities designate a waste management officer (WMO). WMO is essential to the development of its IWMP and for ensuring compliance. The Waste Act, Chapter 3, Section 10(3), mandates that WMOs be officially designated in writing by each municipality authorised to carry out waste management services. The RMLM appointed a WMO in 2024 to fulfill the duties as set out in section 10 of the NEM:WA.

BUDGET

The table below illustrates the waste management budget for the RMLM as received from RMLM.

FUNCTION SHORT DESCRIPTION	BUDGET AMOUNT
Road and Traffic Regulation	R 250 000.00
Solid Waste Removal	R 30 000.00
Police Forces, Traffic and Street Parking Control	R 200 000.00
Solid Waste Removal	R 150 000.00

FUNCTION SHORT DESCRIPTION	BUDGET AMOUNT
Fire Fighting and Protection	R 25 000.00
Solid Waste Removal	R 10 000.00
Community Halls and Facilities	R 200 000.00
Community Halls and Facilities	R 20 000.00
Solid Waste Removal	R 90 000.00
Solid Waste Removal	R 2 000 000.00
Solid Waste Removal	R 960 000.00
Fire Fighting and Protection	R 150 000.00
Community Halls and Facilities	R 20 000.00
Police Forces, Traffic and Street Parking Control	R 10 000.00
Road and Traffic Regulation	R 500 000.00
TOTAL	4 615 000.00

DESIRED END STATE

Based on the situational analysis, Delta BEC identified the gaps and needs of the municipality. Delta BEC evaluated several aspects of the waste management system, including waste diversion, collection, transfer, treatment, and disposal. The assessment highlights areas for enhancement and proposes alternative strategies to improve efficiency in each of these waste management aspects. The goals proposed are in line with the 2022 – 2027 IDP for the RMLM, the Eastern Cape IWMP and the National Waste Management Strategy (NWMS) of 2020 guidelines and three strategic pillars. The goals outlined are as follows:

- Goal 1: Waste minimisation
- Goal 2: Effective and sustainable waste services
- Goal 3: Compliance, enforcement, and awareness
- Goal 4: Sufficient institutional capacity to implement integrated waste management
- Goal 5: Improve integrated waste management future planning
- Goal 6: Effective waste information management

Each goal has multiple objectives, each with a set of actions and targets to be completed in the immediate and/or long term where applicable. These objectives serve as milestones in achieving the respective goal.

The purpose of this report is to discern, assess and recommend the preferred alternatives for the Raymond Mhlaba Local Municipality to implement in realising the goals and targets as outlined in the desired end state report. It will outline the preferred alternatives for attaining the established goals and targets, highlighting the consequences of failing to implement the alternatives.

Gaps within the waste management of the municipality were identified, and the respective needs to fill these gaps were formulated according to the information contained in the

situational analysis. Strategic goals were identified with their respective objectives to act as milestones to achieve these goals and were incorporated and aligned with the relevant documentation like the Integrated Waste Management Plan and Integrated Development Plan and with the respective legislation.

A review of the goals and targets of the RMLM lead to the identification, from best practice, of alternatives to implement to achieve the goals and targets set out in the desired end state. The goals to be achieved as part of the desired end state are in line with the 2022-2027 IDP for the RMLM and the National Waste Management Strategy (NWMS) of 2020 guidelines and its three strategic pillars.

NEXT PHASE

The next phase of this project is the Implementation phase of the IWMP. Delta BEC will identify the partnerships, legislative instruments, and economic instruments to be implemented within the RMLM to achieve the goals and targets set out in the IWMP. Partnerships will be identified to provide services and facilities during the validity period of the IWMP. The following partnerships will be identified and reflected on:

- Public-public partnerships
- Public-private partnerships
- NGO/Community Based Organisations.

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DRAFT

GLOSSARY OF TERMS AND ABBREVIATIONS

AMD	Amathole District Municipality
Delta BEC	Delta Built Environment Consultants
DFFE	Department of Forestry Fisheries & the Environment
DSI	Department of Science and Innovation
EC	Eastern Cape
IDP	Integrated Development Plan
IoT	Internet of Things
IWMP	Integrated Waste Management Plan
MRF	Material Recovery Facility
NGOs	Non-Governmental Organizations
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEMWA	National Environmental Management Waste Act (Act No. 59 of 2008)
NWMS	National Waste Management Strategy 2020
PP	Public Participation
PPP	Public Private Partnership
PRO	Producer Responsibility Organisation
POP	Persistent Organic Pollutants
REL	Rear-End-Loader
RMLM	Raymond Mhlaba Local Municipality
SAWIC	South African Waste Information Centre
SEP	Socio-Economic Profile
TS	Transfer Station
WDF	Waste Disposal Facility
WMO	Waste Management Officer
WWTP	Wastewater Treatment Plant

1 INTRODUCTION

1.1 BACKGROUND

The South African Constitution of the Republic, 1996 (Act 108 of 1996), under Chapter 2, stipulates that everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected through reasonable legislative and other measures that prevent pollution and ecological degradation.

According to the National Environmental Management Waste Act, Act No. 59 of 2008 (NEMWA), amended under section 11(4), each Municipality is obligated to submit its Integrated Waste Management Plan (IWMP) to the Provincial Member of the Executive Council (MEC) for endorsement. The plan must receive endorsement and approval from the Municipal Council, and subsequently, it should be incorporated into the Integrated Development Plan (IDP) of the Municipality.

The primary goal of the RMLM IWMP is to align its objectives, methodologies, and goals with both the Eastern Cape Provincial IWMP (2022) and the 2020 National Waste Management Strategy. This alignment ensures a coordinated and unified approach to waste management across different levels of governance.

The 2018 Waste Information Baseline report indicated that 65.2% of the general waste generated in South Africa is being landfilled, 34.5% is being recycled or recovered, and 0.1% is being treated.

1.2 PURPOSE OF REPORT

The purpose of this report is to analyse and quantify all aspects related to current waste management services and practices carried out by the RMLM with the view of using this information as a basis for future planning. It includes an evaluation of relevant waste management legislation, policies and strategies, a description of the population and development profiles of the Municipality, an assessment of the quantities and types of waste that is generated in the Municipality, a description of waste management services provided by the Municipality in terms of minimisation, recycling and recovery, collection, transport, transfer (where required), treatment and disposal of waste and a description of private waste management activities undertaken in the Municipality's area of jurisdiction.

1.3 STRUCTURE OF REPORT

The report comprises the following:

- Section 2: Approach
- Section 3: Relevant Legislation
- Section 4: Situational Analysis
- Geographical Area
 - Demographic profile

- Waste Quantities and Types
- Waste Generation Per Capita
- Future Waste Generation Rates and Quantities
- Waste Recycling, Treatment and Disposal
- Waste Collection Services
- Medical Waste Practices
- Mainstreaming Key Principles of the NWMS
- Waste Picker Integration
- Circular Economy
- Financing of Waste Management
- Section 5: Gaps and Needs Analysis
- Section 6: Identification, Evaluation and Selection of Alternatives
- Section 7: Conclusion
- Section 8: References
- Appendices

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2 APPROACH

A phased approach was used to generate the situational analysis report.

A qualitative (WCS and ground truthing) and quantitative (desktop study) research approach was used to gather and source information for the Status Quo phase of the IWMP development. A Qualitative research approach was used via a review of various documents to gather information. A quantitative approach was used to conduct the waste characterisation study to quantify and make estimates on future waste generation rates.

Site visits to various facilities were conducted during the status quo investigation phase of the project. The site visits were conducted in the week of 12 June 2023 to 15 June 2023. During the site visits, information was gathered to finalise the situational analysis report. A Waste Characterisation Study was conducted in the RMLM during the week of 31 October to 2 November 2023.

The Situational Analysis report contains the following as per the Revised Municipal Integrated Waste Management Planning Guidelines provided by the DFFE:

- Geographical Area
- Demographic profile
- Waste Quantities and Types
- Waste Generation Per Capita
- Future Waste Generation Rates and Quantities
- Waste Recycling, Treatment and Disposal
- Waste Collection Services
- Medical Waste Practices
- Mainstreaming Key Principles of the NWMS
- Waste Picker Integration
- Circular Economy
- Financing of Waste Management.

It is assumed that the information given verbally during the site visits and the documented information provided subsequently are accurate.

Gaps within the waste management of the municipality were identified, and respective needs to fill these gaps were formulated according to the information contained in the situational analysis. Strategic goals were identified with their respective objectives to act as milestones to achieve these goals and were incorporated and aligned with the relevant documentation like the IWMP and IDP and with the respective legislation.

A review of the goals and targets of the RMLM leads to the identification, from best practice, of alternatives to implement to achieve the goals and targets set out in the desired end state. The goals to be achieved as part of the desired end state are in line with the 2022-2027 IDP for the RMLM and the National Waste Management Strategy (NWMS) of 2020 guidelines and its three strategic pillars.

3 Legislative Framework

This section details the roles and responsibilities in terms of waste management at the National, Provincial, District and Municipal levels that inform and assist integrated waste management.

3.1 ROLES AND RESPONSIBILITIES

3.1.1 NATIONAL GOVERNMENT

The National Government is tasked with the establishment of a national waste management strategy, including norms, standards and targets. The national norms and standards may cover all aspects of the waste value chain, from planning to service delivery.

3.1.2 PROVINCIAL GOVERNMENT

The Provincial governments are tasked with the implementation of the National Environment Management: Waste Act (NEM:WA), Waste Management Regulation and the National Waste Management Strategy, Norms and Standards (NWMS). The Constitution requires the Provincial Government to monitor and provide support to municipalities in the province and to see to the implementation of waste-related regulations and strategies.

3.1.3 DISTRICT MUNICIPALITIES

The Municipal Structures Act (Act No. 117 of 1998) assigns a function of waste disposal to district municipalities. Not all district municipalities are fulfilling this role. However, when the need arises for a regional site, the district can perform this role.

3.1.4 LOCAL GOVERNMENT

The NEM:WA (Act 59 of 2008) requires local authorities to implement mechanisms for the provision of waste collection services, including collection, storage and disposal. Local authorities are also required to facilitate recycling and waste diversion from waste disposal sites and manage waste information appropriately.

3.2 STRATEGIC LINKAGES IN TERMS OF WASTE MANAGEMENT ON INTERNATIONAL, NATIONAL, PROVINCIAL AND LOCAL LEVEL

3.2.1 NATIONAL ACTS, REGULATIONS AND STRATEGIES

3.2.1.1 The South African Constitution (Act No. 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.
- b) Should have the environment protected for the benefit of present and future generations through reasonable legislative and other measures that:
 - i) Prevents pollution and ecological degradation.
 - ii) Promote conservation.
 - 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, e.g. IWMPs. It is within this provision that IWMPs 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.

3.2.1.2 The National Environmental Management Act (Act No. 107 of 1998)

NEMA is the cornerstone of all environmental legislation in South Africa. 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 their health or well-being. NEMA places sustainable development at the centre of every development process that has the potential to have an impact on social, economic and environmental matters, 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.

3.2.1.3 The Hazardous Substances Act (Act No. 15 of 1973)

This act and its regulations provide for the control of substances which may cause injury or ill-health to or death of human beings due to their toxic, corrosive, irritant, strongly sensitising or flammable nature, the division of such substances or products into groups in relation to the degree of danger, to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification and disposal of such substances and products.

3.2.1.4 The National Environmental Management: Waste Act (Act No. 59 of 2008)

The first waste-specific legislation published in South Africa was the National Environmental Management: Waste Act (NEM:WA). It provided the mechanism to regulate the waste value chain, aiming to minimise adverse effects on human health and the environment. The National Department of Environmental Affairs (DEA) is the regulatory body for the licensing of Hazardous Waste Facilities, according to NEM:WA's Chapter 5. In addition, the management of hazardous waste is included in the concurrent legislative competence of both the National and

Provincial Governments assigned by the South African Constitution with respect to environment and pollution control.

3.2.1.5 The National Environmental Management: Waste Amendment Act, 2014 (Act No. 26 of 2014)

On 02 June 2014, an amendment of Section 1 of the NEM:WA, as amended by the National Environmental Management: Waste Amendment Act (NEM:WA), was enacted whereby Schedule 3: Defined Wastes was inserted. The purpose of Schedule 3 is to define all types of waste and categorise them to assist with the identification of wastes. This schedule is divided into Category A: Hazardous Waste and Category B: General Waste. Schedule 3, Category A defines Hazardous Waste as follows:

“Hazardous waste’ means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment and includes hazardous substances, materials or objects within business waste, residue deposits and residue stockpiles.’

3.2.1.6 The National Water Act (Act 36 of 1998)

The National Water Act, Act 360 of 1998 (NWA), regulates pollution's effects on surface and ground water. Polluters are required by the Act to take reasonable steps to limit the quantity of pollutants that contaminate water sources. Licences for the usage of water are also covered. These are required, among other things, for users that release water containing waste into a water resource. To the degree that it pertains to waste management, the IWMP will consider the NWA's requirements.

3.2.1.7 The Municipal Systems Act (Act No. 32 of 2000)

This act provides for an appropriate division of functions and powers between categories of municipalities, which include solid waste disposal sites, in so far as it relates to:

- a) The determination of waste disposal strategy.
- b) The regulation of waste disposal.
- c) The establishment, operation and control of waste disposal sites, bulk waste transfer facilities and waste disposal facilities for more than one local municipality in the district.

3.2.1.8 The National Waste Management Strategy (NWMS 2020)

Gazetted by DFFE in 2020, aims at giving effect to the objects of the Waste Act. Municipalities are required to align their IWMPs to the NWMS targets where possible to contribute to the attainment of the goals and targets set in the NWMS.

3.2.1.9 National Norms and Standards for Waste Classification and Management Regulations (GNR 634, August 2013)

These regulations support and implement the provisions of the NEM:WA and, amongst others, establish a procedure and mechanism for listing waste management activities that do not require a Waste Management Licence. It also states that waste must be classified according to the South African National Standard Globally Harmonized System of Classification and Labelling of Chemicals (SANS 10234:2008). SANS 10234:2008 is a standard that classifies waste according to the physical and health hazards specific substances could potentially pose (including hazards to the aquatic environment).

GNR. 634 also talks about the requirements for disposal, record keeping and reclassification. For example, it states that:

'Waste must be classified within 180 days of generation and should be re-used, recycled, recovered, treated and/or disposed of within 18 months of generation.'

3.2.1.10 National Domestic Waste Collection Standards (2011)

This legislation provides comprehensive guidelines for efficient and safe waste collection at the household level. It outlines protocols for waste segregation, collection methods, and appropriate handling practices, aiming to promote sustainability and reduce environmental impact.

3.2.1.11 National Waste Information Regulations (2012)

These regulations are designed to facilitate the collection, management, and dissemination of crucial waste-related data. They establish frameworks for the systematic gathering and reporting of information essential for effective waste planning, policy development, and monitoring of waste management practices.

3.2.1.12 National Norms and Standards for the Storage of Waste (2013)

Focused on safe waste management practices, these norms and standards set guidelines for proper storage methods. They define requirements for the safe containment, labelling, and handling of various types of waste, ensuring compliance with safety and environmental protocols.

3.2.1.13 National Standards for the Extraction and Flaring of Landfill Gas (2013)

This legislation concentrates on mitigating environmental hazards associated with landfill sites. It establishes regulations and procedures for the extraction and controlled burning (flaring) of landfill gas to minimize its impact on the environment, including reducing greenhouse gas emissions.

3.2.1.14 National Norms and Standards for the remediation of contaminated land and soil quality (2014)

This regulatory framework is designed to manage and restore polluted or contaminated land areas while safeguarding soil quality. This legislation outlines detailed guidelines for the identification, assessment, and remediation of contaminated sites, offering methodologies to assess the nature and extent of contamination, gauge associated risks, and establish effective cleanup strategies. Simultaneously, it sets standards for maintaining soil health, encompassing criteria for vital soil attributes like fertility, structure, pH levels, and contamination thresholds. By emphasizing stringent protocols and remediation practices, this legislation ensures the protection of human health, ecosystems, and environmental resources, aiming for the effective management and restoration of contaminated land and the maintenance of soil quality throughout South Africa.

3.2.1.15 National Norms and Standards for Standards for Composting (2021)

Addressing organic waste management, these standards set guidelines for safe and effective composting practices. They establish parameters for the composting process, including input materials, processing methods, and quality criteria for the resulting compost, promoting sustainable organic waste recycling.

3.2.1.16 National Norms and Standards for the Sorting, Shredding, Grinding, Crushing, Screening, Chipping and Bailing of general Waste (GN 1093 of 2017)

The norms and standards were developed to reduce the licencing requirements for low impact waste management activities. All facilities that engage in activities that sort, crush, grind, screen and bale general waste are required to adhere to the norms and standards. All facilities that engage in the above mentioned activities must register with the relevant provincial authority. Facilities that exceed 1000 square meters in operational area are required to comply with the norms and standards.

3.2.1.17 Eastern Cape Provincial IWMP

The Eastern Cape Provincial IWMP (2022) serves as a guideline for District and Local Municipalities to satisfy the need for a coherent plan to address the waste management shortfall within the province and to encourage the improvement of the waste management system in all applicable areas. The Eastern Cape Provincial IWMP (2022) together with Local IWMPs serve as a tool to analyse and optimize the current waste management systems within the Eastern Cape Province.

3.2.2 LOCAL LEGISLATION

3.2.2.1 Raymond Mhlaba Local Municipality Solid Waste Disposal By-Law

By-law published in Provincial Gazette number 4184 dated 11 February 2019:

The purpose of the solid waste disposal by-law of the RMLM is to promote the achievement of a safe and healthy environment for the benefit of the residents within the area of jurisdiction of the municipality and to provide for procedures, methods and practices to promote waste management activities such as, but not limited to, the dumping of waste and the management of solid waste disposal sites. The municipality has appointed nine (9) peace officers who are responsible for the enforcement of these by-laws.

DUTIES AND POWERS OF THE MUNICIPALITY

- 1) The municipality, as the primary service provider in the municipal area, has a duty to the local community to progressively ensure efficient, affordable, economical and sustainable access to waste management services in its area or a part of its area.
- 2) This duty is subject to - (a) the duty of members of the local community as users of the municipality's waste management services or any other person making use of the municipality's waste management services to pay for the provision of the services, the prescribed charges, which must be priced in accordance with any nationally prescribed norms and standards for rates and tariffs; and (b) the right of the municipality to differentiate between geographical areas when providing types of waste management services, without compromising on service equity in line with the Constitution.
- 3) The municipality must, as far as is reasonably possible and subject to the provisions of this by-law, provide, at a cost to users of the services prescribed by the municipality – (a) for the collection of waste on a regular basis, except waste in its area, which is so situated that the cost of collecting it would be unreasonably high; and (b) access to facilities for the recovery and disposal of waste.

COMPULSORY USE OF SERVICE

- 1) No one except the municipality or a person authorised by the municipality may remove any refuse from any premises or dispose thereof.
- 2) Each owner of premises must, where a service is rendered, make use of the service provided by the municipality for the removal or disposal of refuse in respect of refuse originating from such premises.
- 3) The tariff, as fixed by the municipality, is payable to the municipality by the owner, irrespective of whether the service is being used or not.
- 4) The provisions of this section do not apply to an owner of residential premises who occasionally wishes to dispose of garden refuse generated on such premises.

WASTE DISPOSAL SITES

The municipality may establish and control a disposal site or may appoint agents or may contract some other person or body to control, manage and operate a disposal site on behalf of the municipality in accordance with the provisions of this by-law and the provisions of any other legislation that may be applicable.

Only a person wishing to dump waste who has paid the prescribed fees or who is in possession of written permission issued by the municipality which permits him

or her to dump such waste at a disposal site and a person who has obtained the written consent of the municipality to recycle any materials or objects on such a site is entitled to enter the disposal site or to be on the site.

A person who wishes to dump waste at a disposal site must off-load such waste at such a place within the borders of the disposal site and in such a manner as the attendant may direct.

The municipality may:

- a) set aside any part of a disposal site where only waste of a particular kind may be dumped or deposited;
- b) limit the type or size of vehicle from which waste may be dumped or deposited at any disposal site;
- c) limit the quantity of waste in general or the quantity of a particular type of waste which may be dumped or deposited at any disposal site; and
- d) determine the days and hours during which dumping may take place at any disposal site.

WASTE BIN PROVISION

The municipality may provide waste bins or, alternatively, plastic bags for the disposal of waste generated on-premises and authorise the use of bins and lids constructed of rubber or other material where the design and construction have been approved by the municipality. The municipality may prescribe special waste bins for the reception and storage of such types of waste as the municipality may specify and may, by written notice on the owner of premises, require the owner to provide at his/her own expense such number of special waste bins as are specified in the notice.

LOCATION OF WASTE BINS

The owner of the premises must provide adequate space on the premises where a waste bin or other receptacle for the purpose of depositing waste or a specific category of waste is kept, and the space must:

- comply with requirements imposed by the municipality by notice to the owner;
- where applicable, be constructed in accordance with the requirements of any applicable building regulations and be so located that the waste bin or receptacle is not visible from a street or public place;
- where applicable, be so located as to permit convenient access to and egress from such place for a waste collection vehicle; and
- be in a location convenient for the use by users or occupants of the premises to discourage littering or the unhealthy accumulation of waste.

COLLECTION OF WASTE

The municipality may indicate a position within or outside the premises where waste bins must be placed for the collection and removal thereof and may require certain kinds of waste, such as garden waste, to be bundled or packaged and be placed in that position at the times and for a period as the municipality may require.

The municipality will, on removal days, collect only waste placed in waste bins or other containers approved by it or which is bundled or packaged in a manner approved by the municipality. Where a particular kind of waste, as stipulated by the municipality, is not collected by the municipality from premises, the owner of the waste must arrange for the collection and transport of the waste as often as may be necessary to prevent undue accumulation or any nuisance arising therefrom to a waste disposal or processing site under the control of the municipality, or to such other place as may be approved by the municipality. The municipality may decide on separate times on which particular categories of waste are to be collected. In the event of any additional collection being required by the owner of the premises, the additional collection will be subject to the approval of the municipality, and each additional collection must be paid for by the owner of the premises from which the waste is collected at the tariff prescribed by the municipality.

DUMPING AND LITTERING

No person may, unless authorised by law to do so, dump, accumulate, place, deposit or leave any waste whatsoever, whether for gain or otherwise, or cause or allow to be dumped, accumulated, placed, deposited or left such waste on or in:

- any road, highway, street, lane, public footway or pavement or any road verge;
- any commonage land, village green, park, recreation ground or other open space to which the public has access;
- any drain, watercourse, flood-prone areas, tidal or other water in or abutting on any such road, highway, street, lane, public footway or pavement, roadside or other open space to which the public has access;
- private or municipal land.

Should a person do any of the acts contemplated above, the municipality may, by written notice, require any of the following persons to dispose of, destroy or remove the waste within the period stated in the notice:

- the person directly or indirectly responsible for dumping, accumulating, placing, depositing, or leaving the waste;
- the owner of the waste, whether or not he is responsible for dumping, accumulating, placing, depositing, or leaving the waste; or
- the owner of the premises on which the waste was dumped, accumulated, placed, deposited or left, whether or not he/she is responsible therefore.

If a person fails to comply with the requirements of a written notice, the municipality may dispose of, destroy or remove the waste and may recover the cost of doing so from the person or persons to whom the notice was issued.

BURNING OF WASTE

No person may burn waste without the written approval of the municipality.

3.2.3 INTERNATIONAL TREATIES

The following list of international treaties will be considered:

- Basel Convention
- Rotterdam Convention
- Stockholm Convention
- Minamata Convention
- Montreal Potocol

3.2.3.1 The Basel Convention

The Basel Convention (1989) is a global agreement which seeks to address the transboundary movement of hazardous waste. It also aims to ensure that strict controls are in place when any transboundary movement and disposal of hazardous waste does occur and ensures that it is undertaken in an environmentally sound and responsible manner.

The Basel Convention, held on 22 March 1989, came into effect in May 1992 after ratification by the prerequisite number of countries. South Africa ratified the Convention in 1994, with the Department of Environmental Affairs (DEA) being the focal point for the Convention. Whilst South Africa subsequently acceded to this Convention, no legislation was passed at the time to give effect to it. The second Basel Convention, held on 08 October 2005, set standards for the control of transboundary movements of hazardous wastes and their disposal, setting out the categorisation of hazardous wastes and the policies for their disposal between member countries. South Africa accedes to this Convention and implements its provisions.

The main objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes. The Convention specifically aims to reduce hazardous waste generation, promote environmentally sound management of hazardous wastes, restrict transboundary movements of hazardous wastes and provide a regulatory system which applies to cases where transboundary movement of hazardous waste is permissible (United Nations Environment Programme, 2020).

3.2.3.2 The Rotterdam Convention

The Rotterdam Convention promotes and enforces transparency in the importation of hazardous chemicals, and whilst it explicitly excludes waste, its implementation may lead to bans on listed chemicals. Some of these chemicals may occur in stockpiles of obsolete chemicals, such as pesticides that have been identified as a major waste management challenge. Extended producer responsibility schemes will be used to manage obsolete chemicals effectively (United Nations Environment Programme, 2020).

3.2.3.3 The Stockholm Convention

In 1995, the United Nations Environment Programme called for global action to be taken on persistent organic pollutants (POPs), which pose a threat to both health and the environment. As a result, the negotiations for the Stockholm Convention on POPs were initiated and culminated in May 2001, with the Convention enforced in May 2004. South Africa accedes to this Convention, whereby member countries have agreed to phase out POPs and prevent their import or export. It imposes restrictions on the handling of all intentionally produced POPs. Parties to the Convention are also required to undertake the following responsibilities (United Nations Environment Programme, 2020):

- Develop and implement appropriate strategies to identify stockpiles, products and articles in se that contain or are contaminated with POPs.
- Manage stockpiles and wastes in an environmentally sound manner.
- Dispose of waste in a way that destroys or irreversibly transforms POP content.
- Prohibit recycling, recovery, reclamation, direct re-use or alternative use of POPs.
- Endeavour to develop strategies to identify contaminated sites and perform eventual remediation in an environmentally sound manner.

3.2.3.4 Minamata Convention

The goal of the Minamata Convention on Mercury is to protect the environment and public health from the adverse impacts of mercury. The Convention raises awareness of a widespread and ubiquitous metal that is emitted into the atmosphere, soil, and water from a number of sources and is used extensively in commonplace items despite being a naturally occurring metal. One of the primary influences on the duties under the Convention has been the control of anthropogenic discharges of mercury throughout its entire lifespan.

Each party is tasked under Article 18 of the convention with encouraging and facilitating the raising of public knowledge regarding the effects of mercury and mercury compounds on human health and the environment. Additionally, each party is required to work with pertinent non-governmental and intergovernmental organizations, as well as vulnerable populations, to concentrate on public awareness, education, and training regarding the impacts of exposure to mercury and mercury compounds on the environment and human health. It also discusses substitutes for mercury and its compounds that the chemical sector and government can implement.

3.2.3.5 Montreal Protocol

In order to lessen the amount of ozone depleting compounds in the atmosphere and safeguard the planet's delicate ozone layer, the protocol was created to limit their production and usage. According to Article 9(2), parties should cooperate in raising public knowledge of the environmental implications of the emissions of

restricted chemicals and other compounds that deplete the ozone layer, either singly, jointly, or through appropriate international bodies.

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4 SITUATIONAL ANALYSIS

The objectives of the situational analysis were to analyse and quantify all aspects related to current waste management services and practices carried out by the Raymond Mhlaba Local Municipality (RMLM) with the view of using this information as a basis for future planning.

4.1 GEOGRAPHICAL AREA

The RMLM is situated within the Amathole District Municipality in the Eastern Cape province and is categorised as a Category B municipality. The Amathole District Municipality comprises six (6) local municipalities, of which the RMLM is the largest, making up a third of the district municipality's geographical area. The RMLM is situated around 140 km North West of East London on the R63 and 200 km North East of Gqeberha (Port Elizabeth). RMLM borders the Amahlathi Local Municipality to the East and the Ngqushwa Local Municipality to the South-East.

The RMLM was established in 2016 by the merger of the Nkonkobe and Nxuba Local Municipalities. The RMLM is a rural municipality situated along the Winterberg (intaba zeNkonkobe) mountain range. The rural hinterland forms part of the municipal area. The main economic activity of the RMLM is driven by the agricultural sector, which takes place in rural areas and includes citrus, forestry and crop production. The citrus industry fulfils a great economic role, and it is one of the largest employers within the municipality. The RMLM covers an area of approximately 6 357 km². The main towns in the RMLM are Adelaide, Alice, Bedford, Kwa Maqoma, Hogsback, Middledrift and Seymore.

According to the latest publication by Statistics South Africa (2022), the Raymond Mhlaba Local Municipality's population grew from 151 379 in 2011 to 178 594 in 2022. 88.6% of the population reside in formal dwellings, with the majority of the urbanisation being concentrated in the towns of Middledrift, Alice, Kwa Maqoma, Adelaide and Bedford. The remaining 11.4% reside in traditional and informal dwellings.

The majority of the population within the RMLM is between the ages of 15 to 64, making up 65.3% of the population. 29.2% of the population is under the age of 15, and the remainder of the population is over the age of 65.



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Figure 4-1: Raymond Mhlaba Local Municipality as located in Amathole District Municipality (www.municipalities.co.za)

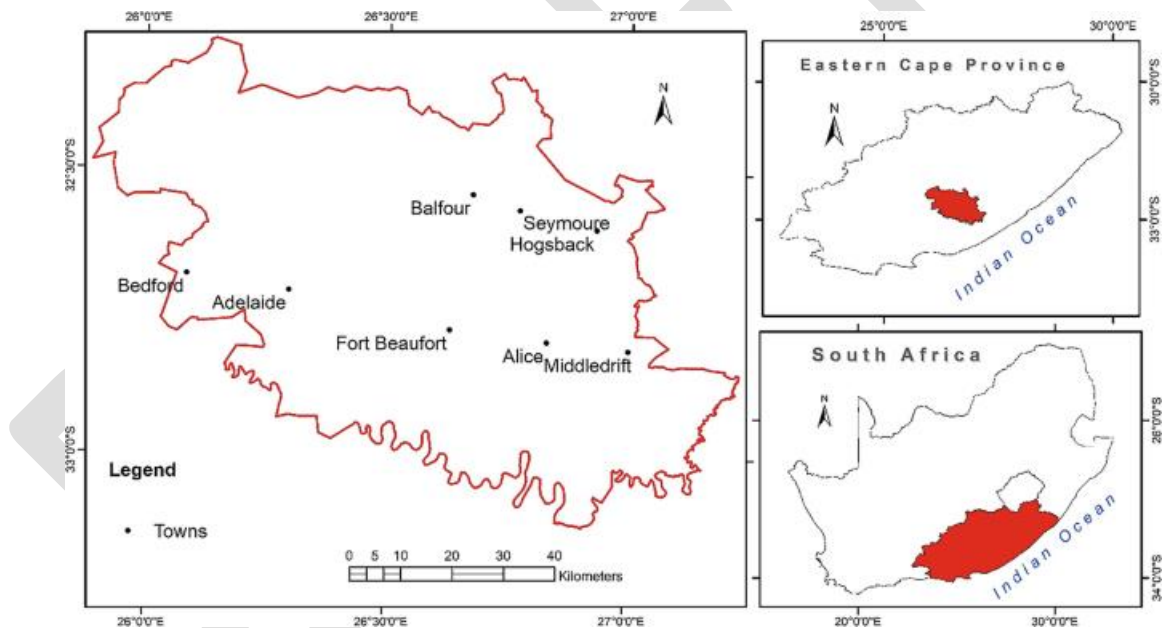


Figure 4-2 Raymond Mhlaba Local Municipality overview map

4.1.1 MUNICIPAL WARDS

The RMLM comprises 23 wards, with each ward comprising respective villages; the population of these villages are mostly indigent. Table 4-1 below indicates the wards within the RMLM and the villages making up the respective wards.

Table 4-1: RMLM Municipal Wards

WARD	VILLAGES
1	Qamdobowa, Zigodlo, Ndindwa, Mgxotyeni, Kulile, Mnqaba, Xhukwane, Ssekwen, Koloni.
2	Ntsela, Upper & Lower Gqmanshe, Skhutshwane.
3	Takalani, Kanana, Mpolo 1-2-3, Nkukwini, Tyoks Valley, Ntlekisa, Tambo Square.
4	Seymour, Katkat Valley, Lushington, Lundini/Elukhanysweni, Hogsbag, Hertzog/Tambuksvlei, Platform.
5	Ngobe, Ngwabeni, Gaga Sikolweni; Kwameva, Mgquba, Lenge, Nkobonkobo, Mavuso. Roxeni, Nomaqamba, Sgingqini, Lalini, Skolweni, Memela.
6	Tukulu Farm, Guburha, Golf Course, Happy Rest, Town Central, Hillcrest.
7	Rwantsane, Nobhanda, Mabheleni, Larnyeni, Ngwevu, Tyatyora, Luzini, Sikolweni, Mdeni, Cimezile, Tebha, Gontsana, Oakdene, Mankazana, Pikat, Ntilini.
8	Kwa Maqoma Town, Newtown, Rietsfontein, Sparkington, Smithkraal, Wagondrift, Kluklu Farm.
9	Balfour, Buxton, Upper Blinkwater, Glenthon, Winterberg Country Club. Post Retief, Ekuphurnleni, Massdor, Jurieshoek, Katberg, Readsdales, Blackwood, Philipton, Fairbain, Kolomani (Marais, Grafton, Ngqikane, Votyiwe, Phathikala, Edika, Dunedin, Cains, Diphala).
10	Comoro, Machibi, Mpundu, Gilton, Guquka, Sompondo, Khayaletu, Hala, Nothemba, Hopefield, Benfield, Gato, Mathole, Komkhulu, Ngwangwene, Mkhuthuleni, Mdeni, Esphingweni, Machibini, Mqayise, Ndlovurha, Zixinene, Chamama, Mdlankomo.
11	University of Fort Hare.
12	Msobomvu, Magala, Ngcothoyi, Bergplaas, Melani, Krwakrwa, Upper Ncera, Majwareni; Khwezana, Mazotweni, Macfalani, Wordon, Dish, Mkhobeni, Taylor.
13	Zalaze, Quthubeni, Fama, Ngcabasa, Ngqolowa, Qhomfo, Didikana, Phewuleni, Qhibira, Ndulwini.
14	Saki, Ngwenya, Njwaxa, Mbizana, Gxadushe, Debe Marele, Faki, Mxumbu.
15	Lower Ncera, Tyhali, Zibi, Mabheleni, Tyutyuza, Ngqele 1, Ngqele 2, Ncera Skweyiya, Dyamala.
16	Annshaw, Town/Gugulethu, Lower Regu, Mfiki, Cwaru, Qawukeni, Cilidara, Ngele, Nothenga, Gudwini.
17	Qanda, Trust 1&2. Koloni, Farm Bill, Thafeni, Nonaliti, Debenek, Zihlaheni, Mayiphase, Ntonga.
18	Joji, Loyd, Phumlani, Khayamnandi, Thembisa, Xolani, Gxweder, Balura, Lalini, Eskolweni, Kwali, Mpozisa, Lower Sheshieguo Nofingxana, Nomtayi, Lokhwe, Jowu, Jimi, Korks Farm, Krwanyini, Kwezana West.
19	Gontsi, Dudu, Gommagomma, Zwelitsha, Nkukwini, Mike Valley, Kuwait, Group 5, Zwide, Daweti 1&2.
20	Hillside, Golf Course, Ndaba, Kwepile, Ntoleni, Mlalandle.

WARD	VILLAGES
21	Red Location, Lingelethu, Adelaide Town, Mount Pleasant, and Molweni Game Reserve.
22	Bezville, New Area, Gelvandale, Springgrove, Elandsdrift, Red Location.
23	Goodwin Park, Nonzwakazi. Bhongweni, Bedford Town, Phola Park, New Brighton, Khayelitsha, Ndlovini. Sizakhele and Tyoksville.

4.2 DEMOGRAPHIC PROFILE

4.2.1 POPULATION PROFILE

According to the latest statistics released by Statistics SA as part of the 2022 Census, the total population for the RMLM is 178 594. According to the IDP (2022), the RMLM has a large indigent population. The RMLM fully subsidises refuse removal for registered indigent households per the municipal Indigent Policy. Provisions are made for subsidies in the annual municipal budget (IDP, 2022). 88.6% of the population of RMLM resides in formal dwellings, 8.6% of the population resides in Traditional dwellings, and 2.5% of the population resides in informal dwellings. The remaining 0.3% of the population, according to the 2022 Census data, reside in what is classified as other dwellings.

The Census 2022 (Stats SA) data was used to calculate the annual growth rate for the RMLM population from 2022-2030. The annual growth rate for the RMLM was determined to be 1.6%. The average annual growth rate was used to extrapolate the total population for 2022-2030 in Table 4-2 below.

$$GR = \frac{(V_{present} - V_{past})}{V_{past}} \times \frac{100}{N}$$

Equation 4-1: Formula to calculate population growth rate

Where:

- GR- Growth rate
- V_{present} – Current population
- V_{past}- Previous population
- N- Number of years.

Table 4-2: Population estimate of RMLM (2022-2030)

YEAR	TOTAL POPULATION
2022	178 594
2023	181 513
2024	184 479
2025	187 495
2026	190 559
2027	193 673

YEAR	TOTAL POPULATION
2028	196 839
2029	200 056
2030	203 325

Table 4-3 illustrates the population distribution per racial classification of the RMLM (Stats SA, 2022).

Table 4-3: Population distribution of RMLM per race

RACE	TOTAL (2022)	PERCENTAGE (%)
African	156 884	87.9%
Coloured	15 437	8.6%
White	4 234	2.4%
Asian/Indian	592	0.3%
Other	1 360	0.8%

4.2.2 SOCIO-ECONOMIC GROUPS AND INCOME DISTRIBUTION

4.2.2.1 Age Distribution

Table 4-4 illustrates the population distribution of the RMLM per the Census 2022 (Stats SA, 2022). From the table below, it is evident that the population group 25-44 comprises the majority of the population, with 27.4% of the population. The second largest population group per age category is 0-14, with 25.9% of the population, followed by the third largest population group 45-64, with 20.7%. The smallest population category is for those aged 65 and older, comprising 9.9% of the total population.

Table 4-4: Population distribution per age category

POPULATION CATEGORY	TOTAL (2022)	PERCENTAGE (2022)
Population 0-14	46 288	25.9%
Population 15-24	28 643	16.0%
Population 25-44	48 920	27.4%
Population 45-64	37 048	20.7%
Population 65+	17 695	9.9%

4.2.2.2 Household size

According to the Census 2022 data (Stats SA), the RMLM in 2011 had a total of 42 065 households, and in 2022, had a total of 53 047 households. Utilising the data, the annual growth rate for the households was determined by using Equation 4-2. The average household size of the RMLM in 2011 was 3.6; this slightly decreased to an average household size of 3.4 in 2022.

$$GR = \frac{(V_{present} - V_{past})}{V_{past}} \times \frac{100}{N}$$

Equation 4-2: Formula to calculate household growth rate

Table 4-5 displays a projection of the annual growth in the number of households from 2022 to 2030 by using the average annual growth rate of 2.4%.

Table 4-5: Projected total households (2022-2030)

YEAR	NUMBER OF HOUSEHOLDS
2022	53 047
2023	54 320
2024	55 624
2025	56 959
2026	58 326
2027	59 726
2028	61 159
2029	62 627
2030	64 130

The table below illustrates the racial household distribution for the Raymond Mhlaba Local Municipality in 2020. The 2022 Census did not include data on household distribution per racial category; therefore, the 2020 data from the IHS Markit Regional eXplorer was used.

Table 4-6: Household distribution per race (Source: IHS Markit Regional eXplorer version 2103: 2020)

RACE	TOTAL HOUSEHOLDS
African	39 576
White	884
Coloured	2664
Asian	161
Total	43 285

4.2.2.3 Income Distribution

The table below illustrates the income distribution per household income group for the RMLM as of 2020. The 2020 household income distribution data was used to calculate the total households per income category for 2023. An average household growth rate of 1.6% was used to calculate the number of households per income category.

Table 4-7: Total households per income category (IHS Markit Regional eXplorer version 2103: 2020)

HOUSEHOLD INCOME CATEGORY (R)	TOTAL HOUSEHOLD IN CATEGORY (2020)	TOTAL HOUSEHOLD IN CATEGORY (2023)
R 0 – R2 400	4	5
R2 400 - R6 000	91	112
R6 000 – R12 000	960	1 184
R12 000 – R18 000	1900	2 343
R18 000 -R 30 000	5 480	6 759
R30 000 – R42 000	5 880	7 252
R42 000 – R54 000	5 180	6 389
R54 000 -R72 000	5 180	6 389
R72 000 – R96 000	4 340	5 353
R96 000 – R132 000	4 100	5 057
R132 000 – R192 000	3 520	4 341
R192 000 -R 360 000	3 750	4 625
R360 000 -R600 000	1900	2 343
R600 000 – R 1 200 000	1 290	1 591
R1 200 000 – R2 400 000	414	511
R2 400 000 +	53	65
Total	44 042	54 320

The 2020 household income distribution data was used to calculate the total number of households per income category for 2023.

Table 4-8: Number of households per income group

INCOME GROUP	TOTAL HOUSEHOLDS (2020)	HOUSEHOLD PERCENTAGE	TOTAL HOUSEHOLDS (2023)
Low Income (R0 – R54 000)	24 675	56%	30 433
Middle Income (R54 000 - R 360 000)	17 610	40%	21 720
High Income (R360 000 – R2 400 000+)	1757	4%	2 167
Total	44 042	100%	54 320

4.2.3 EMPLOYMENT STATUS AND EDUCATION LEVELS

4.2.3.1 Employment Status

A total number of 27 780 people within RMLM were employed in 2020. The number of formally employable people amounts to 75.24% of the employment. The informal sector employment accounted for 24.76% of total employment

opportunities in the RMLM, indicating an increase in the informal sector employment total from 5 630 in 2010 to roughly 6 880 in 2020 (IDP, 2022). The Census 2022 data did not include the employment status of the municipality; therefore, the data from the municipal IDP was utilised.

Table 4-9: Formal versus Informal employment in RMLM

EMPLOYMENT TYPE	TOTAL (2020)	PERCENTAGE
Formal Employment	20 900	75.24%
Informal Employment	6 880	24.76%
Employment (Total)	27 780	100%

Table 4-10 illustrates the number of employed and unemployed people of the working age population within the RMLM. The Census 2022 data did not include the employment status of the municipality; therefore, the data from the municipal IDP (2022) was utilised.

Table 4-10: Employment status of RMLM

EMPLOYMENT STATUS	TOTAL (2020)
Employed	27 780
Unemployed	27 000
Total	54 780

Unemployment entails persons between the ages of 15 and 65 who are not working but who are actively seeking employment. It must be noted that the data excludes those people who are not actively seeking work. As of 2020, the total amount of unemployed people in the RMLM was 27 000, indicating an increase of 12 300 from 2010 (IDP, 2022). The RMLM experiences an average annual unemployment growth rate of 6.27%.

4.2.3.2 Education Levels

Table 4-11 illustrates the education levels and the number of people belonging to a specific educational group as per Census 2022 of the RMLM (Stats SA).

Table 4-11: Education level in RMLM

LEVELS OF EDUCATION	TOTAL
No schooling	4 994
Some Primary	14 752
Completed Primary	7 315
Some Secondary	43 961
Grade 12/Std 10	27 734
Higher Education	9 429
Other	344

4.2.4 ECONOMIC PERFORMANCE

4.2.4.1 Gross Domestic Product

The Gross Domestic Product (GDP) for the RMLM for the year 2020 was R10.1 billion, contributing 18.6% of the total GDP for the Amatole District Municipality, which generated a total GDP of R54.2 billion in 2020. The overall GDP performance for the RMLM in 2020 ranked the municipality in third place for overall GDP contribution for the Amatole District Municipality (IHS Markit Regional eXplorer version 2103, 2020).

The expected economic growth for the RMLM for the period 2020-2025 will be at an average annual rate of 0.17%, in comparison to the high average annual growth rate of the Amatole District Municipality with a rate of 2.49% and the average annual growth rate of the Eastern Cape Province at 1.96% (IDP, 2022). The GDP for the RMLM was not included in the Census 2022 data. Therefore, the IDP data was used.

Table 4-12 illustrates the GDP percentage for the RMLM, the Amatole district municipality and the Eastern Cape for the period 2010-2020.

Table 4-12: GDP for RMLM, ADM & EC 2010-2020 (IHS Markit Regional eXplorer 2020)

YEAR	RAYMOND MHLABA LM	AMATOLE DM	EASTERN CAPE
2010	3.3%	1.6%	2.4%
2011	4.8%	4.4%	3.7%
2012	8.1%	6.0%	2.0%
2013	6.4%	6.6%	1.4%
2014	4.0%	5.6%	1.3%
2015	3.6%	5.1%	0.8%
2016	4.9%	6.6%	0.7%
2017	13.2%	8.4%	0.6%
2018	13.5%	9.2%	0.6%
2019	-1.4%	5.5%	0.0%
2020	-9.8%	-5.7%	-6.8%
Average annual growth rate (2010-2020)	4.52%	5.10%	0.39%

4.2.5 DEVELOPMENT PROFILES

4.2.5.1 Access to Housing

According to the *IHS Markit Regional eXplorer version 2103 (2020)*, the RMLM comprises the following types of households:

- Formal dwellings: structures built according to approved plans, e.g. houses on a separate stand, flats or apartments, townhouses, rooms in backyards that also may or may not have running water and flushing toilets within the dwelling.
- Informal dwellings: shacks or shanties in informal settlements, serviced stands, or proclaimed townships, as well as shacks in backyards of other dwelling types.
- Traditional dwellings: structures made of clay, mud, reeds, or other locally available material.
- Other dwellings: tents, ships, caravans, etc.

Table 4-13 presents the number of households per dwelling type of the RMLM according to the Census 2022 data (Stats SA). A total number of 46 990 households reside in formal dwellings, 1 339 households reside in informal dwellings, 4 549 households reside in traditional dwellings, and 170 households reside in other dwellings.

Table 4-13: Access to housing by household living conditions in RMLM

DWELLING TYPE	NUMBER OF HOUSEHOLDS
Formal	46 990
Informal	1 339
Traditional	4 549
Other	170
Total	53 048

4.2.5.2 Access to Basic Waste Removal Services

The table below indicates the levels of waste services provided by the RMLM according to the Census conducted in 2022 by Stats SA. 25 808 households of the RMLM receive weekly waste removal services.

Table 4-14: Refuse disposal by type in RMLM

REFUSE DISPOSAL TYPE IN RMLM	NUMBER OF HOUSEHOLDS
Weekly removal	25 808
Removed less than weekly	327
Communal refuse dump	478
Communal container/central collection point	1 164
Own refuse dump	21 600
No waste disposal	3 099
Other	572
TOTAL	53 048

4.3 WASTE QUANTITIES AND TYPES

The table below illustrates the typical types of waste generated in RMLM.

Table 4-15: Types of waste generated in the Raymond Mhlaba Local Municipality

CATEGORIES	DESCRIPTION	MANAGEMENT
General waste	<p>Domestic general waste:</p> <p>Disposable materials generated by households. This waste usually contains recyclable materials and non-recyclables. Non-recyclables were referred to as the fraction of waste disposed of at the landfill site after household separation. This includes the following:</p> <ul style="list-style-type: none"> • Food waste • Food-tainted items (such as used paper plates or boxes, paper towels, or paper napkins) • Ceramics and kitchenware • Household Medicine boxes • Paper and cardboard • Polystyrene • Metals (tins & cans) • Cleaning chemical containers • Plastic toys or sporting goods equipment • Ash, etc. 	<p>The management of general waste is undertaken by the Raymond Mhlaba Local Municipality through the means of waste management service provision in formal/urbanised areas.</p>
	<p>Business general waste:</p> <p>Business general waste includes all waste produced by supermarkets and businesses that is non-hazardous. This waste usually contains high quantities of recyclable materials such as cardboard and plastic packaging.</p>	<p>The management of general waste is undertaken by the Raymond Mhlaba Local Municipality through the means of waste management service provision in formal/urbanised areas.</p>
Organic waste	Garden refuse and food waste.	The management of organic waste including agricultural waste is managed

CATEGORIES	DESCRIPTION	MANAGEMENT
		by private entities, no public composting facilities are located within the RMLM.
Construction and demolition (C&D) waste	Concrete, mortar, bricks, wood, insulation materials, gypsum, etc., generated from construction and demolition sites.	No municipal service is provided for the disposal of construction and demolition waste, the management of this waste stream is managed by private entities within the municipality.
Health care risk waste (HCRW)	Discarded blood and human tissue, sharps, infectious materials, expired pharmaceuticals, etc.	Health Care Risk waste generated by health care facilities are managed by private entities as appointed by the respective health care facilities.
Hazardous waste	Used mineral oils, solvent residues, paint and resin waste, organic chemical residues, putrescible waste (slaughterhouse), batteries, sewage sludge and used agricultural chemicals.	Private entities is responsible for the management of hazardous waste within the RMLM. The RMLM does not offer hazardous waste management services.
Other waste types	This includes agriculture, abattoirs and tyre waste.	Private entities is responsible for the management of these waste types within the RMLM.

According to the Revised Municipal Integrated Waste Management Planning Guidelines developed by the DFFE, there are three options for determining the waste quantities and types generated in a municipality. The three options are as follows:

- Option 1: Weighbridge data
- Option 2: Making use of the vehicle capacity and the waste densities template
- Option 3: Sampling or conducting a waste analysis.

Option 1: Weighbridge data

A municipality can make use of a weigh-bridge to collect and record the types and quantities of waste entering its waste disposal facility. This information is also required for reporting on the South African Waste Information System (SAWIS). Using a weigh-bridge 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. A weigh-bridge operator is required to correctly identify the types of waste disposed of. The data is captured using weighbridge software programmed with spreadsheet software such as Microsoft Excel or a customized weigh bridge software that can simultaneously provide billing information based on the type of waste and the size of the vehicle.

Option 2: Making use of the vehicle capacity and the waste densities template

Making use of the vehicle capacity and the waste densities template (a volume density estimation system) In instances where a municipality does not have a weigh-bridge, it can make use of templates that were developed by DFFE. These provide guidance on how waste quantities can be estimated for the different waste streams.

Option 3: Sampling or conducting a waste analysis.

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 a receptacle and this 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. As an example, this could entail explaining to them the different types of commonly found domestic waste streams i.e. Glass, plastic, paper, cardboard, cans and garden waste etc. The participating residents can then be advised to separate their recyclables waste from non-recyclable/mixed waste, if the objective is to also measure the amount of recyclables generated in

that area. Once collected, this should be weighed separately in order to gauge the mass of both recyclable waste and nonrecyclables. A hand-held scale can be utilised for this purpose wherein the assessors (people employed to carry out the audit) will on the waste collection days or once a week, depending on the agreed terms for the study; will individually weigh the waste in order to determine the amount of both recyclables generated in that particular area as well as the weight of non-recyclables.

After obtaining the figures from the participating households/Wards one is then able to extrapolate or estimate the amount of waste that is generated in that particular municipality. This can be done by adding the amounts of recyclables generated in all the areas, and then determine the average recyclables generated as well as by adding up mixed waste to determine their average. The recyclables could even be added up according to the various waste streams i.e. paper, glass, tin, cardboard etc

The RMLM has no weighbridges present at any of their waste facilities to determine the quantities of waste being disposed of at the waste sites. There is also no gate controller sheet at the facility entrances to record the waste entering the facility. With one exception at one of the waste disposal sites where a gate controller and spotter are present. Consequently, the RMLM do not have any record of waste tonnages being disposed of at their waste disposal sites.

To determine the waste quantities and types generated, option 3 of the IWMP guideline will be followed, which includes a Waste Characterisation Study (WCS).

The section below details the methodology used to conduct the WCS.

4.3.1 WASTE SAMPLING

4.3.1.1 WCS overview

A waste characterisation study (WCS) was conducted over a 3-day period from 30 October to 01 November 2023 to identify the type of waste generated within the municipality. The WCS took place at the licenced Alice WDF and the licenced Bedford WDF in the RMLM.

4.3.1.2 Data collection methods

In consultation with the DFFE, it was decided that the WCS would not involve the distribution of waste collection bags to households. Instead, the focus will be on utilising waste being disposed of at the waste disposal site (i.e., waste from the collection truck). This decision was driven by the understanding that, given the demographics of the municipality, distributing bags would likely result in low participation rates.

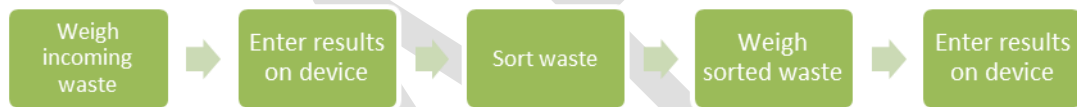
4.3.1.2.1 Identification of waste categories

The waste was sorted into ten (10) major waste categories for sampling. The ten (10) major waste characterisation categories include the following:

- Paper
- Cardboard
- Glass
- Metal
- Plastic
- Textiles
- Organic waste (such as food waste and garden refuse)
- Hazardous waste (such as batteries, light bulbs, medical waste, and cleaning products)
- Sanitary waste (such as nappies, sanitary pads, etc.)
- Other waste (such as single-use plastics and polystyrene).

4.3.1.2.2 Waste sorting activities

Arrangements with the RMLM were made before the WCS was conducted for the provision of EPWP workers to assist with the sorting processes. Upon arrival of the EPWP workers at the sorting locations, a meeting was held to explain the process and the goal of the WCS. The sorters were trained to adopt the following methodology:



The images below provide an illustration of the WCS activities conducted at the Alice WDF.



Figure 4-3: On-site meeting and discussion with EPWP's



Figure 4-4: EPWP's forming part of the WCS



Figure 4-5: Incoming waste load for WCS



Figure 4-6: REL disposing of WCS sample



Figure 4-7: Waste sorting activities



Figure 4-8: Example of filled wheelie bin being weighed



Figure 4-9: Overview of REL offloading and waste sorting activities



Figure 4-10: Scale used for weighing of waste

The images below provide an illustration of the WCS activities conducted at the Bedford WDF.



Figure 4-11: Bedford EPWP team

Figure 4-12: Bedford weighing and sorting activities

4.3.1.3 Data analysis

A target was set to sort 1 000 kg of waste on each day of the WCS. However, the actual amount of waste sorted over the three-day period was 2 592kg. This is due to various limitations listed in section 4.3.1.4. A breakdown of the amount of waste sorted on each of the days can be found in the table below.

Table 4-16: Waste sorted on respective days

DATE OF WCS	KILOGRAMS SORTED
Tuesday, 31 October 2023	1 3671 kg
Wednesday, 1 November 2023	683 kg
Thursday, 2 November 2023	554 kg
TOTAL	2 592 kg

The graph below shows the targeted vs. actual waste sorted on each day of the WCS.

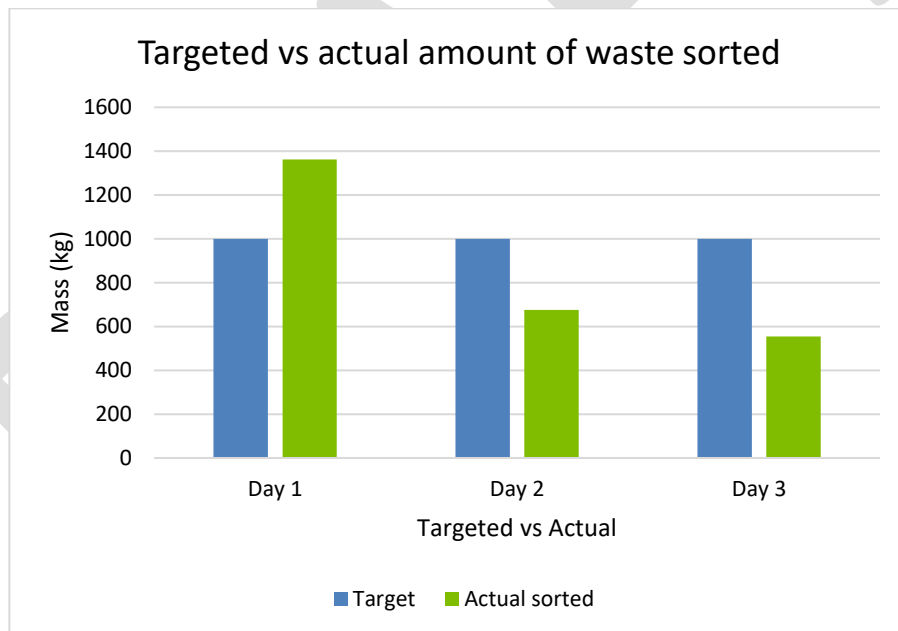


Figure 4-13: Targeted vs actual waste sorted

The table below shows the waste categories identified within the sample and their respective mass measurements. The cumulative mass of the sorted waste material equated to 2 288 kilograms, indicating an 11.75% loss from the original 2 592 kilograms of the sample. This can be due to sorting on the ground, loss of material not being sorted or human error in weighing the data.

From the WCS data, it was observed that the major waste categories generated in the RMLM are cardboard (41%), plastics (26%) and organic waste (including food

waste and garden refuse) (10%). Glass (7%) and sanitary waste (mostly consisting out of nappies) (6%) were the minor waste categories generated in the RMLM. E-waste (0.03%) and hazardous waste (0.03%) were the least prevalent waste streams noted during the WCS.

The recyclable materials of paper, cardboard and plastic show a higher percentage than that of any other waste stream. Paper and cardboard within the RMLM make up more than double in comparison with the other WCS data. Therefore, the conclusion can be drawn that there is a potential for paper and cardboard diversion initiatives.

Organic waste is relatively low in comparison with the other WCS data. This could be due to residents in the RMLM giving food waste to their animals and not disposing of organic waste.

Table 4-17: RMLM waste categories

WASTE CATEGORY	MASS (KG)	PERCENTAGE OF WASTE STREAM
Cardboard	941.5	41%
Plastics	208.9	26%
Glass	169.6	7%
Metals	43.5	2%
Hazardous	0.23	0.01%
E-Waste	0.75	0.03%
Paper	73.9	3%
Organic waste	237.3	10%
Sanitary waste (nappies)	129.4	6%
Textiles	49.8	2%
Other waste	52.2	2%
TOTAL	2 288	100%

The diagram below illustrates the fraction of waste categories as was found during the WCS in the RMLM. The total fraction of recyclable materials (cardboard, paper, plastics, metals, and glass) amounted to 79.5%, indicating a potential for source separation programmes in the RMLM.

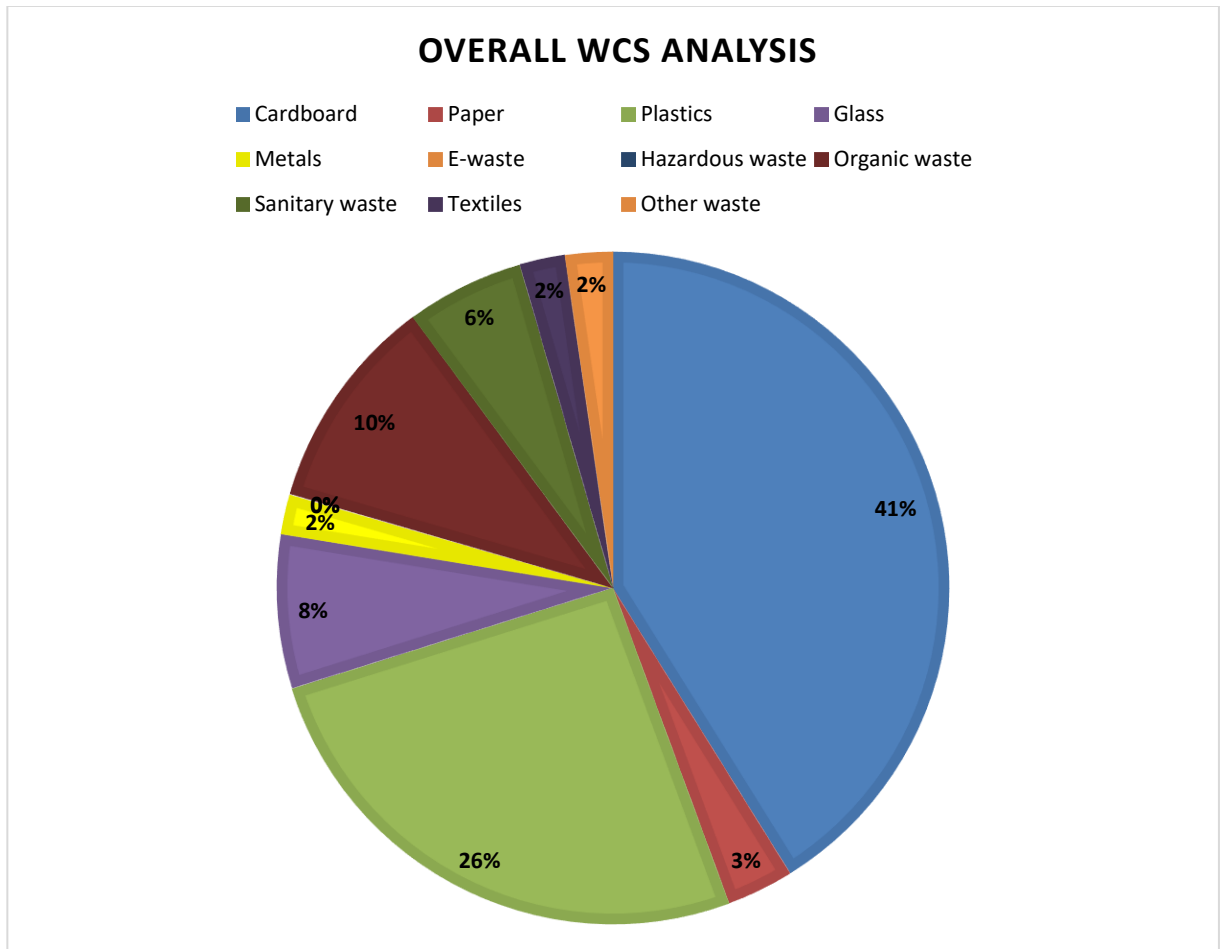


Figure 4-14: Overall WCS results

4.3.1.4 Limitations

During the planning phase of the WCS, it was anticipated that the sorting activities would start at 09:00 and end at 17:00, thus allowing for a full day of waste sorting to reach the target. However, due to difficulties with transportation of the wheelie bins required to weigh the waste and transportation of EPWP workers, the WCS did not start before 12:00.

The WCS was only conducted over a 3-day period in one season of the year. To obtain more accurate data, the WCS must be undertaken for longer periods of time per day and over the four seasons of the year since waste generation is affected greatly by seasonal variation; therefore, ideally, waste analysis should be conducted at three-month intervals.

4.3.2 DETERMINING CURRENT DOMESTIC WASTE GENERATION PER CAPITA

Waste generation per income category in 2023 was then calculated using the percentage of the population per income group. Waste generation rates per person per year (r), according to the Guidelines for the Development of Integrated Waste Management Plans (IWMPs), assumed to be for domestic waste only (Department of Environmental Affairs, 2006):

- Low income = 149.65 kg/person/year = 0.14 tonnes/person/year
- Middle income = 270.1 kg/person/year = 0.27 tonnes/person/year
- High income = 470.85 kg/person/year = 0.47 tonnes/person/year

The contribution of each income group was calculated as follows:

$$\text{Waste generation}_i = p \times r$$

where i = income group

p = percentage of population in income group

r = waste generation rates per person per year.

Equation 4-3: Domestic waste generation rates per capita

The estimated (2023) domestic waste generation per income group is shown in Table 4-18 below.

Table 4-18: Estimated current (2023) annual domestic waste generation rate per income group in tonnes

INCOME GROUP	PERCENTAGE OF POPULATION PER INCOME GROUP	NUMBER OF PEOPLE PER INCOME GROUP	WASTE GENERATION/ PERSON - YEAR	WASTE GENERATED ANNUALLY IN 2023 (TONNES)
Low income	56.0%	101 695	0.14	14 237
Middle income	40.0%	72 577	0.27	19 596
High income	4.0%	7 241	0.47	3 403
Total	100%	181 513		37 236

4.3.3 ESTIMATE FUTURE WASTE GENERATION RATES AND QUANTITIES

The future waste generation was calculated based on the 2020 estimated waste generation. The assumption was made that the population growth rate would remain unchanged at 1.6%. The future waste generation for 2022-2030 is illustrated in Table 4-19.

Table 4-19: Future waste generation for RMLM

YEAR	POPULATION	TOTAL ESTIMATED WASTE GENERATION (T/ANNUM)
2022	178 594	37 236
2023	181 513	37 832
2024	184 479	38 438
2025	187 495	39 053
2026	190 559	39 677
2027	193 673	40 312
2028	196 839	40 957

YEAR	POPULATION	TOTAL ESTIMATED WASTE GENERATION (T/ANNUM)
2029	200 056	41 613
2030	203 325	42 278

4.4 WASTE RECYCLING, TREATMENT AND DISPOSAL

4.4.1 WASTE RECYCLING AND MINIMISATION

4.4.1.1 Bra Recycling and Waste Management

During the ground truthing, Bra Recycling and Waste Management was identified as a privately owned company operating out of Kwa Maqoma. The following was observed during the visit to the facility during the ground truthing in RMLM.

- Treatment: Bailing and transportation of waste.
- Commodities recycled: Cardboard and plastics.
- Quantities of waste recovered: No information received from the facility during the site visit.
- It was reported by an employee present at the facility that the waste bailed and transported is collected by a company transporting the recovered bailed waste to Uitenhage and Johannesburg, respectively, for recycling purposes.



Figure 4-15: Bra Recycling and Waste Management

Table 4-20: Coordinates of Bra Recycling and Waste Management

CORNER	LATITUDE (S)	LONGITUDE (E)
1	32°46'38.4"S	26°36'42.8"E
2	32°46'39.5"S	26°36'42.8"E
3	32°46'39.5"S	26°36'42.0"E
4	32°46'38.7"S	26°36'41.9"E
5	32°46'38.4"S	26°36'42.3"E



Figure 4-16: Overview of Bra Recycling and Waste Management



Figure 4-17: Recyclable materials at facility



Figure 4-18: Recyclable materials at facility



Figure 4-19: Overview of inside of facility

4.4.1.2 PPNG Trading

PPNG Trading was identified as a private recycling facility operating outside the town of Alice on the same property as the Alice waste disposal site. Waste is sourced from the working face of the waste disposal site by workers employed by the owner of the facility. The facility has been in operation since July 2023.



Figure 4-20: PPNG Trading footprint

The following was observed during the visit to the facility during the ground truthing in RMLM.

- Treatment: Bailing occurs at the facility; waste is sold to and collected by an external company transporting waste to Johannesburg for recycling purposes.
- Commodities recycled: Plastics and Cardboard.
- Quantities of waste recovered: The table below illustrates the quantities recovered and bailed at the facility in tonnes. The facility began operations in July 2023.

Table 4-21: Waste quantities recovered by PPNG Trading

MONTH	QUANTITY RECOVERED (TONNES)
July 2023	No information received
August 2023	21.9
September 2023	15.4
October 2023	No information received

Waste is collected directly from the Alice waste disposal site. Subsequently, waste is bailed at the facility and stored until a sufficient amount of waste is available for collection from an external company. The bailed waste is sold to an external company, which transports the waste to Johannesburg to be sold to recycling organisations and companies.

Table 4-22 provides the facility coordinates according to the facility footprint.

Table 4-22: Coordinates of PPNG Trading

CORNER	LATITUDE (S)	LONGITUDE (E)
1	32°48'27.8"S	26°49'07.4"E
2	32°48'28.3"S	26°49'07.1"E
3	32°48'27.9"S	26°49'06.2"E
4	32°48'27.4"S	26°49'06.5"E



Figure 4-21: Overview of facility



Figure 4-22: Waste offloaded at facility entrance



Figure 4-23: Posters indicating recyclable materials



Figure 4-24: Overview of operations at facility

The Raymond Mhalaba Local Municipality does not have any recycling initiatives and programmes implemented within the municipal jurisdiction.

4.4.2 TREATMENT AND DISPOSAL

Disposal within the RMLM occurs at three licenced waste disposal sites, namely:

- Alice Waste Disposal Site
- Bedford Waste Disposal Site
- Middledrift Waste Disposal Site.

A waste transfer station in Kwa Maqoma is commissioned for operation within the RMLM but is currently not operational.

4.4.2.1 Alice Waste Disposal Site

The Alice Waste disposal site is a licenced facility owned and operated by the RMLM. The RMLM received a waste management permit (permit no: 16/2/7/R101/D5/Z1/P398) for the continued operation of the Alice waste disposal site in May 2001. The permit was issued in terms of Section 20 of the Environmental Conservation Act (Act 73 of 1989).



Figure 4-25: Alice Waste Disposal Site footprint

Table 4-23 provides an overview of the current (2023) situation at the Alice Waste Disposal Site.

Table 4-23: Alice Waste Disposal Site description

DESCRIPTION	STATUS QUO
Name of Landfill Site	Alice Waste Disposal Site
Landfill site classification	G:C:B-
Location of landfill	Part of Portion 1 Erf, District of Alice.
Coordinates of the landfill site	32°48'25.2"S 26°49'03.6"E (Entrance as per Google Earth)
Licence/Permit number	16/2/7/R101/D5/Z1/P398
Permit Holder	Alice Transitional Local Council
Waste categories and average disposal rate (tonnes/month)	General Waste. Disposal records not available for the site.
Remaining airspace (m³) - base date of landfill survey	6 years – as per 2019 Final Rehabilitation and Closure Costs report (ESS, 2019).
Equipment available on site	None
Access control, signage and collection of disposal tariffs	No signage present at the site. The site boundary has not been fenced off. Insufficient access control measures on place, as no access gates are present to prevent unauthorised access. No collection of disposal tariffs on site
Sources of cover material	Cover material is not used on site - waste is burned.

DESCRIPTION	STATUS QUO
Clean stormwater and contaminated run-off management systems	No formal management of stormwater and contaminated run-off.
Gas and leachate management	No formal gas and leachate management.
Control of nuisances (e.g. burning of waste, litter odours, vermin, and dust)	No control of nuisances at the site. Burning of waste evident on site. No dust suppression measures implemented.
Salvaging activities	Informal reclamation of waste occurs at the site.
Formal Waste Reclamation'	No formal reclamation of waste occurs at the site.
Rehabilitation	No rehabilitation has commenced on site.
Final Cover	Sufficient cover and vegetative material for final closure are not available at the waste disposal site.
Plans for extending/closing the disposal site.	No plans to extend/close the site.



Figure 4-26: Overview of Alice Waste Disposal Site



Figure 4-27: Overview of Alice Waste Disposal Site



Figure 4-28: Overview of Alice Waste Disposal Site



Figure 4-29: Overview of Alice Waste Disposal Site

4.4.2.2 Middledrift Waste Disposal Site

The Middledrift Waste disposal site is a licenced facility owned by the RMLM. The facility is currently being operated as an informal dumping site. The RMLM received a waste management permit (permit no: 16/2/7/R101/D7/Z1/P413) for the operation of the Middledrift waste disposal site in July 2001. The permit was issued in terms of Section 20 of the Environmental Conservation Act (Act 73 of 1989).



Figure 4-30: Middledrift Waste Disposal Site

Table 4-24 provides an overview of the current (2023) situation at the Middledrift Waste Disposal Site.

Table 4-24: Middledrift Waste Disposal Site description

DESCRIPTION	STATUS QUO
Name of Landfill Site	Middledrift Waste Disposal Site
Landfill site classification	G:C:B-
Location of landfill	Part of the Farm 172, Middledrift.
Coordinates of the landfill site	32°48'14.7"S 26°59'14.6"E (Entrance as per Google Earth)
Licence/Permit number	16/2/7/R101/D7/Z1/P413
Permit Holder	Middledrift Transitional Local Council
Waste categories and average disposal rate (tonnes/month)	General waste - records of disposal are not available for the site.
Remaining airspace (m³) - base date of landfill survey	42 years - as per 2019 Final Rehabilitation and Closure Costs report (ESS, 2019).
Equipment available on site	None

DESCRIPTION	STATUS QUO
Access control, signage and collection of disposal tariffs	No signage present at the site. The site boundary has not been fenced off. No access control measures in place on site. No collection of disposal tariffs on site.
Sources of cover material	Cover material is not used on site - waste is illegally burned.
Clean stormwater and contaminated run-off management systems	No formal management of stormwater and contaminated run-off.
Gas and leachate management	No formal gas and leachate management.
Control of nuisances (e.g. burning of waste, litter odours, vermin, and dust)	No control of nuisances at the site. -Burning of waste evident on site. No dust suppression measures implemented.
Salvaging activities	Informal reclamation of waste occurs at the site.
Formal Waste Reclamation'	No formal reclamation of waste occurs at the site.
Rehabilitation	No rehabilitation has commenced on site.
Final Cover	Sufficient cover and vegetative material for final closure are not available at the waste disposal site.
Plans for extending/closing the disposal site.	No plans to extend/close the site.



Figure 4-31: Overview of Middledrift Waste Disposal Site



Figure 4-32: Overview of Middledrift Waste Disposal Site



Figure 4-33: Overview of Middledrift Waste Disposal Site



Figure 4-34: Overview of Middledrift Waste Disposal Site

4.4.2.3 Bedford Waste Disposal Site

The Bedford waste disposal site is a licenced facility located outside the town of Bedford located in the RMLM. The facility is currently used as a waste disposal site by the RMLM. A WML was issued for the facility in terms of Section 49(1) of the National Environmental Management: Waste Act (Act 59 of 2008). The WML issued for the facility with the registration number (12/9/11/L297/1) indicates the location to be Adelaide and the Licence Holder as Nxuba Municipality. The RMLM was established in 2016 and comprises the former Nkonkobe and Nxuba municipalities. The WML was issued in 2011; therefore, the information on the WML is outdated. It is recommended that the RMLM apply for a new WML in terms of the NEM:WA.



Figure 4-35: Bedford Waste Disposal Site

Table 4-25 provides an overview of the current (2023) situation at the Bedford Waste Disposal Site. The information contained in the table below is sourced from the Waste Management Licence issued for the facility. The licence indicates that the classification of the waste disposal site is “General Waste Recycling Facility”. It is, however, this information is outdated and that the facility must rather be classified as a Class B site.

Table 4-25: Bedford Waste Disposal Site description

DESCRIPTION	STATUS QUO																								
Name of Landfill Site	Bedford waste disposal site																								
Landfill site classification	General Waste Recycling Facility (as per WML)																								
Location of landfill	Adelaide (as per WML)																								
Coordinates of the landfill site	Coordinates as per WML issued in 2011 by the Easter Cape Department of Economic Development and Environmental Affairs. (as per licence)																								
	<table border="1"> <thead> <tr> <th>Number of corners</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>7227, 108</td> <td>3757, 138</td> </tr> <tr> <td>2</td> <td>7061, 155</td> <td>3728, 120</td> </tr> <tr> <td>3</td> <td>6985, 945</td> <td>3645, 663</td> </tr> <tr> <td>4</td> <td>6980, 634</td> <td>3579, 986</td> </tr> <tr> <td>5</td> <td>7069, 859</td> <td>3523, 571</td> </tr> <tr> <td>6</td> <td>7244, 566</td> <td>3509, 445</td> </tr> <tr> <td>7</td> <td>7249, 357</td> <td>3607, 338</td> </tr> </tbody> </table>	Number of corners	Latitude	Longitude	1	7227, 108	3757, 138	2	7061, 155	3728, 120	3	6985, 945	3645, 663	4	6980, 634	3579, 986	5	7069, 859	3523, 571	6	7244, 566	3509, 445	7	7249, 357	3607, 338
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	5	7069, 859	3523, 571																						
6	7244, 566	3509, 445																							
7	7249, 357	3607, 338																							
Licence/Permit number	12/9/11/L297/1																								
Permit Holder	Former Nxuba Municipality – now Raymond Mhlaba Local Municipality																								
Waste categories and average disposal rate (tonnes/month)	General waste - records of disposal are not available for the site.																								
Remaining airspace (m³) - base date of landfill survey	<i>9 years - as per 2019 Final Rehabilitation and Closure Costs report (ESS, 2019).</i> As per 2024 – 3 years remaining airspace at the facility.																								
Equipment available on site	None																								
Access control, signage and collection of disposal tariffs	No signage present at the site. The site boundary has not been fenced off. No access control measures in place on site. No collection of disposal tariffs on site.																								
Sources of cover material	Cover material is not used at the site.																								
Clean stormwater and contaminated run-off management systems	No formal stormwater and contaminated run-off systems in place at the site.																								
Gas and leachate management	No gas and leachate management																								

DESCRIPTION	STATUS QUO
Control of nuisances (e.g. burning of waste, litter odours, vermin, and dust)	No control of nuisances at the site. Burning of waste evident on site. No dust suppression measures implemented.
Salvaging activities	Informal reclaiming of waste occurs at the facility.
Formal Waste Reclamation'	No formal waste reclamation occurs at the facility.
Rehabilitation	No rehabilitation has commenced on site.
Final Cover	Sufficient cover and vegetative material for final closure are not available at the waste disposal site.
Plans for extending/closing the disposal site.	No plans to extend/close the site.



Figure 4-36: Overview of Bedford Waste Disposal Site



Figure 4-37: Overview of Bedford Waste Disposal Site



Figure 4-38: Overview of Bedford Waste Disposal Site



Figure 4-39: Overview of Bedford Waste Disposal Site

4.4.2.4 Kwa Maqoma Transfer Station

The Kwa Maqoma Transfer Station is a facility owned by the RMLM. The facility is registered to be operated as a waste transfer station. However, the facility is currently not operated by the RMLM as a waste transfer station as the facility is non-operational. A waste management permit (permit no: 12/9/11/P36) was issued to the Nkonkobe Municipality in 2008 for the establishment and operation of the Kwa Maqoma Transfer Station in June 2008. The permit was issued in terms of Section 20 of the Environmental Conservation Act (Act 73 of 1989).

The RMLM was established in 2016 and comprises the former Nkonkobe and Nxuba Municipalities. The waste management permit was issued in 2008. It is recommended that the RMLM use the guidelines as set out in the National Norms and Standards for the Storage of Waste, 2013.



Figure 4-40: Kwa Maqoma Transfer Station

Table 4-26 provides an overview of the 2023 status at the Kwa Maqoma Transfer Station.

Table 4-26: Kwa Maqoma Transfer Station description

DESCRIPTION	STATUS QUO
Name of facility	Kwa Maqoma Transfer Station
Site Status	Non-operational
Location of site	Erf 905, Kwa Maqoma

DESCRIPTION	STATUS QUO																		
Coordinates of the landfill site	Sourced from Google Earth footprint:																		
	<table border="1"> <thead> <tr> <th>No. of corners</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>32°46'31.8"S</td> <td>26°38'34.1"E</td> </tr> <tr> <td>2</td> <td>32°46'31.1"S</td> <td>26°38'34.7"E</td> </tr> <tr> <td>3</td> <td>32°46'32.2"S</td> <td>26°38'36.9"E</td> </tr> <tr> <td>4</td> <td>32°46'33.2"S</td> <td>26°38'36.1"E</td> </tr> <tr> <td>5</td> <td>32°46'33.2"S</td> <td>26°38'34.9"E</td> </tr> </tbody> </table>	No. of corners	Latitude	Longitude	1	32°46'31.8"S	26°38'34.1"E	2	32°46'31.1"S	26°38'34.7"E	3	32°46'32.2"S	26°38'36.9"E	4	32°46'33.2"S	26°38'36.1"E	5	32°46'33.2"S	26°38'34.9"E
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	4	32°46'33.2"S	26°38'36.1"E																
	5	32°46'33.2"S	26°38'34.9"E																
	Coordinates as per waste management permit:																		
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B	27580.24003	33538.36337																	
C	27622.31705	33517.14560																	
D	27601.71823	33475.71010																	
Licence/Permit number	12/9/11/P36																		
Permit Holder	Raymond Mhlaba Local Municipality - former Nkonkobe Local Municipality																		
Year of construction/extension	No information received.																		
Waste categories and average disposal rate (tonnes/month)	General Waste. No tonnages recorded as site is not operational.																		
Equipment available on site	None.																		
Access control, signage and collection of disposal tariffs	None.																		
Clean Stormwater and contaminated run-off management systems	None.																		
Control of nuisances (e.g. burning of waste, litter odours, vermin, and dust)	Waste dumped at the facility is burned.																		
Salvaging activities	No salvaging of waste occurs.																		
Formal Waste Reclamation'	No formal reclamation of waste occurs.																		
Plans for extending/closing the transfer station.	None.																		



Figure 4-41: Overview of Kwa Maqoma Transfer Station



Figure 4-42: Overview of Kwa Maqoma Transfer Station



Figure 4-43: Overview of Kwa Maqoma Transfer Station



Figure 4-44: Overview of Kwa Maqoma Transfer Station

4.4.2.5 Adelaide Waste Disposal Site

The Adelaide waste disposal site is a licenced facility of the RMLM, former Nxuba Local Municipality. The Nxuba Local Municipality received a waste management licence for the closure and rehabilitation of the waste disposal facility in June 2014. The licence was issued in terms of Section 49(1) of the National Environmental Management: Waste Act (Act 59 of 2008).



Figure 4-45: Adelaide Waste Disposal Site

DRAFT

Table 4-27 provides an overview of the current (2023) situation at the closed and rehabilitated Adelaide Waste Disposal Site.

Table 4-27: Adelaide Waste Disposal Site

DESCRIPTION	STATUS QUO															
Name of Landfill Site	Adelaide Waste Disposal Site															
Landfill site classification	G:C:B-															
Location of landfill	1 600 metres East of Adelaide CBD, along R63 route.															
Coordinates of the landfill site	<table border="1"> <thead> <tr> <th>Corners</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>32° 42' 26.95"S</td> <td>26° 18' 56.18"E</td> </tr> <tr> <td>2</td> <td>32° 42' 33.32"S</td> <td>26° 18' 52.42"E</td> </tr> <tr> <td>3</td> <td>32° 42' 27.36"S</td> <td>26° 18' 49.43"E</td> </tr> <tr> <td>4</td> <td>32° 42' 24.81"S</td> <td>26° 18' 52.94"E</td> </tr> </tbody> </table>	Corners	Latitude	Longitude	1	32° 42' 26.95"S	26° 18' 56.18"E	2	32° 42' 33.32"S	26° 18' 52.42"E	3	32° 42' 27.36"S	26° 18' 49.43"E	4	32° 42' 24.81"S	26° 18' 52.94"E
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	2	32° 42' 33.32"S	26° 18' 52.42"E													
	3	32° 42' 27.36"S	26° 18' 49.43"E													
4	32° 42' 24.81"S	26° 18' 52.94"E														
Licence/Permit number	HO/A/14/L029/14															
Permit Holder	Raymond Mhlaba Local Municipality – formerly known as Nxuba Local Municipality.															
Year of closure	<i>n/a</i>															
Access control and signage	None.															
Sources of cover material	<i>n/a</i>															
Clean Stormwater and contaminated run-off management systems	No stormwater and contaminated run-off systems in place.															
Gas and leachate management	No formal gas and leachate management occurs.															
Control of nuisances (e.g. burning of waste, litter odours, vermin, and dust)	No control measures in place as the facility is closed and rehabilitated.															
Salvaging activities	No salvaging of waste occurs as the facility is closed and rehabilitated.															
Formal Waste Reclamation	No formal waste reclamation occurs as the facility is closed and rehabilitated.															
Rehabilitation	<i>n/a</i>															
Final Cover	<i>n/a</i>															
Plans for extending/closing the disposal site.	Facility is closed and rehabilitated.															

4.4.3 OTHER WASTE TYPES

4.4.3.1 Health care risk waste

The RMLM does not collect or accept health care risk waste (HCRW) at any of the waste disposal facilities in its jurisdiction. The medical facilities within the RMLM are responsible for the safe disposal of the HCRW generated. The medical facilities (medical practices, hospitals, etc.) have contracts with private medical waste companies to collect, transport and dispose of their medical waste.

HCRW is mainly removed to be treated and disposed of by service providers who have to be registered on the South African Waste Information System (SAWIS) as required in terms of the National Waste Information Regulations (DFFE, 2013a). The HCRW generators are required to register and report to SAWIS.

According to Compass Medical Waste Services servicing various facilities in RMLM, HCRW from the RMLM is either incinerated as a means of disposal or treated through Electro Thermal Destruction. Compass Medical Waste Services collects, transports and disposes of the HCRW from various facilities listed in Table 4-28 within the RMLM. Sharps and infectious waste are transported to the Compass HCRW facility in Berlin, Eastern Cape, where the waste is treated. Pharmaceutical waste of schedule 0-4 is taken to the Aloes Waste Disposal Site in Gqeberha for destruction and disposal. Schedule 5 waste (such as medicines or substances) and above and anatomical waste are treated through A-Thermal treatment technologies. Ash produced from the incineration of waste is disposed of at hazardous waste disposal facilities.

Compass Medical Waste Services collects, transports and disposes generated waste from the facilities in Table 4-28.

Table 4-28: HCRW Generation Facilities

FACILITY NAME	LOCATION
ACVV Huis Corrie Dreyer	Adelaide
Alice Pharmacy	Alice
Amandlokokho Funeral Services	Alice
Anjum Naveed Dr Surgery	Alice
Correctional Services Kwa Maqoma	Kwa Maqoma
Dr Anna Medical & Aesthetics Inc.	Adelaide
Dr D Linda	Kwa Maqoma
Fort Cox Agricultural Institution	Middledrift
Jwarha Funeral Services	Bedford
Dr JO Lochner	Kwa Maqoma
Dr M Makangala	Adelaide
Dr RNE Mqubuli	Alice
National Health Laboratory Service Eastern Cape	Alice
Thatcher Home	Kwa Maqoma
Con Der Decken Funeral Directors	Kwa Maqoma

The table below illustrates the type of HCRW generation quantities within the RMLM for a period of 12 months from August 2022 to July 2023. The data was collected and obtained from Compass Medical Waste Services.

Table 4-29: HCRW Generation Quantities for RMLM

RAYMOND MHLABA LOCAL MUNICIPALITY AUG 2022 TO JULY 2023	NET WEIGHT IN KG'S	PERCENTAGE WASTE
Anatomical	100	1.22%
Infectious	7 838	95.96%
Pharmaceutical	6	0.07%
Sharps	224	2.75%
Total	8168.23	100%

4.4.3.2 Abattoir

Apart from the contaminated water by blood from abattoirs, the solid waste generated mainly consists of animal parts which cannot be used for human consumption or other purposes like gelatine recovery from hooves. Abattoir waste must be properly handled and disposed of at approved licensed waste disposal sites. Non-infectious animal waste and carcasses are allowed to be disposed of at licensed waste disposal sites per the National Norms and Standards of Waste Disposal to waste disposal site (DFFE, 2013).

Currently, the RMLM does not have waste disposal facilities suitable for the disposal of animal carcasses. The Adelaide abattoir resorts to the burning of large pieces of animals in an undisclosed location near the abattoir. Small pieces of animal carcasses are disposed of and treated in an anaerobic pit located at the abattoir; hides from the abattoir are dried and treated at a local tannery. Blood generated at the abattoir is discharged into the sewer system directly linked to the WWTP in close proximity to the abattoir.



Figure 4-46: Anaerobic pit at Adelaide abattoir overview



Figure 4-47: Anaerobic pit at Adelaide abattoir close up

4.4.3.3 Tyre waste

According to the National Norms and Standards for the Disposal of Waste to Landfill 2013 (GNR 636), waste tyres are prohibited for disposal at waste disposal sites (DFFE, 2013b). However, the Minister approved temporary storage at licensed and operational waste disposal facility sites for beneficiation. These stockpiles and residues are regulated by NEMA. Unfortunately, RMLM has no licensed waste disposal facilities; thus, the stockpiling and disposal of tyres is prohibited at any sites. Waste tyres are currently illegally disposed of at facilities in the RMLM. The waste tyres are reportedly burned to extract the wires contained in the tyres.

4.4.3.4 Schools

During the ground truthing in the RMLM, the Sakhululeka Secondary School were visited, and information was sourced from the school. It was observed that the school only had available 2 x 240-litre wheelie bins for disposal purposes, located at a central courtyard area at the school. Respectively, for the classrooms, no official receptacles are used as cardboard boxes are utilised as receptacles.

Reportedly, the RMLM services the school on a weekly basis. It was indicated by the headmaster that in the event of service delivery and collection issues, the school responds to burning waste on the property.

Bra Recycling and Waste Management reportedly collects recyclable materials at the school. No further information could be obtained regarding recycling practices and activities at the school.

The following two schools are reportedly serviced by the RMLM:

- Thubalethu High School
- Tinis Primary School



Figure 4-48: 240 l wheelie bins



Figure 4-49: Receptacle used in classrooms



Figure 4-50: Dumped waste to be burned on school premises

4.4.3.5 Fresh produce markets

Reportedly, no fresh produce expires at the facility (Fruit & Veg Town) visited during the ground truthing as products are allocated to employees before the expiry date. If any fresh produce indeed expires, the food waste is reportedly taken to piggeries in the immediate vicinity of the facility (Kwa Maqoma).

4.4.3.6 Wastewater Treatment Works

Sludge produced at the Waste Water Treatment Works outside the town of Adelaide is placed in drying beds. The sludge is left in these drying beds after the wastewater treatment process. A hazardous waste management facility is not present in the RMLM. Therefore, the disposal of WWTP sludge is not possible and does not occur.

4.5 STATUS OF WASTE COLLECTION SERVICES

4.5.1 ALICE

4.5.1.1 Waste Receptacles

Communal skip bins are placed in the town of Alice for disposal by the public. Skip bins are serviced by the RMLM. See the images below for the skip bins present in Alice. During the ground truthing, waste in the skip bins was burned. The municipal bag system is used by households. Households place refuse bags outside for kerbside collection per the municipal collection schedule. Businesses in Alice Place place wheelie bins and refuse bags on the kerbside for municipal waste collection per the collection schedule.

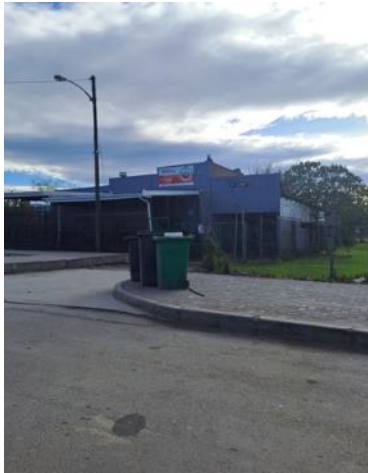


Figure 4-51: Wheelie bins for kerbside collection



Figure 4-52: Communal skip bin in Alice



Figure 4-53: Waste burned in skip bin



Figure 4-54: Location of skip bin in Alice

4.5.1.2 Waste Collection

Waste collection in Alice occurs by means of using two waste compactor trucks for collection and disposal purposes.

4.5.1.3 Waste Transportation and Disposal

Waste generated in the town of Alice is collected by the RMLM using their fleet vehicles. Waste is disposed of at the Alice Waste Disposal Facility located outside of the town.

4.5.1.4 Illegal dumping

Reportedly, illegal dumping in Alice is a regular occurrence. The RMLM Waste Management Department, with the help of EPWP workers, conducts clean-up projects in Alice to ensure the community is kept clean. See Appendix A: for the attendance register of the EPWP workers conducting a clean-up campaign. See the figures below for instances of illegal dumping in and around Alice.



Figure 4-55: Illegal dumping near Alice WDF



Figure 4-56: Illegal dumping outside Alice



Figure 4-57: Illegal dumping in Alice



Figure 4-58: Illegal dumping and littering in Alice

4.5.2 KWA MAQOMA

4.5.2.1 Waste Receptacles

A skip bin was noted in Kwa Maqoma upon entering the town from Adelaide after crossing the Katriver. Figure 4-59 below illustrates the skip bin in Kwa Maqoma.



Figure 4-59: Kwa Maqoma skip bin

4.5.2.2 Waste Collection

Kwa Maqoma performs waste collection by means of four waste collection trucks comprising two skip loader trucks and two rear-end-loaders (REs) servicing the town. See the images below of the waste collector trucks as noted at the Kwa Maqoma Municipal Fleet Depot.



Figure 4-60: Skip loader truck



Figure 4-61: Example of REL

4.5.2.3 Waste Transportation and Disposal

Waste collected by the municipality is transported to the Alice WDF for disposal on a daily basis. A private company, Bra Recycling and Waste Management, reportedly collects waste from various businesses and schools in Kwa Maqoma for recycling purposes. The town of Kwa Maqoma has a licenced waste transfer station; the facility is not operational, and illegal dumping occurs at the facility.



Figure 4-62: Kwa Maqoma TS (non-operational)

4.5.2.4 Illegal Dumping

Illegal dumping was noted at the Kwa Maqoma Transfer Station. The facility is currently not operational. See the figures below of the illegal dumping at the Kwa Maqoma Transfer Station.



Figure 4-63: Overview of illegal dumping at Kwa Maqoma TS



Figure 4-64: Illegal dumping at Kwa Maqoma TS

4.5.3 MIDDLEDRIFT

4.5.3.1 Waste Receptacles

The refuse bag collection system is implemented in the town of Middledrift, whereas per the collection schedule, the RMLM collects refuse bags from households and businesses in town.

4.5.3.2 Waste Collection

The Middledrift Town is serviced by a REL compactor truck from the municipal fleet depot in Alice.

4.5.3.3 Waste Transportation and Disposal

Waste is collected per the municipal collection schedule from households and businesses in Middledrift and transported to the Alice WDF for disposal. As per the municipality, the waste disposal facility located outside of Middledrift is not used for formal waste disposal purposes by the RMLM; waste is rather transported to Alice.

4.5.3.4 Illegal Dumping

Illegal dumping in Middledrift is a regular occurrence. This can possibly be attributed to the fact that the WDF in Middledrift is not operated by the RMLM. Illegal dumping occurs in close proximity to the Middledrift WDF. See the figures below of instances of illegal dumping noted during the ground truthing.



Figure 4-65: Middledrift illegal dumping -1



Figure 4-66: Middledrift illegal dumping -2



Figure 4-67: Middledrift illegal dumping -3



Figure 4-68: Middledrift illegal dumping -4

4.5.4 HOGSBACK

4.5.4.1 Waste Receptacles

A communal drop-off area was noted during the ground truthing in the town of Hogsback. At the communal drop-off area, two waste skip bins were present. Along the main road leading through the town, waste bins were noted for public disposal. The refuse bag collection system occurs per the waste collection schedule in Hogsback. See the figures below of waste skip bins and examples of receptacles present in Hogsback.



Figure 4-69: Waste skip bins in communal drop-off area



Figure 4-70: Hogsback receptacle -1



Figure 4-71: Hogsback receptacle -2



Figure 4-72: Hogsback receptacle -3

4.5.4.2 Waste Collection

Due to the access roads leading to and from Hogsback being narrow, a REL cannot reach the town to deliver services. Therefore, the RMLM services Hogsback via two skip loader trucks and one small caged waste collection truck collecting waste from the communal waste area.

4.5.4.3 Waste Transportation and Disposal

Waste is collected per the municipal collection schedule from households, businesses and the communal waste areas in Hogsback and transported to the Alice WDF for disposal.

4.5.5 ADELAIDE

4.5.5.1 Waste Receptacles

The refuse bag collection system is implemented in the town of Adelaide, whereas per the collection schedule, the RMLM collects refuse bags from households and businesses in town.

4.5.5.2 Waste Collection

Waste is collected in Adelaide by means of two RELs from the RMLM municipal fleet stationed in Bedford.

4.5.5.3 Waste Transportation and Disposal

Waste Collected as per the waste collection schedule by the RMLM is transported to the Bedford WDF for disposal. The Adelaide WDF had been closed and rehabilitated.

4.5.5.4 Illegal Dumping

An illegal dumpsite was noted during the ground truthing on the outskirts of Alice. From the investigation on site, it was noted that the illegal disposal of waste at the location is a regular occurrence. Burning of dumped waste at the location was also noted while on site. See Figure 4-74 below for the location of the illegal dumping on the outskirts of Adelaide adjacent to the WWTP.

Reportedly, due to the distance required for travel to the Bedford Waste Disposal Site and the closure of the Adelaide WDF, illegal dumping is the preferred option to dispose of waste.



Figure 4-73: Illegal waste dumpsite near Adelaide



Figure 4-74: Illegal dumping in progress



Figure 4-75: Burning of waste on illegal dumpsite



Figure 4-76: Illegal dumping waste composition

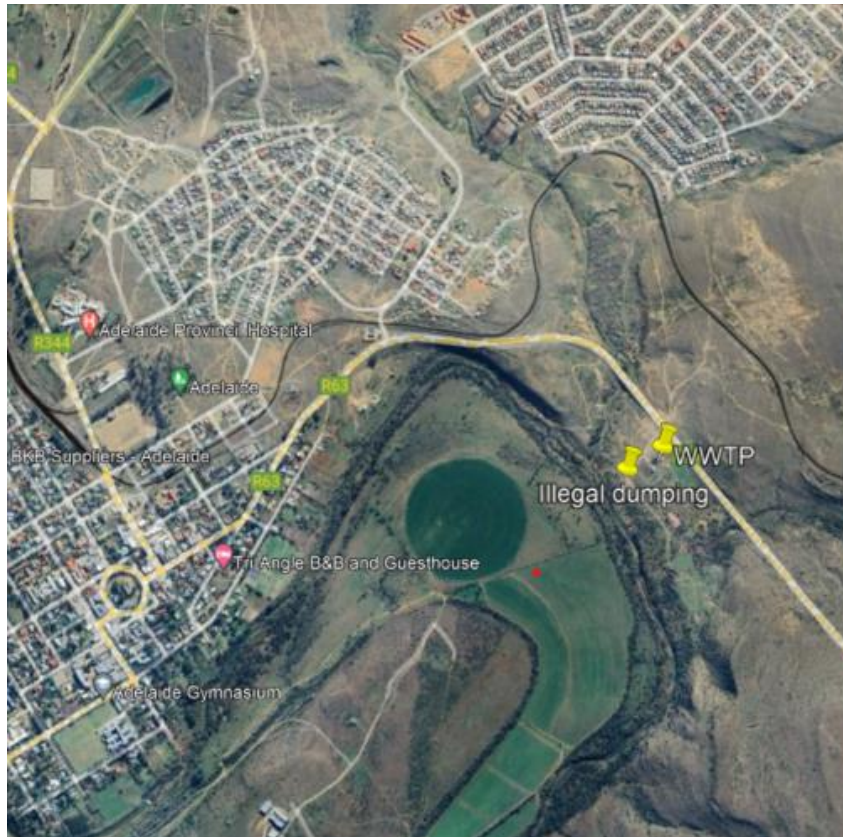


Figure 4-77: Location of illegal dumping in Adelaide

4.5.6 BEDFORD

4.5.6.1 Waste Receptacles

The municipal bag system is used by households where households place refuse bags outside for kerbside collection as per the municipal collection schedule. Businesses in Bedford place wheelie bins and refuse bags on the kerbside for municipal waste collection as per the waste collection schedule.

4.5.6.1.1 Waste Collection

Waste is collected in Bedford by means of two RELs from the RMLM municipal fleet.

4.5.6.1.2 Waste Transportation and Disposal

Waste Collected per the waste collection schedule by the RMLM is transported to the Bedford WDF for disposal.

4.5.6.1.3 Illegal Dumping

Illegal dumping occurs in Bedford in close proximity to the Bedford WDF due to the fact that disposal occurs outside of the permitted footprint of the facility. See the figures below of illegal dumping in close proximity to the Bedford WDF. The figure below illustrates the locations of illegal dumping at the Bedford WDF. Illegal dumping occurs at the entrance of the facility.



Figure 4-78: Illegal dumping at facility entrance



Figure 4-79: Illegal dumping near WDF

Refuse removal is not performed in rural and outlying farm areas due to capacity, shortage and an ageing transport system.

4.5.7 INDIGENT HOUSEHOLDS

The indigent support policy, according to the IDP (2022), is to ensure that poor households within the Municipality are not denied their constitutional right of access to services. The Municipality is required to implement an indigent policy that makes adequate financial provisions to ensure the provision of efficient and sustainable services to all residents. Currently, there are 8 703 indigent households within the RMLM.

4.5.8 FLEET VEHICLES

During the ground truthing, it was observed that the Municipality has the following vehicles as part of the waste management fleet.

- 6 x compactor trucks (REs)
- 2 x skip trucks
- 1 x 1 Tonne truck

Table 4-30 provides an overview of the waste collection vehicles of the RMLM servicing the main towns of the municipality.

Table 4-30: Waste collection vehicles servicing towns

TOWN	VEHICLE AMOUNT
Kwa Maqoma	2 x compactors
Adelaide & Bedford	2 x compactors
Alice	2 x compactors
Hogsback	2 x skip trucks

4.5.9 WASTE COLLECTION SCHEDULE

The information contained in this section was sourced from the RMLM and is assumed to be a true reflection of the current state of waste collection and disposal services rendered in the RMLM.

4.5.9.1 Adelaide

The waste collected by the RMLM in the town of Adelaide is transported to the Bedford Waste Disposal Site for disposal. The areas serviced by the RMLM in Adelaide are contained in Table 4-31. The RMLM collects all waste from the indicated areas.

Table 4-31: Adelaide waste collection schedule

TOWN	AREA OF COLLECTION	DAY OF COLLECTION	COLLECTOR
Adelaide	Bezuidenhoutville, Town – Residential Area	Monday	Municipality
	Town, Business Area	Tuesday	Municipality
	Lingelethu Location	Wednesday	Municipality
	Old Location	Thursday	Municipality
	Town – Business Areas	Friday	Municipality

4.5.9.2 Alice

Refuse collected in the areas, as contained in Table 4-32 below, are disposed of at the Alice Waste Disposal Site by the RMLM.

Table 4-32: Alice waste collection schedule

TOWN	AREA OF COLLECTION	DAY OF COLLECTION	COLLECTOR
Alice	Old Golf Course	Monday	Municipality/Service Provider
	Town – Business area	Monday – Friday	Municipality
	Town – Residential area	Tuesday	Municipality
	Happy Rest, Hillcrest	Wednesday	Municipality
	Ntsela Township	Thursday	Municipality
	New Golf Course	Friday	Municipality

4.5.9.2.1 University of Fort Hare

The University of Fort Hare is located in the town of Alice. The number of students registered at the Alice campus as of June 2023 was 9345. The University of Fort Hare makes up Ward 11 of the RMLM. The University of Fort Hare has campus residences for both male and female students. The number of students residing in residences on campus accumulates to 6 025. A private company situated on campus services the residences and other areas of campus. The company is responsible for the disposal of waste at the Alice Waste Disposal Site.

4.5.9.3 Bedford

The refuse collected in the areas, as contained in Table 4-33 below, are disposed of at the Bedford Waste Disposal Facility.

Table 4-33: Bedford waste collection schedule

TOWN	AREA OF COLLECTION	DAY OF COLLECTION	COLLECTOR
Bedford	Town – Business and Residential Areas. Thabiso’s.	Monday	Municipality
	Old Goodwill Park, Tyoks.	Tuesday	Municipality
	Polar Park, Nonzwakazi, Khayelitsha.	Wednesday	Municipality
	New Bright, Bhongweni, Tyoks.	Thursday	Municipality
	Town – Government Departments, Business and Residential Areas (Goodwill Park).	Friday	Municipality

4.5.9.4 Kwa Maqoma

The refuse collected in the areas of Kwa Maqoma, as displayed in Table 4-34 below, is disposed of at the Alice waste disposal facility.

Table 4-34: Kwa Maqoma waste collection schedule

TOWN	AREA OF COLLECTION	DAY OF COLLECTION	COLLECTOR
Kwa Maqoma	Town- Business Area	Monday – Friday	Municipality

TOWN	AREA OF COLLECTION	DAY OF COLLECTION	COLLECTOR
	Gontsi, Dubu, Ntlekisa, Thozamile Madakala Clinic, Mike Valley.	Monday	Municipality
	Mpolweni – Morris, Zwelitsha, Tyoksville.	Tuesday	Municipality
	New Town	Wednesday	Service Provider
	Mpolweni – Tar Road, Nkkwini, Group 5, Takalani, Lulama Kama Clinic.	Wednesday	Municipality
	Zwide, Kuwait, Daweti, Daweti Extension.	Thursday	Municipality
	Santa, Qeqe Bottle Store, Tanci Clinic, Tanci Supermarket, Morris, Minkana, Cape College, Thubalethu, Supermarket Zwide, Bongo Library.	Friday	Municipality

4.5.9.5 Hogsback

The refuse collected in the areas of Hogsback, as displayed in Table 4-35, is transported to and disposed of at the Alice waste disposal facility.

Table 4-35: Hogsback waste collection schedule

TOWN	AREA OF COLLECTION	DAY OF COLLECTION	COLLECTOR
Hogsback	Arminel Hotel, Cocktail Trailers, King's Lodge, Butterfly Bistro, Workshop, Mainroad, The Edge, Summertown Drive.	Tuesday	Municipality
	Backpackers, Holly Lane, Winding Lane, Hogsback Inn, Main Road Garage, Arminel Hotel, Horbiton.	Thursday	Municipality

4.5.9.6 Middledrift

The refuse collected in the areas of Middledrift, as displayed in Table 4-36, is disposed of at the Alice waste disposal facility. Refuse collected by the RMLM is not disposed of at the Middledrift waste disposal facility.

Table 4-36: Middledrift waste collection schedule

TOWN	AREA OF COLLECTION	DAY OF COLLECTION	COLLECTOR
Middledrift	Gugulethu Township	Monday	Municipality
	Zahid, Roadhouse, Saverite Supermarket, Matyanas Tavern, Solly, Oscar, Saverite Hardware, Double Cheap Supermarket, Jabulani, Town.	Wednesday	Municipality
	Correctional Services, Health Centre Clinic, Town – inclusive of Government Departments.	Friday	Municipality

4.5.10 MUNICIPAL ORGANOGRAM

The figure below illustrates the municipal organogram for the RMLM. A Waste Management Officer (WMO) is designated in the RMLM and is responsible for waste management services of the RMLM. The appointed Environmental Officer assists the WMO on an as need basis with the fulfilment of waste management duties within the RMLM.

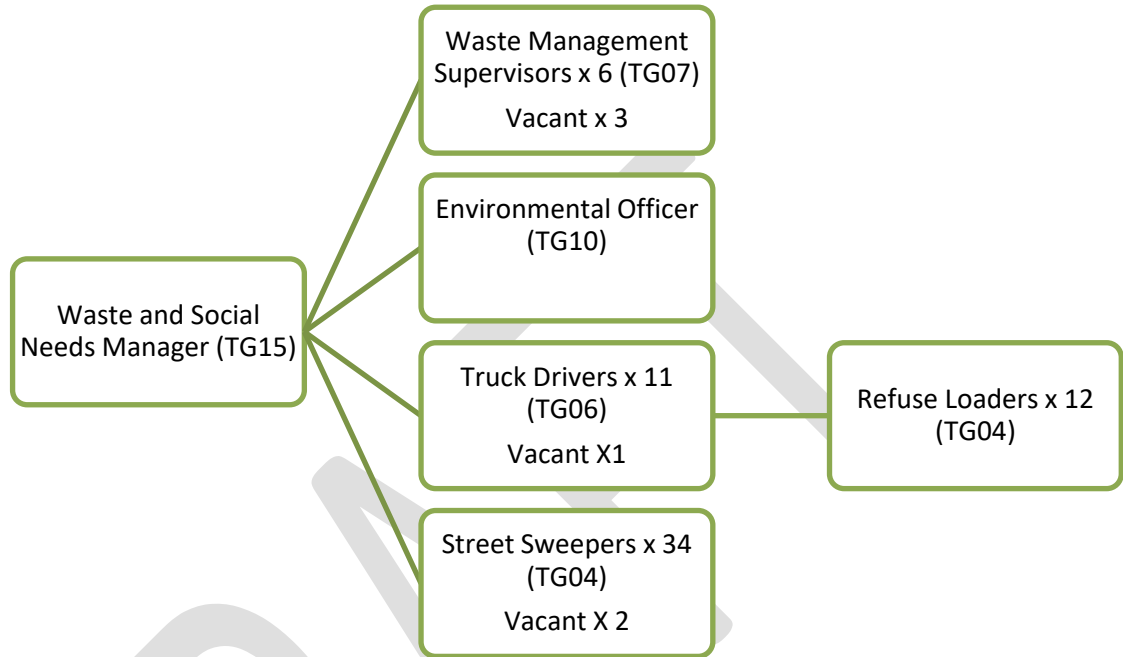


Figure 4-80: Municipal organogram for RMLM

4.5.10.1 Vacancies

Table 4-37 provides a list of vacancies within the waste management department of the RMLM.

Table 4-37: RMLM vacancy list

POSITIONS AVAILABLE	VACANT
Waste Management Supervisor	3 vacant positions
Truck Driver	1 vacant position
Street Sweeper	2 vacant positions

4.5.11 WASTE MANAGEMENT PRACTICES IN RESPONSE TO MEDICAL WASTE

Waste pickers fulfil an important role in the local waste management sphere, making important contributions by diverting waste from waste disposal sites by separating recyclable materials. Waste pickers undertake arduous physical labour in unsanitary and hazardous contexts and are exposed to significant health risks (DFFE & DSI, 2020:22).

Waste pickers encounter the following challenges in their day-to-day activities:

- contact with hazardous waste and chemicals;
- risk of HIV infection and hepatitis B and C from medical waste not properly disposed of;
- risk of HIV infection and hepatitis B and C from medical waste not properly disposed of.

The following can be done to mitigate the negative effects of medical waste on waste pickers:

- Provide waste pickers with vaccination against infectious diseases
- Provide personal protective equipment, modified so as to not compromise waste pickers' work
- Collaborate with municipal waste departments to secure access to facilities and to address other health risks and factors
- Train on health and safety
- Provide regular medical check-ups
- Educate residents on the importance of cleaning materials to reduce health hazards for waste pickers
- Implement safe collection and sorting procedures.

4.6 MAINSTREAMING KEY PRINCIPLES OF THE NWMS

4.6.1 WASTE MINIMISATION AND PREVENTION

The RMLM has recruited 164 unemployed youth to assist with the RMLM Cleaning and Greening campaign of the municipality (as per July 2024). The RMLM also makes use of Expanded Public Works Programme (EPWP) workers, Community Work Programme (CPW) workers, the Good Green Deeds Programme and the Masicoce Programme. The objective of the mentioned programmes is to keep the environment clean and safe by greening and educating the surrounding communities on good environmental management practices. Focus is placed on waste management practices focusing on illegal dumping, cleaning and awareness raising.

The initiatives include the implementation of the following in the RMLM:

- Street sweeping and litter picking
- Removal of illegal dump sites
- Drainage management
- Placement of communal skip bins for public waste disposal
- Cleaning of cemeteries.

The RMLM participate in the following environmental forums:

- Waste Management Officers Forum
- Participation of Schools in Environmental Programmes, e.g. Environmental awards.

The following mechanisms are used within the RMLM to raise environmental awareness:

- Brochure distribution to communities pertaining to environmental and waste programmes
- Competitions in schools
- Joint operations and blitz.

4.7 WASTE PICKER INTEGRATION

Reportedly, the RMLM has formal and informal categories of waste pickers. Numerous waste pickers were noted at the Alice and Bedford Waste Disposal Sites within the RMLM.

4.8 CIRCULAR ECONOMY

No circular economy initiatives have been initiated by the RMLM. Examples of circular economy initiatives to be included in the next phase are:

- Composting and organic waste management programs
- Extended Producer Responsibility programs
- Circular Procurement Policies
- Repair and reuse centres
- Green infrastructure development
- Collaboration with informal waste pickers
- Local circular economy hubs, etc.

4.9 FINANCING OF WASTE MANAGEMENT

4.9.1 BUDGET FOR WASTE SERVICES

The following table illustrates the budgeting framework for waste management within RMLM as received from RMLM for 2023/2024.

Table 4-38: Waste management budget for RMLM

FUNCTION SHORT DESCRIPTION	EVO BUDGET AMOUNT
Road and Traffic Regulation	R 250 000.00
Solid Waste Removal	R 30 000.00
Police Forces, Traffic and Street Parking Control	R 200 000.00
Solid Waste Removal	R 150 000.00
Fire Fighting and Protection	R 25 000.00
Solid Waste Removal	R 10 000.00
Community Halls and Facilities	R 200 000.00
Community Halls and Facilities	R 20 000.00
Solid Waste Removal	R 90 000.00
Solid Waste Removal	R 2 000 000.00

FUNCTION SHORT DESCRIPTION	EVO BUDGET AMOUNT
Solid Waste Removal	R 960 000.00
Fire Fighting and Protection	R 150 000.00
Community Halls and Facilities	R 20 000.00
Police Forces, Traffic and Street Parking Control	R 10 000.00
Road and Traffic Regulation	R 500 000.00
TOTAL	4 615 000.00

4.9.2 MUNICIPAL TARRIF

The table below illustrates the waste disposal tariffs for the Raymond Mhlaba Local Municipality as extracted from the RMLM IDP (2022).

Table 4-39: Waste Disposal Tariffs

FINAL TARIFF SCHEDULE FOR RMLM			
Category	Final 2022/2023 including VAT	Annual increase	Final 2023/2024
RESIDENTIAL REFUSE REMOVAL PER MONTH			
domestic refuse -	R159.67	1.053	R168.13
domestic refuse- Adelaide & Bedford areas (increases 9.9%)	R138.86	1.099	R152.61
Block of Flats			
Refuse Removal: per room	R159.67	1.053	R168.13
BASIC CHARGE			
Once Weekly Removal			
Shops Small Volume Class 1	R402.55	1.053	R423.88
Shops Medium Volume	R1 026.03	1.053	R1 080.41
Shops large Volume	R1 909.97	1.053	R2 011.20
Twice Weekly Removal			
Shops Large Volume twice a week: change shall be per month	R3 099.8	1.053	R3 263.54
Refuse: Government Departments			
Schools Small Volume Lower primary/old age homes	R492.76	1.053	R518.88
Schools Medium Volume Higher primary with Hostels	R1 230.71	1.053	R1 295.94
Schools Large Volume i.e. High School	R1 154.22	1.053	R1 215.40
District Offices: per office			
Garden Refuse	R653.33	1.053	R687.96
Removal without Notice	R966.00	1.053	R1 017.20

FINAL TARIFF SCHEDULE FOR RMLM			
Dumping sites usage: weekly usage: change shall be per month	R1 475.83	1.053	R1 554.05
Removal of rubble	R687.75	1.053	R724.20

5 GAPS AND NEEDS ANALYSIS

This section deals with the identification and analysis of gaps and needs within the RMLM that are used to develop strategic goals, targets, and indicators for the immediate, short, medium, and long term.

5.1 GAP AND NEEDS

Based on the findings of the status quo investigation, several gaps and needs have been identified. Gaps and needs related to waste management in the RMLM have been categorised in terms of each of the following waste management activities:

- Waste service delivery
- Waste minimisation, recycling, and re-use initiatives
- Organic waste management
- Hazardous waste management
- Waste management facilities
- Waste management collection fleet, plant, and equipment
- Waste education and public awareness
- Human and financial resource management
- Strategic planning

5.1.1 WASTE SERVICE DELIVERY

Table 5-1 provides the gaps identified in the waste management services with the resulting needs.

Table 5-1: Waste service delivery gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
The exact number of households not receiving waste collection services is unknown	Determine and increase the level of service provision. Update households serviced, un-serviced households, indigent register, etc., quarterly to improve the accuracy of data.
Outlying and rural areas making use of open burning of waste or own refuse dumps	The RMLM needs to investigate the disposal methods and determine the feasibility of providing creative collection services in the rural areas. The RMLM needs to promote supervised on-site disposal.

GAP IDENTIFIED	RESULTING NEED
Illegal dumping	RMLM to adopt a system of adopt a spot approach to create green spaces. Development of community garden, play parks, skate parks etc.
RMLM does not provide waste collection services to all households	Extend refuse collection services to un-serviced areas. Communal refuse collection services on a weekly and/or monthly basis.

5.1.2 WASTE MINIMISATION, RECYCLING AND RE-USE INITIATIVES

Table 5-2 provides the gaps identified in terms of waste minimisation, recycling, and reuse with the resulting needs.

Table 5-2: Waste minimisation, recycling and re-use initiatives gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
Low separation at source programmes	Implement programmes/initiatives to increase waste separation at source.
Low rates on recyclable material diversion from waste disposal sites	Improve rates on recyclable material diversion from waste disposal sites by increasing waste separation at source.
Minimal waste awareness campaigns undertaken in schools in RMLM	RMLM to increase waste awareness in schools by running awareness campaigns focusing on Reduce, Re-use, and Recycle.
Lack of organic waste management initiatives	Improve organic waste initiatives amongst community members regarding its benefits, i.e., composting.
Lack of composting sites	Construct composting facilities to minimise organic waste disposed to waste disposal sites and promote composting as part of recycling initiatives.
Effective collaboration with formal and informal waste pickers	Formally integrate formal and informal waste pickers on the RMLM WDF's through means of buy-back centres and material recovery facilities to divert waste disposal on land and to promote recycling activities.

5.1.3 ORGANIC WASTE MANAGEMENT

Table 5-3 provides the gaps identified in terms of organic waste management with the resulting needs.

Table 5-3: Organic waste management gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
<p>Insufficient amount composting facilities located within the RMLM</p>	<p>Establish composting facilities within Alice, Bedford, and Middledrift Waste Disposal Sites and within the RMLM near major organic waste generators</p>
<p>Lack of knowledge of home composting</p>	<p>Conduct home composting awareness and education campaigns to encourage home composting</p>

5.1.4 HAZARDOUS WASTE MANAGEMENT

Although local municipalities are not legally responsible for the management and safe disposal of hazardous waste¹ generated by major businesses and industries within their area of jurisdiction, they do need to ensure that no hazardous waste is disposed of on municipal waste disposal sites that are not licensed, developed, and operated to the required standards for disposal and hazardous waste. Table 5-4 provides the gaps identified in terms of hazardous waste management with the associated needs.

Table 5-4: Hazardous waste gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
<p>Lack of containers for safe disposal and storage of hazardous waste at the drop-off/transfer station facility and waste disposal sites</p>	<p>Provisions are to be made for safe hazardous waste collection and disposal at legally compliant hazardous waste disposal facilities.</p>

¹ In terms of the duty-of-care principle as required in NEMWA, generators of hazardous waste are responsible for the legally compliant management, treatment and disposal of such hazardous waste generated.

5.1.5 WASTE MANAGEMENT FACILITIES

Table 5-5 provides the gaps identified in terms of the waste management facilities with the resulting needs.

Table 5-5: Waste management facilities gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
ALICE WASTE DISPOSAL SITE	
No signage is present at the Alice Waste Disposal Site.	Applicable signs are to be erected at the entrance of the disposal site.
The Alice Waste Disposal Site boundary has not been fenced off. Insufficient access control measures in place, as no access gates are present to prevent unauthorised access.	Site to be fenced, and facility access control measures are to be implemented.
No collection of disposal tariffs at Alice Waste Disposal Site.	Disposal tariffs are to be collected to generate revenue for RMLM.
No waste tonnage data is recorded tariffs at Alice Waste Disposal Site.	Implement a waste tonnage recording system, i.e. waste calculator sheet.
Cover material is not used on Alice Waste Disposal Site - waste is burned.	Cover material needs to be sourced and utilised to cover exposed waste on the working face.
No formal management of stormwater and contaminated run-off at Alice Waste Disposal Site.	The development and construction of stormwater and contaminated run-off channels need to be done with the construction of a contaminated run-off pond.
No formal gas management at Alice Waste Disposal Site.	The installation of gas lines in the waste disposal site needs to occur to prevent methane from building up and bubbling to the surface, which poses a serious hazard.
No formal leachate management at Alice Waste Disposal Site.	The installation of a formal leachate liner system to allow for the pumping of leachate to a newly constructed leachate pond.
No control of nuisances and burning of waste evident on site. No Dust suppression measures implemented at Alice Waste Disposal Site.	The prohibition of waste burning needs to be enforced. A water truck is required for dust suppression on the access roads; water can be sourced from contaminated run-off ponds.
Informal reclamation of waste occurs at Alice Waste Disposal Site.	Integrate informal waste pickers with formal buy-back centres and material recovery facilities to promote recycling.
MIDDLEDRIFT WASTE DISPOSAL SITE	

GAP IDENTIFIED	RESULTING NEED
No signage present at the Middledrift Waste Disposal Site.	Applicable signs are to be erected at the entrance of the disposal site.
The Middledrift Waste Disposal Site boundary has not been fenced off. Insufficient access control measures in place, as no access gates are present to prevent unauthorised access.	Site to be fenced, and facility access control measures to be implemented.
No collection of disposal tariffs on Middledrift Waste Disposal Site.	Disposal tariffs are to be collected to generate revenue for RMLM.
No waste tonnage data is recorded tariffs at Middledrift Waste Disposal Site.	Implement a waste tonnage recording system, i.e., waste calculator sheet.
Cover material is not used on the Middledrift Waste Disposal Site - waste is illegally burned.	Cover material needs to be sourced and utilised to cover exposed waste on the working face.
No formal management of stormwater and contaminated run-off at Middledrift Waste Disposal Site.	The development and construction of stormwater and contaminated run-off channels need to be done with the construction of a contaminated run-off pond.
No formal gas management at Middledrift Waste Disposal Site.	The installation of gas lines in the waste disposal site needs to occur to prevent methane from building up and bubbling to the surface, which poses a serious hazard.
No formal leachate management at Middledrift Waste Disposal Site.	The installation of a formal leachate liner system to allow for the pumping of leachate to a newly constructed leachate pond.
No control of nuisances at Middledrift Waste Disposal Site. -Burning of waste evident on site. No dust suppression measures implemented.	The prohibition of waste burning needs to be enforced. A water truck is required for dust suppression on the access roads; water can be sourced from contaminated run-off ponds.
Informal reclamation of waste occurs at Middledrift Waste Disposal Site.	Integrate informal waste pickers with formal buy-back centres and material recovery facilities to promote recycling.
BEDFORD WASTE DISPOSAL SITE	
No signage present at the Bedford Waste Disposal Site.	Applicable signs are to be erected at the entrance of the disposal site.
The Bedford Waste Disposal Site boundary has not been fenced off. Insufficient access control measures in place, as no access gates are present to prevent unauthorised access.	Site to be fenced, and facility access control measures are to be implemented.
No collection of disposal tariffs on Bedford Waste Disposal Site.	Disposal tariffs are to be collected to generate revenue for RMLM.

GAP IDENTIFIED	RESULTING NEED
No waste tonnage data is recorded or reported at Bedford Waste Disposal Site.	Implement a waste tonnage recording system, i.e., waste calculator sheet.
Cover material is not used on Bedford Waste Disposal Site - waste is illegally burned.	Cover material needs to be sourced and utilised to cover exposed waste on the working face.
No formal management of stormwater and contaminated run-off at Bedford Waste Disposal Site.	The development and construction of stormwater and contaminated run-off channels need to be done with the construction of a contaminated run-off pond.
No formal gas management at Bedford Waste Disposal Site.	The installation of gas lines in the waste disposal site needs to occur to prevent methane from building up and bubbling to the surface, which poses a serious hazard.
No formal leachate management at Bedford Waste Disposal Site.	The installation of a formal leachate liner system to allow for the pumping of leachate to a newly constructed leachate pond.
No control of nuisances at the Bedford Waste Disposal Site - Burning of waste evident on site. No dust suppression measures implemented.	The prohibition of waste burning needs to be enforced. A water truck is required for dust suppression on the access roads; water can be sourced from contaminated run-off ponds.
Informal reclamation of waste occurs at Bedford Waste Disposal Site.	Integrate informal waste pickers with formal buy-back centres and material recovery facilities to promote recycling.
KWA MAQOMA TRANSFER STATION	
No operational transfer station in Kwa Maqoma Transfer Station.	Follow guidelines as set out in the National Norms and Standards for the Storage of Waste, 2013. Upgrade existing infrastructure and initiate operations at the facility.
No signage present at the Kwa Maqoma Transfer Station.	Signs are to be erected at the entrance of the disposal site.
Insufficient access control measures in place at Kwa Maqoma Transfer Station to prevent unauthorised access.	Site is to be fenced, and access control measures are to be implemented.
No surface water management systems in place at the Transfer station surface	Design and construct surface water management systems.
Waste illegally dumped at Kwa Maqoma Transfer Station is burned.	The prohibition of illegal dumping and burning of waste needs to be enforced.
Lack of public drop off facilities in unserviced areas	Establish public drop off facilities in unserviced areas
Lack of waste transfer stations, MRF's and buy-back centers	Apply for funding to establish waste management facilities

5.1.6 WASTE MANAGEMENT COLLECTION FLEET, PLANT AND EQUIPMENT

Table 5-6 provides the gaps identified in terms of the waste management collection fleet, plant, and equipment with the resulting needs.

Table 5-6: Waste management collection fleet and equipment gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
Time consuming transporting plant (yellow fleet) added between waste disposal sites	Procure plant for each waste disposal site to eliminate travel time and maximise operational capacity.
No compactor, water truck, or bulldozer at Waste Disposal Sites	The procurement of a compactor, water truck and bulldozer for the Waste Disposal Site.
No plant and skip bins at the Kwa Maqoma Transfer Station	The procurement of a TLB or at least a skip loader truck. The procurement of skip bins
Shortage of waste collection vehicles	Procurement of waste collection vehicles

5.1.7 WASTE EDUCATION AND PUBLIC AWARENESS

Table 5-7 provides the gaps identified in terms of the waste education and initiatives with the resulting needs.

Table 5-7: Waste education and initiatives gaps and needs

GAP IDENTIFIED	RESULTING NEED
Lack of waste awareness initiatives at schools	Implement waste awareness initiatives at schools

5.1.8 STAFF AND FINANCIAL RESOURCE MANAGEMENT

Table 5-8 provides the gaps identified in terms of the staff and financial resource management with the associated need to effectively address the gap.

Table 5-8: Staff and financial management gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
Vacancies in the waste management staff structure	Review staff structure and requirements. Community services department to facilitate appointment of qualified staff
In sufficient budget for waste management	The municipality must ensure that there is sufficient provision in the operational budget for upcoming projects

5.1.9 STRATEGIC PLANNING

Future planning is essential in ensuring that a waste management service can meet the changing requirements of a municipality and comply with changing legislation and best practice guidelines. Table 5-9 provides the gaps identified in terms of the future waste management planning with the associated need to address the gap effectively.

Table 5-9: Future planning gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
Review of IWMPs at required five-year intervals	Ensure review and update the IWMP at required five-year intervals.
Infrastructure planning, maintenance and upgrades at waste disposal sites and transfer station	Ensure sufficient budget available for maintenance and upgrade of current waste management facilities

5.2 SETTING STRATEGIC OBJECTIVES, TARGETS, AND INDICATORS

The goals and objectives of an IWMP are used to address potential shortcomings or necessary improvements identified during the gaps and needs analysis. Goals are long-term aspirations for waste management, while objectives are more focused, measurable targets which, if implemented correctly, will allow the municipality to reach the identified goals. It is important to note that steps should be taken to ensure that law enforcers oversee that the objectives for each goal are achieved and maintained.

The strategic goals can be divided into:

- Objectives
- Targets; and
- Indicators

The goals for the RMLM will be aligned with the 2022 – 2027 IDP for the RMLM, the Eastern Cape IWMP and the National Waste Management Strategy (NWMS) of 2020 guidelines and three strategic pillars.

5.2.1 GOALS IDENTIFIED FOR RMLM

Section 24 (1) and (2) of the Local Government: Municipal Systems Act (No: 32 of 2000) stipulates that:

- (1) The planning undertaken by a municipality must be aligned with and complement the development plans and strategies of other affected municipalities and other organs of state to give effect to the principles of cooperative government contained in section 41 of the Constitution.
- (2) Municipalities must participate in national and provincial development programmes as required in Section 153 (b) of the Constitution. “ Regulation 2(1)(d) further stipulates that “(1) A municipality integrated development

must at least identify – (d) all known projects, plans and programmes to be implemented within the municipality by any organ of state”.

In line with the above legislation and those of the 2022-2027 IDP and the National Waste Management Strategy (NWMS) of 2020 guidelines and three strategic pillars, the following goals for the RMLM were formulated:

- Goal 1: Waste minimisation
- Goal 2: Effective and sustainable waste services
- Goal 3: Compliance, enforcement, and awareness
- Goal 4: Sufficient institutional capacity to implement integrated waste management
- Goal 5: Improve integrated waste management future planning
- Goal 6: Effective waste information management

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Table 5-10: Strategic goals and their objectives and targets

OBJECTIVES	TARGETS	INDICATORS
Goal 1: Waste Minimization, Re-use and recovery		
Implement separation at source programmes at households and schools to improve diversion rates of recyclable materials	Implement programmes/initiatives at 50 schools & 1000 households to increase waste separation at source	Number of schools & households participating in separation at source programmes
Increase re-use, recovery and recycling of waste to reduce waste disposal to landfill	Optimalisation of the Alice buy-back center	Diverted recyclable waste tonnages from landfill
	Record keeping of waste tonnages recycled	Operation of buy-back center
	Initiating 2 recycling forums	Number of recycling forums
Integrate formal and informal waste pickers in the municipality	Identify and register 50 waste pickers	Number of waste pickers integrated into municipal waste management system
Develop organic waste management initiatives/composting facilities	Establish 20 organic waste initiatives	Number of organic waste initiatives
Goal 2: Institutional and Planning matters:		
Review municipal waste organogram	Develop a municipal waste management organogram	Number of qualified staff appointed in critical vacancies in waste management
	Ensure sufficient budget available to advertise and fill critical vacancies in.	
Ensure sufficient institutional capacity for both human and financial resources to address integrated waste management planning	Ensure sufficient budget available for waste management projects	Budget for waste management projects available
Goal 3: Establish Minimum Service Standards and Cost Recovery		

OBJECTIVES	TARGETS	INDICATORS
Identify households not receiving waste management collection services	Identify all households not receiving waste management collection services	Number of households receiving waste collection services
Establish minimum service standard to improve waste collection	Improve waste collection services to 70% of households	Percentage of households receiving waste collection services
Goal 4: Waste Management Infrastructure		
Improve solid waste management infrastructure through resuscitation of closed facilities	Resuscitation of the KwaMaqoma transfer station	Tonnages of waste transferred from transfer station to WDF
Management of stormwater and leachate management systems at existing facilities	Development of formal stormwater and leachate management systems	Installation of formal stormwater & leachate management systems; Volumes of stormwater diverted from entering facilities; Volumes of leachate prevented from seepage into surface area
Improve access control at waste management facilities	Appoint security personnel/access control at waste management facility entrances	Number of people ensuring access control at facility entrances
Improve solid waste management infrastructure through development of drop off facilities, transfer stations, MRF's and buy-back centres	Operation of buy-back center	Quantities of waste bought by buy-back center
	Operation of drop off facilities	Tonnages of waste processed by drop off facility
	Operation of MRF's	Tonnages of recyclable materials processed
Goal 5: Awareness and Education		
Increase waste awareness campaigns in schools	Initiate waste awareness campaigns in 50 schools	Number of schools participating in waste awareness programmes
Increased waste awareness initiatives	Conduct waste awareness workshops four times per year	Number of waste awareness workshops conducted

OBJECTIVES	TARGETS	INDICATORS
Waste management training courses for municipal officials	Undertake waste management training courses twice per year for municipal officials	Number of waste management training courses attended
Goal 6: Monitoring Compliance, Enforcement and Remediation		
Increase compliance of waste management authorisation conditions for existing facilities	Achieve audit scores for waste management facilities above 80%	Percentage of internal and external audit scores obtained
Ensure all waste management activities comply with NEM:WA and other relevant regulations	All waste management facilities to comply with authorisation conditions	Number of compliance audits conducted
Enforce RMLM by-laws	Collaboration with local law enforcement to assist with enforcement of by-laws	Number of enforcement actions taken

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6 IDENTIFICATION, EVALUATION AND SELECTION OF ALTERNATIVES

The section below (Table 6-1) identifies and evaluates different alternatives (approaches) that can be employed by the Municipality to achieve the strategic targets of the desired end state.

Table 6-1 Preferred alternatives for the RMLM

OBJECTIVES	TARGETS	INDICATORS	PREFERRED ALTERNATIVES
Goal 1: Waste Minimization, Re-use and recovery			
Implement separation at source programmes at households and schools to improve diversion rates of recyclable materials	Implement programmes/initiatives at 50 schools & 1000 households to increase waste separation at source	Number of schools & households participating in separation at source programmes	Encourage participation for separation at source through rewards programs or rebates for sorted recyclable materials
Increase re-use, recovery and recycling of waste to reduce waste disposal to landfill	Optimalisation of the Alice buy-back center	Diverted recyclable waste tonnages from landfill	Collaborate with private recyclers and NGOs for additional support and investment
	Record keeping of waste tonnages recycled	Operation of buy-back center	Installation of weighbridges for record keeping purposes
	Initiating 2 recycling forums	Number of recycling forums	Introduce mobile or online forums to engage the wider community
Integrate formal and informal waste pickers in the municipality	Identify and register 50 waste pickers	Number of waste pickers integrated into municipal waste management Environment & Waste Department PRO's system	Provide training and PPE for waste pickers for safer, more efficient operations

OBJECTIVES	TARGETS	INDICATORS	PREFERRED ALTERNATIVES
Develop organic waste management initiatives	Establish 20 organic waste initiatives	Number of organic waste initiatives and/or composting facilities established	Establish 20 community gardens for the engagement of community members
Goal 2: Institutional and Planning matters:			
Review municipal waste organogram	Develop a municipal waste management organogram	Number of qualified staff appointed in critical vacancies in waste management	Outsource non-critical waste functions temporarily to private sector while building municipal capacity
	Ensure sufficient budget available to advertise and fill critical vacancies in.		
Ensure sufficient institutional capacity for both human and financial resources to address integrated waste management planning	Ensure sufficient budget available for waste management projects	Budget for waste management projects available	Explore public-private partnerships (PPPs) to co-fund waste related projects and fill critical resource gaps
Goal 3: Establish Minimum Service Standards and Cost Recovery			
Identify households not receiving waste management collection services	Identify all households not receiving waste management collection services	Number of households receiving waste collection services	Undertake a community census on all households to determine the households receiving weekly refuse collection services from the RMLM
Establish minimum service standard to improve waste collection	Improve waste collection services to 70% of households	Percentage of households receiving waste collection services	n/a
Goal 4: Waste Management Infrastructure			
Improve solid waste management infrastructure through resuscitation of closed facilities	Resuscitation of the KwaMaqoma transfer station	Tonnages of waste transferred from transfer station to WDF	Partner with PRO's to reduce costs of refurbishing the KwaMaqoma TS

OBJECTIVES	TARGETS	INDICATORS	PREFERRED ALTERNATIVES
Management of stormwater and leachate management systems at existing facilities	Development of formal stormwater and leachate management systems	Installation of formal stormwater & leachate management systems; Volumes of stormwater diverted from entering facilities; Volumes of leachate prevented from seepage into surface area	Construct berms at all WDF's to prevent run-off water from coming into contact with the waste body to prevent generation of contaminated run-off water
Improve access control at waste management facilities	Appoint security personnel/access control at waste management facility entrances	Number of people ensuring access control at facility entrances	Employ EPWP workers at facilities to act as access control personnel
Improve solid waste management infrastructure through development of drop off facilities, transfer stations, MRF's and buy-back centres	Operation of buy-back center	Quantities of waste bought by buy-back center	Engage private organisations within the RMLM to operate buy-back centres, drop-off facilities and MRF's on behalf of the RMLM
	Operation of drop off facilities	Tonnages of waste managed by drop off facility	
	Operation of MRF's	Tonnages of recyclable materials processed	
Goal 5: Awareness and Education			
Increase waste awareness campaigns in schools	Initiate waste awareness campaigns in 50 schools	Number of schools participating in waste awareness programmes	Make waste education programs more engaging by organizing contests or waste-related quizzes with rewards in partnership with PRO's
Increased waste awareness initiatives	Conduct waste awareness workshops four times per year	Number of waste awareness workshops conducted	Use local radio stations and networks to amplify workshop messages to the general public

OBJECTIVES	TARGETS	INDICATORS	PREFERRED ALTERNATIVES
Waste management training courses for municipal officials	Undertake waste management training courses twice per year for municipal officials	Number of waste management training courses attended	Create e-learning modules to provide ongoing, affordable training opportunities regarding best practice for municipal officials
Goal 6: Monitoring Compliance, Enforcement and Remediation			
Increase compliance of waste management authorisation conditions for existing facilities	Achieve audit scores for waste management facilities above 80%	Percentage of internal and external audit scores obtained	Undertake quarterly internal audits at all waste management facilities to monitor compliance at facilities
Ensure all waste management activities comply with NEM:WA and other relevant regulations	All waste management facilities to comply with authorisation conditions	Number of compliance audits conducted	Appoint external auditors to conduct external waste facility audits
Enforce RMLM by-laws	Collaboration with local law enforcement to assist with enforcement of by-laws	Number of enforcement actions taken	Implement community-based waste monitors (environmental inspectors) to identify by-law violations and assist with enforcement efforts

7 IMPLEMENTATION INSTRUMENTS

Following the identification of gaps and needs based on the status quo of waste management and the establishment of goals, objectives and targets with the identification of the preferred alternatives for the Raymond Mhlaba Local Municipality. Measures on how to implement the identified alternatives must be established for the Raymond Mhlaba Local Municipality.

Implementation instruments refer to the practical tools and methods used to carry out and achieve the strategic goals and targets outlined in the preferred alternatives section of the IWMP. These tools include partnerships with relevant stakeholders & organizations, creation of legislative frameworks, development of economic strategies, and the establishment of financial plans. Each instrument is essential in transforming the IWMP from a conceptual framework into real-world actions. Collaboration with stakeholders ensures these instruments are customized to the unique needs and circumstances of the municipality, promoting efficient and sustainable waste management practices. The following implementation instruments are to be used as part of the implementation process of the IWMP in the Raymond Mhlaba Local Municipality:

- Partnerships
- Legislative Instruments
- Funding Mechanisms
- Implementation Plan

7.1 PARTNERSHIPS

The formation of partnerships as a strategy for delivering the services and infrastructure needed for Integrated Waste Management should be explored during IWMP development. Establishing partnerships is acknowledged as a key strategy for providing of essential services and facilities required for Integrated Waste Management Planning. The costs and demands of maintaining a sustainable municipal waste management system are substantial, making it necessary for various stakeholders to support and promote effective waste management practices amongst community members. To achieve the goals and objectives set out various partnerships must be considered, this includes:

- Public-public partnerships
- Public-private partnerships
- Community Based Organizations (CBO's)/Non-Governmental Organizations (NGO's)

7.1.1 PUBLIC-PUBLIC PARTNERSHIPS

Public-public partnerships entail collaborations between different public entities, such as government agencies, local, district or provincial authorities, or public

institutions. With regards to the management of waste, this type of partnership entails cooperation between various public entities at different levels, including local, district, provincial and national, to collectively address waste related challenges and activities. The goal of Public-Public Partnerships is to combine resources, knowledge, and expertise to improve the efficiency and effectiveness of waste management efforts. These partnerships often lead to the creation of comprehensive, coordinated strategies for waste reduction, recycling, and disposal, ensuring a unified response to community needs and environmental issues. Support and collaboration can be achieved through existing relationships with public enterprises including:

- Eastern Cape Department of Economic Development, Environmental Affairs and Tourism – compliance with environmental legislation and EIA regulations, licencing of waste management facilities and activities.
- Department of Water and Sanitation – compliance with regulations and legislation related to water use activities, including waste water treatment facilities, water courses and catchment management areas.
- Department of Forestry, Fisheries and the Environment – assist with funding (Municipal Infrastructure Grant, Consolidated Municipal Infrastructure Programme, Local Economic Development Fund) where the province and district can't provide input. Implementation of Extended Public Works Programme (EPWP) for waste related activities.
- Environmental Inspectors – enforcement and compliance of municipal waste by-laws.
- Municipal Traffic Officers - enforcement and compliance of municipal waste by-laws.
- South African Police Service – enforcement and compliance of municipal waste by-laws.
- National Prosecuting Authority – Prosecuting offenders of environmental legislation with regards to pollution, littering and illegal dumping.

7.1.2 PUBLIC-PRIVATE PARTNERSHIPS (PPP)

A Public-Private Partnership (PPP) involves cooperation between a public-sector entity and a private company/organization. Under this arrangement, the private entity takes on financial risks linked to the project, including capital expenses, facility design, construction, and operational costs. The public entity usually maintains ownership of the land, while the private sector funds and oversees the development of fixed assets, which eventually become public property. This partnership facilitates shared responsibilities and resources, combining the strengths of both sectors to ensure the project's success.

Entering into partnerships with the private sector (small community based SMMEs & PRO's) is essential for the successful execution of waste minimisation, reuse and recycling initiatives. A handful of businesses in the RMLM participate in recycling or recovering of different waste streams.

The following initiatives can be implemented for public-private partnerships:

- PRO's and EPR Schemes- Producer Responsibility Organizations (PROs) and Extended Producer Responsibility (EPR) schemes are essential in assisting the public sector with waste management by transferring the responsibility from municipalities to producers and manufacturers. These programs help reduce the financial and operational pressures on the public sector by making producers accountable. By fostering sustainable practices, investing in infrastructure, and promoting waste reduction, these initiatives play a crucial role in improving waste management efficiency. Examples of PRO's that can participate include:
 - PET Recycling Company (PETCO)
 - The Glass Recycling Company (TGRC)
 - South African Vinyl Association (SAVA)
 - Ardagh Glass (formerly known as Consol)
 - South African Pulp and Paper Industries (SAPPI)
 - POLYCO (The Polyolefin Responsibility Organisation)
 - Expanded Polystyrene Association of Southern Africa (EPSASA)
- Local SMMEs require increased empowerment to ensure the establishment and maintenance of effective (recycling) systems.
- Different recycling organisations also exist and includes:
 - The National Recycling Forum
 - Glass recycling association of South Africa
 - Paper recycling association of South Africa
 - National Oil recycling association of South Africa
 - The Rose Foundation

7.1.3 COMMUNITY BASED ORGANIZATIONS (CBO's)/NON-GOVERNMENTAL ORGANIZATIONS (NGO's)

This collaboration entails active participation from community members who receive the service, working together with the public entity that delivers the service. A typical example in waste management is the engagement of community-based contractors in recycling initiatives, which may involve tasks like collecting recyclables that have been sorted at the source. There are potential opportunities for collaboration on community-based waste management programs with the following organizations:

- South African Local Government Association (SALGA):
- SALGA provide support across multiple disciplines, including the waste management sector. The RMLM can engage with SALGA to partake in and derive benefits from their extensive programs.

- Institute for Waste Management of Southern Africa:
- The RMLM can collaborate with IWMSA by participating in various training programs. By joining IWMSA interest groups like Collection and Transport, Landfill and Waste Treatment, and Waste Minimization and Recycling, RMLM can stay updated on industry developments and actively contribute to progress in the field.

7.2 LEGISLATIVE INSTRUMENTS: DEVELOPMENT AND ENFORCEMENT OF BY-LAWS

The development and implementation of Integrated Waste Management Plans (IWMPs) depend on the establishment of suitable municipal legislation. Municipalities have the power to enact by-laws that support national and provincial regulations. Enforcing these by-laws is crucial and can be achieved through municipal mechanisms, such as, Waste Management Control Officers, Environmental Officers, Peace Officers, or other designated authorities within the municipality, including Municipal law enforcement agencies and ward councillors. It is recommended that the RMLM continuously enforce and review the municipal by-laws to address the following challenges experienced with waste management:

- Illegal dumping and littering
- Burning of waste
- Provision of waste receptacles
- Waste disposal tariffs
- Management of industrial & health care risk waste
- Waste collection and transportation

7.3 FUNDING MECHANISMS

A key prerequisite for the effective implementation of IWMPs is securing adequate funding to support the plan. Funding will be needed for various purposes, including building municipal capacity, developing and enforcing by-laws, creating and executing the IWMP, covering the development, operation, and maintenance costs of waste management facilities, and designing and commissioning new waste management facilities.

The RMLM can obtain funding from various sources such as Equitable Share Funding, grant allocations, revenue generated from rates and tariffs, and income from fines. For one-time projects, possible funding sources include the Municipal Infrastructure Grant (MIG) for infrastructure-related initiatives, as well as donor funding to support specific aspects of waste service delivery. The Expanded Public Works Programme Integrate Grant for Municipalities provides incentive funding to expand job creation efforts in specific focus areas, where labour intensive delivery methods can be maximised for waste management related activities. The Budget Facility for Infrastructure (BFI) is a budget reform initiative established to support priority infrastructure projects through a more rigorous project planning, appraisal,

and selection process. The intention is to support enhanced project outcomes and improved value for money to government.

To ensure sustainable revenue sources the RMLM must conduct a full cost accounting to accurately determine the expenses involved in delivering waste management services. This will enable the RMLM to set tariffs that reflect the true cost of providing these services and generate accurate revenue.

Taking into consideration the gaps and needs analysis, funding will be required for the following activities:

- Waste minimisation, recycling and re-use initiatives:
- Waste management facilities:
- Waste education and public awareness
- Waste management training of municipal officials and councillors
- Strategic planning

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7.4 IMPLEMENTATION PLAN

The implementation plan in the table below addresses the six goals of the Raymond Mhlaba Local Municipality IWMP, for each goal outlines the following:

- Objective
- Target
- Indicators
- Responsible department
- Timeframe
- Financial resources required

OBJECTIVES	TARGETS	INDICATORS	RESPONSIBLE DEPARTMENT	TIMEFRAME	BUDGET
Goal 1: Waste Minimization, Re-use and recovery					
Implement separation at source programmes at households and schools to improve diversion rates of recyclable materials	Implement programmes/initiatives at 50 schools & 1000 households to increase waste separation at source	Number of schools & households participating in separation at source programmes	RMLM-Environment & Waste Department Amathole District Municipality; Local Government support DFFE	Year 2	R10 000 per school
Increase re-use, recovery and recycling of waste to reduce waste disposal to landfill	Optimalisation of the Alice buy-back center	Diverted recyclable waste tonnages from landfill	RMLM-Environment & Waste Department	Year 2	R500 000
	Record keeping of waste tonnages recycled	Operation of buy-back center	RMLM-Environment & Waste Department	Year 3	Nil, to be undertaken internally

OBJECTIVES	TARGETS	INDICATORS	RESPONSIBLE DEPARTMENT	TIMEFRAME	BUDGET
	Initiating 2 recycling forums	Number of recycling forums	RMLM- Environment & Waste Department	Year 1 – year 5	R100 000 per forum
Integrate formal and informal waste pickers in the municipality	Identify and register 50 waste pickers	Number of waste pickers integrated into municipal waste management Environment & Waste Department PRO's system	RMLM- Environment & Waste Department Local DFFE	Year 2	R100 000
Develop organic waste management initiatives/composting facilities	Establish 20 organic waste initiatives	Number of organic waste initiatives and/or composting facilities established	RMLM- Environment & Waste Department Amathole District Municipality; Local DFFE	Year 3 – year 5	R20 000 per initiative
Goal 2: Institutional and Planning matters:					
Review municipal waste organogram	Develop a municipal waste management organogram	Number of qualified staff appointed in critical vacancies in waste management	RMLM- Environment & Waste Department	Year 1	R10 000
	Ensure sufficient budget available to advertise and fill critical vacancies		RMLM- Environment & Waste Department	Year 1	Nil, to be undertaken internally

OBJECTIVES	TARGETS	INDICATORS	RESPONSIBLE DEPARTMENT	TIMEFRAME	BUDGET
Ensure sufficient institutional capacity for both human and financial resources to address integrated waste management planning	Ensure sufficient budget available for waste management projects	Budget for waste management projects available	RMLM- Environment & Waste Department RMLM- Finance Department	Year 5	Nil, to be undertaken internally
Goal 3: Establish Minimum Service Standards and Cost Recovery					
Identify households not receiving waste management collection services	Identify all households not receiving waste management collection services	Number of households receiving waste collection services	RMLM- Environment & Waste Department	Year 1	R100 000
Establish minimum service standard to improve waste collection	Improve waste collection services to 70% of households	Percentage of households receiving waste collection services	RMLM- Environment & Waste Department	Year 3	R2 000 000
Optimise the waste collection routes	Optimised waste collection routes	Improved waste collection service delivery	RMLM- Environment & Waste Department	2 years	R400 000
Goal 4: Waste Management Infrastructure					
Improve solid waste management infrastructure through resuscitation of closed facilities	Resuscitation of the KwaMaqoma transfer station	Tonnages of waste transferred from transfer station to WDF	RMLM- Environment & Waste Department	Year 1 – year 3	R5 000 000

OBJECTIVES	TARGETS	INDICATORS	RESPONSIBLE DEPARTMENT	TIMEFRAME	BUDGET
Management of stormwater and leachate management systems at licensed facilities	Development of formal stormwater and leachate management systems	Installation of formal stormwater & leachate management systems; Volumes of stormwater diverted from entering facilities; Volumes of leachate prevented from seepage into surface area	RMLM-Environment & Waste Department	Year 5	R9 000 000
Improve access control at waste management facilities	Appoint security personnel/access control at waste management facility entrances	Number of people ensuring access control at facility entrances	RMLM-Environment & Waste Department	Year 1	R2 000 000
Improve solid waste management infrastructure through development of drop off facilities, transfer stations, MRF's and buy-back centres	Operation of buy-back center	Quantities of waste bought by buy-back center	RMLM-Environment & Waste Department in partnership with PRO's	Year 1	R1 000 000
	Operation of drop off facilities	Tonnages of waste managed by drop off facility	RMLM-Environment & Waste Department	Year 3	R3 000 000
	Operation of MRF's	Tonnages of recyclable materials processed	RMLM-Environment & Waste Department in partnership with PRO's	Year 3	R2 000 000
Goal 5: Awareness and Education					

OBJECTIVES	TARGETS	INDICATORS	RESPONSIBLE DEPARTMENT	TIMEFRAME	BUDGET
Increase waste awareness campaigns in schools	Initiate waste awareness campaigns in 50 schools	Number of schools participating in waste awareness programmes	RMLM- Environment & Waste Department	Year 1	R5 000 per school
Increased waste awareness initiatives	Conduct waste awareness workshops four times per year	Number of waste awareness workshops conducted	RMLM- Environment & Waste Department	1-2 years	R25 000 per workshop
Waste management training courses (accredited and non-accredited) for municipal officials	Undertake waste management training courses twice per year for municipal officials	Number of waste management training courses attended	RMLM- Environment & Waste Department; Amathole District Municipality; Local Government Support DFFE	Year 1 – year 5	R10 000 per official
Goal 6: Monitoring Compliance, Enforcement and Remediation					
Increase compliance of waste management authorisation conditions for existing facilities	Achieve audit scores for waste management facilities above 80%	Percentage of internal and external audit scores obtained	RMLM- Environment & Waste Department	Year 3 – year 5	Nil, to be undertaken internally
Ensure all waste management activities comply with NEM:WA and other relevant regulations	All waste management facilities to comply with authorisation conditions	Number of compliance audits conducted	RMLM- Environment & Waste Department	Year 3 – year 5	R20 000 per external audit

OBJECTIVES	TARGETS	INDICATORS	RESPONSIBLE DEPARTMENT	TIMEFRAME	BUDGET
Enforce RMLM by-laws	Collaboration with municipal law enforcement to assist with enforcement of by-laws	Number of enforcement actions taken	RMLM- Environment & Waste Department; Local Law Enforcement	1-3 years	R400 000

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8 REPORTING ON IMPLEMENTATION, MONITORING AND REVIEW

According to Section 13 (3) of the Waste Act, annual performance reports prepared under Section 46 of the Municipal Systems Act must include details about the implementation of the municipal IWMP, covering the information specified in paragraphs (a) to (j) of subsection (2) as it pertains to the municipality's performance. Section 13 also specifically requires that progress reports must consider implementation of the IWMP including:

- the extent to which the plan has been implemented during the period;
- the waste management initiatives that have been undertaken during the reporting period;
- the delivery of waste management services and measures taken to secure the efficient delivery of waste management services, if applicable;
- the level of compliance with the plan and any applicable waste management standards;
- the measures taken to secure compliance with waste management standards;
- the waste management monitoring activities;
- the actual budget expenditure on implementing the plan;
- the measures that have been taken to make any necessary amendments to the plan;
- in the event of any non-compliance with the plan, the reasons for such non-compliance: and
- any other requirements as may be prescribed by the Member of the Executive Council (MEC).

8.1 MONITORING AND REVIEW

The designated Waste Management Officer (WMO) is responsible for preparing the performance reports on the implementation of the IWMP on an annual basis.

The Annual Performance Report must summarise the municipality's progress towards meeting the goals, targets and objectives outlined in the Implementation Plan of the IWMP. More specifically, the Report should comprise of the following:

Strategic issues: The MLM's performance and progress on meeting the short, medium and long term goals, objectives and targets;

Financial issues: Reporting on budget forecasting, obtaining sufficient budgets and budgeting constraints with respect to both existing waste management operations and the implementation of this IWMP;

IWMP amendments: Amendments to the IWMP necessitated by the outcomes of feasibility studies, financial constraints etc.

Communication: Keeping councillors, key stakeholders and the residents informed on the progress in meeting the IWMP.

8.2 REVISION OF THE IWMP

As this IWMP forms part of the Integrated Development Plan required in terms of Chapter 5 of the Municipal Systems Act, this IWMP must be comprehensively reviewed after five years. Therefore, the next comprehensive revision of the IWMP should occur in 2029.

The comprehensive review will update the status quo, evaluate overall progress against the goals, objectives and targets outlined in this IWMP, review gaps and needs and reformulate the goals and objectives as required to continue to improve waste management services in the Raymond Mhlaba Local Municipality.

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9 CONCLUSION

This report serves to analyse and quantify all aspects related to the current waste management services and practices carried out by the Raymond Mhlaba Local Municipality, with the view of using this information as a basis for future planning. It includes an evaluation of the national, provincial and local waste management policies and strategies, a description of the population and development profiles of the Municipality, an assessment of the quantities and types of waste generated in the Municipality, a description of waste management services provided by the Municipality in terms of minimisation, recycling and recovery, collection, transport, transfer (where required), treatment and disposal of waste and a description of private waste management activities undertaken in the Raymond Mhlaba Local Municipality's jurisdiction.

The identified gaps and needs for the Municipality are discussed, and respective overarching goals were formulated that address the needs identified. The goals provide a guideline for the Municipality to improve their waste minimisation, deliver more effective and sustainable waste services, become more legally compliant, enforce waste management legislation and increase waste awareness within the Raymond Mhlaba Local Municipality. This phase of the IWMP development comprised the identification, selection, and evaluation of the preferred alternatives to be implemented in the RMLM to achieve the goals and targets of the Desired End State phase of the IWMP. Alternative measures were identified to be adopted and implemented by the RMLM to improve their current waste management activities. The selected alternatives will enable the RMLM to align with the municipal IDP and the goals of the 2020 National Waste Management Strategy and ultimately contribute to a more effective and sustainable waste management system within the municipality. The implementation plan provides the municipality with a timeframe and budget required to reach the set targets for the municipality.

A comprehensive review will be required every 5 years to update the status quo, evaluate overall progress against the goals, objectives and targets outlined in this IWMP to continue to improve waste management services in the MLM.

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APPENDIX A: CLEAN UP CAMPAIGNS OF THE RMLM

ENVIRONMENTAL AWARENESS AND CLEAN-UP CAMPAIGN IN ALICE (SPACE BETWEEN GOLF AND TOWN)

DATE: 2 AUGUST 2023

VENUE:

NAME AND SURNAME	DESIGNITION	CONTACT DETAILS	SIGNATURE
Qulu Qoqamba	EPWP	073 4356 369	<i>[Signature]</i>
Mkhadi Sithamanda	EPWP	060 729 0329	S. Mkhadi
Siphokazi Sindi	EPWP	0730407981	<i>[Signature]</i>
Sindiswa MARASI	E.P.W.P.	0655787802	Ss. Marasi
Zolele Mazi	E.P.W.P.	0783765854	Zmazi
ABONGILE GUBENI	E.P.W.P.	0829726257	P. GUBENI

ENVIRONMENTAL AWARENESS AND CLEAN-UP CAMPAIGN IN ALICE (SPACE BETWEEN GOLF AND TOWN)

DATE: 2 AUGUST 2023

VENUE:

NAME AND SURNAME	DESIGNITION	CONTACT DETAILS	SIGNATURE
Dlwethu Dlotombi	E.P.W.P.	0812427131	<i>[Signature]</i>
DINGEZIWE CABA	E.P.W.P.	064 8170084	<i>[Signature]</i>
AVUYILE SINDUKU	E.P.W.P.	0655983462	A. SINDUKU
AKHONA THOMAS	E.P.W.P.	0732626250	A. A. THOMAS
NOLWE KAFI	E.P.W.P.	0710244798	<i>[Signature]</i>
Bushula Nontyatyambo	E.P.W.P.	0810665924	<i>[Signature]</i>

ENVIRONMENTAL AWARENESS AND CLEAN-UP CAMPAIGN IN ALICE (OPPOSITE COUNCEL CHAMBER)

DATE: 29 AUGUST 2023

VENUE: OPPOSITE COUNCEL CHAMBER

NAME AND SURNAME	DESIGNITION	CONTACT DETAILS	SIGNATURE
AVUYILE SINDUKU	E.P.W.P.	0655983462	A. SINDUKU
AKHONA THOMAS	E.P.W.P.	0732626250	A. A. THOMAS
NOLWE KAFI	E.P.W.P.	0710244798	<i>[Signature]</i>
Unathi Maziko	EPWP	078 793 42 82	U. Maziko
Nombini MANJAMBA	EPWP	066 1109350	N.M.
LAHISWE SAPI	EPWP	0763581181	<i>[Signature]</i>
Thokuthalo Sitemelo	EPWP	0833253118	<i>[Signature]</i>
Yana Nontyatyambo	EPWP Supervisor	062 059 6100	<i>[Signature]</i>
Vuylwethu Stofie	EPWP	0711069426	V. Stofie
Nyokazi Takwetu	EPWP	0786553607	<i>[Signature]</i>