Garden Route District Municipality

Garden Route District Municipality
Integrated Waste Management Plan
3rd Generation
2020 - 2025

FINAL

J38216

January 2020

GIBB
ENGINEERING & ARCHITECTURE
People • Expertise • Excellence

Garden Route District Municipality Integrated Waste Management Plan

CONTENTS

Acknowledgements

GIBB wishes to thank Mr Morton Hubbe and Mr Johan Gie at the GRDM for their support and guidance during the compilation of this third generation IWMP. A further acknowledgement must be given to Mr Dean Gilbert, Mr August Hoon and their team at the Department of Environmental Affairs and Development Planning for provision of waste information and the detailed review and comments on the draft IWMP.

Contact Information

Please contact the undermentioned should you require further information.

GIBB (Pty) Ltd	
Address: Port Elizabeth Office	Port Elizabeth 1st Floor St. George's Corner 116 Park Drive Central Port Elizabeth 6001 PO Box 63703 Greenacres 6057 Tel: +27 41 509 9150 Fax: +27 41 363 9300
Website	www.gibb.co.za
Contact Person 	Kate Flood Environmental Scientist
Contact number	041 509 9150
Cell number	084 631 1456
Fax Number	041 363 9300
Email	kflood@gibb.co.za

Revision Status

Rev No.	Issue Date	# Pages	Revision Description	Prepared By	Reviewed By	Approved By
0	04 June 2019	114	Situation Analysis draft	K Flood	W. Fyvie	W. Fyvie
1	29 July 2019	131	Gap and needs assessment and objectives and targets	K Flood	W. Fyvie	W. Fyvie
2	30 July 2019	141	Implementation plan	K Flood	W. Fyvie	W. Fyvie
3	31 July 2019	144	Updated IWMP	K Flood	W. Fyvie	W. Fyvie

Rev No.	Issue Date	# Pages	Revision Description	Prepared By	Reviewed By	Approved By
4	02 October 2019	186	Final draft IWMP	K. Flood	W. Fyvie	W. Fyvie
5	18 November 2019	228	Final IWMP	K. Flood	W. Fyvie	W. Fyvie
6	06 January 2020	231	Final IWMP (minor corrections)	K. Flood	W. Fyvie	W. Fyvie

Distribution List

Copies to:

Copy 1 of 4	Mr M. Hubbe (Garden Route District Municipality)
Copy 2 of 4	Mr J. Gie (Garden Route District Municipality)
Copy 3 of 4	Mr A. Hoon (DEA&DP)
Copy 4 of 4	Mr D. Gilbert (DEA&DP)

Abbreviations / Acronyms / Definitions

BLM	Bitou Local Municipality
CCA	Chromated copper arsenate
C&DW	Construction and demolition waste
COGTA	Cooperative Governance and Traditional Affairs
DEA	Department of Environmetal Affairs
DEA&DP	Department of Environmental Affairs and Development Planning
DEFF	Department of Environment, Forestry and Fisheries
DM	District Municipality
DOH	Department of Health
DoE	Department of Education
DWS	Department of Water and Sanitation (formerly Department of Water Affairs (DWA)
ECA	Environment Conservation Act (73 of 1989)
EMI	Environmental Management Inspectorate
EPWP	Expanded Public Works Programme
eWASA	e-Waste Association of South Africa
FBRR	Free Basic Refuse Removal
GDPR	Gross Domestic Product per Region
GLM	George Local Municipality
GRDM	Garden Route Disitrct Municipality
GRWMIS	Garden Route District Waste Management Information System
HCRW	Health Care Risk Waste
HHW	Household Hazardous Waste
HLM	Hessequa Local Municipality
IDP	Integrated Development Plan
indWMP	Industry Waste Management Plan
IPWIS	Integrated Pollutant and Waste Information System
IT	Information Technology
IWM	Integrated Waste Management
IWMP	Integrated Waste Management Plan.
IWMSA	Institute of Waste Management South Africa

KLLM	Kannaland Local Municipality
KLM	Knysna Local Municipality
LAs	Local Authorities (Local and District level authorities)
LM	Local Municipality
MBLM	Mossel Bay Local Municipality
MEC	Member of Executive Council
MIIU	Municipal Infrastructure Investment Unit
MRF	Material Recovery Faciliity
NEMA	National Environmental Management Act
NEMWA	National Environmental Management: Waste Act (59 of 2008)
NWMS	National Waste Management Strategy
OHSA	Occupational Health and Safety Act (85 of 1993)
OLM	Oudtshoorn Local Municipality
PCBs	Polychlorinated Biphenyls
PE-HD	Polyethylene high density
PE-LD-	Polyethylene low density
PET	Polyethylene Terephthalate
POP(s)	Persistent Organic Pollutant(s)
PP	Polypropylene
PS	Polystyrene
PSC	Project Steering Committee
PUDSS	Permissible Utilisation and Disposal of Sewage Sludge
PVC	Polyvinyl Chloride
RDP	Reconstruction and Development Programme
ROSE	Recycling Oil Saves the Environment
RSA	Republic of South Africa
SABS	South African Bureu of Standards
SANBI	South African National Biodiversity Institute
SAWIS	South African Waste Information Centre
SIDA	Swedish International Development Coorporation Agency
SOER	State of Environment Report
UN	United Nations
WCDoH	Western Cape Department of Health
WCIWMP	Western Cape Integrated Waste Management Plan
WHO	World Health Organisation
WIS	Waste Information System
WMO(s)	Waste Management Officer(s)
WWTW	Waste Water Treatment Works

Appendices

List of Figures

List of Tables

1 Introduction

The Garden Route District Municipality (GRDM) (formerly the Eden District Municipality) is required to develop an Integrated Waste Management Plan (IWMP) as per the requirements of the National Environmental Management Waste Act (59 of 2008) as amended (hereafter referred to as the Waste Act). The IWMP must be endorsed by the Department of Environmental Affairs and Development Planning (DEA&DP) and then incorporated into the municipal integrated development plan (IDP).

GIBB (Pty) Ltd (hereafter referred to as GIBB) has been appointed to revise the Garden Route District Municipality (GRDM) IWMP and the IWMPs for the seven local municipalities in the GRDM, namely:

- Bitou Local Municipality (BLM)
- George Local Municipality (GLM)
- Hessequa Local Municipality (HLM)
- Kannaland Local Municipality (KLLM)
- Knysna Local Municipality (KLM)
- Mossel Bay Local Municipality (MBLM)
- Oudtshoorn Local Municipality (OLM)

1.1 Definition of Waste

The Waste Act defines waste as follows:

a) any substance, material or object that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 of this Act; or

b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette, but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste-

   i. once an application for its re-use, recycling or recovery has been approved or, after such approval once it is, or has been re-used, recycled or recovered;

   ii. where approval is not required, once a waste is, or has been re-used, recycled or recovered;

   iii. where the Minister has, in terms of Section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or

   iv. where the Minister has, in the prescribed manner, excluded any waste stream of a portion of a waste stream from the definition of waste.

1.2 Contents of an IWMP

The Waste Act outlines the requirements for an IWMP. These requirements have been included in the table below along with a description of how this requirement has been met and details of where in this report that relevant information is located.

Table 1: The Waste Act Requirements for an Integrated Waste Management Plan

Waste Act section no.	Requirement	Section in the IWMP
12(1)(a)	Contain a situation analysis that includes-	Section 6. Situation Analysis
12(1)(a)(i)	A description of the population and development profiles of the area to which the plan related	Section 6.3 Demographics
12(1)(a)(ii)	An assessment of the quantities and types of waste that are generated in the area	Section 6.6 Waste Profile Section 6.7 Domestic Waste Generation Section 6.8 Hazardous Waste Generation Section 6.9 Heath Care Risk Waste Generation
12(1)(a)(iii)	A description of the services that are provided , or that are available for the collection, minimisation, re-use, recycling and recovery, treatment and disposal of waste	Section 6.13 Waste Services Section 6.14 Waste Recycling
12(1)(a)(iv)	The number of persons in the area who are not receiving waste collection services	Section 6.13 Waste Services
12(1)(b)	Within the domain of the municipality, set out how that municipality intends to:	
12(1)(b)(i)	To give effect, in respect of waste management, to chapter 3 of the National Environmental Management Act	Section 8 Goals, Objectives, Assessment of Alternatives identifies methods to improve waste management in the GRDM
12(1)(b)(ii)	To give effect to the objectives of this Act	Section 9 Implementation Plan identifies mechanisms to improve waste management in the GRDM.
12(1)(b)(iii)	To identify and address the negative impacts of poor waste management practise on health and the environment	Section 9 Implementation Plan identifies mechanisms to improve waste management in the GRDM.
12(1)(b)(iv)	To provide for the implementation of waste minimisation, re-use, recycling and recovery targets and initiatives	Section 9 Implementation Plan identifies mechanisms to improve waste management in the GRDM.
12(1)(b)(v)	in the case of a municipal IWMP, to address the delivery of waste management services to residential premises	Section 9 Implementation Plan identifies mechanisms to improve waste management in the GRDM.
12(1)(b)(vi)	To implement the Republic's obligations in respect of relevant international agreements	Appendix A. Waste Legislation
12(1)(b)(vii)	To give effect to best environmental practice in respect of waste management	Section 9 Implementation Plan
12(1)(c)	Within the domain of the provincial department, set out how the provincial department intends to identify the measures that are required and that are to be implemented to support	Not applicable. This requirement is applicable to the Western Cape IWMP.

Waste Act section no.	Requirement	Section in the IWMP
	local municipalities to give effect to the objects of this Act	
12(1)(d)	Set out the priorities of the provincial department or municipality in respect of waste management	Section 8 Goals and Objectives Section 9 Implementation Plan
12(1)(e)	Establish targets for the collection, minimisation, re-use and recycling of waste	Section 9 Implementation Plan
12(1)(f)	Set out the approach of the municipality for the planning of any new facilities for disposal and decommissioning of existing waste disposal facilities	Section 9 Implementation Plan
12(1)(g)	Indicate the financial resources required to give effect to the plan	Section 9 Implementation Plan
12(1)(h)	Describe how the municipality intends to give effect to its IWMP	Section 9 Implementation Plan
12(1)(i)	Comply with requirements prescribed by the Minister	-

1.3 History of Integrated Waste Management Plans in the Garden Route District Municipality

This is the third generation IWMP for the GRDM and this plan will cover the period 2020 – 2025. The first generation IWMP for GRDM was developed in 2006, and was then subsequently revised in 2014. An IWMP is typically revised every 5 years to parallel the municipal IDP planning process, and to take into cognisance changes in the status quo of waste management and changes in legislation and guidelines related to waste management.

The development of the IWMP is currently out of sync with the GRDM IDP cycles. The current GRDM IDP (4th generation) covers the period 2017 -2022. The IDP is however reviewed on an annual basis, all the projects listed in the implementation plan of this IWMP should be included in the next annual review of the IDP to ensure budget is allocated for the implementation of the projects.

1.4 Objectives of an Integrated Waste Management Plan

The aim of an IWMP is to determine the status quo of waste management and identify measures to improve waste management in the municipality. The objective of this IWMP is to present a vision of waste management in the GRDM. The majority of the project identified in this IWMP will be conducted over a five year timeframe, however some longer term projects have also been identified. The National Waste Management Strategy of 2011 (NWMS) identifies the primary objective of integrated waste management planning as being to: "integrate and optimize waste management so that the efficiency of the waste management system is maximised and the impacts and financial costs associated with waste management are minimised, thereby improving the quality of life of all South Africans."

The NWMS also presents the waste management hierarchy which outlines the preferred methods for management of waste.

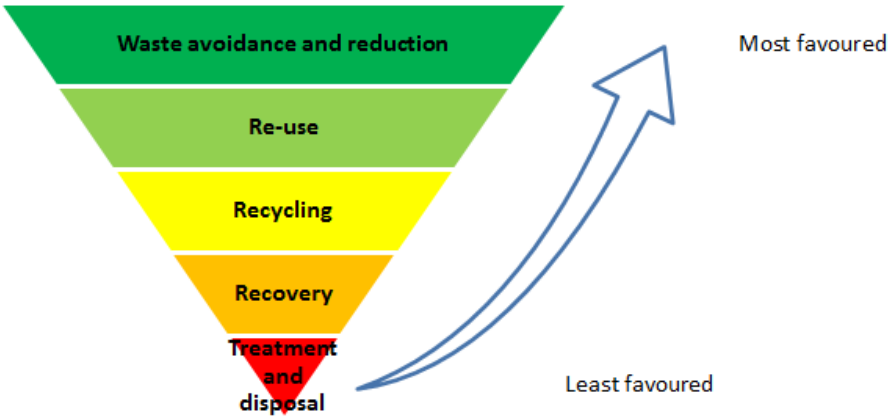

Figure 1: The waste hierarchy as per the National Waste Management Strategy (DEA, 2011)

The 2011 NWMS is currently under review. The goals of both the 2011 and draft 2018 NWMS will be reviewed and incorporated into this IWMP.

1.5 Integrated Waste Management Plan Development Process

In addition to the Waste Act, two documents were considered when developing this IWMP. The first is the Department of Environmental Affairs (DEA) Guideline for the Development of Integrated Waste Management Plans (IWMPs). This guideline outlines the following planning process.

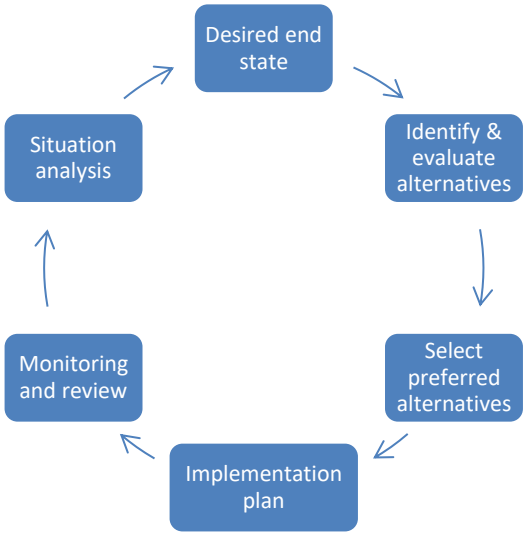

Figure 2: IWMP planning phases as per the Guidelines for the Development of Integrated Waste Management Plans (DEA)

The second is a guideline titled "Integrated Waste Management Planning (IWMP), A Guide for Waste Management Planning", developed by DEA&DP which consists of two volumes:

- Volume 1: Conducting a Status Quo Analysis; and,
- Volume 2: Section A: Identification of Waste Management Needs and Objectives
  Section B: Development, Implementation and Evaluation of IWMPs

Volume 1 presents the detailed planning cycle, presented in Figure 3 below, which is centred around public participation, education and outreach. This diagram clearly identifies the importance of IWMPs being developed in consultation with key stakeholders (authorities, waste management companies, industries etc.) and the public.

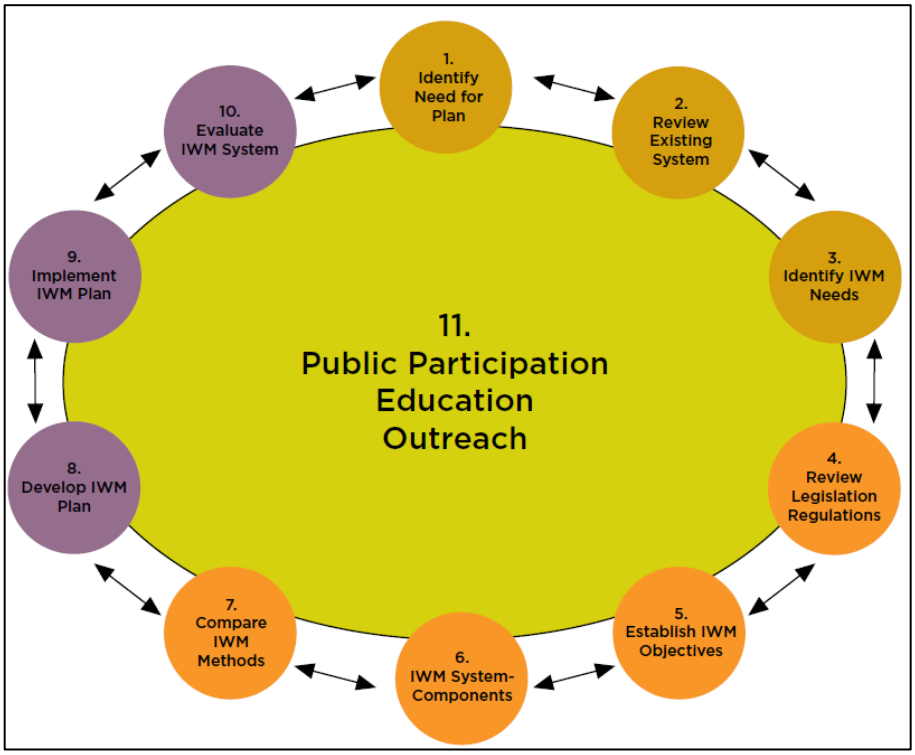

Figure 3: Integrated Waste Management Planning Cycle (source, DEA&DP, undated)

1.6 Scope of the Integrated Waste Management Plan

This IWMP is limited to the jurisdictional area of the GRDM which covers an area of 22,331km^2 and is composed of seven local municipalities. The GRDM is one of the five district municipalities in the Western Cape and covers the third largest geographical area.

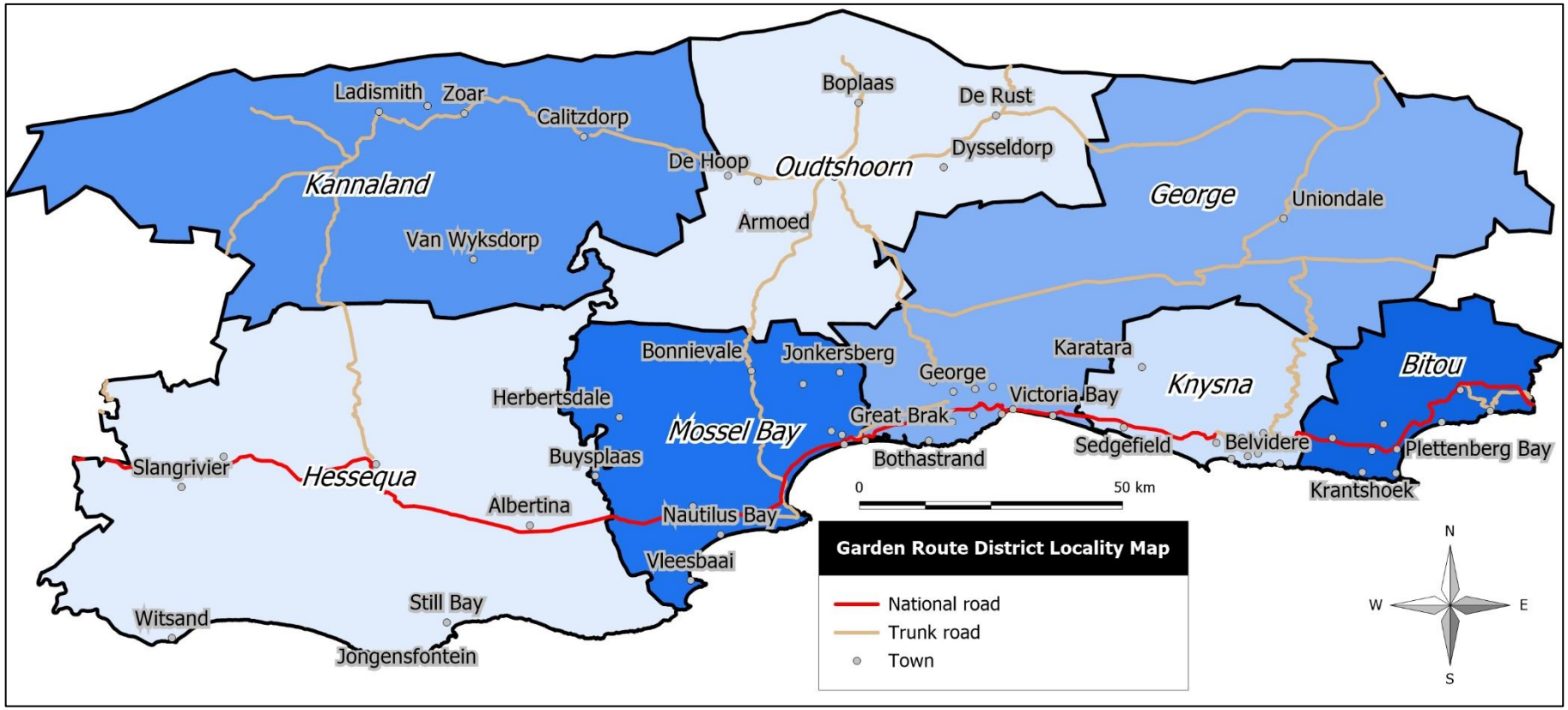

Figure 4: Garden Route District Municipality Jurisdictional Area

1.7 Context of Roles and Responsibilities

1.7.1 National Government

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

1.7.2 Provincial Government

Provincial governments are tasked with the implementation of the National Waste Management Strategy and national norms and standards, and may set additional, complementary provincial norms and standards. The Waste Act notes that these norms and standards must amongst other things facilitate and advance regionalization of waste management services. The Constitution requires Provincial Government to monitor and provide support to municipalities in the province and to promote the development of local government capacity.

1.7.3 District Municipalities

Section 84 of the Municipal Systems Act (Act 32 of 2000) 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, as is the case in the GRDM the district can perform this role.

1.7.4 Local Government

The Waste Act 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 landfill and manage waste information appropriately.

Local municipalities are also required to maintain separate financial statements, including a balance sheet of the services provided.

(a) Responsibilities in Terms of Garden Route District Municipality By-Laws

The GRDM by-laws define a municipal waste collection service as a service which collects domestic waste and general business waste. This suggests that local municipalities are responsible for the collection of all domestic waste (which would include household hazardous waste) but only general waste generated by business or industry.

1.7.5 Waste Management Officer

The Waste Act requires that all local municipalities appoint a waste management officer (WMO) from its administration who is responsible for co-ordinating waste management in the municipality.

The responsibilities of the WMO of a local municipality are defined in the National Waste Management Strategy (2011) as:

- Manage stakeholders in the implementation of the Waste Act;
- Liaise with EMI compliance monitoring activities in the municipality;
- Plan and implement the municipal IWMP and subsequent reporting cycles;
- Build capacity in relation to Waste Act implementation; and
- Monitor adherence to norms and standards in the delivery of waste services.

The Department of Environment, Forestry and Fisheries (DEFF, formerly the Department of Environmental Affairs), Guideline for designation of WMOs (DEA, 2008) further expands on the role of the WMO for local municipalities.

1.8 Alignment with other Strategic Plans

There are a number of strategic plans on a national, provincial and local level which have been taken into consideration during the developing this IWMP. A summary of these is provided in this section below.

1.8.1 Alignment with National Strategic Plans

(a) National Waste Management Strategy (2011)

The National Waste Management Strategy (NWMS) is structured around a framework of eight goals. The goals along with their respective targets were supposed to have been met by 2016. The second generation NWMS is currently under review, however it is anticipated that this IWMP will be finalised before the third generation NWMS is finalised.

Table 2: National Waste Management Strategy Objectives

Goal	Targets for 2016
1. Promote waste minimisation, re-use, recycling and recovery of waste.	• 25% of recyclables diverted from landfill sites for re-use, recycling or recovery • All metropolitan municipalities, secondary municipalities, and large towns have initiated separation at source programmes • Achievement of waste reduction and recycling targets as set in industry waste management plans for paper and packaging, pesticides, lighting (CFLs) and tyre industries
2. Ensure the effective and efficient delivery of waste services.	• 95% of urban households and 75% of rural households have access to adequate levels of waste collection services • 80% of waste disposal sites have permits
3. Grow the contribution of the waste sector to the green economy.	• 69,000 new jobs created in the waste sector • 2,600 additional SMEs and cooperatives participating in waste service delivery and recycling
4. Ensure people are aware of the impact of waste on their health, well-being and the environment.	• 80% of municipalities running local awareness campaigns • 80% of schools implementing waste awareness campaigns

Goal	Targets for 2016
5. Achieve integrated waste management planning.	• All municipalities have integrated their IWMPs with their IDPs, and have met the targets set in IWMPs • All waste management facilities required to report to SAWIS have waste quantification systems that report information to WIS
6. Ensure sound budgeting and financial management for waste services	• All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs
7. Provide measures to remediate contaminated land.	• Assessment complete for 80% of sites reported to the contaminated land register • Remediation plans approved for 50% of confirmed contaminated sites
8. Establish effective compliance with and enforcement of the Waste Act	• 50% increase in the number of successful enforcement actions against non-compliant activities • 800 environmental management inspectors (EMIs) appointed in the three spheres of government to enforce the Waste Act

(b) Draft National Waste Management Strategy (2018)

As previously mentioned, the DEFF is currently revising the 2011 NWMS. The 2018 NWMS has three strategic goals to drive an improvement in waste management in South Africa:

1. Waste minimisation;
2. Effective and sustainable waste services; and
3. Awareness and compliance

These are further unpacked in Table 3 below.

Table 3: Summary of 2018 NWMS Goals

Goal	Implementation mechanism
1. Prevent waste, and where waste cannot be prevented, divert 50% of waste from landfill within 5 years; 65% within 10 years; and at least 80% of waste within 15 years through reuse, recycling, and recovery and alternative waste treatment.	**Waste Prevention:** • Prevent waste through cleaner production, industrial symbiosis, and extended producer responsibility • Prevent food waste by working with agricultural producers, retailers, the hospitality sector and consumers. **Waste as a Resource:** • Divert organic waste from landfill through composting and the recovery of energy • Divert construction and demolition waste from landfill through beneficiation • Increase recycling and recovery rates • Increase technical capacity and innovation for the beneficiation of waste
2. All South Africans live in clean communities with waste services that are well managed and financially sustainable.	**Waste Collection:** • Implementation of the DEFF separation at source policy to promote reuse, recycling and recovery of waste • Safe and environmentally sustainable disposable of hazardous household wastes. **Integrated Waste Management Planning:** • Provinces provide effective regional guidance and oversight in the development and implementation of metro, district and local municipality IWMPs within the context of overarching Provincial Integrated Waste Management Plans • All local authorities to include provisions for recycling drop-off/buy-back/storage centres in their IWMPs by 2020
3. South Africans are aware of waste and a culture of	• Reduction of littering and illegal dumping due to attitudinal shifts and greater public awareness of the environmental damage caused by waste

Goal	Implementation mechanism
compliance with waste management norms and standards exists, resulting in zero tolerance of pollution, litter and illegal dumping.	• Enhanced capacity to enforce the Waste Act and International Agreements on waste and pollution • Municipal landfill sites and waste management facilities comply with licensing standards • All local authorities to include provisions for recycling drop-off/buy-back/storage centres in their IWMPs by 2020

(c) Operation Phakisa: Chemicals and Waste Phakisa

Operation Phakisa, an initiative which looks to unlock South Africa's economic potential, sets a number of waste-related national targets. These targets include:

- Reduce industrial waste to landfill by 75%;
- Reduce municipal waste to landfill site by 50%;
- Move towards zero sewage sludge to landfill by 2023;
- Move toward zero meat production waste to landfill by 2023;
- Increase e-waste recycling from 7% to 30%;
- Create 1,000 jobs through the recycling and re-use of government computers;
- 50% of households in metropolitan municipalities separating at source by 2023;
- 8,000 direct and indirect jobs through plastic recycling; and
- Produce building aggregates and construction inputs from rubble and glass

1.8.2 National Development Plan

South Africa National Development Plan (NDP) was published in 2012 and outlined the required steps to eliminate poverty and reduce inequality by 2030.

The NDP sets the following objectives related to waste management:

- An absolute reduction in the total volume of waste disposed to landfill site each year through a national recycling strategy;
- Carbon price, building standards, vehicle emission standards and municipal regulations to achieve scale in stimulating renewable energy, waste recycling and retrofitting buildings;
- Consumer awareness initiatives and sufficient recycling infrastructure should result in South Africa becoming a zero waste society; and
- Implement a waste management system through rapid expansion of recycling infrastructure and encouraging composting of organic domestic waste to bolster economic activity in poor urban communities

The NDP also recognises the opportunity for the manufacturing sector to reuse waste.

1.8.3 Back to Basics

The National Department of Cooperative Governance and Traditional Affairs (COGTA) showcased a new strategy at the Presidential Local Government Summit in 2014. The strategy was titled Back to Basics: Serving our Communities Better.

The strategy identified that although progress had been made with regard to service delivery since 1994, more actions were needed to support, educate and, where required, enforce the government mandate for service delivery.

The Back to Basics programme is centred around five pillars:

1. **Put people and their concerns first** and ensure constant contact with communities through effective public participation platforms;
2. **Create conditions for decent living** by consistently delivering municipal services to the right quality and standard. This includes planning for and delivery of infrastructure and amenities, maintenance and upkeep, including the budgeting to do this. Ensure no failures in services and where there are, restore services with urgency;
3. **Be well governed** and demonstrate good governance and administration – cut wastage, spend public funds prudently, hire competent staff and ensure transparency and accountability;
4. **Ensure sound financial management and accounting,** and prudently manage resources so as to sustainably deliver services and bring development to communities; and
5. **Build and maintain sound institutional and administrative capabilities**, administered and managed by dedicated skilled personnel at all levels.

The Back to Basics pillars are all applicable to waste management within the municipality.

1.8.4 Alignment with Provincial Strategic Plans

(a) Western Cape Integrated Waste Management Plan

The first generation Western Cape IWMP (WCIWMP) was revised in 2017. The WCIWMP is centred around 4 goals and 14 strategic objectives.

Table 4: Western Cape 2017 IWMP Goals and Objectives

Goal	Strategic Objectives
Goal 1. Strengthen education, capacity and advocacy towards integrated waste management	**1.** Facilitate consumer and industry responsibility in integrated waste management **2.** Promote and ensure awareness and education of integrated waste management **3.** Build and strengthen waste management capacity
Goal 2. Improved integrated waste management planning and implementation for efficient waste services and infrastructure	1. Facilitate municipal waste management planning 2. Promote industry waste management planning 3. Promote the establishment of integrated waste management infrastructure and services 4. Ensure effective and efficient waste information management
Goal 3. Effective and efficient utilisation of resources	1. Minimise the consumption of natural resources 2. Stimulate job creation within the waste economy 3. Increase waste diversion through re-use, recovery and recycling
Goal 4. Improved compliance with environmental regulatory framework	1. Strengthen compliance monitoring and enforcement 2. Remediate and rehabilitate contaminated land 3. Facilitate the development of waste policy instruments 4. Promote self/co-regulatory measures

The GRDM IWMP has been aligned with the WCIWMP and such projects will be incorporated into the implementation plan for the GRDM.

(b) Western Cape Provincial Strategic Plan 2014 - 2019

The Western Cape Provincial Strategic Plan 2014 – 2019 is built on the vision of "an open-opportunity society for all". The plan identifies five Provincial Strategic Goals which can assist the province to overcome challenges and move towards realising the aforementioned provincial vision.

The five strategic goals are:

1. Create opportunities for growth and jobs;
2. Improve education outcomes and opportunities for youth development;
3. Increase wellness, safety and tackle social ills;
4. Enable a resilient, sustainable, quality and inclusive living environment; and
5. Embed good governance and integrated service delivery through partnerships and spatial alignment

(c) Western Cape Strategic Framework for the Provincial Strategic Plan 2019-2024

The draft Strategic Framework for the Provincial Strategic Plan identified that waste management in the province is in decline or a concern. Further, waste management was identified as one of the top five municipal planning priorities across the province.

The framework has five vision inspired priorities:

1. Safe and cohesive communities
2. Growth and jobs
3. Empowering people
4. Mobility and spatial transformation
5. Innovation of culture

Waste management is addressed under priority area 1 which identified the need for improving the cleanliness of neighbourhoods. Cleaner neighbourhoods will be achieved through improving waste management in vulnerable communication and using the Green Scorpions to target illegal dumping.

One of the areas covered in priority area 2 is climate change and resource pressure. The need to divert waste from landfill and invest in waste infrastructure is identified here.

(d) Western Cape Provincial Spatial Development Framework

The aim of the 2014 Provincial Spatial Development Framework (PSDF) is to bridge the gap between the National Development Plan and provincial strategies with the aim of improving service delivery. The 2014 Western Cape PSDF identifies that as the population of the Western

Cape continues to increase additional waste disposal facilities will be required, unless the waste management hierarchy is implemented. The PSDF further recognises the need for innovation in the waste sector in order to increase waste recycling and reuse. The need for waste-to energy in the long term is also referred to in the plan.

Two provincial spatial policies related to waste management were identified:

1. Mainstream waste recycling and reuse in area of high waste generation to unlock economic opportunities and save landfill site airspace; and
2. Close down illegal waste sites and establish new regional facilities near rail facilities to decrease transportation costs

(e) Western Cape Green Economy Strategy Framework, 2013

The 2013 Western Cape Green Economy Strategy Framework presents the Western Cape's vision of becoming the leading green economic hub in Africa.

The strategy identifies three high level priorities for green growth:

1. Natural gas and renewables;
2. Financial infrastructure; and
3. Green jobs – including the waste sector

(f) Western Cape Waste Awareness Strategy

The Western Cape Waste Awareness Strategy was released by DEA&DP in March 2018. The strategy is designed as a guideline to assist with the successful development and implementation of waste awareness initiatives. The plan identifies several mechanisms to increase waste management awareness and outlines the advantages and disadvantages of each initiative.

(g) Department of Environmental Affairs and Development Planning: Position Papers

A number of position papers have recently been published by DEA&DP, these positon papers present best practice solutions to key waste management challenges faced in the province.

Table 5: Overview of DEA&DP waste management position papers

Position paper	Overview
Provision of Municipal Waste Management Services within the Context of Rapid Urbanisation	The GRDM is identified as on the areas in the Western Cape which is subject to rapid urbanisation. One of the impacts of rapid urbanisation is the development of informal settlements. Informal settlements typically lack basic services such as waste management and as a result waste is burnt which results in air pollution. The following solutions to a lack of waste services in informal areas are proposed: • Upgrading of informal settlements to allow for the provision of basic services • Use of incentives such as buy back centres and swop shops to encourage recycling • Increasing waste management awareness, particularly with regards to recycling initiatives • Implementation of waste separation at source programmes and use of appropriate collection methods

Position paper	Overview
	• Use of SME's to manage waste streams such as faecal sludge which can be used in waste-to-energy projects
Regionalisation of Waste Management Services	At present many municipalities operate several landfill sites within their municipal boundaries. These facilities have high operational costs and are often not compliant with their license conditions and as such are the source of negative environmental impacts. This position paper identifies that development of regional landfill sites may assist in addressing these issues. Benefits of developing a regional site include cost savings through sharing of costs between several municipalities and making recycling more economically viable through economies of scale. There are however a number of challenges including the financial cost of establishing a site, high level of skills required, a lack of political or public support for a site, increased transportation costs for waste and district municipalities not being eligible for Municipal Infrastructure Grants to fund the development of a regional site.
Organic Waste Management	Organic waste is identified as a problematic waste stream in the Western Cape, in excess of 37% of waste generated in the province is organic waste. Landfilling of organic waste results in loss of airspace, methane and leachate generation, odour and health impacts. Diversion of organic waste from landfill can reduce these negative impacts and also result in job creation at waste management facilities. Use of compost and biochar can be used as an alternative to fertilisers to improve soil condition. The position papers proposes several mechanisms to increase diversion of organic waste from landfill. These include setting of targets for diversion at a provincial and national level, raising the threshold of activities such as composting which require a waste management license, regionalising waste diversion programmes to benefit from economic of scale and development of infrastructure to facilitate diversion of organic waste.

1.8.5 Alignment with Regional Strategic Plans

(a) Eden District Municipal Waste Management Policy

The Eden District Municipal Waste Management Policy was approved by council in 2017. The policy outlines the mechanisms through which the GRDM will exercise its responsibilities in terms of waste management. The policy covers the following key items:

1. Waste information management – the implementation of the Garden Route Waste Information Management System(GRWMIS);
2. Waste management plans – requirements for industry waste management plans and municipal IWMPs;
3. Waste minimisation and recycling – encourage waste minimisation and recycling, introduce a system of accreditation for waste collectors, transporters and recyclers;
4. Municipal service – adoption of waste management tariffs for the regional landfill site, establishment of a district inter-municipal waste management forum;
5. Service provider- makes provision for the GRDM to enter into a public private partnership (PPP) with a service provider who can be used to provide waste management services;
6. Categorisation of waste and the management of certain types of waste – implementation of the National Norms and Standards for Assessment of Waste for Landfill;

7. Commercial services and the accreditation of service providers – allows for the development of a permit system for hazardous waste management companies; and
8. Administrative enforcement – enforcement of waste management by-laws, training of municipal officials.

(b) Garden Route District Municipality Integrated Development Plan Final Reviewed 2018/19 – 2021/22

Waste management features strongly throughout the IDP and failure to dispose of waste correctly is one of the top ten institutional risks identified by Eden DMs management team.

The vision of the GRDM is *"Eden the leading, enabling, inclusive district, characterised by equitable and sustainable development, high quality of life and equal opportunities for all".*

The IDP identifies seven strategic objectives to achieve this vision. Strategic related directly to waste management are also listed below.

1. Healthy and socially stable communities
2. A skilled workforce and communities
3. Bulk infrastructure co-ordination (landfill site construction)
4. Environmental management and public safety (protect and enhance the natural assets in the district through planning, disaster management and fire services, waste management and air quality control)
5. Financial viability
6. Good governance
7. An inclusive district economy

The following waste management challenges were identified in the IDP

- Providing recycling infrastructure and implementing minimisation programmes or appoint service providers to assist in a recycling programme in the municipal areas
- A lack of comprehensive public awareness regarding sustainable waste management
- A lack of knowledge and experience regarding alternative waste management technologies
- A lack of information regarding waste generation types and volumes
- Ageing collection fleet which is not aesthetically pleasing
- Lack of monitoring of waste management facilities
- Lack of disposal airspace
- Lack of drop-off and storage facilities for household hazardous waste
- Generic by-laws development by the EDM (GRDM) have not be incorporated into local municipal by-laws
- Waste tariffs used by local municipalities are unclear and are escalated annually instead of being informed by a full cost accounting exercise
- Rural areas and farms should have access to waste disposal
- High costs associated with the clean-up on illegally dumped waste

- Waste facilities operating without a waste management license
- Lack of income for the GRDM to perform waste management functions

(c) Garden Route District Municipality Spatial Development Framework (2017)

The 2017 GRDM Spatial Development Framework (SDF) identifies four key drivers for spatial changes in the GRDM.

1. The economy is the environment
2. Regional accessibility for inclusive growth
3. Co-ordinated growth management for financial sustainability
4. Planning, budgeting and management as one government

The SDF includes an overview of the objectives of the 2014 IWMP and identifies the need for increased public awareness of waste management to reduce transportation costs and divert waste from landfill.

Waste management is identified as one of the top 10 “Big Ideas” and the SDF further identifies the establishment of the regional landfill site as a top priority.

1.8.6 Alignment with Local Strategic Plans

(a) Local Municipality Integrated Waste Management Plans

As previously mentioned, the IWMPs for the seven local municipalities are also currently under review. The local and district municipality IWMPs are being developed at the same time to ensure synergy between the plans. The goals of the GRDM will impact on the goals and the local municipality plan and vice versa.

2 Approach and Methodology

2.1 Legislated Requirements for Integrated Waste Management Plans

The requirements of the National Environmental Management Waste Act (Act 59 of 2008, as amended) (refer to table 1) and the Department of Environmental Affairs (DEA) Guideline for the Development of Integrated Waste Management Plans were used to guide the development of this IWMP.

2.2 Methodology

A phased approach was used to develop the IWMP, as detailed below.

2.2.1 Integrated Waste Management Plan Review

The GRDM 2014 IWMPs and IWMPs for all seven local municipalities were reviewed for content. A performance review of the projects listed in the GRDM 2014 IWMP implementation plan was also undertaken. Information gathered during the review of seven local municipality IWMPs was used to inform the GRDM IWMP.

2.2.2 Literature Review

A review of legislation was undertaken. This included the following key documents:

- Western Cape IWMP (2017)
- Western Cape Position Papers:
  - Position Paper on the Provision of Municipal Waste Management Services within the Context of Rapid Urbanisation; (2017)
  - Position Paper on the Regionalisation of Waste Management Services (2017)
  - Position Paper on Organic Waste Management (2017)
  - Position Paper on Construction and Demolition Waste Management (2017)
- Eden District Municipality Final Draft 2018/19 - 20
- Bitou Local Municipality 2nd Generation IWMP (2014)
- George Local Municipality 2nd Generation IWMP (2014)
- Hessequa Local Municipality 2nd Generation IWMP (2014)
- Kannaland Local Municipality 2nd Generation IWMP (2014)
- Knysna Local Municipality 2nd Generation IWMP (2014)
- Mossel Bay Local Municipality 2nd Generation IWMP (2014)
- Oudtshoorn Local Municipality 2nd Generation IWMP (2014)
- Eden District Municipality Final Reviewed Integrated Development Plan Final Reviewed 2018/19 – 2021 - 2022
- Garden Route Waste Management Information System(GRWMIS), Integrated Pollutant and Waste Information System (IPWIS) and South African Waste Information System (SAWIS) statistics;
- Waste facility licenses; and
- Statistics SA Census 2011 and Community Survey 2016 data

Waste information systems:
This report refers to a number of different waste information systems, a brief description of the different systems is provided below.

1. **South African Waste Information System** (SAWIS) – A national waste information system managed by DEFF. Information reported on the SAWIS is publically accessible through the South African Waste Information Centre (SAWIC)
2. **Integrated Pollutant and Waste Information System** (IPWIS) – A provincial waste information system managed by DEA&DP. Data reported on the IPWIS is uploaded to the SAWIS on a quarterly basis by DEA&DP. The local municipalities in GRDM report data to IPWIS.
3. **Garden Route Waste Management Information System** (GRWMIS)– a district waste information system managed by GRDM

A full list of documentation reviewed is available as the reference list at the end of this report.

2.2.3 Questionnaires

A questionnaire was developed for use when engaging with private companies and industries. The aim of the questionnaire was to capture information on the generation of business, commercial, agricultural and industrial waste with a focus on hazardous waste. A database of industry in GRDM was developed based on:

- Companies identified in the project initiation meeting;
- Recommendations from the GRDM and local municipalities; and
- Review of members of the Business Chambers of various local municipalities

Details of the industries to which the questionnaires were issued are shown below.

Table 6: Summary of industries to which the commerical waste surveys were issued

Industry type	No. survey issued	No. responses
Abattoir	5	3
Automotive	3	2
Beauty product manufacture	2	0
Building/ construction	4	2
Dairy	2	1
Environmental NPO	1	1
E-waste recycling	1	0
Fishing industry	5	1
Food industry	1	1
Furniture/ timberworks	4	1
Hazardous waste management	4	2
Medical waste company	2	2
Panel beater	2	1
Port management	1	1
Recycler	20	16
Tannery	2	1
Timber mill	16	9
Waste management company	6	6
Winery	4	3

Industry type	No. survey issued	No. responses
Total	**85**	**53**

**Note, some companies were interviewed more than once if they had a facility or depot in more than one local municipality*

2.2.4 Site Visits and Ground-Truthing

Site visits were undertaken to all seven local municipalities to undertaken facility inspection, fleet inspections, inspections of illegal dump site, interviews with municipal employees and interviews with businesses. A visit was also undertaken to GRDM to understand the current role of the GRDM and services provided to the local municipalities.

Table 7: Site visits to local municipalities and the Garden Route District Municipality

Facility	Date of visit
Mossel Bay Local Municipality	04 – 08 March 2019
George Local Municipality	01 – 04 April 2019
Knysna Local Municipality	08 – 11 April 2019
Oudtshoorn Local Municipality	08 – 11 April 2019
Kannaland Local Municipality	15 – 18 April 2019
Garden Route District Municipality	24 – 25 April 2019
Hessequa Local Municipality	29 April – 03 May 2019

2.2.5 Engagements with Garden Route District Municipality Employees

The table below indicated which personnel at GRDM were engaged.

Table 8: Stakeholders engaged during the review of the GRDM IWMP

Designation	Date	Engagement
Manager: District Waste Management	29 – 30 April 2019	Meeting/ interview
District Waste Management Officer	29 – 30 April 2019	Meeting/ interview
Administrative Support: Waste Management	29 – 30 April 2019	Meeting

2.2.6 Project Steering Committee

A project inception meeting was held on 26 February 2019 to establish the project steering committee (PSC) which included municipal waste managers from throughout the district. The details of the PSC are presented in the table below.

Table 9: Project Steering Committee Members

Name	Designation	Organisation
Morton Hubbe	Manager: District Waste Management	Garden Route District Municipality
Johan Gie	District Waste Management Officer	Garden Route District Municipality
Douglas Baartman	Waste Manager	Bitou Local Municipality
Janine Fernold	Waste Manager	George Local Municipality
Abraham Delport	Supervisor: Landfill Sites	Kannaland Local Municipality
Sherilene Adams	Adminstrator (responsible for Waste Manager)	Kannaland Local Municipality
Randall Bower	Waste Manager	Knysna Local Municipality
Sivuyile Mtila	Senior Manager: Waste Management	Mossel Bay Local Municipality
Rodwell Witbooi	Waste Manager	Oudtshoorn Local Municipality
August Hoon	Deputy Director: Waste Management Planning	DEA&DP
Dean Gilbert	Assistant Director: Waste Management Planning	DEA&DP
Kate Flood	Environmental Scientist	GIBB

2.2.7 Presentations and Workshops

A workshop of the draft situation analysis report was undertaken on 27 June 2019. The draft IWMP was presented to the GRDM council on 15 August 2019.

Table 10: Workshops undertaken during the review of the GRDM IWMP

Date	Location	No. attendees	Stakeholders in attendance
27 June 2019	GRDM municipal offices, Mossel Bay	5	GRDM and GIBB
15 August 2019	GRDM Council Chambers, George Local Municipality	-	GRDM Councillors, GRDM and GIBB

2.2.8 Public Participation

The GRDM IWMP was made available for a 21 day period (18 October 2019 – 08 November 2019) for the public to comment on the document. The availability of the report was communicated to the public through newspaper advertisements which will be placed in the following newspapers:

- George Herald
- Hessequa News
- Knysna-Plett Herald
- Mosselbay Advertiser
- Oudtshoorn Courant

Copies of the adverts are available in appendix

The report was made available at the following locations for review:

- GRDM offices:
  - GRDM Head Offices, 54 York Street, George (Tel: 044 803 1300)
  - Knysna sub-office, 24A Queen Street, Knysna (Tel: 044 382 7214)
  - Mossel Bay sub-office, C/O Marlin and Sampson Street, Mossel Bay (Tel: 044 693 0006)
  - Plettenberg Bay sub-office, 7 Gibbs Street, Plettenberg Bay (Tel: 044 501 1600)
  - Oudtshoorn sub-office, 15 Regent Street, Oudtshoorn (Tel: 044 272 2241)

- Riversdale sub-office 24, Mitchell Street, Riversdale (Tel: 028 713 2438)
- GRDM's website: http://www.gardenroute.gov.za/documents/
- GIBB's website: http://projects.gibb.co.za

Comments on the draft IWMP were received from DEA&DP. The comments and responses to indicate how they have been address in the final IWMP are available in Appendix D.

2.3 Assumptions and Limitations

This situation analysis has drawn information from a number of sources including interviews with municipalities and stakeholders, IWMPs, GRWMIS, IPWIS and SAWIS records, GRDM records, records for the local municipalities and various literature sources. It is assumed that the information given verbally in interviews and documented information is accurate.

3 Legal Requirements Overview

A summary of key South Africa legislation governing waste management is presented in the table below. A more comprehensive summary of South African and international waste legislation will be added to the report as **Appendix A.**

3.1 South African Legislation

Table 11: Key South African waste legislation

Legislation/ guidelines	Summary
Constitution of South Africa (Act 108 of 1996)	Section 24 of the Constitution states that everyone has the right to an environment that is not harmful to their health or wellbeing; and to have an environment protected for the benefit of present and future generations, through reasonable legislative and other measures.
White Paper on Integrated Pollution and Waste Management for South Africa (1999)	The White Paper on Integrated Pollution and Waste Management is a subsidiary policy of the overarching environmental management and constitutes South Africa's first policy document focused on integrated waste management. This national policy set out Government's vision for integrated pollution and waste management in the country and applies to all government institutions and to society at large and to all activities that impact on pollution and waste management. The overarching goal of the policy is integrated pollution and waste management. The intention is to move away from fragmented and uncoordinated pollution control and waste management, towards an approach that incorporates pollution and waste management as well as waste minimisation.
National Environmental Management Act (Act 107 of 1998, as amended)	The objective of NEMA is to provide for operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance, and procedures for co-ordinating environmental functions exercised by organs of state. An important function of the Act is to serve as an enabling Act for the promulgation of legislation to effectively address integrated environmental management.
National Environmental Management: Waste Act (Act 59 of 2008, as amended)	The act covers a wide spectrum of issues including requirements for a National Waste Management Strategy, IWMPs, definition of priority wastes, waste minimisation, treatment and disposal of waste, Industry Waste Management Plans, licensing of activities, waste information management, as well as addressing contaminated land.
National Pricing Strategy (GN 904 of 2016)	The strategy aims to fund re-use, recovery and recycling of waste through the extended producer responsibility principal.
National Waste Information Regulations (GN 625 of 2013)	These regulations give effect to the South African Waste Information System and specify registration and reporting requirements.
National Domestic Waste Collection Standards (GN 21 of 2011)	These specify methods for how domestic waste should be collected. Consideration is given to an appropriate level of service based on the nature (e.g. rural vs urban) of municipalities.
Minimum Requirements for Waste Disposal by Landfill (1998)	These minimum requirements form part of a three part series which were developed by the Department of Water Affairs and Forestry. The other documents in the series are 'Minimum requirements for the handling, classification and disposal of hazardous waste' and 'Minimum requirements for monitoring at waste management facilities. The minimum requirements for waste disposal by landfill provide guidance on: • Landfill site classification • Site selection for landfill sites and ranking systems of candidate sites

Legislation/ guidelines	Summary
	• Feasibility studies for landfill sites and the required site/ specialist investigations • Design considerations • Permitting and environmental impact assessment • Operation and control Site closure

3.2 International Legislation

Table 12: International Legislation

Legislation/ guidelines	Summary
Basal Convention of the Control of Trans-Boundary Movement of Hazardous Wastes and Their Disposal (1989)	The Basel Convention (1989) is a global agreement which seeks to address the trans-boundary movement of hazardous waste. The convention is centred on the reduction of the production of hazardous waste and the restriction of trans-boundary movement and disposal of such waste. It also aims to ensure that strict controls are in place when any trans-boundary movement and disposal of hazardous waste does occur, and ensures that it is undertaken in an environmentally sound and responsible manner. The key objectives of the Basel Convention are: • To minimise the generation of hazardous wastes in terms of quantity and hazardousness. • To dispose of hazardous waste as close to the source of generation as possible. • To reduce the movement of hazardous wastes. • Locally, draft regulations are being prepared in an effort to control the movement of such waste. In response to the ever growing impact of plastic waste on the environment the Basal Convention was amended in May 2019 to regulate global trade in plastic waste.
Rotterdam Convention (1998)	The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling, and inform purchasers of any known restrictions or bans. Parties can decide whether to allow or ban the importation of chemicals listed in the treaty, and exporting countries are obliged to make sure that producers within their jurisdiction comply.
Stockholm Convention	The Stockholm Convention was signed in 2001, South Africa became a party of the convention in 2002 and the convention came into effect in 2004. The Stockholm Convention addresses the management of persistent organic pollutants (POPs), which pose a threat to both health and the environment. Member countries of the convention have agreed to phase out POPs, and prevent their import or export. It imposes restrictions on the handling of all intentionally produced POPs, i.e. identified highly toxic, persistent chemicals. The 12 POPs that have been identified under the convention are aldrin, chlordane, dieldrin, dichloride-diphenyl-trichloroethane (DDT), endrin, Hexachlorobenzene (HCB), heptachlor, mirex, polychlorinated biphenyls (PCBs), toxaphene, dioxins, and furans. DEFF published the National Implementation Plan for the Stockholm Convention of POPs in 2011
London Convention on Prevention of Marine Pollution by Dumping of Waste and Other Matters	The London Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter, 1972, aims to prevent marine pollution by preventing the dumping of wastes such as industrial waste, sewage sludge, dredged material and radioactive waste at sea, as well as incineration at sea. South Africa is a signatory to the

Legislation/ guidelines	Summary
(1972)	convention and the associated 1996 Protocol. This convention and its various protocols were incorporated into the following South African legislation: • Marine Pollution, Prevention of Pollution from Ships Act (Act 2 of 1986), and the regulations concerning the Prevention of Pollution by Garbage from Ships Regulations (GN R1490, published in Government Gazette No. 14000, dated 29 May 1992). • The Dumping at Sea Control Act (Act 73 of 1980).
Montreal Protocol on Substances that Deplete the Ozone Layer (1989)	South Africa is a party to the Montrel Protocol, an international agreement which addresses the phase out of ozone-depleting substances. Regulations to

3.3 Key Changes to South African Legislation Since 2014

The following table presents key changes and updates to waste legislation since the 2014 IWMP.

Table 13: Key Changes to Legislation

Legislation	Key changes
National Environmental Management: Waste Amendment Act (Act 26 of 2014)	• Substitution and deletion of some definitions • Establish a waste pricing strategy • Establish a waste management bureau • Transitional arrangement for existing industry waste management plans.
National Norms and Standards for the Sorting, Shredding, Grinding, Crushing, Screening or Baling of General Waste (GN 1093 of 2017).	These norms and standards were developed to reduce the licensing requirements for low impact waste management activities. The norms and standards are applicable to all facilities where general waste is sorted, crushed, ground, crushed, screened or baled. All facilities where such activities are undertaken need to be registered with the provincial authority. Facilities with an operational area in excess of 1,000m^2 need to be registered and comply with all the requirements of the norms and standards.
National Environmental Management Waste Act (GN 1094 of 2017) Amendment to the list of waste management activities that have, or are likely to have, a detrimental effect on the environment.	The list of waste management activities that have, or are likely to have, a detrimental effect on the environment were updated in 2015 to remove low impact activities related to waste management including the sorting, shredding, grinding, crushing, screening and bailing of general waste.
National Pricing Strategy for Waste Management	The key aims of the strategy is to increase the diversion of waste from landfill, reduce the generation of waste and encourage reduction, reuse and recycling of waste. The strategy provides a methodology for setting waste management charges. The strategy identifies three economic instruments for waste management: 1. **Downstream instruments** – volumetric tariffs (pay-as-you-throw) and waste disposal taxes which would be applied to landfilling or incineration of waste. 2. **Upstream instruments** – material and input taxes which would apply to virgin materials and hazardous materials, product taxes, advance recycling fees or advance disposal fees, deposit-refund scheme and extended producer responsibility fees. 3. **Subsidy-based instruments** – recycling subsidies, tax rebates and

<table>
<tr><th>Legislation</th><th colspan="2">Key changes</th></tr>
<tr><td></td><td colspan="2">benefits, capital financing.</td></tr>
<tr><td>3rd National Waste Management Strategy</td><td colspan="2">As previously discussed, the 2nd generation NWMS is currently under review.</td></tr>
<tr><td rowspan="18">National Norms and Standards for Disposal of Waste to Landfill (GN 636 of 2013)
NOTE: These norms and standards were published prior to the 2014 IWMP being finalised, it is included in this list and a the date by which disposal restrictions came into effect for some waste streams have come into effect over the last 5 years.</td><td colspan="2">The norms and standards control the disposal of waste at different classes of landfill site. The disposal requirements for waste are determined based on the landfill site classification and barrier design.
Section 5 notes waste disposal restrictions. The following restrictions must have come into effect since 2014 or will be coming into effect shortly:</td></tr>
<tr><td>Waste type prohibited or restricted in terms of disposal</td><td>Compliance timeframe</td></tr>
<tr><td>POP pesticides listed under the Stockholm Convention</td><td>8 years (August 2021)</td></tr>
<tr><td>Other waste pesticides</td><td>4 years (August 2017)</td></tr>
<tr><td>Other batteries</td><td>8 years (August 2021)</td></tr>
<tr><td>Re-usuable, recoverable or recyclable used lubricating mineral oils and oil filters</td><td>4 years (August 2017)</td></tr>
<tr><td>Re-usuable, recoverable or recyclable used or spent solvents</td><td>5 years (August 2018)</td></tr>
<tr><td>PCB containing waste (>50mg/kg or 50 ppm)</td><td>5 years (August 2018)</td></tr>
<tr><td>Hazardous waste electric and electronic equipment - lamps</td><td>3 years (August 2016)</td></tr>
<tr><td>Hazardous waste electric and electronic equipment - other</td><td>8 years (August 2021)</td></tr>
<tr><td>Waste tyres – quartered</td><td>5 years (August 2019)</td></tr>
<tr><td>Liquid waste
(i) Waste which has an angle repose of less than 5 degrees, or becomes free-flowing at or below 60°C or when it is transported, or is not generally capable of being picked up by a spade or shovel; or
(ii) Waste with a moisture content of >40% or that liberates moisture under pressure in landfill conditions, and which has not been stabilised by treatment</td><td>6 years (August 2019)</td></tr>
<tr><td>Hazardous waste with a calorific value of:
(i) >25 MJ/kg
(ii) >20 MJ/kg
(iii) >10 MJ/kg
(iv) >6% TOC</td><td>
4 years (August 2017)
6 years (August 2019)
12 years (August 2025)
15 years (August 2028)</td></tr>
<tr><td>Brine or waste with a high salt content (TDS >5%), and a leachable concentration for TDS of more than 100,000 mg/l</td><td>8 years (August 2021)</td></tr>
<tr><td>Disposal of garden waste
(i) 25% diversion from the baseline at a particular landfill of separated garden waste
(ii) 50% diversion from the baseline at a particular landfill or separated garden waste</td><td>
5 years (August 2018)

10 years (August 2023)</td></tr>
</table>

4 Waste Management Performance Review

4.1 Implementation of 2014 Integrated Waste Management Plan

For reporting purposes all reference in the Eden District Municipality in the implementation plan have been replaced with GRDM. The interventions listed in the GRDM 2014 IWMP were grouped under the following headings:

- Garden Route Waste Management Information System(GRWMIS) advancement
- Waste minimisation
- Disposal infrastructure development
- Co-operative government – regional waste management approach
- Insufficient funds for district waste management functions
- Waste recycling economy

A total of 27 targets were identified under the six priority areas. A review of the implementation status of each of the 27 targets was undertaken to determine progress made with regard to waste management since the 2014 IWMP.

Projects have been classified as complete, in progress or not commenced. The timeframes for projects have not been considered, for example, if the deadline for a project was 2016 but it was only completed in 2017, it is still listed a complete.

Table 14: Project Status

Status	Description	No. projects	Percentage of projects
Complete	The target has been achieved	10	37.0%
In progress	The implementation of a target is initiated/currently underway but not complete	11	40.7%
Not commenced	No action has been taken to implement the target	3	11.1%
Not currently applicable	Where a goal and or management action is unmeasurable or no longer deemed applicable or the timeframe for the project has not yet passed.	3	11.1%
To be confirmed	Additional evidence is required to determine if the status of the project		

Table 15: Implementation status of the 2014 IWMP targets

Target	Action	Status	Comments
1 Garden Route Waste Management Information System(GRWMIS) Advancement			
1.1 Registration of Health Care and Hazardous waste generators	1.1.1 Registration of existing generators and new generators into GRWMIS (2014/2015-2016/2017)	**Complete**	All of the HCRW generators which the GRDM are aware of have been registered on the GRWMIS. In total 497 companies which generate HCRW are listed on the GRWMIS. Companies registered include doctor's surgeries, tattoo parlours, veterinary clinics, pharmacies and funeral parlours.
	1.1.2 On-going registration of new generators(2017/2018-2018/2019, 5-10 years, 10-15 years)	**Complete**	Registration of on-going generators will be an on-going process for GRDM. As HCRW generators are identified they are registered.
1.2 Registration of Waste Management and Recycling facilities	1.2.1 Registration of existing generators and new generators into GRWMIS (2014/2015)	**In progress**	A total of 8 recycling companies are registered. Some small companies which are operating in Kannaland Local Municipality (KLLM) are missing from the list. All operational municipal landfill sites are registered on SAWIS with the exception of Gouritsmond in HLM. The PetroSA landfill site in MBLM is not registered. Not all municipal recycling facilities are registered, the two recycling facilities in KLM are not registered.
	1.2.2 On-going registration of new generators (2017/2018 – 2018/2019, 5-10 years, 10-15 years)	**In progress**	Registration of on-going generators will be an on-going process for GRDM.
1.3 Incorporation of Garden Route Waste Management Information System into the Integrated Pollutant and Waste Information System of DEADP	1.3.1 Synchronisation of systems by Information Technology Personnel of Garden Route DM and DEADP (2014/2015-2015/2016)	**In progress**	At present the GRWMIS is not linked to the IPWIS system. The GRDM is however in the process of upgrading the GRWMIS and the upgrades should minimise the need to for those registered to report on both systems.
	1.3.2 On-going transfer of GRWMIS updated information to IPWIS (2017/2018-2018/2019, 5-10 years, 10-15 years)	**In progress**	In progress. The GRDM is in the process of identifying mechanisms to link the two systems,
1.4 Access of the municipalities within Garden Route region to the information available in GRWMIS	1.4 Access control system implemented by IT personnel of Garden Routed DM (2015/2016)	**In progress**	At present only GRDM has access to information of the GRWMIS. The GRDM is in the process of assigning viewing rights to all seven local municipalities.
2 Waste Minimisation			
2.1 Implementation of the Garden Route Region Strategic Waste Minimisation Plan	2.1.1 Lack of accurate data regarding the quantity of waste being generated, landfilled and minimised (2014/2015)	**In progress**	In the absence of weighbridges, quantification of waste tonnages is undertaken at some landfill sites using the DEA&DP waste calculator sheet. Some, but not all of the landfill sites use this system for capturing waste records.
	2.1.2 Installation of weighbridges at all waste landfill and transfer facilities with operating personnel (2015/2016-2018/2019, 5-10 years, 10-15 years)	**Not applicable**	The local municipalities are responsible for the installation of weighbridges at their facilities. The regional landfill site will have a weighbridge.

Target	Action	Status	Comments
	2.1.3 Lack of an auditing system to determine effectiveness of the awareness and education programmes (2014/2015)	**Not commenced**	While GRDM has facilitated public awareness campaigns across the district no survey or audit has been undertaken to determine the effectiveness of the programmes. This target has not been completed due to a lack of documented plan to monitor awareness campaigns. GRDM has obtained budget to finalise the Waste Minimization Strategy. A service provider will be appointed to develop the plan. The plan should include an auditing protocol to determine the effectiveness of awareness and education programmes across the district. This project will be included in the implementation plan of this IWMP.
	2.1.4 Compile and implement an effective auditing system (2015/2016-2016/2017)	**Not commenced**	Refer to the comment above.
	2.1.5 Implement the auditing system (2017/2018 – 2018/2019, 5-10 years, 10-15 years)	**Not commenced**	Refer to the comment above.
	2.1.6 Registering of all recyclers on the Garden Route Information System (2014/2015) Registration of existing recyclers (2015/2016) On-going registration of new recyclers (2016/2017 – 2018/2019, 5 – 10 years, 10 – 15 years)	**Complete**	All of the known medium and large recycling companies are registered on the GRWMIS system. The registration of new recycling companies will be an on-going process.
	2.1.7 Establish a Waste Minimisation Sub-Committee, Garden Route Integrated Waste Management Forum (2014/2015) Negotiate with the recycling industry to establish and attend a minimisation sub-committee (2015/2016) Quarterly meeting Waste Minimisation Sub-Committee (2016/2017 – 2018/2019, 5 – 10 years, 10 – 15 years)	**Complete**	The GRDM facilitated the development of the Eden WRAG in 2015. In the beginning the WRAG meetings were well attended, a constitution was drafted and a chairperson was elected. However, as time progressed attendance of meeting declined and the WRAG was eventually put on hold. The GRDM plans to revive the WRAG as part of the GRDM waste minimisation strategy. When the WRAG is revived, the quarterly meetings will recommence.
	2.1.8 Finalisation and Implementation of the Garden Route Region Waste Minimisation Public Awareness Campaign (2014/2015)	**Complete**	The GRDM's website contains details of recycling companies operating in the district. The GRDM website and social media page also allows the GRDM to share

Target	Action	Status	Comments
	Utilisation of the Media, Radio, Social media, Websites, newsletters and educational booklets to convey the minimisation message to the residents of the Eden District (2015/2016 – 2018/2019, 5-10 years, 10 – 15 years) Utilisation of visual medium to convey minimisation message to the residents of Garden Route District (Notice boards, Street Banners, Teardrop-and internal Banners) 2015/2016 – 2018/2019, 5 – 10 years, 10 – 15 years) Continuation of the Annual Waste Minimisation Road Show and Wise Up on Waste Program (2015/2016 – 2018/2019, 5 – 10 years, 10 – 15 years)		waste information. The website requires an update in order to be able to provide information in a user-friendly format. GRDM has developed waste information materials which are available in 3 local languages. The GRDM plans to develop a Social media strategy in consultation with a service provider. The GRDM started running the Annual Waste Minimisation Road Show and Wise Up on Waste Program in 2014. Attendance of the road show has been dwindling and efforts are required to revive the road show. The GRDM has commenced with waste minimisation projects such as home composting and waste awareness programmes across the GRDM. These programmes also serve to raise waste awareness as they teach the public how and why to compost waste.
2.2 Garden Route District Municipality Office Recycling Program	2.2.1 Revive Recycling Committee in-house and replace broken infrastructure (2014/2015) Appoint recyclers to remove recyclables. Monthly monitoring of recycling program (2015/2016 – 2018/2019, 5 – 10 years, 10 – 15 years)	**Complete**	In-house recycling programmes are operational in all GRDM offices. A champion has been assigned per office, the champion has been given training on waste recycling and is responsible for keeping records of waste collected for recycling. Recyclables generated in the GRDM offices are taken to central collection point for removal by a service provider. An average of 2.5 tonnes of waste a month is reclaimed for recycling through the office recycling programme.
3 **Disposal Infrastructure Development**			
3.1 Regional Landfill Facility	3.1.1 Finalisation and Construction of Regional Landfill Facility (2014/2015) Management of Public, Private Partnership contract conditions and Regional landfill Facility management supervision (2015/2016 – 2018/2019, 5 – 10 years)	**In progress**	The GRDM is in the process of finalising the public private partnership (PPP), financial agreement, financial model and lending rate with the DBSA.
	3.1.2 Establish Regional Landfill Facility Monitoring Committee (2015/2016) Quarterly Meetings Regional Landfill Facility Monitoring Committee (2016/2017 – 2018/2019, 5 – 10 years)	**Not currently applicable**	A landfill site monitoring committee with be established once the landfill site is operational. Quarterly committee monitoring meetings will be held.
	3.1.3 Planning for future management system for the continuation of the Regional Landfill (5 – 10 years)	**In progress**	The PPP agreement for the landfill site will specify management mechanisms to ensure the facility is managed correctly. The PPP agreement

Target	Action	Status	Comments
			is not yet finalised.
3.2 Implementation of Alternative Waste Management Technologies	3.2.1 Finalisation of the implementation of Alternative Waste Management Technologies (2014/2015) Implementation of Alternative Waste Management Technologies (2015/2016 – 2018/2019, 5 – 10 years)	**In progress**	Part of the PPP agreement for the regional site includes the implementation of alternative waste management technologies. The alternative waste management technique must not result in additional costs to the GRDM Proposals have been received for alternative waste technologies but no way forward for these proposals have been finalised.
	3.2.2 Planning for future management system for the continuation of the Alternative Waste Management Technology (5 – 10 years)	**In progress**	The PPP agreement for the landfill site will specify management mechanisms to ensure the facility is managed correctly. The PPP agreement is not yet finalised. The GRDM have undertaken phase 1 of study to identify alternative methods for the management of organic waste. Phase 2 will identify appropriate technologies.
3.3 Garden Route District Municipal Waste Management By-Laws	3.3.1 Compile By-Laws for promulgation in Garden Route District (2014/2015) Enforcement of promulgated Waste Management By-Laws (2015/2016 – 2018/2019, 5 – 10 years, 10 – 15 years)	**Complete**	The Garden Route developed district waste management by-laws titled Eden District Municipality: District Waste Management By-Law (2017). The GRDM also developed generic local municipal by-laws which local municipalities were encouraged to adopt. The GRDM by-laws do not currently have a fining schedule. At present to enforce the by-laws and to ensure, the registration for HCRW generators letters are sent to companies requesting them to register.
4. Cooperative Governance: Regional Waste Management Approach			
4.1 Continuation of the Garden Route Integrated Waste Management Forum Meetings on a Quarterly Basis	4.1.1 Quarterly Meetings Eden Integrated Waste Management Forum 2014/2015 – 2018/2019, 5 – 10 years, 10 – 15 years).	**Complete**	GRDM hosts quarterly integrated waste management forum meetings. The hosting of these meetings are rotated between different local municipalities.
4.2 Motivation of all Municipalities to take part in Forum meetings and project	4.2.1 Meeting with Management of Kannaland and Hessequa Municipality to attend Forum meetings on a regular Basis (2014/2015) Municipalities attend quarterly meetings Garden Route Integrated Waste Management Forum (2015/2016 – 2018/2019, 5 – 10 years, 10 – 15 years)	**Complete**	Attendance of both Kannaland and Hessequa local municipalities at forum meetings has improved. However, Hessequa and Kannaland are not able to attend all of the meetings due to budgetary constraints.
4.3 Incorporating Representative of Department of Environmental Affairs and Development Planning on a	4.3.1 Attend Garden Route Integrated Waste Management Forum meetings (2014/2015) DEADP attend quarterly meetings Garden Route Integrated Waste Management Forum (2015/2016 – 2018/2019, 5 – 10 years, 10 – 15 years)	**Complete**	Representatives from DEA&DP are invited to and attend the GRDM forum meetings.

Target	Action	Status	Comments
permanent basis			
5. Insufficient Funds for District Waste Management Function			
5.1 Source Funding for Regional waste Management Functions	5.1.1 Liaise with National and Provincial Departments to Source Funding to ensure the implementation of sufficient Regional waste Management Functions (2014/15 – 2018/2019, 5 – 10 years, 10 – 15 years)	**In progress**	There is a lack of budget at the GRDM for the GRDM to fulfil its mandate in terms of district waste management. The GRDM funds projects with funding received through project such as the Greenest Municipality Competition but a lack of funding prevents the GRDM from rolling out all the identified waste management projects. The finance department at GRDM are attempting to resolve income issues. Once resolved the GRDM will be able to roll out more projects in the local municipalities. When the regional landfill site becomes operational, it will be a revenue source for the GRDM. A 10% administration fee from waste disposal tariffs will be provided to the GRDM for management of the facility.
6. Waste Recycling Economy			
6.1 Creation of a more stable recycling market	6.1.1 Liaise with Provincial Department of Environmental Affairs and Development Planning to (2014/2015 – 2018/2019, 5 – 10 years, 10 – 15 years)	**Not currently applicable**	Development of a stable recycling market is a provincial and national responsibility. The GRDM attempted to increase recycling in the district through the Eden WRAG. This project is however currently on hold due to lack of interest.

4.2 Progress towards Compliance with National Waste Management Strategy Goals

A review of the progress in the GRDM with regards to the implementation of the 2011 NWMS goals and targets was undertaken as part of the IWMP. Where information was available, an assessment of the compliance with each of the targets was undertaken and documented.

Table 16: National Waste Management Strategy Objectives

Goal	Targets for 2016	Progress to compliance with targets
1. Promote waste minimisation, re-use, recycling and recovery of waste.	25% of recyclables diverted from landfill sites for re-use, recycling or recovery.	Based on information provided by the local municipalities, a total of 14,362 tonnes of waste was recycled in the GRDM in 2018. GRDM is in the process of developing Waste Minimisation Plans for each of the local municipalities and the district.
	All metropolitan municipalities, secondary municipalities, and large towns have initiated separation at source programmes	Separation at source programmes have been initiated in all local municipalities except for KLLM and OLM.
	Achievement of waste reduction and recycling targets as set in industry waste management plans (indWMPs) for paper and packaging, pesticides, lighting (CFLs) and tyre industries	The indWMPs for the paper and packaging industry, e-waste, lighting and tyre industries have been submitted to DEFF for adjudication. All of the tyre indWMP have been rejected by DEFF
2. Ensure the effective and efficient delivery of waste services.	• 95% of urban households and 75% of rural households have access to adequate levels of waste collection services. • 80% of waste disposal sites have permits.	• 91.9% of households have access to a basic refuse removal service (kerbside collection or a communal collection point). • All of the operational landfill sites in the district are licensed.
3. Grow the contribution of the waste sector to the green economy	• 69,000 new jobs created in the waste sector. • 2,600 additional SMEs and cooperatives participating in waste service delivery and recycling	This is a national target. Nationally 29,833 people employed in the formal waste sector in 2012 (CSIR, 2012).
4. Ensure people are aware of the impact of waste on their health, well-being and the environment.	• 80% of municipalities running local awareness campaigns • 80% of schools implementing waste awareness campaigns	• All of the municipalities have run waste awareness campaigns over the last 5 years. The number of campaign run varies between municipalities. • The waste minimisation public awareness and education campaign was launched in 2014. Notice boards, information banners, and office recycling programme, website etc. have been implemented. • GRDM implemented an EPWP waste education programme and education sessions were held at all the preschools in HLM and MBLM. • GRDM coordinated the WAME training by DEA&DP at all municipalities except for KLLM.

Goal	Targets for 2016	Progress to compliance with targets
		• The WAME educational materials are available on the GRDM website for schools to make use of.
5. Achieve integrated waste management planning.	• All municipalities have integrated their IWMPs with their IDPs, and have met the targets set in IWMPs • All waste management facilities required to report to SAWIS have waste quantification systems that report information to WIS	• The previous IWMP projects were incorporated into the Garden Route Distinct Municipality IDP • The GRDM met 37.0% of the targets in the 2014 IWMP and a further 40.7% of targets are underway.
6. Ensure sound budgeting and financial management for waste services	• All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs	None of the local municipalities have undertaken full costing accounting exercises to allow them to implement cost reflective tariffs. The KLM and the MBLM are however in the process of undertaking studies to this effect. The OLM undertook a waste tariff review in 2018 which included a preliminary costing of the waste service The GRDM has undertaken extensive financial reviews of the required tariff per tonnes at the regional landfill site in order to ensure the capital, operational, maintenance and rehabilitation costs associated with the facility are covered by the disposal tariff.
7. Provide measures to remediate contaminated land.	• Assessment complete for 80% of sites reported to the contaminated land register • Remediation plans approved for 50% of confirmed contaminated sites.	Not all historic landfill sites in the GRDM have been licensed for closure.
8. Establish effective compliance with and enforcement of the Waste Act	• 50% increase in the number of successful enforcement actions against non-compliant activities. • 800 environmental management inspectors (EMIs) appointed in the three spheres of government to enforce the Waste Act	• There were 229 EMIs appointed nationally in 2017 (DEA, 2018)

The table above assess GRDM's compliance with the overarching goals of the NWMS. The 2011 NWMS also has an action plan. The projects listed below are applicable to local municipalities. Progress of the local municipalities with these targets has been assessed.

Table 17: Progress towards compliance with NWMS action plan

Goal	Targets for 2016	Progress to compliance with targets
1. Promote waste minimisation, re-use, recycling and recovery of waste.	Roll out buy-back centres in identified municipalities including identification of partnership and funding opportunities.	There are two operational swop shops in KLM and two in MBLM. A further swop shop in planned in KLM. The MBLM is run in conjunction with an NGO. The MBLM provides groceries and produce for the swop shop. The swop shops in Knysna is are by an NGO, the

Goal	Targets for 2016	Progress to compliance with targets
		KLM assisted with procuring container and also provides transport to removal recyclables. None of the other municipalities have buy-back centres or swop shops.
2. Ensure the effective and efficient delivery of waste services.	Develop a household strategy to address the contamination of general and household waste (responsibility DEFF and municipalities)	The GRDM has not developed a strategy to manage household hazardous waste (HHW). DEA&DP is, however in the process of developing a strategy.
	Implement and monitor the National Domestic Waste Collection Standards (responsibility DEFF, municipalities, DCOG, SALGA)	All of the municipalities have indigent households registers, however these registers are not all up to date and not all municipalities have undertaken a reconciliation between the registers and households which are actually receiving a service.
	Adopt/ adapt generic by-laws for the separation, compacting and storage of solid waste, the management of solid waste and the control of litter.	The GRDM has developed comprehensive waste management by-laws which have been gazetted (2017). The GRDM also developed generic local municipal waste management by-laws which the local municipalities can use.
3. Grow the contribution of the waste sector to the green economy	As part of Green Economy Strategy, implement measures to support job creation within waste services collection	The GRDM does not provide a waste collection service. Local municipalities use co-ops for provision of some waste management services.
4. Ensure people are aware of the impact of waste on their health, well-being and the environment.	80% of municipalities running local waste awareness campaigns	All the local municipalities have undertaken waste awareness campaign over the past 5 years. The GRDM has developed a mascot, awareness materials and coordinated waste awareness facilitation training to local municipalities.
5. Achieve integrated waste management planning.	Prepare municipal IWMPs, including indicators and targets, and integrate with municipal IDPs.	This is the third generation IWMP for GRDM. It is the intention that this report will be integrated with the IDP.
	Municipal capacity available to sustainably provide waste management service and to proactively plan and manage landfill disposal	At present the GRDM has sufficient capacity to provide a supporting role. When the registration of recycling companies, hazardous waste generators and waste transporters on the GRWMIS becomes mandatory additional staff may be required to manage the system. The role of the GRDM will change significantly when the regional landfill site becomes operational. Additional employees will be required to ensure this facility is correctly managed.
6. Ensure sound budgeting and financial management for waste services	Full cost accounting of waste management services is conducted by all municipalities	As previously mentioned the KLM and MBLM are in the process of undertaking full cost accounting exercises for waste management. The OLM undertook a preliminary costing exercise as part of

Goal	Targets for 2016	Progress to compliance with targets
		their 2018 tariff review. None of the others have undertaken a full cost account exercise. The GRDM have determined cost reflective tariffs for the regional site. GRDM coordinated a waste tariff model workshop with DEFF and local municipalities.
	Phase in tariffs to reflect full cost of waste services	The MBLM, KLM and OLM will be implementing increased tariffs based on their last waste tariff reviews. None of the local municipalities have phased in cost reflective tariffs.
8. Establish effective compliance with and enforcement of the Waste Act	Train and designate additional EMIs (DEFF, Provinces, Municipalities)	GRDM have two designated EMIs to enforce the Waste Act. Clarification from the Western Cape Environmental Law Enforcement Directorate is being awaited in this regard.

5 Receiving Environment

5.1 Biodiversity

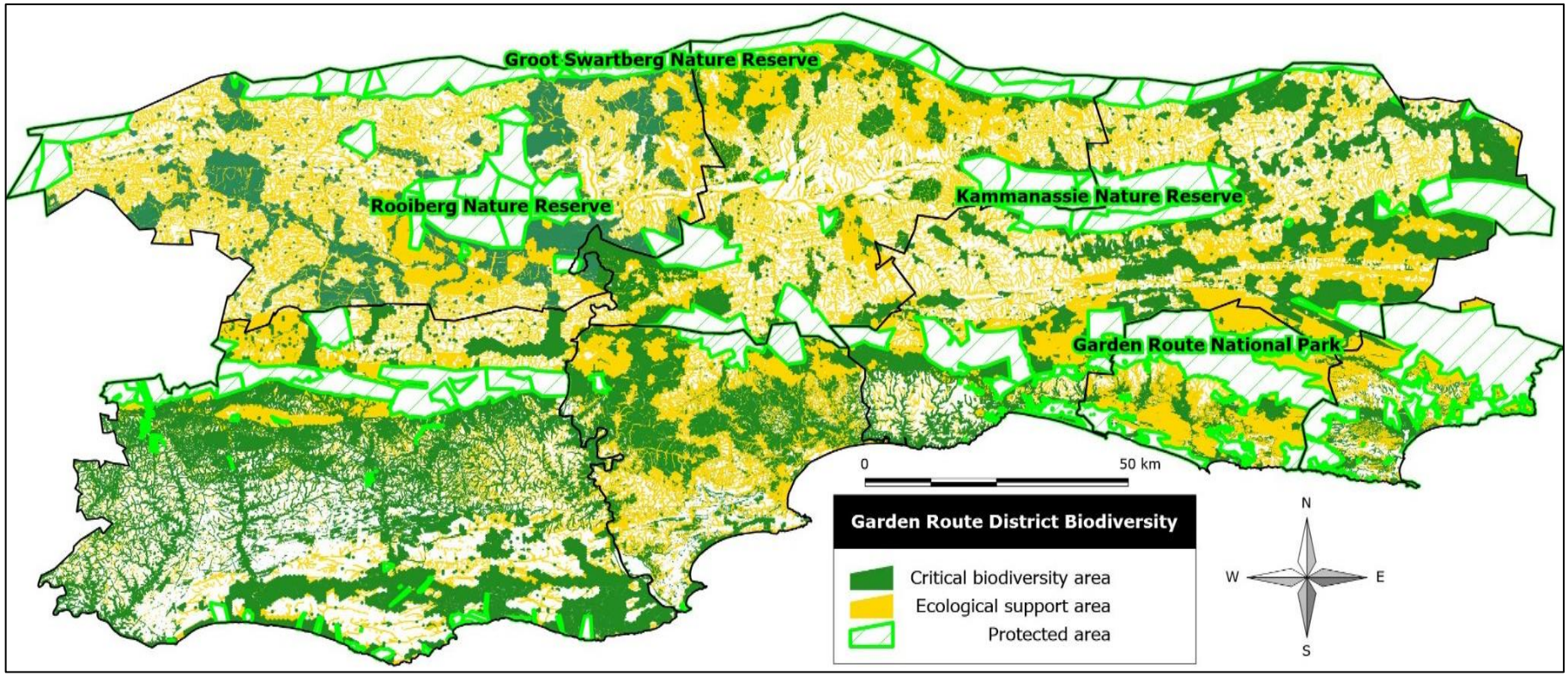

Figure 5: Map to show the critical biodiversity areas, ecological support areas and the protected areas within the Garden Route District Municipality (data source: Western Cape Biodiversity Spatial Plan http://bgis.sanbi.org/SpatialDataset)

There are five vegetation types within the GRDM that are listed as endangered, namely: Garden Route Granitic Fynbos, Garden Route Shale Fynbos, North Outeniqua Sandstone Fynbos, Southern Cape Dune Fynbos and Knysna Sand Fynbos. These vegetation groups are threatened by the invasion of non-native flora, such as pine and black wattle, and fragmentation of habitat due to urban settlements.

5.2 Geology

Sixteen different geological formations occur within the GRDM.

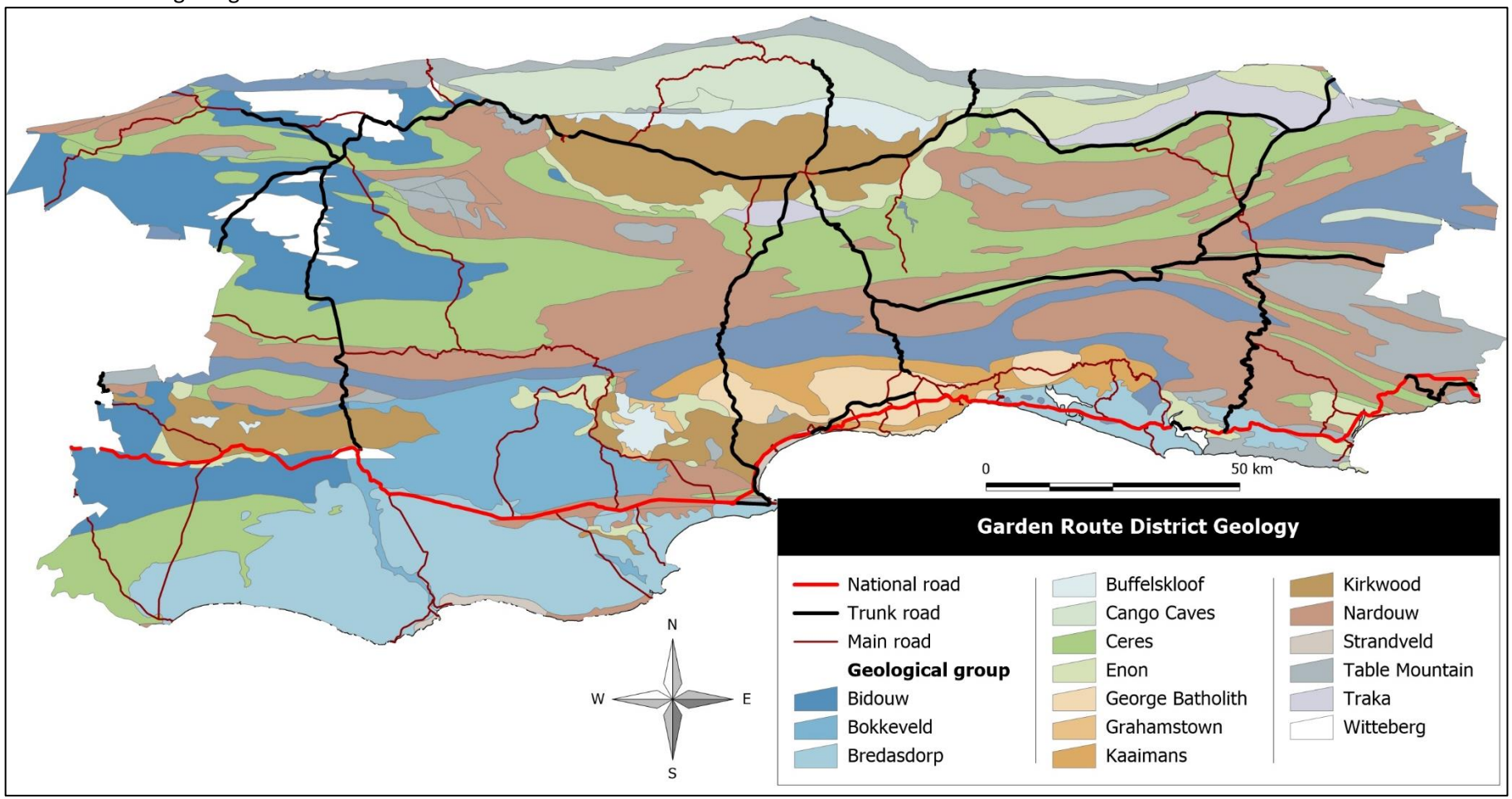

Figure 6: Underlying geology within the GRDM

5.3 Water Resources

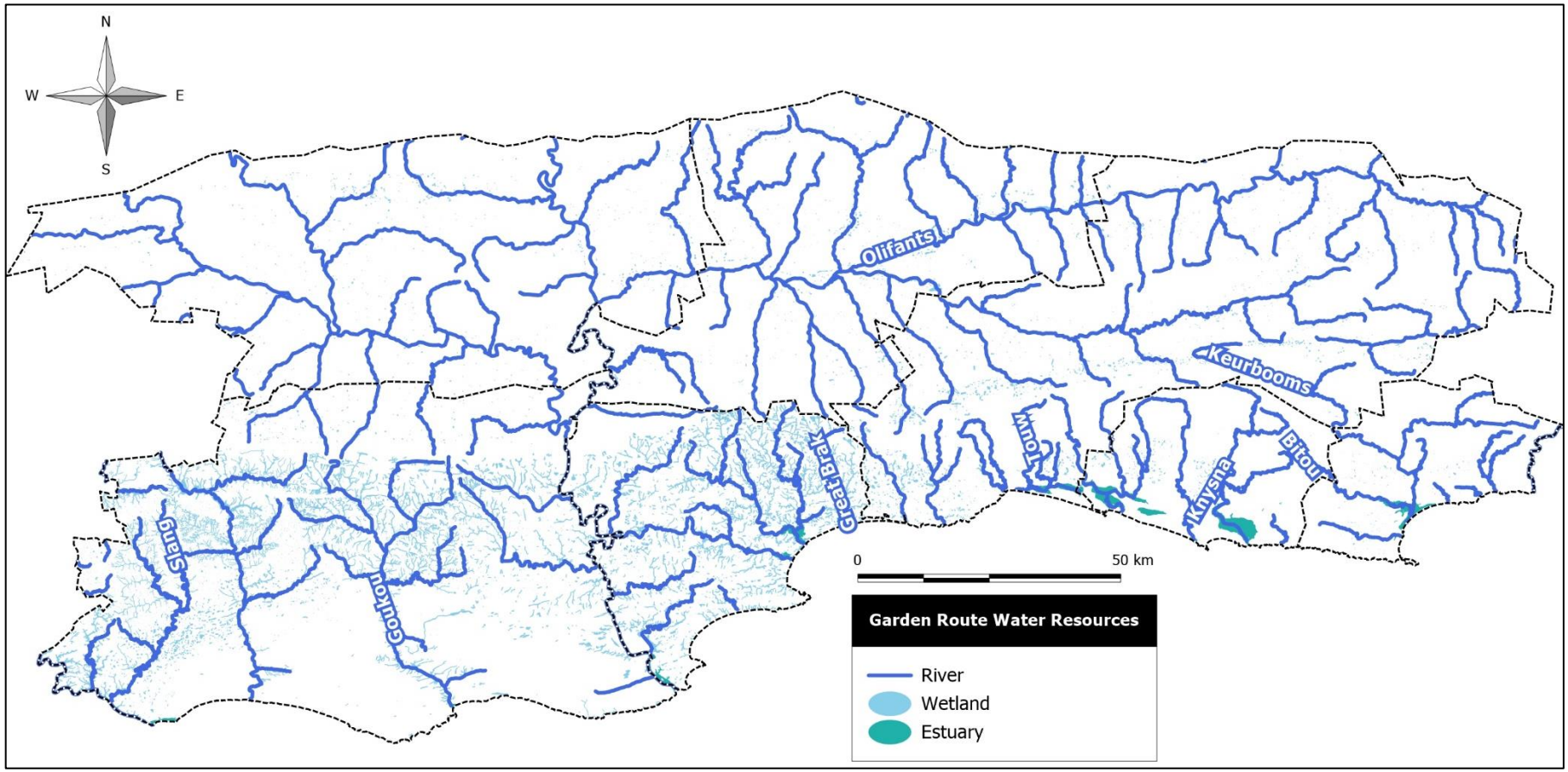

Figure 7: Garden Route District Municipality water resources (data source: Council for Scientific and Industrial Research, NFEPA Rivers 2011 and NFEPA Wetlands 2011: http://bgis.sanbi.org/SpatialDataset/Detail/397 [16 May 2019]).

A total of 22 estuaries are located along the coastline of the GRDM. There are a number of ecologically important estuarine and freshwater ecosystems within the GRDM such as the Knysna Estuary, the Sedgefield lake system (Swartvlei) and Goukamma. Other major rivers within the GRDM include Bloukrans, Storms River, the Olifants River and the Breede River. Threats to these systems include pollution, damming/ impoundments and sand mining.

6 Situation Analysis

6.1 Scope and Purpose of the Situation Analysis

The situation analysis is the first step of any IWMP. It is important to note that the situation analysis is a snap shot of the current status of waste management. Due to changes in legislation and on-going operational changes, the situation analysis is constantly evolving. A detailed review of the situation analysis is therefore required at least in line with the five year review of the IWMP.

The situation analysis addresses all aspects of waste management from waste infrastructure to institutional capacity and funding of waste management services.

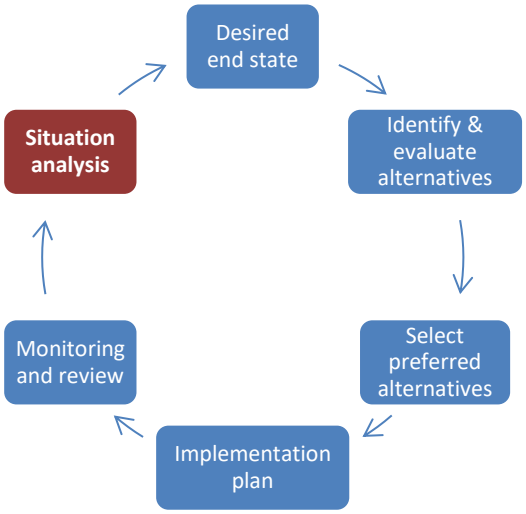

Figure 8: IWMP planning phases – situation analysis

6.2 Overview of Garden Route District Municipality

6.2.1 Geographical Area

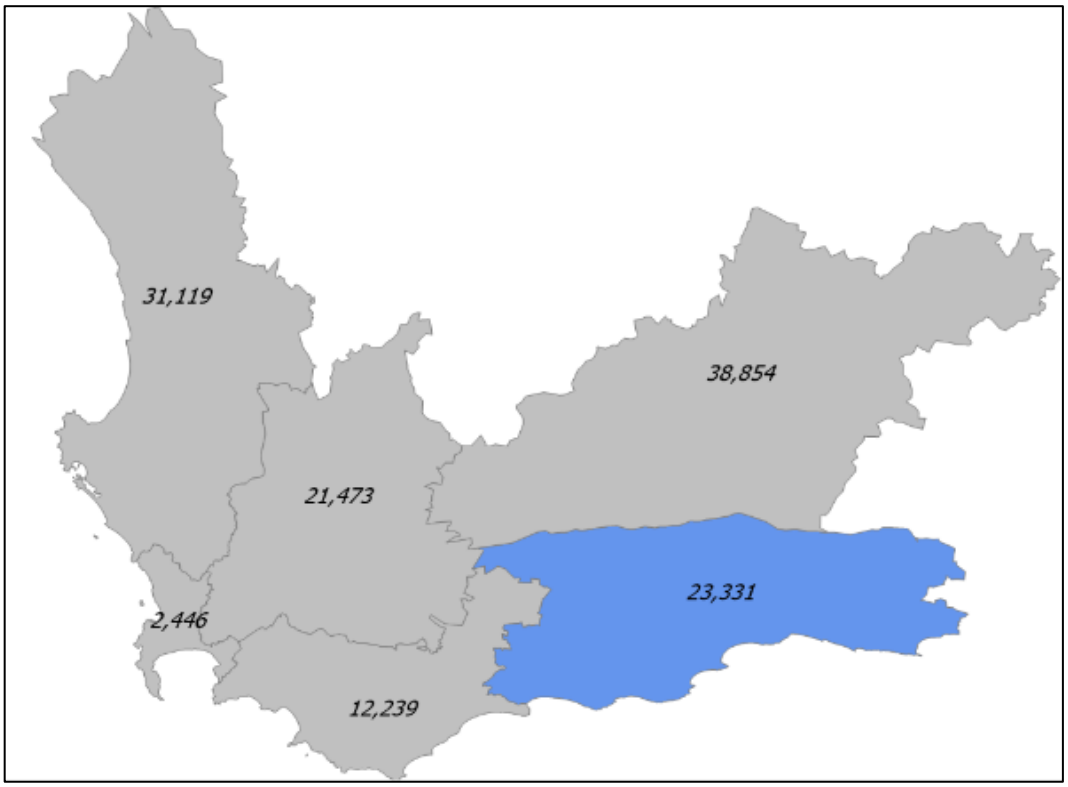

Figure 9: Garden Route District Municipality Geographical Area

The GRDM is the third largest of the five districts in the Western Cape. It covers 23,331km^2.

6.3 Demographics

Data presented in the following section has been sourced from the Provincial Profile of the Western Cape which was prepared by Stats SA based on the results of the 2016 Community Survey. All data presented below is from the Community Survey 2016, unless specified.

Population

The population of the GRDM increased by 6.4% between 2011 and 2016. BLM showed the highest growth rate while KLLM has a negative growth rate (-2.4%).

Table 18: Population profile within the GRDM

	Population			
Municipality	**Census 2011**	**CS, 2016**	**% changes 2011 to 2016**	**IDP, 2019**
George	193,672	208,237	7.5	217,054
Oudtshoorn	95,933	97,509	1.6	100,246
Mossel Bay	89,430	94,135	5.3	97,979
Knysna	68,659	73,835	7.5	**77,210**
Bitou	49,162	59,157	20.3	62,369
Hessequa	52,642	54,237	3.0	56,212
Kannaland	24,767	24,168	-2.4	24,530
Garden Route DM	**574,265**	**611,278**	**6.4**	635,600

Ethnic Profile (Community Survey 2016)

The majority of the population in the GRDM are Coloured (54.2%). Indian/ Asian is the smallest ethnic group, constituting only 0.3% of the population of GRDM.

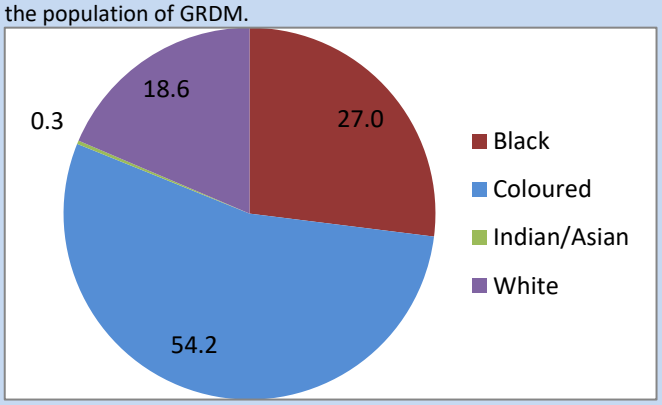

Figure 10: Ethic profile within GRDM

Language (Census 2011)

Afrikaans is the most common home language (69.2%) in GRDM followed by IsiXhosa (17.9%) and English (7.4%).

Table 19: Language profile within GRDM

Language	Percentage of population
Afrikaans	69.2
English	7.4
IsiNdebele	0.2
IsiXhosa	17.9
IsiZulu	0.3
Sepedi	0.1
Sesotho	0.6
Setswana	0.5
Sign language	0.3
SiSwati	0.0
Tshivenda	0.1
Xitsonga	0.1
Other	1.0
Not applicable	2.3

Households

33% of households in the GRDM are located in the GLM. KLLM has both the smallest number of households.

Table 20: Household profile within the GRDM

	Census 2011		Community Survey 2016	
Municipality	**No. households**	**Ave. Size**	**No. households**	**Ave. Size**
Oudtshoorn	21,910	4.4	23,362	4.2
George	53,549	3.6	62,722	3.3
Bitou	16,645	3.0	21,914	2.7
Mossel Bay	28,023	3.2	31,766	3.0
Hessequa	15,873	3.3	17,371	3.1
Kannaland	6,210	4.0	6,333	3.8
Knysna	21,893	3.1	25,877	2.9
Garden Route DM	**164,103**	**3.5**	**189,345**	**3.3**

Education

Table 21: Education profile within GRDM

Schooling level	% of population
No schooling	3.0%
Incomplete primary school	11.2%
Primary school	5.9%
Incomplete secondary school	36.1%
Secondary school	34.7%
Higher	9.2%
Total	**100%**

Only 9.2% of the population of GRDM have a higher education and 14.2% of the population have not completed primary level education.

6.4 Type of Housing and Access to Services

Data presented in the following section has been sourced from the Provincial Profile of the Western Cape which was prepared by Stats SA based on the results of the 2016 Community Survey.

Type of Dwelling

The majority of residences in GRDM are formal dwellings (86.4%), 0.7% of dwellings are traditional dwelling and 13.0% are informal dwellings.

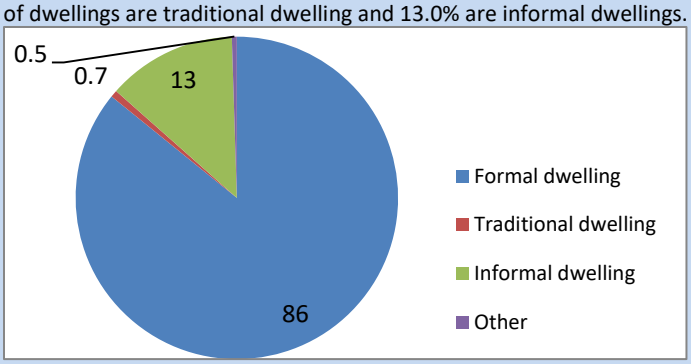

Figure 11: Houses by type of dwelling within GRDM

RDP/ Government Subsidised Dwelling

A significant portion of households in GRDM are either RDP or government subsidised (37.7%).

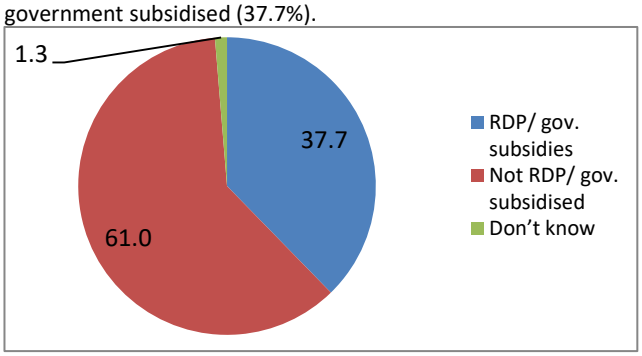

Figure 12: RDP/ government subsidy status of households within GRDM

Toilet Facilities

The majority of households in GRDM have flush toilets which are connected to a municipal sewer system or conservancy/ septic tank.

Table 22: Access to toilet facilities within the GRDM

Type of toilet	% of households
Flush toilet	93.8
Chemical toilet	0.5
Pit latrine/ toilet	2.2
Bucket toilet	1.6
Other	1.0
No toilet facilities	0.9
Total	*100*

Access to Safe Drinking Water

The majority of households in GRDM (93.1%) have access to safe drinking water. This is in-line with the Western Cape average which is 93%. 13,006 households (6.9%) do not have access to safe drinking water.

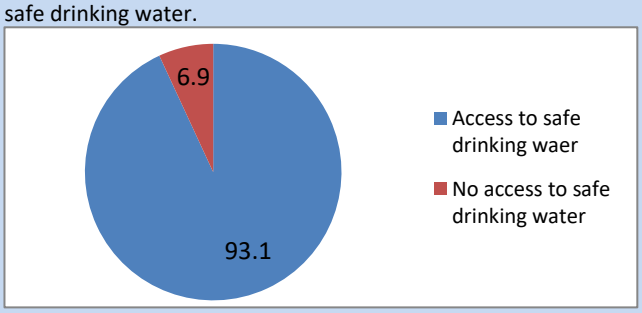

Figure 13: Access to safe drinking water

Access to Electricity

The majority of households in GRDM have access to electricity which is used for cooking, light, water heating and space heating.

Table 23: Proportion of each type of energy used for different household activities within GRDM

	Energy source used			
Activity	**Electricity**	**Other**	**None**	Total
Cooking	87.7	12.0	0.3	**100**
Lighting	95.9	3.9	0.2	**100**
Water heating	90.9	6.9	2.3	**100.1**
Space heating	65.2	10.7	24	**99.9**

Access to Internet

Only 16.9% of households within the GRDM have access to the internet.

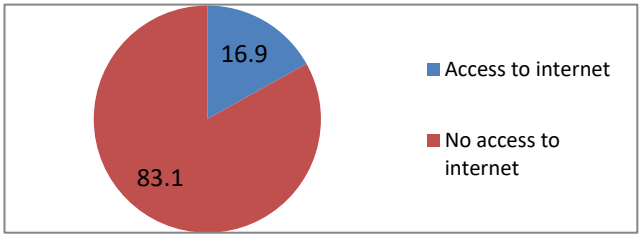

Figure 14: Proportion of households with access to the internet within GRDM

Access to Refuse Removal Services

Table 24: Proportion of households with access to refuse services within the GRDM

Service	Percentage of households
Removed weekly	88.8%
Removed less often	2.7%
Communal refuse dump	2.1%
Communal container	0.4%
Own refuse	3.8%
No refuse disposal	0.8%
Other	1.4%

The majority of households in GRDM (91.5%) have access to kerbside collection service for refuse.

There are 44,846 (23.7% of the total households in GRDM) indigent households in the GRDM which receive refuse removal services (Western Cape Government, 2018).

6.5 Local Economy

Employment (in those aged 15 – 64)
46.0% of the population, within the GRDM, in the age bracket 15 – 64 are employed, 13.3% are unemployed and 4.0% are discouraged work seekers. The remaining 36.7% are not economically active.

Table 25: Employment status of those aged between 15 – 64 within the GRDM (Census 2011)

Employment Status	No.	%
Employed	**175,055**	46.0
Unemployed	**50,768**	13.3
Discouraged work seeker	**15,256**	4.0
Not economically active	**139,845**	36.7
Total	**380,942**	100.0

Household Income

Table 26: Average household income within GRDM (Census 2011)

Average Household Income	% of households
No income	12.1
R1 - R,4800	2.7
R 4,801 - R 9,600	4.4
R9,601 - R19,600	14.6
R19,601 - R38,200	20.9
R38,201 - R76,400	17.5
R76,401 - R153,800	11.9
R153,801 - R307,600	8.8
R307,601 - R614,400	4.9
R614,001 - R1,228,800	1.4
R1,228,801 - R2,457,600	0.4
R2,457,601+	0.3
Total	**100**

6.5.1 Gross Domestic Product and Economics

The GRDM contributed 7.6% of the economic output of the Western Cape in 2017. The majority of the economic output (72.5%) was from City of Cape Town, followed by Cape Winelands District Municipality (11.2%) and the GRDM (7.6%) (Western Cape Treasury, 2018b). The value of the GRDM's contribution to the Western Cape GDPR was R40.271 billion (Western Cape Treasury, 2018a).

In terms of economic sectors, the finance, insurance, real estate and business services showed economic growth in the GRDM at 4.2% between 2006 and 2016. Agriculture, forestry and fishing showed the largest decrease across the sectors with a 10% decrease over the 10 year period (Western Cape Treasury, 2018b).

The economic performance of the GRDM in terms of gross domestic product per region has declined year on year since 2011. In 2017 the GDPR growth of the GRDM was 1.0%.

Contributors, within the GRDM, to the local Gross Domestic Product per Region (GDPR) include:

- 69.7%: Tertiary sector - wholesale and retail trade, catering, accommodation, transport storage, communication, finance, insurance, real estate, business services, general government, community, social and personal services)
- 24.2%: Secondary sector - manufacturing, electricity, gas, water and construction
- 6.1%: Primary Sector -agriculture, forestry and fishing).

The GDPR growth of the GRDM has decreased year on year since 2011.

Table 27: GDPR growth of Garden Route Municipalities 2007 - 2017 (data source, Western Cape Provincial Treasury, 2018a)

Municipality	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017e
Kannaland	5.9%	9.2%	-1.4%	1.1%	2.8%	2.5%	2.9%	3.6%	1.1%	0.2%	2.3%

Municipality	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017e
Hessequa	6.4%	6.8%	-0.6%	1.3%	3.3%	2.8%	3.1%	3.1%	1.2%	0.3%	1.8%
George	7.2%	5.1%	-0.3%	2.6%	4.3%	3.4%	3.1%	2.9%	2.1%	1.7%	1.4%
Oudtshoorn	6.4%	5.4%	-0.4%	2.3%	3.5%	2.9%	3.3%	2.8%	1.3%	0.9%	1.3%
Mossel Bay	6.0%	3.4%	-0.6%	2.0%	4.1%	3.1%	2.4%	2.1%	1.1%	1.1%	0.9%
Bitou	6.5%	4.5%	0.1%	2.2%	3.4%	2.9%	2.9%	2.5%	1.4%	1.3%	0.9%
Knysna	5.7%	3.4%	-0.4%	1.1%	2.2%	1.9%	2.0%	1.9%	0.9%	0.8%	-0.2%
Garden Route DM	**6.4%**	**4.1%**	**-1.3%**	**2.3%**	**3.8%**	**2.9%**	**2.6%**	**2.4%**	**1.5%**	**1.2%**	**1.0%**

Note: 2017 figures are based on estimates

6.6 Waste Profile

6.6.1 Domestic Waste Profile

The GRDM facilitated waste characterisations exercises in all seven local municipalities across the GRDM between 2015 and 2019. The GRDM provided equipment for the waste characterisation exercises, training for municipal employees and developed the waste characterisation reports. The equipment for the waste characterisation exercises was funded through money received from Greenest Municipality Competition. The aim of the waste characterisation exercise was to address an information gap in terms of the composition of waste stream in the local municipalities.

A total of 20.5 tonnes of waste was sorted during the seven waste characterisation exercises. The section below presents a summary of the results from the characterisations.

Table 28: Waste characterisation programmes in Garden Route District Municipality

Municipality	Date of characterisation	No. bags sampled	Tonnes of waste sampled
Bitou	August 2015	654	2,672 kg
Mossel Bay	October 2015	768	3,842 kg
Knysna	March 2016	638	2,565 kg
Hessequa	August 2016	530	2,576 kg
Oudtshoorn	September 2016	562	2,707 kg
George	July 2018	1,181	4,846 kg
Kannaland	March 2019	368	1,345 kg
Total	-	**4,701**	**20,553 kg**

Waste was sorted into 15 categories. The results of the waste characterisations are presented below.

Table 29: Domestic waste characterisation results

Waste type	Bitou		George		Hessequa		Kannaland		Knysna		Mossel Bay		Oudtshoorn		Total	
	Mass (kg)	% of total	Mass (kg)	% of total	Mass (kg)	% of total	Mass (kg)	% of total	Mass (kg)	% of total	Mass (kg)	% of total	Mass (kg)	% of total	Mass (kg)	% of total
Soft plastics	191.9	7.2	395.6	8.2	150.1	5.8	143.8	10.7	204.1	8.0	300.4	7.8	176.3	6.5	1,562.2	7.6
Hard plastics	187.4	7.0	368.2	7.6	180.6	7.0	145.5	10.8	211.7	8.2	297.7	7.7	182.1	6.7	1,573.1	7.7
Paper	244.8	9.2	254.8	5.3	171.4	6.7	94.9	7.1	190.1	7.4	289.4	7.5	216.4	8.0	1,461.6	7.1
Cardboard	226.7	8.5	353.3	7.3	157.6	6.1	117.5	8.7	200.5	7.8	274.4	7.1	176.4	6.5	1,506.5	7.3
Glass	260.4	9.7	355.4	7.3	209.7	8.1	131.6	9.8	162.0	6.3	360.5	9.4	169.2	6.2	1,648.7	8.0
Metal	102.9	3.8	128.8	2.7	94.2	3.7	41.4	3.1	104.0	4.1	119.9	3.1	75.8	2.8	666.9	3.2
Recyclables sub-total	***1,214.0***	***45.4***	***1,856.0***	***38.3***	***963.4***	***37.4***	***674.7***	***50.2***	***1,072.4***	***41.8***	***1642.4***	***42.7***	***996.2***	***36.8***	***2681.3***	***40.3***
Food waste	800.1	29.9	1196.7	24.7	824.6	32.0	202.5	15.1	645.0	25.1	860.6	22.4	611.9	22.6	5,141.4	25.0
Garden waste	131.2	4.9	640.1	13.2	98.8	3.8	40.6	3.0	78.7	3.1	460.7	12.0	400.8	14.8	1,850.8	9.0
Organics sub-total	***931.3***	***34.8***	***1,836.8***	***37.9***	***923.4***	***35.8***	***243.1***	***18.1***	***723.7***	***28.2***	***1321.2***	***34.4***	***1012.7***	***37.4***	***2368.3***	***35.6***
Textiles	110.6	4.1	222.7	4.6	135.6	5.3	101.9	7.6	121.2	4.7	163.4	4.3	103.1	3.8	958.5	4.7
Wood	9.8	0.4	92.1	1.9	22.8	0.9	2.4	0.2	21.6	0.8	25.1	0.7	20.7	0.8	194.3	0.9
Inert	7.2	0.3	81.4	1.7	24.2	0.9	15.3	1.1	22.2	0.9	21.2	0.6	54.7	2.0	226.0	1.1
Nappies	125.3	4.7	388.9	8.0	207.6	8.1	116.9	8.7	245.6	9.6	294.7	7.7	227.1	8.4	1,605.8	7.8
E-waste	13.3	0.5	15.1	0.3	8.5	0.3	1.6	0.1	7.7	0.3	24.6	0.6	9.4	0.3	80.0	0.4
Hazardous	9.2	0.3	29.3	0.6	19.0	0.7	10.6	0.8	15.9	0.6	6.1	0.2	14.9	0.6	104.9	0.5
Rest	252.1	9.4	324.6	6.7	271.8	10.5	178.8	13.3	335.7	13.1	343.6	8.9	268.4	9.9	1,975.0	9.6
Total	**2,672.7**	**100.0**	**4,846.7**	**100.0**	**2,576.1**	**100.0**	**1,345.3**	**100.0**	**2,565.6**	**100.0**	**3,842.2**	**100.0**	**2,707.3**	**100.0**	20,555.8	100.0

A total of 20.5 tonnes of waste was sorted through the seven waste characterisation exercises. The following results are based on the combined data for the seven characterisations.

The following were noted from the results of the waste characterisation exercises:

- 40.3% of the waste stream by mass is composed of mainstream recyclables (paper, plastic, cardboard, glass and metal)
- 35.6% of the waste stream by mass is organics, the majority of the organics (73.5%) is kitchen waste
- Nappies composed 7.8% of the waste stream by mass.

The results of the waste characterisation exercises were fairly consistent across the seven local municipalities. The municipality which showed the greatest deviation in results from the district average was KLLM. The KLLM showed the lowest combined organic waste composition (18.1%), the district average is 35.6%.

Table 30: Variation in waste characterisation results (red text indicates the waste categories which showed the largest variation between local municipalities)

Waste category	Lowest % recorded	Highest % recorded	Average (%)
Soft plastics	5.8% (HLM)	10.7% (KLLM)	7.6%
Hard plastics	6.7% (OLM)	10.8% (KLLM)	7.7%
Paper	5.3% (GLM)	9.2% (BLM)	7.1%
Cardboard	6.1% (HLM)	8.7% (KLLM)	7.3%
Glass	6.2% (OLM)	9.8% (KLLM	8.05
Metal	2.7% (GLM)	4.1% (KLM)	3.2%
Recyclables (combined)	***36.8% (OLM)***	***50.2% (KLLM)***	***40.3%***
Food waste	**15.1% (KLLM)**	**32.0% (HLM)**	**25.0%**
Garden waste	**3.1% (KLM)**	**14.8% (OLM)**	**9.0%**
Organic waste (combined)	***18.1%(KLLM)***	***37.9% (GLM)***	***35.6%***
Textiles	3.0% (KLLM)	5.3% (HLM)	4.7%
Wood	0.2% (KLLM)	1.9% (GLM)	0.9%
Inert	0.2% (KLLM)	1.7% (GLM)	1.1%
Nappies	4.7% (BLM)//	9.6% (KLM)	7.8%
E-waste	0.1% (KLLM)	0.6% (MBLM)	0.4%
Hazardous	0.2% (MBLM)	0.3% (KLLM)	0.5%
Rest	6.7% (GLM)	13.1% (KLM)	9.6%

Food waste and garden waste showed the largest variations between municipalities. In the KLLM only 15.1% of the domestic waste stream was food waste while, in the HLM this figure was 32.0%. There was also significant variation in garden waste between municipalities. In KLM only 3.1% of the domestic waste stream was composed of garden waste while, in OLM 14.8% of the waste stream was garden waste. A possible explanation for this is that the waste characterisation only sampled waste in black bags. During the study the KLM were issuing green bags to households for garden waste. This may have resulted in the majority of households placing green waste into green bags instead of black bags.

The mass of recyclables also varied between municipalities, 50.2% of the KLLM's domestic waste stream was recyclables compared to36.8% in HLM. The difference in results could be due to a separation at source programme being in place in HLM and the low percentage of organic waste in KLLM increasing the percentage composition of other waste streams.

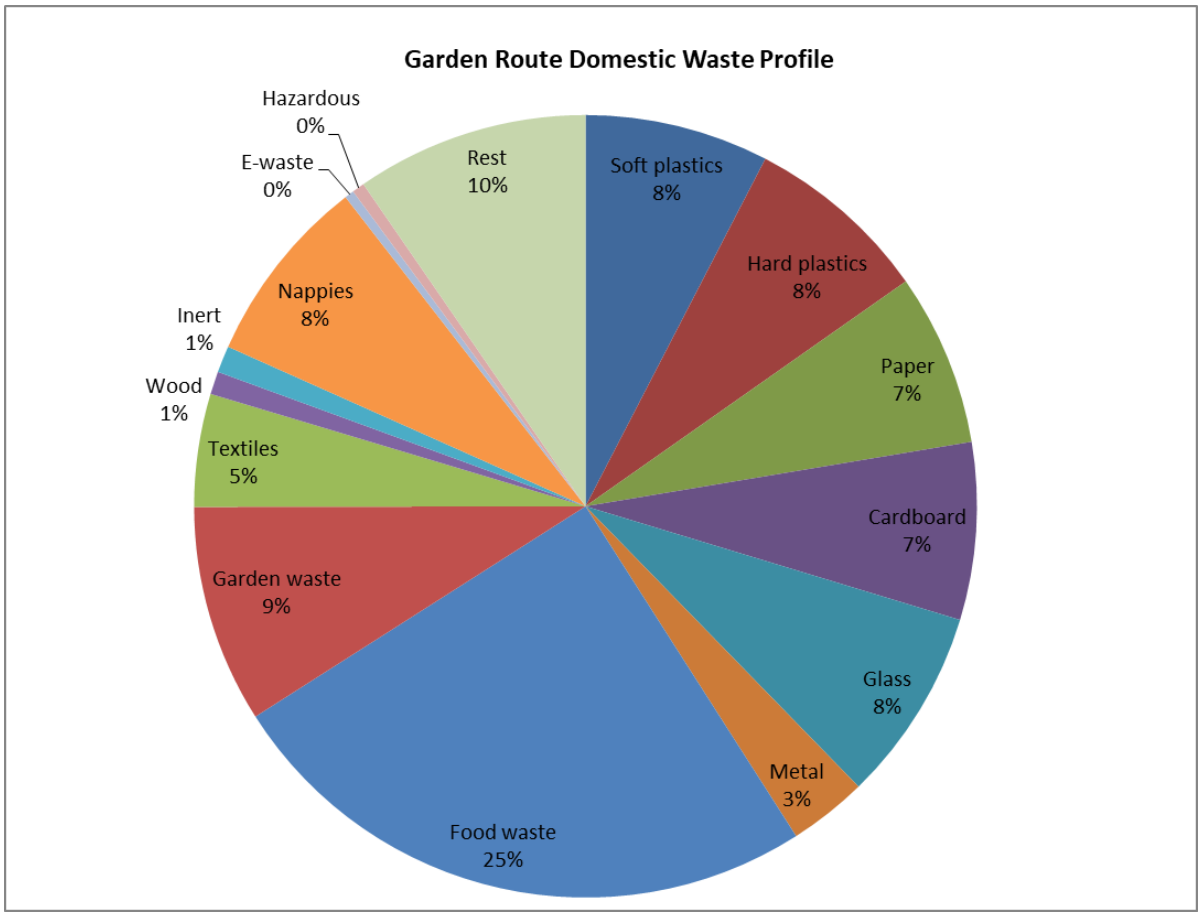

Figure 15: The proportion of each waste type recorded from the waste characterisation studies within the GRDM (source: Garden Route District Municipality)

The results of the waste characterisation exercise indicate that a reduction in domestic waste to landfill of 75.9% is hypothetically achievable if all the recyclable material and organic waste was separated at source by households. In practice a 100% diversion rate is not possible as not all households will participate in a separation at source programme. However, there still remains potential to significantly reduce domestic waste to landfill.

On a national level the public's attitude to recycling has been determined through various surveys. Key findings of the surveys to note when considering separation at source programmes are:

- In a 2017 PETCO survey of 665 participants PETCO found that:
  - 75% of respondents were aware of the concept of recycling
  - Reasons given by those who do not recycle are, a lack of space (59%), apathy (44%), lack of facilities (44%) and a lack of education (28%)
  - 25% of household would recycle if they were paid or incentivised (PETCO, 2017).
- In a 2015 a national CSIR survey of 3,617 households found that:
  - Rural households are less likely to recycle than urban households. 78% of households do not recycle, in rural areas this increased to 85%.
  - Respondents were asked whether they would be willing to make use a kerbside collection service for recyclables, 56% of households (an increased from 41% in 2010) indicated that they would be willing to use the service however 19% of

households (an increase from 15% in 2010) would not be willing to make use of a service (Strydon W.F & Godfrey L.K. (2016).

The results of the perception surveys indicate that increased education and awareness can assist with increasing recycling, however not all households will participate in a separation at source programme even if the recyclable are collected using a kerbside collection service.

6.6.2 Organic Waste Profile

The GRDM undertook a characterisation of organic waste in association with USAID LEDSA in 2018. The aim of the study was to determine organic waste types and volumes and identify mechanisms to divert organic waste was landfill.

The study focused on six waste streams:

1. Sawmills
2. Furniture manufacturing
3. Abattoirs
4. Wastewater treatment works (WWTW)
5. Green/ garden waste
6. Alien invasive vegetation

The study involved a literature review, interviews with business and industry and engagement with stakeholders such as SANParks, local municipalities and CapeNature.

Table 31: Organic waste characterisation results (source: GRDM, 2018)

Waste stream	Unit	Survey results	Proxy/ estimated data
Sawmills	Tonnes/ annum	132,182	250,000
Furniture manufacture	m^3 per annum	700	24,480
Abattoirs	Tonnes/ annum	6,544	12,850
WWTW sewage sludge	Tonnes/ annum	8,621	8,868
Green waste (based on population)	Tonnes/ annum	19,278	35,000
Alien invasive vegetation	Tonnes/annum		Exploitable – 1.2 million tonnes Total – 7 million tonnes

A Draft Waste Management Benefits Tool was also developed that will assist the GRDM to in future evaluate alternative suggested methods benefits in relation to cost, socio and economic impacts in the district. At this stage the tool is in the test phase of development. The next phase of the project will be to identify appropriate technologies to increase organic waste diversion from landfill. USAID LEDSA agreement with GRDM will come to an end in March 2020.

6.6.3 Business Waste Survey

The GRDM undertook a survey of businesses across the GRDM in 2018. The survey covered the following businesses.

- Butcheries
- Restaurants, take aways
- Grocery stores
- Spaza shops
- Local shops
- Clothing, shoe shops and jewellery shops
- Car shops, car service
- Beauty salons, hair salons
- Doctors, pharmacies
- Clubs, taverns, liquor stores
- Finance, bank, offices
- Furniture
- Hardware

The aim of the survey was to determine the type and quantity of waste generated by each business group. The survey captured information on waste streams per business but not waste quantities.

Table 32: Summary of business waste surveys

Business type	Type of waste generated	Bitou	George	Hessequa	Knysna	Mossel Bay	Oudtshoorn	Total
Butcheries	Plastic bags, paper, general waste, cardboard boxes, empty containers, chicken products	3	2	6	4	6	0	21
Restaurants/ Take Always	Food, cardboard boxes, cooking oil, glass bottles, cans, plastic straws and cutlery, polystyrene cups, white paper, plastic bags, general waste, containers, towels, organic waste, sauce cans, buckets, tins, wood ash	37	34	15	11	35	8	140
Grocery Store/Fruit &V e.g. Wholesaler	Food, plastic bags, cardboard boxes, glass bottles, paper, organic waste, general waste, cans	5	9	9	3	9	4	39
Spaza Shops	Paper, cardboard boxes, plastic, paper, organic waste, general waste, containers, metal, cans, cartons, bottles, cigarette buds, chips	67	45	24	30	3	0	169
Local Business	Material, foam, cardboard boxes, paper, wood, plastic, food waste, glass, cans ,old shoes, glue, containers, organic waste, off cuts, general waste, raw material, fibre glass, flower off cuts	18	14	14	23	22	1	92
Clothing & Shoe Stores/Jewellery	Cardboard boxes, paper, material, broken plastic hangers, plastic bags, organic waste, general waste, food waste, flowers, cans, material, new stock, cartons	32	23	14	16	47	9	141
Car Shops/ Car Services	Cardboard boxes, plastic, empty spray cans, glass, oil cans, old car parts, general waste, cartons, oil, tyres, tubes, paper, cables, rubber, steel, material, clothing, leather, filter box, fibre glass, polystyrene, wood off cuts, hard body filler	13	8	11	24	4	2	62
Services	Food waste, paper, cardboard boxes, plastic, scrap metal, glass bottles, general waste, containers, oil cans, oil, hair, organic waste, saw dust, material, televisions, wood blocks, dry flowers, toilet paper, morgue	31	12	30	16	33	2	124
Beauty Salons/Hair Salons	Hair, paper, cardboard boxes, wax strips, foil, glass, plastic, bottles, food waste, earbuds, tissue, cartons, containers, general waste, peroxide, tint, nails, general waste, organic waste, action ADS, relaxer, dye	23	21	6	6	11	0	67
Doctors/ Pharmacies/ Vet	Cardboard boxes, plastic, paper, medical waste, food waste, liquid pesticile, cup containers, general waste, limited human tissue waste, glass bottles, mask, towels, sanitary towels, cans, chemical containers	28	11	6	6	31	3	85
Clubs/ Tavern/Liquor Stores	Cardboard boxes, plastic, paper, food, cans, bottles, bottle caps, glass, cartons, office waste, bags	13	11	9	4	6	3	46
Finance /Bank/ Offices	Paper, cardboard boxes, plastic, cans, general waste, glass, printer cartridges, files, kitchen waste	17	11	10	2	14	3	57
Furniture Store	Paper, cardboard boxes, foam, wood, cartons, plastic, general waste, polystyrene, glass, raw material, saw dust, bubble wrap, organic waste	8	6	7	6	8	2	37

Business type	Type of waste generated	Bitou	George	Hessequa	Knysna	Mossel Bay	Oudtshoorn	Total
Hardware/ Electrical	Paper, cardboard boxes, bricks, oil, metal, general waste, plastic, empty toner, cartridges, e-waste, organic waste, steel, saw dust, scrap, wood	7	20	11	17	9	3	67
Total		**302**	**227**	**172**	**168**	**238**	**40**	**1,147**

6.6.4 Hazardous, Business and Industry Waste Profile

It has been identified that there is a lack of information available regarding hazardous waste generation in the GRDM. A survey of business and industry was undertaken as part of this IWMP to determine the types and the composition of waste generated by industry within GRDM. Where information was lacking, waste profiles of different industries were using the experience of the project team literature review, feedback from business and industry in other local municipalities.

(a) Abattoir Waste

Typical waste from abattoirs consist of blood, paunch content, offcuts, manure, condemned carcasses, feathers, fats and organs such as intestines, infectious waste and sharps.

The Western Cape mini guide to the management of abattoir waste provides guidance on management practices for abattoir waste. Management methods vary depending on the type of abattoir being managed. Methods used for management of organic abattoir waste in GRDM include composting, disposal at landfill, use in the production of fish meal and feeding of some abattoir waste (paunch contents) to pigs. Hazardous waste generated was abattoirs is collected by a service provider and transported out of the GRDM.

(b) Tannery Waste

For every ton of raw hide which is processed for leather at a tannery almost 850kg of solid waste in generated. Solid wastes generated include fleshing waste which is generated from the removal of subcutaneous material from raw hides, hair and skin trimmings. Tanneries also produce large volumes of wastewater which contains high concentrations of salts, chromium, ammonia, dyes and solvents (web reference 1). Chrome sludge, buffing waste, leather trimmings and wet blue shavings are transported by a service provider to Vissershok landfill site.

(c) Sawmills and Pole Yard Waste

The majority of general waste generated by sawmills is bark, wood chips, sawdust and offcuts. It was noted that other industries make use of these items. For example, nurseries may use the bark or wood chips for compost while chicken farms, and other agricultural activities, make use of the sawdust generated at sawmill facilities. Offcuts are collected on an informal basis by local residents for use as fuel. The saw mills interviewed indicated that the greatest challenge they experience is the removal of wood chips, saw dust and bark from their facilities. There is sometimes a delay in the remove of these products due to a lack of transport which causes waste to pile up.

Hazardous waste generated by sawmills includes used oil and oil-contaminated waste, chromium copper arsenate (CCA) and creosote. Oil and oily contaminated waste is generated from workshops during the maintenance of equipment. Chromium copper arsenate (CCA) is sometimes used for the treatment of timber. Waste from the CCA treatment process includes CCA sludge and CCA contaminated waste. After treatment minimal dripping of CCA from the timber is expected but any substrate or material which comes into contact with CCA could be hazardous. Creosote is used in pole yards for the treatment of timber. The hazardous waste generated from creosote treatment is similar to that generated from CCA treatment, creosote sludge and creosote contaminated material from creosote which comes into contact with saw dust or soil. The CCA and creosote sludge and contaminated waste is sent to a hazardous waste management facility such as Visserhok in Cape Town or Aloes in Port Elizabeth.

One pole yard visited previously tried to compost creosote contaminated waste. This project has now been halted as it resulted in soil pollution. Remediation was done to the site by bringing in compost and microbes to assist with the breakdown of the creosote.

(d) Furniture Manufacture Waste

Companies which manufacture furniture have a similar general waste profile to sawmills but typically make use of pre-treated wood so they do not typically generate CCA waste. Furniture manufacturing facilities also generate waste in the form of paint and varnish cans which, depending on the type of paint, may be considered hazardous. Metal cans can be sold to scrap metal recyclers.

(e) Automotive Industry Waste

There are numerous mechanics, panel beaters and vehicle repair shops in GRDM. Hazardous waste typically generated by these industries includes used oil filters, used oil and oil contaminated rags. Panel beaters generate thinners, used paint cans and soiled rags. Oil and oil contaminated waste is typically collected by a private service provider as and when required.

A concern was raised by a hazardous waste management company in MBLM that although they receive used oil from industry in the GRDM, they rarely receive oil filters. A significant number of oil filters are expected to be generated in GRDM through servicing of vehicles. Panel beaters generate thinners, used paint cans, soiled rags.

(f) Fishing Industry and Fish Packaging Industry Waste

Waste generated by the sea fishing and packaging industry includes fish processing waste, packaging materials (including polystyrene) and surplus or unmarketable fish. The waste generated through the fish processing (including guts, fish heads and scales) is transported to Mossel Bay where it is sold for fishmeal processing. Composting of fish waste used to occur at

the composting facilities in HLM but this practice is not common anymore. Packaging waste, such as cardboard and cleaned plastic, are collected by an independent recycling company.

(g) Winery Waste

There are a number of wineries within the GRDM. From the survey results it was noted that the majority of the waste generated by this industry includes organic waste and effluent.

Most of the organic waste generated by these facilities is reused on farms as cover material in the vineyards to aid soil moisture retention and to enhance the organic content of the soils. The effluent generated is either directly discharged into the local municipal sewer or collected by the municipality in some cases. The sludge generated by the fermentation process is collected by a private company which specializes in converting winery waste into natural products. These products are used in the wine industry, pharmaceutical industry and other markets.
The general waste generated by these facilities is collected by the local municipality for disposal. Some waste, such as glass, are collected by small-scale informal recyclers. Empty agrochemical and other chemical containers, which may contain some residues and therefore be classified as hazardous, were noted to be generated by wineries. These containers are usually collected by the supplier for re-use.

The general waste generated by this industry is collected by the local municipality for disposal. Recyclables are collected by an independent service provider.

(h) Food Processing Facilities

Waste from food manufactures/ processes includes general waste and laboratory waste which includes chemicals. All laboratory waste gets collected by a service provider and disposed of at the hazardous waste facility. Rejected food and contaminated food waste .e.g. food waste contaminated with sweeping or glass is taken to a hazardous waste landfill site. Although this waste is not classified as hazardous there is a risk that informal reclaimers may eat the food waste and there could be health implications.

6.7 Domestic Waste Generation

6.7.1 Hypothetical Domestic Waste Generation Rates

This section presents a theoretical calculation of the likely total quantity of waste generated in the GRDM using population data and published “per capita” waste generation rates.

The South Africa State of Environmental Report, 2006 (SOER) calculates waste generation volumes per income level as follows:

- Low income 0.41 kg/ person/ day = 149.65 kg/ person/ year;
- Middle income 0.74 kg/ person/ day = 270.1 kg/ person/ year; and
- High income 1.29 kg/ person/ day = 470.85 kg/ person/ year.

The SOER figures for waste generation are also used in the Department of Environmental Affairs Guideline for the Development of Integrated Waste Management Plans (IWMPs). The DEA IWMP guideline also presents the following income brackets:

- Low income R 0 – R74,999 per year;
- Middle income R 75,000 – R 999,000 per year; and
- High income R 1 million + per year.

The GRDM income profile was determined based on STATs SA records (Census 2011). A population of 635,600 persons was used (Eden District Municipality, undated) to calculate the waste tonnages presented in the table below.

Table 33: Theoretical calculation of domestic waste produced in the GRDM

Waste generation/ income group	Income group	% of population	No. person	Waste generation kg/day	Waste generation kg/annum	Waste generation tonnes/ annum
Low income 0.41kg/person/day	No income	12.1%	76,908	31,532	11,509,222	11,509
	R1 - R,4800	2.7%	17,161	7,036	2,568,174	2,568
	R 4,801 - R 9,600	4.4%	27,966	11,466	4,185,172	4,185
	R9,601 - R19,600	14.6%	92,798	38,047	13,887,161	13,887
	R19,601 - R38,200	20.9%	132,840	54,465	19,879,566	19,880
	R38,201 - R76,400	17.5%	111,230	45,604	16,645,570	16,646
Sub-total			**458,903**	**188,150**	**68,674,864**	**68,675**
Medium income 0.74kg/person/day	R76,401 - R153,800	11.9%	75,636	48,407	17,668,663	17,669
	R153,801 - R307,600	8.8%	55,933	35,797	13,065,902	13,066
	R307,601 - R614,400	4.9%	31,144	19,932	7,275,332	7,275
	R614,001 - R1,228,800	1.4%	8,898	5,695	2,078,666	2,079
Sub-total			**171,612**	**109,832**	**40,088,563**	**40,089**
High income 1.29kg/person/day	R1,228,801 - R2,457,600	0.4%	2,542	3,280	1,197,089	1,197
	R2,457,601+	0.3%	1,907	2,460	897,817	898
Sub-total			**4,449**	**5,739**	**2,094,906**	**2,095**
	Total	**99.9%**	634,964	303,721	110,858,333	110,858

Based on the above estimation, a total of 303.7 tonnes of domestic waste per day or 110,858.3 tonnes per year are generated within the GRDM.

The below data is sourced from landfill site disposal records, records from waste management companies, the IPWIS and SAWIS. Six of the seven local municipalities are reporting general waste disposal data on the IPWIS. The OLM is the only municipality in GRDM which does not report data on the IPWIS. While the HLM does report on the IPWIS, some records are outstanding.

The data presented on SAWIS does not appear to be accurate; the BLM reports 103,269.1 tonnes of municipal in 2018 waste and GLM (which has a population 3.5 times larger than BLM) only reports 2,547.7 in 2018.

Table 34: Disposal records/ Data for Domestic Waste Generation for GRDM

Municipality	SAWIS records(2018)	IPWIS records (2018)	Data from local municipality (2018)	Hypothetical domestic waste generation (2019)
Bitou	103,269.1	-	-	11,106.6
George	2,547.7	-	36,099.1	38,548.2
Hessequa	6,769.3	-	-	12,243.2
Kannaland	173.6	388.7	-	4,013.5
Knysna	-	-	12,519.7	12,519.7
Mossel Bay	86,276.8	-	28,264.1	18,541.6
Oudtshoorn	-	-	84,633.6	18,361.8

As can be seen from the table above, there are discrepancies between the three different data sources. When reviewing these records the following must be considered:

- KLLM, OLM and HLM are disposing of domestic waste into their own local landfill sites, none of which have weighbridges. Waste is recorded manually at some but not all of the facilities in these municipalities
- GLM, MBLM, BLM and KLM all dispose of waste at the PetroSA landfill site. However, due to the way that refuse collection rounds are structured some truck will collect a mixture of domestic and business waste. Mixed loads may be categories as domestic waste which will result in an over representation of domestic waste
- Not all trucks entering the PetroSA landfill site are weighed. PetroSA weigh a sample of truck to get a baseline and then count the number of trucks entering the site and extrapolate the data
- Not all domestic waste generated in the GRDM is collected, 6% of households use their own refuse dump and indicate that they have no refuse service. Waste from these households would not enter a landfill site and so would not be recorded
- The GRDM, in particular the coastal municipalities are key tourist areas. The population of these towns fluctuates significantly throughout the year. The population data used from IDPs may not take into consideration tourists.

6.7.2 Waste Disposal Records

Waste data for the GRDM is reported on three different waste information systems:

1. South African Waste Information System (SAWIS) – a national waste information system by DEFF;
2. Integrated Pollutant and Waste Information System (IPWIS) – a provincial waste information system managed by DEA&DP;
3. Garden Route Integrated Waste Management System (GRWMIS) – a district waste information system managed by GRDM. At present only HCRW data is reported on the GRWMIS. Other facilities will be requested to register and start reporting in the 2019/2020- financial year.

All municipalities are required to report on the IPWIS in terms of the National Waste Information Regulations (GN 625 of 2012). The GRDM 2017 Waste Management By-Laws also

require facilities or activities listed in Annexure 1 of the National Waste Information Regulations to register on the GRWMIS. At present the GRDM is registering companies on the GRWMIS. Health care risk waste generators have commenced with reporting on the system. All of the municipalities in the district with the exception of OLM are reporting data on the IPWIS. The IPWIS data was extracted from the system and provided to GIBB are the beginning of the project. This data is summarised below.

Table 35: IPWIS records of General Waste Disposal and Recycling in the GRDM (January 2018 – December 2018)

Municipality	Commercial and industrial	Construction and demolition waste	Municipal waste	Organic waste	Other	Total
Bitou	7,733.7					7,733.7
George	3,265	4,296.1		3,883.8		11,444.9
Hessequa	5,803.3	4,099.4		3,257.2		13,159.9
Kannaland	46,364.7	162.6	388.7	385.0		47,300.9
Knysna	17.7			2,080.0	556.5	1,951.6
Mossel Bay	136.8	20,518.2		492.1		21,147.1
Oudtshoorn	No data available					

No data is reported for the OLM on the IPWIS system. The below records were provided by the OLM. Data was only available for January – April 2019, this data has been extrapolated for a 12 month period.

Table 36: Waste disposal data for OLM

Waste type	Ave. per month	Total for 12 months
Domestic	6,676.1	80,113.2
Organic Waste (excluding abattoir Waste)	927.1	11,125.2
Building Rubble	891.4	10,696.8
Glass	28.3	339.6
Plastic	72.9	874.8
Cardboards	18.1	217.2
Zinc Sheets	1.6	19.2
Pallets / Wood	2.3	27.6
Rugs	1.6	19.2
Leather Products	59.5	714.0
Total	**8,678.9**	104,146.8

6.8 Hazardous Waste Records

A profile of hazardous waste generation in the GRDM was developed based on data reported on waste information system and data collected from industry.

6.8.1 SAWIS Hazardous Waste Records

Waste records on the SAWIS were reviewed to determine hazardous waste generation and management in the GRDM. Based on data available on the SAWIS, hazardous waste generated in the GRDM is disposed of in the MBLM, City of Cape Town or Port Elizabeth. It should be

noted that while it appears that only GLM and MBLM are generating hazardous waste, this is likely a data reporting issue and not an indication that no hazardous waste is being generated in other municipalities.

Table 37: SAWIS hazardous waste records (data accessed on 28 June 2019)

Source of waste	Municipality receiving hazardous waste			
	City of Cape Town	MBLM	Nelson Mandela Bay Metro	Total
Bitou	-	-	-	-
George	80.0	-	72.8	152.8
Hessequa	-	-	-	-
Kannaland	-	-	-	-
Knysna	-	-	-	-
Mossel Bay	12.1	12,595.0	1.5	12,608.6
Oudtshoorn	-	-	-	-

All waste generated in the GRDM is disposed of at either Aloes landfill site in Port Elizabeth or Visserhok in Cape Town.

6.8.2 Hazardous Waste Survey Results

The following information has been captured through the hazardous waste survey undertaken during the situational analysis review. There are still come questionnaires outstanding and it is anticipated that the data will be updated several times before the IWMP is finalised.

Table 38: Hazardous waste survey results

Industry	Waste type	Management method
Abattoir	Blood	Cooked/ processed into fishmeal, composted
Abattoir	Intestines, neck skins, fats etc.	Landfilled, composted, processed into fish meal
Abattoir	Abattoir waste (other)	TBC
Abattoir	Manure from stalls	Landfill
Abattoir	Infectious waste and sharps	Collected by a service provider, incinerated in George or disposed of at Aloes Landfill site.
Abattoir	Runoff from cooking pots collected from traps	Landfill after pre-treatment, Grootkop landfill sit (OLM)
Abattoir	Stones from Stalls and traps	Landfill after pre-treatment, Grootkop landfill sit (OLM)
Dairy	Laboratory waste	Sent to Cape Town for treatment and disposal
Dairy	Hazardous liquids (used oil)	Sent to local workshop. Unknown who collects from the workshop.
Dairy	Hazardous solid (Fluorescent tubes)	Sent to Cape Town for treatment and disposal
Dairy	Hazardous solid (oil rags)	Sent to local workshop. Unknown who collects from the workshop.
Food processing and packaging	Fish guts, scales and heads; packaging	Fish waste is transported to Mossel Bay
Furniture business	Cut offs and saw dust	
Furniture business	Paint tins	Most of the products used in the industry is waster-based but some solvent-based products are used. These are removed by external service providers.
Saw mill	CCA/ creosote contaminated waste	Transported to Cape Town for disposal
Sawmill	Sawdust and wood cut-offs	Local farmers may collect and use sawdust while many of the cut-offs are used as fuel for fire
Sawmill	Sawdust, wood cut-offs	Local farmers may collect and use sawdust while many of the cut-offs are either removed to landfill or staff take them to use as fuel.
Tannery	Asbestos – collected from various sources on site	Collected by a service provider and disposed of at Vissershok landfill site.
Tannery	Buffing waste / Leather trimmings / Wet blue shavings - generated from various processes and collected in effluent plant	Collected by a service provider and disposed of at Vissershok landfill site.
Tannery	Chrome sludge – generated from chroming process and collected in effluent plant	Waste waters from process collected in a sump and then pre-treated and pumped to a settling cone and then to dry beds where it is collected and bagged for collection by a service provider and transported to Vissershok landfill site.
Tannery	Dry-clean fat – collected from dry-cleaning machines	Waste from dry-cleaning process collected in 210L drums and then placed in 30m³ skips before being collected by a service provider for disposal at Vissershok landfill site.

Industry	Waste type	Management method
Tannery	Fluorescent tubes - collected from various sources on site	Collected by a service provider for recycling
Tannery	Metal waste - collected from various sources on site	Waste from various areas on site collected and then transported to local recycling plants.
Tannery	Oily Rags – collected during maintenance operations on site	Waste from various areas on site collected in plastic bags and then washed in dry-cleaner and re-used.
Tannery	Tannery sludge - generated from various processes and collected in effluent plant	Collected by a service provider and disposed of at Vissershok landfill site.
Tannery	Waste oils- collected from various sources on site	Waste from various areas on site collected in 210 L steel drums and then collected by a service provider.
Used oil recycler	Used cooking oil	Recycled into biodiesel
Various	Hazardous liquids - oil	Sent to Cape Town for recycling
Waste management	Sanity waste	Sent to Cape Town for treatment
Waste management	Used lubricants (oils)	Sent to Cape Town for recycling
Winery	Organic	Used in vineyard to improve soil condition and assist with water retention

6.9 Health Care Risk Waste Generation

Data on HCRW generation was sourced from the Western Cape Department of Health (WCDoH). The majority of HCRW waste generated in the GRDM is reusable container waste. The data provided by WCDoH is for government clinics and hospitals. The GRDM has initiated the registration of HCRW generators on the GRWMIS. At present data is not available as the GRWMIS is currently being updated to allow online registering and reporting. A total of 308.7 tonnes of HCRW was generated in the GRDM in January 2018.

Table 39: Health care risk waste generation at government hospital and clinics (January 2018)

	Waste type (kg)							
Municipality	**Sharps**	**Pharmaceutical**	**Cyto toxic**	**RUC Gross**	**Anatomical**	**Trochar**	**Speci bin**	**Total**
Bitou	416.0	255.0	0.0	998.2	0.0	0.0	0.0	1669.2
George	5,521.3	3,379.1	1,026.1	237,182.8	907.0	109.0	389.8	248,515.1
Hessequa	498.7	223.2	20.4	1842.6	4.0	0.0	0.2	2,589.0
Kannaland	579.7	182.4	0.0	3449.3	35.2	1.0	17.1	4,264.7
Knysna	1,725.5	1,056.6	0.0	13,049.4	195.5	0.0	165.8	16,192.7
Mossel Bay	2,579.3	805.3	0.0	15,760.6	334.7	0.0	187.6	19,667.6
Oudtshoorn	1,744.1	314.7	0.0	13,212.1	384.0	0.0	169.9	15,824.8
Total (kg)	**13,064.6**	**6,216.3**	**1,046.4**	**285,495.0**	**1,860.4**	**110.0**	**930.5**	**30,8723.2**
Total (tonnes)	**13.1**	**6.2**	**1.0**	**285.5**	**1.9**	**0.1**	**0.9**	**308.7**

*RUC – reusable container –non-sharps waste
*Speci bin – specialised containment

6.10 Future Waste Generation

6.10.1 Future Domestic Waste Generation

An understanding of future waste generation is valuable for waste planning and therefore should be considered in an IWMP. The table below estimates waste generation over a five and ten year period. Waste generation rates have been estimated based on historic (Census 2001 and Census 2011 population data) and anticipated population growth of the local municipalities.

Table 40 Future domestic waste generation rates

Year	Population	Population growth rate/ annum (based on 2001 – 2011 growth rate)	Projection of waste generation quantities based on population (tonnes/ annum)	Projection based on landfill site records (tonnes/ annum)
Bitou Local Municipality				
2019	62,369	3.77%	11,106.57	-
2024	80,952		14,415.79	-
2029	105,071		18,710.43	-
George Local Municipality				
2019	217,054	1.38%	38,543.00	36,099.00
2024	236,409		39,793.00	38,678.00

Year	Population	Population growth rate/ annum (based on 2001 – 2011 growth rate)	Projection of waste generation quantities based on population (tonnes/ annum)	Projection based on landfill site records (tonnes/ annum)
2029	243,440		43,228.00	42,017.00
Hessequa Local Municipality				
2019	66,171	1.78%	12,243.20	-
2024	79,624		14,732.90	-
2029	79,624		14,7932.90	-
Kannaland Local Municipality				
2019	24,207	0.05%	4,013.00	388.80
2024	24,273		4,024.00	389.80
2029	24,340		4,035.00	390.90
Knysna Local Municipality				
2019	73,835	0.215	13,723.36	12,519.70
2024	74,610		13,867.46	12,651.16
2029	75,400		14,014.30	12,785.11
Mossel Bay Local Municipality				
2019	96,120	0.70%	17,156.00	28,264.00
2024	99,560		17,770.00	29,477.00
2029	103,109		18,403.00	30,528.00
Oudtshoorn Local Municipality				
2019	101,991	1.25%	18,361.80	84,633.60
2024	107,806		19,541.80	90,075.36
2029	114,059		20,798.70	95,864.40
GRDM TOTAL				
2019	635,600	1.14	110,858.00	-
2024	694,323		121,101.00	-
2029	758,472		132,289.00	-

6.10.2 Future Business and Industrial Waste Generation

Future business and industrial waste generation is difficult to quantify as it depends on local economic conditions. Waste from businesses such as the health care industry and the food industry should increase with an increase in population.

During discussions with sawmills in the GRDM it was noted that a reduction in supply of timber from government owned forestry is anticipated towards the end of 2019. The reduction in timber is attributed to the fires in the GRDM in 2016 – 2018, and a lack of replanting following harvesting. This lack of timber will impact on waste generation (wood chips, sawdust, off-cuts and CCA-contaminated waste) from privately owned sawmills.

6.11 Waste Information Systems

The following sections presents a summary of the different waste information systems in use in the GRDM.

6.11.1 Integrated Pollutant and Waste Information System

The Integrated Pollutant and Waste Information System (IPWIS) is the Western Cape's waste information system.

6.11.2 Garden Route District Municipality Waste Management Information System

The GRDM has a waste information system called the Garden Route Waste Management Information System (GRWMIS). Waste generators and recyclers are required to report on the GRWMIS in terms of the GRDM waste management by-laws (2016).

The following table indicates the number of facilities and companies that are registered on GRWMIS

Table 41: List of companies and facilities types and the number thereof registered on GRWMIS

Municipality	Hazardous	HCRW	Industrial waste	Landfill Site/ transfer station	Recycling Facility	Recycling Facility (metal)	Transporter	Total/ municipality
Bitou		35	11	1	1			48
George	1	160	28	3	2	1	2	197
Hessequa		45	1	7	1			54
Kannaland		12		4				16
Knysna		69	9	4				82
Mossel Bay	1	105		1	2		5	114
Oudtshoorn		71	6	3	2			82
Total	2	497	55	23	8	1	7	593

6.12 Health Care Risk Waste

The Western Cape Department of Health (WCDoH) is responsible for the management of health care risk waste (HCRW) generated in government hospitals and clinics. Refer to Section 6.9 and Table 36 for health care data.

6.13 Waste Services

Data regarding the extent of waste service provision were sourced from Census data (Community Survey 2016). According to the 2016 Community Survey 88.8% of households in the GRDM receive a weekly kerbside collection service.

The percentage of households receiving a collection service (weekly and less frequently) has increased from 88.3% in 2011 to 91.5% in 2016.

Table 42: Waste collection services in the GRDM (data source Stats SA Census 2001 and 2011 and Community Survey 2016

Waste Service	Community Survey 2016	Census 2011	Census 2001
Removed weekly	88.8%	88.3%	82.9%
Removed less often	2.7%		
Communal refuse dump	2.1%	9.3%	15.4%
Communal container	0.4%		
Own refuse dump	3.8%		
No refuse disposal	0.8%	2.3%	1.7%
Other	1.4%	-	-
Total	100%	100%	100%

Note: the reporting categories in Census 2001 and Census 2011 varied slightly from the reporting categories used in Community Survey 2017

Based on Community Survey 2016 data 88.8% of households in the GRDM receive a weekly waste collection service. This rate is comparable with only district municipalities in the Western Cape and is slightly higher than the Western Cape average (86.8%). A significantly higher percentage of households in the GRDM (88.8%) receive a weekly collection service compared to the national average of 61.0%.

Table 43: Waste collection services according to Community Survey 2016 data (percentage of households)

Municipality	Weekly collection service	Removed less often than weekly	Communal refuse dump	Communal container/ central collection point	Own refuse dump	Dump or leave rubbish anywhere (no refuse disposal)	Other
Local Municipalities							
Bitou	88.6%	1.3%	0.2%	0.3%	7.4%	0.5%	1.6%
George	93.3%	4.0%	0.4%	0.2%	1.7%	0.0%	0.5%
Hessequa	74.4%	1.2%	13.5%	1.4%	7.7%	0.0%	1.7%
Kannaland	79.2%	2.7%	3.6%	0.0%	12.5%	1.3%	0.7%
Knysna	93.1%	2.9%	1.0%	0.3%	0.6%	0.6%	0.6%
Mossel Bay	87.2%	2.7%	1.4%	0.6%	1.2%	0.8%	1.4%
Oudtshoorn	87.4%	1.2%	1.9%	0.5%	7.0%	1.8%	0.1%
District Municipalities							
Garden Route	**88.8%**	**2.7%**	**2.1%**	**0.4%**	**3.8%**	**0.8%**	**1.4%**
Cape Winelands	81.8%	4.6%	3.7%	2.5%	5.4%	1.7%	0.4%
Central Karoo	90.8%	0.6%	1.1%	0.1%	6.2%	0.5%	0.7%
City of Cape Town	87.8%	3.1%	1.3%	6.2%	0.4%	0.7%	0.6%
Overberg	87.1%	1.8%	4.6%	1.8%	3.1%	1.1%	0.6%
West Coast	83.4%	1.7%	1.7%	0.5%	9.9%	2.4%	0.3%
Western Cape	**86.8%**	**3.0%**	**1.9%**	**4.5%**	**2.2%**	**0.9%**	**0.6%**
South Africa	**61.0%**	**2.9%**	**3.2%**	**1.9%**	**26.1%**	**4.0%**	**1.0%**

Table 44: Waste collection services according to Community Survey 2016 data (number of households)

Municipality	Weekly collection service	Removed less often than weekly	Communal refuse dump	Communal container/ central collection point	Own refuse dump	Dump or leave rubbish anywhere (no refuse disposal)	Other
Bitou	19,416	285	44	66	1,622	110	351
George	58,520	2,509	251	125	1,066	0	314
Hessequa	12,924	208	2,345	243	1,338	0	295
Kannaland	5,016	171	228	0	792	82	44
Knysna	24,091	750	259	78	155	155	155
Mossel Bay	27,700	858	445	191	381	254	445
Oudtshoorn	20,418	280	444	117	1,635	421	23
Total	**168,085**	**5,062**	**4,015**	**819**	**6,989**	**1,022**	**1,627**

Comment on Stats SA data sets
The table above presents two different Stats SA data sets.

1. The 2011 Census data
2. The 2016 Community Survey data

The 2011 Census surveyed all South African households. This data is 7 years old but it remains the most up to date complete census data set for the country.

The 2016 Community Survey data is more recent (2016), however only a sample (8.1%) of South African households were surveyed during this census. The Community Survey was designed to be a representative sample of South African households.

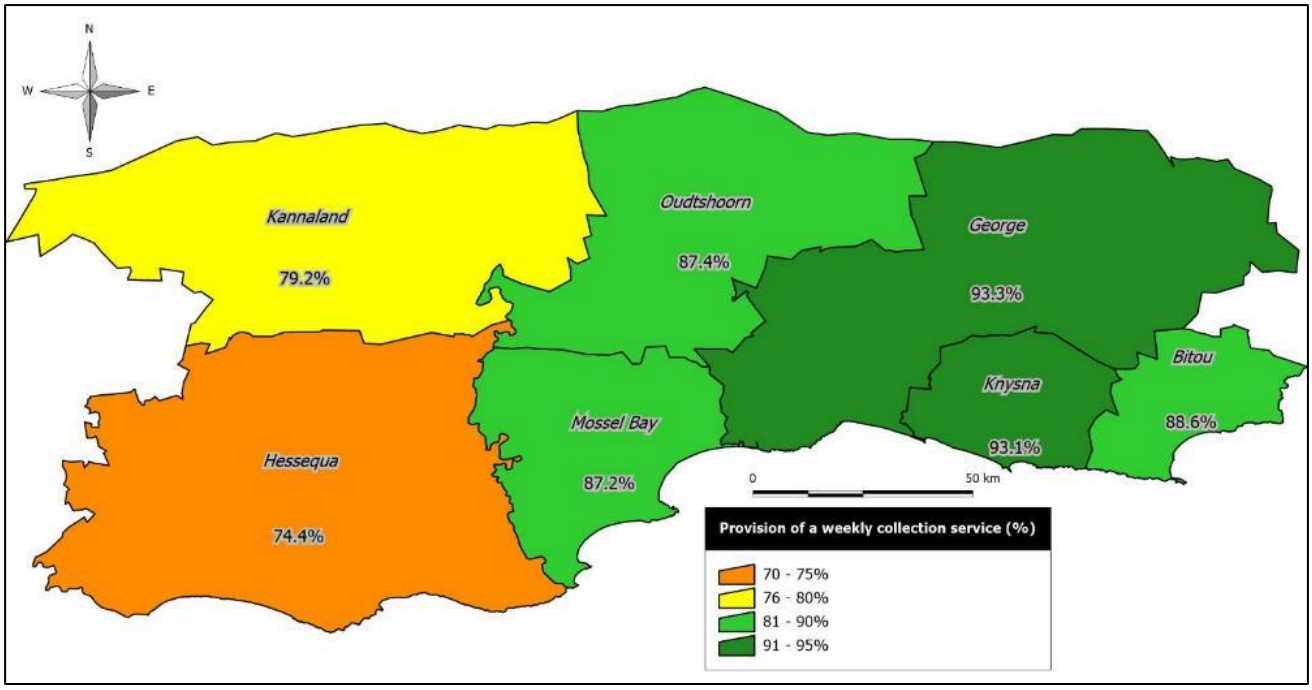

Figure 16: Percentage of households receiving a weekly waste collection service per local municipality in the GRDM (STATs SA Community Survey 2016 data)

Based on Community Survey 2016 data, **88.8%** (168,085 households) of households in the GRDM receive a weekly collection service. The level of service varies between local municipalities. The GLM provides a weekly collection service to 93.3% of households whereas the HLM only provides a weekly collection service to 74.4% of households. The majority of households in urban or densely populated areas receive a weekly collection service. Households in outlying or rural areas typically do not receive a weekly collection service.

Of concern is that in the KLLM 12.5% are using their own refuse dumps, which are most likely pits to bury waste or for the burning of waste. Both of these activities have negative environmental impacts.

All municipalities provide a door-to-door collection service to households in urban areas. Households in rural areas and either serviced through communal collection points or required to drop-off waste a landfill site or transfer station. The MBLM places skips outside the old Herbertsdale and Freimersheim landfill sites for farmers and residents in rural areas to use. The HLM places wooden boxes along main roads for the drop-off of waste from rural households.

Figure 17: Examples of container used for rural households to drop-off waste in HLM and MBLM

6.14 Waste Recycling

In terms of integrated waste management, recycling of waste should be implemented before recovery, treatment and disposal of waste. The 2017 WCIWMP sets a target of 20% diversion rate of recyclables by 2019.

6.14.1 Separation at Source

Waste separation at source programmes are underway in all local municipalities except for OLM and KLLM. The separation at source programmes are either partially or fully managed by a service provider.

Table 45: Recyclables (tonnes) collected through the two bag system January 2018 – December 2018

Month	Bitou	George	Hessequa*	Knysna	Mossel Bay	Total
January	94.2	773.8	109.0	62.9	242.0	1,281.9
February	52.3	600.6	118.4	66.0	203.0	1,040.3

Month	Bitou	George	Hessequa*	Knysna	Mossel Bay	Total
March	29.0	606.7	112.0	0.0	255.0	1,002.7
April	57.3	587.2	116.0	62.5	139.0	962.0
May	69.1	597.3	111.5	65.9	203.0	1,046.8
June	21.6	451.8	109.5	79.3	70.3	732.5
July	57.9	311.5	110.8	73.7	170.0	723.9
August	31.3	350.4	104.9	84.7	186.0	757.3
September	58.6	295.2	105.0	52.8	118.0	629.6
October	27.3	364.3	111.7	87.9	175.0	766.2
November	50.2	319.5	107.7	49.5	206.6	733.5
December	35.4	350.6	94.0	66.9	165.7	712.6
Average per month	**48.7**	**467.4**	**109.2**	**62.7**	**177.8**	**865.8**

*the data for Hessequa also included recyclables collected by the service provider from business. The service provider was unable to provide standalone data for the two bag system

Local municipalities and the appointed recycling service providers confirmed that the participation of households varies across towns and even suburbs within towns. They highlighted that there is also a lack of understanding in the GRDM with regards to what waste can and cannot be recycled, and hence often residents place contaminated waste into the recycling bags.

6.14.2 Swop Shops

Swop shops are facilities where the community can exchange recyclables for coupons or food items or groceries. At present only the MBLM and KLM have swop shops in operation. There are currently two swop shops in operation MBLM and two operational swop shops in the KLM with a third in the process of being opened.

Figure 18: Photo A.Rheenendal swop shop, Photo B. KwaNonqaba swop shop

6.14.3 Material Recovery Facilities

A material recovery facility (MRF) is a waste facility where the sorting of waste is undertaken to separate out the recyclable components. A distinction between “clean MRFs” and “dirty

MRFs" can be made. A dirty MRF is a facility which accepts an unsorted waste stream. In terms of the domestic waste stream this would be a mix of organic waste (kitchen) waste, recyclables (glass, paper, metal, plastic etc.) and a non-recyclable domestic component. The recyclables separated at a dirty MRF are generally of lower value as they are typically contaminated with organic waste.

A clean MRF processes pre-sorted recyclables, and hence recyclables separated in such a facility have lower levels of contamination and have higher financial value. Clean MRFs typically are used in municipalities which run separation at source programmes.

The material recovery rates differ significantly between clean and dirty MRFs due to different levels of contamination. A dirty MRF typically recovers 10 -25% of recyclables as opposed to a clean MRF where 80% are recovered (DEA, undated, Anél Blignaut Environmental Consultants cc, 2012).

The design of a MRF can vary significantly depending on the waste volumes processes, space availability and budget available. An example of a highly mechanised MRF is Kraaifontein in City of Cape Town. This MRF is semi-automated and uses bag splitters and conveyor belts to assist with sorting of waste.

Future MRFs planned for the GRDM:

- The MBLM is currently developing a low technology MRF in Herbertsdale which will consist of a covered sorting area, and raised sorting tables where sorting will be undertaken manually.
- The GLM is constructing a MRF at the George transfer station
- The BLM are planning to construct a MRF at the Plettenberg Bay transfer station

6.14.4 Recycling Drop-Off Facilities

Recycling drop-off facilities can be used to increase recycling in a municipality. Use of recycling drop-off facilities can be used by municipalities to create an enabling environment for recycling. The BLM have drop-off facilities at the municipal depot in Plettenberg Bay. The MBLM also has recycling bins for glass at the two transfer stations.

Figure 19: Recycling drop-off bins at the municipal depot in Plettenberg Bay (BLM)

6.14.5 In-House Municipal Recycling

Recycling bins are available in GRDM offices to encourage employees to recycle at work and for public awareness for all the public visiting the offices. The recyclables are removed by a service provider. Each GRDM office has a champion who is responsible for management of the system. On average 2 tonnes of waste is collected per month through the office recycling programme.

All of the local municipalities also have in-house recycling programmes except for OLM and KLLM. The local municipalities were not able to provide any records from the in-house recycling programmes.

Table 46: In-house waste recycling records (January 2018 – July 2019)

Month	Waste collected (kg)
January 2018	3,204.8
February 2018	2,325.5
March 2018	2,398.2
April 2018	2,299.0
May 2018	2,148.0
June 2018	3,132.5
July 2018	3,182.9
August 2018	2,927.8
September 2018	2,980.5
October 2018	4,943.8
November 2018	1,545.0
December 2018	1,506.3
January 2019	233.7
February 2019	3,316.3
March 2019	2,120.9
April 2019	164.2
May 2019	193.5
June 2019	151.9
July 2019	60.2
Total	38,834.9
Average/ month	2,043.9

Figure 20: In-house recycling bins located in the municipal offices

6.14.6 Waste Recycling Records

The table below provides a summary of waste recycling per local municipality. The data is for material collected through separation at source programmes, in-house recycling programmes and from data provided by private recycling companies operating in the GRDM.

Table 47: Summary of recycling data (tonnes) per local municipality (January – December 2018)

Municipality	Paper and cardboard	Plastic	Glass	Metals	Other	Cartons	Total
Bitou	209.9	33.2	328.8	12.0	-		583.9
George	2,875.8	585.6	2,625.2		-		6,086.6
Hessequa	769.5	149.2	362.6	29.4	-	-	1,310.7
Kannaland	69.1	26.9	3.9				99.9
Knysna	366.9	50.8	192.2	6.74	168.2		784.8
Mossel Bay	2,098.4	295.8	495.1			13.9	2,903.2
Oudtshoorn*	1,445.0	610.9	537.7				2,593.6
Total	**7,834.6**	**1,752.4**	**4,545.5**	**48.1**	**168.2**	**13.9**	**14,362.7**

*Oudtshoorn data is for the period April 2018 – March 2019

The percentage of waste being recycled in each local municipality was calculated based on the available waste records.

Table 48: Summary of recycling rates per local municipality (January – December 2018)

Municipality	Tonnes of waste generated	Tonnes of waste recycled	Percentage of waste recycled	Comments
Bitou		584.2	-	At present, domestic waste data is not available from the BLM.
George	36,099.10	9,261.9	20.4	
Hessequa	5,845.20	1,310.6	18.3	Domestic waste in the HLM is recorded as commercial and industrial waste
Kannaland	388.60	61.2	13.6	
Knysna	12,519.70	336.6	2.6	
Mossel Bay	28,264.10	2,325.9	7.6	
Oudtshoorn*	26,704.20	2,593.7	2.4	The percentage of waste recycled is based on data from four months (January 2019 – April 2019)

*Oudtshoorn data is for the period April 2018 – March 2019

6.15 Management of Hazardous Waste

6.15.1 Used Oil Drop-Off Facilities

Incorrect management of used oil can result in environmental impacts such as soil and water pollution. Used oil is generated by the public through servicing of vehicles and equipment.

The GRDM is associated with the ROSE Foundation placed motor oil recycling facilities in the BLM, GLM, HLM, MBLM and OLM.

It appears that only MBLM, KLM and BLM are making full use of the facilities. Rose Oil Foundation containers were noted at the Steynskloof landfill site in HLM, however the facility was are not currently operational. The GRDM assisted the local municipalities

In order to maximise the use of the oil recycling facilities the local municipalities need to ensure that public awareness campaigns are undertaken to inform the public of the location of the facilities and the type of waste they can accept.

6.15.2 E-Waste Drop-Off Facilities

The GRDM in association with the MBLM and KLM have initiated e-waste recycling projects at waste management facilities in MBLM and KLM. The GRDM has procured the services of an e-waste recycling company to collect e-waste from the municipalities. The e-waste is collected free of charge and dismantled to reclaim valuable components. The hazardous components are disposed of at Aloes hazardous waste site in Port Elizabeth. The MBLM undertakes regular e-waste awareness days to encourage the pubic to drop-off e-waste at the facilities.

Figure 21: E-waste and used oil container at KwaNonqaba transfer station in MBLM

6.15.3 Hazardous Waste Management Facilities

The following hazardous waste management facilities are in operation in the GRDM.

Table 49: Summary of hazardous waste management facilities in the GRDM

Facility name	Location	Facility Owner	Type of facility
George			
Greenscrap (Interwaste)	George	Greenscrap Recycling (Interwaste)	General and hazardous waste storage facility
Optimum waste treatment facility	George	Averda	Hazardous waste storage, treatment and incineration facility
Mossel Bay			
PetroSA hazardous waste storage facility	PetroSA, Mossel Bay	PetroSA	Hazardous waste storage facility. Sludge ponds
Oil Separation Solutions (OSS)	Mossel Bay	OSS	Hazardous waste storage facility
Greenscrap Recycling	Mossel Bay	Greenscrap Recycling	General and hazardous waste

Facility name	Location	Facility Owner	Type of facility
George			
Greenscrap (Interwaste)	George	Greenscrap Recycling (Interwaste)	General and hazardous waste storage facility
Optimum waste treatment facility	George	Averda	Hazardous waste storage, treatment and incineration facility
Remade		(Interwaste)	storage facility
Garden Route District Regional Site	Mossel Bay	Garden Route District Municipality	Hazardous cell and hazardous waste storage facilities

6.15.4 Destination of Hazardous Waste

Information gathered during the interviews with waste management companies and waste generators suggest that hazardous waste generated within the GRDM is either disposed of in the Visserhok landfill site (H:h) in the City of Cape Town or Aloes landfill site (H:H) in the Nelson Mandela Bay Metropolitan Municipality.

Table 50: Destination of hazardous waste

Waste type	Destination	Comments
Fluorescent tubes	Reclite - Cape Town	-
Asbestos	Aloes hazardous waste facility, Nelson Mandela Bay Metropolitan Municipality	There is one main company which manages asbestos in the GRDM
Used hydrocarbon oils	FFS – Cape Town	-
Used oil, rags and filters	Mossel Bay	Collected by a waste management company
Sanitary waste	Cape Town	Although not classified as hazardous waste, sanitary waste is treated as hazardous waste by the company managing it.
CCA	Cape Town	-
Creosote	Cape Town	-
E-waste	Cape Town	-
Laboratory waste	Cape Town	-
Used cooking oil*	Mossel Bay	Recycled into biodiesel Incorrect disposal of large quantities of cooking oil can cause environmental issues and damage services.
Sharps and infectious waste from abattoirs	Aloes hazardous waste facility, Port Elizabeth, waste treatment facility, George	
Chrome and other sludges generated at tanneries	Cape Town	
Tannery waste – buffing waste, leather trimmings, wet blue shavings	Cape Town	
E-waste	Aloes hazardous waste facility, Port Elizabeth	

6.16 Organic Waste Management

6.16.1 Composting

The National Norms and Standards for Disposal of Waste to Landfill (GN 636 of 2013) require a 25% reduction of garden waste to landfill by 2018 and a 50% diversion by 2023.

The Western Cape has even more ambitious targets; the WCIWMP sets a target of a 50% diversion rate of organic waste by 2022 and a 100% diversion rate by 2027.

The development of composting facilities, anaerobic digesters and implementing the home composting programmes are methods which can be used to divert organic waste from landfill sites. . There are currently no large-scale operational municipal composting facilities in the GRDM. The table below presents details of those composting facilities that currently exist.

Table 51: Composting facilities in the GRDM

Site name/ location	Owner	Material composted	Comments
Bitou			
Bitou composting facility, Plettenberg Bay integrated waste management facility	BLM	None at present	The site is currently not operational as is being used to store bulky waste which cannot be taken to the PetroSA landfill site
Melton Farms composting facility	Private	-	-
George			
George	GLM	Garden waste	The GLM is planning on constructing a composting facility adjacent to the George transfer station. They have commenced with stockpiling construction and demolition waste for the foundation
Go Green Mushroom composting	Private	Wood chips and saw dust from sawmills	The facility is currently only licensed to accept waste from sawmills. An amendment to the license would be required to allow the facility to accept garden waste.
Hessequa			
SS Transport Composting facility	Private	Abattoirs waste including blood, wood chips, bark and saw dust from sawmills and sewage sludge	
Riversdale Piggery Composting Facility	Private	N/A	The composting facility is not yet operational.
Knysna			
Sedgefield composting and builders rubble treatment and disposal facility	KLM	N/A	The KLM identified and licensed a site for the development of a composting facility. The site was however used for the development of temporary housing, The site is no longer a feasible option for the development of a composting facility. The site is not discussed further in this report.
Mossel Bay			
Hartenbos pilot composting facility	MBLM	Sewage sludge and wood chips	The site is a pilot project. The MBLM is planning on developing a regional composting facility at the Hartenbos WWTW

The MBLM's Waste Infrastructure Masterplan (MBLM, 2019) identified the need for the regional composting facility and a site was identified at the Hartenbos wastewater treatment works.

6.16.2 Home Composting Pilot Programme

The GRDM in conjunction with the MBLM, HLM, KLM and GLM have launched a pilot home composting project and worm farm project. The GRDM provides training, training material, worm farms and manages the data collection and capture for the project. The local municipalities provided the composting bins and placed newspaper adverts inviting households to register to take part in the programme.

The project is on-going, and at present the pilot projects in the MBLM and Gouritsmond (HLM) are complete and the complete data sets are available for both projects. The pilot project was also been introduced in the GLM at the end of 2018 and KLM in the beginning of 2019.

Figure 22: Home composting bin

(a) Mossel Bay Local Municipality

The MBLM project commenced in June 2018 and was completed in May 2019. A total of 10.6 tonnes of organic waste was diverted from landfill by the participating households.

Table 52: Mossel Bay home composting and worm farm diversion data

Month	Worm farm (kg)	No. households	Compost bin (kg)	No. households	Compost heap (kg)	No. households
June 2018	418.7	23	311.1	24	175.0	12
July 2018	94.4	25	388.4	23	267.3	13
August 2018	116.8	31	444.9	29	259.5	11
September 2018	116.8	31	453.2	33	318.8	13

Month	Worm farm (kg)	No. households	Compost bin (kg)	No. households	Compost heap (kg)	No. households
October 2018	128.7	30	679.7	31	556.4	13
November 2018	102.3	28	348.8	24	155.5	9
December 2018	117.1	30	563.4	26	202.0	12
January 2019	162.0	31	605.0	31	290.1	11
February 2019	218.0	32	590.0	28	211.2	13
March 2019	126.0	31.0	472.6	30.00	541.3	14
April 2019	90.7	29	318.4	28	134.6	11
May 2019	99.8	29	386.6	28	1,57.1	8
Total	**1,791.3**		**5,562.1**		**3,268.7**	
Average/ month	149.3		463.5		272.4	

(b) Hessequa Local Municipality

Since the HLM project commenced in March 2018 a total of 3.4 tonnes of organic waste has been diverted from landfill by the participating households.

Table 53: Hessequa home composting and worm farm diversion data

Month	Worm farm (kg)	No. households	Compost bin (kg)	No. households	Compost heap (kg)	No. households
March 2018	11.0	9.0	180.0	13	0.0	0
April 2018	34.0	12.0	218.6	17	0.0	0
May 2018	29.6	17.0	221.6	17	0.0	0
June 2018	61.7	14.0	190.4	17	50.0	1
July 2018	60.3	14.0	112.9	14	0.0	0
August 2018	54.3	15.0	140.9	15	0.0	0
September 2018	77.9	16.0	180.2	18	30.0	1
October 2018	33.4	14.0	272.8	17	1.3	1
November 2018	63.3	16.0	249.0	18	1.8	1
December 2018	48.9	16.0	174.2	16	55.3	2
January 2019	45.7	12.0	247.5	15	19.4	2
February 2019	36.9	13.0	263.1	16	1.4	1
March 2019	40.1	11.0	220.4	15	4.6	1
Total	**597.0**		**2671.4**		**163.8**	
Average/ month	42.6		190.8		11.7	

6.17 Waste Management Facilities

Waste management facilities in the GRDM have been identified through a review of licenses on SAWIS, literature reviews, discussions with municipalities and discussions with stakeholders. Additional facilities may be present in the GRDM which are below the threshold for a waste management license or registration, or are located on private land. It is likely that farmers may be operating small scale composting facilities which the municipalities are not aware of.

Table 54: Summary of waste management facilities within the GRDM

Status of site	No. municipal facilities	No. private facilities	Total
Operational landfill site	19	3	**22**
Closed landfill site	8	0	**8**
Landfill site in planning	1	0	**1**
Transfer station	6	0	**5**
MRF (in planning)	3		
Composting facility (operational)	1	3	**4**
Composting facility (under construction/ in planning)	2	1	**3**
Waste treatment facility	0	1	**1**

Internal, external and DEA&DP audit reports were reviewed to determine the compliance of the different waste management facilities. Facilities in the second overview map below have been colour coded based on their compliance status. The latest audit report was used to determine compliance. Where no audit report was available, the facility was given a white marker.

Table 55: Classification system used to indicate waste facility compliance level

Overall compliance rating	Status Indicator	Action
85 – 100 %	**Green**	Minor improvements required
65 – 84 %	**Amber**	Improvement required
0 – 64 %	**Red**	Major improvements required
Audit reports unavailable	**White**	No internal, external or DEA&DP audit reports were available for review

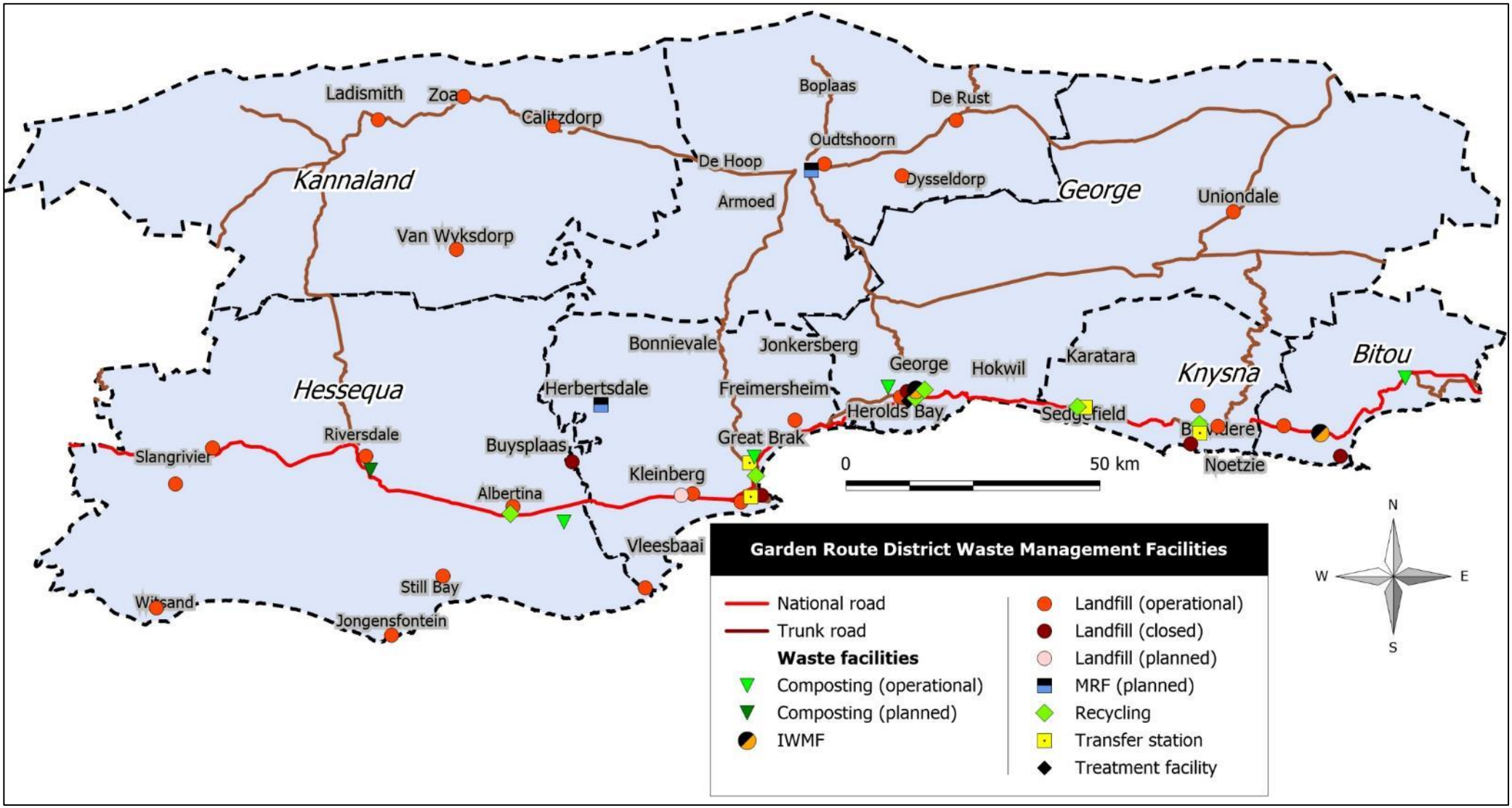

Figure 23: Waste management facilities in the Garden Route District Municipality

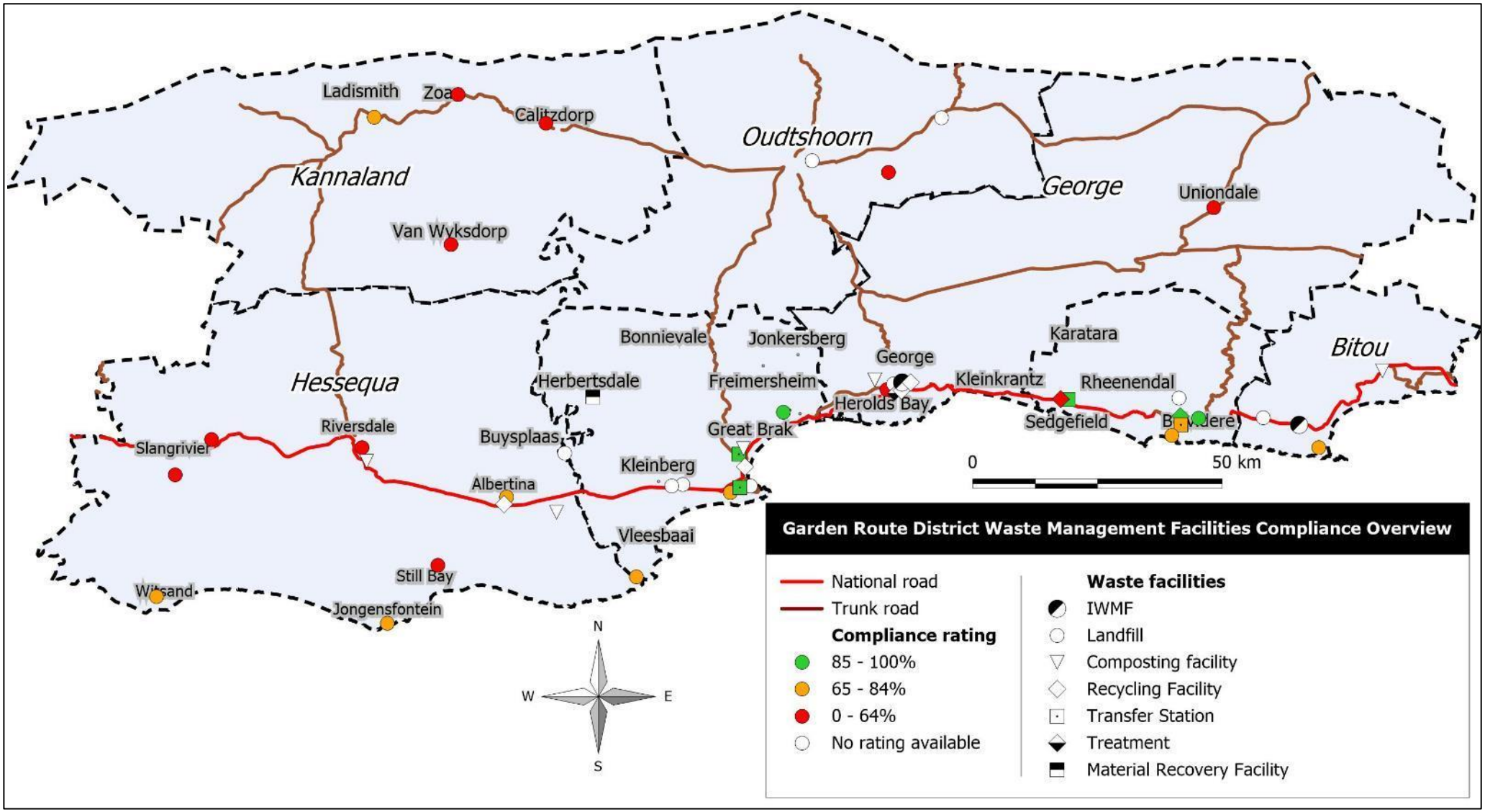

Figure 24: Compliance status of waste management facilities in the Garden Route District Municipality

6.17.1 Regional Landfill Site

The GRDM is in the process of developing a regional landfill site. The site will be located in the MBLM local municipality adjacent to the PetroSA landfill site.

(a) Motivation for a Regional Landfill Site

The MBLM, KLM, BLM and GLM (with the exception of Uniondale landfill site) currently do not have any landfill sites which can accept general (domestic waste). All general waste from these municipalities is currently disposed of at the PetroSA landfill site in MBLM. The disposal of municipal waste at the PetroSA landfill site is placing pressure on the airspace and lifesplan of the site and is not a permanent solution for waste management for these municipalities.

DEA&DP released a position paper in 2017 which discussed the benefits of regionalisation of waste management facilities. Benefits from regionalisation include improved management of waste facilities, development of facilities which would normally be too expensive for one municipality to develop and improved prices for recycling based on economies of scale.

(b) History of the Regional Site

The final environmental impact assessment report for the Eden Regional waste disposal facility (hereafter referred to as the GRMD regional landfill site) was submitted to DEFF and DEA&DP in October 2012. An environmental authorisation wand waste management license (DEA ref: 12/9/11/L1395/9) was received in February 2014 This original WML required construction to commence within a two year period. It was not possible for the GRDM to commence construction within this timeframe and the WML was subsequently amended (DEA Ref: 12/9/11/L73263/9/LR) and the commencement date was changed to July 2019.

(c) Site Development

The GRDM will enter into a public private partnership (PPP) to develop and operate the regional landfill site.

The facility will be constructed and operated by a service provider. The service provider scope of work includes:

- Design of the facility
- Construction of the facility
- Operation of the facility
- Bulk transport of waste from George and Uniondale transfer stations
- Provision of a mobile chipper and a mobile crusher with a screening plant for the processing of construction and demolition waste
- Provision of alternative waste technology (hydrocarbon recycling facility)

- Provision of facilities for the reception, transport and disposal of HHW including fluorescent tubes and globes

(d) Waste Facility Design

The facility license makes provision to include the following component:

- General waste landfill site;
- Hazardous waste cell;
- Composting facility;
- Construction and demolition waste recycling facility;
- MRF

However the municipalities have decided to, in an effort to save on transport cost, provide their own local facilities to accommodate construction and demolition waste and green waste. They will also focus on at source separation to recover recyclables.

Once constructed the site will consist of the following components:

- General waste landfill site;
- Hazardous waste cell;

Mobile crushers and chipper which will move around to the different local municipalities.
The landfill site will consist of the following components:

- New access roads (asphalt) and internal roads (gravel)
- Weighbridge
- Stormwater management infrastructure including a contained stormwater dam
- A general waste cell which will provide at least 300,000m^3 airspace after the site has been operational for 10 years
- A hazardous waste cell that will provide at least 43,000m^3 airspace after the site has been operational for 10 years
- Leachate collection and management system
- Buildings – a guard house and weighbridge office, office, ablutions, meeting rooms, laboratory, lecture room, carport, vehicle maintenance shed
- Clear Vu or concrete palisade fencing and a jackal fence around the site
- Signboards
- Monitoring boreholes

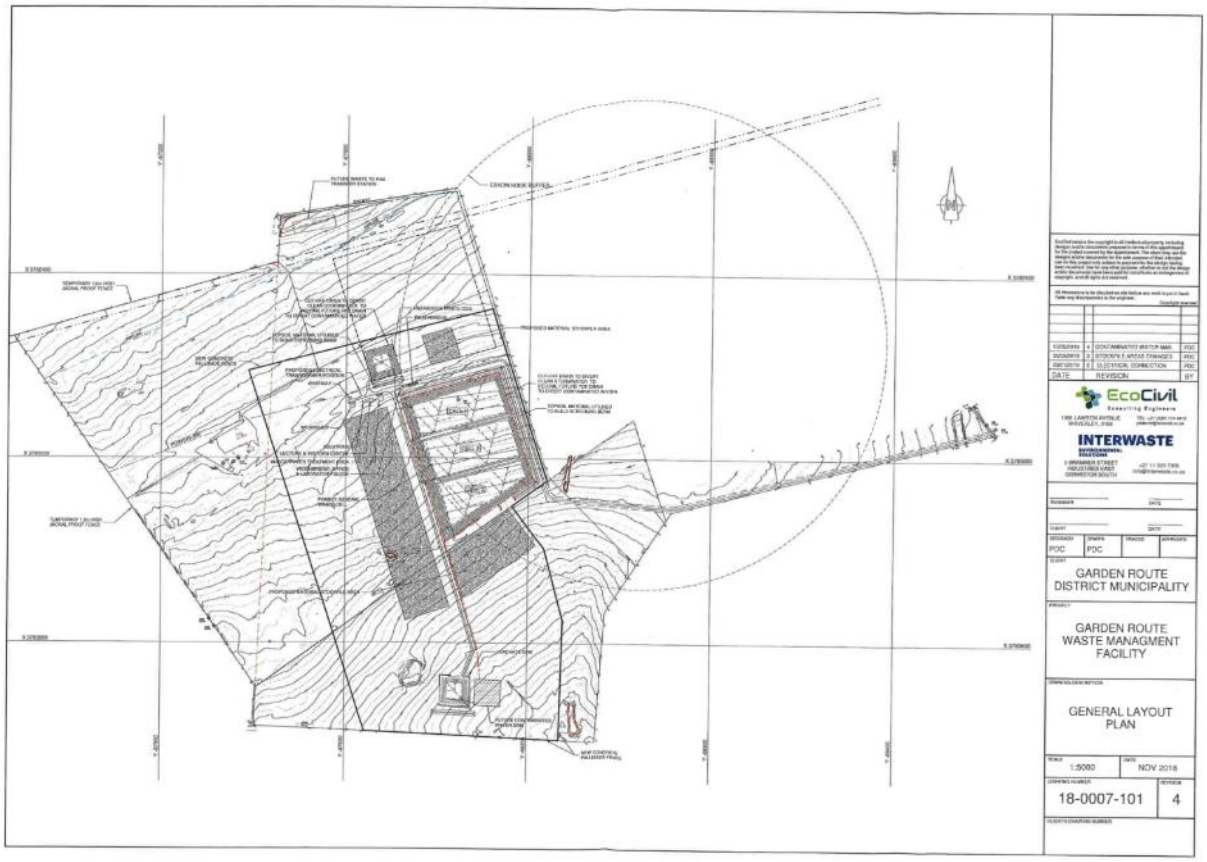

Figure 25: Regional landfill site design

(e) Operation

The landfill site will accept general and hazardous waste from all of the local municipalities in the GRDM. At present the OLM, KLLM and HLM will continue to use their local landfill sites for general waste disposal. There is an option available for these municipalities to make use of the regional site in the future. The facility has been designed to only cater for waste generated in the GRDM, therefore no other general or hazardous waste from outside the district area will be permitted at the facility.

The site will only be accessible to hazardous waste producers, MBLM, BLM, KLM and HLM (Gouritsmond and Albertinia) and private contractors approved by the GRDM. The site is not intended to be a public facility.

As previously mentioned, during the operational phase of the facility, the service provider will be responsible for bulk transport of waste from George and Uniondale transfer stations and the provision of roaming chipper and crusher.

(f) Waste Facility Management

The service provider will be responsible for all operational aspects of the facility. The PPP agreement include operational specification such as the requirement for cover material to be applied daily (150mm), waste to be compacted 850kg/m^3. The specification are designed to ensure the site is operated correctly in order to minimise social and environmental impacts.

(g) Timeframes

The site will be constructed in two phases.

Phase 1:

- Construction of a leachate dam
- Construction of an A lined facility
- Construction of a B lined facility (Cell 1)
- Construction of the access roads
- Building of infrastructure – buildings, fencing and carports, drilling of boreholes

Phase 2:

Construction of cell 2 and 3.

Construction of the regional landfill site is scheduled to commence in January 2020 and the first cell will be available for use in August 2020.

Table 56: Regional landfill site programme

Task	Timeframe
Finalisation of PPP agreement	End of October 2019
Signing of PP agreement	13 December 2019
Commencement of construction	20 January 2020
First cell available for use	30 August 2020

6.17.2 Waste Management Facilities per Local Municipality

The following section provides an overview of the waste current and planned waste management facilities per local municipality. This section should be read in conjunction with the local municipality IWMPs which provide a detailed profile of each facility.

A colour coding system aligned with the DEA&DP audit status indicator has been used in the following maps. The facilities have been colour coded based on the most recent compliance audit findings. DEA&DPs classification system has been used to rank the facilities.

(a) Bitou Local Municipality

Table 57: Waste management facilities in Bitou Local Municipality

Name	Type of Facility	Waste accepted	Class	License status	Validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
Harkerville landfill site (also known as KK Sands)	Landfill site	Construction & demolition waste	General	Licensed (operation)	16/02/2028 (10 years)	Operational	19/2/5/1/D1/4/ WL0025/17	Ukhana Group (Pty) Ltd	34° 2'5.10"S 23°13'45.52"E	-	Not reporting IPWIS, waste calculator used
Plettenberg Bay Waste Disposal Facility	Landfill site	General waste	G:S:B+	Licensed (decommission)	Valid until 31/03/2024, closure to commence by 31/03/2019	Closed	19/2/5/4/D1/14/ WL0036/18	Municipality	34°5'11.54"S 23°21'6.63"E	**DEA&DP - Jan 2019 - 80%**	None – closed
Plettenberg Bay Integrated Waste Management Facility	Transfer station, composting	General waste	-	Licensed (operation)	19/06/2022 (10 years)	Operational	E13/2/10/1-D1/14-WL0029/10	Municipality	34° 2'47.19"S 23°18'27.92"E		Not reporting on IPWIS. Weighbridge used to record tonnages
Melton Farms Composting	Composting	-	-	-	-	Operational	-	Private	-	-	-

There are currently no operational municipal landfill sites in BLM. The only operational landfill site in the municipality is a privately owned facility in Harkerville, which accepts construction and demolition waste.

The BLM operates an integrated waste management facility (IWMF) near Kwanokuthula which comprises of a transfer station and composting facility. The BLM is planning on upgrading the IWMF to include a MRF. The composting facility is not in use at present as the site is being used for the storage of bulky waste.

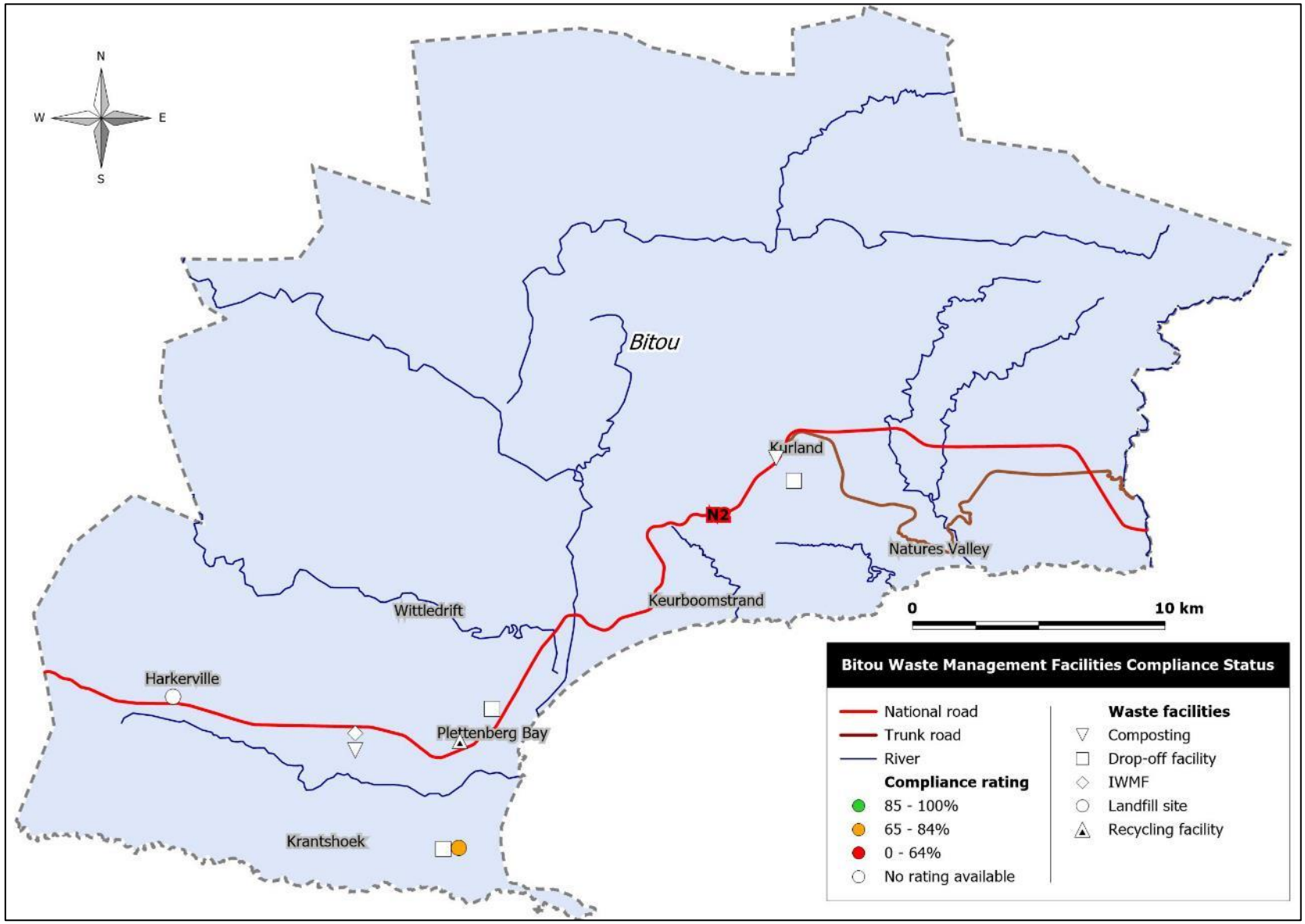

Figure 26: Waste management facilities in Bitou Local Municipality

(b) George Local Municipality

Table 58: Waste management facilities in George Local Municipality

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
George Waste Management Facility	Transfer station	General waste and hazardous waste	H:H	Licensed (Operation)	**TBC**	Operational	19/2/4/1/D2	Municipality	33°59'27.51"S 22°25'31.63"E	**DEA&DP 2018 - 65%**	Weighbridge
GoGreen Composting	Composting	Bark and wood chips	General	-	-	-	-	GoGreen	-		TBC
Greens Scrap Storage, Sorting and Recovery Facility	Storage, sorting and recovery	General and hazardous	H:H	Licensed (Operation)	28/02/2023 (10 years)	Operational	12/9/11/L915/9	Greens Scrap Recycling (Pty) Ltd	33°59'33.59"S 22°26'23.14"E	-	Waste is weighed
Gwaing (George) Waste Disposal Facility	Landfill site	Garden waste and construction and demolition waste	-	Licensed (Decommissioning)	Valid until 10/11/2024, closure to commence by 10/11/2019	Operational	19/2/5/4/D2/19/ WL0031/18	Municipality	33°59'33.80"S 22°25'18.69"E	**DEA&DP 2018 - 48%**	Waste calculator
Gwaing Waste Disposal Site (closed)	Landfill site	-	G:S:B-	Licensed (Operation)	-	Closed	B33/2/1000/10S/ P107	Municipality	33°59'15.76"S 22°25'29.01"E	-	N/A
Optimum Waste Treatment Facility (incinerator)		HCRW & hazardous waste	HCRW storage and treatment	Licensed (Operation)	14/05/2023 (10 years)	Operational	12/9/11/L1140/9	Optimum Waste	33°59'31.48"S 22°25'29.61"E	-	TBC
Uniondale Waste Disposal Facility	Landfill site	General, garden waste, construction	Class B (G:C:B-)	Licensed (Decommissioning)	Valid until 22/08/2028, closure to	Operational	19/2/5/4/D2/52/ WL0078/18	Municipality	33°39'25.00"S 23° 6'45.52"E	**DEA&DP 2018 - 50%**	None

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
		and demolition			commence by 29/09/2019						
Henque Waste	Recycling	General	-	-	-	Operational	-	Private	33°58'55.59"S 22°27'42.90"E	-	Waste is weighed

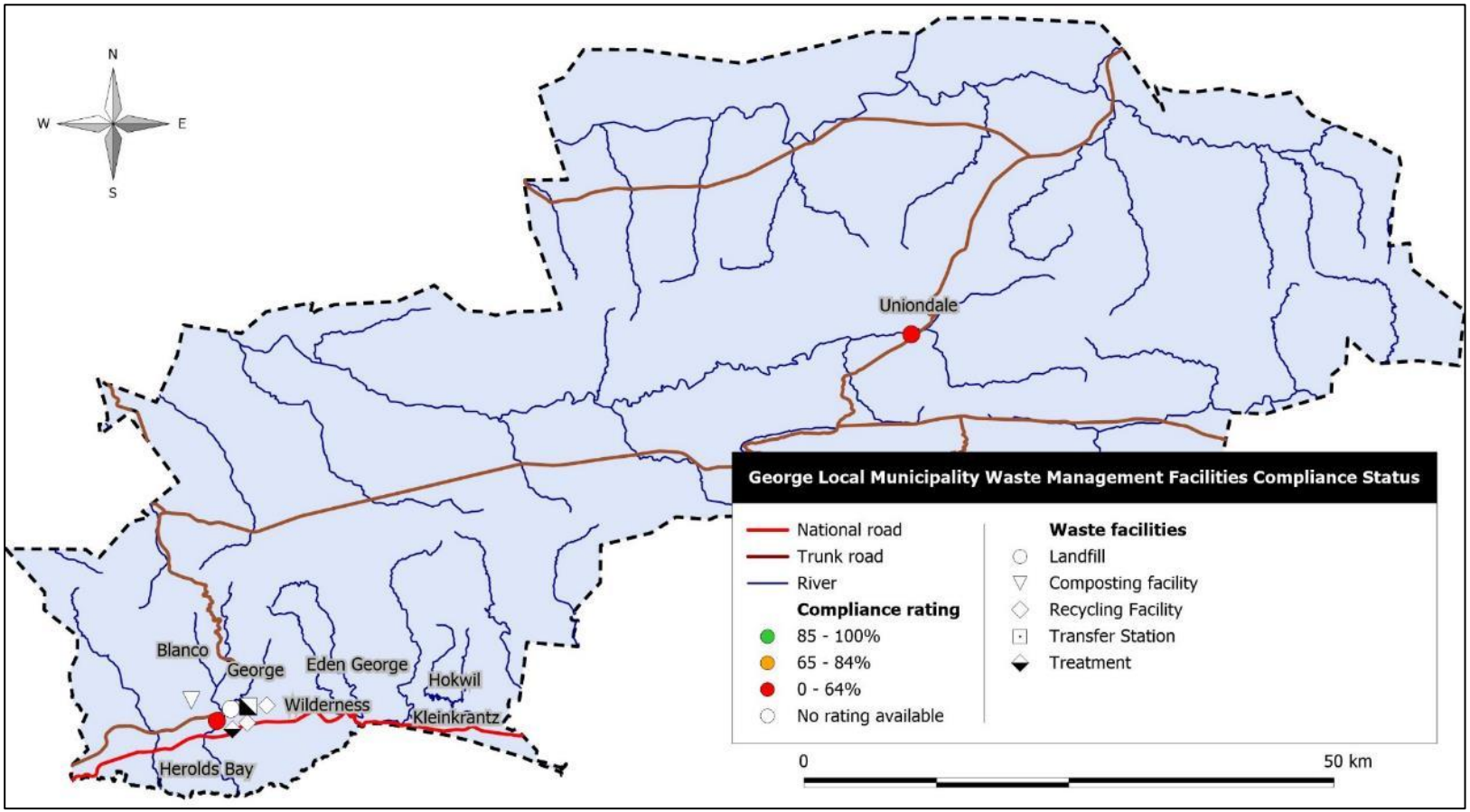

Figure 27: Waste management facilities in Bitou Local Municipality

There are two operational municipal landfill sites in GLM. The George (Gwaing) landfill site is located adjacent to the George transfer station near George and accepts green waste and construction and demolition waste. The Uniondale landfill accepts general waste. The GLM is in the process of closing the George landfill site. Closure of the Uniondale landfill site is also planned, according to the sites license closure of Uniondale landfill must commence by 29 September 2019. The GLM is currently constructing a transfer station in Uniondale adjacent to the landfill site.
The GLM is in the process of constructing a MRF at the Georgr transfer station. The GLM is also planning on developing a composting facility adjacent to the George landfill site. Construction and demolition waste is being stockpiled for use in the construction of the platform of the composting facility.

(c) Hessequa Local Municipality

Table 59: Waste management facilities in Hessequa Local Municipality

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
Albertina landfill site	Landfill site	General waste	Class B (G:S:B-)	Licensed (Operation)	Not stated	Operational	19/2/5/4/D5/1/WL0081/18	Municipality	34°11'50.13"S 21°35'12.83"E	**Oct 2017 - 50.9%**	Waste calculator
Droekloof (Heildelberg) Waste Disposal Facility	Landfill site	General waste	Class B (G:S:B-)	Licensed (Operation)	Not stated	Operational	19/2/5/4/D5/4/WL0084/18	Municipality	34° 5'41.14"S 20°56'37.81"E	**DEA&DP April 2018 - 48.4%**	Waste calculator
Gouritzmond Waste Disposal Facility	Landfill site	General	Class B/G:C:B-	Licensed (Operation)	The licence is valid until the waste disposal airspace capacity has been reached	Operational	19/2/5/4/D5/4/WL0084/18	Municipality	34°20'22.16"S 21°52'13.71"E	**DEA&DP Nov 2018 - 57%**	Waste calculator
Jongensfontein Waste Disposal Facility	Landfill site	N/A	Class B (G:C:B-)	Licensed (Operation)	N/A	Closed	19/2/5/4/D5/18/WL0085/18	Municipality	34°25'34.91"S 21°19'39.56"E	**DEA&DP April 2018 - 81.2%**	N/A
Jongensfontein Waste Drop-Off Facility	Drop-off facility	Garden waste	General	-	-	Operational	-	Municipality			
Melkhoutfontein Waste Disposal Facility	Landfill site		Class B/G:C:B-	Licensed (Operation)	The licence is valid until the site reaches capacity	Operational	19/2/5/1/D5/11/WL00060/14	Municipality	34°19'17.39"S 21°26'15.48"E	**DEA&DP Jan 2018 47.3%**	Waste calculator
Riversdale Piggery Composting Facility	Composting	General	General	Licensed (Operation)	23/04/2028 (10 years)	In planning	19/2/5/1/D5/15/WL0086/17	Riversdale Piggery (Pty) Ltd	34° 8'1.82"S 21°16'53.02"E	-	-

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
Slangrivier landfill site	Landfill site	General	Class B (G:S:B-)	Licensed (Operation)	N/A	Operational	19/2/5/4/E3/10/ WL0088/18	Municipality	34°09'29.18"S 20°51'55.14"E	**DEA&DP Jan 2018 - 59.6%**	Waste calculator
SS Transport Composting Facility	Composting	Abattoir waste, wood chips	General	Licensed (Operation)	Valid for a period of 10 years	Operational	19/2/5/4/D5/1/W L0072/17	SS Transport	34°13'26.02"S 34°13'26"E	-	-
Steynskloof Waste Disposal Facility	Landfill site	General waste	Class B (G:S:B-)	Licensed (Operation)	-	Operational	19/2/5/4/D5/15/ WL0089/18	Municipality	34°06'30.05"S 21°16'16.01"E	**DEA&DP Nov 2018 - 69.8%**	Waste calculator
Witsand Waste Disposal Facility	Landfill site	General waste	Class B (G:S:B-)	Licensed (Operation)	The permit may be reviewed at any time before the waste disposal airspace capacity is reached	Operational	19/2/5/4/E3/10/ WL0091/18	Municipality	34°22'42.37"S 20°49'25.89"E	**DEA&DP Jan 2018 - 81.7%**	Waste calculator
Henque Waste	Recycling Facility	-	-	-	-	Operational	-	Private	-	-	-

There are seven operational landfill sites in HLM, all of the landfill sites have operational licenses. The Jongersfontein landfill site has been closed and rehabilitated, a drop-off facility for garden waste has been developed in Jongersfontein. There is currently one operational private composting facility in HLM and a second is planned.

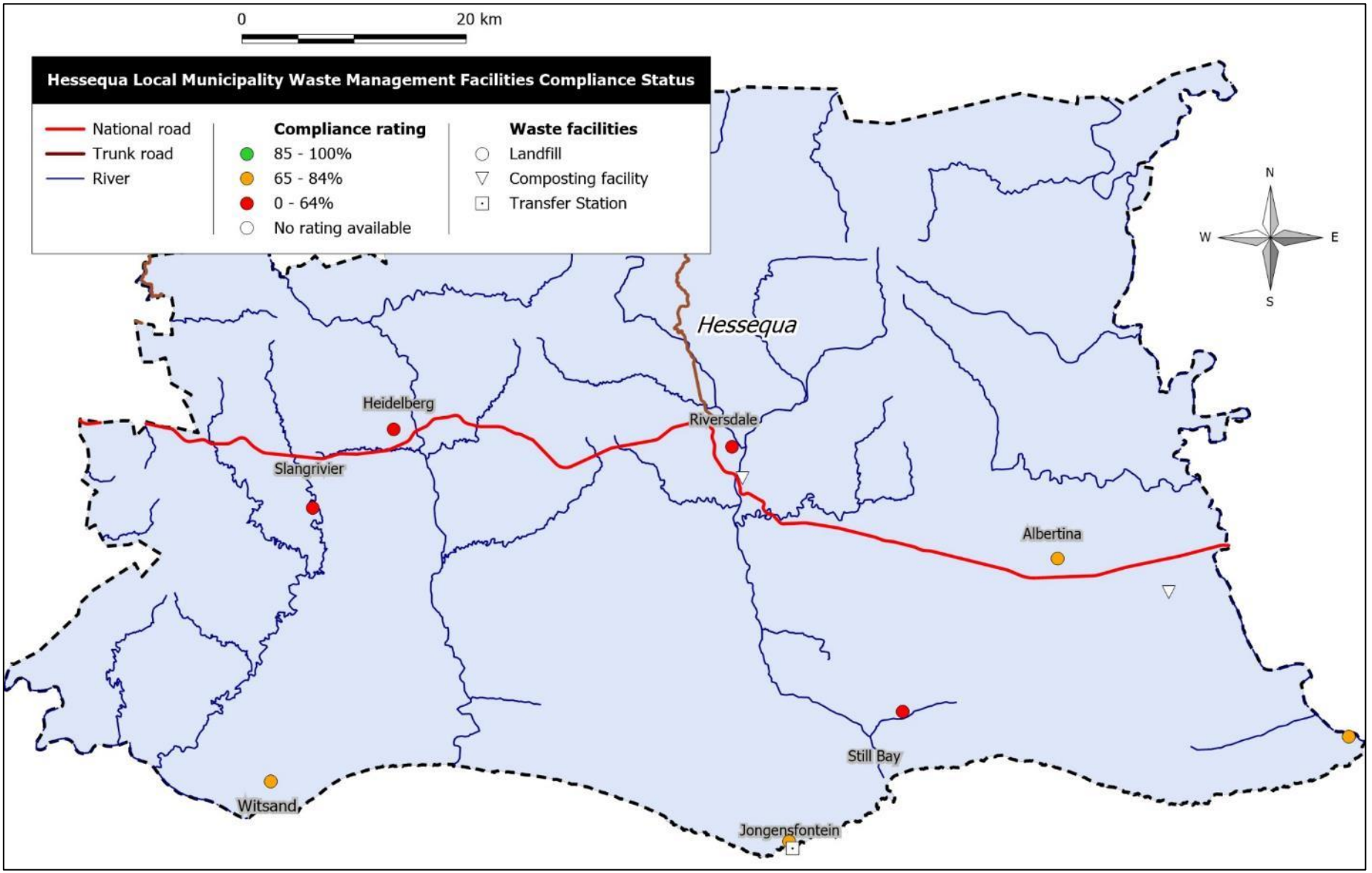

Figure 28: Waste management facilities in Hessequa local municipality

(d) Kannaland Local Municipality

Table 60: Waste management facilities in Kannaland Local Municipality

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
Calitzdorp Communal Waste Disposal Facility	Landfill site	General waste	Class B (G:C:B-)	Licensed (Operation and closure)	Closure to commence by 28/09/2023	Operational	19/2/4/1/D3/4/WL0063/18	Municipality	33°31'15.59"S 21°40'0.70"E	**DEA&DP May 2018 - 22.2%**	None
Ladismith Waste Disposal Facility	Landfill site	General waste	Class B (G:S:B-)	Licensed (Operation)	Not stated	Operational	19/2/5/4/D3/7/WL0121/18	Municipality	33°30'40.55"S 21°17'46.11"E	**DEA&DP May 2018 - 65.9%**	Waste calculator
Wyksdorp Waste Disposal Facility	Landfill site	General waste	Class B (G:C:B-)	Licensed (Decommissioning)	License valid until 24/07/2028, closure to commence by 10/12/2019	Operational	19/2/5/4/D3/11/WL0067/18	Municipality	33°44'25.63"S 21°27'45.08"E	**DEA&DP May 2018 - 25%**	None
Zoar Waste Disposal Facility	Landfill site	General waste	Class B (G:S:B)-	Licensed (Operation)	N/A	Operational	19/2/5/4/D3/8/WL0122/18	Municipality	33°28'8.72"S 21°28'36.85"E	**DEA&DP July 2017 - 29.3%**	Waste calculator

There are four operational landfill sites in the KLLM. Three of the four sites have operational permits and one site, Van Wkysdorp is licensed for closure. There are currently no municipal composting facilities, transfer stations or recycling facilities in the KLLM. None of the landfill sites in KLLM have weighbridges and data on waste tonnages entering the facilities is only recorded at two of the sites

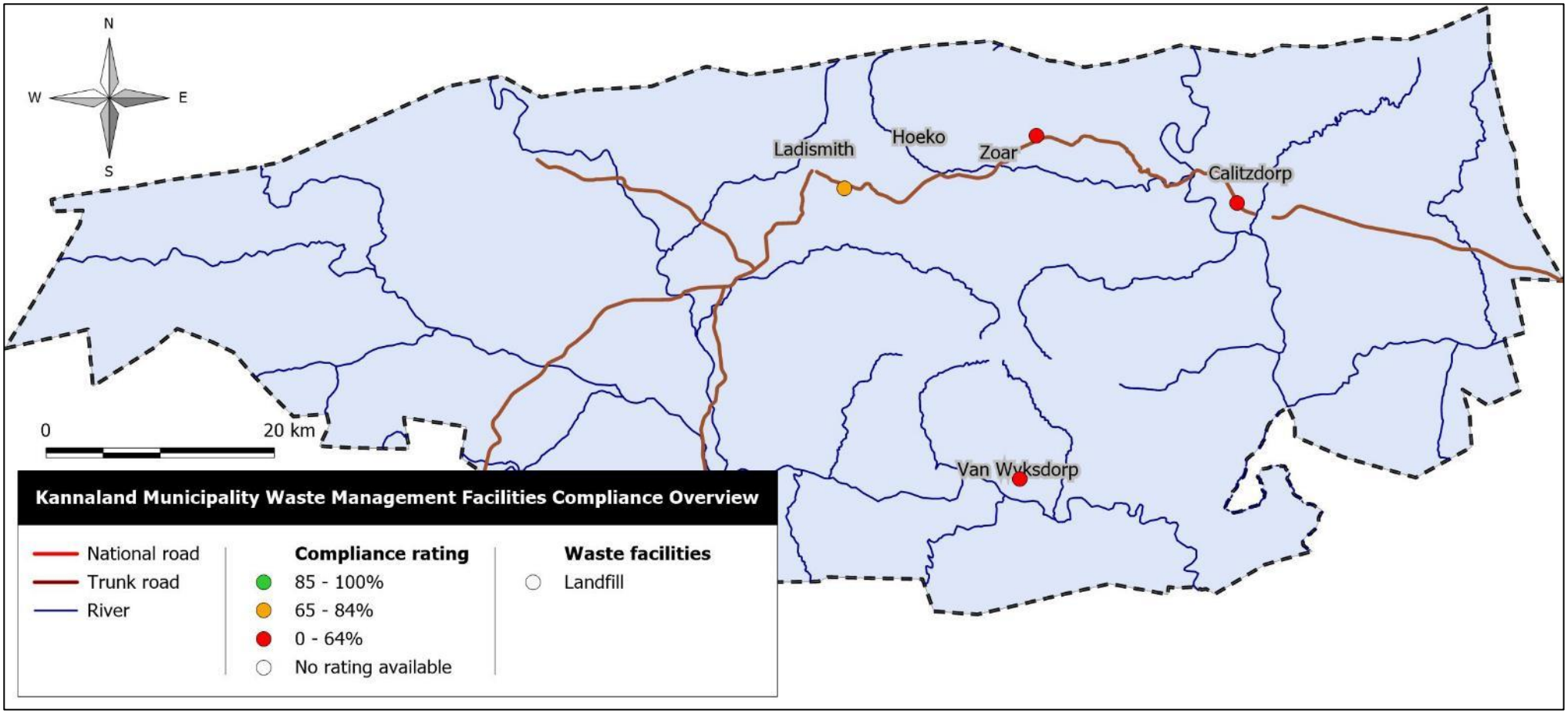

Figure 29: Waste management facilities in Kannland local municipality

(e) Knysna Local Municipality

Table 61: Waste management facilities in Knysna Local Municipality

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
Brenton on sea Waste Disposal Facility	Landfill site	None - site is closed	G:C:B+	Licensed (Decommissioning)	10/12/2024	Closed	19/2/5/4/D4/3/WL0062/18	Municipality	34° 4'12.84"S 23° 1'53.35"E	**2018 - 67%**	N/A
Knysna recycling centre	Sorting and storage of waste	General waste	General	Licensed (Operation)	TBC	Operational	16/2/7/B100/D33/Z1/P41	Municipality	34° 2'26.64"S 23° 3'0.13"E	**External 2018 - 88%**	Recyclables are weighed
Knysna Waste Transfer station	Transfer station	General waste	G:S:B+	Licensed (Operation)	Not stated	Operational	16/2/7/K500/R3/Z1/P330	Spoornet	34° 2'28.95"S 23° 2'59.64"E	**DEA&DP 2019 - 84%**	Recorded at PetroSA landfill
Old place garden waste landfill site	Landfill site	Garden waste	Class B G:C:B+	Licensed (Decommissioning)	License valid until 15/01/2025, closure to commence by 15/01/2020	Operational	19/2/5/4/D4/17/WL006/18	Municipality	34° 2'17.16"S 23° 5'21.86"E	**External 2018 - 85%**	Waste calculator
Sedgefield garden waste transfer station	Storage of waste	Garden waste & construction & demolition waste	General	Licensed (Operation)			19/2/5/1/D4/26/WL0058/12	Municipality	34° 0'37.75"S 22°47'50.01"E	**External 2018 - 85%**	No data collected.
Sedgefield reclamation facility	Sorting and bailing of waste	General waste	General	Licensed (Operation)	25/11/2023 (10 years)	Operational	19/2/5/1/D4/D6/WL0056/12	Municipality	34° 0'38.45"S 2°47'41.45"E	**DEA&DP 2019 - 64%**	TBC - data may be recorded at Knysna transfer station

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
Simola Builder's Rubble Site	Disposal site for foundation of platform	Construction & demolition waste	-	Registered i.t.o N&S GN 1093	N/A	Operational	19/2/1/2/3/2 (00065/18)	Private	34° 0'10.23"S 23° 2'42.85"E	-	Recorded manually

There is one operational landfill site in the KLM. The Old Place landfill site which accepts green waste and is located just outside Knysna. This site has been issued with a license and closure must commence in January 2020. At present the KLM does not have another facility in place to divert green waste to.

A private facility is being operated in at Simola which accept construction and demolition waste. This facility does not have a waste management license but it is registered in terms of the National Norms and Standards for the Sorting, Shredding, Grinding, Crushing, Screening or Baling of General Waste (GN 1093 of 2017). The construction and demolition waste being accepted by the facility is used to construct a platform. The facility was originally set up to manage waste generated from the Knysna fires. Once the platform is completed and there is no longer a need for construction and demolition waste there will be no place for the KLM, residents or contractors to dispose of construction and demolition waste in KLM.

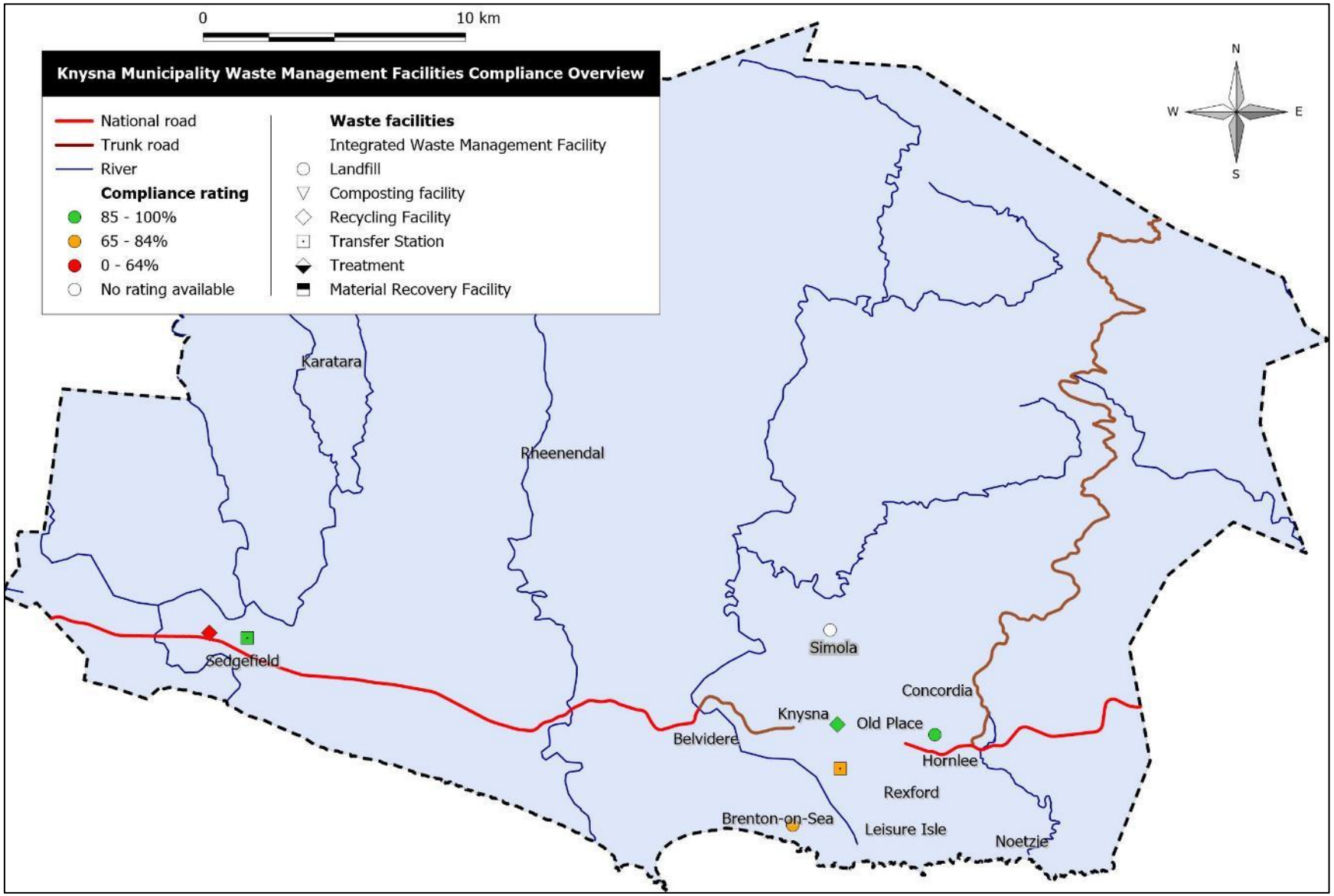

Figure 30: Waste management facilities in Knysna local municipality

(f) Mossel Bay Local Municipality

Table 62: Waste management facilities in Mossel Bay Local Municipality

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
Buysplaas landfill site	Landfill site	N/A	G:C:B-	Licensed (Decommissioning)	28/05/2024 (10 years) closure to commence by 28/05/2019	Closed	19/2/5/1/D6/29 /WL0083/14	Municipality	34° 7'1.86"S 21°42'44.43"E	-	None
D'Almeida landfill site	Landfill site	General waste	TBC	Unlicensed	N/A	Closed	N/A	Municipality	34°10'29.28"S 22° 6'37.49"E	-	None
Friemersheim disposal site	Landfill site	None - closed	G:C:B+	Licensed (Operation)	Not stated	Closed	16/2/7/K300/D 53/Z1/P392	Municipality	33°57'20.78"S 22° 8'21.03"E	-	None
Garden Route Regional Site	Landfill site	General and hazardous	Not stated (it's a Variation)	Licensed (Operation)	18/07/2019	In planning	12/9/11/L73263 /9/LR	Municipality	N/A	-	N/A
Great Brak Landfill	Landfill site	Construction & demolition waste & green waste	Class B (G:C:B-)	Licensed (Decommissioning)	License valid until 11/11/2024, closure to commence by 11/11/2019	Operational	19/2/5/4/D6/17 /WL0065/18	Municipality	34° 2'22.98"S 22°11'11.24"E	**DEA&DP 91% - 2018**	Waste calculator
Green Scrap Recycling remade	Sorting and storage of waste	General and hazardous	H:H	Licensed (Operation)	21/11/2023	Operational	12/9/11/L1116/ 9	Green Scrap Recycling	34° 8'32.77"S 34° 8'32.77"S	-	Waste is weighed
Hartenbos pilot compostimg facility	Composting	Sewage sludge and wood chips	Hazardou s	Unlicensed	N/A	Operational	N/A	N/A	34° 6'21.91"S 22° 6'4.81"E		
Herbertsdale MRF	Storage and sorting	General waste	General waste	Registered i.t.o N&S GN 1093	N/A	In planning	19/2/1/2/3/2 (003/19)	Municipality	34° 0'54.25"S 21°46'21.52"E	-	-

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
Herbetsdale landfill site	Landfill site	General waste	G:C:B-	Licensed (Decommissioning)	Licensed valid until 07/11/2024, closure to commence by 07/11/2019	Closed	19/2/5/4/D6/21 /WL0066/18	Municipality	34° 0'54.31"S 21°46'21.92"E	-	N/A
Kwanonqaba refuse station	Transfer station	General waste, used oil and HHW	General waste	Registered i.t.o N&S GN 1093	N/A	Operational	19/2/1/2/3/2(0 002/19)	Municipality	34°10'32.54"S 22° 5'40.50"E	**DEA&DP 89% - 2019**	Waste calculator
Louis Fourie Landfill	Landfill site	Green waste	G:C:B	Licensed (Decommissioning)	License valid until 07/08/2028, closure to commence by 24/11/2019	Operational	19/2/5/4/D6/29 /WL0068/18	Municipality	34°10'58.73"S 22° 4'32.61"E	**External 78% - 2018**	Waste calculator
PetroSA Waste Management Facility	Landfill site	General waste (disposal), hazardous waste (storage)	G:M:B- (landfill) H:H (storage)	Licensed (Operation)	-	Operational	12/9/L785/9/R1 /V	PetroSA Pty Ltd	34°10'20.24"S 21°58'11.52"E	-	Weighbridge and visual estimates
Sonskynavallei refuse tranfer station	Transfer station	General waste	G:C:B-	Licensed (Operation)	31/03/2024 (10 years)	Operational	EG13/2/10/1-D6/17-DWLT001/09	Municipality	34° 6'58.93"S 22° 5'27.24"E	**DEA&DP 89% - 2019**	Waste calculator

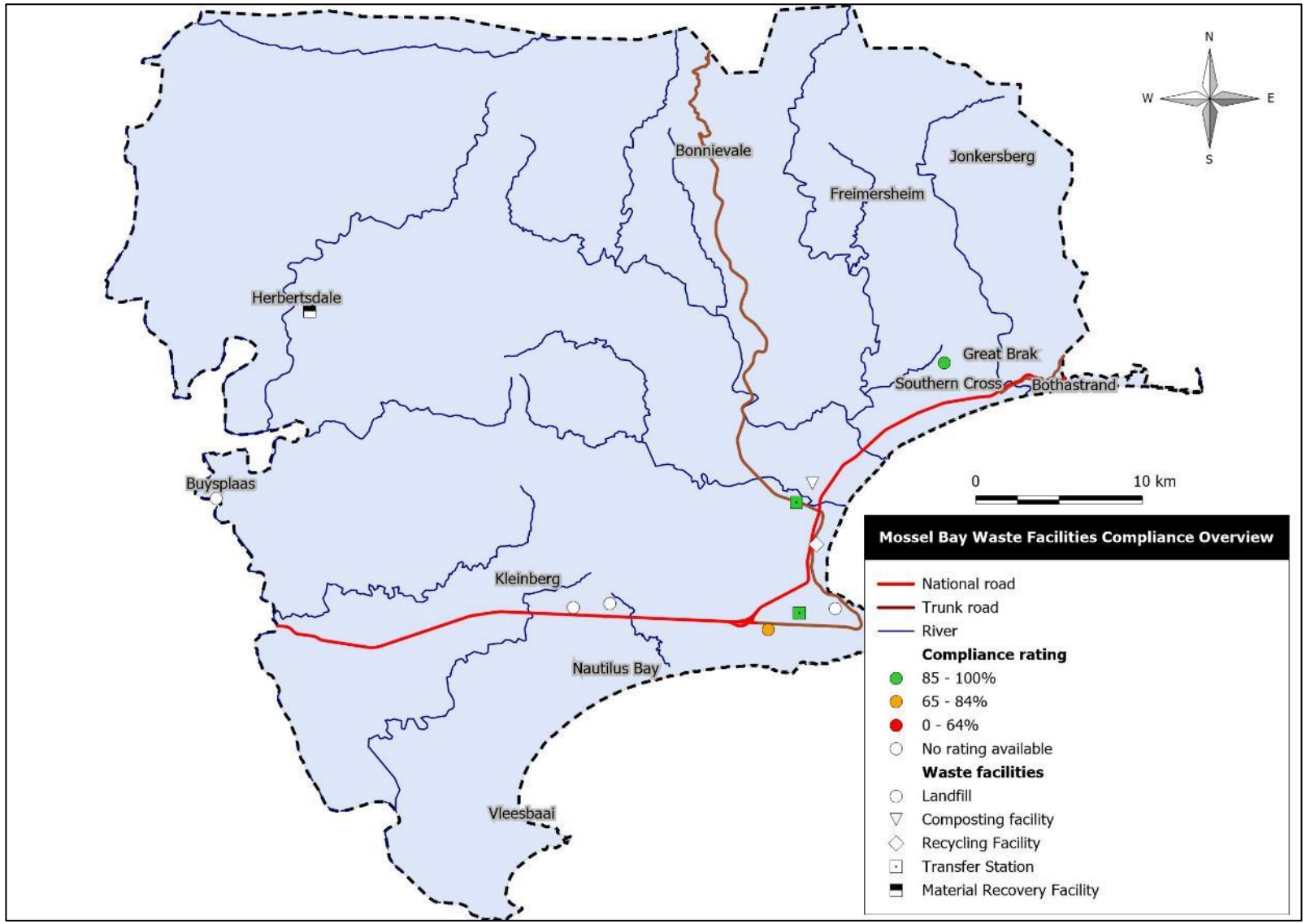

Figure 31: Waste management facilities in Mossel Bay local municipality

There are currently three operational landfill sites in MBLM. The Louis Fourie (garden waste) and Great Brak (garden waste and construction and demolition waste) are owned and operated by the MBLM. The third site is the PetroSA landfill site, a parastatal/ semi-state owns facility. This facility is a general waste landfill site which is also licensed for the disposal of hazardous waste. This site accepts mixed domestic waste in bulk carriers from MBLM, KLM, BLM and GLM. Although domestic waste is received from the aforementioned local municipalities, it does not originate from all the sites within the local municipality. It depends on the waste flow and operations of each local municipality as stated in their individual IWMPs.

The Louis Fourie and Great Brak landfill sites have both been issued with closure licenses and closure of the sites is due to commence in November 2019. Once closure is complete the MBLM will not have a facility to dispose of construction and demolition waste. The MBLM will however be able to make use of the mobile crusher which forms part of the services of the regional landfill site.

The MBLM currently operates a small composting facility at the Hartenbos WWTW, the composting process uses sewage sludge generated on site and wood chips from a pole yard. This facility is a pilot project and is too small to accommodate all the green waste generated in the MBLM.

The MBLM is currently planning the upgrade and expansion of the KwaNonqaba transfer station and the construction of a small MRF in Herbertsdale.

(g) Oudtshoorn Local Municipality

Table 63: Waste management facilities in Oudtshoorn Local Municipality

Name	Type of Facility	Waste accepted	Class	License status	License validity comments	Site Status	License no.	Holder	Latitude and longitude	Latest audit score	Data management
Dysseldorp disposal site	Landfill site	General waste	G:C:B-	Licensed (Decommissioning)	Closure to commence by 24/11/2019	Operational	19/2/5/1/D7/WL0061/14	Municipality	33°36'12.48"S 22°24'26.94"E	**DEA&DP 15% - 2019**	None
Grootkop Waste Disposal Facility	Landfill site	General waste	Class B (G:M:B)	Licensed (Operation)	Valid until there is no longer air space	Operational	19/2/5/4/D7/9/WL0104/17	Municipality	33°35'1.43"S 22°14'35.74"E	**DEA&DP 34% - 2019**	Visual estimates
De Rust Waste Disposal Facility	Landfill site	General waste	G:C:B-	Licensed (Operation)	Valid until there is no longer air space	Operational	19/2/5/4/D7/4/WLOO64/18	Municipality	33°30'9.66"S 22°31'14.26"E	**DEA&DP 13.7%**	None
Retain, Reuse, Recycle	Recycling	General waste	-	-	-	Operation	-	Private	33°36'35.15"S 22°12'55.42"E		

There are three operational landfill sites in the OLM. All three sites are owned and operated by the OLM. The Grootkop and De Rust landfill sites both have operational licenses which allows the continued use of the sites until the airspace is exhausted. The Dysseldorp landfill site has a decommissioning license and requires closure to commence in November 2019.

The OLM do not currently have any composting facilities or recycling facilities in place. There is one private recycling company operating in the OLM.
The OLM is planning to construct a MRF adjacent to the Grootkop landfill site.

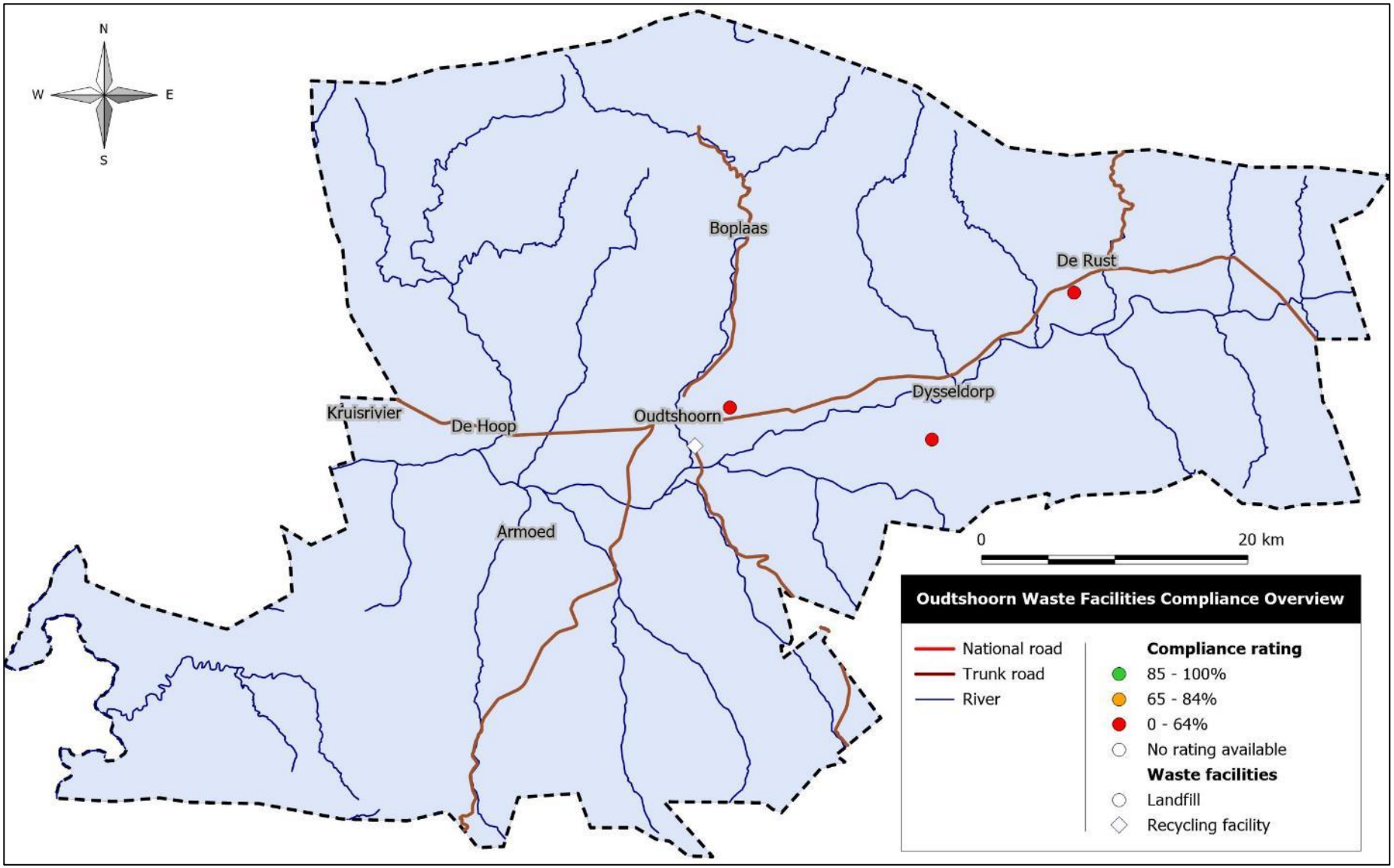

Figure 32: Waste management facilities in Oudtshoorn local municipality

6.18 Other Waste Management Services

6.18.1 Illegal Dumping

Illegal dumping of waste occurs in open spaces across the GRDM. The usual triggers for illegal dumping include a lack of awareness, lack of services and lack of enforcement of by-laws.

Figure 33: Photographs of illegal dumping sites within the GRDM and CWP cleaning up illegal dumping sites in KLLM

Table 64: Illegal dumping management in GRDM

Municipality	Management method	Annual cost for management of illegal dumping
Bitou	The BLM has appointed a service provider to place skips at illegal dumping hotspots. The service provider is also responsible for servicing the skips. The use of skips has not fully addressed the illegal dumping issue as it is not possible to place skips at all the hotspot and dumping still occurs around the skips	Approximately R850,000.
George	The GLM uses CWP employees for litter picking and to assist with cleaning up of illegal dumping sites. A service provider is appointed to remove illegally dumped waste. Monthly reports are submitted by the service provider to GLM.	For the last financial year 2018/2019, the George Municipality spent **R8,345,064.94.**
Hessequa	The HLM employs a service provider on a 3 year term contract who is responsible for cleaning up all public spaces and bush clearance on all municipal land.	The service provider receives R7 per square meter.

Municipality	Management method	Annual cost for management of illegal dumping
Kannaland	The KLLM uses CWP employees for litter picking and to assist with cleaning up of small illegal dumping sites. A service provider is appointed to clean large illegal dump sites.	CWP and EPWP employees are used to clean up illegal dumping. KLLM provides black bags and collects the bags during routine refuse collections. It is not possible to determine the actual cost for illegal dumping clean up.
Knysna	The KLM has appointed a service provider to place skips at illegal dumping hotspots. The service provider is also responsible for servicing the skips. The use of skips has not fully addressed the illegal dumping issue as it is not possible to place skips at all the hotspot and dumping still occurs around the skips. The KLM has also repurposed some illegal dumping site in partnership with residents. Examples include the development of an open air gym and a community garden.	Approximately R1.5 million.
Mossel Bay	The MBLM appoints a service provider to clean illegal dump sites on a daily basis. The MLBM is planning on purchasing tipper trucks and a TLB for the waste management department so this service can be undertaken in-house.	There are various projects undertaken by the municipality to address illegal dumping. • Street Cleansing • Cleansing of ravines and open spaces • Cleansing of dumped waste through use of heavy machinery • Placement of bulk skips The annual cost cannot be determined.
Oudtshoorn	The strategic services department, more specifically the environmental health practitioner, coordinates the response to reports of illegal dumping. The OLM has placed communal skips in various locations around the municipality to address the dumping issue, but these have in some cases encouraged dumping in these area. Clearing of illegal dumping in undertaken in-house	Data not available. This cost is not ring-fenced because the waste management function, including the handling of illegal dumping, is not managed by one department.

6.18.2 Waste Awareness Campaigns

The local municipalities are responsible for the undertaking of waste awareness campaigns. The GRDM has assisted local municipalities through programmes as such Wise Up On Waste. The number and format of waste awareness campaigns varies between municipalities. The GLM and MBLM were the only municipalities which could quantify the number of campaigns undertaken. The lack of awareness campaigns in municipalities was attributed to a lack of staff and a lack of budget. Municipalities have made use of EPWP employees for waste awareness campaigns in the past, however the EPWP employees are typically appointed on short terms contracts so are not permanent solutions to waste awareness campaigns. It was note by some

municipalities that because of their short-term contracts, EPWP staff do not fully develop the skills and experience needed to administer waste awareness programmes well.

Table 65: Waste awareness campaigns in GRDM

Municipality	No. awareness campaigns undertaken in 2018	Examples of waste awareness programmes
Bitou	No records	• Participated in the Wise Up on Waste campaign run by GRDM • No regular independent waste awareness campaigns
George	20	• Eco Bricks presentations • Clean up campaigns to collect material for Eco Bricks • School tour of Plettenberg Bay transfer station • Cleanest street competition • Community clean ups and awareness days • Slots of local radio
Hessequa	No records	• Waste fashion show • Puppet shows and talks at schools • Beach cleans ups • Community clean ups
Kannaland	No records	• No regular awareness campaigns since 2016 when the EPWP contracts ended • Developed an illegal dumping flyer • Publishes articles on illegal dumping in the municipal newsletter
Knysna	No record	• Visits to schools • Hand out of flyers and information at events such as the Knysna oyster festival • Planning to brand the fleet with waste awareness materials
Mossel Bay	28	• E-waste awareness/ drop-off days • Distribution of flyers at events • Branding of waste bins and fleet with awareness materials
Oudtshoorn	No records	• No regular waste awareness campaigns are undertaken. • Some public talks • Distribution of flyers

The GRDM has managed a number of waste awareness campaigns in association with municipalities. These include:

- Waste Minimisation Public Awareness and Education Campaign: Launched in 2014 in collaboration with the local municipalities. The campaign aims to encourage residents to reduce waste generation and divert waste from landfill.

- Wise Up on Waste: The GRDM in collaboration with the DEA&DP developed the Wise Up On Waste programme. This is a waste management education and awareness tool that was developed to be incorporated in the school curriculum. A number of educational materials including videos as well as teacher guides have been developed under the programme. The DEA&DP has developed an updated Waste Management in Education (WAME) programme and is applicable to the latest school curriculum. GRDM coordinated WAME workshops for all schools to attend in all the local municipalities except for KLLM. The WAME educational material is available on the GRDM website.

- Notice boards: GRDM placed notice boards with messages to promote waste minimisation in Riversdale, Mossel Bay, George and Plettenberg Bay. Some issues were experienced with placing the boards as permission had to be granted by SANRAL to place some of the boards along national roads.

Figure 34: An example of one of the notice boards

- Information banners: The GRDM designed and procured display banners which encourage recycling and contain recycling facts on different waste streams. The banners also feature the GRDMs waste minimisation mascot. Two sets of banners were procured for use by the GRDM and local municipalities at public meetings, and waste awareness events. Logs are kept of all banners being utilised by the local municipalities.

Figure 35: Examples of waste information banners featuring the GRDM waste mascot Rocky (image provided by GRDM)

- <u>The Extended Public Works Programme Waste Awareness:</u> Eight (8) EPWP beneficiaries were trained by GRDM and provided with the necessary educational material to conduct waste management / minimisation education and awareness sessions at all the preschools in HLM and MBLM (51 preschools). The education and awareness sessions comprised of two sessions at each preschool. The first session was training and education for the teachers at the preschools which was followed-up by a second session with the children which included puppet shows, interactive sorting activities and products made from recycled materials. It is planned to roll out the programme to the remaining local municipalities. Records are kept of each school where this programme is implemented.

- <u>Garden Route Municipal Offices Recycling Programme:</u> The office recycling programme has been implemented at all the offices of the GRDM. This is to create waste minimisation awareness amongst all employees of GRDM as well as the general public visiting the municipal offices. The quantities reported by each office on a monthly basis is

consolidated and has been published in the GRDM's quarterly newsletter for further awareness and encouragement.

- Home Composting Pilot Projects: The home composting pilot project has been rolled out in HLM, MBLM, GLM and KLM. Prior to the distribution of the composting bins and worm farms, all participants are required to attend a home composting workshop conducted by GRDM. This ensures public awareness and education regarding organic waste diversion at approximately 30 households per workshop. The further roll out of the home composting programme in each municipality will require further workshops.

- Waste management website: The GRDM's website contains a link to page which is dedicated to waste management. The website (http://wastemanagement.edendm.co.za/) contains information on the GRWMIS and registration and reporting forms, information on the home composting project, the environmental impact assessment (EIA) report for the regional site, Wise Up on Waste educational materials and useful links to the website of extended producer responsibility (EPR) organisations and non-government organisations involved in waste management. During discussions with GRDM it was indicated that an update of the website is required. The update could include interactive maps of the seven local municipalities showing the location of waste management facilities such as drop-off centres, landfill sites and transfer station and details of the types of waste which are accepted at these different facilities.

- Road show: The GRDM assisted municipalities with a waste awareness road show. The aim of the roadshow was to connect the public, business and industry with role players in the waste management industry such as recycling companies and EPRs.

- Mascot: The GRDM has developed a mascot called Rocky, the mascot is used for the recycling campaign and to spread the message of reduce, reuse recycle. The mascot features on the waste information banners and Rocky also visits schools and part of the school waste awareness programmes and events such as the HHW open days at local municipalities.

- Schools Recycling Programme: A pilot schools recycling programme was implemented at Percy Mdala High School in KLM and launched at St. Pauls Primary School in George. Two awareness and education sessions are held at each school. A training session is held with the teachers regarding the implementation of the WAME programme. The school then identifies champions (learners) to attend the education and awareness session who are responsible for driving the programme. This programme will be rolled out to other schools once identified.

6.18.3 Western Cape Awareness Strategy

The Waste Awareness Strategy was published by DEA&DP in March 2018. The strategy aims to increase public awareness around waste management to reduce littering and illegal dumping, increase waste minimisation and maximise opportunities in waste management.
The strategy reviews various mechanisms for increase waste awareness such as signage, events, media campaigns and assess the positive and negatives of these mechanisms.

The strategy assesses gaps and needed in terms of waste awareness campaigns per district municipality. The following gaps and needs were identified for the GRDM:

- Most of the public awareness is driven by the GRDM, very little is undertaken by the local municipalities;
- There is a gap in terms of promotion items, events greening, youth jobs and informal settlements;
- Strategies need to be developed which are aimed at specific industries and low income and informal residential areas; and
- Major events need to be used to increase awareness

6.19 Waste Management Fleet

A lack of sufficient fleet and an ageing, unreliable fleet can prevent a local municipality from providing an adequate waste collection service or manage waste management facilities correctly.

Table 66: Waste management fleet

Municipality	No. operational vehicles	Back up vehicles available?	Waste management fleet management
Bitou	Information pending		
George	9 compactor trucks 5 skip trucks 1 TLB for management of landfill sites 1 bulldozer for use on landfill site	None. There are 6 compactors and 3 TLBs which are currently non-operational	The GLMs policy is to replace two trucks per year to ensure vehicles do not become unreliable.
Hessequa	6 compactor trucks 3 tipper trucks 3 bulldozers		
Kannaland	4 cage trucks/ flatbed trucks 1 bulldozer for landfill site management	No	Lack of management of the fleet. A vehicle replacement plan is required.
Knysna	Information pending		
Mossel Bay	9 compactor trucks 4 skips trucks 2 SIF 1 tractor	5 compactor trucks	Managed by municipal fleet management. Each vehicle in the fleet is given a score based on age, fuel consumption, mileage etc. The score which a vehicle received determines the priority for replacement. The MBLM's policy is to replace one truck per year

Municipality	No. operational vehicles	Back up vehicles available?	Waste management fleet management
Oudtshoorn	6 refuse compactor trucks 8 trucks 4 tractors 3 bakkies 1 sweeper	No	Managed by municipal fleet management. The OLM also leases vehicles from a service provider

6.20 Waste Management By-Laws

6.20.1 Local Municipality By-Laws

All of the local municipalities have waste management by-laws in place. When the GRDM undertook an external review of their by-laws in 2017 they also prepared a generic by-law for the local municipalities to adopt. To date none of the local municipalities have adopted these generic by-laws.

6.20.2 Garden Route District Municipalities

The GRDM's current waste management by-laws were promulgated in 2017. The by-laws are applicable to all areas of jurisdiction in the GRDM.

The by-laws define a municipal waste collection services to cover domestic waste and general business waste only.

The by-laws also identify the municipalities which are obliged to make sure of regional landfill site which will be constructed in the MBLM. These municipalities are the MBLM, GLM and BLM.

The by-laws also make provision on the procedure to follow to include the other local municipalities in future to make use of the regional landfill site as a disposal facility.

The GRDM can also request Waste Management Plans from certain generators or holders of waste as and when required.

The by-laws also empower GRDM to prescribe methods of minimisation to be implemented in its area of jurisdiction and can request categorisation of waste.
The by-laws allow GRDM to establish a waste information management system. All persons who are conducting an activity listed in terms of Annexure 1 of the National Waste Information Regulations (GN 625 of 2012) are required to register and report on the GRWMIS. Registrations should have been submitted within 90 days of the by-laws coming into effect.

6.20.3 Enforcement of By-Laws

Enforcement of waste management by-laws is lacking in all local municipalities. There are no dedicated waste rangers in any municipality. The municipalities can use municipal police or

traffic officers to issues fines for illegal dumping but in practice enforcement of illegal dumping is not prioritised.

The GRDM manages compliance with their by-laws through written notices to companies which do not comply with the by-laws. At present the GRDM has been focusing on enforcing registration of HCRW generators or the GRWMIS. Companies which did not register within the specified timeframes were contacted in writing and requested to register. The GRDM indicated that this approach was very successful and issuing of fines was not required.

6.21 Institutional Management

6.21.1 Waste Management Officer

Mr Morton Hubbe is the Manager of District Waste Management and has been designated as the Waste Management Officer in terms of the Waste Act.
Mr Johan Gie is the Waste Management Officer for the GRDM.
The GRDM organogram for District Waste Management was last reviewed in March 2019. There are three position in the waste management department, all three position are currently filled. Mr Morton Hubbe, the Manager of District Solid Waste Management is supported by the District Waste Management Officer and an Administrative Assistant.

A review of the organogram will be required before the regional site becomes operational. Once the site is operational the GRDM role will evolve from a supporting role to municipalities to a service provision role. The day to day operation and management of the regional site will require additional employees.

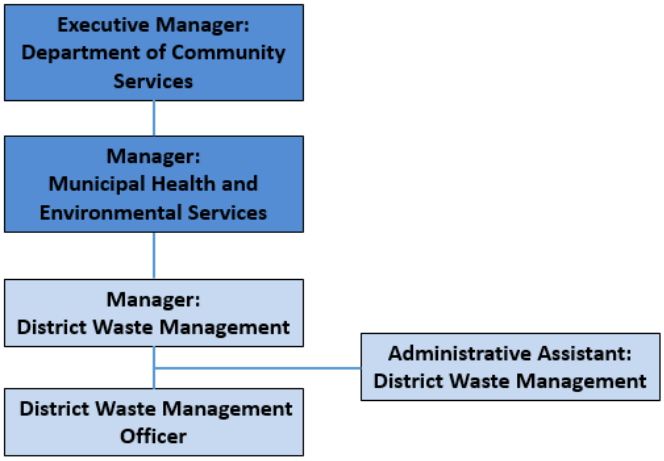

Figure 36: Waste management organogram for GRDM

6.22 Financial Management

A detailed understanding of the operational and capital costs of waste management is key for ensuing correct financing of waste management.

6.22.1 Waste Management Budget

At present the Waste Management department of the GRDM does not generate an income and is funded through governmental grants. This budget is supplemented with prize money from the Greenest Municipality Competition.

Table 67: GRDM Waste Management Budget 2015/16 – 2017/18

2015/16		2016/17		2017/18	
Final	**Budget**	**Final**	**Budget**	**Final**	**Budget**
R 2,288,939.03	R,1,417,756.63	R 2,918,959.39	R 1,41, 756.63	R 3,819,195.00	R 2,052,306.75

Based on engagement with the GRDM the budget is sufficient to provide a supporting role to municipalities but additional budget is required to roll out projects across the district.

6.22.2 Local Municipality Waste Management Tariffs

Each of the local municipalities have tariffs in place for waste management services. The table below shows tariffs per month for each local municipality

Table 68: Waste management tariffs for domestic customers (single unit) R/ month

Municipality	Waste Management Tariff 2017/18	Waste Management Tariff 2018/19	Waste Management Tariff 2019/20
BLM	R214.67	R228.42	R243.00
GLM	R165.70	R190.56	R207.71
HLM	R91.61	R97.25	R103.05
KLM	R85.50	R96,49	R103.25
KLLM	R179.90	R190.71	R219.32
MBLM	R156.79	R165.49	R190.31
OLM	R119.88	R133.44	R147.45

6.23 Institutional Framework

6.23.1 Garden Route Waste Management Officers Forum

The Garden Route Waste Management Officers Forum was established as a platform in the region for the Local Municipalities to share information and discuss problems encountered in performing their specific duties. The aphesis on a regional approach to waste management is also promoted by the forum. The forum serves as the project committee with the implementation of all regional waste management projects in the Garden Route District. The Forum also contributes especially to capacity building in some of the Municipalities.

The GRDM runs quarterly waste management officer's forums. All local municipalities are invited as well as DEA&DP. The quarterly meetings cover waste management issues, legislation updates and waste policies. Knowledgeable Speakers on specific issues of interest are invited to meetings to present and advice. These meetings are led by the GRDM and the venue is rotated between different municipalities in the district.

The forums typically cover the

- Updates on policy and legislation
- Reports from local municipalities
- Waste management licensing and waste management facility registrations
- Discussion of waste management issues to assist other municipal waste management officers experiencing challenges.

The local municipalities were asked their opinion of the quarterly meetings and if any improvements are needed. The following comments were raised:

- The meetings serve as a good platform to discuss waste management issues in the province
- The meetings are used for legislation updates and to inform the municipalities of new policies and guidelines
- Provincial meetings could be improved through presentation of case studies or solutions to issues identified by local municipalities

6.23.2 Support Function to Local Municipalities

During interviews with select local municipalities as question was posed on their opinion of the service provided by the GRDM and areas for improvement. All of the feedback received from municipalities was positive. The following suggestions for improvements were made:

- Revise the agenda for Garden Route Waste Management Officers Forum meetings, invite stakeholders in the waste management industry to present solutions assist with addressing issues in the GRDM
- Assist with funding/ funding applications for local municipalities

6.24 Waste Employee Interviews

Interview were undertaken with all employees in the GRDM to understand concerns regarding waste management in the district. The comments/ concerns have been grouped according to common themes.

Table 69: Comments/ concerns raised through GRDM employees interviews

Category	Comments
Waste information management	• At present the GRWMIS does not synchronize with IPWIS • There are information gaps in information provided to the GRDM by local municipalities. An example is details of business and industry operating in each local municipality
Waste awareness campaigns	• The approach towards waste awareness campaigns is fragmented across the district • Waste awareness material provided to municipalities e.g. street banners have not been well utilised • Municipalities do not keep records of waste awareness campaigns
District waste management forum	• Not all municipalities attend every meeting • Municipalities do not always provide input into the agenda for meetings • A review of the format and content of the provincial forums may be required
Collaboration with	• Not all local municipalities collaborate with the GRDM on district project such as the

Category	Comments
local municipalities	home composting project or e-waste and used oil projects

7 Gap and Needs Assessment

This section presents the gaps and needs identified through the situational analysis review.

7.1 Gaps and Needs Identified in 2014 IWMP

The 2014 IWMP identified the following gaps in terms of waste management

Table 70: Gaps identified in 2014 IWMP (GRDM, 2014)

Identified gaps	Progress made to address the gaps
1. Lack of recycling infrastructure and programmes	
Providing recycling infrastructure and implementing programmes or appointment of service providers to assist in recycling program in the municipal area	• All the local municipalities except for OLM and KLLM have separation at source programmes in place. These programmes are managed in partnership with a private company. • Municipal recycling drop-off facilities are only available in the BLM and MBLM.
2. The lack of comprehensive public awareness regarding sustainable waste management	
The majority of the general public (households, businesses and industry) are not aware of proper waste management practices, detrimental environmental and health effects of waste or waste minimisation practices that can be implemented. With a lack of public awareness and education, the understanding of a sustainable waste management system will be lacking and public littering will increase. With no realisation of the actual impact of waste on the environment, there would be no reason to be environmentally responsible. The environment will be poisoned by uncontrolled waste what will affect the public at large An uninformed public will also not participate in waste avoidance and recycling efforts, causing pressure on landfill airspace requirements, hence more landfill need to be constructed to the detriment of the environment.	• The level of public awareness varies between municipalities. However, none of the municipalities are undertaking sufficient waste awareness campaigns at present. • The approach to awareness campaigns is un-coordinated as various stakeholders, DEFF, DEA&DP, GRDM and the local municipalities are undertaking awareness campaigns but the records of these campaigns were not readily available from local municipalities. • Another concern is the level of expertise and experience of the facilitators of the awareness campaigns.
3. Lack of knowledge and expertise regarding alternative technologies	
The public sector requires experience and knowledge regarding alternative technologies in order to evaluate and implement where appropriate and feasible as alternatives to landfilling to save on landfill management and transport cost.	• The local municipalities are currently disposing of the majority of their waste to landfill instead of diverting it for recycling, treatment or composting. • The public sector has approached some of the local municipalities with proposals for alternative technologies however none of the proposals have yet been implemented • The GRDM has undertaken an organic waste characterisation to determine the type and

Identified gaps	Progress made to address the gaps
	quantity of organic waste generated in the district. The next phase of this study will be to identify suitable technologies to improve the management of organic waste.
4. Lack of information regarding waste generation types and volumes	
• The lack of waste generation information and statistics must be addressed in order to allow proper planning in terms of collection, handling and disposal of the generated waste. Minimisation statistics are also required. This applies to the private and public sectors • The municipalities have little or no data on the generators of special wastes within the municipal boundaries or on the destination or disposal method of these wastes.	• All of the local municipalities are reporting on the IPWIS system except for the OLM. The municipalities are reporting estimated disposal data as none of the landfill sites have weighbridges, in addition waste data has not been continually recorded for all the landfill sites e.g. in KLLM there are not always sufficient staff to man the landfill sites. • A hazardous waste survey is underway to increase data on the generation of industry and hazardous waste. The GRDM is also in the process of implementing the registration and reporting of hazardous waste generators on the GRWMIS.
5. Collection fleet – age, condition, aesthetics, type	
• Collection vehicles in Eden Municipality, as is the case in almost all South African municipalities, are kept in service long after the end of their economic lives. Collection vehicles help in creating the public's perception of waste management and need to be aesthetically pleasing. • Some vehicles are likely operating beyond their effective lifetimes. These vehicles need to be evaluated to ensure that they are still cost effective and efficient. If not, they need to be replaced.	• The management of waste management fleet ranges from excellent in the MBLM to poor in the KLLM. Most municipalities have a policy or procedure in place to replace vehicles. • Some of the vehicles in use are in a poor condition which results in frequent breakdowns • Refuse compactors in MBLM, HLM and BLM are branded with waste awareness messages. Branding of the KLM fleet is planned.
6. Lack of monitoring of facilities	
Waste management facilities must be regularly monitored and audited to comply with permit requirements or to ensure that they are operated in line with best practice up until permits have been acquired where needed. If waste management sites are not monitored, the possibility of the environment being contaminated increases significantly. The greatest threat is water being polluted.	• DEA&DP undertake regular audits of operational municipal facilities. • External audits are not undertaken on all municipal waste management facilities. No external audits are undertaken in HLM or KLLM
7. Lack of permitting of special waste generators	
• The municipality has no or little data neither on the generators of special wastes within the municipal boundaries nor on the destination or disposal method of these wastes. ○ This must be addressed in the revision of the By-laws	• The GLM by-laws do not require HCRW or hazardous waste generators to report with the municipality. The GRDM by-laws do contain this requirement and are applicable to the GLM area.
8. Lack of disposal airspace	
Some of the disposal sites in the Eden District are nearing capacity, The District is in the progress of establishing a regional landfill facility which will serve the BLM, KLM, GLM and MBLM. Disposal airspace will become and urgent requirement for MBLM, GLM, KLM	• The construction of a regional landfill site is still pending. • There are no operational municipal landfill sites in the BLM anymore • The KLM, GLM and MBLM are still operating their landfill site.

Identified gaps	Progress made to address the gaps
and BLM from the 2015/2016 financial year. Inaccurate calculation of figures regarding remaining airspace results in improper planning for alternatives to dispose of waste in the future	• Several landfill sites are operating beyond their licensed boundary • Calculation of remaining airspace has not occurred for all landfill sites. • Landfill site airspace is a concern for the KLLM as this municipality will not be participating in the regional site • The OLM has sufficient airspace remaining at the Grootkop landfill site.
9. Lack of household hazardous storage	
There is a lack of facilities for the acceptance and storage of household hazardous waste	• Used oil and e-waste drop-off facilities are available in the BLM, KLM and MBLM • The GRDM launched a programme for the provision of drop-off facilities for HHW across the GRDM, however there was only limited buy-in from some local municipalities
10. Waste management by-Laws	
The Eden Integrated Waste Management Forum compiled generic integrated waste management by-laws that must be incorporated into the local municipal by-laws. These new by-laws will address facets of waste management which are not addressed in previous by-laws. The Eden District Municipality must compile by-laws for the management of the regional landfill facility.	None of the local municipalities have used the generic waste management by-laws developed by the GRDM. The GRDM gazetted by-laws in 2017 and cover the regional landfill site.
11. Tariffs	
In most (if not all) municipalities, the tariff structure for the use of waste disposal services is unclear and only escalated annually. If tariffs aren't determined based on sound scientific principal and calculations then it is not economically sustainable or publically acceptable	• Only the OLM and KLM have undertaken a full cost accounting exercise.
12. Rural areas and farms	
Remote areas in the municipalities should have access to waste disposal. Where collection in these areas are not feasible for the Municipality, an agreement can be made with e.g. the farm owners to be able to dispose their waste at the Municipal sites at lowered fees. Illegal sites (if any) must be closed.	• 6% of households in the GRDM use their own refuse dump, have no refuse disposal or use another method to manage waste. • None of the municipalities currently charge for use of their landfill site. • HLM and MBLM have placed drop-off facilities for domestic waste along roads and the BLM collects waste from selected points along the national road. • The KLM recently undertook a review of tariffs paid by farms and rural households.
13. Eden Integrated Waste Management Forum Meeting	
Inconsistent participation in the Eden Integrated Waste Management Forum meting and project by the KLLM and HLM	• The attendance of the forum meeting by HLM and KLLM have improved. • Attendance of the KLLM is still limited by a lack of budget for transport. The GRDM has

Identified gaps	Progress made to address the gaps
	committed to rotating the meetings between different municipalities to encourage attendance.
14. Illegal dumping	
Increased costs to clean-up illegal dumping	• The cost to clean up illegal dumping are difficult to determine as in some cases municipalities make use of plant and employees which belong to other department. • Illegal dumping remains a concern in all municipalities.
15. Regional landfill site	
Finalisation of the implementation of the regional landfill site and alternative waste management technology	The GRDM is in the process of finalising the PPP agreement for the regional landfill site.
16. License status of waste management facilities	
Operation of waste facilities without a license	All of the operational waste management facilities are licensed. There is a risk that some of the waste management licenses will not lapse if closure does not commence within the timeframes specified in the license.
17. Insufficient source of income	
The Eden District Municipality at this stage has no source of income except the equitable fund received from the National Government which is not efficient to fund all the official mandates given by legislation to the District Municipality. Grant funding is also not available to the District Municipality to fund infrastructure urgently needed in the area. The District Municipality is also not in a position to assist municipalities as is legally expected from them. Government National and Provincial must urgently investigate the income base of District Municipalities to allow them to implement their legal mandate. District municipalities, given the necessary resources can assist National Provincial and local municipalities to enhance waste services on such a scale that healthy and environmentally sound waste management services are in place for the different district municipal areas. Implementing certain waste management services on a district level not only ensures uniformity of services in the area, but is definitely more practically implementable and cost effective. The current available resources limits the District in exercising its functions in terms of solid waste management.	

As can be seen a number of the gaps identified in the 2014 IWMP gaps have been addressed over the last five year period.

7.2 Gaps and Needs Identified in 2020

During the development of the 2020 GRDM IWMP a number of gaps and needs have been identified. Gaps and needs were identified based on interviews with stakeholders, inspections or fleet and facilities and a review of legislation and best practice guidelines.

All the identified gaps have been listed, some of these gaps will require intervention from the local municipalities to address.

Gap and needs have been listed under the following headings:

1. Waste service provision
2. Waste recycling
3. Organic waste management
4. Hazardous waste management
5. Waste management facilities
6. Waste information management
7. Waste education and awareness
8. By-laws and enforcement of by-laws
9. Institutional functioning
10. Future planning

The gap and needs assessment below also contains the gap and needs identified for each of the local municipalities through the development of the local municipality IWMPs.

Table 71: Waste management gap and needs

Legislated Requirements/ Best Practice	Gaps	Needs
1. Waste Service Provision		
Garden Route District Municipality		
• The NWMS 2011 requires 95% of urban and 75% of rural households to have access to adequate levels of waste collection services. Non-recyclable waste must be collected weekly from households as a minimum • The National Policy for Provision of Basic Refuse Removal Services to Indigent Households (GN 413 of 2011) requires municipalities to provide free receptacles for waste storage to indigent houses	• 3.8% households use their own refuse dump and 0.8% of households have no refuse service. • 2.7% of households receive a collection service less frequently than weekly	• The GRDM is not responsible for service provision, the local municipalities are responsible for service provision to households.
Bitou Local Municipality		
	• 7.4% of households within the BLM use their own refuse dump while 0.5% of households have no refuse service. • 1.3% of households receive a collection service less frequently than weekly.	• The BLM is providing a good waste management collection service to the majority of households. However, households which are not receiving a service need to be identified to determine if provision of a service to these households is feasible. • All households receiving a collection service must receive at least a weekly collection service.
George Local Municipality		
	• 1.7% households use their own refuse dump. • 4% of households receive a collection service less frequently than weekly • Businesses have identified that they do not received a consistent waste collection service. As such some now use of private service providers.	• The GLM is providing a good waste management collection services to the majority of households. However, households which are not receiving a service need to be identified to determine if provision of a service to these households is feasible. • All households receiving a collection service must receive at least a weekly collection service, at present 4% are serviced less frequently. • There is need for better fleet management and acquiring more vehicles, to ensure waste is collected as per collection schedules and from business.
Hessequa Local Municipality		
	• 7.7% households use their own refuse dump. • 1.2% of households receive a collection service less frequently than weekly	• HLM needs to determine the viability of providing a collection service to the 7.7% of households which use their own refuse dumps. • All households receiving a collection service must receive at least a weekly collection service.
Kannaland Local Municipality		

Legislated Requirements/ Best Practice	Gaps	Needs
	• 12.5% of households within the KLLM use their own refuse dump while 1.3% of households have no refuse service. • 2.7% of households receive a collection service less frequently than weekly.	• The KLLM needs additional trucks to provide a reliable waste collection service. • The KLLM needs to identify un-services areas and investigate how to provide a service to these areas.
Knysna Local Municipality		
	• 1.7% of households within the KLM use their own refuse dump. • 4.0% of households within the KLM receive a collection service less frequently than weekly. • Not all informal areas receive a waste collection service	• The KLM is providing a good waste management collection service to the majority of households (93.1% receive weekly refuse collection). However, households which are not receiving a service need to be identified to determine if provision of service to these households is feasible. • The provision of collection services to informal areas needs to be improved.
Mossel Bay Local Municipality		
	• 3.2% households use their own refuse dump and 2.3% of households have no refuse service. • 2.7% of households receive a collection service less frequently than weekly	• The MBLM is providing a good waste management service to the majority of households. However, households which are not receiving a service need to be identified to determine if provision of a service to these households is feasible. • All households receiving a collection service must receive a weekly collection service
Oudtshoorn Local Municipality		
	• 7% households use their own refuse dump and 1.8% of households have no refuse service. • 1.2% of households receive a collection service less frequently than weekly.	• The OLM is providing a good waste management collection services to the majority of households. However, households which are not receiving a service need to be identified to determine if provision of a service to these households is feasible. • All urban households receiving a collection service must receive at least a weekly collection service.
2. Waste Minimisation and Recycling		

Legislated Requirements/ Best Practice	Gaps	Needs
Garden Route District Municipality		
• The NWMS, 2011 sets a target of a 25% diversion rate of recyclables by 2016 • The draft 2018 NWMS sets a target of 50% diversion of waste by 2023 and 80% diversion by 2028 • Operation Phakisa sets a target of 50% diversion of municipal waste by 2023 • The WCIWMP sets a target of a 20% diversion rate of recyclables by 2019 • The draft 2018 NWMS requires all municipalities to include provisions for drop-off/ buy back centres in their IWMPs • The Waste Act requires municipalities to put in place measures that seek to reduce the amount of waste generated, and where generated, measures to ensure that it is re-used, recycled and recovered, treated and disposed of. • The NDWCS require municipalities to provide an enabling environment for recycling	• No separation at source programmes are in place in the KLLM and the OLM. • Participation in separation at source programme ranges from 25% - 75% • The GRDM has not completed the GRDM waste minimisation strategy. As such there is no documented plan to guide waste minimisation efforts in the GRDM	• The waste minimisation plan for the GRDM and all seven local municipalities need to be completed. • The KLLM and OLM need to launch pilot separation at source programmes. • GRDM to assist KLLM and OLM to launch pilot separation at source programmes.
Bitou Local Municipality		
	• Data on the proportion of waste being recycled cannot be calculated at this point as PetroSA figures for the BLM have not been made available. • There are currently no municipal buy-back centres of swop shops in the BLM.	• The BLM need to increase participation of households in the separation at source programme. • Easily accessible recycling drop-off facilities need to be provided. • The level of awareness around the importance of recycling needs to be increased. This can be achieved through school competitions. • Swop shops need to be considered in low income areas. The swop shops should be developed in partnership with a school or non-profit organisation.
George Local Municipality		
	• Only approximately 20% of domestic, commercial and industrial waste is recycled in the GLM • Only approximately all of the households are participating in the separation at	• The quantity of waste being recycled in GLM needs to be increased through: • Participation of households in the separation at source programme needs to be increased. • Easily accessible recycling drop-off facilities need to be provided.

Legislated Requirements/ Best Practice	Gaps	Needs
	source programme	• Increased awareness around the importance of recycling is needed. This can be achieved through school competitions. • A swop shop or buyback centre needs to be piloted in a low income area in the GLM. The swop shop/ buy-back should be developed in partnership with a school or non-profit organisation.
	• No records are available for in-house recycling occurring in GLM offices	• The service provider needs to be requested to provide volumes for waste collected from GLM offices. The GLM offices could be issued with different colour bags to households to allow the service provider to differentiate between the waste generators. • The GLM needs to appoint a champion per office to manage the in-house recycling programme.
Hessequa Local Municipality		
	• Only approximately 25% of households participate in the separation at source programme • Only 18.2% of commercial and industrial/domestic waste is diverted from landfill sites for re-use, recycling or recovery. This figure is not deemed to be accurate due to gaps in data at landfill sites.	• The quantity of waste being recycled in HLM needs to be increased through: • The participation of households in the separation at source programme needs to be increased. • Easily accessible recycling drop-off facilities need to be provided. • Increased awareness around the importance of recycling is needed. This can be achieved through school competitions and community awareness campaigns. • Swop shops need to be piloted. This can be initiated in one of the towns through partnership with a non-profit organisation or a school.
	• No records are available for in-house recycling occurring in HLM offices	• The service provider must be requested to provide volumes for waste collected from HLM offices. The HLM offices could be issued with different colour bags to households to allow the service provider to differentiate between the waste generators. • The HLM should consider appointing a champion per office to manage the in-house recycling programme.
Kannaland Local Municipality		
	• There is a lack of reliable data available to determine the diversion rate of recyclables. Based on data available only 1.5% of waste is diverted • No separation at source programme is	• The pilot separation at source programme for Ladismith needs to be implemented. • Easily accessible recycling drop-off facilities are needed in Zoar and Calitzdorp. • Increased awareness around the importance of recycling is needed. This

Legislated Requirements/ Best Practice	Gaps	Needs
	current implemented within the KLLM. • There is currently no recycling drop-off facilities within the KLLM. • No in-house municipal recycling us currently undertaken.	can be achieved through school competitions and awareness campaigns. • In-house recycling programme for paper, to be launched in all municipal offices. • Swop shops/buy-back centres need to implemented in low income areas. The swop shops/ buy-back centres should be developed in partnership with a school or non-profit organisation.
Knysna Local Municipality		
	• Only approximately 5.5% of domestic, commercial and industrial waste generated within the KLM is recycled. • There is a low participation rate of the separation at source programme in some of the residential areas.	• The quantity of waste being recycled within the KLM needs to be increased. This can be done through the following measures: o Increasing participation of households in the separation at source programme – increase education and awareness regarding this programme. o Provision of easily accessible recycling drop-off facilities for households which do not use a kerbside collection service. o Increased awareness around the importance of recycling. This can be achieved through school competitions. o Additional swop shops need to be established in low income areas. The swop shops should be developed in partnership with a school or non-profit organisation.
Mossel Bay Local Municipality		
	• Only approximately 7.8% of domestic, commercial and industrial waste is recycled in the MBLM • Only approximately 40% of households are participating in the separation at source programme	• The quantity of waste being recycled in MBLM needs to be increased through: o Increasing participation of households in the separation at source programme – increased education and awareness o Provision of easily accessible recycling drop-off facilities for households which do not use a kerbside collection service o Increased awareness around the importance of recycling. This can be achieved through school competitions. o Ensuring the existing swop shops continue to function and raising awareness with the public around the need for donations for the swop shops.
	• No records are available for in-house recycling occurring in MBLM offices	• The service provider needs to provide volumes for waste collected from MBLM offices. • The MBLM needs to appoint a champion per office to manage the in-

Legislated Requirements/ Best Practice	Gaps	Needs
		house recycling programme.
Oudtshoorn Local Municipality		
	• The OLM does not have a system in place to monitor the quantity and types of recycling being undertaken in the area. The OLM is not undertaking any waste minimisation or recycling initiatives.	• Establishment of recycling initiatives and monitoring of the success of the initiatives. Initiatives to be considered include in-house recycling, buy-back/swop shops, drop-off centres and a 2 bag system.
3. Organic waste management Diversion of organic waste from landfill sites is required in order to reduce negative impacts and meet legislated targets		
Garden Route District Municipality		
• The National Norms and Standards for Disposal of Waste to Landfill (GN 636 of 2013) – 25% diversion rate of garden waste from landfill by 2018 and 50% by 2023 • WCIWMP – 50% diversion of organic waste by 2022 and 100% diversion rate by 2027	• At present the majority of organic waste generated in GRDM is disposed of at landfill. • There are no large scale municipal composting facilities in the GRDM • The GRDM has completed a characterisation study on problematic organic waste streams. Phase two of the study which identifies solutions to these streams has not yet been completed.	• Appropriate alternative technologies to divert organic waste from landfill need to be identified on a regional basis • Home composting programmes need to be rolled out in all local municipalities
Bitou Local Municipality		
	• It is assumed that the majority of organic waste being generated within the BLM is being disposed of at landfill. • BLM has the infrastructure in place for a composting facility however, due to the problematic bulky waste, this facility is not operational. • There are no home composting piloting projects being undertaken by the BLM.	• The BLM needs to start operating the composting facility at the integrated waste management facility (Plettenberg Bay transfer station). • Drop-off facilities for green waste need to be provided. • A pilot home composting project needs to be rolled out to increase food waste diversion.
George Local Municipality		
	• At present the majority of organic waste generated in GLM is disposed of at landfill. • The GLM does not have any large scale	• The construction of the composting facility needs to be completed. • Easily accessible drop-off facilities for green waste need to be provided. • The home composting programme needs to be rolled out to additional

Legislated Requirements/ Best Practice	Gaps	Needs
	facilities for composting of organic waste	households
	• When the Uniondale and Gwaing landfill sites close there will be nowhere for the public to drop-off green waste	• Facilities need to be added at the George and Uniondale transfer stations acceptance of green waste. A small chipper may be needed to assist with management of green waste at the transfer stations. • GLM need to provide awareness and information to the public as to where waste can be taken to upon the closure of the landfill sites.
	• Large volumes of unchipped green waste is stockpiled at the George landfill site, dry green waste on these sites poses a fire risk	• A chipper is needed for the landfill sites, this chipper can rotated between the sites on a weekly or monthly basis to prevent a build-up of dry garden waste. Once the regional site is operational a mobile chipper will form part of the services available to GLM. Any small mobile chippers owned by GLM can be then rotated between the transfer stations as mentioned above
Hessequa Local Municipality		
	• At present most of the organic waste generated in the HLM is disposed of to landfill. • There are currently no municipal composting facilities. • There is only one small chipper to service all seven operational landfill sites. This is no sufficient are large volumes of unchipped green waste has accumulated on the landfill sites. This dry green waste poses a fire risk	• Easily accessible drop-off facilities for green waste are needed. • The home composting project needs to be rolled out to additional households Food waste diversion can be increased through rolling out of the home composting project to additional houses • The HLM needs to develop a composting facilities or enter into an arrangement with an existing composter to accept all of HLMs green waste. • Additional chippers are needed for the landfill sites.
Kannaland Local Municipality		
	• The majority of organic waste generated in the KLLM is disposed of at landfill. • KLLM does not have any facilities for composting of organic waste.	• Small composting facilities (less than 10 tonnes/day) per town are needed to divert organic waste from landfill and reduce transportation costs. • The KLLM needs to engage with the GRDM regarding participating in the home composting project.
Knysna Local Municipality		
	• At present, the majority of organic waste generated within the KLM is disposed of at landfill. • KLM does not have any large scale	• A regional composting facility is needed. • Drop-off facilities for green waste need to be provided. • The home composting project needs to be rolled out to additional houses.

Legislated Requirements/ Best Practice	Gaps	Needs
	facilities for composting of organic waste at present – the site previously identified is no longer viable. • Once the garden refuse site closes, there will be no drop-off facility for organic waste in Knysna as the transfer station does not accept this waste.	
Mossel Bay Local Municipality		
	• At present the majority of organic waste generated in MBLM is disposed of at landfill. A small potion (32 tonnes/month) is diverted to the pilot composting facility and for home composting/ worm farms (635kg/month). • The MBLM does not have any large scale facilities for composting of organic waste	• The MBLM needs to develop a composting facility for green waste. • The MBLM needs to provide easily accessible drop-off facilities for garden waste • Food waste diversion needs to be increased through rolling out of the home composting project to additional houses • The MBLM will need to either develop a composting facility or enter into an arrangement with an existing composter to accept all of MBLMs green waste. There are currently no private composting facilities in the MBLM with the capacity to accept all the green waste generated in the municipality.
	• When the Louis Fourie and Great Brak landfill sites close there will be nowhere for the public to drop-off green waste	• Services at the transfer stations will need to be extended to allow the acceptance of green waste. A small chipper may be needed to assist with management of green waste at the transfer stations.
	• Green waste is only chipped bi-annually (twice a year) at Louis Fourie and Great Brak landfill sites, dry green waste on these sites poses a fire risk	• More regular chipping of waste is needed at the landfill sites. Chippers should be rotated between the landfill sites on monthly basis to prevent a build up of dry garden waste. Once the regional site is operational a mobile chipper will form part of the services available to MBLM. Any small mobile chippers owned by MBLM can be then rotated between the transfer stations as mentioned above
Oudtshoorn Local Municipality		
	• There are no initiatives aimed at diversion of organic waste from landfill site. This is required in order to reduce negative impacts and meet legislated targets • The municipality has no Organic Waste Diversion Plan (OWDP)	• The OLM should investigate organic waste diversion options and opt to implement a suitable approach for the municipal jurisdiction • An OWDP should be developed and implemented accordingly. This is a permit requirement.

Legislated Requirements/ Best Practice	Gaps	Needs
4. Hazardous Waste Management Although local municipalities are not responsible for the management of hazardous waste generated by business and industry they do need to manage hazardous waste generated by households.		
Garden Route District Municipality		
The National Domestic Waste Collection Standards require municipalities to provide communal collection points for non-mainstream recyclables such as batteries and fluorescent tubes for collection by a private service provider	• The GRDM programme to roll out HHW drop-off facilities was not successful in all municipalities. • There are a lack of drop-off facilities for HHW, there are only drop-off facilities at the two transfer stations • The cost to remove HHW from municipal drop-off facilities is high. • There is a lack of knowledge of hazardous waste generated by schools in the GRDM, it is likely that hazardous waste such as laboratory is stockpiled or incorrectly disposed of.	• A programme needs to be introduced to establish HHW drop-off]]facilities in all local municipalities in the GRDM • All local municipalities need to host HHW awareness days • A regional tender for the removal of HHW from all local municipalities needs to be considered • Hazardous waste generators need to be informed of how correctly manage hazardous waste, registration and reporting requirements of the GRWMIS • GRDM in collaboration with local municipalities need to investigate current management of laboratory waste at schools. The current gaps in management of laboratory waste to be bought to the attention of the Department of Education and Waste management section of DEA&DP. DEA&DP to introduce appropriate measures
Bitou Local Municipality		
	• Lack of drop-off facilities for HHW. Currently there is only one drop-off facility within the BLM, located at the Plettenberg Bay transfer station. • There is a lack of awareness regarding what HHW is. • There is a lack of information available on hazardous waste generated by business and industry.	• Provide drop-off facilities for HHW at selected mini drop-off sites across the BLM. These facilities can be igloos or small sealed bins. • Initiate e-waste awareness days and run waste awareness campaigns which cover other types of HHW, such as fluorescent tubes and used oil. • Encourage the registering of hazardous waste generators on the GRWIS.
George Local Municipality		
	• Lack of drop-off facilities for HHW, there are only drop-off facilities at the two transfer stations • Lack of awareness of what HHW waste is. • Lack of information available on hazardous waste generated by business and industry	• GLM needs to provide drop-off facilities for HHW at transfer stations. These facilities can be igloos or small sealed bins. • GLM needs to commence with e-waste awareness days. GLM to run waste awareness campaigns which cover other types of HHW such a fluorescent tubes and used oil.

Legislated Requirements/ Best Practice	Gaps	Needs
Hessequa Local Municipality		
	• Lack of drop-off facilities for HHW, there are only two drop-off facilities for used oil at Steynskloof and Melkhoutfontein landfill sites, however these are poorly used as present. • Lack of awareness of what HHW waste is. • Lack of information available on hazardous waste generated by business and industry	• HLM needs to provide drop-off facilities for HHW at select mini-drops across HLM. These facilities can be igloos or small sealed bins. • HLM needs to commence with HHW awareness days.
Kannaland Local Municipality		
	• Lack of drop-off facilities for HHW. • Poor management of hazardous waste at the municipal depot in Ladismith. • Lack of awareness of what HHW waste is. • Lack of information available on hazardous waste generated by business and industry.	• Drop-off facilities for HHW need to be provided at future transfer stations/MRFs • E-waste and HHW awareness days are needed • The registration of hazardous waste generators on the GRWMIS needs to be encouraged. • Internal training and awareness on correct hazardous material and waste management is needed. • Training of gate controllers on the identification of hazardous waste is needed. • A clean-up, and internal monthly audits of depot is needed.
Knysna Local Municipality		
	• Lack of drop-off facilities for HHW. The only drop-off facility within the KLM is at the Knysna Transfer Station. • There is a lack of awareness of what constitutes HHW. • There is a lack of information available on hazardous waste generated by business and industry.	• HHW drop-off facilities need to be added to the Sedgefield recycling centre. • E-waste and HHW awareness days are needed. • The registration of hazardous waste generators on the GRWMIS needs to be encouraged.
Mossel Bay Local Municipality		
	• Lack of drop-off facilities for HHW, there are only drop-off facilities at the two transfer stations	• MBLM needs to provide drop-off facilities for HHW at select mini-drops across MBLM. These facilities can be igloos or small sealed bins. • MBLM needs to continue with e-waste awareness days but also run waste

Legislated Requirements/ Best Practice	Gaps	Needs
	• HHW is a diverse waste stream, at present the transfer stations are no equipped to receive all the different types of HHW • There are a lack of suitably equipped and experienced service providers to remove a mixed HHW stream. Local waste management companies tend to focus on one waste stream e.g. liquid oil or e-waste • Lack of information available on hazardous waste generated by business and industry • Asbestos sheeting is generated in the MBLM this waste enters landfill sites or is illegally dumped. This sheet is often used for housing in low income areas which is a health and safety concern.	awareness campaigns which cover other types of HHW such a fluorescent tubes and used oil. • The registration of hazardous waste generators on the GRWMIS needs to be encouraged.
Oudtshoorn Local Municipality		
	• Lack of awareness of what HHW waste is. • Lack of information available on hazardous waste generated by business and industry	• OLM should undertake waste awareness campaigns that include information regarding household hazardous waste management. • Development of an approach and a system for tracking the types and quantities of hazardous waste produced within the municipality
5. Waste Management Facilities Good management of waste facilities in essential in limiting the negative environmental and social impact of facilities. Municipalities need waste management facilities such as MRFs, composting facilities and C&DW crushing facilities to allow them to implement the waste management hierarchy		
Garden Route District Municipality		
a. Regional Landfill Site		
	• There are insufficient employees at the GRDM to oversee the management of the site once it becomes operational. • Once the landfill site operational the GRDM will need to ensure compliance with the license including the establishment of a monitoring committee, internal and external audits and monitoring.	• Contractual arrangement for the regional landfill site need to be finalised and construction needs to be commence. • Construction of the site needs to be completed as per the programme. It is planned to commence in January 2020 and the first domestic cells should be complete by August 2020. • An experienced and qualified person needs to be appointed to oversee management of the site • All GRDM employees need to be trained on auditing principals to allow them to undertake internal audits of the regional landfill site.

Legislated Requirements/ Best Practice	Gaps	Needs
	• The GRDM must ensure that the landfill site operator has access to a backup fleet on landfill site compactors, front end loaders and bulldozers to ensure continued correct management of the site.	• An agreement needs to be in place with the landfill site operators which requires access to a backup fleet. • A mobile crusher and chipper need to be made available for participating local municipalities to use (non-compulsory service). • The hazardous waste cell
Bitou Local Municipality		
Plettenberg Bay landfill site		
Note: The Plettenberg Bay landfill site has been closed	•	• Rehabilitation of the site needs to be completed.
Integrated Waste Management Facility (Plettenberg Bay transfer station)		
Note: the Plettenberg Bay transfer station is operational however, the composting facility is not.	• There is no separation of waste types occurring at this facility. • Bulky waste is currently being stockpiled at this facility and therefore composting cannot take place. • A component of the stockpiled bulky waste is hazardous waste	• Upgrading of transfer station needs to be undertaken to accommodate a MRF. • Bulky waste needs to be removed from the composting facility and disposed of. • Compliance audits need to be undertaken. • Employees working at the IWMF need to be trained on hazardous waste identification to minimise the risk of hazardous waste being accepted at the facility.
George Local Municipality		
Uniondale Landifll Site		
	• The landfill sites waste body is beyond the licensed footprint • There are pickers and salvagers on the site • Pickers have set up informal housing on the site • Waste is set a light by pickers on-site. • Lack of access control • No municipal employees were present on site during the site visit • Windblown litter • The edge of the site is not well defined. • No external audits are undertaken of the site	• GLM need to ensure the waste body is within the license boundary, either through amending the license co-ordinates or uplifting waste and moving it inside the licensed boundary. • Closure and rehabilitation of the site needs to commence by September 2019 • GLM need to provide access control on-site, to prevent informal reclaimers from accessing the site • The site needs to be fenced and have access control. • Security is needed on site to ensure waste is not burnt • The site need to be manned during operational hours, and waste entering the site is recorded. • External audits need to be undertaken on an annual basis.
Gwaing (George) landfill site		

Legislated Requirements/ Best Practice	Gaps	Needs
	• There are pickers and salvagers on the site. • Pickers have set up informal housing on the site. • The slopes of the landfill site are very steep, this will pose a challenge to rehabilitation. • There is a lack of permanent plant or a chipper on site to adequately manage waste. • A large volume of garden waste is stockpiled at the entrance of the site, underneath powerlines. This is a fire risk and a risk to the powerlines. • The landfill site is operating outside the licensed footprint. A review of the co-ordinates in the license is required.	• Controls are need to ensure that only accepted waste (C&DW and green waste) is disposed of on the site • Security and access control need to be improved on-site • Signage is needed in three languages, signs must provide information on safety. • Informal houses need to be removed from the site. • A chipper is needed on site. • Garden waste stockpiled underneath powerline on site needs to be removed as it is a fire and safety risk. • GLM needs to update the licensed boundary of the site
George Transfer Station		
	• The transfer station does not currently have an area for sorting of waste • When equipment such as the compactor or ro-ro trucks are out of operation waste can build up at the transfer station • No surface monitoring sampling is undertaken	• The construction of the MRF need to be finalised • Equipment needs to be provided for the MRF
George Closed Landfill Site		
	• No external audit of the facility are undertaken	• Audits need to be undertaken as per the license conditions
Hessequa Local Municipality		
Albertinia Landfill Site		
	• The site is operating beyond its licenced footprint • There is a lack of control over waste entering the site, hazardous waste	• A review of the licensed boundary in the WML is needed • Asbestos waste needs to be removed from the site and disposed of adequately. Access control is required during site operating hours and the access controllers should be trained on the different waste types.

Legislated Requirements/ Best Practice	Gaps	Needs
	including asbestos was noted on site. • No external audits of the facility have been undertaken	• External audits need to be undertaken at least once every year
Heidelberg Landfill Site		
	• The site is operating beyond its licensed footprint • There is a lack of control over waste entering the site, hazardous waste including asbestos was noted on site • The facility is not free draining, consequently water ponding was noted • Waste is not covered or compacted as per the licence requirements	• A review of the licensed boundary in the WML is needed • Asbestos waste needs to be removed from the site and disposed of adequately. Access control is required during site operating hours and the access controllers should be trained on the different waste types. Gates should be locked after hours. • The remaining airspace of the facility needs to be determined.
Gouritzmond landfill site		
	• There is a lack of control over what types of waste enter the site. Hazardous waste (including asbestos, empty oil and paint containers) was noted on site • The site currently holds a large amount un-chipped garden waste which is considered a significant safety hazard should fires occur on site	• Hazardous waste needs to be removed from the site and disposed of adequately. Access control is required during site operating hours and the access controllers should be trained on the different waste types • A chipper is needed for the site.
Jongensfontein landfill site		
	• Lack of rehabilitation	• The site needs to be rehabilitated.
Melkhoutfontein landfill site		
	• The site is operating beyond its licensed footprint • There is a lack of control over waste entering the site, hazardous waste including asbestos was noted on site • Waste is not covered or compacted as per the licence requirements • Salvagers are not permitted at the working face as per licence requirements	• A review of the licensed boundary in the WML is required • Hazardous waste needs to be removed from the site and disposed of adequately. • Access control is needed during site operating hours and the access controllers should be trained on the different waste types. • Gates need to be locked after hours. • Airspace determination needs to be undertaken. • There is a need to formalise salvaging. This may include a formalised

Legislated Requirements/ Best Practice	Gaps	Needs
		materials sorting and recovery facility.
Slangrivier landfill site		
	• Waste is not covered or compacted • No surface water monitoring was undertaken on site	• Airspace determination needs to be undertaken. • Surface water monitoring is needed
Steynskloof landfill site		
	• Burning of waste at the facility by scavengers • The site is operated beyond its licenced footprint • No external audits of the facility have been undertaken	• There is a need to formalise salvaging. This may include a formalised materials sorting and recovery facility. • A review of the licensed boundary in the WML is needed. The airspace assessment report is required • External audits need to be undertaken at least once every year
Witsand landfill site		
	• The height of the waste body at the facility was observed to be higher than the permitted height of 3m • Waste was not covered or compacted as per licence requirements	• The height of the waste body must not exceed 3m
Kannaland Local Municipality		
Ladismith landfill		
	• The waste body is beyond licensed boundary. • The remaining lifespan of the site is currently unknown • Lack of compaction and covering of waste. • Livestock and baboons on site as a result of the damaged fencing. • There is a clack of control over the types of	• KLLM need to survey the Ladismith landfill site to determine the actual boundary and remaining airspace • A feasibility assessment to determine if the Ladismith site or Zoar landfill site should be upgraded and developed into a regional site is needed. • KLLM need to replace the existing bulldozer with a newer more reliable bulldozer. • There should be engagement with the owners of the livestock to inform them of risks to livestock accessing landfill sites e.g. plastic ingestion.

Legislated Requirements/ Best Practice	Gaps	Needs
	waste that enter the site. Hazardous waste items (oil containers, paint cans, asbestos) were noted to be disposed of which is not permitted at the facility. • Carcasses are disposed of in an unlined trench outside licensed area	• Training of gate controllers needs to be undertaken with a focus on the identification of hazardous waste. • Carcasses need be disposed of within the licensed boundary. Lime needs to be applied when carcasses are disposed of and trenches covered daily.
Calitzdorp landfill site		
	• The waste body is beyond licensed boundary. • There is no staff at the facility to direct vehicles to working phase. • Pens for livestock and basic shelters are within the permitted site boundary. • There is a clack of control over the types of waste that enter the site. Hazardous waste items (oil containers, paint cans, asbestos) were noted to be disposed of which is not permitted at the facility. • Waste disposal is spread over a large area. • There is no fence at the facility.	• Staff need to be made available for the facility. The facility requires at least one gate controller and one general worker to direct vehicles. • Training of the gate controller and general worker is needed with a focus on the identification of hazardous waste. • The waste needs to be consolidated into one location through the use of a bulldozer. • A working site area needs to be established and fenced off (smaller than the licensed boundary) to control disposal.
Zoar landfill site		
	• Lack of permanent plant to manage the site. • Illegal dumping of waste occurs behind the site which include hazardous items such as asbestos. • No daily compaction or cover of waste. • There is large volumes of waste in the adjacent watercourse. • The fence surrounding the site is damaged. • There is a lack of sufficient cover material. • The site appears to have reached its capacity.	• A reliable bulldozer should be operational and rotated between Ladismith, Zoar and Van Wyksdorp is needed. • Site needs be fenced with fencing which is less likely to be stolen. • Clean-up of illegal dumping and litter needs to be undertaken. • Improved access control needs to be implemented, an access gate should be installed at the entrance to the access road off the R62 • The KLLM need to identify a sustainable source for cover material. • Waste need to be compacted and covered daily. • The KLLM need to determine the remaining airspace of the site which would in turn inform the future plans of the site.

Legislated Requirements/ Best Practice	Gaps	Needs
Van Wyksdorp landfill site		

	• There is a lack of access control to the site:
	  • No fence is in existence and the signage is not adequate enough to stipulate the waste types that are permissible at the facility.
	  • There is no staff to control access to the facility and to provide instructions and directions for vehicles with waste.
	• Lack of permanent plant to manage the site.
	• The old waste body is not fully rehabilitated.
		• In the short term:
		  ○ The site need to be fenced
		  ○ The KLLM need to appoint at least one employee at the site.
		• In the medium/long term
		  ○ A small drop-off facility/ transfer station should be constructed
		  ○ The site should be closed and rehabilitated

Knysna Local Municipality		
Old Place		
	• The landfill site's waste body is beyond the licensed footprint. • There are pickers and salvagers on the site (harvesting wood). • This waste body is prone to fires. • There is a lack of access control. • The waste records generated at this facility are in poor condition and are often illegible and dirty. • Closure is set to commence in 2020 and no alternate site has been identified. • No fee is being charged to business to dispose of waste at this facility. • It will cost the KLM R7.4 million (excl. VAT) to close and rehabilitate this facility.	• The KLM needs to update the permit boundary area. • The closure date of the WML may need to be extended (this is to be applied for six months prior to when closure is meant to commence – August 2019). • It is advised that an application be developed and used to capture waste records electronically in order to ensure more accurate data capture and to reduce manual capture time. • The KLM need to consider implementing a disposal fee for contractors and garden services.
Brenton-On-Sea Landfill		
	• Rehabilitation is incomplete	• Closure and rehabilitation need to be completed.
Knysna Transfer Station		

Legislated Requirements/ Best Practice	Gaps	Needs
	• Due to space constraints, the transfer station does not currently have an area for the sorting of waste. • Informal reclaimers live outside of this facility. • The premise is not owned by the KLM. • The site is poorly located. • There is no access control in place around the facility.	• Short term: A fence and access control is needed to restrict access by informal reclaimers • Long term: A new site for an integrated waste management facility, to include a transfer station, material recovery facility and a composting facility needs to be identified.
Knysna Recycling Centre		

	• This facility has space constraints and as a result, waste piles up at this facility.
	• Waste is stored outside of the facility due to available space and waste quantities.
		• Short term: improve management
		  ○ Service provider needs additional resources to ensure waste does not accumulate.
		  ○ Litter picking is needed.
		  ○ Regular in-house inspections are needed.
		  ○ Consider converting WML to N&S registration.
		• Long term: identify an alternative site (IWMF)

Sedgefield Recycling Centre		

	• Lack of space.
	• Lack of services – water and electricity.
		• Short term: improve management
		  ○ Provide services.
		  ○ Regular in-house inspections.
		  ○ Consider converting WML to N&S registration.
		• Long term: determine if site can be closed and incorporated into IWMP or kept as a standalone interim facility – in which case, bailers would be required.

Sedgefield C&DW and Garden Waste Drop-Off		
	• Unpermitted waste types (hazardous and general) observed on site. • There is an accumulation of green waste at this facility.	• The chipper needs to be maintained to prevent a backlog. • There need to be sufficient skips on site for C&DW. • Control of waste entering the site needs to be improved
Sedgefield Landfill Site		
	• Closed but not fully rehabilitated. • No closure license.	• A closure license is needed. • Site needs to be rehabilitated in terms of legislated requirements.

Legislated Requirements/ Best Practice	Gaps	Needs
	• No closure report / design. • Not included in GRAP report.	
Mossel Bay Local Municipality		
Great Brak landfill site		
	• The licensed boundary of Great Brak landfill site and the fence line do not match • The monitoring boreholes are not deep enough to intercept groundwater • Green waste is only chipped twice a year which results in a build up on site • There is no stormwater management system in place • Waste is not covered and compacted as per the license requirements • Small volumes of hazardous waste was noted on site.	• A review of the licensed boundary in the WML is needed • The monitoring boreholes need to be drilled deeper. The tender for drilling the boreholes should structured on a rate per meter • More regular chipping of green waste needs to occur at Great Brak • Stormwater controls need to be implemented during the closure of the site • An amendment is required as the covering and compaction of garden waste and construction and demolition waste is not practical during operational. The waste body must be capped during closure. • Gate controllers need to receive training on hazardous waste identification
Louis Fourie landfill site		
	• The monitoring boreholes are not deep enough to intercept groundwater • Green waste is only chipped twice a year which results in a build-up on site • There is no stormwater management system in place • Waste is not covered and compacted as per the license requirements • A section of the fence around the site has been stolen.	• The monitoring boreholes need to be drilled deeper. The tender for drilling the boreholes should structured on a rate per meter • More regular chipping of green waste to occur at the site • Stormwater controls must be implemented during the closure of the site • An amendment is required as the covering and compaction of garden waste and construction and demolition waste is not practical during operational. The waste body must be capped during closure. • Fencing to be repaired • Gate controllers need to receive training on hazardous waste identification
Freimersheim landfill site		
	• No external compliance audits are undertaken for the site • No water quality monitoring undertaken	• The site need to be audited and monitored according to the license conditions
Herbertsdale landfill site		
	• The site is closed but not fully rehabilitated	• Rehabilitation need to be completed

Legislated Requirements/ Best Practice	Gaps	Needs
	• No external audits are undertaken	• The site needs to be audited and monitored according to license conditions
Buysplaas landfill site		
	• The site is closed but not fully rehabilitated • The license only covers the main waste body, there are other small waste sites which are not licensed.	• The MBLM needs to determine the way forward for the waste site in Buysplaas, it might be more feasible to remove the waste disposed of at small site and dispose of it at an operational site.
KwaNonqaba transfer station		
	• There are no formal recycling drop-off facilities at the transfer station • The ablution facilities require upgrading	• The MBLM needs to implement the planned upgrades to the transfer station which include: • Expanding the footprint • Installing recycling drop-off facilities • Stormwater management • Upgrading offices and ablution facilities • Installing a weighbridge
Sonskynvallei transfer station		
	• There are no formal recycling drop-off facilities at the transfer station	• Formal recycling drop-off facilities need to be added to the transfer station
Oudtshoorn Local Municipality		
Grootkop landfill site		
	• No weighbridge • Accepts organic waste without an OWDP • There is no stormwater management system in place • Underground fire management	• Install a weighbridge • Develop engineered cells asa per proposals for Phase 2 upgrade. • Develop an OWDP in order to qualify disposal of organic waste at the site as per licence requirements • Stormwater controls must be implemented during the rehabilitation of the of the site • The extent of subsurface fires should be assessed.
Dysseldorp landfill site		
	• No access control and fencing • Due for closure but no funding allocated for closure and rehabilitation • No lodged application for extension of validity of the closure license	• Funding allocation for planning and implementation of the site's closure and rehabilitation should be done • Application for extension of the validity of the closure licence
De Rust		

Legislated Requirements/ Best Practice	Gaps	Needs
	• No access control and fencing • Due for closure but no funding allocated for closure and rehabilitation • No lodged application for extension of validity of the closure license	• Funding allocation for planning and implementation of the site's closure and rehabilitation should be done • Application for extension of the validity of the closure licence
6. Waste Management Fleet and Equipment A well managed and properly equipped waste management fleet is to ensure that the regional landfill site is correctly managed. In addition to a well maintained operational fleet the GRDM should also have access to a backup fleet for use in the event of breakdowns.		
Bitou Local Municipality		
The National Domestic Waste Collection Standards (GN 21 of 2011) requires that all vehicles in the waste management fleet and roadworthy and that waste is transported in closed vehicles	• There are no backup vehicles • Repairs or vehicles takes a long time	• The BLM need to have a vehicle replacement plan for the replacement of older vehicles in the operational fleet. The replaced vehicles can form part of the backup fleet or be sold off.
George Local Municipality		
	• The GLM currently hires a TLB and two tipper trucks to clean up illegal dumping • GLM at present have refuse collection fleet consists of 16 operational trucks and 9 trucks that are in for repairs or going to sold. • There are insufficient collection vehicles available for GLM to provide an efficient waste collection service to businesses.	• The GLM needs to procure a TLB and tipper trucks and undertake this service in-house. • The GLM needs to replace older vehicles in the operational fleet. The vehicles can form part of the backup fleet or be sold off. • The GLM needs of a bigger fleet to ensure collections services are available to all businesses in the GLM. At present some businesses do not have access to the municipal collection service.
Hessequa Local Municipality		
	• There is only one small chipper servicing all the landfill sites in Hessequa. • The two bull dozers operated in the Melkhoutfontein and Heidelberg landfill sites are old and prone to breakdowns.	• An adequate chipper needs to be obtained. • The HLM need to replace older vehicles in the operational fleet. The vehicles can form part of the backup fleet or be sold off.
Kannaland Local Municipality		
	• The vehicles used for waste collection are not enclosed and the operation of the vehicles are a Health and Safety risk to employees and the public.	• The entire waste collection fleet needs to be replaced with compactor or cage trucks. Compactors are more expensive but can transport large volumes of waste. • A new bulldozer needed to be purchased to replace the current one which

Legislated Requirements/ Best Practice	Gaps	Needs
	• The existing vehicles are subject to frequent breakdowns. • The KLLM do not have sufficient vehicles to perform a reliable waste collection service.	is unreliable
Knysna Local Municipality		
	• Frequent truck breakdowns. • Long repair times.	• The KLM to review fleet to determine if older / unreliable vehicles need to be replaced.
Mossel Bay Local Municipality		
	• The MBLM currently hires a TLB and two tipper trucks at a cost for R700,000 each year to clean up illegal dumping • Three vehicles in the MBLM's operational fleet (an Isuzu compactor and a Nissan skip truck) are older than 10 years and replacement of these vehicles should be considered • The waste management fleet is stored out in the open, this results in vehicles rusting	• The MBLM needs to procure a TLB and tipper trucks and undertake this service in-house. • The MBLM needs to replace older vehicles in the operational fleet. The vehicles can form part of the backup fleet or be sold off. • The fleet needs to be stored undercover to reduce the risk of rust and associated repair costs.
Oudtshoorn Local Municipality		
	• There are insufficient back-up vehicles for waste collection and disposal • The cost of running an in-house fleet vs outsourcing has not been reviewed. • The delays in sourcing replacement vehicles, due to lengthy procurement processes, has compromised the level of collection service provided by the OLM. • Truck lease agreement needs to be revised • Municipal fleet is not branded with waste awareness images or posters to promote waste management awareness	• A strategy for fleet recapitalization is required to ensure that fleet that the OLM owns is in adequate condition. • Investigate the cost leasing trucks vs purchasing them to determine potential cost savings The OLM should replace older vehicles in the operational fleet. The vehicles can form part of the backup fleet or be sold off. • Municipal supply chain should improve their turnaround time regarding fleet replacement on leases • Review and amendment lease agreement of trucks to necessitate provision of back-up trucks to temporarily replace one's under service from time to time. • Branding of the municipal waste collection fleet should be implemented to promote waste management
7. Waste Information Management In order to effectively plan for waste management services a knowledge of waste generation quantities and types is required.		

Legislated Requirements/ Best Practice	Gaps	Needs
7.1 IWMP Development, Implementation and Monitoring		
Garden Route District Municipality		
The Waste Act requires that the IWMP is submitted to DEA&DP for endorsement, it is incorporated into the IDP and that annual reports of the IWMP implementation are undertaken.	• No annual performance reviews were undertaken on the 2014 IWMP • None of the local municipalities undertook formal reviews of the project of their 2014 IWMPs	• Once the 2019 IWMP is finalised the GRDM needs to ensure that annual reports are prepared and submitted in line with the Municipal Systems Act (Act 32 of 2000) • An agenda items on progress review of IWMPs needs to be added to the agenda of the quarterly waste management officers forum meetings.
All Local Municipalities		
	• No formal annual performance reviews were undertaken on any of the 2014 IWMPs	• Once the 2019 IWMP is finalised the local municipalities must ensure that annual reports are prepared and submitted in line with the Municipal Systems Act (Act 32 of 2000).
7.2 Waste Generation and Disposal Records		
Garden Route District Municipality		
	• IPWIS categories are aligned with SAWIS, some of the categories are not descriptive e.g. construction and demolition waste covers a wide range of waste streams from soil to dry walling to tiles • Even with the hazardous and business waste survey undertaken as part of this IWMP there are still gaps in the data for commercial and industrial waste. • At present there are no accurate records for hazardous waste generated in the GRDM.	• A review of the reporting categories on the GRWMIS needs to be undertaken. These categories need to be aligned with the waste categories listed in the National Waste Information Regulations, however consideration should be given to adding a further breakdown of waste streams. The data capturing system must be designed so that rolled up data under the broad categories listed in the regulations can be reported on the IPWIS. • The registration and reporting of hazardous waste generators and hazardous waste management companies of the GRWMIS needs to be enforced. • GRDM to ensure local municipalities register and report on the GRWMIS.
Bitou Local Municipality		
	• Waste collection rounds cover a combination of domestic and businesses. Waste entering the PetroSA landfill site is all recorded as domestic waste. It is not possible to determine how much domestic and how much commercial and industrial waste is generated from these records. • There are gaps in the data for commercial	• Monthly waste disposal records from PetroSA need to be sourced. • In order to obtain accurate data on commercial and industrial waste, a system for tracking waste from these sources would need to be developed. • Support to implementation of the GRWMIS • Register and report on the GRWMIS.

Legislated Requirements/ Best Practice	Gaps	Needs
	and industrial waste. • At present, there are no accurate records for hazardous waste generated within the BLM.	
George Local Municipality		
	• Waste collection rounds in the GLM cover a combination of domestic and businesses. The waste entering the PetroSA landfill site is all recorded as domestic waste. It is therefore not possible to determine how much domestic and how much commercial and industrial waste is generated from these records. • Even with the hazardous and business waste survey undertaken as part of this IWMP there are still gaps in the data for commercial and industrial waste. • At present there are no accurate records for hazardous waste generated in the GLM.	• GLM need to implement a bin tracking system for businesses to determine how much commercial and industrial waste is collected • Data that is recorded needs to be categorised and split, this making managing data a lot easier. • Register and report on the GRWMIS.
Hessequa Local Municipality		
	• Waste collection rounds in the HLM cover a combination of domestic and commercial and industrial waste. All waste entering the Steynskloof and Heidelberg landfill sites is all recorded as commercial and industrial waste. It is therefore not possible to determine how much domestic and how much commercial and industrial waste is generated from these records. • Even with the hazardous and business waste survey undertaken as part of this IWMP there are still gaps in the data for commercial and industrial waste. • At present there are no accurate records	• In order to obtain accurate data on commercial and industrial waste, waste from these generators would need to be collected separately from households and recorded separately at Steynskloof and Heildeberg landfill sites. The practicality of this needs to be discussed with HLM as it may not be logistically possible to separate the collection rounds. • Register and report on the GRWMIS.

Legislated Requirements/ Best Practice	Gaps	Needs
	for hazardous waste generated in the HLM.	
Kannaland Local Municipality		
	• There are gaps in waste disposal information recorded for KLLM. • Only waste that enter the Ladismith and Zoar landfill sites are recorded. • There are gaps in the data regarding commercial and industrial waste generated within the KLLM. • At present, there are no accurate records for hazardous waste generated within the KLLM.	• Provision needs to be made for gate controllers at each operational landfill site. • Waste needs should be accurately recorded by gate controllers at each operational landfill site. • The implementation of the GRWMIS needs to be supported. • Register and report on the GRWMIS.
	• Information is often saved onto computers hard drives instead of onto a central server • Records are incomplete • Data is difficult to locate due to a lack of a filing structure	• The waste management department need to develop a filing structure for waste records and information • Saving of all information onto a central server needs to be mandatory
Knysna Local Municipality		
	• Waste collection rounds cover a combination of domestic and businesses. Waste entering the PetroSA landfill site is all recorded as domestic waste. It is not possible to determine how much domestic and how much commercial and industrial waste is generated from these records. • There are gaps in the data for commercial and industrial waste. • At present there are no accurate records for hazardous waste generated in the KLM.	• Information on business / commercial waste collection using tagging system of bins needs to be collected. • The implementation of the GRWMIS needs to be supported. • Register and report on the GRWMIS.
Mossel Bay Local Municipality		
	• Waste collection rounds in the MBLM cover a combination of domestic and businesses. The waste entering the PetroSA landfill site is all recorded as domestic waste. It is	• In order to obtain accurate data on commercial and industrial waste, waste from these generators would need to be collected separately from households and recorded separately at PetroSA landfill. The practicality of this needs to be discussed with MBLM as it may not be logistically possible

Legislated Requirements/ Best Practice	Gaps	Needs
	therefore not possible to determine how much domestic and how much commercial and industrial waste is generated from these records. • Even with the hazardous and business waste survey undertaken as part of this IWMP there are still gaps in the data for commercial and industrial waste. • At present there are no accurate records for hazardous waste generated in the MBLM	to separate the collection rounds. • The implementation of the GRWMIS needs to be supported. • Register and report on the GRWMIS.
Oudtshoorn Local Municipality		
	• The OLM has waste records in hard copies and electronic records only exist since Jan 2019. • Waste disposal records are estimated manually (no weighbridges are available). No records exist for the other two landfill sites.	• The OLM needs to develop a waste information system to capture, collate and store waste records electronically. • A weighbridge should be installed at Grootkop in order to obtain accurate data on waste disposed at the landfill site • All municipal waste management facilities should have a system for recording tonnages. • The implementation of the GRWMIS needs to be supported. • Register and report on the GRWMIS.
7.3 Waste Reporting and Information Management		
Garden Route District Municipality		
Municipalities are required to report on the SAWIS, IPWIS in terms of the National Waste Information Regulations (GN 625 of 2012) and the GRWIS in terms of the GRDM by-laws	• The GRDM is not currently required to register and report on the IPWIS, however, once the regional landfill site is operational this will change.	• GRDM nneds to register the regional landfill site on the IPWIS and ensure data is uploaded. • GRDM to ensure the weighbridge software is compatible with the IPWIS reporting requirement to avoid the need to rework data. • GRDM need to register the regional landfill site on the IPWIS and ensure data is captured on IPWIS on a monthly basis. The GRDM must ensure that waste data is traceable to the source municipality where it is generated. • The weighbridge should be operated by competent and trained personnel. Adequate infrastructure should be provided at weighbridge which allows for the execution of accurate recording of waste data. Therefore, weighbridge software should be aligned to IPWIS categories and unit of measure. Weighbridge should be maintained and calibrated. Incidents

Legislated Requirements/ Best Practice	Gaps	Needs
		when weighbridges are faulty or not in operation due to power failures should be recorded. In such events the waste calculator should be used to estimate incoming quantities as recording should always be done.
Bitou Local Municipality		
	None – the BLM is currently reporting on IPWIS	
George Local Municipality		
	• The GLM did not report data for the Uniondale landfill site on the IPWIS, in 2018. • The GLM is not reporting on the GRWIS at present	• GLM needs to ensure data for all waste facilities in reported on the SAWIS and GRWMIS
Hessequa Local Municipality		
	• There are gaps in waste disposal records for some landfill sites. • There are a lack of gate controllers to man the landfill sites	• All landfill sites need to have a gate controller to record waste quantities and types entering the site. • The gate controllers need to be given waste identification training
Kannaland Local Municipality		
	• Only records of waste that are disposed of at Zoar and Ladismith are reported on the IPWIS.	• Waste that enters all operational waste disposal facilities should be reported to the IPWIS.
Knysna Local Municipality		
	None – the KLM is currently reporting on IPWIS	
Mossel Bay Local Municipality		
	None – the MBLM is currently reporting on IPWIS	
Oudtshoorn Local Municipality		
	• The OLM is not reporting on IPWIS, SAWIS and GRWIS.	• The OLM needs to development a system for reporting data to the required information systems
8. Waste Education and Awareness		
Garden Route District Municipality		
• 80% of schools to be implementing waste awareness campaigns (NWMS, 2011) • The service provider/ municipality must provide	• Waste awareness campaigns across the GRDM are uncoordinated and insufficient events are undertaken.	• The GRDM needs to consider adopting a co-ordination role for the waste awareness campaigns in the district through consultation with the local municipalities.

Legislated Requirements/ Best Practice	Gaps	Needs
guidelines to households on how to separate waste • Municipalities must implement education and awareness training regarding the basic refuse removal in relevant areas (National Domestic Waste Collection Standards, 2011)	• The GRDM and local municipalities do not undertake follow up surveys to determine the effectiveness of waste awareness campaigns	• A plan for waste awareness campaigns should be included in the scope of works for the service provider who assists the GRDM with the waste minimisation strategy. • All schools in the GRDM need be visited at least annually • A public perception survey needs to be undertaken to determine current levels of knowledge with regard to waste management and to determine if awareness campaigns have been effective. • All awareness training material needs be keep consistent, with all programmes and training activities being recorded when they were completed (date and time).
Bitou Local Municipality		
	• The BLM could not confirm whether any waste awareness campaigns were undertaken in 2018. • The BLM only provides a support role in waste awareness campaigns at local schools on an as-and-when needed basis. • The BLM does not undertake follow up surveys to determine the effectiveness of waste awareness campaigns.	• The BLM needs to undertake independent awareness campaigns. All schools should be visited at least annually. • The BLM needs to undertake a public perception survey to determine current levels of knowledge with regard to waste management and to determine if awareness campaigns have been effective.
George Local Municipality		
	• According to available records the GLM only undertook 20 awareness events in 2018. This number may not be truly reflective of events undertaken • The GLM does not undertake follow up surveys to determine the effectiveness of waste awareness campaigns	• The GLM needs to increase the number of awareness campaigns undertaken. All schools should be visited at least annually • The GLM should undertake a public perception survey to determine current levels of knowledge with regard to waste management and to determine if awareness campaigns have bene effective. • All awareness training material needs be keep consistent, with all programmes and training activities being recorded when they were completed (date and time). • GLM to incorporate the GRDM waste awareness mascot on materials going forward
Hessequa Local Municipality		
	• The HLM undertakes bi-monthly awareness campaigns on all environmental issues. The	• The HLM needs to undertake waste specific awareness campaigns. • All schools need to be visited at least annually

Legislated Requirements/ Best Practice	Gaps	Needs
	campaigns do not necessarily focus on waste. Records of the content of the awareness campaigns is not kept. • The HLM does not undertake follow up surveys to determine the effectiveness of waste awareness campaigns	• The HLM needs to undertake a public perception survey to determine current levels of knowledge with regard to waste management and to determine if awareness campaigns have bene effective.
Kannaland Local Municipality		
	• The KLLM do not keep record of the number of waste awareness campaigns that are undertaken. • The KLLM have a lack awareness materials. • A limited number of waste awareness campaigns were undertaken between 2016 and 2019. • The KLLM have a lack of employees to undertake awareness campaigns. • Language barriers in programmes undertaken by DEFF pose a challenge to the effectiveness of waste awareness campaigns at schools	• The KLLM needs to increase the number of awareness campaigns undertaken. All schools should be visited at least annually. • The KLLM needs to develop a waste awareness calendar. • The KLLM needs to engage with the GRDM regarding available waste awareness materials. • KLLM needs to translate awareness materials into Afrikaans • The KLLM needs at least one dedicated waste awareness officer. This waste awareness officer should have a background in waste management and be fluent in Afrikaans
Knysna Local Municipality		
	• No records of the number of awareness events in 2018. • The KLM does not undertake follow up surveys to determine the effectiveness of waste awareness campaigns. • Lack of employees dedicated to waste education and awareness.	• KLM needs to document awareness campaigns. • Appoint staff as waste awareness educators. • The KLM must ensure they appoint waste awareness educators who are fluent in the prevalent languages within the KLM (isiXhosa and Afrikaans).
Mossel Bay Local Municipality		
	• There are only records of 28 awareness events in 2018. More events were undertaken but there are no records for these events. • The MBLM does not undertake follow up	• MBLM need to improve the recording and reporting of awareness campaigns. • Appoint staff as waste awareness educators. •

Legislated Requirements/ Best Practice	Gaps	Needs
	surveys to determine the effectiveness of waste awareness campaigns. • Lack of employees dedicated to waste education and awareness.	
Oudtshoorn Local Municipality		
	• The OLM does not undertake any education and awareness initiatives	• The OLM needs to undertake waste education and awareness initiatives to promote waste management in its jurisdictional area
9. By-Laws and Enforcement of By-Laws In order to order to effectively regulate waste management a municipality needs to have comprehensive waste management by-laws which are actively enforced.		
Garden Route District Municipality		
	• The local municipality waste management by-laws are not aligned with the GRDM waste management by-laws • There are no dedicated waste rangers to enforce waste management by-laws	• A waste ranger is needed or this function needs to be added to existing GRDM employees responsibilities. The focus on the waste ranger will be enforcement of the by-laws including ensuing that all applicable facilities and companies are registered and reporting on the GRWMIS. • Assist local municipalities to update by-laws and align them with the district
Bitou Local Municipality		
	• Lack of comprehensive waste management by-laws. • There is no requirement for households to separate waste at source in the by-laws. • No dedicated waste rangers to enforce waste management by-laws. • Littering and illegal dumping occurs across the BLM.	• Update the by-laws. The by-laws must be aligned with the Waste Act, the GRDM's waste management by-laws and include a schedule of fines. • Waste rangers need to be appointed to enforce the by-laws, particularly around litter and illegal dumping.
George Local Municipality		
	• The GLM 2014 Integrated Waste Management By-Laws are not aligned with the GRDM waste management by-laws • There is no fine schedule in the by-laws • There is no requirement for households to separate waste at source in the by-laws • There are no dedicated waste rangers to	• The GLM need to develop a comprehensive set of by-laws. The by-laws should be aligned with GRDMs waste management by-laws and include a schedule of fines • Waste rangers need to be appointed to enforce the by-laws, particularly around litter and illegal dumping • GLM needs to look at enforcing waste by-laws, by identifying peace officers.

Legislated Requirements/ Best Practice	Gaps	Needs
	enforce waste management by-laws • Littering and illegal dumping occurs in open areas across the GLM	
Hessequa Local Municipality		
	• There are no dedicated waste rangers to enforce waste management by-laws • Littering and illegal dumping occurs in open areas across the HLM	• The HLM by-laws need to be aligned with the Waste Act and GRDMs waste management by-laws. • Waste rangers should be appointed to enforce the by-laws, particularly around litter and illegal dumping
Kannaland Local Municipality		
	• By-laws are no aligned with GRDMs by-laws. • Lack of fine schedule. • No dedicated waste rangers to enforce waste management by-laws. • Littering and illegal dumping occurs across the KLLM.	• The KLLM need to develop a comprehensive set of by-laws. The by-laws should be aligned with the Waste Act and GRDM's waste management by-laws and include a schedule of fines. • At least one waste rangers should be appointed to enforce the by-laws, particularly around litter and illegal dumping.
Knysna Local Municipality		
	• There are no dedicated waste rangers to enforce waste management by-laws. • Littering and illegal dumping occurs in open areas across the KLM. • Skip sites become illegal dumping sites. • By-laws not in line with GRDM by-laws.	• The KLM should update the by-laws and they should be aligned with the GRDM waste management by-laws. • Waste rangers should be appointed to enforce the by-laws, particularly around litter and illegal dumping. • Skip sites to be cleaned up and then manned using EPWP / temporary workers to improve control • Mini drop-off facilities are needed in areas where dumping is an on-going issue.
Mossel Bay Local Municipality		
	• The MBLM by-laws are not aligned with the Waste Act or the GRDM district waste management by-laws • There is no fine schedule in the by-laws • There is no requirement for households to separate waste at source in the by-laws • There are no dedicated waste rangers to	• The MBLM needs to align the by-laws with the Waste Act and GRDMs by-laws • A schedule of fines needs to be included in the by-laws • Waste rangers need be appointed to enforce the by-laws, particularly around litter and illegal dumping

Legislated Requirements/ Best Practice	Gaps	Needs
	enforce waste management by-laws • Littering and illegal dumping occurs in open areas across the MBLM	
Oudtshoorn Local Municipality		
	• The OLM Waste Disposal by-laws have short-comings. • There is no stipulated requirement for the categorization of waste • There is no fine schedule in the by-laws • There is no requirement for households to separate waste at source in the by-laws • There are no requirement for dedicated waste rangers to enforce waste management by-laws	• The OLM should revise their waste by-laws. The by-laws should be aligned with GRDMs waste management by-laws and include a schedule of fines. • The OLM should designate waste rangers (peace officers) to enforce the by-laws, particularly around litter and illegal dumping
10. Institutional Functioning and Financial Management A waste management department needs to sufficient staff who are appropriately trained, experienced and capacitated to manage the department effectively.		
Garden Route District Municipality		
• The Waste Act requires that a waste management officer is designated for each municipality • The Waste Act requires municipalities to keep separate financial statements including a balance sheet of services provided • All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs (NWMS, 2011)	• There are currently only three employees at the District Waste Management department. • There are insufficient employees to roll out all the projects identified in this IWMP • There are insufficient employees to manage the GRWMIS • When the regional landfill site becomes operational additional employees will be required to oversee the management of the facility.	• A review of the GRDM organogram needs to be undertaken to identify new positions.
Bitou Local Municipality		
	• The Waste Manager has not been designated as an WMO in terms of the waste act • There are a number of unfilled positions in the waste management organogram. The	• The Waste Manager needs to be designated as a WMO in terms of the Waste Act. • The BLM needs to review the organogram and prioritise positions which need to be filled. • The BLM is in the process of undertaking a full cost account exercise. Once

Legislated Requirements/ Best Practice	Gaps	Needs
	shortage of employees prevents functions from being undertaken correctly • A full cost accounting exercise to determine the actual cost of the waste management function has not been undertaken.	the exercise is complete, the BLM must ensure cost reflective tariffs are implemented.
George Local Municipality		
	• There are 234 unfilled position in the waste management organogram. The shortage of employees may prevent functions from being undertaken correctly • GLM does not track the volume of waste collected from all businesses, this is potentially a loss of revenue. • GLM has not yet undertaken a full cost accounting exercise to determine if waste tariffs are correct	• The GLM needs to review the organogram and prioritise positions which need to be filed. • GLM need to undertake a review of waste management tariffs which is informed by a full cost accounting exercise • GLM need to implement either a manual or automated system for tracking waste collected from businesses. This information will need to be checked against the tariffs charged to business.
Hessequa Local Municipality		
	• There is currently only one EMI in the HLM. • There are insufficient permanent staff to man landfill sites and undertake awareness campaigns • The Waste Manager lack administrative and technical support. • The HLM is currently making a loss in the Waste management services • No full cost accounting exercise has been undertaken to determine the true cost of the waste management function	• The HLM needs to review the organogram and ensure there are sufficient positions to undertake the waste management function effectively. • The HLM needs to undertake a full cost accounting exercise. Once the exercise is complete the HLM should ensure that the 15% tariff increase is in line with the cost of waste services.
Kannaland Local Municipality		
•	• Lack of employees to fulfil waste management function. • Lack of employees on landfill sites. • Waste manager's portfolio is too broad. • Lack of experienced admin and support	• The KLLM need to review the organogram and prioritise positions which need to be filled. • The responsibilities of the waste manager need to be reviewed. • A full cost accounting exercise is needed to determine the true cost of waste management.

Legislated Requirements/ Best Practice	Gaps	Needs
	staff. • No full cost accounting exercise undertaken.	
Knysna Local Municipality		
	• Additional staff are needed – waste awareness, admin and support staff. • Current tariffs are low and not cost reflective. • No tariffs are charged for the disposal of waste at Old Place by contractors / private companies.	• The KLM need to review the organogram and prioritise portions which need to be filled. • The KLM is in the process of undertaking a full cost accounting exercise. Once the exercise is complete, the KLM must ensure that cost reflective tariffs are implemented.
Mossel Bay Local Municipality		
	• There is currently only one EMI in the MBLM. • There are 45 unfilled position in the waste management organogram. The shortage of employees may prevent functions from being undertaken correctly	• The MBLM need to review the organogram and prioritise positions which need to be filled.
Oudtshoorn Local Municipality		
	• Waste function is split between three departments (Technical services, Community Services, and Strategic Services). This introduces significant management challenges and is a key contributor to the lack of holistic waste planning and management in the OLM. • Lack data sharing between the waste functions and the GIS unit. The GIS unit was not aware of the data need sof the waste function. • No system to determine exact rolled-up waste management costs across all departments. The OLM has however undertaken a once-off waste tariff review	• The OLM should review the current organogram and structure of the waste management function. It is recommended that all key waste management functions sit in one department with oversight of the WMO. • Appointment of an WMO in terms of the Waste Act to oversee, coordinate and manage municipal waste matters and related • Waste management aspects requiring spatial mapping and analysis (e.g mapping of illegal dumping sites and waste collection rounds) should be undertaken in conjunction with the OLM GIS unit. • A system for easily determining the full waste management costs of the OLM should be developed • A review of actual waste collection pickups and the amount being billed to clients should be undertaken.

Legislated Requirements/ Best Practice	Gaps	Needs
	(GIBB, 2018) which considered the full costs of the waste service. • No review of the actual collection service offered to each client, versus the amount that they pay, has been undertaken. It is possible that certain clients (especially businesses) are not paying for the full extent of the collection service they receive.	
11. Future 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.		
Garden Route District Municipality		
	• There is a lack of an update to date documented plan which addresses the infrastructure needs of all the municipalities in the GRDM.	• The 2016 DEA&DP waste infrastructure report needs to be revised.
Bitou Local Municipality		
	• The BLM has a composting facility however, it is not operational due to the bulky waste currently stockpiled here. The BLM needs to find a solution to the bulky waste in order that this facility may be used as intended. • The BLM should pilot home composting projects. • There are no development guidelines in place which address waste management e.g. road widths to allow collection vehicles to access households and provision of waste drop-off facilities in new residential developments	• A MRF needs to be constructed at the IWMF. • Bulky waste needs to be removed from the composting facility and this facility needs to start operating. • A formalised storage area for bulky waste and HHW needs to be added to the IWMF. • Additional drop-off facilities need to be constructed. • Development guidelines need to be developed with specify waste management requirements for future developments.
George Local Municipality		
	• The GLM has not commenced with the	• GLM need to complete the construction of the a regional composting

Legislated Requirements/ Best Practice	Gaps	Needs
	development of any facilities for organic waste management. A composing facility in the GLM would require a environmental impact assessment and waste management license. This process can take up to 12 months.	facility • GLM need to undertake a waste infrastructure masterplan to identify short, medium and long term waste infrastructure needs • GLM need to consider waste services for future development within in the GLM.
Hessequa Local Municipality		
	• There is a lack of documented plan to address waste infrastructure needs of the HLM over the short, medium and long term.	• The HLM need to updated the 2016 DEA&DP waste infrastructure report.
Kannaland Local Municipality		
	• The KLLM has not commenced with the development of any facilities for organic waste management. • There is a lack of report detailing closure costs of landfill sites. • There is a lack of report on way forward for landfill sites. There is a lack of documented plan to guide the development of waste management infrastructure over the next 10 – 15 years • The remaining airspace of landfill sites in unknown, as such planning of future disposal needs cannot be undertaken.	• KLLM need to commence with planning for small composting facilities per town. • GRAP assessments and airspace analysis need to be undertaken for landfill sites. • Document plans for development of MRFs and transfer stations. • The remaining airspace of landfill sites in unknown, as such planning of future disposal needs cannot be undertaken. • Develop a landfill site management plan to ensure there is sufficient airspace for the next 30 years, this may require extension and upgrading or existing sites or construction of a new site.
Knysna Local Municipality		
	• The Knysna transfer station is poorly located and has space constraints. • No alternate facility for garden waste has been identified for when Old Place closes. • When the Simola platform is complete, there will be no site of C&DW.	• Undertake a waste masterplan to identify sites for new waste facilities. • KLM is to consider an IWMF.
Mossel Bay Local Municipality		
		• The MBLM need to implement the waste management infrastructure

Legislated Requirements/ Best Practice	Gaps	Needs
		masterplan (2019)
Oudtshoorn Local Municipality		
	• There is insufficient planning regarding the future needs for waste infrastructure particularly the need for transfer stations and drop-off centres in Oudtshoorn, Dysselsdorp and De Rust.	• OLM to consider feasibility studies on the development of transfer stations and drop-off centres.

8 Goals, Objectives and Assessment of Alternatives

Goals and objectives in an IWMP are used to address any potential shortcomings or necessary improvements identified within the current waste management system. 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.

The terminology used in the goals and objectives, and implementation plan of this report have been aligned with the DEA&DP Integrated Waste Management Planning Guideline for Waste Management Planning.

Table 72: Goals and objectives terminology as per DEA&DP Guide for Waste Management Planning

Term	Description	Example
Goal	Long term desired result which can be accomplished through various projects. Goals are not necessarily measurable but instead present a long term desired end state for the municipality. The goals will be aligned to the NWMS and the WCIWMP.	Increased waste diversion from landfill
Objective	Measurable outputs which, once completed, will contribute to the accomplishment of a goal. Objectives will have deadlines to drive their implementation.	An increase of diversion of recyclable waste from landfill by 5% to 10%.
Actions and Targets (Policies i.t.o DEADP guideline)	Smaller projects which when combined will fulfil the requirement of an objective. As with the objectives, the policies will also have deadlines for implementation. The policies are referred to alternatives in the table below as there may be more than one alternative to address an objectives.	Expand the two bag system to new areas
		Develop two buy back centres in low income areas
		Place drop-off facilities for recyclables at all existing municipal waste management facilities.

There may be more than one solution to address identified objectives through the IWMP. The table above presents preliminary actions and targets identified to meet alternatives. The following section will outline alternatives actions which can be implemented to meet alternatives.

When considering alternatives, the social, economic and environmental impacts need to be considered (DEA&DP, undated b).
According to the DEA&DP Guide to Waste Management Planning, Section B Development, Implementation and Evaluation of IWMPs, when identifying alternatives the following social criteria should be considered:

- Amenity impact – improvement of the surrounding environment
- Employment impact – job creation
- Environmental awareness – increase in environmental awareness
- Community involvement and co-operation
- Relocation of communities
- Potential for waste reduction
- Hazards which could result for alternatives considered
- Ability to accommodate changing conditions

8.1 Goals for GRDM

While the gap and needs assessment above identifies the gaps and needs for the GRDM as well as all seven local municipalities, the goals identified below are directed at the GRDM. A set of goals for each of the local municipalities has been identified and included in each of their individual IWMPs.

A total of seven goals were identified for the GRDM. The development of these goals has been informed by the situation analysis and gap and needs assessment.

1. Effective waste information management and reporting
2. Improved institutional functioning and capacity
3. Improved waste education and awareness
4. Provision of efficient and financially viable waste management services
5. Increased waste minimisation and recycling
6. Improved compliance and enforcement
7. Improved future planning

8.2 Alignment with National and Provincial Waste Management Goals

The 2011 NWMS, 2018 draft NWMS and the WCIWMP (2017), along with the status quo of waste management within the GRDM were used to inform the GRDM third generation IWMP. The objectives of these three strategies are listed below.

Table 73: Aligned of GRDM Goals with National and Provincial Goals

GRDM Goals	WCIWMP Goals	2011 NWMS	2018 NWMS
Goal 1. Effective waste information management and reporting	Goal 2. Improved integrated waste management planning and implementation for efficient waste services and infrastructure	Goal 5. Achieve integrated waste management planning	
Goal 2. Improved waste education and awareness	Goal 1: Strengthen education, capacity and advocacy towards integrated waste management	Goal 4. Ensure people are aware of the impact of waste on their health, well-being and the environment	Goal 3. South Africans are aware of waste and a culture of compliance with waste management norms and standards exists, resulting in zero tolerance of pollution, litter and illegal dumping
Goal 3. Improved institutional functioning and capacity	Goal 1: Strengthen education, capacity and advocacy towards integrated waste management	-	
Goal 4. Provision of efficient and financially viable waste management services	Goal 2. Improved integrated waste management planning and implementation for efficient waste services and infrastructure	Goal 2. Ensure the effective and efficient delivery of waste services Goal 6. Ensure sound budgeting and financial management for waste services	Goal 2. All South Africans live in clean communities with waste services that are well managed and financially sustainable
Goal 5. Increased waste minimisation and recycling	Goal 3. Effective and efficient use of resources	Goal 1: Promote waste minimisation, re-use, recycling and recovery of waste	Goal 1. Prevent waste, and where waste cannot be prevented, divert 50% of waste from landfill within 5 years; 80% within 10 years; and at least 95% of waste within 15 years through reuse, recycling, and recovery and alternative waste treatment
Goal 6. Improved compliance and enforcement	Goal 4. Improved compliance with environmental regulatory framework	Goal 7. Provide measures to remediate contaminated land Goal 8. Establish effective compliance with and enforcement of the Waste Act	Goal 3. South Africans are aware of waste and a culture of compliance with waste management norms and standards exists, resulting in zero tolerance of pollution, litter and illegal dumping
Goal 7. Improved future planning	Goal 2. Improved integrated waste management planning and implementation for efficient waste services and infrastructure	Goal 5. Achieve integrated waste management planning.	

8.3 Objectives and Alternatives for Garden Route District Municipality

The following objectives and alternatives, in context of the aforementioned goals, have been identified for the GRDM. The preferred alternatives identified in this section will be taken forward into the implementation plan.

Table 74: GRDM waste management objectives and targets

Objective	Actions and Targets	Comment on Alternatives
Goal 1: Effective waste information management and reporting		
1.1 Accurate waste information collected through the GRWMIS	1.1.1 All large general and hazardous waste generators need to be registered on the GRWMIS	There are no feasible alternatives to this project. The GRDM is the custodian of the GRWMIS. It is therefore only possible for the GRDM to drive the implementation of the system.
	1.1.2 A review of the reporting categories on the GRWMIS needs to be undertaken. These categories need to be aligned with the waste categories listed in the National Waste Information Regulations, however consideration should be given to adding a further breakdown of waste streams. The data capturing system must be designed so that rolled up data under the broad categories listed in the regulations can be reported on the IPWIS.	The alternative is for GRDM to only use the categories listed in the National Waste Information Regulation. This risks incomplete data being captured e.g. the National Waste Information Regulations have one category for C&DW. Construction and demolition waste is a diverse waste stream which includes concrete, asphalt, soil, tiles, wood etc. Reporting under one category limits the data that can be collected.
	1.1.3 The weighbridge software used at the regional landfill site needs to be compatible with the GRWMIS and IPWIS	The alternative to this project would be manual uploading of data to both systems.
1.2 The GRWMIS fully interlinked with the IPWIS	1.2.1 The GRDM to strive to link the GRWMIS needs to the IPWIS so that information uploaded to the GRWMIS is automatically uploaded to the IPWIS and SAWIS.	The Waste Management Section of DE&DP to strive to link the IPWIS to the GRWMIS.
1.3 The implementation status of the GRDM IWMP and local municipality IWMPs is regularly reviewed and the implementation status of projects is monitored.	1.3.1 Undertake annual performance reviews of this IWMP, and send reports to DEA&DP inline with the requirements of the Waste Act and section 46 of the Municipal Systems Act.	There are no feasible alternatives to this project. Submission of annual performance reports to DEA&DP is a requirement of the Waste Act and Municipal Systems Act.
	1.3.2 GRDM to add a progress report on the status of IWMPs at the quarterly waste manager forum meetings	An alternative to this project could be for the local municipalities to provide quarterly written reports to GRDM. It is deemed more suitable for verbal feedback to be given during quarterly meetings and lessons learnt

Objective	Actions and Targets	Comment on Alternatives
		to be shared between municipalities.
1.4 Effective internal management of waste related data	1.4.1 Develop an inventory of all internal waste related data sets	There is no feasible alternative to this project.
	1.4.2 Develop systems for effectively capturing and storing waste data sets identified in the above inventory, such that they are readily available	There is no feasible alternative to this project.
Goal 2: Improved education and awareness		
2.1 District wide waste awareness campaigns are well planned and executed. Sufficient awareness materials are available for the waste awareness campaigns	2.1.1 Develop an annual waste awareness calendar which is aligned with awareness campaigns planned by the local municipalities	There is no feasible alternative to this project. In order to streamline waste awareness programmes the GRDM needs to be aware of programmes being undertaken.
	2.1.2 Waste awareness campaigns are to be undertaken by trained and experienced personnel	There is no feasible alternative to this project. The GRDM needs to use suitable personnel to undertake awareness campaigns.
	2.1.3 The GRDM waste mascot is to be incorporated into future waste awareness materials to ensure standardisation across the district.	The GRDM has developed a waste mascot, and this mascot should be incorporated into the awareness materials of local municipalities. It is not deemed necessary for mascots to be developed per local municipality.
2.2 The public, business and industry are informed of what constitutes hazardous waste and how hazardous waste should be managed	2.2.1 GRDM to undertake hazardous waste awareness programmes with business and industry. These programme should focus on the hazardous cell at the regional landfill site and inform business and industry of registration requirements and companies which are authorised to use the site.	There is no alternative to this project. The no-go alternative would mean that knowledge of hazardous waste management is not improved in the GRDM and that business and industry are not informed of the proposed hazardous waste cell at the regional landfill site. Alternatives could however be considered in the way in which the programme is rolled out e.g. workshops vs open house days.
2.3 Waste awareness campaigns are mainstreamed at schools and all learners and educated on good waste management practices	2.3.1 Waste awareness campaigns to be undertaken at all schools in GRDM in collaboration with local municipalities	There is no feasible alternative to this project. The best way to reach learners with waste awareness programmes is through school programmes. Alternatives could however be considered in the way in which the programme is rolled out e.g. workshops vs open house days.
2.4 Waste awareness campaigns are audience specific and communicated using channels appropriate to the audience.	2.4.1 A public perception survey on waste management to determine the public knowledge of waste management and preferred methods for engagement in terms of waste awareness messages (social media vs meetings vs flyers) to be undertaken by GRDM in collaboration with local municipalities	An alternative to this project would be for the GRDM and local municipalities to continue with their current method of waste awareness programmes. There is a risk that the current method being used is not the most effective in raising waste awareness.
Goal 3: Improved institutional functioning and capacity		
3.1 The GRDM has sufficient well capacitated employees to undertake the	3.1.1 The GRDM to review the current organogram and ensure it is aligned with the roles required to manage	The alternative to this project would be to outsource additional functions such as management of the regional site and management of the GRWMIS.

Objective	Actions and Targets	Comment on Alternatives
district waste management role and to manage the new regional landfill site and roll out the full implementation of the GRWIS	the district waste management function and the regional landfill site management.	This is not deemed as a suitable alternative as the GRDM should focus on building expertise internally and the cost to outsource will likely be higher than to appoint an employee.
	3.1.2 The GRDM to identify training needs of employees and implement training	There is no feasible alternative to this project.
	3.1.3 Dedicated employees for waste education and awareness to be appointed, and key performance indicators (KPIs) to be included in their formal job descriptions	An alternative to this project could be to outsource the waste awareness function but this is a core waste function and hence best handled internally.
	3.1.4 Implementation of the IWMP to be added as KPIs to the District Waste Manager or WMOs performance evaluation criteria.	An alternative could be to not have any KPIs relating to IWMP implementation but this risks failure to implement the IWMP.
3.2 Information sharing is maximised in the GRDM and regular meetings are held to build relationships between the district and local municipalities.	3.1.5 GRDM continued to host quarterly waste management forum meetings and rotate the venue between local municipalities to increase participation.	There is no feasible alternative to this project.
Goal 4: Provision of efficient and financially viable waste management services		
4.1 Cost reflective tariffs are charged to local municipalities and businesses for use of the regional site	4.1.1 Waste disposal tariffs are to be informed by a full cost accounting exercise, and tariffs to be reviewed annually to determine if they are still appropriate.	There is no feasible alternative to this project. The GRDM must ensure cost reflective tariffs are charged.
4.2 Budget is determined and allocated for the closure and rehabilitation of waste management facilities	4.2.1 GRAP assessments of the regional landfill site are to be undertaken on an annual basis and an annual contribution is to be made into a vote for the closure and rehabilitation of the landfill site	There is no feasible alternative to this project. There is a legal requirement to undertake GRAP assessments annually and the assessment must be done by an independent party.
Goal 5: Increased waste minimisation and waste diversion from landfill		
5.1 The diversion of recyclables from waste destined for landfill is increased.	5.1.1 GRDM to finalise the district waste minimisation plan	An alternative to this would be for each local municipality to develop their own waste minimisation plan, however this would result in a continued uncoordinated approach to waste minimisation in the district.
	5.1.2 GRDM to assist KLLM and OLM with the roll out of pilot separation at source programmes	The GRDM can provide a guidance role to the OLM and KLLM in terms of initiating separation at source programmes. An alternative to separation at source programmes would be the provision of drop-off facilities in the local municipalities. The GRDM is not in the financial position to assist with funding development of such facilities.

Objective	Actions and Targets	Comment on Alternatives
5.2 The diversion of organic waste from landfill is increased	5.2.1 Pilot home composting programme to be rolled out in all municipalities	Alternative projects to divert organic waste from landfill could include implementing a composting facility at the regional landfill site. This was considered by the GRDM but due to transportation costs associated with transporting green waste to a site in Mossel Bay it is considered more viable for each local municipality to develop their own composting facilities. This will also allow local jobs to be created.
Goal 6: Improved compliance and enforcement		
6.1 The regional landfill site is operated according with license conditions	6.1.1 The GRDM to undertake internal audits to review the compliance status of the regional landfill site	There is no feasible alternative to this project. The license for the regional landfill site requires that internal audits are undertaken.
	6.1.2 All relevant GRDM employees to be trained on auditing principals to allow them to undertake internal audits	The alternative to this project would be to not train employees in auditing principals. The risk is that the audits undertaken internally would not be aligned with DEA&DPs requirements
	6.1.3 Annual external audits undertaken of the regional landfill site	There is no feasible alternative to this project. The license for the regional landfill site requires that external audits are undertaken.
	6.1.4 GRDM to monitor the management of the regional landfill site on a daily basis	The alternative to this project would be appoint a consultant to monitor the day-to-day operations of the service provider responsible for the landfill site. This is not deemed as a suitable alternative as the GRDM should focus on building expertise internally and the cost to outsource will likely be higher than to appoint an employee.
6.2 The GRDM waste management by-laws are enforced	6.2.1 GRDM to ensure there are sufficient employees to enforce the district by-laws	There are no feasible alternatives to this project. The role of compliance and enforcement cannot be outsourced.
Goal 7: Improved future waste Infrastructure planning		
7.1 Plans are in place to guide the development of waste management infrastructure which is required to meet national and provincial waste diversion targets	7.1.1 The GRDM to facilitate the update of the 2016 DEA&DP waste infrastructure plan for the district.	An alternative to this project would be for all local municipalities to undertake their own infrastructure plans, however costs can be saved through appointing one service provider to update the plans for all seven local municipalities.
	7.1.2 The GRDM to ensure that there is budget available in 5 years for the review of the IWMP.	The alternative to this project would be for the GRDM to undertake the review of the IWMP in-house. At present based on the current organogram there are insufficient employees available to undertake the review of the IWMP. This may change in the future and before a service provider is appointed the ability to undertake the review in-house should be determined.

9 Implementation Plan

The following section contains an implementation plan. The implementation plan outlines the following per project:

- Project priority
- Timeframes
- Anticipated budget
- Responsibility for implementation of the project
- Potential funding sources

Projects will be assigned a priority from low to high. While all projects in the implementation plan should be implemented, in the event that budget for waste project is cut the high priority projects should be implemented before low priority projects.

Table 75: Implementation Plan

No.	Action	Priority	Timeframe	Budget	Funding source	Responsibility
Goal 1: Effective waste information management and reporting						
Objective 1.1 Accurate waste information collected through GRWMIS						
1.1.1	GRDM to register all large general and hazardous waste generators on GRWMIS	Medium	2020/21	Nil. To be undertaken internally	N/A	GRDM
1.1.2	GRDM to review waste categories used on the GRWMIS. The data capturing system must be designed so that rolled up data under the broad categories listed in the National Waste Information Regulations can be reported on the IPWIS.	Medium	2021/22	Nil. To be undertaken internally	N/A	GRDM
1.1.3	GRDM to ensure the weighbridge software is compatible with the GRWMIS and IPWIS	Medium	2021/22	Nil. To be undertaken internally	N/A	GRDM
Objective 1.2 The GRWMIS fully interlinked with the IPWIS						
1.2.1	GRDM to strive to ensure the GRWMIS is linked to the SAWIS so that information uploaded to the GRWMIS is automatically uploaded to the IPWIS.	High	2020/2025	Nil. To be undertaken internally	N/A	GRDM & DEA&DP
Objective 1.3 The implementation status of the GRDM IWMP is regularly reviewed and the implementation status of projects is monitored.						
1.3.1	Undertake annual performance reviews of this IWMP, and send reports to DEA&DP	High	2020 - 2025	Nil. To be undertaken internally	N/A	GRDM
1.3.2	GRDM to add an item to the agenda of the quarterly waste manager	Medium	2020 - 2025	Nil. To be undertaken	N/A	GRDM & local

No.	Action	Priority	Timeframe	Budget	Funding source	Responsibility
	forum meeting on IWMP implementation progress.			internally		municipalities
Objective 1.4 Effective internal management of waste related data						
1.4.1	Develop an inventory of all internal waste related data sets	Medium	2020/21	Nil (if undertaken internally). Up to R100,000 if undertaken externally	N/A	GRDM
1.4.2	Develop systems for effectively capturing and storing waste data sets identified in the above inventory, such that they are readily available	Medium	2020/21	Nil. To be undertaken internally. Included in above costs if undertaken externally.	N/A	GRDM
Goal 2: Improved education and awareness						
Objective 2.1 District wide waste awareness campaigns are well planned and executed. Sufficient awareness materials are available for the waste awareness campaigns						
2.1.1	Develop an annual waste awareness calendar which is aligned with awareness campaigns planned by the local municipalities *(to be developed at the beginning of each financial year)*	High	2020 – 2025	Nil. To be undertaken internally	N/A	GRDM & local municipalities
2.1.2	Waste awareness campaigns are to be undertaken by trained and experienced personnel	High	2020 - 2025	Appointment of two dedicated resources (~R200,000pppa)	GRDM Budget or sourced from National or Provincial Programmes	GRDM
2.1.3	The GRDM waste mascot is to be incorporated into future waste awareness materials	High	2020 - 2025	Nil. To be undertaken internally	N/A	GRDM & local municipalities
Objective 2.2 The public, business and industry are informed of what constitutes hazardous waste and how hazardous waste should be managed						
2.2.1	GRDM to undertake hazardous waste awareness programmes with business and industry. These programme should focus on the hazardous cell at the regional landfill site and inform business and industry of registration requirements and companies which are authorised to use the site	Medium	2020/21	R50,000 – cost for advertising, venues and catering for meetings/ workshops	GRDM budget	GRDM
2.2.2	GRDM in collaboration with local municipalities to implement a household hazardous waste management programme and service	Medium	2020 - 2025	TBC	-	GRDM & local municipalities
Objective 2.3 Waste awareness campaigns are mainstreamed at schools and all learners and educated on good waste management practices						
2.3.1	Waste awareness campaigns to be undertaken at all schools in GRDM	High	2020 - 2025	No additional labour cost if the same	GRDM Budget or sourced from	GRDM & local municipalities

No.	Action	Priority	Timeframe	Budget	Funding source	Responsibility
				resources listed under 2.1.2 fulfil this role. A travel budget for waste Education Staff Members would also be required.	National or Provincial Programmes	
Objective 2.4 Waste awareness campaigns are audience specific and communicated using channels appropriate to the audience						
2.4.1	GRDM, in consultation with local municipalities to undertake a public perception survey on waste management to determine the public knowledge of waste management and preferred methods for engagement in terms of waste awareness (e.g. social media vs meetings vs flyers etc.)	Low	2022/23	R500,000	GRDM budget	GRDM & local municipalities
Goal 3: Improved institutional functioning and capacity						
Objective 3.1 The GRDM has sufficient well capacitated employees to undertake the district waste management role and to manage the new regional landfill site and roll out the full implementation of the GRWMIS						
3.1.1	The GRDM to review the current organogram and ensure it is aligned with the roles required to manage the district waste management function and the regional landfill site management.	High	2020/21	Nil. The review of the organogram can be undertaken internally. Budget will be required to fill vacancies	N/A	GRDM
3.1.2	The GRDM to identify training needs of employees and implement training	High	2020 – 2025 (annually)	Nil. No budget will be required to identify training needs	N/A	GRDM
3.1.3	GRDM to implement the training needs of employees identified in 3.1.2	High	2020 - 2025	The training costs will be depend on identified course. An average budget of ~R10.000/ course/person should be allocated. Some courses e.g. DEA&DP courses will be free of charge	GRDM budget	GRDM

No.	Action	Priority	Timeframe	Budget	Funding source	Responsibility
3.1.3	Implementation of the IWMP to be added as KPIs to the District Waste Manager or WMOs performance evaluation criteria.	High	2020/21	Nil.	N/A	GRDM
Objective 3.2 Information sharing is maximised in the GRDM and regular meetings are held to build relationships between the district and local municipalities						
3.2	GRDM to continue with quarterly waste management officers forum meetings	Medium	2020 - 2025	Nil.	GRDM budget	GRDM & local municipalities
Goal 4: Provision of efficient and financially viable waste management services						
Objective 4.1 Cost reflective tariffs are charged to local municipalities and businesses for use of the regional site						
4.1.1	Waste disposal tariffs are informed by a full cost accounting exercise, tariffs are reviewed annually to determine if they are still accurate.	High	2020/21 (reviewed annually)	Nil	N/A	GRDM
Objective 4.2 Budget is determined and allocated for the closure and rehabilitation of waste management facilities						
4.2.1	GRAP assessments of the regional landfill site are undertaken on an annual basis and an annual contribution is made into a vote for the closure and rehabilitation of the landfill sites	High	2020 - 2025	R 60,000 per annum. The cost will include a tachometric survey to determine remaining airspace		GRD
Goal 5. Increased waste minimisation and waste diversion from landfill						
Objective 5.5 The diversion of recyclables from waste destined for landfill is increased						
5.1.1	GRDM to finalise the district waste minimisation strategy	High	2020	R800,000	GRDM budget	GRDM
5.1.2	GRDM to assist KLLM and OLM with the roll out of pilot separation at source programmes	Medium	2020/21	Nil. To be undertaken in-house	N/A	GRDM
Objective 5.2 The diversion of organic waste from landfill is increased						
5.2.1	Pilot home composting programme to be rolled out in all municipalities	Medium	OLM & BLM – 2020/21 KLLM – 2021/2022	OLM & BLM – R60,000 KLLM –R30,000	GRDM and local municipalities budgets	GRDM and local municipalities
Goal 6. Improved compliance and enforcement						
Objective 6.1 The regional landfill site is operated according with license conditions						
6.1.1	The GRDM to undertake internal audits to be undertaken to review the compliance status of the regional landfill site	High	2020 - 2025	Nil. To be undertaken internally	N/A	GRDM
6.1.2	All relevant GRDM employees to be trained on auditing principals to allow them to undertake internal audits	Medium	2020/21	R6,000/person/ course		GRDM
6.1.3	Annual external audits undertaken of the regional landfill site	High	2020 -2025	R40,000/ annum excluding	Private partner budget	GRDM & private partner

No.	Action	Priority	Timeframe	Budget	Funding source	Responsibility
				tachomateric surveys, airspace determination and monitoring		
6.1.4	GRDM to appoint an additional employee to monitor the management of the regional landfill site on a daily basis	High	2020 - 2025	R350,000/ annum	GRDM budget	GRDM
6.2 The GRDM waste management by-laws are enforced						
6.2.1	GRDM to ensure there are sufficient employees to enforce the district by-laws	Medium	2020 - 2025	R250,000/ employee		
Goal 7. Improved future infrastructure planning						
7.1 Plans are in place to guide the development of waste management infrastructure which is required to meet national and provincial waste diversion targets						
7.1.1	The GRDM to facilitate the update of the 2016 DEA&DP waste infrastructure plan for the district.	Medium	2020/21	R1,260,000 (R180,000/ municipality)	Local municipalities	GRDM & local municipalities

10 Monitoring

The IWMP planning cycle developed by DEFF includes monitoring and review as one of the six planning stages.

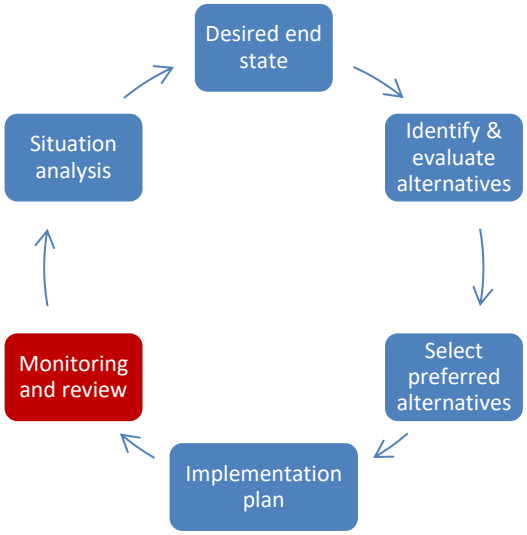

Figure 37: IWMP planning phases as per the Guideline for the Development of Integrated Waste Management Plans (DEA)

Section 13 (3) of Waste Act notes the requirement in Section 46 of the Municipal Systems Act (32 of 2000) for municipalities to compile annual performance reports. Section 13 also specifically requires that progress reports must consider implementation of the IWMP including:

(a) the extent to which the plan has been implemented during the period;
(b) the waste management initiatives that have been undertaken during the reporting period;
(c) the delivery of waste management services and measures taken to secure the efficient delivery of waste management services, if applicable;
(d) the level of compliance with the plan and any applicable waste management standards;
(e) the measures taken to secure compliance with waste management standards;
(f) the waste management monitoring activities;
(g) the actual budget expended on implementing the plan;
(h) the measures that have been taken to make any necessary amendments to the plan;

These annual reviews should culminate in a formal review report which should be made available to the provincial authorities. The annual review of the IWMP should also be incorporated into the GRDM's integrated annual report.

A full review of the IWMP should be undertaken in 2025, however intermediate reviews may also be required if the status quo of waste management changes significantly before 2025.

11 References

Anél Blignaut Environmental Consultants cc, 2012. Final Environmental Impact Report, the proposed Eden regional waste disposal facility

CSIR (2012) The formal South African waste sector (2012) It's contribution to the economy, employment and innovation

Department of Environmental Affairs and Development Planning (undated) Integrated Waste Management Planning (IWMP) A Guide for Waste Management Planning. Volume 1: Conducting a Status Quo Analysis

Department of Environmental Affairs and Development Planning (undated b) Integrated Waste Management Planning (IWMP) A Guide for Waste Management Planning. Volume 1: Development, Implementation and Evaluation of IWMPs

Department of Environmental Affairs, undated. Appropriate technology for advanced waste treatment – guideline

Department of Environmental Affairs and Development Planning (2018) Waste Awareness Strategy

Department of Environmental Affairs and Development Planning (2017) Position Paper on the Provision of Municipal Waste Management Services within the Context of Rapid Urbanisation

Department of Environmental Affairs and Development Planning (2017) Position Paper on the Regionalisation of Waste Management Services

Department of Environmental Affairs and Development Planning (2017) Position Paper on Organic Waste

Eden District Municipality (undated) Integrated Development Plan, Final Reviewed 2018/19 – 2021/2022

Eden District Municipality (2016) Waste Characterisation Study Bitou Municipality, Final Report, 2016

Eden District Municipality (2016). Waste Characterisation Study Knysna Municipality, Final Report, 2016

Eden District Municipality (2015). Waste Characterisation Study Mossel Bay Municipality, Final Report, 2016

Eden District Municipality (2018). Waste Characterisation Study George Municipality, Final Report, 2018

Knysna Municipality: Integrated Waste Management Plan (2nd Generation). Jan Palm Consulting Engineers. 2014.

Knysna Municipality Integrated Waste Management By-Law, 2014. [http://www.knysna.gov.za/wp-content/uploads/2012/12/Intergrated-Waste-management-bylaws.pdf] accessed on 20 May 2019.

Knysna Municipality: Draft Annual Budget for 2017/2018 MTREF: 2017/2018 to 2019/2020 Medium Term Revenue and Expenditure Framework [http://www.knysna.gov.za/wp-content/uploads/2014/10/WC048_2017-18-MTREF_Draft-Budget.pdf] accessed on 20 May 2019

Mossel Bay Local Municipality (2019) Waste Infrastructure Masterplan

PETCO (2017) Press Release, 11% committed to recycling, research finds & PETCO (2018) PETCO Consumer Research Results March 2017

SAWIC waste tonnage reports [http://sawic.environment.gov.za/index.php?menu=15] accessed on 15 May 2019

Stats South Africa, Knysna Municipality Census data [http://www.statssa.gov.za/?page_id=993&id=knysna-municipality] accessed 10 May 2019

Strydon W.F & Godfrey L.K. (2016) Households waste recycling behaviour in South Africa – has there been progress in the last 5 years? Presented at WasteCon 2016, Emperors Palace, Johannesburg

Western Cape Government (2018) Socio-Economic profile Garden Route District Municipality, 2018
Western Cape Provincial Treasury (2018a). Municipal Economic Review and Outlook 2018

Western Cape Provincial Treasury (2018b). Provincial Economic Review and Outlook 2018

Web reference 1: National Treasury, 2018 Division of Revenue Bill Schedules and Annexures in Excel Format http://www.treasury.gov.za/documents/national%20budget/2018/2018%20Division%20of%20Revenue%20Bill%20Schedules%20and%20Annexes%20in%20Excel%20format.xlsx accessed on 20 May 2019

Appendix A: Waste Legislation

Introduction

South Africa has a host of legislated acts, policies and guidelines relating to waste management, the most significant of these being the newly promulgated National Environmental Management: Waste Act (58 of 2008) which is now the countries central piece of legislation dealing with waste management. There are also certain relevant international conventions to which South Africa subscribes. This section discusses these acts, policies, guidelines and conventions thereby providing a context to waste policy and legislation. Where applicable it highlights aspects of these acts and policies which apply specifically to the local government authorities.

This section is not exhaustive but presents the broader legislative framework and highlights the more important aspects thereof.

International conventions

Basel Convention on the control of trans-boundary movement of hazardous wastes and their disposal

The Basel Convention (1989) is a global agreement which seeks to address the trans-boundary movement of hazardous waste. The convention is centred on the reduction of the production of hazardous waste and the restriction of trans-boundary movement and disposal of such waste. It also aims to ensure that strict controls are in place when any trans-boundary 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 during May 1992 after ratification by the prerequisite number of countries. South Africa ratified the Convention in 1994, with 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 8 October 2005, set standards for the control of trans-boundary movements of hazardous wastes and their disposal, setting out the categorization of hazardous wastes and the policies for their disposal between member countries. South Africa accedes to this convention and implements its provisions.

The key objectives of the Basel Convention are:

- To minimise the generation of hazardous wastes in terms of quantity and hazardousness.
- To dispose of hazardous waste as close to the source of generation as possible.
- To reduce the movement of hazardous wastes.
- Locally, draft regulations are being prepared in an effort to control the movement of such waste.

The most significant provisions of the Convention relate to the ban on certain importations and exportations; illegal traffic, bilateral, multilateral and regional agreements and the control system of the Convention.

The Basel Convention contains specific provisions for the monitoring of implementation and compliance. A number of articles in the Convention oblige parties (national governments which have acceded to the Convention) to take appropriate measures to implement and enforce its provisions, including measures to prevent and punish conduct in contravention of the Convention.

Rotterdam Convention

The Rotterdam Convention was held in September 1998 to promote shared responsibilities in relation to importation of hazardous chemicals. One of the key provisions is the Prior Informed Consent procedure, which lists information on hazardous chemicals in Annex III. It became legally binding for its parties in 2004. The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling, and inform purchasers of any known restrictions or bans. Parties can decide whether to allow or ban the importation of chemicals listed in the treaty, and exporting countries are obliged to

make sure that producers within their jurisdiction comply. From this convention a PIC circular is distributed every six months giving updated information on the listed chemicals, member compliance and sources of supporting information.

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, i.e. identified highly toxic, persistent chemicals.

The 12 POPs that have been identified under the convention are aldrin, chlordane, dieldrin, dichloride-diphenyl-trichloroethane (DDT), endrin, Hexachlorobenzene (HCB), heptachlor, mirex, polychlorinated biphenyls (PCBs), toxaphene, dioxins, and furans. Of the aforementioned substances, two are still used in South Africa today (DDT and PCBs), although their use is restricted under the 'Fertiliser Act' as administered by the Department of Agriculture. The above list of chemicals is relevant, especially where there is any management of obsolete and banned pesticides.

South Africa negotiated the continued use of DDT, as it has proved critical in the fight against malaria, and PCBs will be phased out as the electrical appliances that contain them become obsolete.

In 2005 South Africa, at the Reduce, Reuse and Recycle Ministerial Conference, became one of 7 countries to sign an agreement for the African Stockpile Programme, a project aimed at recovering and the appropriate disposal of obsolete pesticides. With funding ($1,7million) from the World Bank, government began implementing the programme.

The country is also developing guidelines for the implementation of the Globally Harmonised System of Classification and Labelling of Chemicals. The funding was for the disposal of obsolete pesticides as part of the African Stockpile Programme. The department has begun implementing this programme throughout the country. Further work on training workers to handle chemicals was rolled out.

By mid-2007, a pilot project for the collection of all obsolete pesticides possessed by farmers in the Limpopo Province had begun, and this involved, amongst others, identification of collection points and collection of obsolete pesticides within the province. These stocks were further consolidated from various collection points to a central collection point and ultimately safeguarded and shipped to Holfontein Waste Disposal Site for temporary storage. The inventory of pilot project stocks has been undertaken. About 100 tons of labelled and unlabeled stocks of obsolete pesticides have been collected through this pilot project. The pilot project is expected to serve as a benchmark for the roll-out of projects in other provinces.

However, as the amount of obsolete pesticide stocks collected from the Limpopo pilot project is significantly higher than what was anticipated, it has become apparent that the remaining funds in the World Bank African Stockpile Programme budget will not be sufficient for national rollout of the programme. The African Stockpile Programme Project Management Unit has had numerous deliberations in an effort to come up with a sustainable solution for management of pesticides in the country1.

London Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matters

The London Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter, 1972, aims to prevent marine pollution by preventing the dumping of wastes such as industrial waste, sewage sludge, dredged

material and radioactive waste at sea, as well as incineration at sea. South Africa is a signatory to the convention and the associated 1996 Protocol.

This convention and its various protocols were incorporated into the following South African legislation:

- Prevention of Pollution from Ships Act (Act 2 of 1986), and the regulations concerning the Prevention of Pollution by Garbage from Ships Regulations (GN R1490, published in Government Gazette No. 14000, dated 29 May 1992).
- The Dumping at Sea Control Act (Act 73 of 1980).

The primary responsible agency is the DEAT Sub Directorate of Marine and Coastal Pollution Management who issue permits for dredge spoils and sinking of old vessels. It occasionally issues permits for ships in trouble, typically grounded, to release their cargo into the sea.

Local Agenda 21

Agenda 21 is a comprehensive document for global action on the environment and sustainable development, to take the world into a more sustainable 21st century. It is probably the most important document to be adopted by the UN Conference on the Environment and Development (UNCED) at the Rio de Janeiro Summit in June 1992. The 40 chapters covered a wide range of issues including the atmosphere, oceans, land resources, poverty, etc.

It was important for each nation to develop its own local Agenda 21, in order to translate and interpret the principles of sustainable development to local areas. Local Agenda 21 focuses on developing partnerships involving the public, private and community sectors that together can resolve urban environmental management problems and strategically plan for long term sustainable environmental management.

One of the key features of sustainable development is the requirement to integrate economic and environmental factors into all decision making processes. Applications of these criteria to waste management require a new emphasis on resource and energy conservation, ensuring that supplies of raw materials, sources of energy and the quality of the physical environment can be maintained. Agenda 21 initiatives are considered to be an essential vehicle for the implementation of various aspects of the IWMP.

The key goals of Agenda 21 are:

- Sustainable development.
- Eradication of poverty.
- Elimination of threats to the environment.
- To ensure a sustainable environment.
- Creation of sustainable job opportunities.

The focus of the IWMP is to strive to attain the above goals in all facets thereof. The following seven key activities require attention in order to satisfy Local Agenda 21.

(a) Activities within the Local Authority

(i) Garnering local political support

- Information sessions and workshops.
- Reports and presentation to committees.
- Physical involvements in projects.

(ii) Managing and improving local authorities own environmental performance.

- Corporate commitment.
- Staff training and creating awareness.
- Environmental management systems.
- Budgeting for environmental processes.
- Policy integration across all sectors.

(iii) Integrating sustainable development aims within local authorities' policies and activities

- Economic development.
- Tendering and purchasing.
- Tourism and visitor strategies.
- Health strategies.
- Welfare, equal opportunities and poverty strategy.
- Focused environmental services.

(b) Activities within the wider community

(i) Awareness raising and education

- Support for environmental education.
- Awareness-raising events.
- Visits and talks.
- Support for voluntary groups.
- Publication of local information.
- Press releases.
- Initiatives to encourage behavioural change and practical actions.

(ii) Consulting and involving general public

- Public consultation processes.
- Interaction with NGO's/forums.
- Focus groups.
- Feedback mechanisms

(iii) Forging partnerships with other interest groups and activities, such as:

- Meetings, workshops and conferences.
- Working groups/advisory groups.
- Round table discussions.
- Comprehensive Urban Plan.
- International and regional partnerships.

(iv) Measuring, monitoring and reporting on progress toward sustainability

- Environmental monitoring.
- Sustainability indicators.
- Targets.
- Environmental Impact Assessments.
- Strategic Environmental Assessment.

South African Legislation

Constitution of the Republic of South Africa

The South African Constitution (Act 108 of 1996) is the supreme law of South Africa. Any law or conduct that is inconsistent with it, is invalid, and the obligations imposed by it must be fulfilled. Therefore, as such, all law, including environmental and waste management planning must consider compliance with the Constitution of South Africa.

The Constitution contains a Bill of Rights, set out in Sections 7 to 39. The Bill of Rights applies to all law and binds the legislature, the executive, the judiciary and all organs of state. A provision of the Bill of Rights binds a natural or a juristic person if, and to the extent that it is applicable, taking into account the nature of the right and the nature of the duty imposed by the right.

Section 24 of the Constitution guarantees everyone the right to:

An environment that is not harmful to their health or wellbeing; and to have an environment protected for the benefit of present and future generations, through reasonable legislative and other measures that:

- Prevent pollution and ecological degradation.
- Promote conservation. and
- Secure ecologically sustainable development and use of natural resources while promoting justifiable economic or social development.

The environmental rights (section 24), is strengthened by other relevant fundamental rights, such as the rights of access to information and administrative justice.

(c) National and Provincial authority competence

General obligations imposed by the constitution on national and provincial government institutions are adjudicated, as the Constitution establishes an administrative framework for all organs of state. The national and provincial governments are concurrently entitled to legislate on matters stipulated in Schedule 4 of the Constitution. Both spheres of government have legislative competence over areas that will impact on management in the natural/urban interface, like environment, disaster management, nature conservation and pollution control, and would therefore also frame related matters such as waste management. It should also be noted that the Constitution contemplates the assignment, from national Government to the provinces, of functions that would normally be the exclusive preserve of the former.

Subsection 24(b) of the Constitution relates to the constitutional imperative requiring government to enact appropriate environmental law reform legislation. This led to the promulgation of the National Environmental Management Act (Act 107 of 1998, NEMA)2 and the National Water Act (Act 36 of 1998)3 amongst others. More specifically to the objective of this framework is the National Environmental Management: Waste Act, which was recently enacted4.

Important to the development of a local integrated waste management strategy and plan is that in accordance with Section 155(6) of the Constitution each provincial government must establish municipalities in its province and, by legislative or other measures, must –

(1) provide for the monitoring and support of local government in the province; and
(2) promote the development of local government capacity to enable municipalities to perform their functions and manage their own affairs.

Furthermore in according to Section 155(7) the national government and the provincial governments have the legislative and executive authority to see to the effective performance by municipalities of their functions in respect of matters listed in Schedules 4 and 5, by regulating the exercise by municipalities of their executive authority referred to in section 156 (1).

(d) Local authority competence

National and provincial government are both obliged, by legislative and other measures, to support and strengthen the capacity of municipalities to manage their affairs, to exercise their powers and perform their functions within the individual municipal jurisdiction. This responsibility is covered in Chapter 7:

In terms of section 152 of the Constitution the objects of local government are to:

- Provide democratic and accountable government for the local community.

- Ensure the provision of services to communities in a sustainable manner.
- Promote social and economic development.
- Promote a safe and healthy environment. and
- Encourage the involvement of communities and community organisations in the matters of local government.

A municipality must in terms of section 153 structure and manage its administration and budgeting and planning processes to give priority to the basic needs of the community and participate in national provincial development programmes.

National and provincial government are also obliged to assign to a municipality, by agreement and subject to any conditions, the administration of matters listed in the relevant parts of Schedules 4 and 5 and any other matter which would be most effectively administered locally, provided that the municipality has the capacity to administer it. A municipality has the right to exercise any power concerning a matter reasonably necessary for, or incidental to, the effective performance of its functions.

Those areas of the urban/natural interface zone that fall within the legislative and jurisdictional competence of provincial or local authorities (for example a road reserve or urban areas that border a park) fall to be regulated by those authorities. The Constitution aims to co-ordinate the different levels of government and the management of the issues which the public institutions constituted or confirmed by them are charged with governing. This requires co-operation on the part of different organs of state. The above statements become pertinent to waste management as it sets the context of the administrative activities convened at the Local government level. In addition, related to local government in terms of section 152(1)(d) of the constitution, one of the objectives of local government is "to promote a safe and healthy environment".

Municipalities are further charged with making, administering and enforcing by-laws for the effective administration of the matters of which they have the right to administer. Any bylaw that conflicts with national or provincial legislation is deemed invalid. In accordance with Section 160(4) no bylaw may be passed by a Municipal Council unless all the members of the Council have been given reasonable notice; and the proposed by-law has been published for public comment. Furthermore, in accordance with Section 162 no bylaw may be enforced unless it has been published in the relevant official provincial gazette and the bylaw must be accessible to the public.

National Environmental Management Act

The National Environmental Management Act (Act 107 of 1998) commonly known as "NEMA" gives effect to the "Environmental Right" of the Constitution and is South Africa's overarching framework for environmental legislation. The objective of NEMA is to provide for operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance, and procedures for co-ordinating environmental functions exercised by organs of state. An important function of the Act is to serve as an enabling Act for the promulgation of legislation to effectively address integrated environmental management.

NEMA sets out a number of principles that aim to implement the environmental policy of South Africa. These principles are designed to serve as a framework for environmental planning, as guidelines by which organs of state must exercise their functions and to guide other laws concerned with the protection or management of the environment.

The principles include a number of internationally recognized environmental law norms and some principles specific to South Africa. These core principles include:

- Accountability.
- Affordability.
- Cradle to Grave Management.
- Equity.
- Integration.
- Open Information.

- Polluter Pays.
- Subsidiary.
- Waste Avoidance and Minimisation.
- Co-operative Governance.
- Sustainable Development.
- Environmental Protection and Justice.

Chapter 2: Sections 3 to 6 of NEMA, make provision for the establishment of the Committee for Environmental Co-ordination. The objective of the committee is to promote the integration and co-ordination of environmental functions by the relevant organs of state and in particular to promote the achievement of the purpose and objectives of environmental implementation plans and environmental management plans.

Chapter 5: Sections 23 to 24 of NEMA is designed to promote integrated environmental management and provide tools for integrating environmental activities. Environmental management must place people and their needs at the forefront of its concerns, and serve their physical, psychological, developmental, cultural and social interests equitably. . This chapter of NEMA requires any activity that can potentially impact on the environment, socio-economic conditions and cultural heritage require authorisation or permission by law and which may significantly affect the environment, must be considered, investigated and assessed prior to their implementation and reported to the organ of state charged by the law with authorising, permitting or otherwise allowing the implementation of an activity. Development must be socially, environmentally and economically sustainable. Sustainable development therefore requires the consideration of all relevant factors, some of which include the following:

- The disturbance of ecosystems and loss of biological diversity is to be avoided, or, minimised and remedied.
- The pollution and degradation of the environment are to be avoided, or, minimised and remedied.
- Waste is to be avoided, or, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner.
- A risk-averse and cautious approach is to be applied.
- Negative impacts on the environment and on the people's environmental rights must be anticipated and prevented, and where they cannot be altogether prevented, must be minimised and remedied.

Section 24(5) of NEMA was enacted through the promulgation of the Environmental Impact Assessment (EIA) Regulations published in 2006 and revised in 2010. The construction of facilities or infrastructure including associated structures or infrastructure for the recycling, re-use, handling, temporary storage or treatment of general waste and hazardous waste, were originally listed in these regulations and therefore required either a Basic Assessment or a Scoping and EIA Process to be followed depending on specific listed criteria. However, the above mentioned waste activities have now been repealed and instead require a license application under the Waste Act.

Chapter 7: Sections 28 to 30, imposes a duty of care in respect of pollution and environmental degradation. Any person who has caused significant pollution or degradation of the environment must take steps to stop or minimise the pollution. Where an incident occurs that is potentially detrimental to the environment, the person who is responsible for the incident or the employer must, within 14 days of the incident, report to the Director-General, provincial head of department and municipality. The relevant authority may specify measures to address the problem and remediate the area within 7 days. The Acts also attach consequences for breaching the duty of care, namely that government authorities are empowered to issue directions and to remediate the situation and recover costs where the directions are not complied with.

Chapter 8: Sections 35, provides that the Minister and every MEC and municipality may enter into an environmental management co-operation agreement with any person or community for the purpose of promoting compliance with the principals laid down in NEMA. Environmental Co-operation Agreements may contain an undertaking by the person or community concerned to improve the standards laid down by law for the protection of the environment and a set of measurable targets and a timeframe for fulfilling the undertaking.

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

request. The Director-General may institute programmes to assist municipalities with the preparation of By-Laws for the purposes of implementing this Act.

Environment Conservation Act

The Environment Conservation Act (Act 73 of 1989) (ECA) predates the Constitution and, although many sections have already been repealed, certain sections are still in place.

The objectives of the ECA are to provide for the effective protection and controlled utilisation of the environment. Several sections of the ECA were repealed through the enactment of NEMA and certain responsibilities were assigned to the provinces.

The Waste Act has repealed sections of the ECA dealing with waste management. More specifically these repealed sections are:

- 19: Prohibition of littering. This is now dealt with under Section 27 of the Waste Act.
- 19A: Removal of litter.
- 20: Waste Management. This section dealt with permitting of waste facilities, but is now replaced by Chapter 5 (Sections 43 – 59) of the Waste Act.

Waste management, more specifically with regard to landfill disposal site permitting and related matters, was until its recent repeal through the Waste Act, coordinated and controlled under Section 20 of the ECA, as follows.

In order to implement section 20 of the ECA, DWAF previously issued the above mention permits subject to specified conditions stipulated in the DWAF Minimum Requirements: Waste Management Series5.

- 24: This section provided the framework for waste regulations to be formulated. This issue is now covered by Chapter 8, Part 1 (Regulations) (Sections 69 – 71) of the Waste Act.
- 24A, 24B and 24C: Similarly these sections which dealt with regulations regarding littering, products, and procedures for making regulations respectively are now addressed by Chapter 8, Part 1 of the Waste Act.
- 29: Sections (3) and (4), which deal with Offences and Penalties have been substituted by the Waste Act.

Despite the fact that the Waste Act repeals section 19,19A, 20, 24, 24A 24B, and 24C of the ECA, it should be noted that in accordance with Section 80(2) of the Waste Act, any regulations or directions made in terms of these appealed sections of the ECA, remain in force and are considered to have been made under the Waste Act.

National Environmental Management: Waste Act

(a) Overview

The National Environmental Management: Waste Act (Act 59 of 2008) (NEMWA) was promulgated on 01 July 2009, marking a new era in waste management in South Africa (with the exception of a number of sections which will be brought into effect at dates still to be gazetted). The act covers a wide spectrum of issues including requirements for a National Waste Management Strategy, IWMPs, definition of priority wastes, waste minimisation, treatment and disposal of waste, Industry Waste Management Plans, licensing of activities, waste information management, as well as addressing contaminated land.

However, South African waste management legislation is still fragmented. Mining; radio-active waste; disposal of explosives; and disposal of animal carcasses, which are covered by specific other regulations is not addressed by the act. The Waste Act does however constitute South Africa's overarching primary waste legislation.

(b) Objectives of the Waste Act

The National Environmental Management: Waste Act's objectives are -
To protect health, well-being and the environment by providing reasonable measures to -

5

- Minimising the consumption of natural resources.
- Avoiding and minimising the generation of waste.
- Reducing, re-using, recycling and recovering waste.
- Treating and safely disposing of waste as a last resort.
- Preventing pollution and ecological degradation.
- Securing ecologically sustainable development while promoting justifiable economic and social development.
- Promoting and ensuring the effective delivery of waste services.
- Remediating land where contamination presents, or may present a significant risk of harm to health or the environment. and
- Achieving integrated waste management reporting and planning.
- To ensure that people are aware of the impact of waste on their health well-being and the environment.
- To provide for compliance with the measures set out in paragraph (a) and
- Generally, to give effect to section 24 of the Constitution in order to secure an environment that is not harmful to health and well-being.

The Chapters and topics of the Waste Act are as follows:
Chapter 1 - Interpretation and Principles
Chapter 2 - National Waste Management Strategy, Norms and Standards
Chapter 3 - Institutional and Planning Matters
Chapter 4 - Waste Management Measures
Chapter 5 - Licensing of Waste Management Activities
Chapter 6 - Waste Information
Chapter 7 - Compliance and Enforcement
Chapter 8 - General Matters.

(c) Roles and Responsibility

The Act establishes a national framework for waste planning, regulation and management with roles for all spheres of government, specifically:

- National government is tasked with establishing a national waste management strategy, including norms, standards and targets. National norms and standards may cover all aspects of the waste value chain, from planning to service delivery. Of particular importance from an intergovernmental perspective are the powers of national government with respect to norms and standards for:
- The regionalization of waste management services.
- Tariffs for waste services provided by municipalities, including providing for tariffs to be imposed to provide for waste management infrastructure or facilities and ensuring that funds obtained from the provision of waste services are used for the delivery of these services.
- Provincial governments are tasked with the implementation of the national waste management strategy and national norms and standards, and may set additional, complementary provincial norms and standards. The Waste Act notes that these norms and standards must amongst other things facilitate and advance regionalization of waste management services.
- Local governments are required to ensure the universal and sustainable delivery of services, subject to national and provincial regulation. In particular, they are required to maintain separate financial statements, including a balance sheet of the services provided.

The table below lists sections of the act which make specific demands on Local (municipal) government: Tasks falling under sections of the act which have yet to be enacted have not been listed. While certain sections of the text are taken verbatim from the Act, interpretation has been added.

Tasks required by governmental entities in terms of NEM:WA.

TOPIC	SECTION	REQUIREMENT
General duty	3	The state **must** put in place measures that seek to reduce the amount of waste generated, and where waste is generated, ensure that it is re-used,

TOPIC	SECTION	REQUIREMENT
		recycled and recovered in an environmentally sound manner.
Waste service standards	9 (1) & (2)	A municipality must deliver waste management services, including waste removal, storage and disposal services in adherence to the national and provincial norms and standards (section 7 and 8 of the Act); whilst: • Integrating the IWMP and IDP • Ensuring access to services • Ensuring affordable service delivery • Ensure effective and efficient Sustainable and Financial management
	9 (3)	The Municipal may furthermore set local standards: • For separating, compacting and storing waste • Management of solid waste, i.e.: Avoidance, Minimisation, Recycling • Coordination of waste to relevant treatment or disposal facilities • Litter control
Designation of Waste Management Officers	10(3)	The Municipality must designate in writing a waste management officer from its administration to be responsible for coordinating matters pertaining to waste management in that municipality
Integrated Waste Management Plans	11 (4) & (7)	• The Municipality must submit an IWMP to the MEC for approval (response from the MEC must be given within 30 days) • Include the approved IWMP into its IDP • Follow the consultative process in section 29 of the Municipal Systems Act (separately or as part of IDP)
	12	Contents for IWMP's, includes: • A situational analysis • a plan of how to give effect to the Waste Act • municipal waste management and services obligations • prioritisation of objectives • setting of targets • planning approach to any new disposal facilities; and • Financial resourcing.
	13	An annual performance report prepared in terms of section 46 of the Municipal Systems Act must contain information on the implementation of the municipal IWMP.

(d) Industry Waste Management Plans

For industries, the Waste Act states that either the Minister or the relevant provincial MEC may under certain conditions and by written notice or by notice in the Gazette require a person or industry to prepare and submit an Industry Waste Management Plan.

(e) Waste Licensing for listed Activities

The Minister has subsequently gazetted (on 03 July 2009) GN No. 718 (Gazette No. 32368) and 719 (Gazette No. 32369) which present a Waste Management Activity Lists describing those waste activities, and thresholds, which require authorisation before they are undertaken. This list was amended in 2013 (Gazette No 921 of 2013) and again in 2017 (Gazette No, 1094 of 2017). The Waste Act Schedule 1 (Section 19) identifies activities which require a waste management licence. Activities include:

- Recycling and recovery.
- Treatment of waste.

- Disposal of waste on land.
- Construction, expansion or decommissioning of facilities and associated structures and infrastructure.

Either a Basic Assessment or Scoping and Environmental Impact Assessment (EIA) process is to be carried out with regards to acquiring a licence as stipulated in the environmental impact assessment regulations made under section 24 (5) of the Waste Act).

(f) Integrated Waste Management Planning

The Waste Act also places considerable emphasis on the development of an integrated waste planning system, through the development of interlocking Integrated
Waste Management Plans (IWMPs) by all spheres of government and specified waste generators. This planning system is the primary tool for cooperative governance within the sector. While the requirement for these plans is new for national and provincial governments, and for waste generators, this is not the case for local governments who had been able to voluntary prepare such plans within their Integrated Development Plans (IDPs). IWMPs are mandatory for national and provincial government and specified waste generators, but the situation for local government is made a little more ambiguous by the Constitutional assignment of concurrent powers to provincial and local governments in this respect, with only limited authority assigned to national government.

(g) Norms, standards, tariffs and financial Management Systems

Other focal areas of the Waste Act include provisions for the development of norms and standards, tariffs and financial management systems. These powers all largely repeat existing national or provincial powers that are provided for in other legislation. The key change is that the Minister of Environmental Affairs now assumes these powers in terms of the Act, although concurrently with other authorised Ministers notably in Local Government and Finance portfolios.

Certain sections of the act have yet to be enacted, including the following:

- Section 28 (7), which makes allowance for of a person, category of person or industry to compile and submit an industry waste management plan for approval to the MEC, without being required to do so by the MEC.

Section 46, which allows the licensing authority to require an applicant seeking a waste management licence to appoint an independent and qualified person to manage the application.

National Environmental Management: Air Quality Act

The National Environmental Management: Air Quality Act (39 of 2004) requires that appropriate consideration must be given to the emissions arising from waste management practices, processes and procedures. Many facets of waste management are associated with atmospheric emissions, for example, waste transportation is associated with carbon dioxide released from vehicles, and methane and carbon dioxide which are released from landfill sites.

The Air Quality Act was published in the Government Gazette on 24 February 2005 and came into effect in September 2005. This Act, amongst others, provides for the implementation of a National Framework, of national, provincial and local ambient air quality and emission standards and air quality management plans. These implementations are currently in progress.

Atmospheric Pollution Prevention Act

Prior to the Air Quality Act coming into full effect, the control of atmospheric emissions of noxious, hazardous and nuisance causing materials was controlled by the Atmospheric Pollution Prevention Act (APPA) (Act 45 of 1965) and its amendments. The administration of the APPA has been assigned to the Air Pollution Control Department under the Department of Environmental Affairs & Tourism.

Those sections addressing the management of dust are of importance for landfill site management. Sections 27 – 35 state that industries should adopt the “best practicable means” for preventing dust from becoming dispersed or

causing a nuisance. The act also empowers owners or occupiers present in the vicinity of the source of dust/nuisance to take or adopt necessary steps or precautions against the nuisance. Where steps have not been prescribed, owners must adopt the "best practicable means" for the abatement of the nuisance. Should any person/s such as for example, waste management service providers, not comply with the necessary steps to prevent owners/occupiers from the effects of dust, the person/s may be liable to pay a dust control levy to the minister.

National Water Act

The National Water Act (Act 36 of 1998) is South Africa's overarching piece of legislation dealing with water resource management. It contains a number of provisions that impact on waste management, including:

- Ensuring the disposal of waste in a manner, which does not detrimentally impact on water resources.
- Managing the discharge of waste into water resources.

The Act allows the Minister to make regulations for:

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

Occupational Health and Safety Act

The purpose of the Occupational Health and Safety Act (OHSA) (Act 85 of 1993)and associated regulations is to provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

A sound waste management strategy and planning must take into account the safety of persons involved in the practical implementation thereof, with reference in particular to any waste services carried out by municipal officials; and waste service providers and their employees.

Core to OHSA are the principles and core duties of employers and employees as legislated in Sections 8, 9 and 14 thereof.

Section 8(1) stipulates that "Every employer shall provide and maintain, as far as is reasonable practicable, a working environment that is safe and without risk to the health of his employees".

Section 9(1) stipulates that "Every employer shall conduct his undertaking in such a manner as to ensure, as far as is reasonably practicable, that persons other than those in his employment who may be directly affected by his activities are not thereby exposed to hazards to their health or safety." Subsection (2) imposes a similar duty on every self-employed person.

Section 14(a) imposes a duty on every employee at work to take reasonable care for the health and safety of himself and of other person who may be affected by his acts or omissions. An employee is also required to co-operate with his employer concerning his duties in terms of the Act and to obey health and safety rules and procedures laid down by his employer.

In addition the OHSA further protects workers with regard to Hazardous Chemical Substances through specific regulations. Asbestos regulations deal with specific asbestos containing waste management.

It is likely that the OSHA also places an obligation on the Municipality, to ensure that service providers maintain compliant Health and Safety procedures. This would be relevant in the case of outsourced, waste management functions.

Health Act

The Health Act (Act 63 of 1977) focuses on the promotion of the health of the people and the provision of processes to enable this objective to be achieved. Sections 20, 34 and 38 of the Act are relevant to waste management.

Section 20, requires authorities to take lawful and reasonable practical measures to maintain their areas in a hygienic and clean condition to prevent an unhealthy environment for people.

Sections 34 and 38 of the act authorise the National Minister of Health to make regulations, which may directly impact on waste management.

Hazardous Substances Act

The Hazardous Substances Act (Act 15 of 1973) governs the control of substances that may cause ill health or death in humans by reason of their toxic, corrosive, irritant, flammability or pressure effects. The Act provides for the regulation of the storage, handling, labelling and sale of Group I, II, and III hazardous substances. A license is required for an operation that stores, handles and sells Group I substances. Section 29(1) of the Act regulates the disposal of the empty containers, which previously held Group I substances.

No national, local provincial or local municipal regulations have been promulgated under the Act for the on-site management of Group II hazardous substances.

The relevance of the Act with regard to waste management is captured as certain waste types may be categorised into the various groupings under the Act as noted above.

National Road Traffic Act

The United Nations (UN) recommendations on the transport of dangerous goods have been used to produce sections of the National Road Traffic Act (Act 93 of 1996). In addition, and in terms of other regulations published under the Act, certain South African Bureau of Standards (SABS) Codes of Practice have been incorporated as standard specifications into the National Road Traffic Regulations (GNR 1249 of 13 November 2001). These codes have been based on the UN recommendations, also known as “The Orange Book” and the associated European Agreement concerning the International Carriage of Dangerous Goods by Road Regulations.

The codes of practice so incorporated include e.g. the following:

- SANS 10228:2006 Edition 4.00: The identification and classification of dangerous goods for transport.
- SANS 10229-1:2005 Edition 1.00: Transport of dangerous goods - Packaging and large packaging for road and rail transport Part 1: Packaging.
- SANS 10229-2:2007 Edition 1.00: Transport of dangerous goods - Packaging and large packaging for road and rail transport Part 2: Large packaging.
- SANS 10232-1:2007 Edition 3.00: Transport of dangerous goods - Emergency information systems Part 1: Emergency information system for road transport.
- SANS 10232-2:1997 Edition 1.00: Transportation of dangerous goods - Emergency information systems Part 2: Emergency information system for rail transportation.
- SANS 10232-3:2007 Edition 3.00: Transport of dangerous goods - Emergency information systems Part 3: Emergency response guides.
- SANS 10232-4:2007 Edition 1.01: Transport of dangerous goods - Emergency information systems Part 4: Transport emergency card.
- SANS 10233:2001 Edition 2.00: Transportation of dangerous goods - Intermediate bulk containers.

The transportation of all waste products should adhere to the above where applicable, noting that certain waste/ refuse may be categorised as dangerous goods.

Advertising on Roads and Ribbon Development Act

The Advertising on Roads and Ribbon Development Act (Act 21 of 1940) regulates, amongst other things, the depositing or discarding of waste near certain public roads, and the access to certain land from such roads. To the extent as outlined in Proclamation 23 in Government Gazette 16340 of 31 March 1995, the administration of this Act has been assigned to the provinces. In terms of section 8 of the Act, no person shall within a distance of 200 metres of the centre line of a public road deposit or leave outside an urban area, so as to be visible from that road, a disused vehicle or machine or a disused part of a vehicle or machine or any rubbish or any other refuse, except in accordance with the permission in writing granted by the controlling authority concerned. The controlling authority may remove any object or substance referred to found on a public road and may recover the cost of the removal from the person who deposited or left such object or substance there.

When any person has deposited or has left any object or substance in contravention of the above, but not on a public road, the controlling authority concerned may direct the person in writing to remove or destroy that object or substance within such period as may be specified in the direction. If the person fails to comply with that direction, the controlling authority may cause the object or substance to be removed or destroyed any may recover from the said person the cost of the removal or destruction. The preceding provision do not apply to any object or material which has been or is being used for or in connection with farming, or to soil excavated in the course of alluvial digging: provided that this sub-section shall not permit the deposit or leaving of any article or material on a road.

Waste Tyre Regulations

The Waste Tyre Regulations were first published as Government Notice R.149 on 13 February 2009 and came into effect on 30 June 2009. These regulations were amended in 2016 in General Notice R. 1493 of 2016. The latest Waste Tyre Regulations (R1064 of 2017) were published on 29 September 2017 and came into effect immediately. The purpose of the legislation is to regulate the management of waste tyres by providing for the regulatory mechanisms. The regulations apply uniformly in all provinces in South Africa and affect waste tyre producers, waste tyre dealers, waste tyre stockpile owners, landfill site owners and tyre recyclers.

In summary, the regulation:

- Defines a waste tyre as a new, used, re-treaded, or un-roadworthy tyre, not suitable to be re-treaded, repaired or sold as a part worn tyre and not fit for the original intended use.
- Prohibits management, recycling, recovery or disposal of a waste tyre at any facility or on any site, unless such an activity is authorised by law.
- Prohibits recovery or disposal of a waste tyre in a manner that may or may potentially cause pollution or harm to health.
- Prohibits purchase, sale or export of waste tyres unless authorised.
- Prohibits disposal of a waste tyre at a waste disposal facility, two years from the gazetted date, unless such a waste tyre has been cut into quarters; and prohibits disposal of tyres in five years; unless these are shredded.
- Provides regulations in terms of tyre producers, tyre dealers and tyre stockpile owners, particularly regarding waste stockpile abatement and waste tyre storage.

Asbestos Regulations

On 28 March 2008, the Minister of Environmental Affairs and Tourism published as Government Notice R.341 of 2008 entitled “Regulations for the prohibition of the use, manufacturing, import and export of asbestos and asbestos containing materials” under Section 24B of ECA (thus now the Waste Act). This would have implication for phasing out of asbestos containing material, which may therefore result in higher quantities of asbestos waste.

Mineral and Petroleum resources Development Act

The objective of the Mineral and Petroleum resources Development Act (No. 28 of 2002) , amongst others, is to give effect to section 24 of the Constitution by ensuring that the nation's mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development.

Municipal Structures Act

The main objective of Local Government: Municipal structures Act (Act 117 of 1998) is to provide for the establishment of municipalities in accordance with the requirements relating to categories and types of municipality, to provide for an appropriate division of functions and powers between categories of municipality, to provide appropriate electoral systems and to provide for matters connected therewith.

The functions and powers of municipalities are set out in Chapter 5 of the Act, with a municipality having the functions and power assigned to it in terms of sections 156 and 229 (dealing with fiscal powers and functions) of the constitution.

Municipal Systems Act

As intended by the Constitution, Waste management services such as refuse collection, removal, transportation and disposal is generally the responsibility of local municipalities6.
Municipal Systems Act (Act 32 of 2000) with respect to the Local Government Municipal Systems Act (MSA) defines a municipal service as follows:

"A serviced that a municipality in terms of its powers and functions provides or may provide for the benefit of the local community irrespective of whether
(a) Such a service is provided, or to be provided, by the municipality through an internal mechanism contemplated in section 76 or by engaging an external mechanism contemplate in section 76; and
(b) fees, charges or tariffs are levied in respect of such a service or not."

Chapter 8 Section 73 - 82 outlines certain general duties on municipalities in relation to the municipal service as highlighted below.
In terms of section 75(1), a municipality must give effect to the provisions of the Constitution and must:

- Give priority to the basic needs of the local community.
- Promote the development of the local community.

Ensure that all members of the local community have access to at least the minimum level of available resources and the improvement of standards of quality over time.

In terms of section 75(2), municipal services must – be equitable and accessible; be provided in a way, which promotes the prudent, efficient and effective use of available resources and the improvement of standards of quality over time; be financially sustainable; be environmentally sustainable, and be regularly reviewed with a view to upgrading, extension and improvement.

Section 74 regulates tariff policy in respect of municipal services. A municipality is obliged to adopt and implement a tariff policy on levying fees for municipal services. A municipality's tariff policy must reflect at least the following principles:

- People who use municipal services must be treated equitably in the application of tariffs.
- In general terms, what individual users pay for services should be in proportion to their use of the services.
- Poor households must have access to at least basic services. Different ways of providing for this are suggested, for example lifeline tariffs and subsidisation.

- Tariffs must reflect the costs reasonable associated with providing the service for example capital, operating, maintenance, administration and replacement costs and interest charges.
- Tariffs must be set at levels which allow the service to be financially sustainable.
- In appropriate circumstances, surcharges on tariffs may be allowed.
- Special tariffs may be set for categories of commercial and industrial users in order to promote local economic development.
- The economical, efficient and effective use of resources must be promoted, as well as the recycling of waste and other appropriate environmental objectives
- Any subsidisation of tariffs should be fully disclosed.

Section 78 prescribes the process which municipalities must follow when they decide through which mechanism to provide a municipal service in their areas. There are particular provisions, which a municipality must comply with when it provides a municipal service through a service delivery agreement with what the MSA terms "external mechanisms".

The MSA contains extensive provisions pertaining to public participation. In particular, the community has the right to contribute to decision-making processes by its municipality. A municipal council must establish appropriate mechanisms, processes and procedures to enable residents, communities and stakeholders in the municipality to participate in the local affairs. It is pertinent to reiterate that waste management services as provide by the municipality is an integral part of local affairs.

As such municipalities' mechanisms must provide for:

- The receipt, processing and consideration of petitions and complaints lodged by residents, communities and stakeholders in the municipality.
- The receipt, processing and consideration of written objections and representations with regard to any matter to which it is required to invite public comment.
- Public meetings of residents, on a ward or any other basis.
- Public hearings by the council and its committees when appropriate.
- Surveys among residents when appropriate and the processing and publication of the results.

Development Facilitation Act

The Development Facilitation Act (Act 67 pf 1995) provides specific principles for:

- Land development and conflict resolution.
- Controls on land occupation.
- Recognition of informal land-development practices.

These principles are set out in sections 3 and 4 of the Development Facilitation Act and form the basis for most of the integrated development plan. Chapter one of the Development Facilitation Act sets out principles which affect all decisions relating to the development of land.

This means that whenever a municipality, a development tribunal, a Member of the Executive Council (MEC) or any other authority is considering an application for the development of land, they must make sure that their decision is consistent with these principles. Any integrated development plan must, in terms of the Local Government Transition Act, be based on these principles too.

The Development Facilitation Act's principles form the basis of integrated development planning - in particular the land-development objectives. In terms of section 2 of the Act, the general principles which are set out in section 3 of the Act include:

- Policy, administrative practice and the law should promote efficient and integrated land development in that they:
- Promote the integration of the social, economic, institutional and physical aspects of land development.
- Promote integrated land development in rural and urban areas in support of each other.

- Encourage environmental sustainable land development practices and processes.
- Members of communities affected by land development should actively participate in the process of land development.
- Policy, administrative practice and laws should encourage and optimize the contributions of all sectors of the economy (government and non-government) to land development so as to maximize the Republic's capacity to undertake land development.
- Laws, procedures and administrative practice relating to land development should:
- Be clear and generally available to those likely to be affected thereby.
- In addition to serving as regulatory measures, also provide guidance and information to those affected thereby.
- Be calculated to promote trust and acceptance on the part of those likely to be affected thereby.
- Give further content to the fundamental right set out in the constitution.
- Policy, administrative practice and laws should promote sustainable land development at the required scale, in that they should, inter alia, promote sustained protection of the environment.
- Policy, administrative practice and law should promote speedy land development.
- Each proposed land development area should be judged on its own merits and no particular use of land, such as residential, commercial, conservation, industrial, community facility, mining, agricultural or public use, should in advance or in general, be regarded as being less important or desirable than any other use of land.
- A competent authority at national, provincial and local government level should co-ordinate the interests of the various sectors involved in or affected by land development so as to minimize conflicting demands on scarce resources.

The Physical Planning Act

The objective of the Physical Planning Act 125 of 1991 is to provide for the division of the country into regions and to promote regional development. Policy plans consist of broad guidelines for the future physical development of the area and restrictions are placed on the use of land in the area to which the plan relates. Local authorities are required to develop urban structure plans for their areas of jurisdiction.

Promotion of Administrative Justice

The purpose of the Promotion of Administrative Justice Act ("PAJA") (Act 3 of 2000) is principally to give effect to the right to administrative action that is lawful, reasonable and procedurally fair; and to the right to written reasons for administrative action as contemplated in section 33 of the Constitution; and to provide for matters incidental thereto.

Administrative law governs the relationships between public bodies, and between public and private bodies and/or individuals. Many activities which affect the environment, including certain waste management activities, require authorisation from a public body. Because environmental conflicts may arise during the authorisation process from the exercise of administrative decision-making powers, administrative law principles are of particular relevance to environmental law generally, and specifically in the context of the environmental authorisation requirements stipulated by the provisions of section 24 of the NEMA read with its subordinate legislation regulating environmental impact assessment (or "EIA").

Promotion of Access to Information

Promotion of Access to Information, (Act 2 of 2000) is closely linked to the notion of administrative justice is the right of access to information. Without access to information, a person may be unable to determine whether or not his or her right to just administrative action (or to an environment not harmful to human health or well-being or, for that matter, any other Constitutional right) has been infringed. The purpose of the Promotion of Access to Information Act ("PAIA") is to give effect to the Constitutional right of access to any information held by the State

and any information that is held by another person and that is required for the exercise or protection of any rights, and to provide for matters connected therewith.

National Policies and Guidelines

White Paper on Environmental Waste Management

The White Paper on Environmental Management was published in 1998. This policy sets out government's objectives in relation to environmental management, how it intends to achieve its objectives, and to guide government agencies and organs of state in developing strategies to meet their objectives.

The policy document is an overarching policy framework that refers to all government institutions and to all activities that impact on the environment. The policy states that government will allocate functions to the institutions and spheres of government that can most effectively achieve the objectives of sustainable development and integrated environmental management. This would include the allocation of certain functions to the municipal sphere of government. Where appropriate, provincial and local governments are to develop their own legislation and implementation strategies in order to address their specific needs and conditions within the framework of the policy.

White Paper on Integrated Pollution and Waste Management

The White Paper on Integrated Pollution and Waste Management (1999) is a subsidiary policy of the overarching environmental management and constitutes South Africa's first policy document focused on integrated waste management. This national policy set out Government's vision for integrated pollution and waste management in the country and applies to all government institutions and to society at large and to all activities that impact on pollution and waste management.

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

The overarching goal reflected in the policy, is integrated pollution and waste management. The intention is to move away from fragmented and uncoordinated pollution control and waste management, towards an approach that incorporates pollution and waste management as well as waste minimisation.

Within this framework, the following strategic goals apply:

- Effective institutional framework and legislation.
- Pollution and waste minimisation, impact management and remediation.
- Holistic and integrated planning – the intention is to develop mechanisms to ensure that integrated pollution and waste management considerations are integrated into the development of government policies, strategies and programmes as well as all spatial and economic development planning processes and in all economic activity.

The strategic mechanisms include the following:

- The incorporation of integrated environmental management principles and methodologies in spatial development planning as it relates to pollution and waste management.
- Making timeous and appropriate provision for adequate waste disposal facilities.
- Developing management instruments and mechanisms for the integration of pollution and waste management concerns in development planning and land allocation.
- Developing appropriate and agreed indicators to measure performance for inclusion in Environmental Implementation Plans and Environmental Management Plans as provided for in the National Environmental Management Act.
- Participation and partnerships in integrated pollution and waste management governance.

- Empowerment and education in integrated pollution and waste management.
- Information management.
- International co-operation.

National Waste Management Strategy

The first NWMS was published in 1999 by the then DEAT and the then DWAF. It was the first strategy for addressing South Africa's waste management challenges. The strategy effectively defines South Africa's vision for waste management highlighting themes such as "cradle to grave" management of waste products and the waste management hierarchy which encourages waste disposal only as a last resort.

The NWMS was been revised in 2011 in line with Chapter 2, Part 1, of the Act which requires the establishment of a NWMS within two years of the Act coming into effect. Significant changes include the addition of "remediation" to the waste management hierarchy, and the consolidation of what was previously many different action plans into a single action plan.
The 2011 strategy defines eight strategic goals with a number of targets, as presented in the table below. The NWMS strategy is currently under review and is anticipated to be gazetted in 2019.

Figure 38: Goals and targets of the NWMS (2011)

Goal	Description	Targets 2016
Goal 1	Promote waste minimisation, re-use, recycling and recovery of waste.	• 25% of recyclables diverted from landfill sites for re-use, recycling or recovery. • All metropolitan municipalities, secondary cities and large towns have initiated separation at source programmes. • Achievement of waste reduction and recycling targets set in Industry IWMPs for paper and packaging, pesticides, lighting (CFLs) and tyre industries
Goal 2	Ensure the effective and efficient delivery of waste services.	• 95% of urban households and 75% of rural households have access to adequate levels of waste collection services. • 80% of waste disposal sites have permits.
Goal 3	Grow the contribution of the waste sector to the green economy.	• 69 000 new jobs created in the waste sector • 2 600 additional SMEs and cooperatives participating in waste service delivery and recycling
Goal 4	Ensure that people are aware of the impact of waste on their health, well-being and the environment.	• 80% of municipalities running local awareness campaigns. • 80% of schools implementing waste awareness programmes.
Goal 5	Achieve integrated waste management planning.	• All municipalities have integrated their IWMPs with their IDPs, and have met the targets set in IWMPs. • All waste management facilities required to report to SAWIC have waste quantification systems that report information to WIS.
Goal 6	Ensure sound budgeting and financial management for waste services.	• All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs.
Goal 7	Provide measures to remediate contaminated land.	• Assessment complete for 80% of sites reported to the contaminated land register. • Remediation plans approved for 50% of confirmed contaminated sites.
Goal 8	Establish effective compliance	• 50% increase in the number of successful enforcement actions

Goal	Description	Targets 2016
	with and enforcement of the Waste Act.	against non-compliant activities. • 800 EMIs appointed in the three spheres of government to enforce the Waste Act.

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

The internationally accepted waste hierarchical approach was adopted of waste prevention/minimization, recycle/reuse, treatment and finally disposal. The strategy outlines the functions and responsibilities of the three levels of government and where possible, firm plans and targets are specified.
Action plans have been developed for reaching all of the eight goals.

Polokwane Waste Summit Declaration

During September 2001 a national waste summit was held at Polokwane, in the Northern Province. It was attended by key stakeholder groupings in the waste field in order to jointly chart a way forward in terms of national waste management. The resultant Polokwane Declaration includes a vision and goal for the management of all waste, i.e. domestic, commercial and industrial:

Vision – To implement a waste management system that contributes to sustainable development and a measurable improvement in the quality of life, by harnessing the energy and commitment of all South Africans for the effective reduction of waste.

Goals - To reduce waste generation and disposal by 50% and 25% respectively by 92012 and develop a plan for zero waste by 2022

Key actions in the Polokwane Declaration include the following:

- Implement the National Waste Management Strategy.
- Develop and implement legislative and regulatory framework.
- Waste reduction and recycling.
- Develop waste information and monitoring systems.

Local Government Turnaround Strategy

Cabinet approved the Local Government Turnaround Strategy (LGTAS) on the 3 December 2009 in Pretoria. The LGTAS recognised that each municipality faces different social and economic conditions and has different performance levels and support needs. Thus a more segmented and differentiated approach was required to address the various challenges of municipalities. In addition cabinet recognised that the problems in Local Government are both a result of internal factors within the direct control of municipalities as well as external factors over which municipalities do not have much control. (Department of Cooperative Governance and Traditional Affairs, Dec 2009.)

The LGTAS identifies the internal factors related to for example the following:

- Quality of decision-making by Councillors.
- Quality of appointments.
- Transparency of tender and procurement systems and levels of financial management and accountability.
- Levels of financial management and accountability.

The external factors relate to:

- Revenue base and income generation potential.

- Inappropriate legislation and regulation.
- Demographic patterns and trends.
- Macro and micro-economic conditions.
- Undue interference by political parties and weaknesses in national policy.
- Oversight and Inter-Governmental Relations.

Ultimately the aim of the LGTAS is to:

- Restore the confidence of the majority of our people in our municipalities, as the primary delivery machine of the developmental state at a local level.
- Re-build and improve the basic requirements for a functional, responsive, accountable, effective, and efficient developmental local government.

The LGTAS sets out five strategic objectives with associated key interventions. Probably most relevant in the context of waste management is the first objective, i.e. to *"Ensure that municipalities meet basic needs of communities. This implies that an environment is created, support provided and systems built to accelerate quality service delivery within the context of each municipality's conditions and needs".*

Interventions to achieve the various objectives include better organisation by National Government and improved support and oversight from provinces in relation to Local Government. Furthermore municipalities are to reflect on their own performance and tailor-made turnaround strategies, while all three spheres of governments should improve inter-governmental relations. Also, political parties are to promote and enhance institutional integrity of municipalities and a social compact on Local Government where all citizens are guided in their actions and involvement by a common set of governance values.

In terms of the LGTAS an immediate task is for agreements to be reached with each province on the roll-out programme to establish different provincial needs and capacities, which will guide how municipalities are to be supported to prepare and implement their own tailor-made turnaround strategies that must be incorporated into their IDPs and budgets (by March 2010). Key stakeholders and ward committees were to be mobilised early in 2010. By July 2010, all municipalities were to be in full implementation mode of the national and their own Turn-around Strategies. (Department of Cooperative Governance and Traditional Affairs, Dec 2009.)

Minimum Requirements Documents; Department of Water Affairs and Forestry

The DWAF Minimum Requirements: Waste Management Series were formulated in the form of guideline documents as a joint venture between DWAF and the Department of Environmental Affairs and Tourism (DEAT).

The objective of the Minimum Requirements is to establish a framework for standards for waste management in South Africa. The former DWAF published the second edition of the Minimum Requirements series in 1998, consisting of the following three documents:

- Document 1: Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste.
- Document 2: Minimum Requirements for Waste Disposal by Landfill.
- Document 3: Minimum Requirements for Monitoring at Waste Management Facilities.

The third edition was released in draft form in 2005, but only Document 1 (DEAT, 2005) has been finalised.

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

- Prevent water pollution and to ensure sustained fitness for use of South Africa's water resources.
- Attain and maintain minimum waste management standards in order to protect human health and the environment form the possible harmful effects caused by the handling, treatment, storage and disposal of waste.

- Effectively administer and provide a systematic and nationally uniform approach to the waste disposal process.
- Endeavour to make South African waste management practices internationally acceptable.
- Ensure adherence to the Minimum Requirement conditions from the permit applicant, before a waste disposal site permit is issued.
- Promote the hierarchical approach to waste management, as well as a holistic approach to the environment.

The series formed the basis for the permitting process that had been required in terms of Section 20 of the ECA. The requirements, standards and procedures covered in the series had generally been included as permit conditions, thereby becoming legally binding on the permit holder. In addition to requirements for the establishment and operation of a landfill site, the permit holder was generally required to operate, maintain and attend to the closure of a waste disposal site in compliance with the permit conditions, as well as in accordance with the guidelines set out in the Minimum Requirements documents. Note that an EIA must be conducted prior to the establishment of waste disposal facilities. However, the above mentioned waste activity has now been repealed and instead requires a license application under the Waste Act.

The third edition was released in draft form in 2005, but only Document 1 (DEAT, 2005) has been finalised.

National Policy for Basic Refuse Removal Services to Indigent Households

The National Policy for the Provision of Basic Refuse Removal Services to Indigent Households (GN No. 34385) was published in the Government Gazette in June 2011.
The purpose of this policy is to ensure that indigent households have access to at least a basic refuse removal (BRR) service.

This Policy aligns to existing relevant legislation, as in accordance to 74 (2)(c) of the Municipal Systems Act, 2000 (Act No. 32 of 2000) poor households must have access to at least basic services and section 9 (2) of NEMWA (Act 59 of 2008) which stipulates that each municipality must exercise its executive authority and perform its duty in relation to waste services, including waste collection, waste storage and waste disposal, by (c) ensuring access for all to such services.

The objectives of the policy are to identify households that can be enrolled for the BRR service, establish bylaws to enforce tariff policies that will support the BRR service and to raise awareness within the municipality with regard to correct handling of domestic waste for BRR and the need to minimize waste and recycle.

Implementation plans include each municipality:
- declaring specific localities as the recipients of basic refuse removal services;
- maintaining “accurate and updated” registers of indigent people;
- taking action in the event of malpractice;
- integrating basic refuse removal into “basic indigent policies”;
- designating the administration of the policy to the “most appropriate department”; and
- raising awareness.

The policy includes a “grid of responsibilities” for each sphere of government and a policy monitoring and evaluation plan. According to the grid of responsibilities, national government will take responsibility for building capacity at provincial and municipal level, with provincial government determining municipal capacity and assisting district municipalities in “drawing up guidelines”.

National Policy in Thermal Treatment of General and Hazardous Waste

The Thermal Waste Treatment of General and Hazardous Waste Policy was gazetted (GN No. 32439) for public comment on 30 January 2009 and published under the Waste Act on 24 July 2009. The policy presents the Government’s position on thermal waste treatment as an acceptable waste management option in South Africa. It

also provides the framework within which incineration and co-processing treatment technologies of general and hazardous waste should be implemented in the country.

All Government Departments across the different spheres of government must consider this policy in their decision making on matters pertaining to thermal treatment of waste.

The policy presents objectives which vary thematically. These consider the integration of thermal waste treatment into the integrated waste management system. Schedules one to four provide guidelines on the following:

(a) Air Emission Standards – Waste Incineration

Listed air emission standards for general and hazardous waste incinerators, brought into operation subsequent to the final gazetting of this policy, to be complied with until the formalisation of The Minimum Emission Standards in terms of Section 21 of the National Environmental Management: Air Quality Act of 2004.

(b) Air Emission Standards – AFR Co-Processing

The Minimum Emission Standards for Alternative Fuels and Raw Materials (AFR) co-processing is currently in the process of being formalised in terms of Section 21 of the National Environmental Management: Air Quality Act of 2004. In the interim this policy constitutes the air emission standards for all cement kilns co-processing AFR.

(c) Waste Excluded from Co-Processing

Listed types of waste that are not allowed to be received, stored, handled or co-processed in cement kilns.

(d) Conditions of Environmental Authorisation

Any cement plant co-processing general or hazardous waste as alternative fuels and/or raw materials, and any dedicated general and/or hazardous waste incinerator must have the relevant approvals from the competent authority. This schedule includes notes on operational management, air quality management, waste management and monitoring and reporting.

National Waste Information Regulations

The National Waste Information Regulations came into effect on 01 January 2013.
These cover registration of persons who conduct certain waste management activities and their duty to keep records. Annexure 1 of the regulations lists activities including recovery and recycling, treatment and disposal of waste for which the person conducting the activity must register in terms of GR 625 of 2012. The municipality has a duty in terms of waste disposal to land (as well as operating waste recycling or treatment facilities) to report waste types and quantities in accordance with these regulations to SAWIC on a quarterly basis. Amendments to the National Waste Information Regulations were released for public comment in July 2018 (GN 701 of 2018), the major change in the regulations was the requirement for waste transporters to register. Other proposed changes to the regulations were a decrease in the allowable reporting timeframes from the closure of a reporting period from 60 days to 30 days and registration and reporting thresholds recovery of hazardous waste being decreased from 500kg to 100kg a day.

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

The National Policy for the provision of basic refuse removal services to indigent households as published for general information in notice 413 of Government Gazette No. 34385 on 22 June 2011 was developed in response to the constitutional requirement that all households should have access to basic services regardless of their income level, as well as the adoption of a free basic services in 2001.

This Policy aligns to existing relevant legislation, as in accordance to 74 (2)(c) of the Municipal Systems Act, 2000 (Act No. 32 of 2000) poor households must have access to at least basic services and section 9 (2) of NEMWA (Act 59 of 2008) which stipulates that each municipality must exercise its executive authority and perform its duty in

relation to waste services, including waste collection, waste storage and waste disposal, by (c) ensuring access for all to such services.

Implementation plans include each municipality:

- Declaring specific localities as the recipients of basic refuse removal services.
- Maintaining "accurate and updated" registers of indigent people taking action in the event of malpractice.
- Integrating basic refuse removal into "basic indigent policies."
- Designating the administration of the policy to the "most appropriate department."
- Raising awareness.

The policy includes:

- A "grid of responsibilities" for each sphere of government.
- A policy monitoring and evaluation plan.

According to the grid of responsibilities, national government will take responsibility for building capacity at provincial and municipal level, with provincial government determining municipal capacity and assisting district municipalities in "drawing up guidelines".

National Domestic Waste Collection Standards

The National Domestic Waste Collection Standards (notice 21 of Government Gazette 33935, 21 January 2011) published under the National Environmental Management: Waste Act (Act No. 59 of 2008) came into effect on Tuesday, 1 February 2011.

This standard aims to provide a uniform framework within which domestic waste should be collected in South Africa. This comes after a consultative process with provinces, municipalities and the general public in order to redresses the past imbalances in the provision of waste collection services. The standards aim to guide municipalities on how to provide acceptable, affordable and sustainable waste collection service to the human health and the environment.

The standards covers the levels of service, separation at source (between recyclable and non-recyclable materials), collection vehicles, receptacles, collection of waste in communal collection points, and most importantly the frequency of collection. Non-recyclable material such as perishable food waste must be collected at least once a week and recyclable material such as paper, plastic, glass etc. must be collected once every two weeks. Municipalities have a choice to provide different types of bins taking into consideration the type of vehicles they use; however, they must be rigid and durable to prevent spillage and leakage.

The development of the standards took into consideration the existing innovative practices at local government level across the country and seeks to build on what has already been achieved whilst emphasizing a need to separate recyclable and non-recyclable domestic waste and the protection of human health and the environment.

National Norms and Standards for Assessment of Waste for Landfill Disposal

The National Norms and Standards for Assessment of Waste for Landfill Disposal (GR635, 23 Aug 2013) require the assessment of waste prior to disposal at landfill. The assessment of waste before disposal must include identification of the total and leachable concentrations of different chemicals. The concentration of chemicals determines the classification of the waste which in turn dictates the type of disposal site where the waste can be disposed of.

Waste Classification and Management Regulations

The Waste Classification and Management Regulation (GR635, 23 Aug 2013) aims to address the management of different waste categories. The regulations stipulate the requirements for the transport storage and treatment of different waste types. A list of requirements for record keeping by waste generators is also included in the regulations with the aim of improving and standardising record keeping. The regulations also detail the process to be followed when motivating why a listed waste management activity does not require a waste management license.

National Norms and Standards for Disposal of Waste to Landfill

The National Norms and Standards for Disposal of Waste to Landfill (GR636, 23 Aug 2013) specify minimum engineering design requirements for landfill sites. The design requirements vary depending on the type of waste to be disposed of at the site.

Landfill sites are designed to comply with one of four designs (Class A – Class D). The landfill design classes vary in the types of liner used. Class A landfill sites require multiple linings and leachate collection systems whereas a Class D landfill site is much simpler in design requiring only a 150 mm base preparation layer. Different classes of landfill are required for different types of waste.

National Norms and Standards for the Storage of Waste

The National Norms and Standards for the Storage of Waste (GN 926, Nov 2013) specify the minimum requirements for waste storage facilities in the interest of protection of public health and the environment. The standards aim to ensure that waste storage facilities are managed according to best practise and to provide a minimum standard for the design and operation of new and existing waste storage facilities.

Hazardous waste storage facilities should be located in areas zoned as industrial, where waste storage facilities are located in residential areas a buffer of at least 100 m must be assigned to the site. General waste storage facilities must be located in an area that is easily accessible by the public.

The standards also specify design requirements for waste storage facilities, these include:

- Access roads
- Signage at the entrance of the facility in at least three official languages applicable to the areas the facility is located in. The sign must indicate:
    - The risk associated with entering the site.
    - Hour of operation.
    - Name, address and telephone number of the person responsible for the operation of the facility.

The standards also require that waste is separated at source into recyclables and non-recyclables.

A new condition for the management of waste storage facilities is the requirement for bi-annual internal audits and biennial external audits

National standards for the extraction, flaring or recovery of landfill gas

The National standards for the extraction, flaring or recovery of landfill gas (GN 924 of 2013) aims to control the extraction, flaring and recovery of gas at landfills or recovery facilities to minimise harmful impacts to people and the surrounding environment. The standards require, in planning phase, that an assessment of environmental risks and impacts that are associated with the proposed activities is complied, and that Environmental Management Plan is compiled to mitigate these risks. The standard contains a set of standard procedures for handling and maintaining of equipment for construction, operational and decommissioning phase. The standard also covers training, emergency response, monitoring and reporting, general requirements and transitional arrangements.

National standards for scrapping or recovery of motor vehicles

The National standards for scrapping or recovery of motor vehicles (GN 925 of 2013) puts forth minimum requirements for the design, construction and upgrading of a motor scrapping facility. The design must consider: sensitive environments; drainage systems; storage and operational areas for off-loading, dismantling, liquid waste, shredding, dispatching parts and recyclables. Specific design requirements are set out for different operational areas. Minimum requirements are given for the operational phase including vehicle dismantling, solid waste management, and liquid waste management. Minimum requirements in the decommissioning phase focus on the compilation of a rehabilitation plan for the facility and disposal of contaminated wastes. The standard also covers training, emergency response, monitoring and reporting, general requirements and transitional arrangements.

National norms and standards for sorting, shredding, grinding, crushing, screening of waste

The National norms and standards for sorting, shredding, grinding, crushing, screening of waste (GN 1093 of 2017) require all waste facilities (used for sorting, shredding, grinding, crushing, screening of waste) less than 100m^2 in size to register with the competent authority and provide details including the location, types of waste processed, and civil design drawings of the facility as set out in Section 4 of the standard.

The standards require all waste facilities (used for sorting, shredding, grinding, crushing, screening of waste) more than 100m^2 in size register with the competent authority as set out in Section 4 of the standard, as well as comply with requirements for the location, design, construction, access control and signage. Operational requirements in Section 8 of the standard address management of operational impacts such as control of hazardous substances, air emissions, discharging of wastewater, noise and odour emissions. The standard also covers training, emergency response, monitoring and reporting, general requirements, requirements during the decommissioning phase and transitional provisions.

Local Strategy and Policies

Municipal By-laws

Chapter 7 of the South African constitution: Section 156 provides that a municipality may make and administer by-laws for the effective administration of matters which it has the right to administer and that (section 151) it shall not be in conflict with national or provincial legislation.

This is further supported in the municipal systems act (Act 32 of 2000), Chapter 3: section 11 for a municipality to exercise executive authority within its boundaries to implement applicable by-laws. Section 75 of the MSA provides for the municipal council to adopt by-laws to give affect and enforce its tariff policy.

The Draft Municipal Sector Plan (Notice 182 of Government Gazette 34167) was published by the Minister for public comment on the 30 March 2011. Section 3.3.9.5 motivates that the enforcement of municipal waste by-laws is required to address ineffective collection systems through the enforcement of available resource-based controls which will improve the situation at community level. Enforcement should further be placed with a dedicated section with trained Environmental Management Inspectors in line with Chapter 7 of the National Environmental Management Act, 1998 (Act107 of 1998

Appendix B: Waste Management Facility Database

No.	Name	Type of Facility	Municipality	Waste accepted	Class	License status	Type of license	License valid	Validity comments	Closure commencement date	Site Status	License no.	Latitude & Longitude
1	Harkerville landfill site	Landfill site	Bitou	Construction & demolition waste	General	Licensed	Operation	Yes	16/02/2028 (10 years)	N/A	Operational	19/2/5/1/D1/4/WL0025/17	34° 2'5.10"S 23°13'45.52"E
2	Plettenberg Bay Integrated Waste Management Facility	Transfer station, composting	Bitou	General waste	-	Licensed	Operation	Yes	19/06/2022 (10 years)	N/A	Operational	E13/2/10/1-D1/14-WL0029/10	34° 2'47.19"S 23°18'27.92"E
3	Plettenberg Bay Waste Disposal Facility	Landfill site	Bitou	General waste	G:S:B+	Licensed	Decommission	Yes	Valid until 31/03/2024	31/03/2019	Closed	19/2/5/4/D1/14/WL0036/18	34°5'11.54"S 23°21'6.63"E
4	George Waste Management Facility	Transfer station	George	General waste and hazardous waste	H:H	Licensed	TBC	TBC	TBC	TBC	Operational	19/2/4/1/D2	33°59'27.51"S 22°25'31.63"E
5	GoGreen Composting	Composting	George	Bark and wood chips	General	-	-	-	-	-	-	-	-
6	Greens Scrap Storage, Sorting, and recovery Facility	Storage, sorting and recovery	George	General and hazardous	H:H	Licensed	Operation	Yes	28/02/2023 (10 years)	N/A	Operational	12/9/11/L915/9	33°59'33.59"S 22°26'23.14"E
7	Gwaing (George) Waste Disposal Facility	Landfill site	George	Garden waste and construction and demolition waste	-	Licensed	Decommission	Yes	10/11/2024	10/11/2019	Operational	19/2/5/4/D2/19/WL0031/18	33°59'33.80"S 22°25'18.69"E
8	Gwaing Waste Disposal Site (closed)	Landfill site	George	-	G:S:B-	Licensed	Operation	No	-	-	Closed	B33/2/1000/10S/P107	33°59'15.76"S 22°25'29.01"E
9	Optimum Waste Treatment Facility (incinerator)		George	HCRW & hazardous waste	HCRW storage and treatment	Licensed	Operation		14/05/2023 (10 years)	N/A	Operational	12/9/11/L1140/9	33°59'31.48"S 22°25'29.61"E
10	Uniondale Waste Disposal Facility	Landfill site	George	General, garden waste, construction and demolition	Class B (G:C:B-)	Licensed	Decommission	Yes	Valid until 22/08/2028 (10 years)	29/09/2019	Operational	19/2/5/4/D2/52/WL0078/18	33°39'25.00"S 23° 6'45.52"E
11	Albertina landfill site	Landfill site	Hessequa	General waste	Class B (G:S:B-)	Licensed	Operation	Yes	Not stated	N/A	Operational	19/2/5/4/D5/1/WL0081/18	34°11'50.13"S 21°35'12.83"E
12	Droekloof (Heildelberg) Waste Disposal Facility	Landfill site	Hessequa	General waste	Class B (G:S:B-)	Licensed	Operation	Yes	Not stated	N/A	Operational	19/2/5/4/D5/4/WL0084/18	34° 5'41.14"S 20°56'37.81"E

No.	Name	Type of Facility	Municipality	Waste accepted	Class	License status	Type of license	License valid	Validity comments	Closure commencement date	Site Status	License no.	Latitude & Longitude
13	Gouritzmond Waste Disposal Facility	Landfill site	Hessequa	General	Class B/G:C:B-	Licensed	Operation	Yes	Valid until there is no longer air space	N/A	Operational	19/2/5/4/D5/4/WL0084/18	34°20'22.16"S 21°52'13.71"E
14	Jongensfontein Waste Disposal Facility	Landfill site	Hessequa	Garden waste & construction & demolition waste	Class B (G:C:B-)	Licensed	Operation	Yes	N/A	N/A	Operational	19/2/5/4/D5/18/WL0085/18	34°25'34.91"S 21°19'39.56"E
15	Melkhoutfontein Waste Disposal Facility	Landfill site	Hessequa		Class B/G:C:B-	Licensed	Operation	Yes	Valid until there is no longer air space		Operational	19/2/5/1/D5/11/WL0060/14	34°19'17.39"S 21°26'15.48"E
16	Riversdale Piggery Composting Facility	Composting	Hessequa	General	General	Licensed	Operation	Yes	23/04/2028 (10 years)	N/A	In planning	19/2/5/1/D5/15/WL0086/17	34° 8'1.82"S 21°16'53.02"E
17	Slangrivier landfill site	Landfill site	Hessequa	General	Class B (G:S:B-)	Licensed	Operation	Yes	N/A	N/A	Operational	19/2/5/4/E3/10/WL0088/18	34°09'29.18"S 20°51'55.14"E
18	SS Transport Composting Facility	Composting	Hessequa	Abattoir waste, wood chips	General	Licensed	Operation	Yes	Valid for a period of 10 years	N/A	Operational	19/2/5/4/D5/1/WL0072/17	34°13'26.02"S 34°13'26"E
19	Steynskloof Waste Disposal Facility	Landfill site	Hessequa	General waste	Class B (G:S:B-)	Licensed	Operation	Yes	-	N/A	Operational	19/2/5/4/D5/15/WL0089/18	34°06'30.05"S 21°16'16.01"E
20	Witsand Waste Disposal Facility	Landfill site	Hessequa	General waste	Class B (G:S:B-)	Licensed	Operation	Yes	Valid until there is no longer air space	N/A	Operational	19/2/5/4/E3/10/WL0091/18	34°22'42.37"S 20°49'25.89"E
21	Calitzdorp Communal Waste Disposal Facility	Landfill site	Kannaland	General waste	Class B (G:C:B-)	Licensed	Operation and Closure	Yes	Closure to commence in 5 years	28/09/2023	Operational	19/2/4/1/D3/4/WL0063/18	33°31'15.59"S21°40'0.70"E
22	Ladismith Waste Disposal Facility	Landfill site	Kannaland	General waste	Class B (G:S:B-)	Licensed	Operation	Yes	Not stated	N/A	Operational	19/2/5/4/D3/7/WL0121/18	33°30'40.55"S 21°17'46.11"E
23	Wyksdorp Waste Disposal Facility	Landfill site	Kannaland	General waste	Class B (G:C:B-)	Licensed	Decommission	Yes	Valid for a period of 10 years	10/12/2019	Operational	19/2/5/4/D3/11/WL0067/18	33°44'25.63"S 21°27'45.08"E
24	Zoar Waste Disposal Facility	Landfill site	Kannaland	General waste	Class B (G:S:B)-	Licensed	Operation	Yes	N/A	N/A	Operational	19/2/5/4/D3/8/WL0122/18	33°28'8.72"S 21°28'36.85"E
25	Brenton on sea Waste Disposal Facility	Landfill site	Knysna	None - site is closed	G:C:B+	Licensed	Decommission	Yes	10/12/2024	Closed	Closed	19/2/5/4/D4/3/WL0062/18	34° 4'12.84"S 23° 1'53.35"E
26	Knysna recycling centre	Sorting and storage of waste	Knysna	General waste	General	Licensed	Operation	Yes	TBC	TBC	Operational	16/2/7/B100/D33/Z1/P41	34° 2'26.64"S 23° 3'0.13"E
27	Knysna Waste Transfer station	Transfer station	Knysna	General waste	G:S:B+	Licensed	Operation	Yes	Not stated	N/A	Operational	16/2/7/K500/R3/Z1/P330	34° 2'28.95"S 23° 2'59.64"E

No.	Name	Type of Facility	Municipality	Waste accepted	Class	License status	Type of license	License valid	Validity comments	Closure commencement date	Site Status	License no.	Latitude & Longitude
28	Old place garden waste landfill site	Landfill site	Knysna	Garden waste	Class B G:C:B+	Licensed	Decommission	Yes	15/01/2025	15/01/2020	Operational	19/2/5/4/D4/17/WL0 06/18	34° 2'17.16"S 23° 5'21.86"E
29	Sedgefield garden waste transfer station	Storage of waste	Knysna	Garden waste & construction & demolition waste	General	Licensed						19/2/5/1/D4/26/WL0 058/12	34° 0'37.75"S 22°47'50.01"E
30	Sedgefield reclamation facility	Sorting and bailing of waste	Knysna	General waste	General	Licensed	Operation	Yes	25/11/2023 (10 years)	N/A	Operational	19/2/5/1/D4/D6/WL0 056/12	34° 0'38.45"S 22°47'41.45"E
31	Simola Builder's Rubble Site	Disposal site for foundation of platform	Knysna	Construction & demolition waste	-	Registered i.t.o N&S GN 1093	Operation	Yes	N/A	N/A	Operational	19/2/1/2/3/2 (00065/18)	34° 0'10.23"S 23° 2'42.85"E
32	SWTSA Healthy care risk storage facility	HCRW storage facility	Knysna	HCRW	H:H	Permitted	Operation	No	23/03/2015	N/A	TBC	12/9/11/L248/9	TBC permit co-ordinates incorrect
33	Buysplaas landfill site	Landfill site	Mossel Bay	N/A	G:C:B-	Licensed	Decommission	TBC	28/05/2024 (10 years)	28/05/2019	Closed	19/2/5/1/D6/29/WL0 083/14	34° 7'1.86"S 21°42'44.43"E
34	D'Almeida landfill site	Landfill site	Mossel Bay	General waste	TBC	Unlicensed	N/A	N/A	N/A	N/A	Closed	N/A	34°10'29.28"S 22° 6'37.49"E
35	Friemersheim disposal site	Landfill site	Mossel Bay	None - closed	G:C:B+	Licensed	Operation	Yes	Not stated	Closed - rehabilitation required	Closed	16/2/7/K300/D53/Z1 /P392	33°57'20.78"S 22° 8'21.03"E
36	Garden Route Regional Site	Landfill site	Mossel Bay	General and hazardous	Not stated (variation)	Licensed	Operation	Yes	18/07/2019		In planning	12/9/11/L73263/9/LR	N/A
37	Great Brak Landfill	Landfill site	Mossel Bay	Construction & demolition waste & green waste	Class B (G:C:B-)	Licensed	Decommission	Yes	11/11/2024	11/11/2019	Operational	19/2/5/4/D6/17/WL0 065/18	34° 2'22.98"S 22°11'11.24"E
38	Green Scrap Recycling remade	Sorting and storage of waste	Mossel Bay	General and hazardous	H:H	Licensed	Operation	Yes	21/11/2023		Operational	12/9/11/L1116/9	34° 8'32.77"S 34° 8'32.77"S
39	Hartenbos pilot composting facility	Composting	Mossel Bay	Sewage sludge & wood chips	Hazardous	Unlicensed	N/A	N/A	N/A	N/A	Operational	N/A	34° 6'21.91"S 22° 6'4.81"E
40	Herbertsdale MRF	Storage and sorting	Mossel Bay	General waste	General waste	Registered i.t.o N&S GN 1093	Operation	Yes	N/A	N/A	In planning	19/2/1/2/3/2 (003/19)	34° 0'54.25"S 21°46'21.52"E

No.	Name	Type of Facility	Municipality	Waste accepted	Class	License status	Type of license	License valid	Validity comments	Closure commencement date	Site Status	License no.	Latitude & Longitude
41	Herbetsdale landfill site	Landfill site	Mossel Bay	General waste	G:C:B-	Licensed	Decommission	Yes	07/11/2024	07/11/2019	Closed	19/2/5/4/D6/21/WL0066/18	34° 0'54.31"S 21°46'21.92"E
42	Kwanonqaba refuse station	Transfer station	Mossel Bay	General waste, used oil and HHW	General waste	Registered i.t.o N&S GN 1093	Operation	Yes	N/A	N/A	Operational	19/2/1/2/3/2(0002/19)	34°10'32.54"S 22° 5'40.50"E
43	Louis Fourie Landfill	Landfill site	Mossel Bay	Green waste	G:C:B	Licensed	Decommission	Yes	07/08/2028 (10 years)	24/11/2019	Operational	19/2/5/4/D6/29/WL0068/18	34°10'58.73"S 22° 4'32.61"E
44	PetroSA Waste Management Facility	Landfill site	Mossel Bay	General waste (disposal), hazardous waste (storage)	G:M:B- (landfill) H:H (storage)	Licensed	Operation	-	-		Operational	12/9/L785/9/R1/V	34°10'20.24"S 21°58'11.52"E
45	Sonskynsvallei refuse transfer station	Transfer station	Mossel Bay	General waste	G:C:B-	Licensed	Operation	No	31/03/2024 (10 years)	N/A	Operational	EG13/2/10/1-D6/17-DWLT001/09	34° 6'58.93"S 22° 5'27.24"E
46	Dysseldorp disposal site	Landfill site	Oudtshoorn	General waste	G:C:B-	Licensed	Decommission	TBC	TBC	24/11/2019	Operational	19/2/5/1/D7/WL0061/14	33°36'12.48"S 22°24'26.94"E
47	Grootkop Waste Disposal Facility	Landfill site	Oudtshoorn	General waste	Class B (G:M:B)	Licensed	Operation	Yes	Valid until there is no longer air space	N/A	Operational	19/2/5/4/D7/9/WL0104/17	33°35'1.43"S 22°14'35.74"E
48	De Rust Waste Disposal Facility	Landfill site	Oudtshoorn	General waste	G:C:B-	Licensed	Operation	Yes	Valid until there is no longer air space	N/A	Operational	19/2/5/4/D7/4/WLOO64/18	33°30'9.66"S 22°31'14.26"E

Appendix C: Newspaper Advertisements

KONSEP GEÏNTEGREERDE AFVALBESTUURSPLAN (3DE GENERASIE) GARDEN ROUTE DISTRIKSMUNISIPALITEIT EN HESSEQUA PLAASLIKE MUNISIPALITEIT

Die Garden Route Distriksmunisipaliteit en die Hessequa Plaaslike Munisipaliteit wil die publiek uitnooi om die Geïntegreerde Afvalbestuurplanne te besigtig en kommentaar te lewer. Die afvalbestuursplanne dek die periode 2020 - 2025 en sluit in die munisipaliteit se visie, doelstellings en teikens vir afvalbestuur.

Die dokumente sal op die volgende plekke beskikbaar gestel word vir besigtiging:

Hessequa Bestuursplan

Witsand Kantoor	Hoofweg (Tel: 028 713 7868)
Heidelberg Kantoor	Niekerkstraat 5 (Tel: 028 713 8019)
Riversdale Kantoor	Van den Bergstraat (Tel: 028 713 8000)
Albertinia Kantoor	Hoofweg 60 (Tel: 028 713 7858)
Still Bay Kantoor	Hoofweg (Tel: 028 713 7831)
Gouritsmond Kantoor	Voortrekkerstraat 2 (Tel: 028 713 7855)
Slangrivier Kantoor	Skoolstraat 77 (Tel: 028 713 7892)

HLM webblad: www.hessequa.gov.za
GIBB webblad: http://projects.gibb.co.za

GARDEN ROUTE BESTUURSPLAN

Garden Route Distrikmunisipaliteit Kantore (gedurende werksure)

Garden Route Hoofkantoor	Yorkstraat 54, George (Tel: 044 803 1300)
Knysna Sateliet Kantoor	Queenstraat 24A, Knysna (Tel: 044 382 7214)
Mosselbaai Sataliet Kantoor	Hoek van Marlin- & Samsonstraat, Mosselbaai (Tel: 044 693 0006)
Plettenbergbaai Sataliet Kantoor	Gibbsstraat 7, Plettenbergbaai (Tel: 044 501 1600)
Oudtshoorn Sataliet Kantoor	Regentstraat 15, Oudtshoorn (Tel: 044 272 2241)
Riversdale Sataliet Kantoor	Mitchellstraat 24, Riversdal (Tel: 028 713 2438)

Garden Route webblad: http://www.gardenroute.gov.za/documents/
GIBB webblad: http://projects.gibb.co.za

KOMMENTAARPERIODE

Die bestuursplanne sal vir 'n periode van 21 dae, vanaf 18 Oktober 2019 tot 08 November 2019, beskikbaar wees vir die publiek om kommentaar daarop te lewer. Alle kommentaar wat ontvang is, sal by die finale bestuursplan ingesluit word.

Kommentaar rakende die bestuursplanne kan ingedien word per hand, pos of e-pos:

GIBB Publieke Kommentaar Kantore

Kontak Persoon:	Mev. Kate Flood
Posadres:	Posbus 63703, Greenacres, Port Elizabeth
Fisiese adres:	1st Vloer, St. George's Corner, Sentraal, Port Elizabeth
Epos:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

DRAFT INTEGRATED WASTE MANAGEMENT PLAN (3RD GENERATION) GARDEN ROUTE DISTRICT MUNICIPALITY AND HESSEQUA LOCAL MUNICIPALITY

Garden Route District and Hessequa Local Municipalities wish to invite the public to review and provide comment on the 3rd generations Integrated Waste Management Plans (IWMP). The IWMPs cover the period 2020 – 2025 and defines the municipalities' vision, objectives and targets for waste management.

The reports will be made available for review at the following locations:

HESSEQUA IWMP

Hard copies of the Hessequa IWMP will be made available at the following locations (during office hours):

Witsand Municipal Offices	Main Road (Tel: 028 713 7868)
Heidelberg Municipal Offices	5 Niekerk Street (Tel: 028 713 8019)
Riversdale Municipal Offices	Van den Berg Street (Tel: 028 713 8000)
Albertinia Municipal Offices	60 Main Road (Tel: 028 713 7858)
Still Bay Municipal Offices	Main Road (Tel: 028 713 7831)
Gouritsmond Municipal Offices	2 Voortrekker Street (Tel: 028 713 7855)
Slangrivier Municipal Offices	77 Skool Street (Tel: 028 713 7892)

HLM website: https://www.hessequa.gov.za
GIBB's website: http://projects.gibb.co.za

GARDEN ROUTE IWMP

Garden Route Municipal Offices (during office hours)

Hard copies of the GRDM IWMP will be made available at the following locations:

GRDM Head Office	54 York Street, George (Tel: 044 803 1300)
Knysna Satellite Office	24A Queen Street, Knysna (Tel: 044 382 7214)
Mosselbay Satellite Office	C/O Marlin & Samson Street, Mosselbay (Tel: 044 693 0006)
Plettenberg Bay Satellite Office	7 Gibbs Street, Plettenberg Bay (Tel: 044 501 1600)
Oudtshoorn Satellite Office	15 Regent Street, Oudtshoorn (Tel: 044 272 2241)
Riversdale Satellite Office	24 Mitchell Street, Riversdale (Tel: 028 713 2438)

GRDM website: http://www.gardenroute.gov.za/documents/
GIBB's website: http://projects.gibb.co.za

Public review and commenting period

The IWMPs will be available for a period of 21 days from 18 October 2019 to 08 November 2019 for the public to review and provide comment on. All comments received will be included in the final IWMPs.

Submission of comments

Comments on the IWMPs can be submitted using the contact details listed below

GIBB Public Participation Office

	Mrs Kate Flood
Postal address:	PO Box 63703, Greenacres, Port Elizabeth
Physical address:	1st Floor, St. George's Corner, Central, Port Elizabeth
Email:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

KONSEP GEÏNTEGREERDE AFVALBESTUURSPLAN (3DE GENERASIE) GARDEN ROUTE DISTRIKSMUNISIPALITEIT EN KANNALAND PLAASLIKE MUNISIPALITEIT

Die Garden Route Distriksmunisipaliteit en die Kannaland Plaaslike Munisipaliteit wil die publiek uitnooi om die Geïntegreerde Afvalbestuurplanne te besigtig en kommentaar te lewer. Die afvalbestuursplanne dek die periode 2020 - 2025 en sluit in die munisipaliteit se visie, doelstellings en teikens vir afvalbestuur.

Die dokumente sal op die volgende plekke beskikbaar gestel word vir besigtiging:

Kannaland Bestuursplan (gedurende werksure)

Ladismith Biblioteek	Calitzdorp Biblioteek
Queenstraat 21	Voortrekkerstraat
Tel: 028 551 1023	Tel: 028 551 8000

KLLM webblad: www.kannaland.gov.za
GIBB webblad: http://projects.gibb.co.za

GARDEN ROUTE BESTUURSPLAN

Garden Route Distrikmunisipaliteit Kantore (gedurende werksure)

Garden Route Hoofkantoor	Yorkstraat 54, George (Tel: 044 803 1300)
Knysna Sateliet Kantoor	Queenstraat 24A, Knysna (Tel: 044 382 7214)
Mosselbaai Sataliet Kantoor	Hoek van Marlin- & Samsonstraat, Mosselbaai (Tel: 044 693 0006)
Plettenbergbaai Sataliet Kantoor	Gibbsstraat 7, Plettenbergbaai (Tel: 044 501 1600)
Oudtshoorn Sataliet Kantoor	Regentstraat 15, Oudtshoorn (Tel: 044 272 2241)
Riversdale Sataliet Kantoor	Mitchellstraat 24, Riversdal (Tel: 028 713 2438)

Garden Route webblad: http://www.gardenroute.gov.za/documents/
GIBB webblad: http://projects.gibb.co.za

KOMMENTAARPERIODE

Die bestuursplan sal vir 'n periode van 21 dae, vanaf 18 Oktober 2019 tot 08 November 2019, beskikbaar wees vir die publiek om kommentaar daarop te lewer. Alle kommentaar wat ontvang is, sal by die finale bestuursplan ingesluit word.

Kommentaar rakende die bestuursplanne kan ingedien word per hand, pos of e-pos:

GIBB Publieke Kommentaar Kantore

Kontak Persoon:	Mev. Kate Flood
Posadres:	Posbus 63703, Greenacres, Port Elizabeth
Fisiese adres:	1st Vloer, St. George's Corner, Sentraal, Port Elizabeth
Epos:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

DRAFT INTEGRATED WASTE MANAGEMENT PLAN (3RD GENERATION) GARDEN ROUTE DISTRICT MUNICIPALITY AND KANNALAND LOCAL MUNICIPALITY

Garden Route District and Kannaland Local Municipalities wish to invite the public to review and provide comment on the 3rd generations Integrated Waste Management Plans (IWMP). The IWMPs cover the period 2020 – 2025 and defines the municipalities' vision, objectives and targets for waste management.

The reports will be made available for review at the following locations:

KANNALAND IWMP

Hard copies of the Kannaland IWMP will be made available at the following locations (during office hours):

Ladismith Library	Calitzdorp Library
21 Queen Street	Municipal Complex, Voortrekker Street
Tel: 028 551 1023	Tel: 028 551 8000

KLLM website: https://www.kannaland.gov.za
GIBB's website: http://projects.gibb.co.za

GARDEN ROUTE IWMP

Garden Route Municipal Offices (during office hours)

Hard copies of the GRDM IWMP will be made available at the following locations:

GRDM Head Office	54 York Street, George (Tel: 044 803 1300)
Knysna Satellite Office	24A Queen Street, Knysna (Tel: 044 382 7214)
Mosselbay Satellite Office	C/O Marlin & Samson Street, Mosselbay (Tel: 044 693 0006)
Plettenberg Bay Satellite Office	7 Gibbs Street, Plettenberg Bay (Tel: 044 501 1600)
Oudtshoorn Satellite Office	15 Regent Street, Oudtshoorn (Tel: 044 272 2241)
Riversdale Satellite Office	24 Mitchell Street, Riversdale (Tel: 028 713 2438)

GRDM website: http://www.gardenroute.gov.za/documents/
GIBB's website: http://projects.gibb.co.za

Public review and commenting period

The IWMPs will be available for a period of 21 days from 18 October 2019 to 08 November 2019 for the public to review and provide comment on. All comments received will be included in the final IWMPs.

Submission of comments

Comments on the IWMPs can be submitted using the contact details listed below

GIBB Public Participation Office

	Mrs Kate Flood
Postal address:	PO Box 63703, Greenacres, Port Elizabeth
Physical address:	1st Floor, St. George's Corner, Central, Port Elizabeth
Email:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

KONSEP GEÏNTEGREERDE AFVALBESTUURSPLAN (3DE GENERASIE) GARDEN ROUTE DISTRIKSMUNISIPALITEIT EN OUDTSHOORN PLAASLIKE MUNISIPALITEIT

Die Garden Route Distriksmunisipaliteit en die Oudtshoorn Plaaslike Munisipaliteit wil die publiek uitnooi om die Geïntegreerde Afvalbestuurplanne te besigtig en kommentaar te lewer. Die afvalbestuursplanne dek die periode 2020 - 2025 en sluit in die munisipaliteit se visie, doelstellings en teikens vir afvalbestuur.

Die dokumente sal op die volgende plekke beskikbaar gestel word vir besigtiging:
Oudtshoorn Bestuursplan
Departement van Tegniese Dienste
St. Saviourstraat 33
Tel: 044 203 3954

OLM webblad: www.oudtshoorn.gov.za
GIBB webblad: http://projects.gibb.co.za

GARDEN ROUTE BESTUURSPLAN
Garden Route Distrikmunisipaliteit Kantore (gedurende werksure)

Garden Route Hoofkantoor	Yorkstraat 54, George (Tel: 044 803 1300)
Knysna Sateliet Kantoor	Queenstraat 24A, Knysna (Tel: 044 382 7214)
Mosselbaai Sataliet Kantoor	Hoek van Marlin- & Samsonstraat, Mosselbaai (Tel: 044 693 0006)
Plettenbergbaai Sataliet Kantoor	Gibbsstraat 7, Plettenbergbaai (Tel: 044 501 1600)
Oudtshoorn Sataliet Kantoor	Regentstraat 15, Oudtshoorn (Tel: 044 272 2241)
Riversdale Sataliet Kantoor	Mitchellstraat 24, Riversdal (Tel: 028 713 2438)

Garden Route webblad: http://www.gardenroute.gov.za/documents/
GIBB webblad: http://projects.gibb.co.za

KOMMENTAARPERIODE
Die bestuursplan sal vir 'n periode van 21 dae, vanaf 18 Oktober 2019 tot 08 November 2019, beskikbaar wees vir die publiek om kommentaar daarop te lewer. Alle kommentaar wat ontvang is, sal by die finale bestuursplan ingesluit word.

Kommentaar rakende die bestuursplanne kan ingedien word per hand, pos of e-pos:

GIBB Publieke Kommentaar Kantore

Kontak Persoon:	Mev. Kate Flood
Posadres:	Posbus 63703, Greenacres, Port Elizabeth
Fisiese adres:	1st Vloer, St. George's Corner, Sentraal, Port Elizabeth
Epos:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

DRAFT INTEGRATED WASTE MANAGEMENT PLAN (3RD GENERATION) GARDEN ROUTE DISTRICT MUNICIPALITY AND OUDTSHOORN LOCAL MUNICIPALITY

Garden Route District and Oudtshoorn Local Municipalities wish to invite the public to review and provide comment on the 3rd generations Integrated Waste Management Plans (IWMP). The IWMPs cover the period 2020 – 2025 and defines the municipalities' vision, objectives and targets for waste management.

The reports will be made available for review at the following locations:

OUDTSHOORN IWMP
Hard copies of the OLM IWMP will be made available at the following location:
Department of Technical Services
33 St. Saviour Street
Tel: 044 203 3954

MBLM website: https://www.mosselbay.gov.za
GIBB's website: http://projects.gibb.co.za

GARDEN ROUTE IWMP
Garden Route Municipal Offices (during office hours)
Hard copies of the GRDM IWMP will be made available at the following locations:

GRDM Head Office	54 York Street, George (Tel: 044 803 1300)
Knysna Satellite Office	24A Queen Street, Knysna (Tel: 044 382 7214)
Mosselbay Satellite Office	C/O Marlin & Samson Street, Mosselbay (Tel: 044 693 0006)
Plettenberg Bay Satellite Office	7 Gibbs Street, Plettenberg Bay (Tel: 044 501 1600)
Oudtshoorn Satellite Office	15 Regent Street, Oudtshoorn (Tel: 044 272 2241)
Riversdale Satellite Office	24 Mitchell Street, Riversdale (Tel: 028 713 2438)

GRDM website: http://www.gardenroute.gov.za/documents/
GIBB's website: http://projects.gibb.co.za

Public review and commenting period
The IWMPs will be available for a period of 21 days from 18 October 2019 to 08 November 2019 for the public to review and provide comment on. All comments received will be included in the final IWMPs.

Submission of comments
Comments on the IWMPs can be submitted using the contact details listed below

GIBB Public Participation Office
Mrs Kate Flood

Postal address:	PO Box 63703, Greenacres, Port Elizabeth
Physical address:	1st Floor, St. George's Corner, Central, Port Elizabeth
Email:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

Parkrun uitslae

GARNETT WICOMB

Wilhelm Kuun en Bianca van der Westhuizen was Saterdag die vinnigste man en vrou van die 98 deelnemers wat aan die 234ste Oudtshoorn-parkrun by die Surval Olyflandgoed deelgeneem het.

Die 14-jarige Kiaan Snyman was die vinnigste junior oor die wenstreep.

Saterdag se beste tye is as volg:

Wilhelm Kuun (19:51)
Patrick Peters (21:32)
Rudolph Clench (22:31)
Bianca van der Westhuizen (22:59)
Wouter Roux (23:06)
Francois Verwey (23:06)
Tiaan van Schalwyk (23:44)
Kiaan Snyman (23:55)
Nathan Gray (24:06)
Newald Groenewald (24:19)
Hanru Storm (24:19)
Hans Lareman (25:17)
Albertus Kennedy (25:42)
Mathys Myburgh (25:44)
Francois le Roux (25:50)

Bianca van der Westhuizen was die eerste vrou oor die wenstreep. *Foto verskaf*

Vierekampioene gekroon

Alewyn en Christa Hanekom (links) tesame met Ian Cochrane en Zinobia Koegelenberg, het verlede Saterdag die Oudtshoorn-rolbalklub se gemengde vieretoernooi gewen. *Foto verskaf*

ASSISTANT DIRECTOR: HUMAN RESOURCE MANAGEMENT AND ADMINISTRATION (SL9)

(POST NUMBER: PS 01 OF 2019)

Salary: R376 596.00 - R443 601.00 per annum excluding service benefits

WORKSTATION: CENTRAL OFFICE (GEORGE)

Nature of appointment: PERSAL

This is a senior appointment, so we are looking for an individual who can demonstrate the necessary maturity and professionalism which can be expected to fulfil this role. The person will manage a team of nine and report to the Deputy Principal Corporate Services.

Qualifications: • Matric plus an accredited three-year Degree/National Diploma in Human Resource Management/Public Administration/Public Management /Labour Law or relevant equivalent qualification. • Proven experience of at least 3-5 years supervisory experience in Human resource Management environment. • Computer literacy (MS Office). • A valid code 08 driver's license.

Recomendations: • Knowledge and understanding of the Public Service Act, Public Service Regulations, Continuous Education and Training Act No 6 of 2006, Employment of Educations Act, 1998. Knowledge of relevant HR Prescripts. Good interpersonal relations, customer relations, supervisory skills and computer Literacy. • Ability to lead a team of HR Practitioners and off advice to Senior Management on HR related matters. • Ability to act professionally and ethically at all times. • Ability to effectively communicate in at least two of the three official languages of the Western Cape. • Knowledge of relevant Public sector legislation, regulations and policies.

Duties: • Implement the HR Plan. Facilitate Labour Relations Function. • Develop policies, guideline and standard operating procedures. • Ensure that HR Policies/College agreements are implemented. • Provide advice and guidance to relevant stakeholders. • Supervise the staff within the Departments and resolve conflict. • Ensure that the College's Staff Establishment is maintained and updated. • Provision of reports and statistics including information management. • Manage staff payroll for VIP and PERSAL paid staff. • Maintain workflow by assign work to staff. • Oversee the Human Resources Development, Employment Equity, Staff Performance management And Employee Assistance and wellness functions. • Render demand and acquisition clerical support. • Control turnaround time of requisition on orders.

Closing date: Monday, 4 November 2019 at 16:00

General instruction

PLEASE NOTE: • Applications should be on a Z83 form, signed and dated, and must be accompanied by a comprehensive Curriculum Vitae with full particulars of the applicant's training, qualifications, competencies, knowledge and years of experience , references (on a separate sheet). • Certified copies of the following original documents not older than three months must be attached: Matric Certificate (Senior Certificate), Driver's license, SACE Registration certificate for educators, tertiary qualifications and identity document. (Degrees, Diplomas), Driver's license, SACE registration for educators and identity document. (DO NOT ATTACH ORIGINAL DOCUMENTS AS THEY WILL NOT BE RETURNED). Note that it is compulsory to attach an academic record for all positions where this is a requirement • Applicants in possession of a foreign qualification **must** attach an evaluation certificate from the South African Qualifications Authority (SAQA) to their application forms. • Non-RSA citizens/Permanent resident permit holders **must** submit a copy of his/her Permanent Resident Permit with his/her application. • Please note that a separate application **must** be submitted if you apply for more than one post. • These documents are compulsory and failing to comply will automatically lead to disqualification of the applicant. • Applications can be delivered by hand to the Central Office during normal office hours **(Monday – Friday 07:30 – 16:00)**. • Applications sent by telefax or e-mail will not be considered. • The DHET and the College reserves the right not to make an appointment. • **Matching and redeployment to other workstations within the College may be considered based on the operational requirements. • Candidates will be subjected to a personnel suitability check (criminal record, citizenship, qualification verification and employment verification)**. • Applicants are respectfully informed that correspondence will be limited to short-listed candidates only. • Direct your application, quoting the above relevant post reference number on the letter of application and on the front of the envelope.

Applications must be submitted to the following address: For attention: Mr. ME Gcuwa, The Deputy Principal: Corporate Services, South Cape TVET College (Central Office), 125 Mitchell Street, GEORGE, 6529 or PO Box 10400, GEORGE, 6530

The DHET and South Cape TVET College are an equal opportunity, affirmative action employer, whose aim is to promote representation in all levels of occupational categories in accordance with the Employment Equity Plan of the College.

Volkskerk hou gholfdag

Die Volkskerk van Afrika Mosselbaai hou op Sondag, 27 Oktober 'n gholfdag by die Mosselbaai-gholfbaan. Die kompetisieformaat sal 'n Individuele stablefordkompetisie wees en die inskrywingsfooi is R250 per speler. Lekker vleispryse is op die spel asook vele ander aantreklike pryse vir onder meer naaste aan die pen en verste dryfhou. Daar sal ook verversings by die natgate wees.

Vir enige navrae kontak Joey Daniels (065 892 3990) of David Philips (083 981 5770).

MOSSEL BAY MUNICIPALITY

PROPOSED ALIENATION OF ERF 12782 (PORTION OF ERF 12738) (55M²) TO THE OWNER OF THE ADJACENT ERF 12762 (2514), MOSSEL BAY (34 UPPER CROSS STREET, MOSSEL BAY)

Notice is hereby given in terms of the Local Government: Municipal Finance Management Act, 2003 (Act 56 of 2003) together with the Municipal Asset Transfer Regulations R878 of 2008 and the Local Government: Municipal Systems Act 2000 (Act 32 of 2000).

In terms of Council Resolution, Item E206-09/2019 it was resolved as follows:

"1. That a portion of street reserve in Montagu Street (Erf 12782, a portion of Erf 12738) 55m² in extent, be alienated to the adjacent owner of Erf 12762, Tembador 100 Pty Ltd, at a market related purchase price of R82 500,00 (VAT inclusive).
2. That this portion (Erf 12782) be consolidated with the adjacent property, Erf 12762, Mossel Bay.
3. That the Municipality reserves the right of free access to the property, without notice, for the purpose of inspection, maintenance, renewal, cleansing, repair and construction of municipal services.
4. That the Applicant will be responsible for all costs of the application, including advertisement, transfer, consolidation and service connection costs, if any.
5. That the Municipality be indemnified against any damages for any stormwater overflow/flooding or any other causes that may occur in the future. This precondition must also be included in the Title Deed.
6. That the Applicant will not alter or in any way disturb any existing services on the abovementioned property.
7. All costs for the relocation of any municipal services shall be borne by the Applicant.
8. That no rights and/or obligations will vest herein before the Deed of Sale is signed by both parties."

Any objections, comments, representations or alternative proposals regarding the Council's intention should be lodged in writing to the Municipal Manager, P.O. Box 25, Mossel Bay, 6500, on or before 18 November 2019. Any objections, comments, representations or alternative proposals which are received after the abovementioned closing date may not be taken into consideration.

Any enquiries may be directed to ms. A. Lichaba on telephone number (044) 606 5109 or fax number (044) 606 5062, alichaba@mosselbay.gov.za. This notice is also available on the website of the Municipality, www.mosselbay.gov.za.

Notice is also given in terms of Section 21(4) of the Local Government Act: Municipal Systems, 2000 (Act 32 of 2000) that people who cannot write are welcome to approach the Department Legal Services during office hours where a member of the staff will assist them in putting their comments, objections or representations in writing.

This notice is published in English and will be made available free of charge, in Afrikaans or Xhosa upon request.

Hierdie kennisgewing word gepubliseer in Engels en sal gratis op aanvraag beskikbaar gemaak word in Afrikaans en Xhosa.

Esi saziso sipapashwe ngesiNgesi kwaye sifumaneka ngesisa/mahala, ngolwimi lwe-Afrikaans okanye isiXhosa xa kukho isicelo eso.

File Reference: 15/1/1/4 C 5572178

ADV. THYS GILIOMEE
MUNICIPAL MANAGER

PUBLIC NOTICE

Garden Route

Garden Route, the leading, enabling and inclusive district, characterised by equitable and sustainable development, high quality of life and equal opportunities for all.

GARDEN ROUTE DISTRICT MUNICIPALITY

Public Notice: TENDER NO.: E/02/14-15
PUBLIC PRIVATE PARTNERSHIP FOR THE DEVELOPMENT, DESIGN, FINANCE, MAINTENANCE AND OPERATION OF A NEW DISTRICT REGIONAL LANDFILL SITE, INCLUDING ALTERNATIVE WASTE TREATMENT TECHNOLOGY

The Garden Route District Municipality, in terms of the provisions of Section 33 of the Local Government: Municipal Finance Management Act, No. 56 of 2003 hereby make public its intention to enter into a Municipal Public Private Partnership (Municipal PPP) with a private partner, willing to invest in the financing, design, construction, operation and management of the proposed Garden Route Regional Waste Management Facility including the provision of a hazardous waste cell, bulk transportation of waste, chipping of green waste, the crushing of building rubble and related works as well as alternative waste treatment technologies if such alternative waste treatment technologies can be incorporated on a no additional cost basis.

The proposed Municipal PPP Agreement and an information statement summarising the Municipality's obligations in terms of the proposed contract can be inspected at the Municipality's head and satellite offices in Plettenberg Bay, Knysna and Mossel Bay during the official hours of operation of these offices from 03 October 2019 until 03 November 2019. The Municipal PPP Agreement and information statement will also be available, for the duration of the comment period on the Municipality's website, www.gardenroute.gov.za.

The Municipal PPP Agreement will be considered for approval by the Municipal Council of the Garden Route District Municipality at its Council meeting to be held at the Municipality's head office in George during December 2019.

Members of the local community and other interested parties are invited to submit their comments or representations in respect of the proposed Municipal PPP Agreement to the Garden Route District Municipality before 12:00, 03 November 2019 in a sealed envelope clearly endorsed **"STAKEHOLDER COMMENTS ON THE PROPOSED AGREEMENT FOR A MUNICIPAL PUBLIC PRIVATE PARTNERSHIP FOR THE ESTABLISHMENT OF A REGIONAL LANDFILL FOR THE GARDEN ROUTE DISTRICT MUNICIPALITY IN THE MOSSEL BAY AREA"** and addressed to: Municipal Manager, Garden Route District Municipality, P.O. Box 12, George, 6530, and to be deposited in the tender box in the foyer of the Garden Route District Municipal head office at 54 York Street, George. The Information Statement contains more detail on the information requirements to be provided for individuals and/or organisations that are submitting comments.

Any person who wishes to submit comments or representations in respect of the proposed contract who cannot write will be assisted by the Garden Route District Municipality Communication Section at 54 York Street, George.

It must be noted that should the Garden Route District Municipal Council approve this Municipal PPP Agreement during their meeting to be held in December 2019, it will be implemented as soon as possible thereafter. The agreement as concluded would in terms of Section 84(3) of the Local Government: Municipal Systems Act, 32 of 2000 be made available at the municipal head and satellite offices during office hours for public inspection.

Enquiries can be directed to Mr Morton Hubbe telephone 044 693 0006, morton@gardenroute.gov.za

M G Stratu
Municipal Manager
Garden Route District Municipality

GARDEN ROUTE DISTRIKSMUNISIPALITEIT

Kennisgewing aan die publiek: TENDER NR. E/02/14-15
PUBLIEKE PRIVATE VENNOOTSKAP VIR DIE ONTWIKKELING, ONTWERP, FINANSIERING EN BEDRYF VAN 'N NUWE STREEK-AFVAL TERREIN VIR DIE DISTRIK, INSLUITEND ALTERNATIEWE AFVALBEHANDELINGSTEGNOLOGIE.

Die Garden Route Distriksmunisipaliteit is van voorneme om ingevolge die bepalings van Artikel 33 van die Plaaslike Regering: Bestuurswet op Munisipale Finansies, Wet nr. 56 van 2003 'n Munisipale Publieke Private Vennootskap (Munisipale PPV) aan te gaan met 'n private vennoot wat bereid is om te belê in die finansiering, ontwerp, konstruksie bedryf en bestuur van die voorgestelde Garden Route Streeksafvalbestuur Fasiliteit insluitend die voorsiening van 'n sel vir gevaarlike afval, grootmaat vervoer van afval, opkerf van groen afval, vergruising van bourommel en verwante werke asook alternatiewe afvalbehandelingstegnologie indien sodanige afval behandelings tegnologie geïnkorporeer kan word sonder addisionele koste.

Die voorgenome Munisipale PPV-ooreenkoms en 'n inligtingstuk met 'n samevatting van die Munisipaliteit se verpligting ingevolge die voorgenome kontrak lê ter insae by die Munisipaliteit se hoof- en satelliet kantore in Plettenbergbaai, Knysna and Mosselbaai tydens die amptelike kantoorure vanaf 03 Oktober 2019 tot 03 November 2019. Die Munisipale PPV en inligtingstuk sal ook beskikbaar wees op die munisipaliteit se webtuiste vir die volle kommentaar tydperk, www.gardenroute.gov.za

Die Munisipale PPV-ooreenkoms sal oorweeg word vir goedkeuring deur Munisipale Raad van die Garden Route Distriksmunisipaliteit by sy Raadsvergadering wat gehou sal word gedurende Desember 2019 by die Munisipale hoofkantoor in George.

Lede van die plaaslike gemeenskap en ander belangstellende partye word genooi om hul kommentaar of voorleggings ten opsigte van die voorgenome Munisipale PPV ooreenkoms in te dien by Garden Route Distriksmunisipaliteit voor 12:00 op 03 November 2019 in 'n verseëlde koevert, duidelik geëndosseer **"BELANGHEBBENDES SE KOMMENTAAR OP DIE VOORGENOME OOREENKOMS VIR 'N MUNISIPALE PUBLIEKE PRIVATE VENNOOTSKAP VIR DIE VESTIGING VAN 'N STREEKSAFVALTERREIN VIR DIE GARDEN ROUTE DISTRIKSMUNISIPALITEIT IN DIE MOSSELBAAI-AREA"** en gerig aan Munisipale Bestuurder, Garden Route Distriksmunisipaliteit, Posbus 12, George, 6530, en dit te plaas in die tenderbus in die ingangsportaal van die Garden Route Distriksmunisipale hoofkantoor, Yorkstraat 54, George.

Die inligtingstuk bevat meer besonderhede oor die inligting wat voorsien moet word aan individue en/of organisasies wat kommentaar wil indien. Enigeen wat kommentaar of voorleggings wil indien ten opsigte van die voorgenome kontrak en wat nie kan skryf nie, sal bygestaan word deur die Garden Route Distriksmunisipaliteit Kommunikasie afdeling by Yorkstraat 54, George.

Let daarop dat indien die Garden Route Distriksmunisipale Raad hierdie Munisipale PPV ooreenkoms goedkeur gedurende hulle vergadering wat gehou sal word in Desember 2019, dit so gou moontlik daarna geïmplementeer sal word. Die ooreenkoms wat gesluit word ingevolge Artikel 84(3) van die Plaaslike Regering: Munisipale Stelsels Wet, Nr.32 van 2000 sal ter insae lê by die Munisipale hoof- en satelliet kantore tydens kantoorure vir inspeksie deur die publiek.

Navrae kan gerig word aan mnr. Morton Hubbe, telefoonnommer 044 693 0006 of pere-pos: morton@gardenroute.gov.za

M G Stratu
Munisipale Bestuurder
Garden Route Distriksmunisipaliteit

146312

KONSEP GEÏNTEGREERDE AFVALBESTUURSPLAN (3DE GENERASIE)
GARDEN ROUTE DISTRIKSMUNISIPALITEIT EN MOSSELBAAI PLAASLIKE MUNISIPALITEIT

Die Garden Route Distriksmunisipaliteit en die Mosselbaai Plaaslike Munisipaliteit wil die publiek uitnooi om die Geïntegreerde Afvalbestuurplanne te besigtig en kommentaar te lewer. Die afvalbestuursplanne dek die periode 2020 - 2025 en sluit in die munisipaliteit se visie, doelstellings en teikens vir afvalbestuur.

Die dokumente sal op die volgende plekke beskikbaar gestel word vir besigtiging:

Mosselbaai Bestuursplan

Mosselbaai Biblioteek	Marshstraat 99 (Tel: 044 606 5171)
D'Almeida Biblioteek	Standstraat (Tel: 044 606 5285)
Hartenbos Biblioteek	Witwatersrand Laan (Tel: 044 606 5271)
Grootbrak Inligting Dienste	van Rensburgstraat 13 (Tel: 044 620 3210)
Kwanonqaba Biblioteek	Mayixhalestraat (Tel: 044 693 1507)

MBLM webblad: www.mosselbay.gov.za
GIBB webblad: http://projects.gibb.co.za

GARDEN ROUTE BESTUURSPLAN
Garden Route Distrikmunisipaliteit Kantore (gedurende werksure)

Garden Route Hoofkantoor	Yorkstraat 54, George (Tel: 044 803 1300)
Knysna Sateliet Kantoor	Queenstraat 24A, Knysna (Tel: 044 382 7214)
Mosselbaai Sataliet Kantoor	Hoek van Marlin- & Samsonstraat, Mosselbaai (Tel: 044 693 0006)
Plettenbergbaai Sataliet Kantoor	Gibbsstraat 7, Plettenbergbaai (Tel: 044 501 1600)
Oudtshoorn Sataliet Kantoor	Regentstraat 15, Oudtshoorn (Tel: 044 272 2241)
Riversdale Sataliet Kantoor	Mitchellstraat 24, Riversdal (Tel: 028 713 2438)

Garden Route webblad: http://www.gardenroute.gov.za/documents/
GIBB webblad: http://projects.gibb.co.za

KOMMENTAARPERIODE
Die bestuursplan sal vir 'n periode van 21 dae, vanaf 18 Oktober 2019 tot 08 November 2019, beskikbaar wees vir die publiek om kommentaar daarop te lewer. Alle kommentaar wat ontvang is, sal by die finale bestuursplan ingesluit word.

Kommentaar rakende die bestuursplanne kan ingedien word per hand, pos of e-pos:

GIBB Publieke Kommentaar Kantore

Kontak Persoon:	Mev. Kate Flood
Posadres:	Posbus 63703, Greenacres, Port Elizabeth
Fisiese adres:	1st Vloer, St. George's Corner, Sentraal, Port Elizabeth
Epos:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

DRAFT INTEGRATED WASTE MANAGEMENT PLAN (3RD GENERATION)
GARDEN ROUTE DISTRICT MUNICIPALITY AND MOSSEL BAY LOCAL MUNICIPALITY

Garden Route District and Mossel Bay Local Municipalities wish to invite the public to review and provide comment on the 3rd generations Integrated Waste Management Plans (IWMP). The IWMPs cover the period 2020 – 2025 and defines the municipalities' vision, objectives and targets for waste management.

The reports will be made available for review at the following locations:

BITOU IWMP
Hard copies of the Mossel Bay IWMP will be made available at the following locations (during office hours):

Mossel Bay Library	99 Marsh Street (Tel: 044 606 5171)
D'Almeida Library	Stand Street (Tel: 044 606 5285)
Hartenbos Library	Witwatersrand Avenue (Tel: 044 606 5271)
Great Brak Information Services	13 van Rensburg Street (Tel: 044 620 3210)
Kwanonqaba Public Library	Mayixhale Street (Tel: 044 693 1507)

MBLM website: https://www.mosselbay.gov.za
GIBB's website: http://projects.gibb.co.za

GARDEN ROUTE IWMP
Garden Route Municipal Offices (during office hours)
Hard copies of the GRDM IWMP will be made available at the following locations:

GRDM Head Office	54 York Street, George (Tel: 044 803 1300)
Knysna Satellite Office	24A Queen Street, Knysna (Tel: 044 382 7214)
Mosselbay Satellite Office	C/O Marlin & Samson Street, Mosselbay (Tel: 044 693 0006)
Plettenberg Bay Satellite Office	7 Gibbs Street, Plettenberg Bay (Tel: 044 501 1600)
Oudtshoorn Satellite Office	15 Regent Street, Oudtshoorn (Tel: 044 272 2241)
Riversdale Satellite Office	24 Mitchell Street, Riversdale (Tel: 028 713 2438)

GRDM website: http://www.gardenroute.gov.za/documents/
GIBB's website: http://projects.gibb.co.za

Public review and commenting period
The IWMPs will be available for a period of 21 days from 18 October 2019 to 08 November 2019 for the public to review and provide comment on. All comments received will be included in the final IWMPs.

Submission of comments
Comments on the IWMPs can be submitted using the contact details listed below

GIBB Public Participation Office

	Mrs Kate Flood
Postal address:	PO Box 63703, Greenacres, Port Elizabeth
Physical address:	1st Floor, St. George's Corner, Central, Port Elizabeth
Email:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax	041 363 9300

KONSEP GEÏNTEGREERDE AFVALBESTUURSPLAN (3DE GENERASIE) TUINROETE DISTRIKSMUNISIPALITEIT EN BITOU PLAASLIKE MUNISIPALITEIT

Die Garden Route Distriksmunisipaliteit en die Bitou Plaaslike Munisipaliteit wil die publiek uitnooi om die Geïntegreerde Afvalbestuurplanne te besigtig en kommentaar te lewer. Die afvalbestuursplanne dek die periode 2020 - 2025 en sluit in die munisipaliteit se visie, doelstellings en teikens vir afvalbestuur.

Die dokumente sal op die volgende plekke beskikbaar gestel word vir besigtiging:
Bitou Bestuursplan
Plettenbergbaai Biblioteek
Winkel 29 Mellvilles Sentrum
Tel: 044 501 3128

BLM webblad: www.oudtshoorn.gov.za
GIBB webblad: http://projects.gibb.co.za

GARDEN ROUTE BESTUURSPLAN
Garden Route Distrikmunisipaliteit Kantore (gedurende werksure)

Garden Route Hoofkantoor	Yorkstraat 54, George (Tel: 044 803 1300)
Knysna Sateliet Kantoor	Queenstraat 24A, Knysna (Tel: 044 382 7214)
Mosselbaai Sataliet Kantoor	Hoek van Marlin- & Samsonstraat, Mosselbaai (Tel: 044 693 0006)
Plettenbergbaai Sataliet Kantoor	Gibbsstraat 7, Plettenbergbaai (Tel: 044 501 1600)
Oudtshoorn Sataliet Kantoor	Regentstraat 15, Oudtshoorn (Tel: 044 272 2241)
Riversdale Sataliet Kantoor	Mitchellstraat 24, Riversdal (Tel: 028 713 2438)

Garden Route webblad: http://www.gardenroute.gov.za/documents/
GIBB webblad: http://projects.gibb.co.za

KOMMENTAARPERIODE
Die bestuursplan sal vir 'n periode van 21 dae, vanaf 18 Oktober 2019 tot 08 November 2019, beskikbaar wees vir die publiek om kommentaar daarop te lewer. Alle kommentaar wat ontvang is, sal by die finale bestuursplan ingesluit word.

Kommentaar rakende die bestuursplanne kan ingedien word per hand, pos of e-pos:

GIBB Publieke Kommentaar Kantore

Kontak Persoon:	Mev. Kate Flood
Posadres:	Posbus 63703, Greenacres, Port Elizabeth
Fisiese adres:	1st Vloer, St. George's Corner, Sentraal, Port Elizabeth
Epos:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

DRAFT INTEGRATED WASTE MANAGEMENT PLAN (3RD GENERATION) GARDEN ROUTE DISTRICT MUNICIPALITY AND BITOU LOCAL MUNICIPALITY

Garden Route District and Bitou Local Municipalities wish to invite the public to review and provide comment on the 3rd generations Integrated Waste Management Plans (IWMP). The IWMPs cover the period 2020 – 2025 and defines the municipalities' vision, objectives and targets for waste management.

The reports will be made available for review at the following locations:

BITOU IWMP
Hard copies of the Bitou IWMP will be made available at the following locations (during office hours):
Plettenberg Bay Library
Shop 29 Mellvilles Centre
Tel: 044 501 3128

BLM website: https://www.bitou.gov.za
GIBB's website: http://projects.gibb.co.za

GARDEN ROUTE IWMP
Garden Route Municipal Offices (during office hours)
Hard copies of the GRDM IWMP will be made available at the following locations:

GRDM Head Office	54 York Street, George (Tel: 044 803 1300)
Knysna Satellite Office	24A Queen Street, Knysna (Tel: 044 382 7214)
Mosselbay Satellite Office	C/O Marlin & Samson Street, Mosselbay (Tel: 044 693 0006)
Plettenberg Bay Satellite Office	7 Gibbs Street, Plettenberg Bay (Tel: 044 501 1600)
Oudtshoorn Satellite Office	15 Regent Street, Oudtshoorn (Tel: 044 272 2241)
Riversdale Satellite Office	24 Mitchell Street, Riversdale (Tel: 028 713 2438)

GRDM website: http://www.gardenroute.gov.za/documents/
GIBB's website: http://projects.gibb.co.za

Public review and commenting period
The IWMPs will be available for a period of 21 days from 18 October 2019 to 08 November 2019 for the public to review and provide comment on. All comments received will be included in the final IWMPs.

Submission of comments
Comments on the IWMPs can be submitted using the contact details listed below

GIBB Public Participation Office

	Mrs Kate Flood
Postal address:	PO Box 63703, Greenacres, Port Elizabeth
Physical address:	1st Floor, St. George's Corner, Central, Port Elizabeth
Email:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

Plett ratepayers enter 'rabbit hole'

Residents vs municipal manager in Alice in Wonderland-like state

Yolande Stander

The Plettenberg Bay Ratepayers' Association has turned to the labour court to intervene in actions by the Bitou local government concerning its municipal manager (MM).

"Sometimes, the actions of our government can convince one that we have slipped down the rabbit hole and are living right next door to Alice in Wonderland. It would be funny if the implications, financial and otherwise, for our town and country were not as serious as they are," said PBRA chair Neville Petersen.

Plettenberg Bay municipal manager Lonwabo Ngoqo

Over the past year, Bitou Municipality has made "irrational and even bizarre" decisions which have forced them as ratepayers to start playing an active role in the town's governance, he said, one such being the rehiring of MM Lonwabo Ngoqo.

The labour court found on 13 August that Ngoqo's appointment in February this year was unlawful – after he was dismissed in 2012 over financial misconduct.

'Council resisted MEC's decision'

Legally, Petersen explained, an MM found guilty by a disciplinary hearing of serious financial misconduct, must be placed on a register and is not allowed to be appointed as an MM for the next 10 years. "Inexplicably that was not done," Petersen added.

"As a check and balance, the appointment of an MM must be approved by the relevant MEC for local government. The MEC objected to the approval but the council resisted. This forced the MEC to enforce his decision via the courts."

Petersen said council has since applied for leave to appeal.

"The normally unavoidable consequence of the application for leave to appeal is that the decision under appeal is suspended until the appeal process is finalised, meaning Ngoqo remains ensconced until the appeal process has run its course. That could take years."

He said there is a legal solution available, in that the MEC may under exceptional circumstances apply, which he has done, to the court that the decision under appeal be enforced in the interim.

Petersen said the PBRA has since taken legal advice and applied to enter the fray as *amicus curiae* (friend of the court).

"The interests (of the Bitou ratepayers) are recounted at some length in the submissions of the MEC, but he operates at one removed from the municipality and so is unable

TO PAGE 9

KONSEP GEÏNTEGREERDE AFVALBESTUURSPLAN (3DE GENERASIE) GARDEN ROUTE DISTRIKSMUNISIPALITEIT EN GEORGE PLAASLIKE MUNISIPALITEIT

Die Garden Route Distriksmunisipaliteit en die George Plaaslike Munisipaliteit wil die publiek uitnooi om die Geïntegreerde Afvalbestuurplanne te besigtig en kommentaar te lewer. Die afvalbestuursplanne dek die periode 2020 - 2025 en sluit in die munisipaliteit se visie, doelstellings en teikens vir afvalbestuur.

Die dokumente sal op die volgende plekke beskikbaar gestel word vir besigtiging:
George Bestuursplan (gedurende werksure)

George Munisipaliteit Kantore	Biblioteek
Yorkstraat 71	Caledonstraat 2
Tel: 044 801 9111	Tel: 044 801 9288

GLM webblad: www.george.gov.za
GIBB webblad: http://projects.gibb.co.za

GARDEN ROUTE BESTUURSPLAN
Garden Route Distrikmunisipaliteit Kantore (gedurende werksure)

Garden Route Hoofkantoor	Yorkstraat 54, George (Tel: 044 803 1300)
Knysna Sateliet Kantoor	Queenstraat 24A, Knysna (Tel: 044 382 7214)
Mosselbaai Sataliet Kantoor	Hoek van Marlin- & Samsonstraat, Mosselbaai (Tel: 044 693 0006)
Plettenbergbaai Sataliet Kantoor	Gibbsstraat 7, Plettenbergbaai (Tel: 044 501 1600)
Oudtshoorn Sataliet Kantoor	Regentstraat 15, Oudtshoorn (Tel: 044 272 2241)
Riversdale Sataliet Kantoor	Mitchellstraat 24, Riversdal (Tel: 028 713 2438)

Garden Route webblad: http://www.gardenroute.gov.za/documents/
GIBB webblad: http://projects.gibb.co.za

KOMMENTAARPERIODE
Die bestuursplanne sal vir 'n periode van 21 dae, vanaf 18 Oktober 2019 tot 08 November 2019, beskikbaar wees vir die publiek om kommentaar daarop te lewer. Alle kommentaar wat ontvang is, sal by die finale bestuursplan ingesluit word.

Kommentaar rakende die bestuursplanne kan ingedien word per hand, pos of e-pos:

GIBB Publieke Kommentaar Kantore

Kontak Persoon:	Mev. Kate Flood
Posadres:	Posbus 63703, Greenacres, Port Elizabeth
Fisiese adres:	1st Vloer, St. George's Corner, Sentraal, Port Elizabeth
Epos:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

DRAFT INTEGRATED WASTE MANAGEMENT PLAN (3RD GENERATION) GARDEN ROUTE DISTRICT MUNICIPALITY AND GEORGE LOCAL MUNICIPALITY

Garden Route District Municipality and George Local Municipalities wish to invite the public to review and provide comment on the 3rd generations Integrated Waste Management Plans (IWMP). The IWMPs covers the period 2020 – 2025 and defines the municipalities' vision, objectives and targets for waste management.

The reports will be made available for review at the following locations:

GEORGE IWMP
Hard copies of the GLM IWMP will be made available at the following locations (during office hours):

George Municipal Building	Main Library
71 York Street	2 Caledon Street
Tel: 044 801 9111	Tel: 044 801 9288

GLM website: https://www.george.gov.za
GIBB's website: http://projects.gibb.co.za

GARDEN ROUTE IWMP
Garden Route Municipal Offices (during office hours)
Hard copies of the GRDM IWMP will be made available at the following locations:

GRDM Head Office	54 York Street, George (Tel: 044 803 1300)
Knysna Satellite Office	24A Queen Street, Knysna (Tel: 044 382 7214)
Mosselbay Satellite Office	C/O Marlin & Samson Street, Mosselbay (Tel: 044 693 0006)
Plettenberg Bay Satellite Office	7 Gibbs Street, Plettenberg Bay (Tel: 044 501 1600)
Oudtshoorn Satellite Office	15 Regent Street, Oudtshoorn (Tel: 044 272 2241)
Riversdale Satellite Office	24 Mitchell Street, Riversdale (Tel: 028 713 2438)

GRDM website: http://www.gardenroute.gov.za/documents/
GIBB's website: http://projects.gibb.co.za

Public review and commenting period
The IWMPs will be available for a period of 21 days from 18 October 2019 to 08 November 2019 for the public to review and provide comment on. All comments received will be included in the final IWMPs.

Submission of comments
Comments on the IWMPs can be submitted using the contact details listed below

GIBB Public Participation Office

	Mrs Kate Flood
Postal address:	PO Box 63703, Greenacres, Port Elizabeth
Physical address:	1st Floor, St. George's Corner, Central, Port Elizabeth
Email:	wastesurvey@gibb.co.za
Tel:	041 509 9150
Fax:	041 363 9300

VACANCY
FOR
MARKETING/STOCK CONTROL STAFF
that can manage large stock flows accurately and who is proficient in Word, Excel and social media platforms like Facebook.
Well organised and presentable.
Please contact Clive on 079 982 2343

LGS
Laerskool George-Suid
BEHEERLIGGAAMBETREKKING GRONDSLAGFASE - 1 JANUARIE 2020
LGS is 'n buitengewone Afrikaansmediumskool wat 'n positiewe verskil maak in die gemeenskap en in die lewens van sy leerders.
Vereistes
- Ondervinding en relevante kwalifikasies in Grondslagfase, grondige kennis van die KABV-kurrikulum en assesseringsbeleide;
- Ervaring van die 9-blok onderrigmetode en implementering van intervensieprogramme;
- Ten volle rekenaarvaardig en vertroud wees met gebruik van tegnologie in die klaskamer;
- Onderrig van Xhosa as tweede addisionele taal word sterk aanbeveel;
- Bereid wees om opleidingskursusse tydens naweke/vakansies by te woon;
- Goeie menseverhoudinge handhaaf en in 'n groep kan saamwerk;
- Bewys lewer van inisiatiewe met gepaardgaande leierskap;
- 'n Sterk betrokkenheid oor 'n breë spektrum van buitemuurse aktiwiteite word verlang (lys asb.)

Bewys van relevante kwalifikasies, SACE-registrasie en ander dokumentasie moet die aansoek vergesel.

Stuur u CV aan tpretorius@lgs.co.za teen 25 Oktober 2019.

vanrensburgs
AUCTIONS | PROPERTIES
PROFESSIONAL VALUERS
AUCTION
Tues, 29 October 2019 @ 10:00, van Rensburgs' Auction Rooms, George
EXCELLENT VARIETY OF CATERING EQUIPMENT & RESTAURANT FURNITURE

Details, photos & auction terms on **www.vanrensburgsauctions.co.za** 044 878 2877

MTO | cape

Position : Buyer– MTO South Operations
Department : Finance
Location : George
Reporting to : Financial Manager

POSITION OBJECTIVE

The Buyer South Operation will be responsible for the buying or co-ordinating the buying of all consumables, consignment stock and direct purchases (excluding raw material) and manage the consumable and consignment stock holding.

KEY ATTRIBUTES REQUIRED:
- Grade 12 with at least 5 years applicable experience in a purchasing function in a manufacturing environment, with a good understanding of machinery and equipment
- Professional qualification in Procurement/Supply would be advantageous.
- Basic knowledge of Code of Conduct and Financial Regulations.
- Strong negotiation and communication skills
- Planning, organizing and team working skills
- High standard of accuracy and commercial awareness.
- Ability to process very high volume within tight deadlines.
- Ability to analyze and evaluate data to make recommendations and business decisions.

RESPONSIBILITIES:
- Product sourcing and negotiations.
- Coordinate related purchasing functions with plantation and operational staff.
- Manage consumable stores.
- Assist in maintaining the Company's BBBEE information.
- Ensure procedures and systems are maintained for the effective functioning of the purchasing process, consumable store and administrative functions.
- Accurate and timeous processing of purchase transactions on NAV.

This appointment will be made strictly in accordance with the Company's Employment Equity Plan.

Please apply directly to Freya Swanepoel (freya@mto.co.za) with a brief summary of your qualifications and experience. Any enquiries regarding this position can also be directed to Freya.

Applications should be received by close of business **25 October 2019**

Appendix D: Comments and Responses Report

The below comments were received from DEA&DP on 15 November 2019.

COMMENTS:

Chapter / Section	**Comment** *(State why the statement is not supported or what the problem is with the provision)*	**Suggestion** *(Suggested deletion/amendment/ addition)*	**GIBB/ GRDM response**
Table 15: Implementation status of the 2014 IWMP targets 2.1 Implementation of the Garden Route Region Strategic Waste Minimisation Plan, pg. 26	2.1.3 Lack of an auditing system to determine effectiveness of the awareness and education programmes (2014/2015)	The evaluation to determine the effectiveness of the awareness and education programs will be useful to the local municipalities as well to implement programs that have worked well in the district.	Noted.
Abbreviations /Acronyms/Definitions, p. v; Section 2.2.2 Literature Review, p. 16; Section 6.7.2 Waste Disposal Records, p.52; Section 6.11.1 Integrated Pollution and Waste Information System, p.59.	IPWIS is not written out correctly.	Please amend from Integrated Population and Waste Information System and Integrated Pollution and Waste Information System to Integrated Pollutant and Waste Information System	Corrected.
Section 2.2.8 Public Participation Process, p. 19	Once public participation is undertaken, proof thereof (e.g. newsletters, public notices and attendance registers) must be included in the IWMP.		Copies of the newspaper adverts have been added in Appendix C.
Section 6.4 Type of Housing and Access to Services, p.38	Access to refuse removal services is indicated, however free basic services are not shown.	Indicate percentage of residents with access to free basic waste collection services.	Added.
Section 6.6.4 (a) Abattoirs waste	Infectious waste and sharps is hazardous waste, not health care risk waste.	Abattoirs also generate hazardous waste such as infectious waste and sharps. In addition, correct throughout the document.	Noted, corrected throughout the report.
6.7 Domestic Waste Generation; last paragraph; 2nd sentence, page 51	**The sentence reads:** "Only five of the seven local municipalities are reporting general waste disposal data on the IPWIS."	Correct this statement based on information provided by DEA&DP	Corrected to only OLM not reporting. The GRDM were informed at a Provincial Forum that HLM are also not reporting. GIBB confirmed with the Hessequa waste management officer that HLM are reporting but there are gaps in their

Chapter / Section	Comment *(State why the statement is not supported or what the problem is with the provision)*	Suggestion *(Suggested deletion/amendment/ addition)*	GIBB/ GRDM response
	This statement is incorrect; only one municipality in the GRDM is not reporting to IPWIS: Oudtshoorn Municipality.		records. A comment to this effect has been added to the report.
Section 6.17.2 Waste Management Facilities per Local Municipality (e) Knysna Local Municipality: Table 61: Waste management facilities in Knysna Local Municipality: Old place garden waste landfill site and Sedgefield garden waste transfer station **; page 90**	1) The information under the heading data management is blank. 2) As to my knowledge it is not Sedgefield garden waste transfer station it is known as Sedgefield garden waste landfill site	1) The information under the heading data management should be Waste Calculator 2) Clarify what is the correct name that the Sedgefield site is referred to and amend accordingly	1) Corrected 2) There are three sites in Sedgefield a) **Sedgefield closed landfill site** – we do not have many details for this site. The site is no longer operational and overgrown with in grass and weeds. KLM could not provide us with a closure report or license. Does DEA&DP have any additional information on this site? See satellite image below the table. b) **Sedgefield recycling facility**, this was operational when we visited it. **Sedgefield garden waste** transfer station. This site is used for chipping of green waste and temporary storage of C&DW. Waste is chipped and transported to Old Place no disposal occurs here. As chipping is occurring this facility should be registered i.t.o N&S GN 1093 of 2017
Section 6.17.2 Waste Management Facilities per Local Municipality First Paragraph, **page 91**	1) **The paragraph reads:** "There is one operational landfill site in the KLM. The Old Place landfill site which accepts green waste and is located just outside Knysna. This site has been issued with a license and closure	1) Please clarify this statement and quote the source. It is one facility it should be written as singular **"another facility"**	1) Facilities has been changed to facility. Based on discussions with the WMO there is no municipal composting facility in Knysna. Once Old Place closes KLM will need to find an

Chapter / Section	Comment *(State why the statement is not supported or what the problem is with the provision)*	Suggestion *(Suggested deletion/amendment/ addition)*	GIBB/ GRDM response
	must commence in January 2020." At present the KLM does not have another facilities in place to divert green waste to. 2) According to my knowledge which the municipality provided the Sedgefield Garden Waste Treatment Facility is operational and Sedgefield Recycling is not operational pending the appointment of a service provider to operate the facility 3) See my comments for Kannaland Local Municipality you abbreviated it as KLLM which is not correct, and it was probably to allow you to refer to Knsyna Local Municipality distinctively as KLM. Kannaland is one word and technically should also be KLM		alternative to manage green waste, Some green waste was historically taken to Simola but it was no longer being accepted when we visited Simola. 2) When we were in Sedgefield we visited a facility behind the recycling centre which is used to chip and temporarily store green waste. No composting (treatment) was occurring. Waste from Sedgefield transfer station is taken to Old Place for disposal. Sedgefield recycling centre is currently operational. 3) Noted, I agree that it should be KLM but we have already used KLM for Knysna. I would like to request that we continue to use this abbreviation in the GRDM report to avoid confusion between the two local municipalities.
Section 6.17.2 Waste Management Facilities per Local Municipality (f) Mossel Bay Local Municipality Table 62: Waste management facilities in Mossel Bay Local Municipality: Paragraph 1**; page 96**	**The paragraph:** "There are currently three operational landfill site in MBLM. The Louis Fourie (garden waste) and Great Brak (garden waste and construction and demolition waste) are owned and operated by the MBLM. The third site is the PetroSA landfill site, this is a general waste landfill site which is also licensed for storage of hazardous waste. All domestic waste generated in MBLM, KLM, BLM and GLM (with the exception of waste	**The paragraph can possibly read as follow:** There are currently three operational landfill **sites** in MBLM. The Louis Fourie (garden waste) and Great Brak (garden waste and construction and demolition waste) are owned and operated by the MBLM. The third site is the PetroSA landfill site, **a para-statal/ semi-state -owned facility.**	Corrected as per DEA&DPs recommendation.

Chapter / Section	Comment *(State why the statement is not supported or what the problem is with the provision)*	Suggestion *(Suggested deletion/amendment/ addition)*	GIBB/ GRDM response
	from Uniondale) is disposed of at the PetroSA landfill." 1) Consider rephrasing the paragraph in order for it to clearly state what happens operationally	**This facility is** a general waste landfill site which is also licensed for storage **and disposal?** of hazardous waste. of hazardous waste. This site accepts mixed domestic waste in bulk carriers from MBLM, KLM, BLM and GLM. Although domestic waste is received from the aforementioned local municipalities, it does not originate from all the sites within the local municipality. It depends on the waste flow and operations of each local municipality as stated in their individual IWMP's.	
Section 6.18.2 Waste Awareness Campaigns. Pg. 100		The District has conducted extensive awareness campaigns from roadshows to school campaigns etc. The launch of the Good Green Deeds program by DEA has been implemented throughout municipalities within the Province. Is the district municipality contributing towards the program in any way?	The GRDM is not involved in the Good Green Deeds program. The programme is being run by a representative of DEFF and rolled out directly with the local municipalities with no input from the district.
Section 6.22.2 Table 68: Waste Management Tariff for Domestic Customers, p.107-108	Both columns shown are labelled "Waste Management Tariffs…" with different tariff amounts shown for each municipality.	The columns must be renamed to reflect the information in the table.	Noted, the table headings have been corrected.
Section 7.2 Gaps and Needs Identified in 2020. Table 71: Waste management gap and needs. 3. Organic Waste Management Pg. 120	'The GRDM has undertaken an organic waste characterisation to determine the type and quantity of organic waste generated in the district. The next phase of this study will be to identify suitable technologies to improve the management of organic waste'.	The restriction of 50 % of organic waste to landfill by 2022 provides opportunities for regional solutions to be found within the local municipal areas. Has Infrastructure needs, and the economic potential of organic waste been established as part of the study completed?	No, GRDM have only undertaken phase 1 of the assessment which determines the type and amount of organic waste generated in the district.
Section 7.2 Gaps and Needs Identified in 2020. Table 71: Waste management gap	**The paragraph reads:** "The GRDM is not currently required to register and report on the IPWIS,	**The paragraph can possibly read as follow:** "The GRDM is not currently required to	The second paragraph has been added to the needs column

Chapter / Section	Comment *(State why the statement is not supported or what the problem is with the provision)*	Suggestion *(Suggested deletion/amendment/ addition)*	GIBB/ GRDM response
and needs. 7.3 Waste Reporting and Information Management: Garden Route District Municipality; **page 140**	however, once the regional landfill site is operational this will change. GRDM needs to register the regional landfill site on the IPWIS and ensure data is uploaded."	register and report on the IPWIS, however, once the regional landfill site is operational this will change. GRDM **need** to register the regional landfill site on the IPWIS and ensure data is **captured** on IPWIS on a monthly basis. The GRDM must ensure that waste data is traceable to the source municipality where it is generated. The weighbridge should be operated by competent and trained personnel. Adequate infrastructure should be provided at weighbridge which allows for the execution of accurate recording of waste data. Therefore, weighbridge software should be aligned to IPWIS categories and unit of measure. Weighbridge should be maintained and calibrated. Incidents when weighbridges are faulty or not in operation due to power failures should be recorded. In such events the waste calculator should be used to estimate incoming quantities as recording should always be done.	
Section 8.3 Objectives and Alternatives for Garden Route District Municipality, Table 74: GRDM Waste Management Targets and Objectives, p.154	Submission of annual performance reports to DEA&DP is a requirement of the Waste Act.	Note: The annual performance report as referred to in the Waste Act is in terms of s46 of the Municipal Systems Act. Municipalities must include in the annual report, detail on the implementation of the IWMP.	Corrected.
General	Please include the prohibition/restriction of liquid waste in terms of the National Norms and Standards for disposal of waste to landfill, 2013		The restrictions have been added to table 13. Key changes to legislation

Chapter / Section	**Comment** *(State why the statement is not supported or what the problem is with the provision)*	**Suggestion** *(Suggested deletion/amendment/ addition)*	**GIBB/ GRDM response**
			NOTE: These norms and standards were published prior to the 2014 IWMP being finalized, it is included in this list and a the date by which disposal restrictions came into effect for some waste streams have come into effect over the last 5 years.

Figure D1. Sedgefield closed landfill site

Document Control and Disclaimer

FORM IP180_B

CLIENT	:	Garden Route District Municipality
PROJECT NAME	:	Garden Route District Municipality Integrated Waste Management Plan **PROJECT No.** : GE38216
TITLE OF DOCUMENT	:	Garden Route District Municipality: Final IWMP
ELECTRONIC LOCATION	:	\\PLZ-CLUSTER\projects\J38216 EN1 KF Garden Route DM IWMP\03_Project Management Plan Design\G_Document Management - Reports\GRDM IWMP\Final IWMP\FINAL DRAFT GRDM IWMP KF 1.docx

	Approved By Project Executive	Reviewed By	Prepared By
ORIGINAL	NAME **Walter Fyvie**	NAME **Walter Fyvie**	NAME **Kate Flood**
DATE **29 June 2019**	SIGNATURE	SIGNATURE	SIGNATURE

	Approved By Project Executive	Reviewed By	Prepared By
REVISION 1	NAME **Walter Fyvie**	NAME **Walter Fyvie**	NAME **Kate Flood**
DATE **29 July 2019**	SIGNATURE	SIGNATURE	SIGNATURE

	Approved By Project Executive	Reviewed By	Prepared By
REVISION 2	NAME **Walter Fyvie**	NAME **Walter Fyvie**	NAME **Kate Flood**
DATE **30 July 2019**	SIGNATURE	SIGNATURE	SIGNATURE

	Approved By Project Executive	Reviewed By	Prepared By
REVISION 3	NAME **Walter Fyvie**	NAME **Walter Fyvie**	NAME **Kate Flood**
DATE **01 August 2019**	SIGNATURE	SIGNATURE	SIGNATURE

	Approved By Project Executive	Reviewed By	Prepared By
REVISION 4	NAME **Walter Fyvie**	NAME **Walter Fyvie**	NAME **Kate Flood**
DATE **03 October 2019**	SIGNATURE 	SIGNATURE 	SIGNATURE 

	Approved By Project Executive	Reviewed By	Prepared By
REVISION 5	NAME **Walter Fyvie**	NAME **Walter Fyvie**	NAME **Kate Flood**
DATE **18 November 2019**	SIGNATURE 	SIGNATURE 	SIGNATURE 

	Approved By Project Executive	Reviewed By	Prepared By
REVISION 6	NAME **Walter Fyvie**	NAME **Walter Fyvie**	NAME **Kate Flood**
DATE **06 January 2020**	SIGNATURE 	SIGNATURE 	SIGNATURE 

This report, and information or advice, which it contains, is provided by GIBB (or any of its related entities) solely for internal use and reliance by its Client in performance of GIBB's duties and liabilities under its contract with the Client. Any advice, opinions, or recommendations within this report should be read and relied upon only in the context of the report as a whole. The advice and opinions in this report are based upon the information made available to GIBB at the date of this report and on current South African standards, codes, technology and construction practices as at the date of this report. Following final delivery of this report to the Client, GIBB will have no further obligations or duty to advise the Client on any matters, including development affecting the information or advice provided in this report. This report has been prepared by GIBB in their professional capacity as Consulting Engineers. The contents of the report do not, in any way, purport to include any manner of legal advice or opinion. This report is prepared in accordance with the terms and conditions of the GIBB contract with the Client. Regard should be had to those terms and conditions when considering and/or placing any reliance on this report. Should the Client wish to release this report to a Third Party for that party's reliance, GIBB may, at its discretion, agree to such release provided that:

a) GIBB's written agreement is obtained prior to such release, and

b) By release of the report to the Third Party, that Third Party does not acquire any rights, contractual or otherwise, whatsoever against GIBB and GIBB, accordingly, assume no duties, liabilities or obligations to that Third Party, and

c) GIBB accepts no responsibility for any loss or damage incurred by the Client or for any conflict of GIBB interests arising out of the Client's release of this report to the Third Party.