



Prepared for:
Langeberg Local Municipality

Contact person:
Glenn Mark Slingers

Tel: (023) 616 8008
Email: gslingers@langeberg.gov.za



LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

DRAFT IWMP

DRAFT REPORT
REVISION 00

FEBRUARY 2021

Prepared by:
Delta Built Environment Consultants (Pty) Ltd

Contact person:
Chanté Stander

Tel: (012) 368 1850
Fax: (012) 348 4738
Email: chante.stander@delabec.com



DOCUMENT CONTROL

TITLE:	DRAFT IWMP		
ELECTRONIC FILE LOCATION:	P20088_REPORTS_04_LANGEBERG LM_REV 00-Draft IWMP		
REPORT STATUS:	Draft		
REVISION NUMBER:	00		
CLIENT:	Langeberg Municipality Private Bag X2 Ashton 6715		
CONSULTANT:	Delta Built Environment Consultants (Pty) Ltd P.O. Box 35703 Menlo Park 0102		
DATE:	February 2021		
REFERENCE NUMBER:	P20088/R6771		
PREPARED BY:	Chanté Stander	Industrial engineer (HOD: Waste Management)	DocuSigned by:  F56816D06756492...
REVIEWED BY:	Kobus Otto	Pr. Civil Engineer (Waste Management Specialist)	DocuSigned by:  ED9F46D99BE442E...
APPROVED BY:	Stanford Acres	Civil Engineer (Group Manager: Advisory Services)	DocuSigned by:  EF1FB9CE67E94F4...
DISTRIBUTION LIST:	COMPANY	NAME & SURNAME	
	Cape Winelands District Municipality	Christo Swart	
	Langeberg Local Municipality	Glenn Mark Slingers	

RECORD OF REVISIONS

REV. NO.	STATUS	DESCRIPTION OF REVISION	REV. DATE
00	Draft	Issued for comments	05/02/2021

EXECUTIVE SUMMARY

The development of an Integrated Waste Management Plan (IWMP) is a statutory requirement of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) that has been promulgated and came into effect on 1 July 2009. Its goal is the transformation of the current methodology of waste management, i.e. collection and disposal, to a sustainable practice focusing on waste avoidance and environmental sustainability. Implementation of this IWMP will be through municipal by-laws and in accordance with an implementation schedule. The development of the IWMP is necessary as it is an integral tool to identify current needs and acts as a guide towards sustainable waste management. The IWMP also shows alignment of its goals to achieve an effective waste management system. The IWMP will be developed in line with the Local Municipality's Integrated Development Plan's (IDP) strategic objectives.

The Langeberg Local Municipality (LLM) is located within the Cape Winelands District (CWD). Covering a total area of approximately 4 518 km², the LLM includes the towns of Robertson, Montagu, Ashton, Bonnievale and McGregor, as well as rural areas adjacent to and between these towns.

The Cape Winelands District Municipality (CWDM) has appointed Delta Built Environment Consultants (Delta BEC) to develop the fourth generation Integrated Waste Management Plan (IWMP) for the LLM.

LEGISLATION

This report details the roles and responsibilities in terms of waste management at National, Provincial, District and Municipal level that inform and assist integrated waste management. The roles and responsibilities are as follows:

- **National Government:** The National government is tasked with establishment of a national waste management strategy, including norms, standards and targets. The National norms and standards may cover all aspects of the waste value chain, from planning to service delivery.
- **Provincial Government:** The Provincial governments are tasked with the implementation of the National Environment Management: Waste Act (NEM:WA), Waste Management Regulations and the National Waste Management Strategy, Norms and Standards (NWMS). The Constitution requires Provincial Government to monitor and provide support to municipalities in the province, and to see to the implementation of waste-related regulations and strategies.
- **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, district municipalities can co-operate roles.
- **Local Government:** The NEM:WA (Act 59 of 2008) requires local authorities to implement mechanisms for the provision of waste collection services including collection, storage and disposal. Local authorities are also required to facilitate recycling and waste diversion from landfill and to manage waste information appropriately.

International, National, Provincial and Local level strategic linkages in terms of waste management will be considered during the development of the IWMP. The following provincial strategies will be considered:

- **Western Cape Integrated Waste Management Plan (2017-2022)**

The Western Cape outlined four goals in the 2nd Generation IWMP (2017-2022). The Langeberg LM's goals and targets will be developed in line with the following four goals from the Western Cape IWMP:

- Goal 1: Strengthened education, capacity and advocacy towards integrated waste management.
- Goal 2: Improved integrated waste management planning and implementation for efficient waste service infrastructure.
- Goal 3: Effective and efficient utilisation of resources.
- Goal 4: Improved compliance with environmental regulatory framework.

- **Western Cape Green Economy Strategy Framework (2013)**

The 2013 Western Cape Green Economy Strategy Framework aims to achieve the double dividend of optimising green economic opportunities and enhancing environmental performance.

The strategy identifies three high-level priorities for green growth:

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

- **Western Cape Diversion Targets for Organic Waste Management (2018)**

Organic waste is identified as a problematic waste stream in the Western Cape, with in excess of 37% of waste generated in the province being 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 can also aid in job creation at waste management facilities. Compost and biochar produced from organic waste can be used as an alternative to fertilisers to improve soil condition.

The Department of Environmental Affairs and Development Planning (DEA&DP) proposed a 50% diversion from landfill sites by 2022, and a landfill ban on organic waste to landfill by 2027.

- **Guideline for Management of Abattoir Waste in Western Cape (2015)**

The guideline on the management of abattoir waste in the Western Cape was developed by the DEA&DP as one of the recommendations stemming from the status quo study of abattoir waste conducted in 2015.

The guideline provides an overview of the current status quo of abattoir waste, treatments and disposal methods.

DEMOGRAPHIC PROFILE

The Socio-Economic Profile (LLM SEP, 2019) report, drafted by the Western Cape Department of Social Development and the LLM Integrated Development Plan (IDP, 2017-2020) were used to determine the demographic profile of the LLM. According to the SEP 2019 report, the LLM has the smallest population in the Cape Winelands District (CWD), which is projected as 126 018 by 2023. The 2021 population size will be used throughout the development of this IWMP. The estimated population growth rate is 1.8% annually (SEP, 2019). It is worth noting that although the number of households in the LLM area is increasing, the actual size of households is projected to trend downwards in 2021 and 2022 but expected to revert to 4.0 persons per household in 2023.

Access to formal houses and all services in LLM is measured against a total number of households of 25 125 in 2011 and 28 401 in 2016 (SEP, 2019). The number of formal dwellings in LLM increased by 2 572 between 2011 and 2016, at an average annual rate of 2.2%, which translates into approximately 514 additional formal dwellings per year over this period.

Between 2015 and 2018, access to basic services has grown across all services. In 2018, electricity services represented the largest number of consumer units at 19 468; this is followed by water and sewerage at 17 202 and 16 282 respectively. Solid waste services had the lowest number of consumer units at 15 240 (SEP, 2019).

FINANCIAL BUDGET

The LLM waste department has a capital budget for 2020-2021 of R2 120 000; this will be utilised for the upgrading of the Ashton landfill site from razor wire fencing to concrete palisade fencing. The LLM's waste department operational budget for 2020-2021 is R40 056 12. This will be utilised for landfill sites (operational cost, maintenance and equipment), solid waste management (wages, maintenance and transportation equipment) and street cleaning (wages and equipment).

WASTE CATEGORIES AND GENERATION

The following categories of waste are generated in LLM:

- General waste
- Organic waste
- Construction and demolition (C&D) waste
- Health care risk waste (HCRW)
- Hazardous waste
- Other waste types

The waste characterisation study for the LLM was conducted and overseen by the DEA&DP in 2016. A total of 600 waste samples were collected and sorted. The waste was sorted at the Ashton MRF by Expanded Public Works Programme (EPWP) employees. The results from the waste characterisation study illustrated that the percentage of recyclables is 61%, organic waste 15% and non-recyclables 24% of the total volume of waste generated in LLM (LLM IWMP, 2017). McGregor had the lowest percentage of recyclables (54%) and the

highest percentage for organic waste (21%). The study illustrated that Ashton and Robertson had the highest percentage of recyclables (64%) in LLM. According to the study, Bonnievale generates the lowest percentage of organic waste (10%). The percentage of household hazardous waste (needles, medicine, tablets, paints, detergents, etc.) accounts for 2% by mass of all waste in LLM (LLM IWMP, 2017). *The results from the waste characterisation study indicate that there is a significant portion of organic waste and recyclables within the LLM waste stream that can be diverted from landfills.*

The LLM consist of large agricultural and farming areas. Hazardous waste from these areas includes fertilisers, chemical packaging and expired pesticides. The management of chemical packaging waste is an important environmental, health and safety hazard. Of particular concern are the containers from pesticide or herbicide chemicals. Typically, farmers are known to burn these empty plastic chemical containers as well as empty plastic fertiliser bags in open fires on farms, which is in turn resulting in significant air pollution. During the investigations in 2020, household hazardous waste forms part of the general waste stream, which is disposed of at the Ashton landfill site.

The major health care risk waste (HCRW) generators in the LLM are the hospitals and clinics. The LLM does not provide HCRW disposal services, resulting in it being the responsibility of the generator (public and private) to enter into a service contract with private service providers for the safe collection, transport, treatment and disposal of such waste. During the investigations in 2020, Compass Medical Waste Services is the HCRW service provider for the private and provincial LLM hospitals and clinics.

Agricultural waste refers to waste produced as a result of various agricultural operations. Some examples of agricultural waste include crop-growing, harvest residues and harvest waste (such as herbs, grains, root tubers, etc.). Waste from livestock farming such as grass, litter or feed is also considered to be agricultural waste. In LLM, the agricultural waste from farms is either used as animal feedstock, for home composting, or it is taken to the nearest municipal waste drop-off facility.

Sewage sludge is a key hazardous waste type generated from wastewater treatment plants due to the presence of heavy metals from industrial processes. Sewage sludge can be treated through composting for agricultural use as fertiliser, or disposed of at a hazardous waste landfill site. Guidelines have been developed by the Water Research Commission that details for the safe disposal of sewage sludge. The LLM WWTP operator indicated that there are no records of sludge tonnages generated. The farmers during the investigations in 2020 collect the sludge on an *ad hoc* basis. The LLM does not accept any sludge at the landfill sites.

The LLM has two abattoirs, namely the Bonnievale abattoir and South African Farm Assured Meat (Robertson Abattoir).

The LLM does not accept tyres for disposal at any landfill site. In the case of tyres being disposed of at a transfer station or drop-off facility, the LLM stockpiles the tyres and uses them as barriers at parks or landfill sites. The tyre fitment centres (Supa Quick, Hi-Q, Tyger-Wheel and Tiger, etc.) have dedicated areas on their premises where the used tyres are stockpiled until collected by the respective tyre suppliers. Measures are taken to control potential spread of fires by stockpiling the tyres in separate piles.

SERVICE DELIVERY

The LLM provides waste collection services to high, medium and low-income groups, informal settlements, businesses and schools. The LLM provides clear bags for recyclables which are collected from the households with cage trucks and transported to Southey's recycling until the new MRF next to the Ashton transfer station is established. Skips used in informal settlements where bins have not yet been provided and at the drop-off facilities for garden refuse and C&D storage.

The LLM consists of large agricultural and farming areas. These include wine farms, fruit farms, dairies, etc. During the investigations in 2020, the LLM services 143 farms, with the remainder of the farmers making use of the nearest drop off facility, or their own on-site refuse dumps, where waste is often burnt to reduce the risk of flies, rats, windblown litter and odours. On-site refuse dumps are illegal and addressing this problem will be included in the needs analysis section of this report.

COMPLIANCE AND ENFORCEMENT

The LLM owns the following landfill sites:

- Robertson landfill site (closed and rehabilitated);
- McGregor landfill site (closed, but rehabilitation required);
- Bonnievale landfill site (operational);
- Ashton landfill site (operational); and
- Montagu landfill site (operational, but closure and rehabilitation required).

The LLM owns the following waste management facilities:

- Robertson transfer station and composting facility (operational);
- McGregor drop-off facility (operational);
- Bonnievale drop-off facility (operational);
- Ashton transfer station (operational); and
- Montagu transfer station (operational).

WASTE AVOIDANCE, REDUCTION AND RECYCLING

The LLM offers collection of source-separated waste to all households and businesses in the formal urban areas. The participation level in low-income areas is less than that of middle and high-income areas. The LLM distributes two clear bags per household in the towns for collection of recyclables. The recyclables were previously transported to the Ashton Material Recovery Facility (MRF), where the recyclables were further separated and sold until the Ashton MRF was vandalised in May 2020. Due to the vandalism of the MRF, the recyclables are during the investigations in 2020 transported to Southey's recycling, a private recycling company, while the plans for the new MRF next to the Ashton transfer station are developed.

OPERATIONAL STRUCTURE AND STAFF CAPACITY

The LLM currently has 79 employees and 22 vacant positions. A detailed organogram can be found in Section 4.7.

WASTE AWARENESS AND EDUCATION

The LLM currently provides presentations and educational material to schools and organisations regarding waste reduction, re-use and recycling. The LLM makes use of Expanded Public Works Programme (EPWP) employees to distribute waste awareness educational material.

GAP AND NEEDS ANALYSIS

A gap and needs analysis were undertaken to identify the shortcomings in the waste management system. Based on the gap and needs analysis, the following goals and objectives related to each goal were developed for the LLM:

- Goal 1: Effective solid waste service delivery:
 - Objective 1: Conduct a household survey to Establish whether all waste generators are equipped with appropriate waste containers (small bins / bags or bulk skips / RoRo's as required by waste type and generation rate.);
 - Objective 2: Update the collection schedule;
 - Objective 3: Prevent illegal dumping; and
 - Objective 4: Evaluate waste management fleet.
- Goal 2: Promote waste minimisation and recycling:
 - Objective 1: Improve recyclables diversion rates - with appropriate processing after collection;
 - Objective 2: Draft an organic waste diversion plan; and
 - Objective 3: Implement organic waste diversion initiatives.
- Goal 3: Ensure safe and integrated management of hazardous waste:
 - Objective 1: Provide household hazardous waste solutions; and provide systems for safe collection, bulking, storage as well as transport and appropriate disposal of all hazardous waste generated in and around LLM.
 - Objective 2: Ensure major hazardous waste generators are registered and accurately reporting on SAWIS.
- Goal 4: Improved waste education and public awareness:
 - Objective 1: Appoint public awareness task force;
 - Objective 2: Implement appropriate waste awareness programmes;
 - Objective 3: Develop /acquire access to relevant waste management training courses; and
 - Objective 4: Improve hazardous waste awareness and management expertise.
- Goal 5: Ensure sound budgeting for integrated waste management:
 - Objective 1: Evaluate staff structures, adjust where required and obtain approval for reallocation of existing / appointment of new staff. Undertake reallocation or fill vacancies based on the findings.

- Objective 2: Ensure availability of sufficient budget funding for landfill rehabilitation and closure;
 - Objective 3: Development and commissioning of new Ashton MRF; and
 - Objective 4: Conduct cost analysis study for the transportation of waste to the regional landfill site in Worcester.
- Goal 6: Improve regulatory compliance:
 - Objective 1: Review and develop appropriate waste management by-laws based on proposed new circumstances;
 - Objective 2: Conduct external landfill audits as per landfill licence requirements and implement remedial actions in accordance with a schedule approved by both the municipality as well as the regulating authority.
 - Objective 3: Manage and control illegal waste picking on landfill sites; and
 - Objective 4: Ensure compliance of the landfill containment barriers in accordance with R. 636.
- Goal 7: Improve waste information management:
 - Objective 1: Implement effective recyclables record keeping and ensure regular and accurate reporting;
 - Objective 2: Implement effective organic waste record keeping and ensure accurate and regular reporting and implement effective hazardous waste record keeping and ensure regular and accurate reporting
 - Objective 3: Develop industry waste database with regular and accurate data reporting.

The next phase of the project is for the Draft IWMP to go out for public commenting. As part of the development of the IWMP, the consultants will engage with stakeholders and members of the community. Stakeholders and interested and affected parties (I&APs) will be notified that the draft IWMP is out for commenting. The comments on the Draft LLM IWMP will be incorporated into the Final LLM IWMP.

TABLE OF CONTENTS

1	INTRODUCTION	15
1.1	BACKGROUND	15
1.2	PURPOSE OF REPORT	16
1.3	STRUCTURE OF REPORT	17
2	STATUS QUO STUDY APPROACH	18
3	RELEVANT LEGISLATION	19
3.1	ROLES AND RESPONSIBILITIES	19
3.1.1	NATIONAL GOVERNMENT	19
3.1.2	PROVINCIAL GOVERNMENT	19
3.1.3	DISTRICT MUNICIPALITIES	19
3.1.4	LOCAL GOVERNMENT	19
3.2	STRATEGIC LINKAGES IN TERMS OF WASTE MANAGEMENT ON INTERNATIONAL, NATIONAL, PROVINCIAL AND LOCAL LEVEL	19
3.2.1	INTERNATIONAL TREATIES	19
3.2.1.1	The Basel Convention.....	20
3.2.1.2	The Rotterdam Convention.....	20
3.2.1.3	The Stockholm Convention	20
3.2.2	NATIONAL ACTS, REGULATIONS AND STRATEGIES.....	21
3.2.2.1	The South African Constitution (Act No. 108 of 1996).....	21
3.2.2.2	The National Environmental Management Act (Act No. 107 of 1998).....	21
3.2.2.3	The Hazardous Substances Act (Act No. 15 of 1973)	22
3.2.2.4	The Municipal Systems Act (Act No. 32 of 2000)	22
3.2.2.5	The Local Government: Municipal Structures Act (Act No. 117 of 1998)	22
3.2.2.6	The National Environmental Management: Waste Act: Waste Classification & Management Regulations (R. 634 August 2013).....	22
3.2.2.7	The National Environmental Management: Waste Act: National Standard for Assessment of Waste (R. 635 August 2013) 23	
3.2.2.8	The National Environmental Management: Waste Act: National Standard for Disposal of Waste to Landfill (R. 636 August 2013).....	23
3.2.2.9	National Environmental Management: Waste Act: National Waste Information Regulations (January 2013) .	23
3.2.2.10	National Environmental Management: Waste Act (59/2008): Waste Tyre Regulations (29 September 2019) .	23
3.2.2.11	National Environmental Management Act: NEMA, EIA Regulations (18 June 2010)	23
3.2.2.12	The National Environmental Management: Waste Act: Draft National Norms and Standards for Organic Waste Composting (4 September 2019)	24
3.2.2.13	The White Paper on Integrated Pollution and Waste Management for South Africa (17 March 2000)	24
3.2.2.14	The National Waste Management Strategy (2020).....	24
3.2.2.15	National Organic Waste Composting Strategy: Draft Strategy Report and Guideline (2016)Error! Bookmark not defined.	
3.2.2.16	The Waste Tyre Regulations (2017)	25
3.2.3	PROVINCIAL PLANS, STRATEGIES AND GUIDELINES	25
3.2.3.1	Western Cape Integrated Waste Management Plan (2017-2022).....	25
3.2.3.2	Western Cape Green Economy Strategy Framework (2013)	26
3.2.3.3	Western Cape Diversion Targets for Organic Waste Management (2018)	26
3.2.3.4	Guideline for Management of Abattoir Waste in Western Cape (2015).....	26
3.2.4	LOCAL BY-LAWS AND PLANS	26
3.2.4.1	Cape Winelands By-Laws	26
3.2.4.2	LLM By-laws	27
3.2.4.3	LLM Integrated Development Plan	27
4	STATUS QUO STUDY FINDINGS	29
4.1	GEOGRAPHICAL AREA, GEO-PHYSICAL AND GEO-HYDROLOGICAL CONDITIONS	29
4.1.1	CLIMATE	30
4.1.2	TOPOGRAPHY.....	30
4.2	DEMOGRAPHIC PROFILE	30

4.2.1	POPULATION PROFILE	30
4.2.2	SOCIO-ECONOMIC GROUPS AND INCOME DISTRIBUTION.....	31
4.2.2.1	Age distribution.....	31
4.2.2.2	Household size	31
4.2.2.3	Income distribution.....	31
4.2.3	EMPLOYMENT STATUS AND EDUCATION LEVELS	32
4.2.3.1	Employment status	32
4.2.3.2	Education levels	32
4.2.4	ECONOMIC PERFORMANCE	33
4.2.5	DEVELOPMENT PROFILES	34
4.3	WASTE MANAGEMENT COST AND FINANCING	34
4.3.1	DETAILED BREAKDOWN OF OPERATIONAL AND CAPITAL BUDGET	34
4.3.2	DETAILED BREAKDOWN OF OPERATIONAL AND CAPITAL EXPENDITURE	35
4.3.3	CURRENT TARIFF STRUCTURE	36
4.3.3.1	Waste collection tariffs for households and businesses	36
4.3.4	ADDITIONAL WASTE COLLECTION TARIFF STRUCTURE	38
4.3.5	FREE BASIC SERVICES BUDGET	41
4.4	WASTE CATEGORIES AND GENERATION	41
4.4.1	WASTE CATEGORIES GENERATED	41
4.4.2	DOMESTIC WASTE PROFILE.....	41
4.4.3	HAZARDOUS WASTE	43
4.4.4	HEALTH CARE RISK WASTE.....	44
4.4.5	OTHER WASTE TYPES COMPOSITION.....	46
4.4.6	WASTE GENERATION RATES.....	48
4.4.6.1	Current waste generation rates (IPWIS)	48
4.4.6.2	Projected future waste generation rates	52
4.5	SERVICE DELIVERY	53
4.5.1	FORMAL RESIDENTIAL HOUSES	56
4.5.2	INFORMAL SETTLEMENTS	56
4.5.3	BUSINESS, INDUSTRIES AND SCHOOLS.....	56
4.5.4	FARMS.....	59
4.5.5	FREE BASIC REFUSE REMOVAL	59
4.5.6	WASTE COLLECTION AND TRANSPORT.....	59
4.5.6.1	Waste collection schedule	59
4.5.6.2	Fleet	63
4.6	COMPLIANCE AND ENFORCEMENT	65
4.6.1	REGISTRATION STATUS	65
4.6.2	LANDFILL SITES	65
4.6.2.1	Robertson landfill site (closed).....	65
4.6.2.2	McGregor "Historic" landfill site (closed, but rehabilitation required)	67
4.6.2.3	Bonnievale landfill site (operational)	69
4.6.2.4	Ashton landfill site (operational).....	71
4.6.2.5	Montagu landfill site (operational, but closure and rehabilitation required)	72
4.6.3	WASTE MANAGEMENT FACILITIES.....	74
4.6.3.1	Robertson transfer station and composting facility (operational)	74
4.6.3.2	McGregor public drop off facility (operational)	76
4.6.3.3	Bonnievale public drop off facility (operational).....	77
4.6.3.4	Ashton transfer station (operational)	78
4.6.3.5	Montagu transfer station (operational)	79
4.6.4	WASTE-RELATED COMPLAINTS.....	80
4.6.5	ILLEGAL DUMPING, LITTERING AND COSTS ASSOCIATED WITH CLEAN-UP EFFORTS	80
4.7	WASTE AVOIDANCE, REDUCTION AND RECYCLING	80
4.7.1	WASTE MINIMISATION INITIATIVES	80
4.7.2	PRIVATE SECTOR INITIATIVES	80
4.7.3	WASTE DIVERSION TONNAGES	81
4.8	OPERATIONAL STRUCTURE AND STAFF CAPACITY.....	82
4.8.1	SOLID WASTE MANAGEMENT.....	82
4.9	WASTE AWARENESS AND EDUCATION	87

5	GAP AND NEEDS ANALYSIS	88
5.1	WASTE SERVICE DELIVERY	88
5.2	WASTE MINIMISATION, RECYCLING AND RE-USE INITIATIVES	89
5.3	ORGANIC WASTE MANAGEMENT	89
5.4	HAZARDOUS WASTE MANAGEMENT.....	89
5.5	WASTE MANAGEMENT FACILITIES.....	90
5.6	WASTE MANAGEMENT COLLECTION FLEET, PLANT AND EQUIPMENT	90
5.7	WASTE MANAGEMENT INFORMATION	91
5.8	WASTE EDUCATION AND PUBLIC AWARENESS.....	92
5.9	STAFF AND FINANCIAL RESOURCE MANAGEMENT	92
5.10	STRATEGIC PLANNING	92
6	GOALS, OBJECTIVES AND TARGETS ASSESSMENT.....	94
6.1	GOALS IDENTIFIED FOR LLM	95
6.2	ALIGNMENT WITH NATIONAL AND PROVINCIAL WASTE MANAGEMENT GOALS	96
6.3	OBJECTIVES AND TARGETS FOR THE MUNICIPALITY.....	98
7	IMPLEMENTATION PLAN	105
8	IWMP MONITORING AND REVIEW	118
8.1	REPORTING	118
8.2	MONITORING AND REVIEW	118
8.3	REVISION OF THE IWMP	119
9	PUBLIC PARTICIPATION PROCESS	120
10	CONCLUSION AND RECOMMENDATIONS	121
11	REFERENCES	122
APPENDIX A: TABLE 6: SCHEDULE 3 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE AMENDMENT ACT, 2014 ACT NO. 26 OF 2014: CATEGORY A: HAZARDOUS WASTE.....		123
APPENDIX B: LANDFILL AUDIT REPORTS		128

LIST OF FIGURES

Figure 1-1: National Waste Management Strategy (NWMS, 2011) - Waste hierarchy	15
Figure 1-2: Cape Winelands District Municipality area	16
Figure 2-1: Process flow diagram	18
Figure 4-1: LLM wards.....	29
Figure 4-2: Cape Winelands District GDP contribution (LLM SEP, 2019)	33
Figure 4-3: LLM breakdown of access to basic services (LLM SEP, 2019)	34
Figure 4-4: Waste generation as per IPWIS reports for 2018-2020	51
Figure 4-5: 240 l wheelie bins in residential areas.....	55
Figure 4-6: Skips used for garden refuse, C&D and domestic waste in informal settlement areas.....	55
Figure 4-7: Montagu waste collection schedule	60
Figure 4-8: McGregor waste collection schedule	61
Figure 4-9: Ashton waste collection schedule	62
Figure 4-10: Robertson landfill site (Google Earth image: 2020).....	66
Figure 4-11: McGregor "Historic" landfill site (Google Earth image: 2020)	68
Figure 4-12: Bonnievale landfill site (Google Earth image: 2020)	69
Figure 4-13: Bonnievale landfill signage.....	70
Figure 4-14: Garden refuse stockpiled.....	70

Figure 4-15: Ashton landfill site (Google Earth image: 2020)	71
Figure 4-16: Ashton landfill site waste pickers	72
Figure 4-17: Montagu landfill site (Google Earth image: 2020).....	73
Figure 4-18: C&D waste disposed at Montagu landfill site	73
Figure 4-19: Robertson transfer station and composting facility (Google Earth Image: 2020)	75
Figure 4-20: Robertson weighbridge and composting windrows	76
Figure 4-21: McGregor public drop off facility	77
Figure 4-22: Bonnievale public drop off facility	78
Figure 4-23: Ashton transfer station with weighbridge	79
Figure 4-24: Montagu transfer station	79

LIST OF TABLES

Table 4-1: LLM population profile (LLM SEP, 2019)	30
Table 4-2: LLM age categories (LLM SEP, 2019)	31
Table 4-3: Household size (LLM SEP, 2019).....	31
Table 4-4: LLM income distribution (IDP, 2017 - 2020)	32
Table 4-5: LLM capital and operational expenditure for 2020-2021	34
Table 4-6: Waste collection tariff structure for households and businesses	36
Table 4-7: Additional waste collection and disposal tariffs	38
Table 4-8: Categories of waste generated in LLM.....	41
Table 4-9: Waste characterisation study results (LLM IWMP , 2017)	42
Table 4-10: Number of questionnaires sent	43
Table 4-11: Filling station waste oil.....	44
Table 4-12: Private and provincial hospital and clinic HCRW mass provided by Compass	45
Table 4-13: Current waste generation as per IPWIS reports.....	48
Table 4-14: Summary table of waste generation as per IPWIS reports	51
Table 4-15: Future estimated waste generation rates.....	52
Table 4-16: Service delivery summary table	53
Table 4-17: List of all schools serviced by LLM.....	57
Table 4-18: Summary waste collection schedule	59
Table 4-19: Waste collection fleet.....	63
Table 4-20: Additional Solid Waste Management Department fleet	64
Table 4-21: Robertson landfill site summary table	66
Table 4-22: McGregor landfill site summary table.....	68
Table 4-23: Bonnievale landfill site summary table	70
Table 4-24: Ashton landfill site summary table	72
Table 4-25: Montagu landfill site summary table	73
Table 4-26: Percentage waste diverted	81
Table 4-27: LLM organogram	82
Table 5-1: Waste service delivery gaps and needs identified	88
Table 5-2: Waste minimisation, recycling and re-use initiatives gaps and needs identified.....	89
Table 5-3: Organic waste management gaps and needs identified.....	89
Table 5-4: Hazardous waste gaps and needs identified	90
Table 5-5: Waste management facilities gaps and needs identified	90
Table 5-6: Waste management collection fleet and equipment gaps and needs identified	91
Table 5-7: Waste management information gaps and needs identified	91
Table 5-8: Waste education and initiatives gaps and needs	92
Table 5-9: Staff and financial management gaps and needs identified.....	92
Table 5-10: Future planning gaps and needs identified	93
Table 6-1: Alignment of LLM goals with provincial and national goals	96
Table 6-2: Objectives and targets for each of the LLM's goals	98
Table 7-1: Implementation plan legend	105
Table 7-2: Implementation plan.....	106

GLOSSARY OF TERMS AND ABBREVIATIONS

CWDM	Cape Winelands District Municipality
DEA&DP	Department of Environmental Affairs and Development Planning
IDP	Integrated Development Plan
IPWIS	Integrated Pollutant and Waste Information System
IWMP	Integrated Waste Management Plan
LLM	Langeberg Local Municipality
MRF	Materials Recovery Facility
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEM:WA	The National Environmental Management: Waste Act (Act No. 59 of 2008)
NWMS	National Waste Management Strategy (2020)
SAWIC	South African Waste Information Centre
SEP	Socio-Economic Profile
WC	Western Cape
WWTP	Waste Water Treatment Plant

1 INTRODUCTION

1.1 BACKGROUND

The National Waste Management Strategy (2020) (NWMS) is a legislative requirement of the National Environmental Management: Waste Act (NEM:WA) (Act No. 59 of 2008), intended to achieve the objectives of the NEM:WA and seeking to systematically improve waste management in South Africa. This approach recognises the widely adopted waste hierarchy (Figure 1-1), of which the primary objective is to reduce the amount of waste going to landfills. This approach suggests disposal of waste as a last resort.

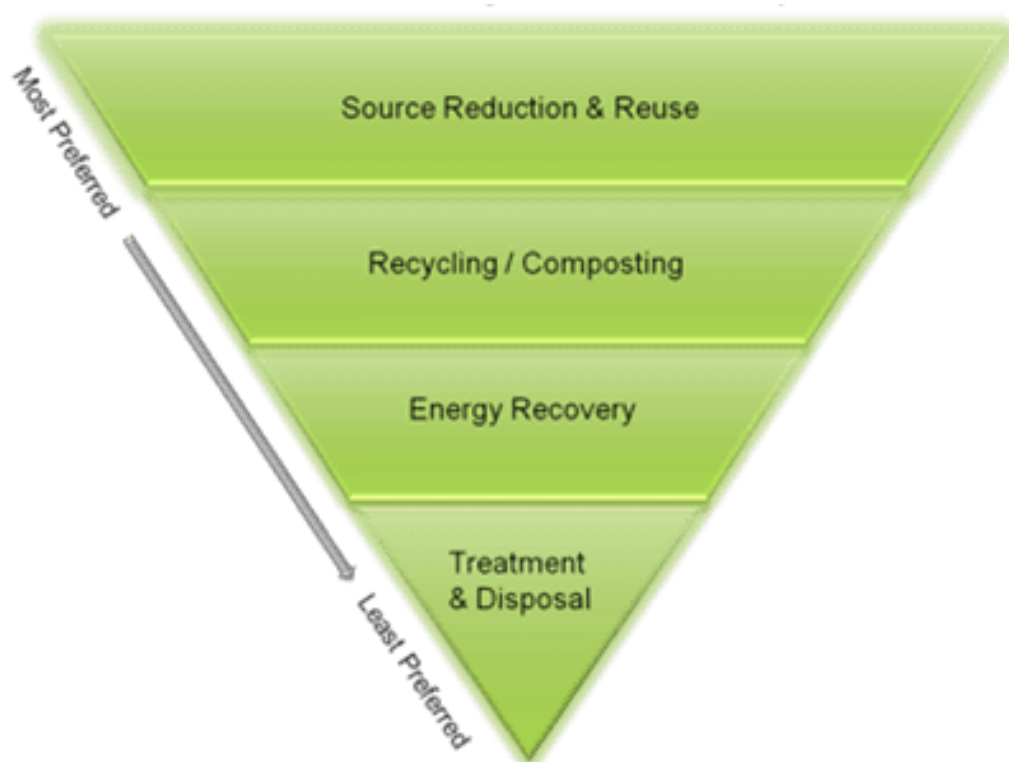


Figure 1-1: National Waste Management Strategy (NWMS, 2011) - Waste hierarchy

The development of an Integrated Waste Management Plan (IWMP) is a statutory requirement of NEM:WA that has been promulgated and came into effect on 1 July 2009. Its goal is the transformation of the historic methodology of waste management, i.e. collection and disposal, to a sustainable practice focusing on waste avoidance and environmental sustainability. The development of the IWMP is necessary as it is an integral tool to identify current needs and acts as a guide towards sustainable waste management. The IWMP will be developed in line with the LLM's Integrated Development Plan's (IDP) strategic objectives.

The Langeberg Local Municipality (LLM) is situated within the Cape Winelands District (CWD). Covering a total area of approximately 4 518 km², the LLM includes the towns of Robertson, Montagu, Ashton, Bonnievale and McGregor, as well as rural areas adjacent to and between these towns.



Figure 1-2: Cape Winelands District Municipality area

The role of the LLM in relation to environmental management is detailed in Section 152 of the Constitution, which requires municipalities, amongst others, to ensure the provision of municipal services to communities in a sustainable manner, and to promote a safe and healthy environment.

In support of the LLM's efforts to render efficient and cost-effective waste management services, CWD has appointed Delta Built Environment Consultants (Delta BEC) for the development of the fourth generation Integrated Waste Management Plan (IWMP) for the LLM.

1.2 PURPOSE OF REPORT

The purpose of this report is to analyse and quantify all aspects related to current waste management services and practices carried out by the LLM, as well as the private sector, with the view of using such information as a baseline for future planning on sustainable service delivery.

1.3 STRUCTURE OF REPORT

The report comprises the following sections:

- Section 2: Status quo study approach;
- Section 3: Relevant legislation;
- Section 4: Status quo study findings;
- Section 5: Gap and needs analysis;
- Section 6: Goals, objectives and targets assessment;
- Section 7: Implementation plan;
- Section 8: IWMP monitoring and review;
- Section 9: Public participation process;
- Section 10: Conclusion;
- Section 11: References; and
- Appendices.

2 STATUS QUO STUDY APPROACH

This section details the approach that the Delta BEC team follows during execution of the status quo phase of the project.

The process flow diagram below details the activities added to each progress report to generate the final status quo report. Site visits were conducted during the status quo investigation phase of the project. The site visits were conducted during the week of 31 August 2020 to 4 September 2020.

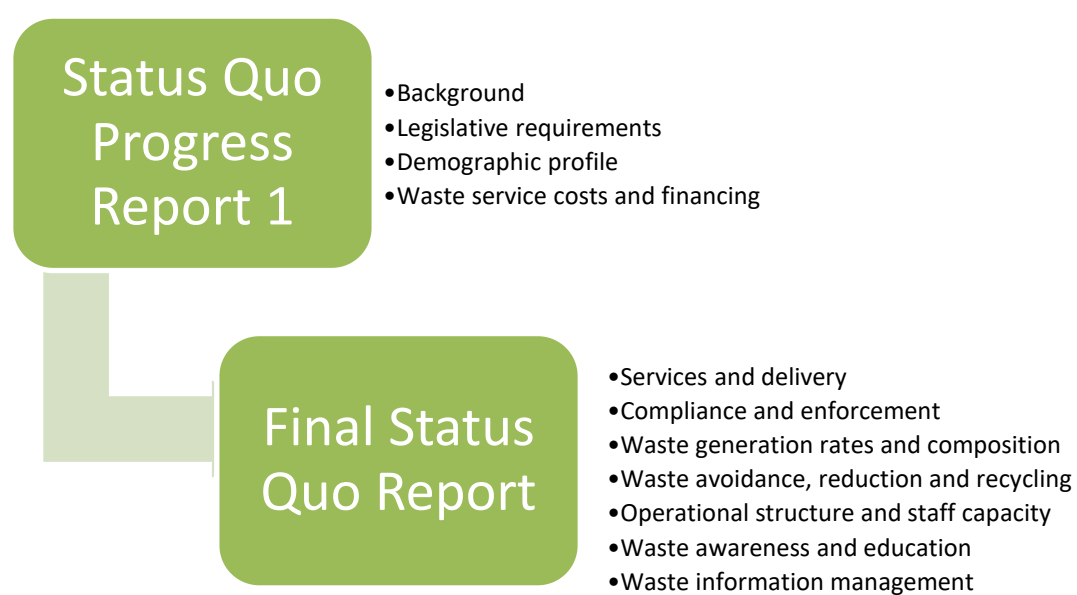


Figure 2-1: Process flow diagram

3 RELEVANT LEGISLATION

This chapter of the report details the roles and responsibilities in terms of waste management at National, Provincial, District and Local Municipal level that inform and assist integrated waste management.

3.1 ROLES AND RESPONSIBILITIES

3.1.1 NATIONAL GOVERNMENT

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

3.1.2 PROVINCIAL GOVERNMENT

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

3.1.3 DISTRICT MUNICIPALITIES

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, district municipalities can co-operate roles.

3.1.4 LOCAL GOVERNMENT

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

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

3.2.1 INTERNATIONAL TREATIES

The following list of international treaties will be considered:

- Basel Convention;
- Rotterdam Convention; and

- Stockholm Convention.

3.2.1.1 The Basel Convention

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

The Basel Convention, held on 22 March 1989, came into effect during May 1992 after ratification by the prerequisite number of countries. South Africa ratified the Convention in 1994, with the Department of Environmental Affairs (DEA) being the focal point for the convention. Whilst South Africa subsequently acceded to this Convention, no legislation was passed at the time to give effect to it. The second Basel Convention, held on 8 October 2005, set standards for the control of transboundary movements of hazardous wastes and their disposal, setting out the categorisation of hazardous wastes and the policies for their disposal between member countries. South Africa accedes to this convention and implements its provisions.

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

3.2.1.2 The Rotterdam Convention

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

3.2.1.3 The Stockholm Convention

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

produced POPs. Parties to the Convention are also required to undertake the following responsibilities (United Nations Environment Programme, 2020):

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

3.2.2 NATIONAL ACTS, REGULATIONS AND STRATEGIES

3.2.2.1 The South African Constitution (Act No. 108 of 1996)

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

- a) An environment that is not harmful to their health or well-being.
- b) Have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
 - i) Prevent pollution and ecological degradation.
 - ii) Promote conservation.
 - iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

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

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

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

NEMA places sustainable development at the centre of every development process that has the potential to have an impact on social, economic and environmental matters, whereby it requires the integration of social, economic

and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations.

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

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

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

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

3.2.2.5 The Local Government: Municipal Structures Act (Act No. 117 of 1998)

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

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

3.2.2.6 The National Environmental Management: Waste Act: Waste Classification & Management Regulations (R. 634 August 2013)

This regulation provides for the classification of waste by waste generators in accordance with SANS 10234:2008, within 180 days of generation. The GHS classifies waste in terms of its physical and health hazards as well as the hazards it presents to the aquatic environment. Waste that was previously classified in terms of the Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste (1998) must now be classified in terms of SANS 10234:2008. Waste listed in Annexure 1 of the WCMR does not require classification in terms of SANS 10234:2008.

3.2.2.7 The National Environmental Management: Waste Act: National Standard for Assessment of Waste (R. 635 August 2013)

The standards prescribe the requirements for the assessment of waste prior to disposal to landfill, as required by Regulation 8 (1) (b) and (c) of the Waste Classification and Management Regulations of 2013. The standards classify waste into four categories based on its total concentration (TC) and leachable concentration (LC) in comparison with the acceptable limits.

3.2.2.8 The National Environmental Management: Waste Act: National Standard for Disposal of Waste to Landfill (R. 636 August 2013)

The standard provides for the new classification of landfill sites and requirements for containment and barrier designs. The new classifications are Class A, B, C and D. The standards prescribe types of waste (as per the classification of waste by R.635) to be disposed at different classes of landfill sites. The standards also provide for waste disposal restrictions on certain types of waste such as tyres, asbestos, persistent organic pollutants (POPs) and organic waste.

3.2.2.9 National Environmental Management: Waste Act: National Waste Information Regulations (January 2013)

Waste generators are obliged to report waste quantities generated, diverted and treated. This is required in order to ensure efficient planning for waste management activities. In terms of the regulations, certain requirements must be complied with during reporting, such as the name of the facility, waste types and quantities generated, percentage of waste diverted, etc.

3.2.2.10 National Environmental Management: Waste Act (59/2008): Waste Tyre Regulations (29 September 2019)

The aim of this regulation is to provide guidelines for the safe management of tyre waste. It outlines the prohibitions, registration of waste generators, duties of tyre dealers, the waste tyre stockpile abatement plan and the storage of waste tyres.

3.2.2.11 National Environmental Management Act: NEMA, EIA Regulations (18 June 2010)

The EIA Regulations regulate the procedure and criteria relating to the preparation, evaluation, submission, processing and approval of applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts. Waste activities which should be subjected to EIA are prescribed in GN. 921, NEM:WA schedule.

3.2.2.12 The National Environmental Management: Waste Act: Draft National Norms and Standards for Organic Waste Composting (4 September 2019)

The norms and standards are aimed at controlling the composting of organic waste at facilities falling within certain thresholds as described in Paragraph 3 of these norms and standards in order to prevent or minimise potential negative impacts on the bio-physical and socio-economic environment.

3.2.2.13 The White Paper on Integrated Pollution and Waste Management for South Africa (17 March 2000)

(Government Gazette 20978, 17 March 2000) – DEA National Waste Management Policy. It is focused on 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.

3.2.2.14 The National Waste Management Strategy (2020)

The NWMS (2020) was approved by Cabinet on 9 September 2020. This strategy was developed in alignment with the National Environmental Management: Waste Act and builds on the successes and lessons learnt from the NMWS (2011).

The NWMS (2020) is broadly focused on preventing waste and diverting waste from landfill by leveraging the concept of the Circular Economy to drive sustainable, inclusive economic growth and development in the waste sector, while reducing the social and environmental impacts of waste. Its implementation plan will create jobs in the waste sector and increase awareness and compliance around waste.

The following are the three strategic goals in the revised NWMS (2020):

- Waste Minimisation - the aim is to prevent waste and where waste cannot be prevented, 40% should be diverted from landfill within 5 years through reuse, recycling, recovery and alternative waste treatment: 20% of waste reduction in waste generation, and 20% of waste reused in the economic value chain.
- Effective and Sustainable Waste Services - this would see all South Africans living in clean communities with waste services that are well managed and financially sustainable.
- Waste Awareness and Compliance - the aim is to create a culture of compliance with zero tolerance of pollution, litter and illegal dumping.

Among the significant strategic shifts from the 2011 strategy in the NWMS 2020 are addressing the role of waste pickers and the informal sector in the Circular Economy, promoting product design packaging that reduces waste or encourages reuse, repair and preparation for recycling, and support markets for source-separated recyclables. NWMS 2020 also investigates potential regulatory or economic interventions to increase participation rates in residential separation

at source programmes, alongside investing in the economies associated with transporting of recyclables to waste processing facilities and addressing the skills gaps within the sector.

The strategy also requires engagement with the National Treasury regarding the operational expenditures for municipalities associated with implementing the NWMS and Waste Act.

3.2.2.15 The Waste Tyre Regulations (2017)

The Waste Tyre Regulations (2017) outline a number of prohibitions as far as waste tyre management is concerned as follows:

No person may:

- a) Manage waste tyres in a manner which does not comply with these regulations.
- b) Recover or dispose of a waste tyre in a manner that is likely to cause pollution of the environment or harm to health and well-being.
- c) Dispose of a waste tyre at a waste disposal facility.
- d) Recover any financial contribution in terms of a waste tyre management plan from a subscriber to the plan, unless authorised by law.
- e) Export waste tyres in whatever form unless the exportation of such waste tyres is authorised by the Minister in writing.

3.2.3 PROVINCIAL PLANS, STRATEGIES AND GUIDELINES

3.2.3.1 Western Cape Integrated Waste Management Plan (2017-2022)

The Western Cape outlined four goals in the 2nd Generation IWMP (2017-2022). The LLM's goals and targets will be developed in line with the following four goals from the Western Cape IWMP.

- Goal 1: Strengthened education, capacity and advocacy towards integrated waste management.
- Goal 2: Improved integrated waste management planning and implementation for efficient waste services and infrastructure.
- Goal 3: Effective and efficient utilisation of resources.
- Goal 4: Improved compliance with environmental regulatory framework.

These four goals were identified by the Western Cape to addresses the following:

- Promoting sustainable waste management; this includes waste avoidance, cleaner production, waste minimisation, resource-use efficiency, resource recovery and recycling;
- Diverting waste from waste management disposal facilities;
- Minimising adverse environmental and social impacts of waste management, particularly for the vulnerable; and

- Providing guidance and support for both municipalities and industries in developing IWMPs that promote integrated waste management.

3.2.3.2 Western Cape Green Economy Strategy Framework (2013)

The 2013 Western Cape Green Economy Strategy Framework aims to achieve the double dividend of optimising green economic opportunities and enhancing environmental performance.

The strategy identifies three high-level priorities for green growth:

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

3.2.3.3 Western Cape Diversion Targets for Organic Waste Management (2018)

Organic waste is identified as a problematic waste stream in the Western Cape, with in excess of 37% of waste generated in the province being 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 can also aid in job creation at waste management facilities. Compost and biochar produced from organic waste can be used as an alternative to fertilisers to improve soil condition.

The Department of Environmental Affairs and Development Planning (DEA&DP) proposed a 50% diversion from landfill sites by 2022, and a landfill ban on organic waste to landfill by 2027.

3.2.3.4 Guideline for Management of Abattoir Waste in Western Cape (2015)

The guideline on the management of abattoir waste in the Western Cape was developed by the DEA&DP as one of the recommendations stemming from the status quo study of abattoir waste conducted in 2015.

The guideline provides an overview of the current status quo of abattoir waste, treatments and disposal methods.

3.2.4 LOCAL BY-LAWS AND PLANS

3.2.4.1 Cape Winelands By-Laws

The Cape Winelands District Municipality does not manage waste collection or disposal. Therefore it does not have Solid Waste By-Laws. However, Chapter 8 of the Municipal Health By-Laws of the Cape Winelands District Municipality relates to waste management. *The Waste Management section is outdated and needs to be reviewed to include NEM:WA and NWMS.* The section reads as follows:

'Part 1: General provisions regarding recovery, storage and disposal of waste*Recovery, storage and disposal of waste*

- 1) *Waste must be recovered, stored, transported and disposed of —*
 - a) *without endangering human health;*
 - b) *without the use of processes or methods likely to harm or pollute the environment; and*
 - c) *in a manner that does not create a health nuisance.*
- 2) *A person who contravenes subsection (1) commits an offence.*

Part 2: Hazardous Waste*Applicable legislation*

The municipality, taking cognizance of the provisions of the Environment Conservation Act, 1989 (Act No. 73 of 1989) the Hazardous Substances Act, 1973 (Act 15 of 1973), the National Health Act, 61 of 2003, and the regulations made under these Acts, adopts the provisions in this Part.

Storage of hazardous waste

- 1) *An empty container in which hazardous waste such as, but not limited to, pesticides was stored is to be treated as hazardous waste, and —*
 - a) *must be stored in such a manner that —*
 - i) *no pollution of the environment occurs at any time;*
 - ii) *no health nuisance is created at any time;*
 - b) *while being stored on site, must be clearly marked or labelled with the words "Hazardous Waste";*
 - c) *the owner or occupier of the land must fence off the storage area to prevent unauthorised access; and*
 - d) *shall be dealt with as Class 6 waste as described in the Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste (Second Edition, 1998) as published by the Department of Water Affairs and Forestry and as amended from time to time.*
- 2) *A person who contravenes a provision of subsection (1)(a) to (d) commits an offence.'*

3.2.4.2 LLM By-laws

The LLM during the investigations in 2020 does not have waste management by-laws.

3.2.4.3 LLM Integrated Development Plan

The IWMP forms part of the Integrated Development Plan (IDP) required in terms of Chapter 5 of the Municipal Systems Act. In order to align the IWMP with the IDP (2017-2022) of LLM, the strategic goals from the IDP will be considered in this IWMP.

Section 24 of the Municipal Systems Act states:

‘(1) The planning undertaken by a municipality must be aligned with, and complement, the development plans and strategies of other affected municipalities and other organs of state so as to give effect to the principles of cooperative government contained in Section 41 of the Constitution.

(2) Municipalities must participate in national and provincial development programmes as required in Section 153(b) of the Constitution.’

The following are the strategic objectives of the LLM IDP:

- Strategic Objective 1: Housing: Effective approach to integrated human settlements and improved living conditions of all households.
- Strategic Objective 2: Basic Service Delivery: Maintain infrastructure to provide basic services to all citizens.
- Strategic Objective 3: Local Economic Development: Create an enabling environment for economic growth and decent employment.
- Strategic Objective 4: An efficient, effective, responsive and accountable administration.
- Strategic Objective 5: Sound Financial Management: Adherence to all laws and regulations applicable to LG.
- Strategic Objective 6: Effective stakeholder engagements to promote civic education.

The LLM IWMP will be aligned with Strategic Objective 2 of the IDP, which is to provide and maintain infrastructure to provide basic services to all citizens.

4 STATUS QUO STUDY FINDINGS

This chapter of the report will be discussed under the following headings:

- Geographical area, geo-physical and geo-hydrological conditions;
- Demographic profile;
- Waste management cost and financing;
- Waste categories and generation;
- Service delivery;
- Compliance and enforcement;
- Waste avoidance, reduction and recycling;
- Operational structure and staff capacity; and
- Waste awareness and education.

4.1 GEOGRAPHICAL AREA, GEO-PHYSICAL AND GEO-HYDROLOGICAL CONDITIONS

The Langeberg Local Municipality (LLM) is situated within the Cape Winelands District (CWD). Covering a total area of approximately 4 518 km², the LLM includes the towns of Robertson, Montagu, Ashton, Bonnievale and McGregor, as well as rural areas adjacent to and between these towns. LLM is divided into 12 wards. The spatial orientation of the wards is shown in Figure 4-1.



Figure 4-1: LLM wards

4.1.1 CLIMATE

LLM is a predominantly winter rainfall region. Langeberg receives approximately 250 mm of rain per annum and experiences a high average temperature of 33 °C during summer months and average temperatures as low as 6 °C in July.

4.1.2 TOPOGRAPHY

The topography of LLM is dominated by two major mountain ranges—the Langeberg Mountain Range which stretches across the northwest of the municipality passing Robertson, Montagu and Ashton east towards Swellendam, and the Riviersonderend Mountain Range which is to the south of the town of McGregor. The LLM lies between these two mountains and has rich, fertile soil suitable for agriculture. As a result of this, agriculture is one of the greatest economic sectors in LLM in terms of both employment and GDP.

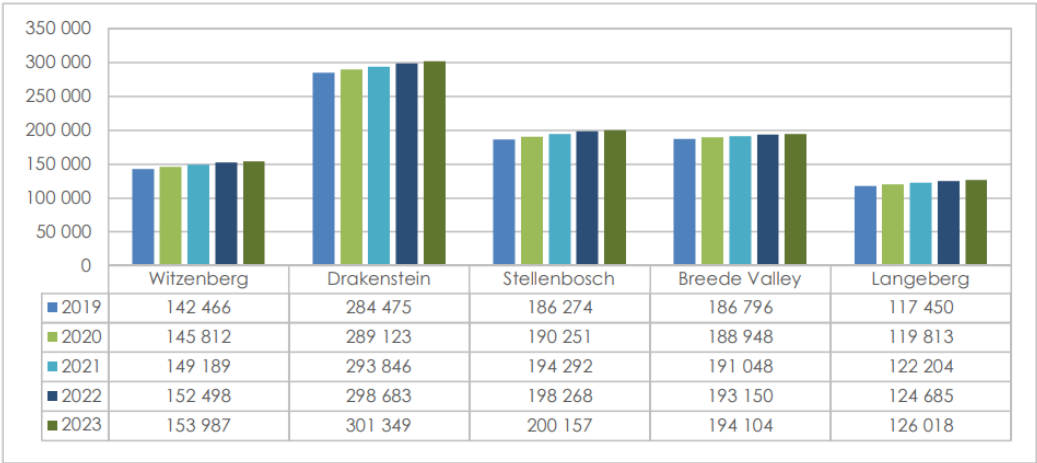
4.2 DEMOGRAPHIC PROFILE

The Socio-Economic Profile (LLM SEP, 2019) report, drafted by the Western Cape Department of Social Development, and the LLM Integrated Development plan (IDP, 2017 - 2020) were used to determine the demographic profile of the LLM.

4.2.1 POPULATION PROFILE

LLM has the smallest population of all the local municipalities in the Cape Winelands District, which, according to the SEP 2019 report, is projected to be 126 018 by 2023. The estimated population growth rate is 2% annually (SEP, 2019).

Table 4-1: LLM population profile (LLM SEP, 2019)



4.2.2 SOCIO-ECONOMIC GROUPS AND INCOME DISTRIBUTION

4.2.2.1 Age distribution

Table 4-2 depicts the population composition regarding age categories of the LLM. The total population is broken down into three different groups, namely:

- Age 0-14: children;
- Age 15-65: working age population; and
- Age 65+: seniors.

Table 4-2 provides the LLM's population composition per age categories. These groupings are also expressed as a dependency ratio which in turn indicates who is part of the workforce (age 15-65) and those who are depending on them (children and seniors). A higher dependency ratio (above 60%) means a higher pressure on social systems and the delivery of basic services.

Table 4-2: LLM age categories (LLM SEP, 2019)

LANGEBERG: AGE COHORTS, 2019-2025				
Year	Children 0-14 Years	Working Age 15-65 Years	Aged 65+	Dependency Ratio
2019	35 318	75 400	6 732	55.8
2022	37 125	80 044	7 516	55.8
2025	38 750	84 311	8 079	55.5
Growth	1.6%	1.9%	3.1%	-

4.2.2.2 Household size

Household size refers to the number of people per household. It is worth noting that although the number of households in the LLM area is increasing, the actual size of households is projected to trend downwards in 2021 and 2022 but reverts to four persons per household in 2023. This potentially implies an inflow of young professionals (either single, as couples or with small family groupings) into the area because of enhanced urbanisation (LLM SEP, 2019).

Table 4-3: Household size (LLM SEP, 2019)

LANGEBERG: HOUSEHOLD SIZE, 2019-2023				
2019	2020	2021	2022	2023
4.0	4.0	3.9	3.9	4.0

4.2.2.3 Income distribution

The following table provides the annual income for households living within the LLM area (IDP, 2017 - 2020). From information in the IDP, 57.0% of people in the

municipality fall in the low-income bracket, 38.0% in the middle-income and 5.0% in the high-income bracket.

Table 4-4: LLM income distribution (IDP, 2017 - 2020)

Amount (2016)	Cape Winelands District	Langeberg	
No income	13.1	10.0	Low income
R1 – R6 327	1.9	2.5	
R6 328 – R12 653	3.5	4.3	
R12 654 – R25 306	13.4	15.8	
R25 307 – R50 613	20.1	24.3	
R50 614 – R101 225	18.4	19.8	Middle Income
R101 226 – R202 450	12.3	10.8	
R202 451 – R404 901	8.8	7.3	
R404 902 – R809 802	5.7	3.6	High income
R809 803 – R1 619 604	2.0	1.0	
R1 619 605 – R3 239 208	0.5	0.2	
R3 239 209 or more	0.4	0.2	

4.2.3 EMPLOYMENT STATUS AND EDUCATION LEVELS

Education and training improve access to employment opportunities and help to sustain and accelerate overall development.

4.2.3.1 Employment status

LLM employs the least workers when compared to the other LMs within the Cape Winelands District (CWD). The LLM area had the second lowest unemployment rate in CWD at 7.9% in 2015 (SEP, 2017). The number of jobs recorded in 2015 was 51 372. The jobs in the LLM mostly originate from the agricultural sector (23.4%) and wholesale and retail trade, catering and accommodation sector (25.2%) (SEP, 2017). The agriculture sector created the most jobs in 2015 due to the record wine grape harvest in the area, which increased the demand for seasonal workers (SEP, 2017). The seasonality of jobs in the agriculture sector has widespread implications for the economy of the LLM area as household income and spending are cyclical in line with agricultural activities in this area, which in turn affects businesses in the tertiary sector.

4.2.3.2 Education levels

4.2.3.2.1 Learner enrolment

Learner enrolment in LLM increased at an annual average growth rate of 3% from 17 838 to 18 374 learners between 2016 and 2018 (LLM SEP, 2019). This could be attributed to a number of factors including changing demographic and socio-economic context.

4.2.3.2.2 Learner-teacher ratio

The learner-teacher ratio in LLM increased between 2016 and 2017, from 26.3 in 2016, to 27.3 in 2017, decreasing again in 2018 to 26.5 (LLM SEP, 2019). Factors influencing the learner-teacher ratio include the ability of schools to employ more educators when needed and the ability to collect school fees (LLM IDP, 2017-2022).

4.2.3.2.3 Educational facilities

The number of schools within the LLM has remained unchanged at 55 between 2016 and 2017, but with one less school in 2018. This could negatively impact upon the education outcomes, given the gradual increase in learner enrolment (LLM SEP, 2019).

4.2.3.2.4 Educational outcomes

The matric pass rate within the LLM dropped from 85.7% in 2016 to 79.5% in 2017. In 2018, the matric pass rate further dropped marginally to 79.0%.

4.2.4 ECONOMIC PERFORMANCE

The ability of households to pay for services such as water, electricity, sanitation and refuse removal depends on income generated from economic activities. A slowdown in economic activity may result in job losses¹ and the inability of households to pay for services, leading to reduced municipal revenues (LLM SEP, 2019).

LLM has the lowest Gross Domestic Product (GDPR) per capita compared to other local municipalities in the CWD. At R39 689.00 in 2018, LLM GDPR is below that of the CWD figure of R50 716.00 as well as that of the Western Cape (R60 079.00) (LLM SEP, 2019).

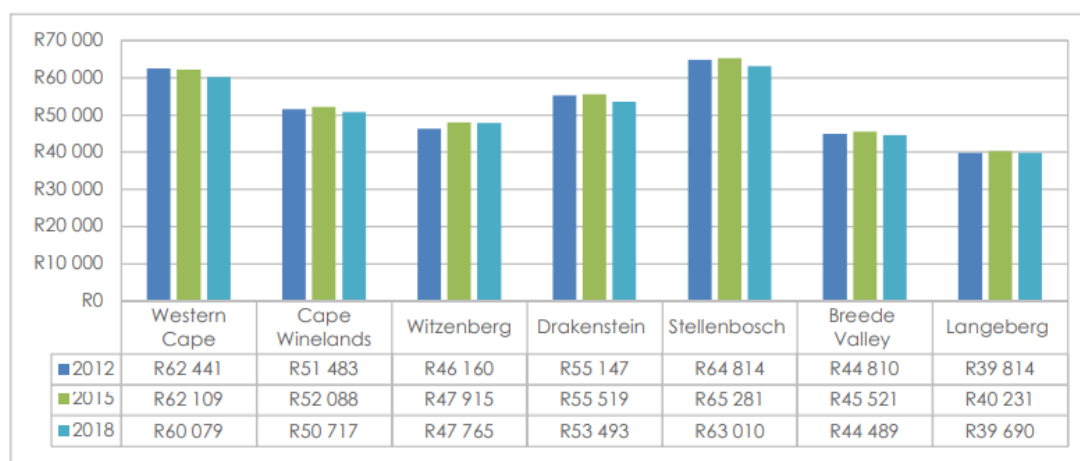


Figure 4-2: Cape Winelands District GDPR contribution (LLM SEP, 2019)

¹ Job losses are severely aggravated in 2020 due to COVID-19, which is likely to have a significant impact on several other statistics presented in the Status Quo report.

4.2.5 DEVELOPMENT PROFILES

4.2.5.1.1 Access to housing

Access to formal housing and services in LLM is measured against a total number of households of 25 125 in 2011 and 28 401 in 2016 (LLM SEP, 2019). The number of formal dwellings in LLM increased by 2 572 between 2011 and 2016, at an average annual rate of 2.2%, which translates into approximately 514 additional formal dwellings per year over this period.

4.2.5.1.2 Access to basic services

Figure 4-3 illustrates the access to basic services in the LLM area between 2015 and 2018 as indicated in Statistics South Africa’s Non-Financial Census of Municipalities. Between 2015 and 2018, the number of consumer units has grown across all services. In 2018, electricity services represented the largest number of consumer units at 19 468; this is followed by water and sewerage at 17 202 and 16 282 respectively. Solid waste services had the lowest number of consumer units at 15 240 (LLM SEP, 2019).

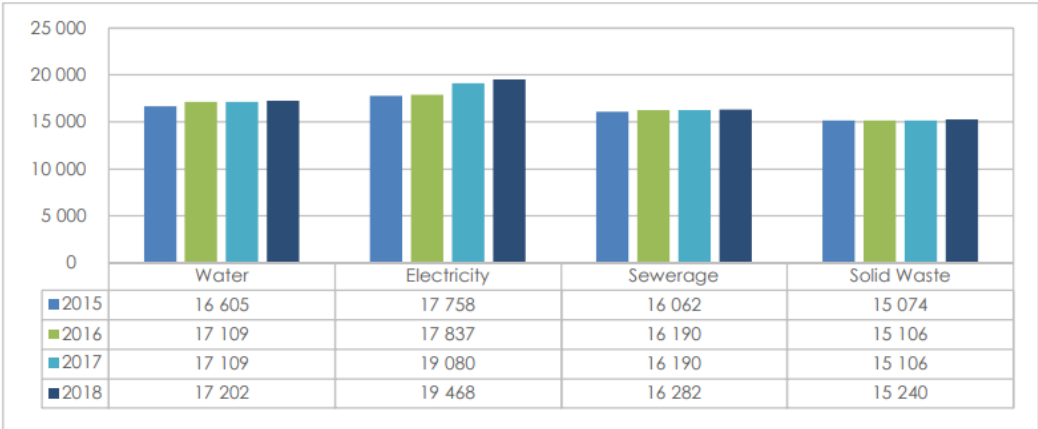


Figure 4-3: LLM breakdown of access to basic services (LLM SEP, 2019)

4.2.5.1.3 Free basic service

Indigent households (a family earning a combined income of less than R3 200.00 per month) qualify for free basic water, electricity, sanitation and waste removal services. In 2020, the LLM area had 6 599 solid waste indigent households.

4.3 WASTE MANAGEMENT COST AND FINANCING

4.3.1 DETAILED BREAKDOWN OF OPERATIONAL AND CAPITAL BUDGET

Table 4-5 provides the capital and operational solid waste management budget for the 2020-2021 financial year.

Table 4-5: LLM capital and operational expenditure for 2020-2021

CAPITAL AND OPERATIONAL BUDGET FOR 2020-2021	
Capital budget (2020-2021)	R2 120 000.00 (Excl. VAT)

CAPITAL AND OPERATIONAL BUDGET FOR 2020-2021	
Palisade fencing for Ashton landfill site	R2 120 000.00 (Excl. VAT)
Operational budget (2020-2021)	R40 056 123.00 (Excl. VAT)
Landfill sites (operational cost, maintenance and equipment)	R10 231 596.00 (Excl. VAT)
Solid waste management (wages, maintenance and transportation equipment)	R20 191 979.00 (Excl. VAT)
Street cleaning (wages and equipment)	R9 632 548.00 (Excl. VAT)

4.3.2 DETAILED BREAKDOWN OF OPERATIONAL AND CAPITAL EXPENDITURE

This operational and capital expenditure section will be updated once the information is available.

4.3.3 CURRENT TARIFF STRUCTURE

4.3.3.1 Waste collection tariffs for households and businesses

Table 4-6 provides the waste collection tariff structure for households and businesses in the LLM. There was a 4.5% increase in the tariffs from 2019/2020 to 2020/2021.

Table 4-6: Waste collection tariff structure for households and businesses

DESCRIPTION OF SERVICE	2019/2020 (VAT EXCL.)	2020/2021 (VAT EXCL.)	INCREASE
One removal per week			
General (240 l wheelie bin)	R153.87	R160.79	4.5%
Indigent tariff (income ≤ 3 500 per month) (100% subsidised)	R153.87	R160.79	4.5%
Informal housing	R153.87	R160.79	4.5%
Spaza shops (240 l wheelie bin)	R153.87	R160.79	4.5%
Schools and hostels (excluding creches) - per 240 l bin removed	R153.87	R160.79	4.5%
Businesses - waste removal per week			
General - one removal	R323.97	R338.55	4.5%
General - two removals	R647.93	R677.08	4.5%
General - three removals	R947.42	R990.05	4.5%
Bulk removals and perishable products			
General	R1 218.12	R1 272.94	4.5%
MEGA industries (the tariffs for MEGA industries are standard, any additional removals will be charged at actual cost plus 20%)			

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

DESCRIPTION OF SERVICE	2019/2020 (VAT EXCL.)	2020/2021 (VAT EXCL.)	INCREASE
Langeberg and Ashton foods	R22 187.54	R23 185.98	4.5%
Langeberg and Ashton foods	R17 433.09	R18 217.58	4.5%
Fruit packers	R2 286.63	R2 389.53	4.5%
Parmalat	R7 598.48	R7 940.41	4.5%
All wine cellars	R2 137.03	R2 233.20	4.5%
Small cheese factories	R2 137.03	R2 233.20	4.5%
Môreson	R1 538.68	R1 607.92	4.5%
Municipal departments			
One removal per week - General (240 l wheelie bin)	R153.87	R160.79	4.5%
Two removals per week - General (240 l wheelie bin)	R307.74	R321.59	4.5%
Three removals per week - General (240 l wheelie bin)	R461.61	R482.38	4.5%
Sports grounds (240 l wheelie bin)	R153.87	R160.79	4.5%
Dept.: Sport (240 l wheelie bin)	R153.87	R160.79	4.5%
Availability - vacant plots excluding properties zoned for agriculture purposes, roads, play parks and parking areas belonging to home owners associations.	R153.87	R160.79	4.5%

4.3.4 ADDITIONAL WASTE COLLECTION TARIFF STRUCTURE

Table 4-7 provides the tariffs of additional waste collection and disposal services rendered by the LLM.

Table 4-7: Additional waste collection and disposal tariffs

DESCRIPTION OF SERVICE	2019/2020		2020/2021	
	Excl. VAT	Incl. VAT	Excl. VAT	Incl. VAT
General services				
Removal of rejected tins per tonne	R372.00	R428.00	R417.00	R480.00
Removal of garden refuse per m ³	R122.00	R141.00	R137.00	R158.00
Removal of garden refuse per tonne	R328.00	R378.00	R367.00	R422.00
Special removal of household refuse per tonne	R456.00	R525.00	R511.00	R588.00
Removal of industrial/condemned refuse per tonne	R519.00	R597.00	R581.00	R668.00
Small holdings that dump refuse up to four households (farms)	R109.00	R126.00	R122.00	R140.00
Rural businesses that dump refuse up to 12 times (households/farms)	R352.00	R405.00	R394.00	R453.00
Rural businesses that dump refuse on an ad hoc basis per tonne	R256.00	R295.00	R287.00	R330.00
Additional dumping per household more than 12 times	R32.00	R37.00	R36.00	R41.00
Removal of illegal dumping	Actual cost + 20% + VAT		Actual cost + 20% + VAT	
Cleaning of private plot	Actual cost + 20% + VAT		Actual cost + 20% + VAT	
C&D				
Clean (only sand, stone, soil, small pieces of concrete, bricks less than 100 mm)	Free	Free	Free	Free
Builders' rubble that contains stones				
Pieces of concrete, bricks bigger than 100 mm (price per tonne)	R256.00	R295.00	R287.00	R330.00

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

DESCRIPTION OF SERVICE	2019/2020		2020/2021	
	Excl. VAT	Incl. VAT	Excl. VAT	Incl. VAT
Waste contaminated with tree stumps and other waste	R256.00	R295.00	R287.00	R330.00
Any other approved waste not specified	R256.00	R295.00	R287.00	R330.00
Disposal of rejected material				
Removal of rejected material per kg	R5.00	R6.00	R6.00	R7.00
Self-dumping of rejected material per kg	R4.00	R5.00	R4.48	R5.15
Fruit delivered at compost area per tonne	R298.00	343.00	R334.00	R384.00
Hiring of skips				
Monthly rent 6 m³ (one removal per month)	R648.00	R746.00	R726.00	R835.00
Monthly rent 9 m³ (one removal per month)	R792.00	R911.00	R887.00	R1 020.00
Rental of 6 m³ skip per occasion (one day only)	R370.00	R426.00	R414.00	R476.00
Rental of 9 m³ skip per occasion (one day only)	R470.00	R541.00	R526.00	R605.00
Rental of 30 m³ skip per occasion			R1 753.00	R2 016.00
Additional removal of 6 m³ skip (additional to first removal per month)	R361.00	R416.00	R404.00	R465.00
Additional removal of 9 m³ skip (additional to first removal per month)	R461.00	R531.00	R516.00	R593.00
Garden refuse				
Disposal of clean approved garden refuse	Free	Free	Free	Free
Compost per m³	R247.00	R285.00	R277.00	R319.00
Green chippings per/m³	R106.00	R122.00	R119.00	R137.00
Special services				
Safe disposal of asbestos (R/kg)	R550.00	R633.00	R616.00	R708.00

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

DESCRIPTION OF SERVICE	2019/2020		2020/2021	
	Excl. VAT	Incl. VAT	Excl. VAT	Incl. VAT
Safe disposal of tyres (car and LVD (per tyre))	R23.00	R27.00	R26.00	R30.00
Safe disposal of big tyres	R44.00	R51.00	R49.00	R56.00
Safe disposal of fluorescent tubes (per tube)	R7.00	R9.00	R8.00	R9.00
Replace of 240 l wheelie bin	Actual cost + 10% + VAT		Actual cost + 10% + VAT	
Refuse bags (per pack)				
Black bags (per pack)	R32.00	R37.00	R36.00	R41.00
Clear bags (per pack)	R32.00	R37.00	R36.00	R41.00

4.3.5 FREE BASIC SERVICES BUDGET

The LLM area reported 6 599 solid waste indigent households in 2020. The budgeted 2020-2021 amount for free solid waste basic services is R13 309 855.00.

4.4 WASTE CATEGORIES AND GENERATION

4.4.1 WASTE CATEGORIES GENERATED

Table 4-8 provides the categories of waste generated in LLM.

Table 4-8: Categories of waste generated in LLM

CATEGORIES	DESCRIPTION
General waste	Domestic general waste: Disposable materials generated by households. This waste usually contains recyclable materials and non-recyclables.
	Business general waste: Business general waste includes all waste produced by supermarkets and businesses that is non-hazardous. This waste usually contains high quantities of recyclable materials.
Organic waste	Garden refuse and food waste.
Construction and demolition (C&D) waste	Concrete, mortar, bricks, wood, insulation materials, gypsum, etc. generated from construction and demolition sites.
Health care risk waste (HCRW)	Discarded blood and human tissue, sharps, infectious materials, expired pharmaceuticals, etc.
Hazardous waste	Used mineral oils, solvent residues, paint and resin waste, organic chemical residues, putrescible waste (slaughterhouse), sewage sludge and used agricultural chemicals.
Other waste types	This includes agriculture, abattoirs and tyre waste.

4.4.2 DOMESTIC WASTE PROFILE

The waste characterisation study of the LLM was conducted and overseen by the DEA&DP in 2016. 600 waste samples were collected and sorted. The waste was sorted at the Ashton MRF by Expanded Public Works Programme (EPWP) employees.

During the waste characterisation study, the following methodology was followed to sort the waste (LLM IWMP , 2017):

- Black bags were weighed and recorded on the recording sheet.
- Black bags were opened and contents sorted.
- The waste from each black bag was then sorted by waste category and placed in bins.

- Each of the bins were then weighed (bin weight subtracted) and the volume and mass for each was then recorded on the data sheet.

The waste categories were grouped into the following (LLM IWMP, 2017) :

- Plastic (soft);
- Plastic (dense);
- Paper;
- Cardboard;
- Glass;
- Metals;
- Organics (food and green waste);
- Composite packaging;
- E-waste (computers, electrical appliances, batteries, globes);
- Household hazardous waste (needles, medicine, tablets, paints, cleaning products, etc.);
- Nappies, sanitary towels and condoms; and
- Other (wrappers, chips packets, foil, cling wrap, faeces, sand, stone).

The results from the waste characterisation study conducted in 2016 illustrated that the percentage of recyclables is 61%, organic waste 15% and non-recyclables 24% of the total of waste generated in LLM (LLM IWMP, 2017).

McGregor had the lowest percentage of recyclables (54%) and the highest percentage for organic waste (21%). The study illustrated that Ashton and Robertson had the highest percentage of recyclables (64%) in LLM. According to the study, Bonnievale generates the lowest percentage of organic waste (10%).

Table 4-9: Waste characterisation study results (LLM IWMP , 2017)

WASTE CATEGORY	ASHTON	BONNIEVALE	MCGREGOR	MONTAGU	ROBERTSON
Recyclables	64%	62%	54%	59%	64%
Organic waste	13%	10%	21%	19%	12%
Non-recyclables	23%	27%	25%	21%	24%

The percentage of household hazardous waste (needles, medicine, tablets, paints, detergents, etc.) accounts for 2% by mass of all waste in LLM (LLM IWMP, 2017). This is a high percentage when considering that such hazardous waste is disposed of on rural general waste landfills; excluding industrial hazardous waste that may be disposed of illegally at the general waste landfills (often covered with general waste to prevent it from being identified when entering the landfill).

The results from the waste characterisation study indicate that there is a significant portion of recyclables and organic waste within the LLM waste stream that can be diverted from landfills.

4.4.3 HAZARDOUS WASTE

For the purposes of this study, Table 6: Schedule 3 of the National Environmental Management: Waste Amendment Act, 2014 Act No. 26 of 2014: Category A: Hazardous Waste (refer to Appendix A) was used to determine the various industrial groups potentially generating hazardous waste in the study area.

Schedule 3 identifies 17 industrial groups, subdivided into 86 waste fractions. This study has determined that businesses and industries in LLM generate hazardous waste categorised under four out of the potential 17 industrial groups listed in Schedule 3.

These are:

- Industrial Group 1: Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing.
- Industrial Group 9: Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks.
- Industrial Group 12: Oil wastes and wastes of liquid fuels (except edible oils).
- Industrial Group 16: Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care).

The LLM consist of large agricultural and farming areas. Hazardous waste from these areas includes fertilisers, chemical packaging and expired pesticides. The management of chemical packaging waste is an important environmental, health and safety hazard. Of particular concern are the containers from pesticide or herbicide chemicals. Typically, farmers are known to burn these empty plastic chemical containers as well as empty plastic fertiliser bags in open fires on farms, which is in turn resulting in significant air pollution.

Table 4-10 provides the number of questionnaires sent out to the industrial groups and the number of questionnaires received to date (02 February 2021).

Table 4-10: Number of questionnaires sent

INDUSTRIAL GROUP	SUBGROUP	NO. OF QUESTIONNAIRES SENT	NO. OF QUESTIONNAIRES RECEIVED
Industrial Group 1	Food packaging factories, wineries, farms	6	0
Industrial Group 9	Paint store	2	0
Industrial Group 12	Filling stations and vehicle workshops	4	2

INDUSTRIAL GROUP	SUBGROUP	NO. OF QUESTIONNAIRES SENT	NO. OF QUESTIONNAIRES RECEIVED
Industrial Group 16	Medical facilities (hospitals and clinics)	Not required – data sourced from Compass	-

During the investigations in 2020, household hazardous waste forms part of the general waste stream, which is disposed of at the Ashton landfill site.

The Rose Foundation is during the investigations in 2020 in charge of ensuring collection and recycling of the waste oil from vehicle service stations in LLM. Waste oil from filling stations generally consists of oil from car leakages and used oil bottles purchased by customers. The following table provides the average oil sales per month and the disposal method for empty oil containers as provided by two filling stations.

Table 4-11: Filling station waste oil

DESCRIPTION	ROBERTSON SHELL	ASHTON TOTAL
Average oil sales per month	Approximately 350 l per month	Approximately 200 l per month
Disposal method of empty oil containers	Illegally disposed of through the normal municipal channels	Illegally disposed of through the normal municipal channels
Service provider	LLM	LLM
Grease traps service frequency	Cleaned once per year	No grease traps

4.4.4 HEALTH CARE RISK WASTE

The major health care risk waste (HCRW) generators in the LLM are the hospitals and clinics. The LLM does not provide HCRW disposal services, resulting in it being the responsibility of the generator to enter into a service contract with private service providers for the safe collection, transport, treatment and disposal of such waste. Compass Medical Waste Services is during the investigations in 2020 the HCRW service provider for the private and provincial LLM hospitals and clinics. Compass is licenced to transport infectious HCRW, sharps HCRW, anatomical HCRW and expired pharmaceutical HCRW. Compass reports all HCRW collected, treated and disposed of on IPWIS. Compass is permitted to treat sharps and infectious HCRW via Autoclave. This treatment process is done in closed chambers that apply heat through steam under high pressure to disinfect HCRW. All HCRW treated by Compass is shredded after being treated and sent to the Vissershok hazardous waste landfill for disposal. Anatomical HCRW and pharmaceutical HCRW is sent to a third party (BCL Medical Waste) for treatment by means of incineration. Schedule 0-4 pharmaceutical HCRW is treated and disposed of at the

Vissershok hazardous waste landfill. Schedule 5-6 pharmaceutical HCRW is incinerated (at BCL Medical Waste) and the ash is disposed at the Vissershok hazardous waste landfill.

Table 4-12 provides the LLM's HCRW mass for 2019 and 2020 as provided by Compass.

Table 4-12: Private and provincial hospital and clinic HCRW mass provided by Compass

TOWN	2019 TOTAL (kg)	2020 TOTAL (kg)	AVERAGE MONTHLY (kg)
Ashton	296	1 144	144
Clinic - Bram Care Centre	82	104	19
Provincial Clinic - Cogmans	54	241	29
Provincial Clinic - Zolani Building	121	519	64
Homes 1 Station	39	258	30
SAPS - Ashton Station		21	7
Bonnievale	108	525	63
Ambulance - Bonnievale Station	15	25	10
Provincial Clinic – Happy Valley	93	485	58
SAPS – Bonnievale Funeral Home		15	5
McGregor		15	15
SAPS - McGregor		15	5
Montagu	1 531	5 801	733
Ambulance - Montagu EMS Station	8	58	7
Clinic - Montagu PHS	142	710	85
Provincial Hospital	1 380	5 014	639
SAPS - Montagu		19	2
Robertson	3 483	11 409	14 892
Ambulance - Robertson EMS Station	352	156	51
Provincial Clinic - Bergsig	133	631	76
Provincial Clinic - Nkqubela	52	302	35
Correctional Services	64	62	11
Dentist	31	13	9
Dentist	33	23	7
Doctor	169	187	40
Funeral - Robertson	81	59	7
Provincial Hospital	2 569	9 953	1 252

TOWN	2019 TOTAL (kg)	2020 TOTAL (kg)	AVERAGE MONTHLY (kg)
SAPS - Robertson		23	6
Grand Total	5 418	18 893	

4.4.5 OTHER WASTE TYPES COMPOSITION

4.4.5.1.1 *Agricultural waste*

Agricultural waste refers to waste produced as a result of various agricultural operations. Some examples of agricultural waste include crop-growing, harvest residues and harvest waste (such as herbs, grains, root tubers, etc). Waste from livestock farming such as grass, litter or feed is also considered to be agricultural waste. In LLM, the agricultural waste from farms is reportedly either used as animal feedstock, for home composting or it is taken to the nearest drop-off facility.

4.4.5.1.2 *Sewage sludge*

Sewage sludge is a key hazardous waste type generated from wastewater treatment plants due to the presence of heavy metals from industrial processes. Sewage sludge can be treated through composting for agricultural use as fertiliser, or disposed of at a hazardous waste landfill site.

The LLM Waste Water Treatment Plan (WWTP) operator indicated that there are no sludge tonnages recorded. The farmers during the investigations in 2020 collect the sludge on an ad hoc basis. The LLM does not accept any sludge at the landfill sites.

4.4.5.1.3 *Abattoirs*

The LLM has two abattoirs, namely the Bonnievale abattoir and South African Farm Assured Meat (Robertson Abattoir).

4.4.5.1.4 *Tyres*

Waste tyres are regulated under the National Environmental Management: Waste Act, 2008 (Act 59 of 2008), the National Norms and Standards for Disposal of Waste to Landfill, 2013 (R. 636) and the Waste Tyre Regulations, 2017. The Waste Tyre Regulations, 2017 placed a landfill ban on waste tyres as of 29 September 2017.

The Waste Tyre Regulations (2017) outline a number of prohibitions as far as waste tyre management is concerned as follows:

No person may:

- a) Manage waste tyres in a manner which does not comply to these regulations.

- b) Recover or dispose of a waste tyre in a manner that is likely to cause pollution of the environment or harm to health and well-being.
- c) Dispose of a waste tyre at a waste disposal facility.
- d) Recover any financial contribution in terms of a waste tyre management plan from a subscriber to the plan, unless authorised by law.
- e) Export waste tyres in whatever form unless the exportation of such waste tyres is authorised by the Minister in writing.

According to the regulations, the Waste Bureau is responsible to facilitate, supervise and control the management of waste tyres for the interim until a new industry waste management plan is approved in terms of Section 28 or 29 of the Act. The tyre producers must submit declarations on the quantities of tyres produced and imported to the Waste Bureau on a quarterly basis and the Bureau must establish a waste tyre forum with all affected industries to address the governance and operational matters pertaining to the management of waste tyres during the interim—until the new industry waste tyre plan is approved² (CSIR, 2020).

The LLM does not accept tyres for disposal at any landfill site. In the case of tyres being disposed of at a transfer station or drop off facility, the LLM stockpiles the tyres and uses them as barriers at parks or landfill sites. The tyre fitment centres (Supa Quick, Hi-Q, Tiger Wheel and Tyre, etc.) have a dedicated area where the used tyres are stockpiled until collected by the respective tyre suppliers.

² The new draft regulations on Industry Waste Plans has recently (2020) been circulated

4.4.6 WASTE GENERATION RATES

4.4.6.1 Current waste generation rates (IPWIS)

The generation of general waste, recyclables, garden refuse and C&D was determined by analysing the landfill disposal reports recorded on the IPWIS. Table 4-13 provides a breakdown of the waste generation in the LLM from 2018 to 2020.

Table 4-13: Current waste generation as per IPWIS reports

DETAILS		DISPOSED (WASTE DISPOSED WITHIN THE LOCAL MUNICIPALITY)				DIVERTED (WASTE DIVERTED WITHIN THE LOCAL MUNICIPALITY)				GENERATION (WASTE THAT IS/NOT GENERATED WITHIN THE LOCAL MUNICIPALITY)			
YEAR	MONTH	MUNICIPAL	COMMERCIAL AND INDUSTRIAL	ORGANICS	C&D	MUNICIPAL	COMMERCIAL AND INDUSTRIAL	ORGANICS	COVER & FILL MAT/ CRUSHING	MUNICIPAL	COMMERCIAL AND INDUSTRIAL	ORGANICS	C&D
2018	January	2221	-	-	-	49	-	106	34	2270	-	106	34
2018	February	3409	-	-	-	37	-	113	59	3447	-	113	59
2018	March	2133	-	-	-	24	-	109	98	2157	-	109	98
2018	April	2269	-	-	-	31	-	128	122	2299	-	128	122
2018	May	1991	-	-	-	49	-	164	171	2041	-	164	171
2018	June	1810	-	-	-	47	-	127	129	1856	-	127	129
2018	July	2087	-	-	-	30	-	113	382	2117	-	113	382
2018	August	2276	-	-	-	44	-	89	503	2320	-	89	503
2018	September	1645	-	-	-	31	-	136	269	1676	-	136	269
2018	October	1699	-	-	-	44	-	131	148	1743	-	131	148
2018	November	2192	-	-	-	52	-	118	84	2245	-	118	84
2018	December	2099	-	-	-	37	-	68	265	2136	-	68	265
TOTAL		25830	-	-	-	477	-	1403	2261	26307	-	1403	2261
2019	January	2666	-	-	-	30	-	85	328	2696	-	85	328

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

DETAILS		DISPOSED (WASTE DISPOSED WITHIN THE LOCAL MUNICIPALITY)				DIVERTED (WASTE DIVERTED WITHIN THE LOCAL MUNICIPALITY)				GENERATION (WASTE THAT IS/NOT GENERATED WITHIN THE LOCAL MUNICIPALITY)			
2019	February	2069	-	-	-	38	-	110	401	2107	-	110	401
2019	March	2192	-	-	-	34	-	99	92	2225	-	99	92
2019	April	1988	-	-	-	21	-	114	98	2009	-	114	98
2019	May	2385	-	-	-	30	-	150	144	2415	-	150	144
2019	June	1662	-	-	-	40	-	122	143	1702	-	122	143
2019	July	2210	-	-	-	47	-	188	268	2258	-	188	268
2019	August	2029	-	-	-	41	-	169	427	2071	-	169	427
2019	September	1411	-	-	-	36	-	119	361	1447	-	119	361
2019	October	2081	-	-	-	60	-	163	170	2141	-	163	170
2019	November	1778	-	-	-	22	-	144	170	1800	-	144	170
2019	December	2041	-	-	-	18	-	92	97	2058	-	92	97
TOTAL		24512	-	-	-	417	-	1557	2698	24929	-	1557	2698
2020	January	2110	-	-	-	20	-	130	72	2130	-	130	72
2020	February	1698	-	-	-	41	-	124	115	1739	-	124	115
2020	March	2125	-	-	-	53	-	112	63	2178	-	112	63
2020	April	1939	-	-	-	39	-	7	15	1978	-	7	15
2020	May	1397	-	-	-	25	-	89	35	1422	-	89	35
2020	June	1918	-	-	-	17	-	379	131	1935	-	379	131
2020	July	2114	-	-	-	115	-	226	70	2228	-	226	70
2020	August	1743	-	-	-	103	-	197	133	1847	-	197	133
2020	September	1891	-	-	-	163	-	53	77	2054	-	53	77
2020	October	1745	-	-	-	184	-	203	196	1930	-	203	196

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

DETAILS		DISPOSED (WASTE DISPOSED WITHIN THE LOCAL MUNICIPALITY)				DIVERTED (WASTE DIVERTED WITHIN THE LOCAL MUNICIPALITY)				GENERATION (WASTE THAT IS/NOT GENERATED WITHIN THE LOCAL MUNICIPALITY)			
2020	November	1998	-	-	-	181	-	208	129	2179	-	208	129
2020	December	2302	-	-	-	139	-	142	100	2441	-	142	100
TOTAL		22980	-	-	-	1079	-	1871	1136	24059	-	1871	1136

Table 4-14 provides a summary of the total waste generated per waste category and the fraction of the total waste that each waste category consumes according to the IPWIS data. The organics include all garden refuse quantities from the Robertson composting facility.

Table 4-14: Summary table of waste generation as per IPWIS reports

YEAR	MUNICIPAL	COMMERCIAL & INDUSTRIAL	ORGANICS	C&D
2018	26307	-	1403	2261
2019	24929	-	1557	2698
2020	24059	-	1871	1136

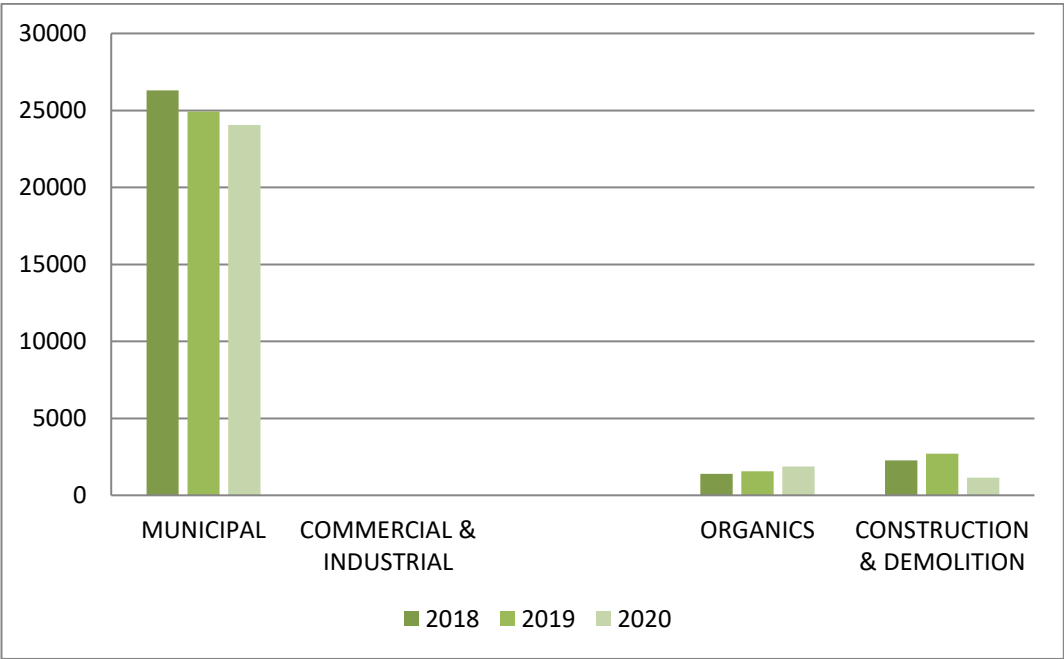


Figure 4-4: Waste generation as per IPWIS reports for 2018-2020

4.4.6.2 Projected future waste generation rates

The projected future waste generation rates were calculated using the projected future population figures and the IPWIS data of the LLM. The LLM 2019 population of 117 450 from the LLM SEP report (2019) and the 2019 IPWIS waste generation rates of 29 183 were used as the base year for further extrapolation. The assumption was made that the population growth rate of 2% will remain unchanged. Table 4-15 provides the future waste generation rates. The amount of waste generated per income group was calculated using the average percentage of people per income group. The percentage distributions were extracted from the LLM IDP as follows:

- Low income (R0.00-R50 613.00): 57%;
- Middle income (R50 614.00-R404 901.00): 38%; and
- High income (R404 902.00-more): 5%.

Table 4-15: Future estimated waste generation rates

YEAR	POPULATION	TOTAL WASTE GENERATION (TONNES)	LOW INCOME (57%)	MIDDLE INCOME (38%)	HIGH INCOME (5%)
2019	117 450	29 183	16 635	11 090	1 459
2020	119 799	29 767	16 967	11 311	1 488
2021	122 195	30 362	17 307	11 538	1 518
2022	124 639	30 970	17 653	11 768	1 548
2023	127 132	31 589	18 006	12 004	1 579
2024	129 674	32 221	18 366	12 244	1 611
2025	132 268	32 865	18 733	12 489	1 643
2026	134 913	33 523	19 108	12 739	1 676
2027	137 611	34 193	19 490	12 993	1 710

4.5 SERVICE DELIVERY

Table 4-16 provides a summary of the LLM's service delivery.

Table 4-16: Service delivery summary table

SERVICE AREA	RECEPTACLE	TRUCK USED FOR COLLECTION	TYPE OF WASTE	COMMENT
Households, small businesses and schools	240 l bins	REL compactor trucks	Domestic general waste and business general waste	The LLM provides waste collection services to high, medium and low-income groups, businesses and schools.
Informal settlements and businesses	Black bags	REL compactor trucks	Domestic general waste and business general waste	Where skips are used in informal settlement and for businesses where cages are used for storage of general waste bags.
Households, small businesses, shops and schools	Clear bags	Cage truck	Recyclables	The clear bags are collected from the households with cage trucks and transported to Southey's recycling until the new MRF next to the Ashton transfer station is established.

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

SERVICE AREA	RECEPTACLE	TRUCK USED FOR COLLECTION	TYPE OF WASTE	COMMENT
Informal settlement areas and skip locations	6 m ³ Skips	Skip loader truck	Garden refuse, domestic general waste and C&D	Skips used in informal settlements where bins have not yet been provided and at the drop-off facilities for garden refuse and C&D storage.
Drop off facilities	20-30 m ³ RoRo containers	RoRo trucks without trailers	Garden refuse and C&D	Used for storage of garden refuse and construction and demolition waste at public drop off facilities.
Parmalat factory	Cage	REL compactor truck	General business waste	One cage at the Parmalat factory that is serviced by the LLM. The Parmalat factory uses this cage to store black bags until collection by LLM.



Figure 4-5: 240 l wheelie bins in residential areas



Figure 4-6: Skips used for garden refuse, C&D and domestic waste in informal settlement areas

4.5.1 FORMAL RESIDENTIAL HOUSES

The LLM provides waste collection services to high, medium and low-income groups. The LLM provided 240 l wheelie bins to all households in the formal urban areas.

Waste from the 240 l wheelie bins is collected with rear-end-loader (REL) waste collection trucks in all formal urban areas and transported to the Ashton landfill site for disposal. Clear bags are provided to formal households in LLM for collection of recyclable materials. The clear bags are collected from the households with cage trucks and transported to Southey's recycling facility where it is manually sorted - until the new mechanised MRF next to the Ashton transfer station is established.

4.5.2 INFORMAL SETTLEMENTS

The LLM make use of skips to service the informal settlements, but due to the high levels of illegal dumping around skips, the LLM also provides black bags to informal settlements on a quarterly basis in an attempt to prevent/limit illegal dumping.

4.5.3 BUSINESS, INDUSTRIES AND SCHOOLS

LLM provides waste collection services to businesses in all the towns in its area of jurisdiction. These include retail stores, office blocks, small, medium, micro-enterprise (SMME) businesses and informal trading. The waste is transported to the Ashton WDF. Business areas have different waste generation profiles. They are generating significant amounts of waste with a proportionately higher percentage of recyclable packaging material forming part the waste stream. The composition of business waste may also vary significantly between different types of businesses. Most businesses in LLM have an onsite waste storage area where wheelie bins are stored and collected by the LLM. Certain businesses such as Spar compact their own recyclable waste (mainly packaging plastics and cardboard waste) to have the waste collected through its own internal systems. In instances like that, the LLM only collects their non-recyclable waste.

The Parmalat factory in Bonnievale make use of a private waste collection company (Interwaste) to collect the rejected food products (such as cheese, milk, etc.) for safe disposal. The LLM services one cage at the factory which is used to store general waste black bags until collection by means of a REL.

Table 4-17 provides a list of all the schools serviced by the LLM in each main town. The schools not included in the list make use of the nearest drop off facility to dispose of their waste.

Table 4-17: List of all schools serviced by LLM

ROBERTSON	MONTAGU	BONNIEVALE	ASHTON	MCGREGOR
A Mpayipeli & I Mdletye	Ashbury Primêre Skool	Skoolhostel	Ashton Public Combined School	McGregor Primêre Skool
Dagbreek Laerskool	Hepenede Handjies	Bonnie People	Ashton Sekondêre Skool	McGregor Waldorf School
De Villiers Laerskool	Huis van Velden	Hoërskool Bonnievale	Ashton Sekondêre Skool - Hostel	Whole Life Education Centre
De Waal Hostel	Kabouterland Pre Primêr	Jakes Gerwel Tegnies	H. Venter Primêre Skool	
Langeberg Sekondere Skool	Kabouterland Pre Primêre - Stichting nuwe horizon	Pre Primêre Skool (Irena Coetzee)	Laerskool Ashton	
Langeberg SS Skool (Koshuis)	Montagu Hoërskool	Telletubbies	Stockwell NKG Primêre Skool	
Mahlubimu House CC	Montagu Laerskool	Wes Kaap Onderwys (BPS)		
Masakheke Combined	Montagu Pre Primêr			
Masakheke School (High School)	Nuwe Lewe Land Akademie			

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

ROBERTSON	MONTAGU	BONNIEVALE	ASHTON	MCGREGOR
Masakheke School (High School)	Precious Jewers Play Group/Church of the Nazarene			
Merwehof	Sakhikamya Early Development Childhood			
N Witbooi	W.A. Rossouw Primêre Skool			
Nkqubela Primary School	Warmbron Pre Primêr			
Nkqubela Primary School				
NV Madywabe				
PT Madywabe				
Rhotso House CC				
RN Gqobana (Hostel)				
Robertson hoërskool				
Robertson laerskool				
Robertson Logos Christian School				
Vergesig Primêre Skool				
Vorbereidingskool				
Vorbereidingskool (ou skool)				
Vrolike Vinkies				

4.5.4 FARMS

The LLM consists of large agricultural and farming areas. These include wine farms, fruit farms, dairies, etc. During the investigations in 2020, the LLM services 143 farms, with the remainder of the farmers making use of the nearest drop off facility, or their own on-site refuse dumps, where waste is often burnt to reduce the risk of flies, rats, windblown litter and odours. On-site refuse dumps are illegal and will be included in the needs analysis section of this report.

4.5.5 FREE BASIC REFUSE REMOVAL

During the investigations in 2020, the LLM consists of 6 599 indigent households that receive free basic refuse removal services.

4.5.6 WASTE COLLECTION AND TRANSPORT

4.5.6.1 Waste collection schedule

Table 4-18 provides a summary of the current (2020) waste collection schedule. Figure 4-7, Figure 4-8 and Figure 4-9 provide the detailed waste collection schedules. The current skip locations are indicated in red dots on the figures below.

Table 4-18: Summary waste collection schedule

DAY OF THE WEEK	TOWN
Monday	Montagu households
Tuesday	Montagu, Ashton
Wednesday	McGregor, Ashton
Thursday	Awaiting information
Friday	Montagu businesses

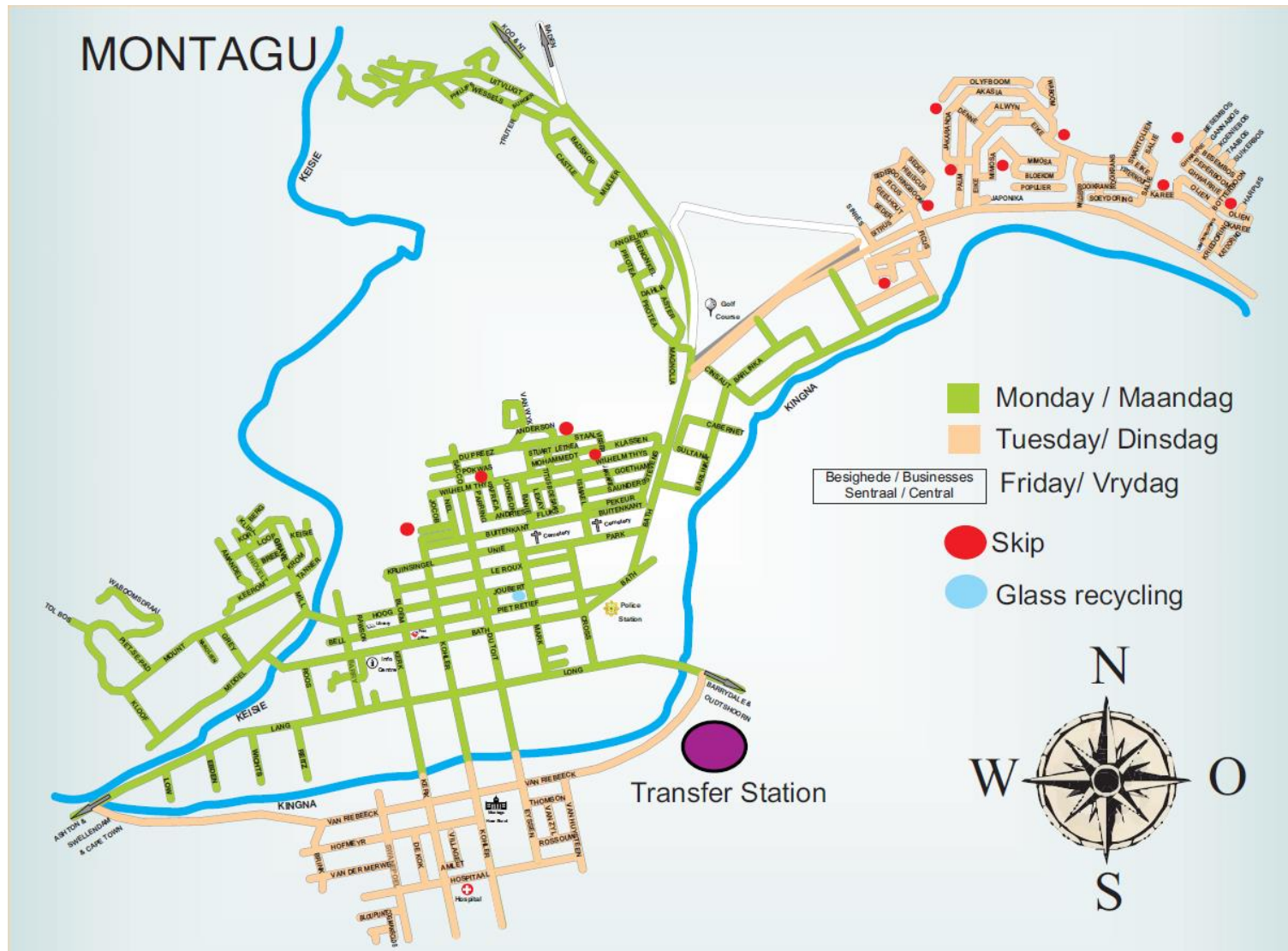


Figure 4-7: Montagu waste collection schedule

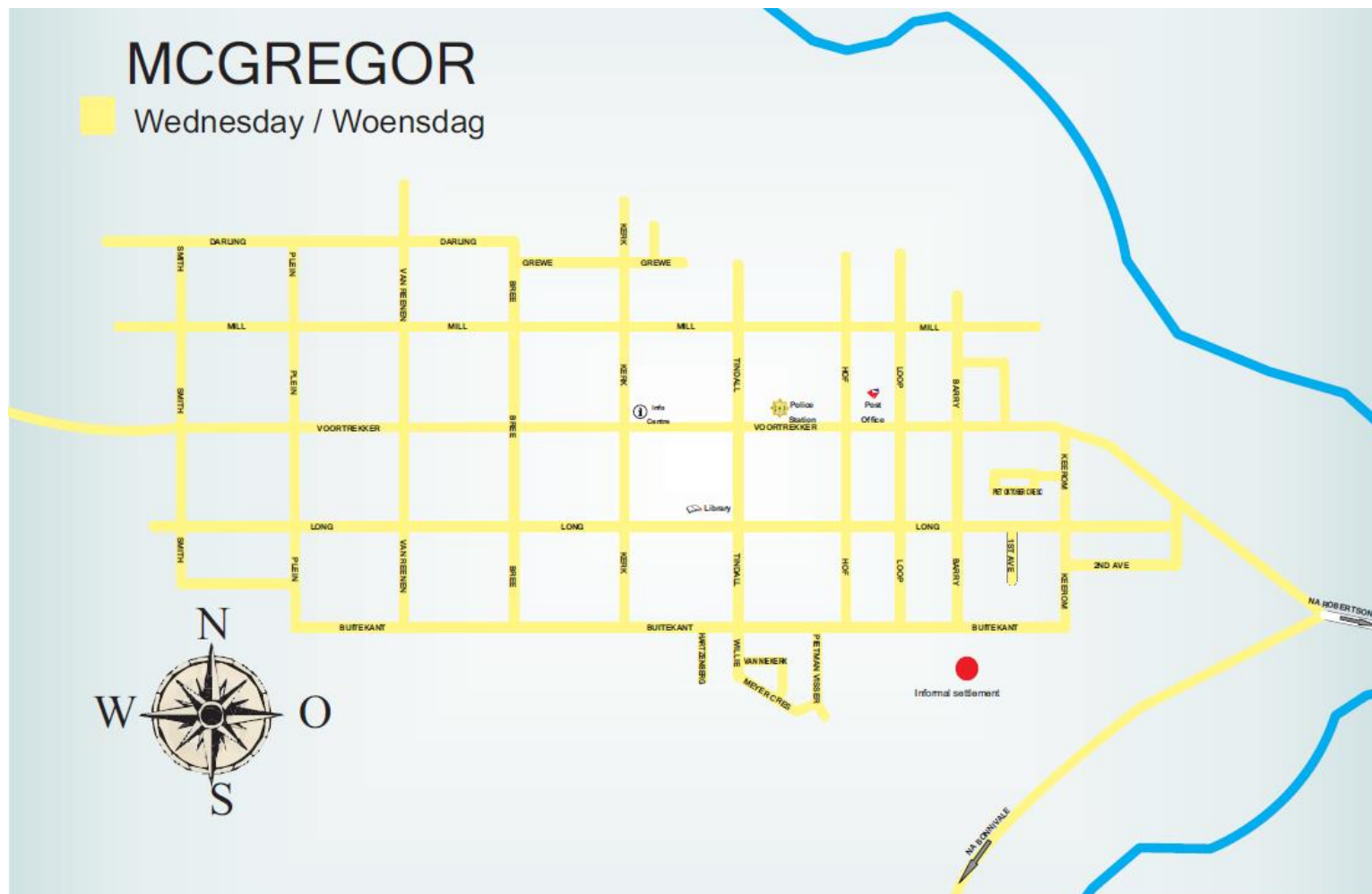


Figure 4-8: McGregor waste collection schedule

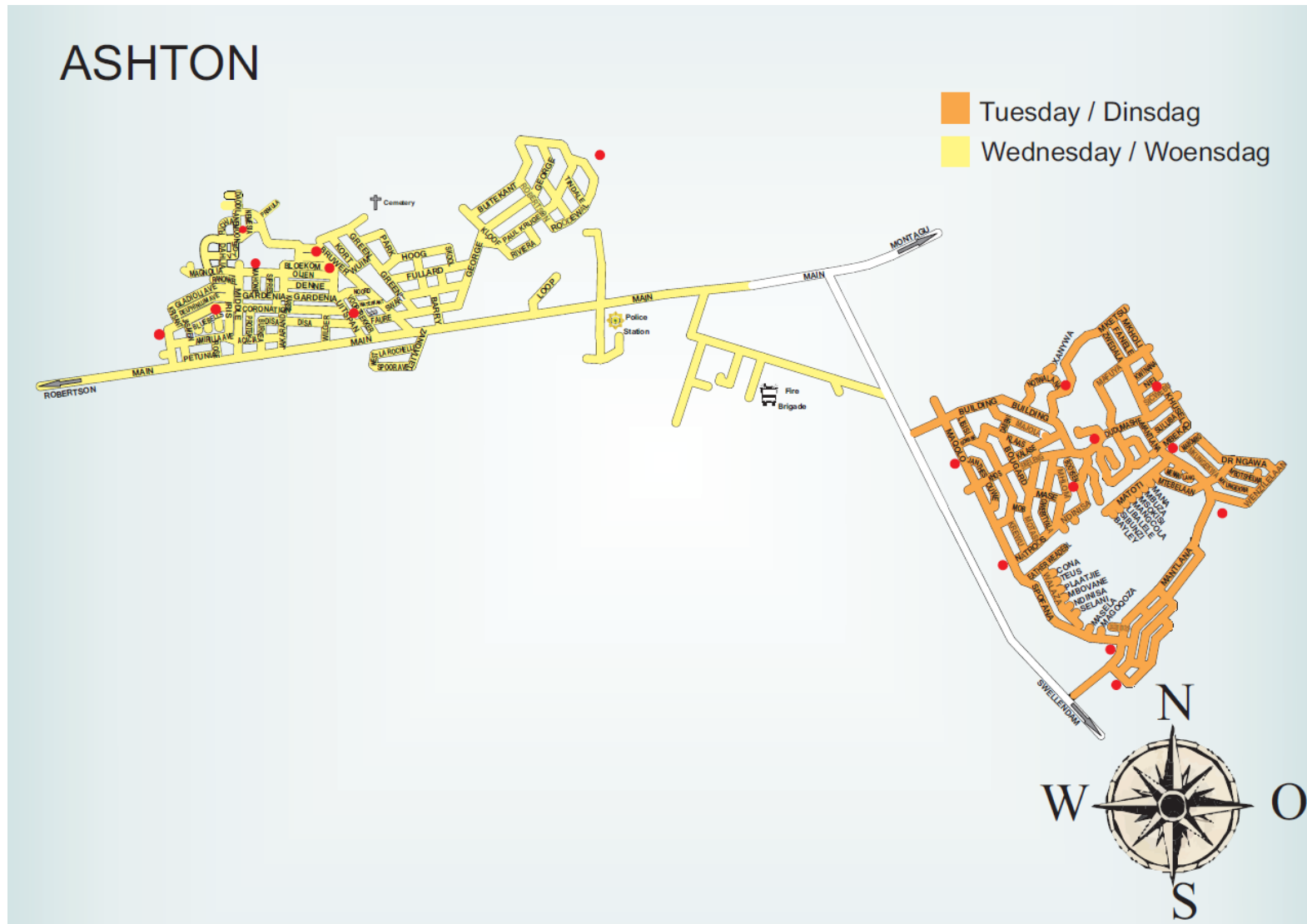


Figure 4-9: Ashton waste collection schedule

4.5.6.2 Fleet

The collection of general waste from businesses, households, schools and other organisations is carried out by six rear-end-loading (REL) vehicles. Currently there are three vehicles servicing Robertson and McGregor and the other three are used to service Bonnievale, Montague, Ashton and nearby farms. LLM does not have a map of existing routes to optimise round trip times and levels of efficiency for waste collection services.

Table 4-19: Waste collection fleet

VEHICLE TYPE	YEAR MODEL	CAPACITY	SERVICE AREA	TYPE OF WASTE COLLECTED
UD Compactor	2016	19 m ³	Robertson/ McGregor	General waste
UD Compactor (New)	2019	19 m ³	Montagu/Ashton/ Bonnievale	General waste
Isuzu FVZ Compactor	2010	19 m ³	Montagu/Ashton/ Bonnievale	General waste
Nissan Compactor	2007	13 m ³	Robertson	General waste
Isuzu FTR Compactor	2003	13 m ³	Standby Truck	Standby truck
UD 90 Compactor	2013	13 m ³	Robertson	General waste
Nissan Roll on Roll off (RoRo)	2012	30 m ³	All towns	Collect general waste from transfer stations and drop off facilities
UD 85 Skip Loader	2017	6 m ³	All towns	Collect general waste from transfer stations and drop off facilities, and business waste
Nissan UD 70 (Tipper)	2002	5 m ³	All towns	Used to assist with removal of illegal dumping in all towns
MAN Tipper	2006	5 m ³	All towns	Used to assist with removal of illegal dumping in all towns
Nissan CM Cage Truck	1996	6 m ³	Montagu/Ashton/ Bonnievale	Collection of recycling from households and businesses
Isuzu Cage Truck	1983	5 m ³	Robertson/ McGregor	Collection of recycling from households and businesses
Hino FD 10 – 136 Cage Truck	1975	5 m ³	Standby Truck	Standby truck

VEHICLE TYPE	YEAR MODEL	CAPACITY	SERVICE AREA	TYPE OF WASTE COLLECTED
Ford 4000 (Tractor) with skip trailer	1972	Not Applicable	Ashton	Skips waste removal
Samel Extra Large Truck	2006	Not Applicable	Robertson Compost Facility	Used at the Robertson Compost Facility
John Deere (Tractor) with skip trailer	1997	Not Applicable	Bonnievale	Skips waste removal
Landini 7860 (Tractor) with skip trailer	2010	Not Applicable	Robertson	Skips waste removal
New Holland (Tractor) with skip trailer	1988	Not Applicable	Montagu	Skips waste removal
Ford 3000 (Tractor) with front loader and compost turner	1973	Not Applicable	Robertson	Used at the Robertson Compost Facility
Volvo Wheel Front-End-Loader	2015	Not Applicable	All towns	Used to assist with removal of illegal dumping in all towns
Bomag Landfill Compactor	2006	Not Applicable	Ashton	Compact waste at the Ashton WDF

Table 4-20 presents a list of additional fleet owned by the Solid Waste Management Department, used by the supervisors to transport small equipment (for example brooms, bins, plastic bags, etc.) and to transport EPWP workers.

Table 4-20: Additional Solid Waste Management Department fleet

VEHICLE NAME	TYPE OF VEHICLE	VEHICLE USE
Ford Ranger 2.2	Single Cab Pickup (Large)	Used by Solid Waste Management (SWM) Supervisor in Robertson
Ford Ranger 2.2	Single Cab Pickup (Large)	Used by SWM Supervisor in Montagu
Nissan NP 200	Single Cab Pickup (Small)	Used by SWM Superintendent in Robertson/McGregor
Nissan NP 200	Single Cab Pickup (Small)	Used by SWM Supervisor in Bonnievale
Nissan 1400	Single Cab Pickup (Extra Small)	Used by SWM Supervisor at the Ashton WDF

VEHICLE NAME	TYPE OF VEHICLE	VEHICLE USE
Ford Bantam 1300	Single Cab Pickup (Extra Small)	Used by SWM Superintendent in Bonnievale/Ashton/Montagu
Nissan Hardbody 2.7	Single Cab Pickup (Large)	Used by SWM Supervisor in Ashton

4.6 COMPLIANCE AND ENFORCEMENT

4.6.1 REGISTRATION STATUS

The municipality has five waste facilities that are registered on the IPWIS:

- Ashton landfill;
- Ashton material recovery facility;
- Bonnievale landfill;
- Montagu landfill; and
- Robertson compost facility.

4.6.2 LANDFILL SITES

The LLM owns the following landfill sites:

- Robertson landfill site (closed and rehabilitated);
- McGregor landfill site (closed, but rehabilitation required);
- Bonnievale landfill site (operational);
- Ashton landfill site (operational); and
- Montagu landfill site (operational, but closure and rehabilitation required).

4.6.2.1 Robertson landfill site (closed)

The Robertson landfill site is closed and rehabilitated. Monitoring and removal of alien vegetation is done by the staff from the adjacent composting facility. Gas monitoring was reportedly done by the DEA&DP in 2018. There are no water monitoring boreholes on the landfill site, thus groundwater sampling and testing is not done. The landfill site scored 86% compliance in the *2020 internal landfill audit* conducted by the LLM.



Figure 4-10: Robertson landfill site (Google Earth image: 2020)

The following table provides a summary of the information available and activities at the Robertson landfill site.

Table 4-21: Robertson landfill site summary table

LANDFILL COMPLIANCE AND ENFORCEMENT SUMMARY	
Licence/permit no.	TBC
Location	33°49'15.55"S, 19°52'15.27"E
Classification	TBC
Remaining airspace	N/A – landfill closed and rehabilitated
General management of the site (windblown litter, stormwater, access control, compaction, water quality monitoring, etc.)	N/A – landfill closed and rehabilitated
Informal salvaging	N/A – landfill closed and rehabilitated
Internal audits (frequency, level of compliance, identification of main issues)	Yes, reportedly undertaken at the legally required intervals

LANDFILL COMPLIANCE AND ENFORCEMENT SUMMARY	
External audits (frequency, level of compliance, identification of main issues)	No, too expensive
Any illegal activities taking place	N/A – landfill closed and rehabilitated
Waste management control officer	Mr Glenn Slingers
Complaints register on site	N/A – landfill closed and rehabilitated

4.6.2.2 McGregor “Historic” landfill site (closed, but rehabilitation required)

The landfill site is located approximately 2 km southwest of the town of McGregor, behind the current McGregor drop off facility. The landfill site is classified as a G:C:B-. McGregor landfill was issued a closure licence on 12/05/2015. Since closure of the landfill site, grass has naturally grown on the landfill site but no rehabilitation has been done. The LLM has undergone a written agreement from the DEA&DP that the Municipality will quantify and decide on further action to be taken with capping or removing the remaining waste at the McGregor landfill site by the end of January 2021. The DEA&DP also indicated that areas of the historical landfill site which are already capped and remediated that have subsided or left depressions in which precipitation could accumulate or pond could be filled with clean C&D until the precipitation can run off freely. Immediately after the fill material has been placed, the capping layer must be restored again over the fill material and allow the regeneration of vegetation that is not alien or invasive in that region.



Figure 4-11: McGregor “Historic” landfill site (Google Earth image: 2020)

The following table provides a summary of the information available and activities at the McGregor landfill site.

Table 4-22: McGregor landfill site summary table

LANDFILL COMPLIANCE AND ENFORCEMENT SUMMARY	
Licence/permit no.	9/2/5/1/B2/10/WL0082/13
Location	33°57'43.76"S, 19°48'28.31"E
Classification	G:C:B-
Remaining airspace	N/A – landfill closed
General management of the site (windblown litter, stormwater, access control, compaction, water quality monitoring, etc.)	Grass has naturally grown on the landfill site but no rehabilitation has been done
Informal salvaging	N/A – landfill closed

LANDFILL COMPLIANCE AND ENFORCEMENT SUMMARY	
Internal audits (frequency, level of compliance, identification of main issues)	Yes, reportedly undertaken at the legally required intervals
External audits (frequency, level of compliance, identification of main issues)	No, too expensive
Any illegal activities taking place	N/A – landfill closed
Waste management control officer	Mr Glenn Slingers
Complaints register on site	N/A – landfill closed

4.6.2.3 Bonnievale landfill site (operational)

Bonnievale landfill has an operational permit and is classified as a G:S:B-. The site is located approximately 1.5 km west of the town Bonnievale. The Bonnievale landfill site currently receives garden refuse and C&D generated by the Bonnievale community. The garden refuse is stockpiled on the right side of the site, chipped and sold twice a year. The C&D is stockpiled on the left of the site. The incoming volume of waste disposed of at the landfill is estimated and reported to the Integrated Pollutant and Waste Information System (IPWIS). The landfill site is fully fenced and was in a good state during the time of the site visit.

The landfill rehabilitation closure provision report states that at the current deposition rate of 41 m³ per month and at an annual population growth rate of 1.79%, the Bonnievale landfill will reach its capacity by 2056 (JPCE, 2020).



Figure 4-12: Bonnievale landfill site (Google Earth image: 2020)



Figure 4-13: Bonnievale landfill signage



Figure 4-14: Garden refuse stockpiled

The following table provides a summary of the information available and activities at the Bonnievale landfill site.

Table 4-23: Bonnievale landfill site summary table

LANDFILL COMPLIANCE AND ENFORCEMENT SUMMARY	
Licence/permit no.	Permit 16/7/H500.D79.Z1.P304
Location	30°55'36.2070"S, 20°4'49.8690"E
Classification	G:S:B-
Remaining airspace	2065 at current deposition rate (JPCE, 2020)
General management of the site (windblown litter, stormwater, access control, compaction, water quality monitoring, etc.)	During the time of the site visit there was good access control with a lockable gate and fencing. Only accepts garden refuse and C&D at this landfill site.
Informal salvaging	None
Internal audits (frequency, level of compliance, identification of main issues)	Yes, reportedly undertaken at the legally required intervals
External audits (frequency, level of compliance, identification of main issues)	Yes, reportedly undertaken at the legally required intervals
Organic waste diversion strategy in place at the facility	Yes, the garden refuse is stockpiled on the right side of the site, chipped and sold twice a year
Any illegal activities taking place	None
Waste management control officer	Mr Glenn Slingers
Complaints register on site	Yes

4.6.2.4 Ashton landfill site (operational)

The Ashton landfill site is located less than 400 m north of the township of Zolani and about 2 km east of the town of Ashton. The Ashton landfill site is classified as a G:S:B-. It is currently operational and receives all of LLM's general waste. The site is fenced, but the fence is during the investigations in 2020 in a bad condition. The LLM reportedly budgeted for the 2020/2021 financial year to upgrade the fence to a concrete palisade fence for additional security. There is security at the gate, a guardhouse, an office and a weighbridge. The incoming waste disposed at the landfill is weighed and the mass is reported to the IPWIS system.

The LLM experiences high levels of illegal waste picking and vandalism on the landfill site. During the time of the site visits, there were approximately 50 waste pickers on site. The Ashton landfill site previously had the only operating MRF in LLM, but the facility was vandalised and burnt down during May 2020 (during the time of the COVID 19 lockdown). The LLM plans to establish a new MRF next to the Ashton transfer station where there is better security.

The landfill rehabilitation closure provision report states that, according to the approved final landfill waste body (landform), the Ashton landfill site has already reached its capacity (JPCE, 2020). The LLM applied to construct and commission an additional cell on the landfill site that can be used for disposal until the regional landfill site in Worcester is commissioned.



Figure 4-15: Ashton landfill site (Google Earth image: 2020)



Figure 4-16: Ashton landfill site waste pickers

The following table provides a summary of the information available and activities at the Ashton landfill site.

Table 4-24: Ashton landfill site summary table

LANDFILL COMPLIANCE AND ENFORCEMENT SUMMARY	
Licence/permit no.	Permit 16/2/7/H300/D41/Z1/P332/A1
Location	33°50'6.15"S; 20° 6'4.93"E
Classification	G:S:B-
Remaining airspace	None. LLM applied for opening a new cell
General management of the site (windblown litter, stormwater, access control, compaction, water quality monitoring, etc.)	Poor security on site. LLM planning to upgrade the fence with 2021 budget.
Informal salvaging	Yes
Internal audits (frequency, level of compliance, identification of main issues)	Yes, reportedly undertaken at the legally required intervals
External audits (frequency, level of compliance, identification of main issues)	Yes, reportedly undertaken at the legally required intervals
Any illegal activities taking place	Yes – illegal waste pickers on site and vandalism
Waste management control officer	Mr Glenn Slingers
Complaints register on site	Yes

4.6.2.5 Montagu landfill site (operational, but closure and rehabilitation required)

The site is located approximately 1 km east of the town of Montagu, adjacent to the Montagu transfer station. The Montagu landfill has an operating permit as a G:S:B- landfill, but has reached its capacity. The landfill site during the investigations in 2020 receives C&D waste that is used as cover material. The incoming waste volumes disposed at the landfill are estimated and reported to the IPWIS. During the time of the site visit, it was evident that the landfill site was well managed. The landfill site is fenced with a security gate.



Figure 4-17: Montagu landfill site (Google Earth image: 2020)



Figure 4-18: C&D waste disposed at Montagu landfill site

The following table provides a summary of the information available and activities at the Montagu landfill site.

Table 4-25: Montagu landfill site summary table

LANDFILL COMPLIANCE AND ENFORCEMENT SUMMARY	
License/permit no.	Permit B33/2/800/45/2/P169
Location	33°47'37.50"S, 20° 8'5.63"E
Classification	G:S:B-
Remaining airspace	None. Should be closed and rehabilitated.

LANDFILL COMPLIANCE AND ENFORCEMENT SUMMARY	
General management of the site (windblown litter, stormwater, access control, compaction, water quality monitoring, etc.)	Good management at the site. Landfill is fenced and only receives C&D used as cover material.
Informal salvaging	None
Internal audits (frequency, level of compliance, identification of main issues)	Yes, reportedly undertaken at the legally required intervals
External audits (frequency, level of compliance, identification of main issues)	No, too expensive
Any illegal activities taking place	None
Waste management control officer	Mr Glenn Slingers
Complaints register on site	Yes

4.6.3 WASTE MANAGEMENT FACILITIES

The LLM owns the following waste management facilities:

- Robertson transfer station and composting facility (operational);
- McGregor drop off facility (operational);
- Bonnievale drop off facility (operational);
- Ashton transfer station (operational); and
- Montagu transfer station (operational).

4.6.3.1 Robertson transfer station and composting facility (operational)

The Robertson transfer station and composting facility is situated approximately 1.3 km southwest of Robertson. The two facilities are located next to each other (Figure 4-19). The site is equipped with a weighbridge, office and ablution facilities. The site is fenced and during the time of the site visit there were gate controllers and security present. The transfer station area has a dedicated area for drop-off of recyclables, as well as non-recyclable general waste. The non-recyclable general waste is during the investigations in 2020 transported to the Ashton landfill site for disposal and the recyclables are managed by a private company (Southey's recycling) until the new MRF next to the Ashton transfer station is established. The composting process used at Robertson is the Controlled Microbial Composting (CMC) process. The compost is sold to farmers and members of the public.

Waste allowed:

- Domestic waste by members of the public (2 m³ per person per day);
- Business general waste not containing hazardous waste (2 m³ per day); and
- Recyclable materials:

- Glass, paper, cardboard, plastic, metal.

Waste not allowed:

- Asbestos waste;
- Expired, spoiled or unusable hazardous products;
- Mixed, hazardous chemical waste from analytical laboratories and laboratories from academic institutions;
- Non-infectious animal carcasses;
- C&D waste;
- Liquid waste;
- Waste tyres; and
- Clean green waste.



Figure 4-19: Robertson transfer station and composting facility (Google Earth Image: 2020)



Figure 4-20: Robertson weighbridge and composting windrows

4.6.3.2 McGregor public drop off facility (operational)

The McGregor drop off facility is located approximately 2 km southwest of the McGregor town. The site is fenced with a lockable gate and an office building with ablutions. There are dedicated skips for non-recyclable general waste, garden refuse, C&D and recyclables. The non-recyclable general waste is during the investigations in 2020 transported to the Ashton landfill site for disposal and the recyclables are managed by a private company (Southey's recycling) until the new MRF next to the Ashton transfer station is established. The garden refuse is transported to the Robertson composting facility.

Waste allowed:

- Domestic waste by members of the public (2 m³ per person per day);
- Business general waste not containing hazardous waste (2 m³ per day);
- Recyclable materials:
 - Glass, paper, cardboard, plastic, metal.
- Clean green waste.

Waste not allowed:

- Asbestos waste;
- Expired, spoiled or unusable hazardous products;
- Mixed, hazardous chemical waste from analytical laboratories and laboratories from academic institutions;
- Non-infectious animal carcasses;
- C&D waste;
- Liquid waste; and
- Waste tyres.



Figure 4-21: McGregor public drop off facility

4.6.3.3 Bonnievale public drop off facility (operational)

The Bonnievale public drop off facility is located approximately 1.5 km west of the town on route to the Bonnievale landfill site. The site is fully fenced with a lockable gate. There are dedicated skips for non-recyclable general waste and recyclables. The non-recyclable general waste is during the investigations in 2020 transported to the Ashton landfill site and the recyclables are managed by a private company (Southey's recycling) until a new MRF next to the Ashton transfer station is established.

Waste allowed:

- Domestic waste by members of the public (2 m³ per person per day);
- Business general waste not containing hazardous waste (2 m³ per day); and
- Recyclable materials:
 - Glass, paper, cardboard, plastic, metal.

Waste not allowed:

- Asbestos waste;
- Expired, spoiled or unusable hazardous products;
- Mixed, hazardous chemical wastes from analytical laboratories and laboratories from academic institutions;
- Non-infectious animal carcasses;
- C&D waste;
- Liquid waste;
- Waste tyres; and
- Clean green waste.



Figure 4-22: Bonnievale public drop off facility

4.6.3.4 Ashton transfer station (operational)

Currently the Ashton transfer station services the town Ashton, but the LLM plans to use this transfer station as the central point from which the entire LLM's waste will be transported, once the regional landfill site in Worcester is established. The transfer station is equipped with a weighbridge and an office building with ablution facilities. The site is fully fenced with a lockable gate. There are also dedicated skips for non-recyclable general waste and recyclables. The non-recyclable general waste is during the investigations in 2020 transported to the Ashton landfill site and the recyclables are managed by a private company (Southey's recycling) until the new MRF next to the Ashton transfer station is established.

Waste allowed:

- Clean green waste; and
- Recyclable materials:
 - Glass, paper, cardboard, plastic, tin.

Waste not allowed:

- Asbestos waste;
- Expired, spoiled or unusable hazardous products;
- Mixed, hazardous chemical wastes from analytical laboratories and laboratories from academic institutions;
- Domestic waste;
- Business waste not containing hazardous waste or hazardous chemicals;
- Non-infectious animal carcasses;
- C&D waste;
- Liquid waste; and
- Waste tyres.



Figure 4-23: Ashton transfer station with weighbridge

4.6.3.5 Montagu transfer station (operational)

The Montagu transfer station is located approximately 1 km east of Montagu. During the time of the site visits, it was evident that the site is well managed and neat. The site is fenced and has a security building, parking for waste vehicles and a ramp for dropping waste off. Skips are provided for non-recyclable general waste, clean garden refuse and recyclables. The clean garden refuse skips are transported to the composting facility in Robertson. The non-recyclable general waste is during the investigations in 2020 transported to the Ashton landfill site and the recyclables are managed by an external company (Southey's recycling) until a new MRF next to the Ashton transfer station is established.



Figure 4-24: Montagu transfer station

Waste allowed:

- Domestic waste by members of the public (2 m³ per person per day);
- Business general waste not containing hazardous waste (2 m³ per day);
- Recyclable materials:
 - Glass, paper, cardboard, plastic, metal; and
- Clean green waste.

Waste not allowed:

- Asbestos waste;
- Expired, spoiled or unusable hazardous products;

- Mixed, hazardous chemical wastes from analytical laboratories and laboratories from academic institutions;
- Non-infectious animal carcasses;
- C&D waste;
- Liquid waste; and
- Waste tyres

4.6.4 WASTE-RELATED COMPLAINTS

LLM has a hotline for logging complaints regarding service delivery and complaints can also be logged on LLM's website. Complaints pertaining to solid waste are forwarded to the Solid Waste Manager and then to the respective Solid Waste Supervisors for the particular town.

4.6.5 ILLEGAL DUMPING, LITTERING AND COSTS ASSOCIATED WITH CLEAN-UP EFFORTS

The LLM experienced high levels of illegal dumping in areas where there are skips used for waste collection.

The LLM during the investigations in 2020 has a dedicated team with a Front and Wheel loader for illegal dumping hot spot clean ups and street cleaning in and around all towns. The waste is transported and disposed at the Ashton landfill site.

The budget for illegal dumping hot spot clean ups and street cleaning is estimated to be approximately R3 million per annum. The LLM utilises this budget to appoint general labourers for street cleaning, litter picking, illegal dumping hot spot clean-up and in some cases for waste awareness campaigns.

4.7 WASTE AVOIDANCE, REDUCTION AND RECYCLING

4.7.1 WASTE MINIMISATION INITIATIVES

The LLM offers collection of source-separated waste to all households and businesses in the formal urban areas. The participation level in low-income areas is less than that of middle and high-income areas. The LLM distributes two clear bags per household in the towns for collection of recyclables. The recyclables were previously transported to the Ashton Material Recovery Facility (MRF) where the recyclables were further separated and sold until the Ashton MRF was vandalised in May 2020. Due to the vandalism of the MRF, the recyclables are during the investigations in 2020 transported to Southey's Recycling, a private recycling company, while the plans for the new MRF next to the Ashton transfer station is developed.

4.7.2 PRIVATE SECTOR INITIATIVES

The Bonnievale Spar runs a private recycling initiative to involve the public in recycling.

4.7.3 WASTE DIVERSION TONNAGES

Table 4-26 provides the percentage of waste diverted from landfills for 2018, 2019 and 2020 (January to June) according to the IPWIS data received. The diverted waste percentage of organic waste includes only the garden refuse diverted to the Roberson composting facility and the C&D is used as daily cover material. The LLM municipal waste diversion rates are low and additional initiatives will have to be implemented to achieve higher diversion rates.

Table 4-26: Percentage waste diverted

	MUNICIPAL			COMMERCIAL AND INDUSTRIAL			ORGANICS			C&D		
	Generated	Diverted	%	Generated	Diverted	%	Generated	Diverted	%	Generated	Diverted	%
2018	25 830	477	2%	-	-	-	1 403	1 403	100%	2 261	2 261	100%
2019	24 512	417	2%	-	-	-	1 557	1 557	100%	2 698	2 698	100%
2020	22 980	1 079	5%	-	-	-	1 871	1 871	100%	1 136	1 136	100%

4.8 OPERATIONAL STRUCTURE AND STAFF CAPACITY

The designated Waste Management Officer for the LLM is Mr Glenn Sligners.

4.8.1 SOLID WASTE MANAGEMENT

The table below provides the LLM-approved organogram 2020/21 indicating the filled and vacant positions.

Table 4-27: LLM organogram

SOLID WASTE MANAGEMENT	AREA	FILLED/VACANT
Manager: Solid Waste Management	Bonnievale	Position filled
Secretary	Bonnievale	Vacant
Ashton/Bonnievale/Montagu - solid waste		
Superintendent: Solid Waste Management	Bonnievale	Vacant
Ashton area		
Supervisor: Solid Waste	Ashton	Position filled
Landfill Site		
Supervisor: Landfill Site	Ashton	vacant
Driver Operator: Dump Scraper	Ashton	vacant
Weighbridge Operator	Ashton	Position filled
Operator Compactor	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled
Street Cleansing		
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Vacant
General Assistant: Solid Waste	Ashton	Vacant
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled

SOLID WASTE MANAGEMENT	AREA	FILLED/VACANT
General Assistant: Solid Waste	Ashton	Vacant
General Assistant: Solid Waste	Ashton	Position filled
General Assistant: Solid Waste	Ashton	Position filled
Collections		
Driver Operator: Front-End Loader	Ashton	Position filled
Driver Operator: Solid Waste	Ashton	Position filled
Driver Operator: Solid Waste	Ashton	Position filled
Driver Operator: Role-On/Role-Off Truck	Ashton	Position filled
Driver Operator: Tractor with Skip Trailer	Ashton	Vacant
Landfill/Transfer Station		
Team Leader: Transfer Station	Ashton	Vacant
Montagu area		
Supervisor: Solid Waste	Montagu	Position filled
Collections		
Driver Operator: Compactor	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Position filled
Driver Operator: Compactor	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Vacant
Driver Operator: Tractor with Skip Trailer	Montagu	Position filled
Street Cleansing		
General Assistant: Solid Waste	Montagu	Position filled

SOLID WASTE MANAGEMENT	AREA	FILLED/VACANT
General Assistant: Solid Waste	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Position filled
General Assistant: Solid Waste	Montagu	Position filled
Landfill/Transfer Station		
Team Leader: Transfer Station	Montagu	Vacant
Bonnievale area		
Supervisor: Solid Waste	Bonnievale	Position filled
Collections		
Driver Operator: Compactor	Bonnievale	Vacant
General Assistant: Solid Waste	Bonnievale	Position filled
General Assistant: Solid Waste	Bonnievale	Position filled
General Assistant: Solid Waste	Bonnievale	Position filled
General Assistant: Solid Waste	Bonnievale	Position filled
General Assistant: Solid Waste	Bonnievale	Position filled
Driver Operator: Tractor with Skip Trailer	Bonnievale	Position filled
General Assistant: Solid Waste	Bonnievale	Position filled
General Assistant: Solid Waste	Bonnievale	Position filled
General Assistant: Solid Waste	Bonnievale	Position filled
Landfill/Transfer Station		
Team Leader: Transfer Station	Bonnievale	Vacant
Robertson/McGregor - solid waste		
Superintendent: Solid Waste Management	Robertson	Vacant

SOLID WASTE MANAGEMENT	AREA	FILLED/VACANT
Supervisor: Solid Waste	Robertson	Position filled
Transfer Station		
Team Leader: Transfer Station	Robertson	Vacant
Compost		
Driver Operator: Compost Site	Robertson	Vacant
Weighbridge Operator	Robertson	Position filled
Transfer Station		
Team Leader: Transfer Station	McGregor	Vacant
Collections		
Supervisor: Solid Waste	Robertson	Vacant
Driver Operator: Compactor	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
Driver Operator: Compactor	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled

SOLID WASTE MANAGEMENT	AREA	FILLED/VACANT
General Assistant: Solid Waste	Robertson	Position filled
Driver Operator: Compactor	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
Driver Operator: Skip Truck	Robertson	Position filled
Driver Operator: Tractor with Skip Trailer	Robertson	Vacant
Street Cleansing		
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Vacant
General Assistant: Solid Waste	Robertson	Vacant
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Vacant
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled

SOLID WASTE MANAGEMENT	AREA	FILLED/VACANT
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled
General Assistant: Solid Waste	Robertson	Position filled

4.9 WASTE AWARENESS AND EDUCATION

The LLM currently provides presentations and educational material to schools and organisations regarding waste reduction, re-use and recycling. The LLM makes use of Expanded Public Works Programme (EPWP) employees to distribute waste awareness educational material.

5 GAP AND NEEDS ANALYSIS

Based on the findings of the status quo investigation, a number of gaps and needs have been identified.

Gaps and needs related to waste management in the LLM have been identified in terms of each of the following waste management activities:

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

5.1 WASTE SERVICE DELIVERY

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

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

GAP IDENTIFIED	RESULTING NEED
The exact number of households not receiving waste collection services is unknown	Determine the level of service provision.
Farmers making use of open burning of waste or own refuse dumps	The LLM is providing good waste management collection services to the majority of households. However, no information is available on, amongst others, the disposal of fertiliser containers. The assumption is made that farmers reportedly burn these containers. The LLM needs to investigate the disposal methods and determine the feasibility of providing creative collection services in the rural areas.
The collection schedule is outdated	Update the collection schedule based on the service delivery demand.
Illegal dumping	The LLM has good illegal dumping clean-up efforts in place, but spends a lot of money on these clean-up efforts. The LLM needs to identify ways in which illegal dumping can be prevented.

5.2 WASTE MINIMISATION, RECYCLING AND RE-USE INITIATIVES

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

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

GAP IDENTIFIED	RESULTING NEED
Low participation in separation at source	Implement initiatives for increased participation in separation at source programmes.
Low rates on recyclable material diversion from landfills	Improve rates on recyclable material diversion from landfills.
Vandalism of MRF	Prevent vandalism of the MRF and other municipal waste management facilities.

5.3 ORGANIC WASTE MANAGEMENT

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

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

GAP IDENTIFIED	RESULTING NEED
Low garden refuse and organic waste diversion rates from landfills	Improve organic waste diversion rates.
Organic waste diversion strategy	Develop organic waste diversion strategy.
At present, some organic waste is disposed of at the landfill sites	Divert organic waste from landfill sites to composting facility.
Lack of knowledge on home composting	Conduct home composting awareness and education campaigns.

5.4 HAZARDOUS WASTE MANAGEMENT

Although local municipalities are legally not responsible for the management and safe disposal of hazardous waste³ generated by major businesses and industries within their area of jurisdiction, they do need to ensure that no hazardous waste is disposed of on municipal landfills that are not licenced, developed and operated to the required standards. Table 5-4 provides the gaps identified in terms of hazardous waste management with the associated needs.

³ In terms of the duty-of-care principle as required in NEMWA, generators of hazardous waste are responsible for the legally compliant management, treatment and disposal of such hazardous waste generated

Table 5-4: Hazardous waste gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
There are no containers for safe disposal and storage for household hazardous waste at the drop-off/transfer station facilities	Provide service for household hazardous waste to be collected and disposed at legally compliant hazardous waste disposal facilities.
Lack of household hazardous waste awareness	Raise awareness regarding the separation at source and environmentally sound management of household hazardous waste.
Lack of hazardous waste information and generation rates	Improve hazardous waste information system for LLM to have accurate data on hazardous waste generation rates – allowing for effective monitoring and control over LLM’s industrial hazardous waste generation and management.

5.5 WASTE MANAGEMENT FACILITIES

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

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

GAP IDENTIFIED	RESULTING NEED
McGregor “Historic” landfill requires rehabilitation	Rehabilitation of landfill site.
Montagu landfill requires rehabilitation	Rehabilitation of landfill site.
Illegal waste picking at the Ashton landfill site	Prevent illegal waste picking at the Ashton landfill site.
Approval of extension of footprint application for additional cell at the Ashton landfill is required	Get approval for the extension of the landfill footprint.
Approval and development of the new MRF is required	Get council approval for and develop the new MRF.
The landfill containment barriers of all sites do not comply with R. 636 (National norms and standards for disposal of waste to landfill)	Ensure compliance with R. 636 on all new landfill cell developments.

5.6 WASTE MANAGEMENT COLLECTION FLEET, PLANT AND EQUIPMENT

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

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

GAP IDENTIFIED	RESULTING NEED
There are no household hazardous waste containers at drop off facilities	Provide household hazardous waste containers and ensure that such waste is managed, transported and disposed of in a legally compliant manner.
There are no used oil containers at drop off facilities	Provide used oil collection containers and have it serviced by the ROSE Foundation.
Some municipal waste collection vehicles are operating beyond their effective service life.	Evaluate fleet to determine reliability, cost effectiveness and efficiency. Replace collection vehicles that are no longer serviceable; or for which the service and maintenance costs exceeds the monthly instalments on new replacement vehicles.
The cage trucks for collection of recyclables are very old	Replace cage trucks for which operational requirements are not met and replace where the service and maintenance costs exceeds the monthly instalments on new replacement vehicles.
Three tractors used for skip removal are older than 20 years	Evaluate plant to determine the reliability, cost effectiveness and efficiency and replace where the service and maintenance costs exceeds the monthly instalments on new replacement plant.

5.7 WASTE MANAGEMENT INFORMATION

In order to effectively plan for waste management services, a knowledge of waste generation quantities and types is required. Table 5-8 provides the gaps identified in terms of the availability of waste management information with the resulting needs.

Table 5-7: Waste management information gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
Limited information available regarding industrial general and hazardous waste categories and generation rates	Source information regarding industrial general and hazardous waste categories and generation rates.
Lack of major waste generator information	Ensure that major waste generators are identified and information on waste generation is sourced
No waste management by-laws exist	Develop waste management by-laws that are relevant to and appropriate for LLM

5.8 WASTE EDUCATION AND PUBLIC AWARENESS

Table 5-8 provides the gaps identified in terms of the waste education and initiatives with the resulting needs.

Table 5-8: Waste education and initiatives gaps and needs

GAP IDENTIFIED	RESULTING NEED
Limited information on awareness regarding industrial general and hazardous waste generation	Determine awareness around industrial general and hazardous waste management and disposal.
Lack of general and domestic hazardous waste management knowledge at households – including ‘reduce, reuse, and recycle.’	Improve knowledge of general and domestic hazardous waste management at household level – including ‘reduce, reuse, and recycle.’
Lack of waste awareness initiatives	Implement waste awareness initiatives at schools, households and public facilities.
Lack of recycling information on recycling collection systems and drop-off facilities in and around the towns	Improve availability of information on recycling collection systems and drop-off facilities.

5.9 STAFF AND FINANCIAL RESOURCE MANAGEMENT

Table 5-9 provides the gaps identified in terms of the staff and financial resource management with the associated need to effectively address the gap.

Table 5-9: Staff and financial management gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
Vacancies in the staff structure	Review staff structure and requirements.
No designated person for waste awareness	Appoint staff as waste awareness educators.
The municipality must ensure that there is sufficient provision in the operational budget for upcoming projects	Ensure sufficient financial resources.

5.10 STRATEGIC PLANNING

Future planning is essential in ensuring that a waste management service can meet the changing requirements of a municipality and comply with changing legislation and best practice guidelines. Table 5-10 provides the gaps identified in terms of the future waste management planning with the associated need to effectively address the gap.

Table 5-10: Future planning gaps and needs identified

GAP IDENTIFIED	RESULTING NEED
Development of IWMPs at required 5 year intervals	Ensure for budgeting to review and update the IWMP at required 5 year intervals.
No feasibility study has been done to determine and evaluate the financial and operational effect of using the new regional landfill site to dispose of waste in the future.	Undertake a feasibility study to determine and evaluate the financial and operational effect of using the new regional landfill site to dispose of waste in the future.

6 GOALS, OBJECTIVES AND TARGETS ASSESSMENT

The goals and objectives of an IWMP are used to address potential shortcomings or necessary improvements identified during the gaps and needs analysis. Goals are long-term aspirations for waste management, while objectives are more focused, measurable targets which, if implemented correctly, will allow the municipality to reach the identified goals.

The Guidelines for the development of Integrated Waste Management Plans by the Western Cape (WC) DEA&DP state the following in terms of developing strategic goals, objectives and targets:

- Strategic goals must be set based on relevant waste legislation, regulations and policies and should be guided by the waste management hierarchy.
- The setting of goals, objectives and targets must also take into consideration the municipal response to the goals and targets set in the NWMS.
- The strategic goals must include setting targets for waste management such as collection, recycling, recovery and disposal.

The DEA&DP Guidelines describe goals, objectives and targets as follows:

- **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 Western Cape IWMP.
- **Objectives:** Measurable outputs which, once completed, will contribute to the accomplishment of a goal. Objectives will have deadlines to drive their implementation.
- **Targets:** Smaller projects which, when combined, will fulfil the requirement of an objective. The targets will also have deadlines for implementation.

The NWMS 2020 strategic goals that will be used to align the IWMP are as follows:

- **Waste Minimisation** - the aim is to prevent waste and where waste cannot be prevented, 40% should be diverted from landfill within 5 years through reuse, recycling, recovery and alternative waste treatment: 25% of waste reduction in waste generation and 20% waste reused in the economic value chain.
- **Effective and Sustainable Waste Services** - this would see all South Africans living in clean communities with waste services that are well managed and financially sustainable.
- **Waste Awareness and Compliance** - the aim is to create a culture of compliance with zero tolerance of pollution, litter and illegal dumping.

The Western Cape outlined four goals in the 2nd Generation IWMP (2017-2022). The LLM's goals and targets will be developed in line with the following four goals from the Western Cape IWMP.

- Goal 1: Strengthened education, capacity and advocacy towards integrated waste management.
- Goal 2: Improved integrated waste management planning and implementation for efficient waste services and infrastructure.
- Goal 3: Effective and efficient utilisation of resources.
- Goal 4: Improved compliance with environmental regulatory framework.

6.1 GOALS IDENTIFIED FOR LLM

In order to align the LLM's goals with those of the Western Cape IWMP (2017-2022) and the NWMS (2020), the following goals were formulated:

- Goal 1: Effective solid waste service delivery.
- Goal 2: Promote waste minimisation and recycling.
- Goal 3: Ensure safe and integrated management of hazardous waste.
- Goal 4: Improved waste education and public awareness.
- Goal 5: Ensure sound budgeting for integrated waste management.
- Goal 6: Improve regulatory compliance.
- Goal 7: Improve waste information management.

6.2 ALIGNMENT WITH NATIONAL AND PROVINCIAL WASTE MANAGEMENT GOALS

The NWMS (2011), NWMS (2020) and the Western Cape IWMP (2017-2022), along with the status quo of waste management within the LLM, were used to develop the 2021-2027 LLM IWMP. The table provides an overview of how the goals of the LLM will be aligned with the above-mentioned strategies.

Table 6-1: Alignment of LLM goals with provincial and national goals

LLM GOALS	WESTERN CAPE IWMP GOALS	NWMS 2011 GOALS	NWMS 2020 GOALS
Goal 1: Effective solid waste service delivery	Goal 3: Effective and efficient use of resources	Goal 2: Ensure effective and efficient delivery of waste services	Goal 2: All South Africans live in clean communities with waste services that are well managed and financially sustainable
Goal 2: Promote 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, 65% within 10 years, and at least 80% of waste within 15 years through reuse, recycling, and recovery and alternative waste treatment
Goal 3: Ensure safe and integrated management of hazardous waste	Goal 3: Effective and efficient use of resources	Goal 2: Ensure effective and efficient delivery of waste services	Goal 2: All South Africans live in clean communities with waste services that are well managed and financially sustainable
Goal 4: Improved waste education and public awareness	Goal 1: Strengthen education, capacity and advocacy towards integrated waste management	Goal 4: Ensure that 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

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

LLM GOALS	WESTERN CAPE IWMP GOALS	NWMS 2011 GOALS	NWMS 2020 GOALS
Goal 5: Ensure sound budgeting for integrated waste management	Goal 2: Improved integrated waste management planning and implementation for efficient waste services and infrastructure	Goal 5: Achieve integrated waste management planning 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 6: Improve regulatory compliance	Goal 4: Improved compliance with environmental regulatory framework	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: Improve waste information management	Goal 2: Improved integrated waste management planning and implementation for efficient waste services and infrastructure	-	Goal 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

6.3 OBJECTIVES AND TARGETS FOR THE MUNICIPALITY

Table 6-2 provides the strategic objectives and targets for each of the seven goals identified for the LLM.

Table 6-2: Objectives and targets for each of the LLM's goals

GOAL	OBJECTIVE	ACTION/TARGET
Goal 1: Effective solid waste service delivery	Objective 1: Conduct a household survey to Establish whether all waste generators are equipped with appropriate waste containers (small bins / bags or bulk skips / RoRo's as required by waste type and generation rate.);	- Appoint a service provider to conduct a community survey to identify the exact number and location of households not receiving waste collection services. - Plan and budget for effective (and appropriate) waste management service delivery based on outcomes of survey.
	Objective 2: Update the collection schedule	Review and update the collection schedule to ensure efficient and cost-effective waste collection through route optimisation with the least possible unproductive travelling.
	Objective 3: Prevent illegal dumping	Identify illegal dumping hotspots and add receptacles at these areas. The waste management officer should assess potential reasons causing the prevalence of illegal dumping by way of: - Identifying illegal dumping hotspots; - Making key observations; - Conducting brief community surveys and interviews; and - Identifying the stream of waste (and where possible potential sources) that is predominant at the illegal dumping sites. - Providing appropriate infrastructure ensuring user-friendly waste disposal facilities – e.g. ramps allowing the emptying of wheelbarrows wheelie bins into skips; even by children and the elderly. - Monitor and empty skips as required to prevent overfilling and waste subsequently being put on fire.

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	ACTION/TARGET
		Launch waste awareness campaigns to educate the community on proper waste management and disposal practices. .
	Objective 4: Evaluate waste management fleet	- Evaluate waste collection vehicles to ensure that they remain reliable, cost-effective and efficient. - Ensure that daily routine inspections be done on vehicles before waste collection commences - Undertaken preventative maintenance on vehicles where appropriate. - Plan and budget for future fleet, plant and equipment requirements allowing for routine replacement of vehicles that are not reliable. - Ensure that the landfill used for disposal is equipped with plant and tow cables to assist vehicles stuck in mud and do not allow waste collection vehicles to be pushed by bulldozers or landfill compactors - Have access to backup vehicle under all circumstances.
Goal 2: Promote waste minimisation and recycling	Objective 1: Improve recyclables diversion rates - with appropriate processing after collection;	- Conduct a survey to evaluate the participation rates of the separation at source programme of all areas; focussing on income areas where most recyclable material is generated. - Provide public recycling drop-off facilities in secured areas and have material removed regularly to prevent overflowing containers . - Establish buy-back centres in low-income areas - Implement recycling competitions and other awareness programs at schools. - Facilitate for municipalities to ringfence avoided landfill disposal

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	ACTION/TARGET
		costs for allocation to recyclers providing evidence of waste diverted from landfill.
	Objective 2: Draft an organic waste diversion plan	- Identify potential applications and markets for processed organic waste diverted from landfills. - Undertake cost-benefit study to determine the financial viability of the alternative processing options. - Draft a plan documenting the initiatives to reduce organic waste sent to landfills. The municipality can also review the Department Organic Waste template for guidance.
	Objective 3: Implement organic waste diversion initiatives	- Review collection fleet and determine the need for new trucks to collect garden refuse bags. - Attract private sector interest in either setting up businesses for the processing and sale of organic waste independently, or alternative in PPP's - Facilitate for municipalities to ringfence avoided landfill disposal costs for allocation to processors providing evidence of waste diverted from landfill. - Promote and market increased use of compost instead of chemical fertilisers. - Educate the communities and farmers on at-source composting.
Goal 3: Ensure safe integrated management of hazardous waste	Objective 1: Provide household hazardous waste solutions; and provide systems for safe collection, bulking, storage as well as transport and appropriate disposal of all hazardous waste generated in and around LLM	- Provide household hazardous waste containers at the public drop-off facilities and have such waste collected and disposed of by a legally compliant contractor. - Create public awareness about the environmental impact of inappropriate hazardous waste disposal, as well as any alternative collection and disposal systems available to them.
	Objective 2: Ensure major hazardous	Identify major hazardous waste generators in the LLM and

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	ACTION/TARGET
	waste generators are registered on SAWIS	determine the types and volumes of hazardous waste generated. • Ensure that appropriate facilities are available for the safe storage, bilking, transport, and disposal of hazardous waste generated by industry. • Monitor the registration of and regular accurate reporting by major hazardous waste generators in the LLM.
Goal 4: Improved waste education and public awareness	Objective 1: Appoint public awareness task force	• Appoint a team to establish a plan for the implementation of waste awareness campaigns in the LLM. • Empower officials from relevant authorities for the monitoring and prosecution of polluters.
	Objective 2: Implement waste awareness programmes	• Provide ongoing waste awareness campaigns for the public; • Provide waste minimisation education material on the monthly municipal bill ; • Launch recycling competitions at schools; and • Place recycling information on notice boards at shops. • Promote recycling and make the public aware of appropriate recyclable material drop-off facilities,
	Objective 3: Develop /acquire access to relevant waste management training courses	• Initiate community-based waste management education and awareness programmes for rural councillors and communities; and • Budget and ensure personnel in the waste management department go for regular training to ensure compliance and enforcement of waste management acts, regulations and strategies • Ensure that both public and private sector staff are appropriately trained for their respective jobs and that refresher courses
	Objective 4: Improve hazardous waste awareness and management expertise.	• Send relevant officials on formal training courses (training the trainers) to ensure they are well equipped to train fellow staff members as well as the public on appropriate hazardous waste

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	ACTION/TARGET
		management. • Provide educational material to ensure that households are made aware of the effect of household hazardous waste; and • Provide guideline to households on how to properly dispose of hazardous waste at appropriate facilities provided and maintained by the LLM.
Goal 5: Ensure sound budgeting for integrated waste management	Objective 1: Evaluate staff structures, adjust where required and obtain approval for reallocation of existing / appointment of new staff.	• Undertake a survey to determine the staff compliment required and adjust the organogram accordingly. • Reallocate redundant staff to alternative positions where suitable trained and experienced to fill such positions. Provide alternative training where feasible. • Fill vacant positions with suitable qualified and experienced staff. • Ensure for sound budgeting to fill vacancies in waste management department as per the finally approved organogram.
	Objective 2: Ensure availability of sufficient budget for landfill rehabilitation and closure	• Budget and plan for the rehabilitation of the McGregor landfill site; and • Budget and plan for the closure and rehabilitation of the Montagu landfill site. • Appoint suitable qualified consultants and contactors to execute the work as per the contract amount and within the required timeframes.
	Objective 3: Development of new Ashton MRF	• Appoint suitable qualified consultants to design and plan new MRF at the Ashton transfer station; and • Budget and appoint a suitable qualified contractor for the construction and commissioning of the new MRF at the Ashton transfer station.
	Objective 4: Conduct cost analysis study	• Appoint a service provider to conduct a cost benefit analysis

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	ACTION/TARGET
	for the transportation of waste to the regional landfill site in Worcester.	(feasibility) study to evaluate the effect that the disposal at the new regional landfill site in Worcester, together with associated transfer and transport costs, will have on the waste management operational costs.
Goal 6: Improve regulatory compliance	Objective 1: Review and develop appropriate waste management by-laws based on proposed new circumstances;	• Develop appropriate and relevant waste management by-laws that will protect the environment and enhance waste management in LLM; • Approve and promulgate the bylaws and • Enforce the by-laws.
	Objective 2: Conduct external landfill audits as per landfill licence requirements and implement remedial actions in accordance with a schedule approved by both the municipality as well as the regulating authority	• Review all landfill waste management licences to establish external audit dates; • Continue to conduct internal audits on a quarterly basis. • Appoint an external consultant to conduct annual external audits at all waste management facilities; • Undertake routine maintenance and based on recommendations from specialists, implement mitigating measures where required.
	Objective 3: Manage illegal waste picking on landfill sites	• Implement a system to accommodate and manage the waste pickers at the Ashton landfill site. • Implement waste separation at source where possible for recyclable waste not to be directed to landfills for recovery from source. • Develop a plan to budget for management of waste pickers. The plan should include provision of PPE, reporting to the waste officer/security, and assistance with the selling of recyclable materials; and • Work with SMMEs and informal recyclers to offer an opportunity to further divert recyclables, while stimulating job creation.

GOAL	OBJECTIVE	ACTION/TARGET
		Community-based organisations can also be approached.
	Objective 4: Ensure compliance of the landfill containment barriers with R. 636	Appoint suitable qualified consultant to assist with closure and rehabilitation of existing unlined cells, and development of new lined cells in accordance with the relevant legislation.
Goal 7: Improve waste information management	Objective 1: Implement effective recyclables record keeping and ensure regular and accurate reporting;	• Ensure recycling company reports mass correctly; and • Once the MRF is established next to Ashton transfer station, develop recoding system to ensure mass is captured correctly.
	Objective 2: Implement effective organic waste record keeping and ensure accurate and regular reporting and implement effective hazardous waste record keeping and ensure regular and accurate reporting	• Ensure all organic waste and garden refuse is recorded correctly upon arrival at the Robertson composting facility; and • Record mass of compost sold to farmers.
	Objective 3: Develop industry waste database with regular and accurate data reporting.	Implement effective communication system: • Place an advert in the local paper instructing organisations to register; • Make registration forms available on the website; and • Develop a database of industries operating in the LLM and track the registration and reporting status. Issue written notifications to the organisations which are not registered or reporting accurately.

7 IMPLEMENTATION PLAN

The following section presents an implementation plan to assist the LLM in meeting the objectives and targets outlined in the gap and needs analysis section. The implementation plan contains a number of projects and respective actions which, if properly executed, should enable the LLM to achieve its objectives and targets. The identified projects have been prioritised and span a period of seven years (2021-2027). Table 7-2 below outlines the implementation plan.

The table below provides the legend for the implementation plan.

Table 7-1: Implementation plan legend

TERM	IMPORTANCE
Short-term	
Medium-term	
Long-term/continuous	

Table 7-2: Implementation plan

GOAL	OBJECTIVE	PROJECT DESCRIPTION	TIMEFRAME							ESTIMATED BUDGET REQUIRED
			2021	2022	2023	2024	2025	2026	2027	
Goal 1: Effective solid waste service delivery	Objective 1: Conduct a household survey to Establish whether all waste generators are equipped with appropriate waste containers (small bins / bags or bulk skips / RoRo's as required by waste type and generation rate.);	- Appoint a service provider to conduct a community survey to identify the exact number and location of households not receiving waste collection services. - Plan and budget for effective (and appropriate) waste management service delivery based on outcomes of survey.								R1 500 000
	Objective 2: Update the collection schedule	Review and update the collection schedule to ensure efficient and cost-effective waste collection through route optimisation with the least possible unproductive travelling.								Overhead costs for LLM if done in-house
	Objective 3: Prevent illegal dumping	Identify illegal dumping hotspots and add receptacles at these areas. The waste management officer should assess potential reasons causing the prevalence of illegal dumping by way of: - Identifying illegal dumping hotspots; - Making key observations; - Conducting brief community								Overhead costs for LLM if done in-house

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION			TIMEFRAME				ESTIMATED BUDGET
		surveys and interviews; and - Identifying the stream of waste (and where possible potential sources) that is predominant at the illegal dumping sites. - Providing appropriate infrastructure ensuring user-friendly waste disposal facilities – e.g. ramps allowing the emptying of wheelbarrows wheelie bins into skips; even by children and the elderly. - Monitor and empty skips as required to prevent overfilling and waste subsequently being put on fire. - Launch waste awareness campaigns to educate the community on proper waste management and disposal practices. .							
	Objective 4: Evaluate waste management fleet	- Evaluate waste collection vehicles to ensure that they remain reliable, cost-effective and efficient. - Ensure that daily routine inspections be done on vehicles before waste collection commences							Overhead costs for LLM if done in-house

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION				TIMEFRAME				ESTIMATED BUDGET
		- Undertaken preventative maintenance on vehicles where appropriate. - Plan and budget for future fleet, plant and equipment requirements allowing for routine replacement of vehicles that are not reliable. - Ensure that the landfill used for disposal is equipped with plant and tow cables to assist vehicles stuck in mud and do not allow waste collection vehicles to be pushed by bulldozers or landfill compactors - Have access to backup vehicle under all circumstances.								
Goal 2: Promote waste minimisation and recycling	Objective 1: Improve recyclables diversion rates - with appropriate processing after collection;	- Conduct a survey to evaluate the participation rates of the separation at source programme of all areas; focussing on income areas where most recyclable material is generated. - Provide public recycling drop-off facilities in secured areas and have material removed regularly to prevent overflowing containers - Establish buy-back centres in low-								R2 000 000 per annum for awareness materials. R10 000 to establish buy-back centres and R1 000 / annum for maintenance & Repairs

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION			TIMEFRAME				ESTIMATED BUDGET
		income areas - Implement recycling competitions and other awareness programs at schools. - Facilitate for municipalities to ringfence avoided landfill disposal costs for allocation to recyclers providing evidence of waste diverted from landfill.							
	Objective 2: Draft an organic waste diversion plan	- Identify potential applications and markets for processed organic waste diverted from landfills. - Undertake cost-benefit study to determine the financial viability of the alternative processing options. - Draft a plan documenting the initiatives to reduce organic waste sent to landfills. The municipality can also review the Department Organic Waste template for guidance.							Overhead costs for LLM if done in-house
	Objective 3: Implement organic waste diversion initiatives	- Review collection fleet and determine the need for new trucks to collect garden refuse bags. - Attract private sector interest in either setting up businesses for the processing and sale of organic							R2 000 000 per annum for awareness materials.

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION			TIMEFRAME			ESTIMATED BUDGET
		waste independently, or alternative in PPP's - Facilitate for municipalities to ringfence avoided landfill disposal costs for allocation to processors providing evidence of waste diverted from landfill. - Promote and market increased use of compost instead of chemical fertilisers. - Educate the communities and farmers on at-source composting.						
Goal 3: Ensure safe integrated management of hazardous waste	Objective 1: Provide household hazardous waste solutions; and provide systems for safe collection, bulking, storage as well as transport and appropriate disposal of all hazardous waste generated in and around LLM	- Provide household hazardous waste containers at the public drop-off facilities and have such waste collected and disposed of by a legally compliant contractor. - Create public awareness about the environmental impact of inappropriate hazardous waste disposal, as well as any alternative collection and disposal systems available to them.						R 1-mil per annum for waste removal service
	Objective 2: Ensure major hazardous waste generators are registered on SAWIS	Identify major hazardous waste generators in the LLM and determine the types and volumes of hazardous waste generated.						Overhead costs for LLM if done in-house

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION					TIMEFRAME		ESTIMATED BUDGET
		- Ensure that appropriate facilities are available for the safe storage, barking, transport, and disposal of hazardous waste generated by industry. - Monitor the registration of and regular accurate reporting by major hazardous waste generators in the LLM.							
Goal 4: Improved waste education and public awareness	Objective 1: Appoint public awareness task force	- Appoint a team to establish a plan for the implementation of waste awareness campaigns in the LLM. - Empower officials from relevant authorities for the monitoring and prosecution of polluters.							R3 000 000 per annum for awareness materials.
	Objective 2: Implement waste awareness programmes	- Provide ongoing waste awareness campaigns for the public; - Provide waste minimisation education material on the monthly municipal bill ; - Launch recycling competitions at schools; and - Place recycling information on notice boards at shops. - Promote recycling and make the public aware of appropriate recyclable material drop-off facilities,							R2 000 per annum for awareness materials.

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION					TIMEFRAME		ESTIMATED BUDGET
	Objective 3: Develop /acquire access to relevant waste management training courses	- Initiate community-based waste management education and awareness programmes for rural councillors and communities; and - Budget and ensure personnel in the waste management department go for regular training to ensure compliance and enforcement of waste management acts, regulations and strategies - Ensure that both public and private sector staff are appropriately trained for their respective jobs and that refresher courses							R7 500 per course for department training
	Objective 4: Improve hazardous waste awareness and management expertise.	- Send relevant officials on formal training courses (training the trainers) to ensure they are well equipped to train fellow staff members as well as the public on appropriate hazardous waste management. - Provide educational material to ensure that households are made aware of the effect of household hazardous waste; and - Provide guideline to households on how to properly dispose of							R2 000 per annum for awareness materials.

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION			TIMEFRAME			ESTIMATED BUDGET
		hazardous waste at appropriate facilities provided and maintained by the LLM.						
Goal 5: Ensure sound budgeting for integrated waste management	Objective 1: Evaluate staff structures, adjust where required and obtain approval for reallocation of existing / appointment of new staff.	- Undertake a survey to determine the staff compliment required and adjust the organogram accordingly. - Reallocate redundant staff to alternative positions where suitable trained and experienced to fill such positions. Provide alternative training where feasible. - Fill vacant positions with suitable qualified and experienced staff. - Ensure for sound budgeting to fill vacancies in waste management department as per the finally approved organogram.						TBC with LLM
	Objective 2: Ensure availability of sufficient budget for landfill rehabilitation and closure	- Budget and plan for the rehabilitation of the McGregor landfill site; and - Budget and plan for the closure and rehabilitation of the Montagu landfill site. - Appoint suitable qualified consultants and contactors to execute the work as per the contract amount and within the						R100 000 per landfill for rehabilitation design and approval. R5 000 000 for rehabilitation cost

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION					TIMEFRAME			ESTIMATED BUDGET
		required timeframes.								
	Objective 3: Development of new Ashton MRF	- Appoint suitable qualified consultants to design and plan new MRF at the Ashton transfer station; and - Budget and appoint a suitable qualified contractor for the construction and commissioning of the new MRF at the Ashton transfer station.								Estimated cost for new MRF R40 000 000
	Objective 4: Conduct cost analysis study for the transportation of waste to the regional landfill site in Worcester.	Appoint a service provider to conduct a cost benefit analysis (feasibility) study to evaluate the effect that the disposal at the new regional landfill site in Worcester, together with associated transfer and transport costs, will have on the waste management operational costs.								To be determined by consultants, estimated as R1 500 000
Goal 6: Improve regulatory compliance	Objective 1: Review and develop appropriate waste management by-laws based on proposed new circumstances;	- Develop appropriate and relevant waste management by-laws that will protect the environment and enhance waste management in LLM; - Approve and promulgate the								Estimated as R 1 000 000 to review and enforce

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION			TIMEFRAME					ESTIMATED BUDGET
		bylaws and Enforce the by-laws.								
	Objective 2: Conduct external landfill audits as per landfill licence requirements and implement remedial actions in accordance with a schedule approved by both the municipality as well as the regulating authority	- Review all landfill waste management licences to establish external audit dates; - Continue to conduct internal audits on a quarterly basis. - Appoint an external consultant to conduct annual external audits at all waste management facilities; - Undertake routine maintenance and based on recommendations from specialists, implement mitigating measures where required.								R500 000 per landfill for survey and calculations of remaining airspace
	Objective 3: Manage illegal waste picking on landfill sites	- Implement a system to accommodate and manage the waste pickers at the Ashton landfill site. - Implement waste separation at source where possible for recyclable waste not to be directed to landfills for recovery from source. - Develop a plan to budget for								R1 000 for PPE for waste pickers

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION			TIMEFRAME			ESTIMATED BUDGET
		management of waste pickers. The plan should include provision of PPE, reporting to the waste officer/security, and assistance with the selling of recyclable materials; and Work with SMMEs and informal recyclers to offer an opportunity to further divert recyclables, while stimulating job creation. Community-based organisations can also be approached.						
	Objective 4: Ensure compliance of the landfill containment barriers with R. 636	Appoint suitable qualified consultant to assist with closure and rehabilitation of existing unlined cells, and development of new lined cells in accordance with the relevant legislation.						To be determined by consultants, estimated as R3 000 000
Goal 7: Improve waste information management	Objective 1: Implement effective recyclables record keeping and ensure regular and accurate reporting;	- Ensure recycling company reports mass correctly; and - Once the MRF is established next to Ashton transfer station, develop recoding system to ensure mass is captured correctly.						Nil, in house employees to check quantities
	Objective 2: Implement effective organic waste record keeping and ensure accurate and regular	Ensure all organic waste and garden refuse is recorded correctly upon arrival at the Robertson composting facility;						Nil, in house employees to check quantities

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

GOAL	OBJECTIVE	PROJECT DESCRIPTION				TIMEFRAME				ESTIMATED BUDGET
	reporting and implement effective hazardous waste record keeping and ensure regular and accurate reporting	and Record mass of compost sold to farmers.								
	Objective 3: Develop industry waste database with regular and accurate data reporting.	Implement effective communication system: - Place an advert in the local paper instructing organisations to register; - Make registration forms available on the website; and - Develop a database of industries operating in the LLM and track the registration and reporting status. Issue written notifications to the organisations which are not registered or reporting accurately.								R100 000 for software

8 IWMP MONITORING AND REVIEW

Regular and ongoing monitoring of the Implementation Plan (outlined in Section 7) is required to ensure the goals, objectives and targets of the IWMP are accomplished within the designated timeframes.

8.1 REPORTING

According to Section 13(2) of The National Environmental Management Waste Act (Act 59 of 2008), performance reports on the implementation of the integrated waste management plan must be prepared in terms of Section 46 of the Municipal Systems Act and must contain the following information:

- The extent to which the plan has been implemented during the period;
- The waste management initiatives that have been undertaken during the reporting period;
- The delivery of waste management services and measures taken to secure the efficient delivery of waste management services, if applicable;
- The level of compliance with the plan and any applicable waste management standards;
- The measures taken to secure compliance with waste management standards;
- The waste management monitoring activities;
- The actual budget expended on implementing the plan; and
- The measures that have been taken to make any necessary amendments to the plan.

8.2 MONITORING AND REVIEW

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

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

- Strategic Issues: The LLM's performance and progress on meeting the short, medium and long-term goals, objectives and targets.
- Financial Issues: Reporting on budget forecasting, obtaining sufficient budgets and budgeting constraints with respect to both existing waste management operations and the implementation of this IWMP.
- IWMP Amendments: Amendments to the IWMP necessitated by the outcomes of feasibility studies, financial constraints, etc.
- Communication: Keeping councillors, key stakeholders and the residents informed on the progress in meeting the IWMP.

8.3 REVISION OF THE IWMP

As this IWMP forms part of the Integrated Development Plan required in terms of Chapter 5 of the Municipal Systems Act, the next comprehensive revision of the IWMP should occur in 2027.

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

9 PUBLIC PARTICIPATION PROCESS

As part of the development of the IWMP, the consultants will engage with stakeholders and members of the community. Stakeholders and interested and affected parties (I&APs) will be notified that the draft IWMP is out for commenting. The comments on the Draft LLM IWMP will be incorporated into the Final LLM IWMP.

10 CONCLUSION AND RECOMMENDATIONS

The purpose of this report is to analyse and quantify all aspects related to current waste management services and practices carried out by the LLM with the view of using such information as a baseline for future planning.

In terms of waste management service delivery, the LLM provides weekly waste collection services to all formal residents, informal residents, schools and businesses. The LLM have sufficient drop-off facilities and an operational composting facility in Robertson town. The LLM have 2 operational landfill sites namely; Bonnievale landfill site and Ashton landfill site and 3 closed landfill sites namely; McGregor landfill site, Robertson landfill site and the Montagu landfill site. The Bonnivale landfill site is used to dispose garden refuse and builder's rubble and the Aston landfill site is used for general waste.

The analyses of the current waste management system have led to the identification of gaps and needs (Chapter 5) and these are addressed with the overarching goals, objectives and targets in Chapter 6.

The main goals for integrated waste management in LLM can be summarised as follows:

- To ensure for effective solid waste service delivery;
- To promote waste minimisation and recycling;
- To ensure safe and integrated management of hazardous waste;
- To improved waste education and public awareness;
- To ensure sound budgeting for integrated waste management;
- To improve regulatory compliance; and
- To improve waste information management.

For these goals to be met, a series of implementation instruments (action plans) will need to be implemented. These action plans are detailed in the implementation plan in this Chapter 7 of this report.

As part of the development of the IWMP, the consultants will engage with stakeholders and members of the community. Stakeholders and interested and affected parties (I&APs) will be notified that the draft IWMP is out for commenting. The comments on the Draft LLM IWMP will be incorporated into the Final LLM IWMP.

11 REFERENCES

CSIR, 2020. *Industry Waste Management Plan*, s.l.: Department of Environmental Affairs.

Department of Environmental Affairs, 2006. *Guidelines for the development of Integrated Waste Management Plans (IWMPs)*, Pretoria: Department of Environmental Affairs.

IDP, 2017 - 2020. Integrated Development Plan. *Langeberg Municipality*.

JPCE, 2020. *Langeberg Landfill Closure Provision Report*, s.l.: Langeberg Local Municipality.

LLM IWMP, 2017. *3rd Generation Integrated Waste Management Plan*, s.l.: Langeberg Local Municipality.

LLM SEP, 2019. Langeberg Municipality Socio-Economic Profile. *Western Cape Government*.

SEP, 2019. Langeberg Municipality Socio-Economic Profile. *Western Cape Government*.

United Nations Environment Programme, 2020. *Overview*. [Online] Available at: <http://chm.pops.int/TheConvention/Overview/tabid/3351/Default.aspx>

United Nations Environment Programme, 2020. *Overview*. [Online] Available at: <http://www.basel.int/TheConvention/Overview/tabid/1271/Default.aspx>

United Nations Sustainable Development, 1992. Article 21. *United Nations Conference on Environment & Development*.

APPENDIX A: Table 6: Schedule 3 of the National Environmental Management: Waste Amendment Act, 2014 Act No. 26 of 2014: Category A: Hazardous Waste

INDUSTRIAL GROUP	WASTE FRACTIONS
1. Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	(a) hazardous portion of wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
2. Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard	(a) hazardous portion of wastes from wood processing and the production of panels and furniture (b) hazardous portion of wastes from wood preservation (c) hazardous portion of wastes from pulp, paper and cardboard production and processing
3. Wastes from the leather, fur and textile industries	(a) hazardous portion of wastes from the leather and fur industry (b) hazardous portion of wastes from the textile industry
4. Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal	(a) wastes from petroleum refining (b) wastes from the pyrolytic treatment of coal (c) wastes from natural gas purification and transportation
5. Wastes from inorganic chemical processes	(a) wastes from the manufacture, formulation, supply and use (MFSU) of acids (b) wastes from the MFSU of bases (c) wastes from the MFSU of salts and their solutions and metallic oxides (d) metal-containing wastes (e) wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes (f) wastes from the MFSU of halogens and halogen chemical processes (g) wastes from the MFSU of silicon and silicon derivatives (h) wastes from the MFSU of phosphorous chemicals and phosphorous chemical processes (i) wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

	fertiliser manufacture (j) wastes from the manufacture of inorganic pigments (k) other wastes from inorganic chemical processes
6. Wastes from organic chemical processes	(a) wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals (b) wastes from the MFSU of plastics, synthetic rubber and man-made fibres (c) wastes from the MFSU of organic dyes and pigments (d) wastes from the MFSU of organic plant protection products, wood preserving agents and other biocides (e) wastes from the MFSU of pharmaceuticals (f) wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics (g) other wastes from the MFSU of fine chemicals and chemical products
7. Wastes from thermal processes	(a) hazardous portion of wastes from power stations and other combustion plants (b) hazardous portion of wastes from the iron and steel industry (c) wastes from aluminium thermal metallurgy (d) wastes from lead thermal metallurgy (e) wastes from zinc thermal metallurgy (f) wastes from copper thermal metallurgy (g) wastes from silver, gold and platinum thermal metallurgy (h) wastes from other non-ferrous thermal metallurgy (i) hazardous portion of wastes from casting of ferrous pieces (j) hazardous portion of wastes from casting of non-ferrous pieces (k) hazardous portion of wastes from manufacture of glass and glass products (l) hazardous portion of wastes from manufacture of ceramic goods, bricks, tiles and construction products (m) hazardous portion of wastes from manufacture of cement, lime and plaster and

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

	articles and products made from them
8. Waste from the photographic industry	(a) hazardous portion of waste from the photographic industry
9. Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks	(a) wastes from MFSU and removal of paint and varnish (b) wastes from MFSU of other coatings (including ceramic materials) (c) wastes from MFSU of printing inks (d) wastes from MFSU of adhesives and sealants (including waterproofing products)
10. Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydrometallurgy	(a) wastes from chemical surface treatment and coating of metals and other materials (for example, galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising) (b) wastes from non-ferrous hydrometallurgical processes (c) wastes from sludges and solids from tempering processes (d) wastes from hot galvanising processes
11. Wastes from shaping and physical and mechanical surface treatment of metals and plastics	(a) hazardous portion of wastes from shaping and physical and mechanical surface treatment of metals and plastics (b) wastes from water and steam degreasing processes
12. Oil wastes and wastes of liquid fuels (except edible oils)	(a) waste hydraulic oils (b) waste engine, gear and lubricating oils (c) waste insulating and heat transmission oils (d) oil/water separator contents (e) wastes of liquid fuels (f) hazardous portion of other oil wastes
13. Waste organic solvents, refrigerants and propellants	(a) waste organic solvents, refrigerants and foam/aerosol propellants
14. Other wastes not specified in the list	(a) hazardous portion of wastes from end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (b) hazardous portion of wastes from electrical and electronic equipment

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

	(c) hazardous portion of wastes from off-specification batches and unused products (d) wastes from discarded gases in pressure containers and discarded chemicals (e) wastes from discarded batteries and accumulators (f) wastes from transport tank, storage tank and barrel cleaning (g) spent catalysts wastes (h) oxidising substances wastes (i) aqueous liquid wastes destined for off-site treatment (j) waste linings and refractories
15. Construction wastes	(a) wastes from bituminous mixtures, coal tar and tarred products (b) discarded metals (including their alloys) (c) waste soil (including excavated soil from contaminated sites), stones and dredging spoil (d) wastes from insulation materials and asbestos-containing construction materials (e) wastes from gypsum-based construction material (f) wastes from other construction and demolition [wastes]
16. Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)	(a) wastes from natal care, diagnosis, treatment or prevention of disease in humans (b) wastes from research, diagnosis, treatment or prevention of disease involving animals
17. Wastes from waste management facilities	(a) hazardous portion of wastes from incineration or pyrolysis of waste (b) hazardous portion of wastes from physico/chemical treatments of waste (c) hazardous portion of stabilised/solidified wastes (d) hazardous portion of wastes from aerobic treatment of solid wastes (e) hazardous portion of wastes from anaerobic treatment of waste (f) landfill leachate wastes (g) wastes from shredding of metal-containing wastes (h) wastes from oil regeneration

LANGEBERG LOCAL MUNICIPALITY INTEGRATED WASTE MANAGEMENT PLAN

	(i) wastes from soil remediation
--	----------------------------------

APPENDIX B: LANDFILL AUDIT REPORTS



**Western Cape
Government**
Environmental Affairs and
Development Planning

BETTER TOGETHER.

DIRECTORATE: WASTE MANAGEMENT



ASHTON WASTE DISPOSAL FACILITY EXTERNAL COMPLIANCE AUDIT REPORT

Prepared by:

IAN MALLOY (GIBB (Pty) Ltd)

Prepared for:

Langeberg Municipality



REFERENCE NO. 19/2/5/2/B1/2/WL0152/18

07 January 2021

Revision 1.1

Terms of reference

The Terms of Reference (ToR) for GIBB Pty Ltd (hereafter referred to as GIBB), the appointed service provider, was to undertake external compliance audits of the Ashton waste disposal facility (WDF), in the jurisdictional area of the Langeberg Local Municipality (LLM) for a three year period according to the waste management licence (WML) issued for the Ashton WDF and all applicable national standards. The ToR furthermore required the sampling of groundwater boreholes at the Ashton WDF to analyse and interpret the groundwater in accordance with the WML conditions and for a topographical survey to be conducted to calculate the remaining airspace at the Ashton WDF.

GIBB was appointed as an independent external auditor by the LLM to undertake the annual compliance audit of the Ashton WDF based on the conditions of the approved WML (reference number: 19/2/5/2/B1/WL0152/18 dated 26 July 2019) as per the requirements of the National Environmental Management Waste Act (59 of 2008) as amended (hereafter referred to as the Waste Act). The WML was issued by the Western Cape Department of Environmental Affairs and Development Planning (DEADP) and it is required that the external WDF audit report is sent to the DEADP subsequent to conducting the audit and developing the audit report. The Ashton WDF is located on a portion of Portion 4 and the remaining Portion 71 of the Farm Goree No. 158, Division of Ashton.

Executive summary

This external compliance audit report of the Ashton WDF on portion of portion 4 and the remaining portion 71 of the farm Goree no. 158, division of Ashton was developed subsequent to conducting the external audit of the landfill site with respect to the Ashton waste disposal facility (WDF) waste management licence (WML) (reference 19/2/5/2/B1/2/WL0152/18) in fulfilment of requirements of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA). The WML requires an annual external audit of the compliance of the WDF against the licence conditions. The objectives of the external audit of the Ashton WDF was to determine the compliance of the WDF in terms of the conditions of the Ashton WDF WML.

The external audit was conducted on 5th and 6th October 2020 during which water samples were collected from two boreholes on site which were analysed for groundwater quality. The topographical survey to determine the WDF airspace was conducted on 16 October 2020. A compliance rating of 67.53% was achieved for the external audit. The topographical survey and airspace analysis indicated that there is no airspace available at the WDF for the disposal of waste and that the waste body was overbuilt in specific areas.

The overall compliance of the WDF site has increased slightly from 67.2% since the October 2019 external audit to 67.95% in the October 2020 external audit. Of concern is that the non-compliances noted in the previous audit have not been adequately addressed and were noted again during the 2020 annual audit. The compliance rating falls in the Amber 'status indicator' and the Licence Holder must address the non-compliances noted during the audit and ensure that the compliance improves on site.

Another aspect of concern is that the LLM had not addressed the administrative non-compliances noted in the 2019 external audit report such as the correction of details on the WML and the plans that were required to be developed and submitted to the DEADP for review and approval. The LLM should prioritise implementing the corrective measures to address the administrative non-compliances as these do not require additional budget or staff and can be developed by the LLM.

On site conditions that resulted in non-compliances included:

- a lack of internal run-off drainage systems;
- waste-filled stormwater channels around the site;
- a lack of compaction or covering of waste on site;
- windblown litter surrounding the site;
- a lack of access control on site;
- damaged fencing;
- burning of waste;
- informal pickers operating without PPE;
- livestock on site; and
- an insufficient buffer zone around the WDF.

The groundwater results (available in Appendix D) from the October 2020 sample run showed an increase in chemical / ion concentrations compared to 2019 results at Borehole 1 (GW). This increase could be a result of recent rainfall events, resulting in pollutants entering the groundwater system, but the increase does not warrant any concern as all parameters for Borehole 1 (GW1) fell within the acceptable range of the threshold limits set by SANS 241:2015. Borehole 2 (GW2) which is downstream of Borehole 1 (GW1) did see an increase in the concentration of certain parameters compared to GW1. Borehole 2 (GW2) recorded three (3) parameters (sodium, chloride and electrical conductivity) which were over the prescribed SANS 241:2015 limits. This could be a result of leachate from solid waste entering in the groundwater system. Leachate has been shown to have higher levels of sodium and chloride than groundwater free of leachate. It was noted on the day of sampling Borehole 2 (GW2) that oil and grease was present in the borehole and that the groundwater had a scent similar to that of oil. It is recommended that municipality look to conduct quarterly sampling. This to identify if pollutants from the Ashton WDF are entering the ground water system.

Table of contents

Terms of reference	i
Executive summary	ii
Table of contents	iv
List of figures	vi
List of tables	vi
1. Introduction	1
1.1. Subject	1
1.2. Background	2
1.3. Objectives	4
1.4. Scope and limitations	4
Scope	4
Limitations	5
1.5. Plan of development	5
2. Legal framework	7
3. Methodology	9
3.1. Administrative meeting	9
3.2. Desktop audit	9
3.3. Site inspection audit	10
4. Description of the Site and Waste Information	11
4.1. Waste Management Facility Details and Site Locality Maps	11
4.2. Waste Acceptance and Management	14
Access Control	15
Employees on Site	15
Vehicles and Equipment	15
Buildings and Services	16
Roads	16

Stormwater Management	16
Fires	17
Remaining Landfills Lifespan	17
General Management	20
Monitoring	20
5. General Observations	21
6. Audit findings, results and discussion	23
6.1. Summary of key non-compliances:	23
7. Compliance rating	25
8. Conclusions and recommendations	26
8.1. Actions to be taken to address non-compliances:	26
Documentation	26
Operation	27
Monitoring	27
9. Bibliography	28
10. List of Appendices	29
10.1. Appendix A: Compliance table	29
10.2. Appendix B: Photographic Record	67
10.3. Appendix C: Internal Audit Reports	76
10.4. Appendix D: Groundwater Monitoring Report	77
Groundwater Monitoring	77
Results	78
Conclusion	81
10.5. Appendix E: Topographical Survey	83
Document Control and Disclaimer	85

List of figures

Figure 1: Percentage of compliances of 4 external audits conducted from 2018 - 2020	4
Figure 2: Ashton waste disposal facility locality map. Source Google Earth. Image date 29 July 2020 and accessed 08 October 2020.....	12
Figure 3: Satellite image of Ashton waste disposal facility, source Google Earth. Image date 29 July 2020 and accessed 08 October 2020 Points 1 - 12 show the corners of the site as per the coordinates in the WML.....	13
Figure 4: Survey of Ashton WDF comparing the waste volume from 2019 to 2020	19
Figure 5: Graph showing results of Borehole 1 (GW1) from September 2019 and October 2020	79
Figure 6: Graph showing results of Borehole 2 (GW2), October 2020.....	80

List of tables

Table 1: Non-compliances noted during the last 3 external audits from 2018 - 2019	2
Table 2: Unfolding of detailed information in the external audit report.....	5
Table 3: Details of the waste management licence	7
Table 4: Site and Audit Details.....	11
Table 5: Waste disposal tonnages for Ashton landfill (November 2019 – October 2020)	14
Table 6: Waste diversion at Ashton landfill, November 2019 – October 2020 (tonnes)	15
Table 7: Airspace determination	18
Table 8: List of Acronyms	21
Table 9: A list of non-compliances noted during the external audit	23
Table 10: Overall compliance of the Facility.....	25
Table 11: Status indicator of the Facility.	25
Table 12: Compliance checklist for the external audit	29

1. Introduction

1.1. Subject

GIBB was appointed as an independent external auditor by the LLM to undertake the annual compliance audit of the Ashton WDF based on the conditions of the approved WML (reference number: 19/2/5/2/B1/WL0152/18 dated 26 July 2019) as per the requirements of the National Environmental Management Waste Act (59 of 2008) as amended (hereafter referred to as the Waste Act). The WML was issued by the Western Cape Department of Environmental Affairs and Development Planning (DEADP) and it is required that the external WDF audit report is sent to the DEADP subsequent to conducting the audit and developing the audit report. The Ashton WDF is located on a portion of Portion 4 and the remaining Portion 71 of the Farm Goree No. 158, Division of Ashton.

The aim of the independent external annual audit is to review the conditions at the WDF, the existing waste management processes at the WDF, the records used to manage the WDF and the documentation used to manage the day-to-day operations at the WDF. This was done to document the potential areas of non-compliance with respect the Ashton WDF WML. Non-compliances are highlighted in the audit checklist with necessary corrective actions and associated financial costs and time frames to implement the corrective actions to ensure compliance with the WML. The audit report also gives feedback on whether previously highlighted non-compliances were addressed, providing a useful and on-going management tool for the management of the Ashton WDF

This external compliance audit report of the Ashton WDF on portion of portion 4 and the remaining portion 71 of the farm Goree no. 158, division of Ashton was developed subsequent to conducting the external audit of the landfill site with respect to the Ashton WDF WML (reference 19/2/5/2/B1/2/WL0152/18) in fulfilment of requirements of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA). Furthermore, the report was developed to fulfil the requirements of the amended EIA Regulations (07 April 2017) and the prescriptions for environmental audits as contained under Regulation 34 and 35 with the prescribed content for audit reports as listed under Appendix 7 of GN. 326 of 2017

1.2. Background

The waste management licence for operation and the closure of the Ashton WDF (reference: 19/2/5/2B1/2/WL0152/18) was issued by the DEADP to the Langeberg Municipality on 26 July 2019. The waste management licence requires annual external audit of the compliance of the WDF against the licence conditions and quarterly internal audits of compliance of the WDF is against the licence conditions. The external audits are conducted by a service provider and the internal audits are conducted by the LLM. Audit reports should be drafted subsequent to the external and internal audits and submitted to the DEADP.

The history of the previous 3 external audits are presented in the table below. Similar non-compliances were noted at the Ashton WDF site from 2018 – 2019.

Table 1: Non-compliances noted during the last 3 external audits from 2018 - 2019

Year	Overall audit compliance score	Brief summary of Non-compliances
January 2018	66.4%	• Damaged fence • Landfill management systems and an environmental management plan were not developed and available on site • No emergency preparedness plan and business continuity plan was developed and at the WDF • Stormwater runoff channels contain waste • Conservancy tank was broken and wastewater was seeping from the tanks onto the ground behind the site office • Residents and animal pens for livestock within the landfill buffer zone • Height limit of 6 m above ground level was exceeded (the height limit of the landfill site was subsequently adjusted to 296mamsl and was authorised in WML (ref nr 19/2/5/2B1/2/WL0152/18) issued on 26 July 2019) • Waste was left uncovered and cover material on the slopes of the landfill has eroded and/or blown away • Windblown litter • No dust suppression on site • Stockpiling of recyclable material on site started creating nuisances like flies and vermin • Uncontrolled salvaging of materials on the working face • A residents monitoring committee was not established for the WDF.
January 2019	53.3%	• Damaged fence • Windblown litter • Unmanned entrance gate • Stockpiling of hazardous waste on site • Uncontrolled salvaging of materials on the working face • Landfill management systems and an environmental management plan were not developed and available on site • Stormwater runoff channels contain waste • No infrastructure in place to control contaminated run-off • Residents and animal pens for livestock within the landfill buffer zone

Year	Overall audit compliance score	Brief summary of Non-compliances
		- Height limit of 6 m above ground level was exceeded (the height limit of the landfill site was subsequently adjusted to 296mamsl above and was authorised in WML (ref nr 19/2/5/2B1/2/WL0152/18) issued on 26 July 2019) - Conservancy tank was broken and wastewater was seeping from the tanks onto the ground behind the site office - Waste was left uncovered and cover material on the slopes of the landfill has eroded and/or blown away - Health and safety concerns of informal reclaimers on site - Animals were noted at the working face of the landfill - Waste containers and concrete areas at the MRF were not waste daily which posed a H&S risk to staff - Noise assessments and surface water monitoring was not conducted at the WDF - A residents monitoring committee was not established for the WDF.
October 2019	67.2%	- No organic waste diversion plan was developed for the Ashton WDF - No waste minimisation, reduction, recovery, re-use and recycling plan was developed for the Ashton WDF - The cut drains surrounding the WDF to divert stormwater contained waste - No stormwater management system in place at the working face of the landfill - There are informal structures and housing within 150 m from the edge of the landfill site - The waste on the landfill exceeds the allowable height of the landfill - Vectors (flies) were present on site - No dust management system was in place and dust was a nuisance at the Ashton WDF - The landfill compactor was refuelled on site on an area that did not have a bund - Employees working within the MRF were not supplied with safety boots - Large sections of the fence was damaged and access control was therefore not possible - The entrance gate was not manned - Signage at the landfill did not have the address of the LLM and the WML number on the signage was incorrect - The MRF was not registered with the DEADP in terms of the National Norms and Standards for the Sorting, Shredding, Grinding, Screening or Baling of General Waste (GN 1093 of 2017) - Waste was not disposed at a designated area on the landfill site - Waste was not covered on a daily basis on the landfill site - Windblown litter was noted surrounding the landfill site - Informal reclaimers were working on the landfill site - No emergency response plan was developed for the WDF - No documented monitoring and measurement plan was developed for the WDF (monitoring included gas monitoring, water quality monitoring and topographical surveys) - No documented plan was developed for the WDF to address how waste types and sources are recorded - A third borehole was not developed on the landfill site - Financial provisions to address non-compliances were not provided in the January 2019 external audit report - A residents monitoring committee was not established for the WDF.

A bar graph of the overall compliance rating of the WDF for the three external audits conducted from January 2018 to October 2020 is presented below.

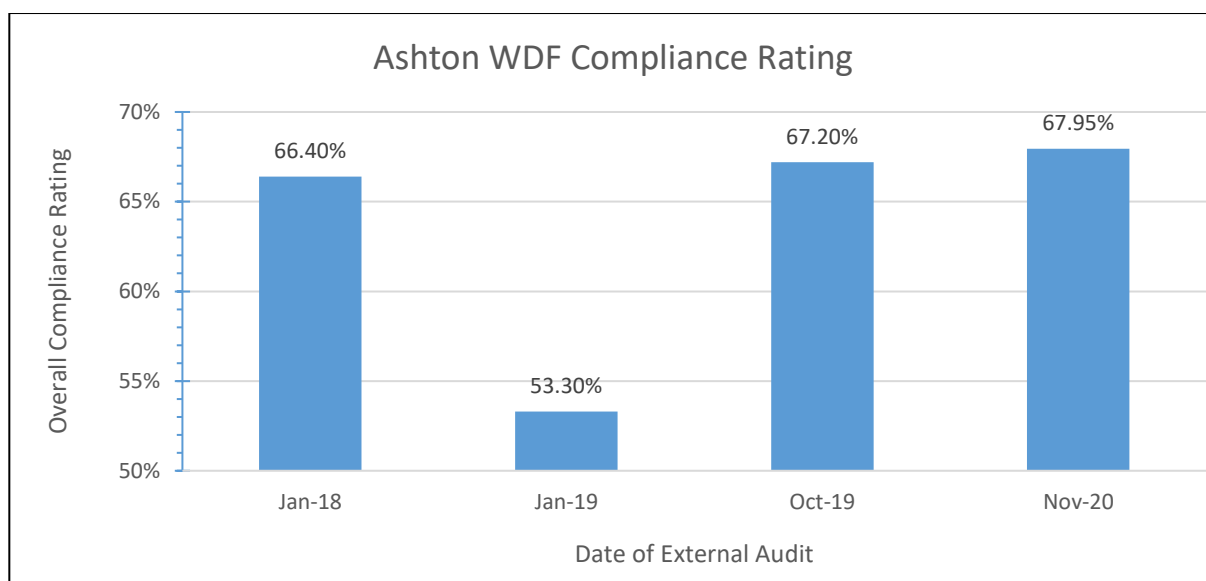


Figure 1: Percentage of compliances of 4 external audits conducted from 2018 - 2020

1.3. Objectives

The objectives of the external audit of the Ashton WDF was to determine the compliance of the WDF in terms of the conditions of the Ashton WDF WML. Each condition of the WML was rated compliant (2), partially compliant (1), non-compliant (0) and not auditable based on the observations made by the external auditor on the day of the audit and a score was allocated to the rating. The scores for each condition was added and an overall score percentage of compliance was determined. A site audit of the WDF and interviews with the WMCO, landfill supervisor and staff based on the landfill site were conducted as part of the external audit to determine the level of compliance of each condition of the WML.

1.4. Scope and limitations

Scope

The scope of the external audit was only for the Ashton WDF and the assessment of compliance of each condition of the Ashton WDF WML (reference: 19/2/5/2B1/2WL0152/18). A compliance checklist is presented in Appendix A of the report that indicates the compliance of each condition of the WML. The

overall compliance of the WDF is presented in section 7 of the report. The compliance checklist also provides the corrective actions to address the non-compliances noted during the audit and the associated financial provision and timeframes within which the non-compliances should be addressed.

Limitations

The compliance of the WDF was based on the observations made by the auditor on the day of the audit and is therefore not an indication of the conditions on site throughout the year. The auditor also assumed that the records provided on the day of the audit were kept up to date and were a true reflection of the management, incidents and complaints on site.

The compliance of the implementation of the conditions in the EMPr for the Ashton WDF was not conducted for the WDF.

1.5. Plan of development

The unfolding of detailed information respective chapters in this external audit report is explained in the table below.

Table 2: Unfolding of detailed information in the external audit report

Chapter in the External WDF Audit Report	Description of information provided in the chapter
Chapter 1: Introduction	This chapter provides the background of the WDF, the WML issued to the WDF and the compliance of the WDF in previous external audits. It also provides the objectives of the WDF external audit and the scope and limitation to the external audit.
Chapter 2: Legal Framework	The details of the WML and a summary of key South Africa legislation, norms and standards governing waste management is provided in the chapter.
Chapter 3: Methodology	A description of the method of investigation followed during the review of waste records and the inspection of the WDF is provided.
Chapter 4: Description of the Site and Waste Information	A description of the site conditions during the audit, waste management practices undertaken on site and

	records of waste disposed and diverted is provided in this chapter. The results of the topographical survey and airspace analysis are provided in this chapter as well.
Chapter 5: General Observations	The general observations made by the auditors of the condition of the site are provided in this chapter.
Chapter 6: Audit Findings	A summary of key non-compliant audit findings are presented in this chapter.
Chapter 7: Compliance Rating	The calculation of the compliance rating and the compliance rating is provided in this chapter.
Chapter 8: Conclusion and Recommendations	The conclusions of the external audit, the recommendations and actions to address the non-complaint findings are presented in this chapter.

2. Legal framework

The details of the WML for the operation and closure of the Ashton WDF is provided below. The WML (DEADP REF: 19/2/5/2/B1/2/WL0152/18) was received from DEADP on 26 July 2019 and allows the operation of the Ashton WDF to closure.

Table 3: Details of the waste management licence

Facility Name:	Ashton Waste Disposal Facility	WMCO/ ECO details:	Mr G. Slingers
			Tel: -023 616 8028
			Email: glingers@langeberg.gov.za
Facility Address:	Portion of Portion 4 and remaining portion of Portion 71 of the Farm Goree No. 158, Division of Ashton.	GPS Coordinates (at entrance)	Latitude: 33°50'11.40"S;
			Longitude: 20°06'04.19"E
Permit/Licence No:	19/2/5/2/B1/2/WL0152/18	WML Date:	26 July 2019
Waste Licence Application:	Operation towards closure of the Ashton WDF	License valid till date:	No longer valid as airspace has been used up (the waste body was filled to the final authorised contours)
License Holder:	Langeberg Municipality	Facility Classification:	G:S: B-/ Class B
Telephone:	023 616 8000	Permissible Waste:	General waste
Licence Holder Address:	Private Bag X2, Ashton, 6715	Permissible Waste Activities:	Disposal of general waste. Crushing of C&DW and chipping of garden waste. Operation of a waste reclamation facility (MRF).
Application of the WML and reasons for issuing the WML	- The Ashton WDF had come to the end of its legal lifetime therefore the LLM had to apply for a waste management closure licence - The LLM had planned to use the Cape Winelands regional WDF for the disposal of waste once all the LLM WDF had reached capacity or had closed, but the regional facility was not constructed by the time the Ashton WDF had reached capacity. The LLM were then required to apply for a height extension of the Ashton WDF and continue operating the facility until the approved height of the proposed final contours were reached. - A WML application for the operation towards closure together with a Scoping and Environmental Impact Assessment (EIA) process was followed by an appointed environmental assessment practitioner (EAP) for the Ashton WDF. - The Scoping Report for the closure of the Ashton WDF was submitted in August 2018 and the final EIA report for the closure of the Ashton WDF was submitted in		

	March 2019 with the following reports and documents that assisted with the approval of the WML for the closure of the Ashton WDF: ○ Previous permits and authorisations for the Ashton WDF ○ Specialist studies ▪ Visual Impact Assessment, dated 11 October 2017 ▪ Geohydrological Impact Assessment, dated 08 November 2017 ▪ Air Quality Impact Assessment, dated 22 February 2018 ○ Public participation report ○ Operation, management and closure plan, dated October 2018 ○ Environmental Management Programme, dated 16 January 2019 ○ Emergency plan ○ Land Management • Acceptance letter from the Department of Water and Sanitation, dated 27 February 2019 of the Closure and Rehabilitation Plan of the Ashton Landfill Design Report, dated November 2018 and three design drawings No.: G-A228/100, A228/101 and A228/102. • The Record of Decision (RoD) in terms of section 50 of the Nem:WA from the Department of Water and Sanitation, issued on 26 July 2019 (as indicated in the WML) • The recommendations made by the EAP to grant authorisation for the operation towards closure of the Ashton WDF • Having considered all options available to the LLM as well as the environmental risks, the visual impact assessment of the proposed height extension, the current impacts to the groundwater quality, the impacts to the community, and the comments received from interested and affected parties (I&APs), the DEADP issued the authorisation of the WML with operational and closure conditions that the LLM would need to comply with.
--	--

A summary of key South Africa legislation, norms and standards governing waste management is listed below. These should be read and considered with this audit report to effectively monitor the level of compliance of the Ashton WDF.

- National Environmental Management Act, Act 107 of 1998 (NEMA)
- National Environmental Management Waste Act (29 of 2008) (NEMWA), the primary legislation governing waste management in South Africa
- The minimum requirements for the Disposal of waste by landfill, second edition (DWAf, 1998)
- The national norms and standards for the storage of Waste GN 926 of 2013
- The standards for disposal of waste to landfill (second edition)(draft). Notice 615 of 2012, Gazette 35572
- Norms and standards for the storage of waste (draft). Notice 436 of 2011
- Standards for Assessment of waste for landfill disposal (draft). Notice 433 of 2011

3. Methodology

A description of the method of investigation followed in the environmental audit is provided in the sections below.

3.1. Administrative meeting

The WMCO was not on site on the day of the audit; however, a telephonic interview was conducted with the WMCO in preparation of the WDF audit to discuss the audit methodology, the topographical survey and the documentation required for the audit. The WMCO advised that the site staff has been briefed in preparation for the WDF external audit.

Subsequent to the WDF audit additional telephone discussions were had with the WMCO to clarify queries noted during the WDF audit.

3.2. Desktop audit

The following documentation was available and reviewed on site:

- A copy of the current waste management license (WML) and previous version of the WML
- Waste records from the weighbridge (before it was damaged) and incoming waste register. The waste register is currently used to record waste loads (volume and type of waste) entering the landfill
- A complaints register
- An incident register
- Emergency contact details
- Contact details for employees at the LLM.

The following documentation was made available by the LLM subsequent to the WDF audit for review:

- Internal audit reports prepared by the LLM

A copy of the EMPr was not available at the WDF and no emergency plan or diversion plans were available at the WDF.

3.3. Site inspection audit

The audit was conducted over two days. The main reason for this was to pump the two boreholes empty on the first day and allow them to recharge prior to sampling on the second day.

Activities on day one:

1. The auditors met with the acting landfill supervisor at the entrance of the site and explained the reason for the visit
2. A site walk through of the landfill was conducted during which photos were taken of the landfill
3. The acting site supervisor was asked several questions regarding the condition of the site
4. The two boreholes were pumped empty (until no more groundwater could be pumped out) at the landfill site.

Activities on day two:

1. The auditors met with the acting landfill supervisor at the entrance of the site
2. Water samples were taken of the two boreholes at the WDF
3. The acting site supervisor and weighbridge clerk were asked several questions regarding the documentation that was required on site. The auditors were provided with the environmental file of the WDF which was audited. The auditors checked whether the documentation required to be on site was available in the WDF environmental file.

4. Description of the Site and Waste Information

4.1. Waste Management Facility Details and Site Locality Maps

A brief description of the site and a site locality map is provided below.

Table 4: Site and Audit Details

Inspection Date:	05 - 06 October 2020	WMCO/ ECO details:	Mr G. Slingers
			Tel: -023 616 8028
			Email: gslingers@langeberg.gov.za
Facility Name:	Ashton Waste Disposal Facility	Remaining airspace:	There is no airspace remaining.
Facility Address:	Portion of Portion 4 of the Farm Goree No. 158, Division of Ashton.	License valid till date:	No longer valid as airspace has been used up (the waste body was filled to the final authorised contours)
Permit/Licence No:	19/2/5/2/B1/2/WL0152/18	Current compliance rating	Amber (64.38%)
License Holder:	Langeberg Municipality	GPS Coordinates (at entrance)	Latitude: 33°50'11.40"S;
Telephone:	023 616 8000		Longitude: 20°06'04.19"E
Local Municipality:	Langeberg Municipality	Facility Classification:	G:S: B-/ Class B
District Municipality:	Cape Winelands District Municipality	Weather conditions:	Sunny and slightly windy
External Auditor	GIBB (Pty) Ltd	Auditors	Ian Malloy Charl Kruger

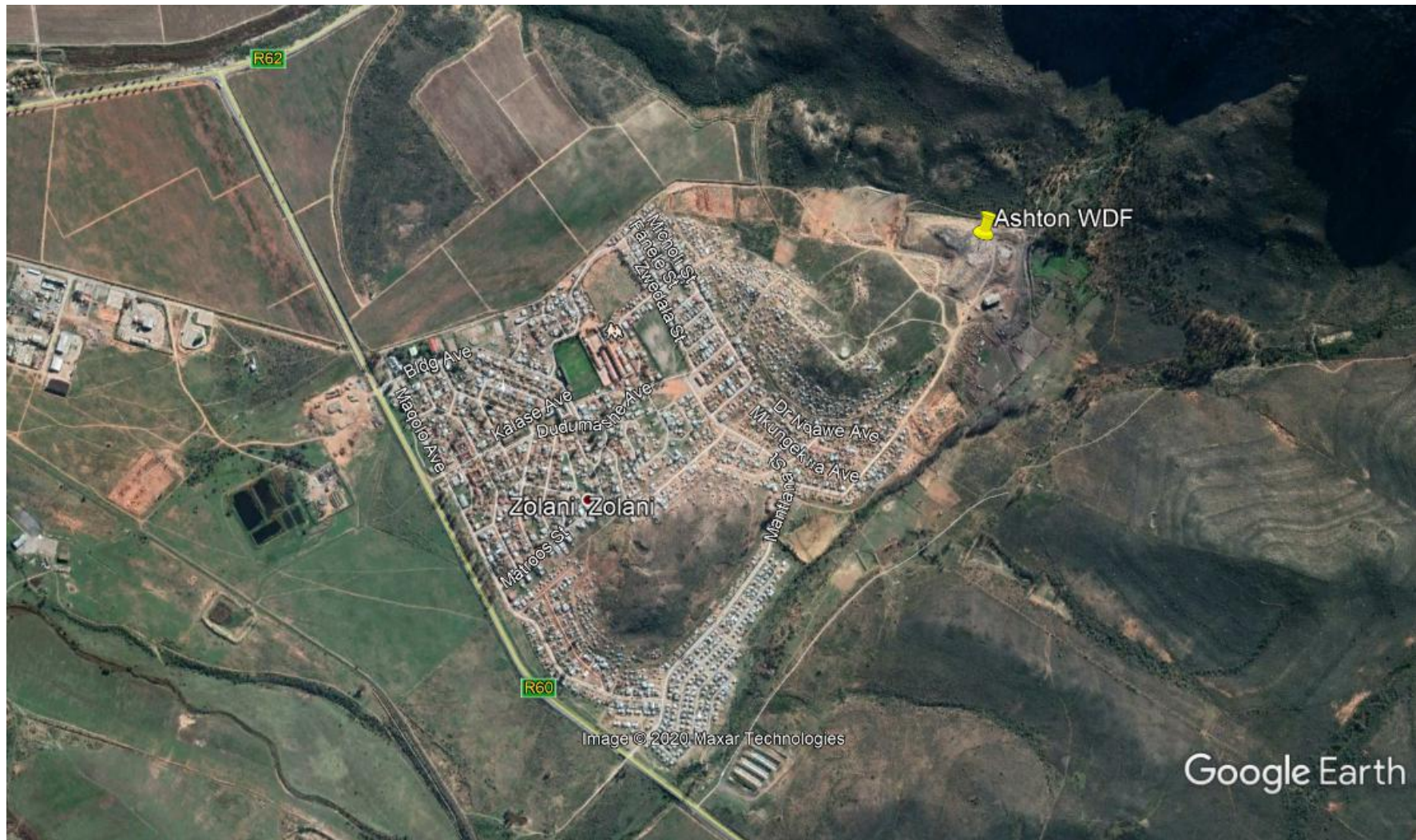


Figure 2: Ashton waste disposal facility locality map. Source Google Earth. Image date 29 July 2020 and accessed 08 October 2020.

GIBB: External compliance audit report of the Ashton Waste Disposal Facility

Chapter 4: Description of Site and Waste Information



Figure 3: Satellite image of Ashton waste disposal facility, source Google Earth. Image date 29 July 2020 and accessed 08 October 2020
Points 1 - 12 show the corners of the site as per the coordinates in the WML.

GIBB: External compliance audit report of the Ashton Waste Disposal Facility

Chapter 4: Description of Site and Waste Information

4.2. Waste Acceptance and Management

The Ashton WDF is licensed as a general WDF. On average 1,874 tonnes per month of waste was disposed of at the site from November 2019 to October 2020. On average, there is a decrease of waste disposed at the landfill per month from November 2019 to October 2020 when compared to waste disposed of at the landfill from January 2019 to August 2019 (2,150 tonnes per month). This was mainly due to the national lockdown due to the corona virus pandemic that occurred from March 2020 and resulted in less waste generation.

The electrical cabling that powers the weigh bridge was destroyed during the fire that broke out at the WDF on 25 May 2020 and since then the weighbridge was not operational. Volumetric estimations of waste entering the landfill was therefore used to determine the tonnage of waste entering the WDF. The waste tonnage records from November 2019 to May 2020 are actual waste disposal tonnages and from June 2020 to October 2020 are estimations of waste entering the WDF.

Table 5: Waste disposal tonnages for Ashton landfill (November 2019 – October 2020)

Month	Municipal waste (tonnes)
November 2019	1,778
December 2019	2,041
January 2020	2,110
February 2020	1,698
March 2020	2,125
April 2020	1,939
May 2020	1,397
June 2020	1,918
July 2020	2,114
August 2020	1,743
September 2020	1,875
October 2020	1,745
Average per month	1,874

The on-site material recovery facility (MRF) diverts on average 67 tonnes per month of recyclable material.

Table 6: Waste diversion at Ashton landfill, November 2019 – October 2020 (tonnes)

Month	Waste diverted (tonnes)
November 2019	22
December 2019	18
January 2020	20
February 2020	41
March 2020	53
April 2020	39
May 2020	25
June 2020	17
July 2020	115
August 2020	103
September 2020	163
October 2020	184
Average per month	67

Access Control

The site is only fenced at the entrance of the Ashton WDF and there is a lockable gate at the entrance. However, large sections of the fence are missing all round the WDF and have been damaged by fire, stolen or damaged to gain access to the site.

Employees on Site

There are five permanent employees on site who are based on site full time.

Vehicles and Equipment

No plant to manage the landfill or operational equipment were observed on site. A BOMAG compactor is designated to move and compact waste and apply cover material at the WDF. The compactor is damaged and the municipality has planned to use operational funds to repair it. The timeframes for the compactor to be repaired are unknown. A bulldozer/TLB is currently hired on an adhoc basis to move and compact waste, and apply cover material on site. The bulldozer/ TLB was not on site during the audit.

Refuse compactors were observed disposing of waste at the landfill. The MRF and associated equipment such as the conveyor belt system and balers that were in operational condition during the October 2019 external audit were destroyed in a fire that occurred at the MRF on 25 May 2020. The MRF building was also significantly damaged during the fire. The MRF is therefore no longer operational and municipality could not confirm by the time of the audit or finalising the audit report when the building will be repaired and equipment will be replaced to continue the operations at the MRF.

Buildings and Services

The following buildings were noted on site:

- Weighbridge office and site office and attached ablution facilities
- MRF building – note all equipment within the MRF was destroyed due to a fire and the MRF building was severely damaged. It is unsure whether the LLM has budgeted for the repair of the MRF building and the replacement of equipment at the MRF
- Container buildings used as a change room and eating area

Roads

There are unsurfaced access roads on site that are in good condition. These roads allow access to the waste body and around the landfill site. Use of the access roads was observed to result in dust emissions during the audit. The access road north west of the MRF was closed as it was covered in waste and disallowed access around the landfill site from the MRF.

Stormwater Management

There are external storm water cut-off channels to divert stormwater away from the site, but no internal stormwater management measures. The stormwater cut-off channels were filled with waste on the day of the audit.

Fires

Fires and burning of waste was noted during the audit. Waste was burnt on the landfill site and at the entrance of the landfill site. There was evidence of historic fires on the site as well. As there is no access control at the landfill, informal waste pickers burn waste in and around the landfill site.

Remaining Landfills Lifespan

The latest surveys of the Ashton landfill site were undertaken in January and September 2019, and October 2020. The January 2019 survey concluded that based on the previous waste management license which restricted the landfill site height to 6m there was no airspace remaining.

The license was amended in July 2019 to allow the maximum allowable height to be increased to 296m above mean sea level. The height extension added an extra 20,533m³ of airspace to the site, it was calculated that this airspace would be consumed by October 2019 (JPCE, 2019a). According to the September 2019 survey, 21,298m³ of airspace has been consumed since January 2019 and only 481m³ of airspace remained. This airspace was consumed by November 2019 and there is no remaining airspace at the Ashton WDF. The Ashton WDF site should therefore be closed and rehabilitated according to the conditions of the waste management license (ref: 19/2/5/2/B1/2/WL0152/18).

A comparison of the Survey of October 2019 and October 2020 topographical survey was conducted and a total of 30,824 m³ of waste was placed at the WDF during this period. On average 2,570 m³ of waste is disposed of at the WDF per month.

The average monthly airspace consumed during January and October 2019 was 2,622 m³. The consumption of airspace at the landfill per month from October 2019 to October 2020 (2,570 m³/month) is slightly less than the airspace consumed between January to October 2019 (2,622 m³/month). This is mainly due to less waste being generated in 2020 due to the Covid-19 lockdown and a reduction in social and economic activity due to the Covid-19 outbreak since February 2020. The results of the topographical survey comparison from October 2019 to October 2020 are presented in the table below.

Table 7: Airspace determination

Volume Calculation (between 2019 to 2020 Aerial Surveys)	Oct 2019 – Oct 2020
Cut volume	2,570.11 m ³
Fill volume	30, 823.98 m ³

As shown in the volume map below of the survey conducted for the Ashton WDF, the areas highlighted in red on the landfill indicate where the height of the waste body is overbuilt and exceeds the allowable height or closure design height of the landfill. The blue area of the volume map indicates available airspace on the landfill.

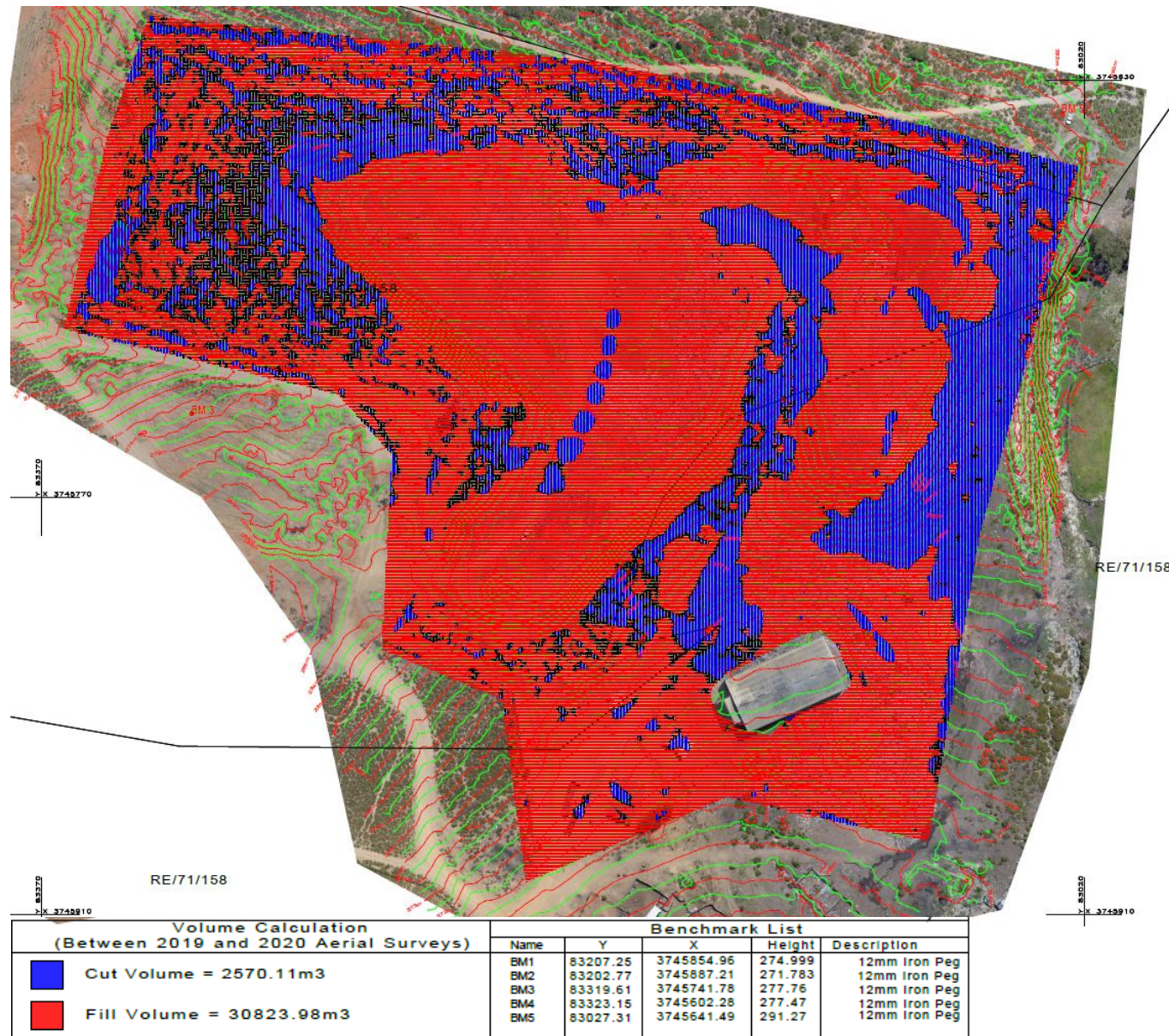


Figure 4: Survey of Ashton WDF comparing the waste volume from 2019 to 2020

General Management

The key operational issue on site was a lack of plant for the spreading, compaction and covering of waste. This has resulted in a number of impacts such as windblown litter and uncovered organic waste which has attracted livestock and vermin onto the site. The lack of access control due to the broken fence and lack of security services provided at the site has led to informal reclaimers on the landfill site that are also responsible for the burning of waste on site. Attempts to remove the informal reclaimers off site has led to the vandalism and burning of the MRF at the landfill site.

Monitoring

Remaining airspace was determined through topographical surveys. The latest topographical survey was conducted in October 2020 and the results were included in this audit report.

There are two boreholes on site. During the external audit, groundwater samples were collected from both boreholes. The results of the groundwater and the interpretation of the results are presented in Appendix D: Groundwater Monitoring Report.

No surface water was available for testing during the audit and no other surface water monitoring has been conducted since the previous external audit.

5. General Observations

On the day of the audit, observations were made in terms of compliance with the conditions of the Waste Management Licence. These observations are reflected in the Audit Checklist and are discussed in relevant sections in the Audit Report.

The following acronyms were used in the Audit Report.

Table 8: List of Acronyms

Acronym	Description	Compliance rating
NC	Non-compliant	0
PC	Partially compliant	1
C	Compliant	2
NA	Not audited	-

The shaded conditions in grey in the compliance table included in Appendix A represent conditions of the Waste Management Licence that were not audited for reasons as outlined in the comments column.

The following observations were made on the day of the audit:

- Waste on the WDF was not compacted or covered and windblown litter was noted on and around the site.
- Waste was being burnt on and around the WDF.
- Significant amounts of waste had accumulated around the MRF and between the MRF and the WDF as there was no plan to move waste from the MRF to the WDF.
- A fire at the MRF had damaged the building and destroyed all the equipment inside.
- Only a small section of fencing was intact near the entrance of the site. The rest of the fencing had been stolen or damaged.
- Stormwater diversion channels around the WDF were filled with waste.
- Large amounts of construction and demolition waste (C&DW) were stockpiled east of the WDF, beyond the footprint of the site.
- Several informal reclaimers were noted on the WDF site and at the MRF and were not wearing appropriate PPE. The informal reclaimers were separating waste outside the MRF (between the MRF and the landfill).

- Several houses and animal pens were constructed near the boundary of the WDF.
- Domestic animals (pigs and dogs) were noted near the MRF foraging on organic waste and cows were noted on the WDF.
- A conservancy tank had protruded from the ground and was damaged causing wastewater (sewage) to flow onto the ground behind the site office.
- No hazardous waste or health care risk waste was noted on site.
- No plant to manage the landfill site were noted on site.
- The weighbridge at the WDF was out of operation due to the fire that occurred at the WDF.

6. Audit findings, results and discussion

6.1. Summary of key non-compliances:

A brief description of the non-compliances noted during the external audit are presented in the table below. The audit checklist provided in List of Appendices Appendix A: Compliance table provides a detailed list of all conditions of the WML and the compliance rating of each condition.

Table 9: A list of non-compliances noted during the external audit

Non-compliances noted during the external audit	Noted during previous external audits	Discussion
Administrative non-compliances		
The SG 21-digit code on the licence is incorrect. The SG21 digit code is listed as C05000000000015800071, the actual code is C05000000000015800071 and C05000000000015800004.	x	The LLM to engage DEADP to correct the conditions of the WML.
The MRF not registered in terms of the National Norms and Standards for the Sorting, Shredding, Grinding, Screening or Baling of General Waste (GN 1093 of 2017)	x	The LLM to register the MRF with the DEADP in terms of the National Norms and Standards for the Sorting, Shredding, Grinding, Screening or Baling of General Waste (GN 1093 of 2017).
Management non-compliances noted on site		
A residents monitoring committee was not established for the WDF	x	The LLM to establish a residents monitoring committee.
Uncontrolled salvaging of materials on the working face	x	The LLM to develop a plan to control the movement of informal reclaimers on the landfill site. The LLM previously attempted to control (disallow) the movement of informal reclaimers on the WDF and the MRF was subsequently burnt due to the resistance shown by the informal reclaimers.
Residents and animal pens for livestock within 150 m of the landfill (the landfill buffer zone)	x	The LLM to engage with residents and develop a plan to move residents and animals outside the 150 m buffer zone of the landfill site.
Informal reclaimers working on site were not wearing appropriate PPE	x	The LLM to develop a plan to control the movement of informal reclaimers onto the landfill site and provide PPE to reclaimers that were identified to work at the MRF or on the landfill site.
Burning of waste noted on site		The LLM to develop a plan to control the movement of informal reclaimers onto the landfill site and compact and cover waste daily to decrease the possibility of the waste being burnt on site. An emergency response plan to

Non-compliances noted during the external audit	Noted during previous external audits	Discussion
		address fires as well as other emergencies should be developed.
Documentation not developed and available on site		
No organic waste diversion plan developed for the WDF	x	The LLM to develop the identified plans and submit these to the DEA&DP for review and approval. Once approved, a copy of these plans to be made available at the landfill site.
No waste minimisation, reduction, recovery, re-use and recycling plan	x	
Landfill management systems and an environmental management plan were not developed and available on site	x	
No documented monitoring and measurement plan for the site	x	
No emergency response plan was developed and available at the WDF	x	
A copy of the EMPr was not available on site	x	A copy of the EMPr should be available at the office on the WDF.
Infrastructure, equipment or plant related non-compliances		
The conservancy tank was broken and wastewater was seeping from the tanks onto the ground behind the site office.	x	The LLM to prioritise the provision of adequate budget for the improvement or replacement of identified infrastructure, facilities and equipment on the landfill site. This will improve the access control, waste management and safety of staff at the landfill site.
Damaged fence and no access control on site.	x	
Entrance gate was not manned.	x	
No stormwater management system in place to drain the working face.	x	
No stormwater management system in place to separate clean and contaminated water.	x	
Signage did not have all required information as per the WML.	x	
Only two boreholes were created at the WDF. The WML however requires that three borehole are available on site for groundwater sampling. The third borehole to be created downstream of the landfill.	x	
Operational non-compliances noted on site		
Windblown litter.	x	The LLM to implement the corrective measures for each non-compliance identified and ensure the landfill site meets the WML conditions. This entirely improves the waste management of the landfill site and minimises the environmental impact of the WDF.
Stormwater runoff channels contain waste.	x	
Authorised height limit of 296mamsl for the landfill was exceeded.	x	
Waste was left uncovered and cover material on the slopes of the landfill has eroded and/or blown away.	x	
No dust suppression or dust management system in place on site.	x	
Animals and vermin were noted at the MRF and on the landfill site.	x	
Waste was not disposed at a designated working face on the landfill site.	x	

7. Compliance rating

An average compliance score is determined from which the overall compliance percentage is determined.

Average compliance score: 1.36

$$\frac{\sum \text{Total compliance score}}{\text{No. of Waste Management Licence conditions audited}} = \frac{106}{78} = 1.36$$

Overall compliance rating: 67.95%

$$\frac{\text{Average compliance} \times 100}{\text{Compliance score of 2}} = \frac{(106/78) \times 100}{2}$$

Table 10: Overall compliance of the Facility.

Description	Results
$\sum$ Total compliance score	106
No. of WML/Permit/EMPr conditions audited	78
Average compliance score	1.36
Score for fully compliant conditions	86
Overall compliance rating	67.95%

Table 11: Status indicator of the Facility.

Compliance rating	Status indicator	Action
85 – 100 %	Green	Minor improvements required
65 – 84 %	Amber	Improvements required
0 – 64 %	Red	Major improvements required

The compliance rating for the Facility from the audit performed falls in the Amber 'status indicator' and the Licence Holder must address the non-compliances noted during the audit and ensure that the compliance improves on site.

8. Conclusions and recommendations

The overall compliance of the landfill site has increased slightly from 67.2% in the October 2019 external audit to 67.95% in the October 2020 external audit. The municipality is commended for achieving the slight increase in the compliance rating. Of concern is that most of the non-compliances noted in the October 2019 audit had not been addressed. Another area of concern is that the LLM had not addressed the administrative non-compliances noted in the 2019 external audit report such as the correction of details on the WML and the submission of plans to the DEADP for review and approval. The LLM should prioritise implementing the corrective measures to address the administrative non-compliances as these do not require additional budget or staff and can be developed by the LLM.

To ensure that infrastructure, facilities and equipment are not further damaged at the WDF, the LLM must improve the access control by reinstating the fence and providing a 24 hour security service at the site.

The LLM have indicated that the damaged plant were receiving the required repairs and should be on site once repaired. This will improve the operations and waste management (spreading, compacting and covering of waste) at the WDF. By ensuring access control at the landfill site and the provision of plant on site to improve the waste management on site, the LLM would address several of the operational non-compliances noted on site.

8.1. Actions to be taken to address non-compliances:

Documentation

The municipality must develop:

- an organic waste diversion plan,
- emergency response plan,
- monitoring and measurement plan, and a
- waste minimisation plan and develop a set of targets for the diversion on waste from the facility.

Operation

- The LLM must form a residential monitoring committee.
- The municipality must look to implement stormwater run-off management practices on-site.
- Waste must be removed from stormwater channels on site.
- Fire extinguishers are needed for the site.
- Waste must be covered and compacted daily.
- The fencing needs to be repaired.
- Daily litter picks need to continue to control windblown litter. Windblown litter will decrease if waste is covered and compacted daily.
- Access control needs to be improved to restrict access to the site by informal reclaimers and animals.

Monitoring

- Gas monitoring needs to be undertaken.
- A third boreholes needs to be installed.

9. Bibliography

- Department of Environmental Affairs and Development Planning. (2020, August 25). Acknowledgement and comment on the July 2020 internal audit report for the Ashton waste disposal facility. Cape Town, Western Cape.
- GIBB (Pty) Ltd. (30 October 2019). *Ashton Waste Disposal Facility Auditing of Site Operations*. Port Elizabeth.
- JPCE. (June 2020). *Langeberg Municipality Landfill Closure Provisions*. Cape Town.
- Langeberg Local Municipality. (15 July 2020). *Ashton Waste Disposal Facility Internal Audit Report*. Ashton.
- Langeberg Local Municipality. (17 December 2019). *Ashton Waste Disposal Facility Internal Audit Report*. Ashton.
- Langeberg Local Municipality. (20 April 2020). *Ashton Waste Disposal Facility Internal Audit Report*. Ashton.
- Langeberg Local Municipality. (23 September 2019). *Ashton Waste Disposal Facility Internal Audit Report*. Ashton.

10. List of Appendices

10.1.Appendix A: Compliance table

Table 12: Compliance checklist for the external audit

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)									
1	Location															
1.1	This License authorizes the Langeberg Local Municipality to operate the Facility on Portion of Portion 4 and Remaining Portion 71 of the Farm Goree No. 158, Division of Ashton, Langeberg Local Municipality.	2- The site is located on portion 4/158 and RE 71/158.	2	The site is located on portion 4/158 and RE 71/158.												
1.2	The location of the entrance to the Facility is: <table><tr><td>Latitude</td><td>Longitude</td></tr><tr><td>33°50'11.40"S</td><td>20°06'04.19"E</td></tr></table> The co-ordinates indicated in the Waste Management License Application Form, signed 23 August 2018, and the Additional Information Annexure, and specifically in the Proposed Operation and Impending Closure of the Existing Ashton waste Management Facility, Western Cape Environmental Management Programme (EMPr), dated 16 January 2019, by Legacy Environmental Consulting, which was appended to the Final Environmental Impact Assessment (EIA) Report, dated March 2019, submitted by the License Holder, are as follows: <table><tr><td>Corner</td><td>Latitude</td><td>Longitude</td></tr><tr><td></td><td>33°50'11.34"S</td><td>20°06'03.91"E</td></tr></table>	Latitude	Longitude	33°50'11.40"S	20°06'04.19"E	Corner	Latitude	Longitude		33°50'11.34"S	20°06'03.91"E	2 The landfill sites and material recovery facility (MRF) are located within the co-ordinates specified in the license. As identified in the previous audit, some cover material is sourced from beyond the boundary of the site.	2	The landfill site and material recovery facility (MRF) are located within the co-ordinates specified in the license. Some cover material was stockpiled and sourced from beyond the boundary of the site.		
Latitude	Longitude															
33°50'11.40"S	20°06'04.19"E															
Corner	Latitude	Longitude														
	33°50'11.34"S	20°06'03.91"E														

Licence No.	Facility - Operational Tasks - Check List				Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	2	33°50'09.64"S	20°06'03.72"E	The License Holder must confirm these co-ordinates at the first topographical survey required in Condition 5.2 and forward these co-ordinates to the Director.						
	3	33°50'09.06"S	20°06'01.98"E							
	4	33°50'06.49"S	20°06'02.97"E							
	5	33°50'05.44"S	20°05'57.86"E							
	6	33°50'02.34"S	20°05'58.90"E							
	7	33°50'03.02"S	20°06'05.45"E							
	8	33°50'03.80"S	20°06'10.52"E							
	9	33°50'07.52"S	20°06'09.89"E							
	10	33°50'11.28"S	20°06'08.76"E							
	11	33°50'10.66"S	20°06'06.79"E							
	12	33°50'11.48"S	20°06'04.28"E							
1.3	SG 21-digit code of the Facility is: C05000000000015800071									
1.4	The footprint of the Facility and its associated infrastructure is 55,415m².				2 - The footprint of the site does not exceed 55,415m².	2	The footprint of the site does not exceed 55,415m².			
2. Permissible Waste										

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
2.1	Any portion of the Facility which has been constructed or developed according to Condition 4, of this License, may be used for the disposal of waste classified as general waste, according to the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA), or any current or future Norms and Standards developed by the Department of Environment Affairs, is authorized.	2- No hazardous waste was observed on the landfill site, however fluorescent light bulbs were noted stored in the MRF.	2	No hazardous waste was observed on the WDF during the audit.			
2.2	If more than 80m ³ of hazardous waste is going to be stored at the Facility, registration in terms of the relevant NEM: WA National Norms and Standards for the Storage of Waste (Government Notice No. 926 of 23 August 2013) must be adhered to.	2 - There is one container on site for the storage of hazardous waste. The storage capacity of the container is less than 80m ³ .	2	No hazardous waste was stored on site.			
2.3	The License Holder must take all steps to ensure that the following are not disposed of at the Facility: -						
2.3.1	Any hazardous waste; and	2 - No hazardous waste was observed on the landfill site, however fluorescent light bulbs were noted stored in the MRF.	2	No hazardous waste was observed on the WDF.			
2.3.2	Any health care risk waste, including pharmaceutical waste, as defined by the Western Cape Health Care Waste Management Act, 2007, (Act No. 7 of 2007)	2 - No health care risk waste (HCRW) was noted on site.	2	No health care risk waste (HCRW) was noted on site.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
2.4	All waste loads must be checked at the gate to prevent the disposal of waste not permitted by this License.	2 - All waste entering the site is checked and recorded at the weighbridge.	2	All waste entering the site is checked and recorded in the incoming waste register.			
2.5	Organic waste is allowed to be disposed of at the Facility but must be in accordance with the Organic Waste Diversion Plan, targets and procedures referred to in Conditions 13.11 of the License.	0 - There is no organic waste diversion plan for the Ashton landfill site.	1	Minimal organic garden waste was noted at the WDF. The LLM diverts organic garden waste from landfill to a service provider who composts the green waste. There is however, no organic waste diversion plan for the Ashton WDF.			
3	Appointment of Waste Management Control Officer						
3.1	The waste management activities that are authorized by this Operating and Closure Waste Management License, must be managed by fit and proper persons who are competent in respect of the responsibilities to be undertaken by them.	2 - The acting site supervisor has 14 years of experience and has received waste management training. Mrs Patricia Claasen oversees the management of the site.	2	An acting supervisor oversees the management of the site and has the adequate experience. The acting supervisor has received waste management training as well.			
3.2	A Waste Management Control Officer (WMCO / Environmental Control Officer (ECO)) must be appointed, who will monitor and ensure compliance and correct implementation of all mitigation measures and provisions as stipulated in this License and EMPr, dated 16 January 2019. The WMCO/ECO must: -	2 - Mr Glenn Slingers is the WMCO.	2	Mr Glenn Slingers is the WMCO.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
3.2.1	Identify and submit potential measures to the License Holder and the License Authority in respect of waste minimization, including the reduction, recovery, re-use and recycling of waste;	0 - No waste minimisation, reduction, recovery, re-use and recycling plan has been submitted to DEA&DP.	1	The municipality was conducting waste diversion, re-use and recycling of waste at the WDF. However, no waste minimisation, reduction, recovery, re-use and recycling plan or measures had been submitted to DEADP.	WMCO	February 2021	Nil. The waste minimisation, reduction, recovery, re-use and recycling plan can be developed by the LLM.
3.2.2	Report any significant non-compliance with any License conditions or requirements or provisions of NEM: WA to the Licensing Authority that may affect the operation of the facility, create nuisance conditions or health hazards, through means reasonably available; and	N/A - There have not been any significant non-compliances since the last audit.	2	The LLM reported the burning of waste at the landfill and the MRF that occurred on 25 May 2020 to DEADP on 25 May 2020.			
3.2.3	Monitor the closure construction activities and ensure that the construction plans are in accordance with the engineering design.	N/A – Closure of the landfill site has not yet commenced.	N/A	Closure of the landfill site has not yet commenced.			
4	Commissioning and Construction of the Activities						
4.1	Closure construction and further development within the proposed WDF must be carried out under the supervision of a Professional Engineer, registered under the Engineering Profession of South Africa Act, 2000 (Act No. 46 of 2000). Any new cell development on the Facility must adhere to a Class B containment barrier design as described in the NEM: WA National Norms and Standards for Disposal of Waste to Landfill, (Government Notice No. R636, dated 23 August 2013), including a lined leachate collection dam. The License Holder must submit any additional design drawings to the Licensing Authority for approval 90 (ninety) days before commencement of the listed waste management activities.	N/A - No construction of expansion of the facility has occurred since the last audit.	N/A	No construction of expansion of the facility has occurred since the last audit.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
4.2	The existing portion of the Facility must be capped with an appropriate infiltration control cap, according to the Design Drawings A228/100, A228/10L Revision 3, and A228/102, dated September 2017, by Jan Palm Consulting Engineers (Pty) Ltd (JPCE) and approved by the Department of Water and Sanitation on 27 February 2019. Design and construction records, including topographical surveys and methodical materials test results, must be recorded, archived and made available to the Director at any time after construction.	N/A - Capping of the facility has not occurred; the site is still operational.	N/A	Capping of the facility has not occurred; the site is still operational.			
4.3	After construction of the closure of the Facility or any further development within the Facility, the License Holder must notify the Director thereof. The person referred to in Condition 4.1 must submit a certificate or alternatively a closure report or letter to the Director that the closure construction of the Facility or further development within the Facility, as proposed by the License Holder and approved by the Director, is in accordance with recognized civil engineering practice and the requirements in this License. Disposal may not commence in any new cells on the Facility until this has happened. If the Director is satisfied with the construction of the Facility and has given written permission, the License Holder may use any further development within the Facility for the disposal of waste.	N/A - The facility is still operational.	N/A	The facility is still operational.			
4.4	Operational works on the Facility must be constructed and maintained on a continuous basis by the License Holder to divert all stormwater arising on land adjacent to the Facility, which could be expected as a result of the estimated maximum precipitation during a period of 24 (twenty-four) hours with an average frequency of 1:50 (one in fifty)	1 - There are cut-off drains to divert stormwater away from the waste body, however waste has	1	There are cut-off drains to divert stormwater away from the waste body, however stormwater channels had not been maintained and waste has accumulated in these channels.	WMCO	December 2020 and on-going	Nil, equipment and employees to be used to remove waste from the channels and regular removal of waste from channels to be

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	years (hereinafter referred to as the "estimated maximum precipitation"). Such works will, under the said rainfall event, maintain a freeboard of half a meter	accumulated in these channels.					undertaken going forwards.
4.5	Operational works on the Facility must be constructed and maintained on a continuous basis by the License Holder to divert and drain from the working face of the Facility, all runoff water arising on the waste body on the Facility, which could be expected as a result of the estimated maximum precipitation. Any contaminated runoff water and leachate, if required, from the Facility must be collected and retained in appropriately lined works. Such works will, under the said rainfall event, maintain a freeboard of half a meter and be lined to the satisfaction of the Licensing Authority to prevent pollution of groundwater and drain from the Facility in a legal manner.	0 There is no stormwater management system in place to drain the working face.	0	There is no stormwater management system in place to drain the working face.	WMCO	Due to the limited remaining lifespan of the site it is recommended that this condition is addressed during closure of the landfill site	R1,391,935.09 for stormwater control measures and R 813,498.63 for leachate management system (JPCE, 2020).
4.6	Runoff water referred to in Condition 4.5 will only be released into the environment if it complies to with the quality requirements of the General Standard, prescribed in terms of Government Notice No. 665, the "Revision of the General Authorizations in terms of section 39 of the National Water Act, 1998 (Act No. 26 of 1998)(The Act)" of 6 September 2013, or with such quality requirements as may from time to time be determined by the Minister of Water and Sanitation or with special permission from the Director: RPW and will be drained from the Facility in a legal manner.	N/A – No run-off was available for sampling.	N/A	No run-off was available for sampling.			
4.7	Runoff water referred to in Condition 4.5 which does not comply with the quality requirements applicable in terms of Condition 4.6 and all sporadic leachate from the Facility must, by means of works which must	N/A - No run-off was available for sampling.	N/A	No run-off was available for sampling.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	be constructed (refer to page 14 in the Ashton Waste Disposal Site Operation, Management and Rehabilitation Plan, dated 18 October 2018 by JPCE (Pty) Ltd -Storm Water. Control and page 15 of the same Report - Leachate Management and maintained on a continuous basis by the License Holder and be lined as approved by the Director to prevent pollution to groundwater:						
4.7.1	Be treated to comply with the aforementioned standard and discharged in a legal manner; and/or;	N/A - No run-off was available for testing.	N/A	No run-off was available for testing.			
4.7.2	With the written approval of the Director, be evaporated in lined dams as approved by the License Authority; and/or	N/A - There are no evaporation dams on site.	N/A	There were no evaporation dams on site.			
4.7.3	Discharge into any convenient sewer only if accepted in writing by the authority in control of the sewer.	N/A - No run-off is diverted to sewer.	N/A	No run-off was diverted to a sewer.			
4.8	Install a proper stormwater diversion system and runoff water collection system to separate clean and dirty water.	1 - Although there are channels to divert stormwater away from the waste body there is no system in place to manage stormwater on site.	1	Although there were channels to divert stormwater away from the waste body there was no system in place to manage stormwater on site and separate clean and dirty water.	WMCO	Due to the limited remaining lifespan of the site it is recommended that this condition is address during closure of the landfill site.	R1,391,935.09 (JPCE, 2020) Note, this is duplication of the budget required for item 4.5.
4.9	If required, install a leachate collection tank or lined pond on the downstream side of any new cell of the Facility to collect any sporadic leachate or	N/A - There is no leachate	N/A	There is no leachate collection system on site.			A leaching management system is proposed for the closure

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	potentially contaminated water from the toe of the Facility.	collection system on site.					of the landfill site with a cost of R 813,498.63
4.10	No further development may be allowed, without the written agreement of the land owners (refer to the Interested and Affected Persons/Parties (I&AP) Agreement Forms that form part of Appendix D: Public Participation Process of the Final EIA Report), within a buffer zone of 150 (one hundred and fifty) meters around the Facility. This buffer zone must be maintained.	0 - There are informal structures and houses present within 150m of the edge of the site. There is no evidence of engagement with the surrounding community to request them the voluntarily vacate the buffer zone as recommended in the previous audit.	0	There are informal structures and houses present within 150m of the edge of the site. <i>There is no evidence of engagement with the surrounding community to request them the voluntarily vacate the buffer zone.</i>	WMCO/ LLM Housing Dept.	January 2021 – to start discussions with the surrounding community	Nil. Initial discussions with the surrounding community to be undertaken in-house by the LLM. Costs to move households TBC by the LLM.
4.11	Should a new waste disposal cell be approved by the Director, this new cell must be lined with a containment barrier that must adhere to a Class B barrier system, as per GN No. R.636,	N/A - No new cells have been constructed.	N/A	No new cells have been constructed.			
4.12	As part of the operation, the Facility must be constructed in accordance with recognized civil engineering practice to ensure that it remains stable.	2 - Based on visual inspections the site appears to be stable.	2	Based on visual inspections the site appears to be stable.			
4.13	Side slopes will be kept to a maximum of 1 v: 3h to ensure stability, minimize erosion and promote vegetation growth.	2 - Based on visual inspections the slopes do not appear exceed	2	Based on visual inspections the side slopes of the WDF do not appear to exceed the 1v:3h.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		1v:3h. This will be confirmed though a review of the survey data.		This was confirmed though a review of the survey data.			
4.14	Any development which occurs within the 1: 100 (one in a hundred)-year flood line and/or within 500 (five-hundred) meter from the boundary of a wetland would require a Water Use License in terms of section 21 of the National Water Act. 1998 (Act 36 of 1998).	N/A - To be noted.	N/A	To be noted.			
4.15	The final contours of the waste body, including the final capping layers, may not exceed the contours as indicated in Drawing No; A228/10I, Revision 3, dated September 2017, by JPCE and attached as Annexure III, to a maximum height of 296 meter above mean sea level. The License Holder must fill the waste body towards the final contours throughout the operational phase, to prevent unnecessary cut-to-fill excavations into the waste during the closure and rehabilitation of this Waste Disposal Facility and must cease all disposal of waste before these final contours are reached, taking the thickness of the capping layers into consideration. Annual topographical surveys of the Facility must be done and submitted to the Director as required in Condition 5.2.	1 - The site is still operational, based on the September 2019 survey some areas on the site have been overbuilt and exceed the allowable height of the site.	1	The site is still operational but based on the October 2020 survey, the airspace has been exhausted and some areas on the site have been overbuilt and exceed the allowable height and contours of the site. These observations were made against the end use design, not solely on the height restriction. Should the waste be spread over the site it would still exceed the maximum allowed height.	WMCO	January 2020	TBC – the cost will depend on whether LLM continues to use the Ashton landfill site. The more waste which is incorrectly disposed of on site the greater the cost will be to rectify the situation.
4.16	After the disposal of waste has ceased the License Holder must immediately inform the Director thereof and thereafter the Director will issue Directives regarding the capping and rehabilitation of the Waste Disposal Facility	N/A - The site is still operational.	N/A	The site is still operational.			
5.0	General Management						

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
5.1	The EMPr dated 16 January 2019, submitted as part of the Final EIA Report, is hereby approved and must be implemented together with all the conditions of this License.	N/A - To be noted.	N/A	To be noted.			
5.2	The License Holder must within 12 (twelve) months of the date of signature of this License undertake a topographical survey of the Facility, confirm the actual corner co-ordinates and use the data to calculate the side slope angles and the remaining volume of airspace on the Facility and compare this survey to the final contours, as specified in Drawing A228/101 Revision No. 3, dated September 2017 of the Ashton Waste Disposal Site Operation. Management and Rehabilitation Plan also attached as Annexure III of this License, and determine the estimated remaining time left for the disposal at the Facility before the closure and rehabilitation. These findings must be submitted to the Director in writing annually.	2 - A topographical survey was undertaken as part of the external audit. The survey is attached in Appendix D.	2	A topographical survey was undertaken as part of the external audit. The survey is attached in Appendix D. The survey which compares the aerial survey of October 2019 with the aerial survey of October 2020, confirms that there is no remaining airspace at the landfill based on the allowed height and subsequent total volume of waste.			
5.3	An application for the amendment to the EMPr must be submitted to the Director if any further amendments are to be made to the EMPr and this may only be implemented once the amended EMPr has been authorized by the Director.	N/A - No amendments to the EMPr have been requested by the LLM.	N/A	No amendments to the EMPr have been requested by the LLM.			
5.4	The EMPr must be included in all contract documentation for all phases of implementation.	N/A - To be noted.	N/A	To be noted.			
5.5	The License Holder must notify the Director immediately of any events or incidents that may cause significant environmental damage or significant breach of the requirements of the EMPr.	N/A - No significant incidents have occurred on site since the last external audit.	2	The fire that occurred on 25 May 2020 at the MRF that destroyed the equipment in the MRF and the electrical supply to the weighbridge. The incident was reported to the DEADP by the LLM on 25 May 2020. The			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
				municipality has since been unable to adequately sort waste and waste tonnages are now estimated based on waste volumes entering the landfill.			
5.6	Any persons having duties that are or may be affected by the matters set out in this License must have convenient access to a copy of it, kept at or near the place where those duties will be carried out.	2 - A copy of the waste management license is available in the weighbridge office on site.	2	A copy of the waste management license was available in the weighbridge office on site.			
5.7	A copy of this License and the EMPr must be kept at the Facility where the waste listed activities will be undertaken. The License and EMPr must be produced to any authorized official of the Department who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein and must be made available for inspection by any employee or agent of the License Holder who works or undertakes work at the Facility.	2- Documentation is available in the site office.	1	A copy of the WML for the WDF was available at the weighbridge office. A copy of the EMPr was however not available in the weighbridge office.	WMCO	Immediately	Nil. The EMPr to be printed and placed in the environmental file on site.
5.8	The License Holder will remain responsible for the Facility, and/or any of the impacts arising from the operations on the environment.	N/A - Noted.	N/A	Noted.			
6. Impact Management							
6.1	The License Holder must:						
6.1.1	Notify the Director immediately of events or incidents that may cause significant environmental damage or breach the requirements of the EMPr.	N/A - No significant incidents have occurred on site	2	The fire that occurred at the MRF that destroyed the equipment in the MRF and the electrical supply to the weighbridge was reported to			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		since the last external audit.		the DEADP by the LLM. The municipality has since been unable to adequately separate waste and waste tonnages are now estimated based on waste volumes entering the landfill.			
6.1.2	Ensure that effective vector (flies and vermin) control measures are in place and that these are maintained.	1 - Some flies were noted on site.	0	No vector control measures were in place or maintained at the landfill site.	WMCO	Immediately	Nil additional costs to the LLM as this forms part of the LLMs operational costs. All waste at the landfill to be moved to the work face of the landfill site and more frequent covering of waste is required to minimise vectors on site.
6.1.3	Ensure that effective dust control is exercised to avoid any dust emanating during the construction, operational and closure phases from the processing of the waste as well as access roads where there is a potential for dust generation.	0 - No systems are in place on site to manage dust. It was noted that excessive dust was being generated from vehicles driving on the site.	0	No systems are in place on site to manage dust on site. It was noted that excessive dust was being generated from vehicles driving on the site.	WMCO	Immediately	Nil additional costs to the LLM as this forms part of the LLMs operational costs. The LLM to exercise dust control measures especially on access roads such as soil dampening when required. Vehicles on site to drive 20 km/h or slower to avoid dust occurrence.
6.1.4	If required, a specific area must be demarcated for fueling and workshop services and such an area must be bunded to reduce the possibility of soil and water contamination.	0 - The landfill site compactor was refuelled on an unsurfaced area.	N/A	No plant were on site on the day of the audit and no workshop services were conducted on the day of the audit. The LLM should ensure that condition is			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
				implemented once the plant returns to site.			
6.1.5	Ensure that the provisions of the Occupational Health and Safety Act 1993 (Act No. 85 of 1993) are met to ensure the health and safety of all staff.	1 - Employees have access to suitable ablution facilities and potable water, however employees in the MRF were not all fully equipped with PPE. The workers have all been issued with gloves and masks but not all employees had been provided with safety boots.	2	Staff of the LLM have access to suitable ablution facilities and potable water, and were fully equipped with PPE (safety boots, overalls, gloves, and masks).	WMCO	Immediately	Approximately R800 per person for PPE. Total costs depends on waste reclaimers designated to work on the landfill site and in the MRF. Total costs TBC by the LLM.
6.2	Any complaints from the public must be attended to by the License Holder, who must take all reasonable and practical steps to alleviate the causes of the complaints within a reasonable timeframe to the satisfaction of the Director and record it in terms of Conditions 12 and 13.	N/A - No outstanding complaints were recorded in the complaints register.	2	Most of the complaints recorded in the complaints register by the staff and the public were regarding the fires that occurred at the WDF. It was recorded that fires at the WDF were started by informal pickers. Complaints are attended to by the LLM. Access control must be improved at the WDF to minimise the occurrence of burning of waste.			
7.	Operation						
7.1	Facility, Security & Access Control						

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
7.1.1	The License Holder must prevent unauthorized access to the Facility, by having the Facility enclosed with a fence of 1.8 m and a gate with the same height.	1 - The site is fenced and there is a gate at the entrance. Large sections of the fence had been blown over due to windblown plastic waste accumulating on them. As the fence was damaged access control was no possible. Informal pickers were noted on site.	1	The site was only fenced at the entrance of the landfill and there is a gate at the entrance. However, most of the fence was damaged, stolen or had been blown over due to windblown plastic waste accumulating on them. As the fence was damaged, access control was not possible and informal pickers were noted on site.	WMCO	February 2021	R1,877,856.19 to replace the fence (Landfill Site Closure Provisions, 2020 JPCE).
7.1.2	All entrance gates must be manned during the hours of operation and locked outside the hours of operation.	1 - The entrance gate was not manned, however the weighbridge was in operation and a weighbridge clerk was working.	1	The entrance gate was not manned, however the weighbridge clerk managed access control (sign-in) of vehicles at the entrance gate. The entrance gate was locked outside the operation hours of the landfill.	WMCO	Immediately	Nil if existing employees on site can be posted as a gate controller.
7.1.3	Weatherproof, durable and legible notices must be displayed at each entrance to the Facility in at least 3 (three) of the official languages applicable in the area. These notices must prohibit unauthorized entry, state the hours of operation, include the type of waste permissible, the name, address and	1 - The site had signage in three different languages (English, Afrikaans and	1	The site had signage in three different languages (English, Afrikaans and isiXhosa). The notice board informs of operating times. the sign does not contain the address of the	WMCO	February 2021	R20,000 to purchase a new sign. Less budget will be required if amendments (add the address and update WML reference)

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	telephone number of the License Holder and the person responsible for the operation of the Facility. Signage must also be displayed for each of the waste activities on the Facility.	isiXhosa). The notice board informs of operating times. The sign does contain the address of the LLM. The WML number on the signage did not match that of the license.		LLM. The WML number on the signage did not match that of the license.			can be made to the existing sign.
7.2	Facility Management and Operations						
7.2.1	Waste may be pre-processed within the enclosed Material Recovery Facility (MRF) where as much recyclable material can be recovered as practically possible, builders' rubble crushed (not in enclosed area) or garden waste chipped (not in enclosed area), without the creation of any nuisance conditions such as wind-blown litter, odours, flies, vermin or noise. All residual waste material must be transported to the working face of the Waste Disposal Facility for controlled disposal, as soon as practically possible to avoid the decomposition of the waste. This MRF, and possible future crushing and / or chipping areas will be located on the licensed area. However the MRF, crushing and chipping areas and its waste management activities may, depending on the volumes of waste treated and areas used, be subject to NEM:WA National Norms and Standards relevant for the storage, sorting, shredding, grinding, crushing, screening or baling of waste and therefore will not be regulated by this License. The closure of these facilities is also not	0 - The MRF has not yet been registered in terms of the National Norms and Standards for the Sorting, Shredding, Grinding, Screening or Baling of General Waste (GN 1093 of 2017). The facility has an operational area of less than 1,000m ² however the norms and standards require any facility where waste is	0	The MRF has not yet been registered in terms of the National Norms and Standards for the Sorting, Shredding, Grinding, Screening or Baling of General Waste (GN 1093 of 2017). The facility has an operational area of less than 1,000m ² however the norms and standards require any facility where waste is sorted or baled must be registered with DEA&DP. The facility may also need to be registered in terms of the National Norms and Standards for the Storage of Waste (GN 926 of 2013) as the facility has the capacity to store in excess of 100m ³ of general waste.	WMCO	January 2021	Nil, the LLM can prepare and submit the registration applications in-house.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	linked to the final contours of the Waste Disposal Facility and may continue operating after the WDF may no longer accept waste.	sorted or baled must be registered with DEA&DP. The facility may also need to be registered in terms of the National Norms and Standards for the Storage of Waste (GN 926 of 2013) as the facility has the capacity to store in excess of 100m ³ of general waste.					
7.2.2	Waste disposed of at the Facility must only be disposed of at a designated working area that is as small as practically possible.	1	0	Waste was not disposed of at a designated working area that was practically small as possible. Waste was disposed across the WDF site and around the MRF.	WMCO	Immediately	Nil. The LLM should dispose of waste at one designated working area within the landfill. The waste should be stockpiled in a phased manner to minimise the extent of the working face.
7.2.3	Before the end of the working day, all the waste that is disposed of, must be spread, compacted and covered with sufficient suitable cover material, that is stockpiled near the working face.	1 - Waste is not covered on a daily basis due to a lack of available cover material. The compactors is	0	Waste was not spread, compacted or covered on a daily basis due to a lack of available plant on site. Plant was used once or twice a month to move, spread, cover and compact waste at the	WMCO	January 2021	Nil. The plant required to manage the site was damaged and LLM intends to repair the plant. The LLM is currently sourcing funds to repair the plant. Sufficient

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		operating on site on a daily basis.		landfill. Sufficient cover material was sourced and stockpiled outside the footprint of the WDF.			cover material was stockpiled west of the site and should be used to cover the waste once the plant is on site.
7.2.4	The License Holder must take all reasonable steps to ensure the Facility is operated in a manner which will prevent the creation of nuisance conditions or health hazards, such as vectors (flies and vermin), exposed waste, dust, windblown litter, obnoxious odours and noise;	1 – Uncovered waste, windblown litter and dust emissions from vehicles using the site were noted during the audit. A lack of cover material is preventing waste being covered on a daily basis.	0	Uncovered waste, windblown litter, vectors (flies), obnoxious odours and dust generation from vehicles using the site were noted during the audit. A lack of plant on site is preventing waste being covered on a daily basis and the control of nuisances on site. The conservancy tank (septic tank for wastewater) that is in a very poor condition is also a source of potential health risks.	WMCO	Immediately	R15,000.00 to replace the conservancy tank at the landfill site and obtain a water bowser to wet the access road for dust suppression when required. The upgrade of the access roads to the landfill would be more costly. Cost to repair plant TBC by the LLM. More regular covering of waste will assist in addressing exposed waste and windblown litter. Once the plant for the landfill site is repaired the waste can be covered on a daily basis. The LLM has budgeted for the repairs of the plant at the landfill site.
7.2.2	The License Holder must apply sufficient dust control measures to prevent wind-blown dust.	0 - No measures to address dust were in use during the audit.	0	No measures to address dust were in use during the audit. Soil dampening should be conducted when required (especially during dry periods and when high wind speeds are	WMCO	Immediately	R 5,000 for a horizontal water bowser. Nil for training of staff to adhere to speed limits.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
				experienced) and vehicles on site should not drive more than 20 km/h to minimise dust generation on site.			R 4,500.00 for two speed limit signs on the WDF
7.2.3	No reclamation of waste may take place on the waste body,	0 - Informal reclaimers were working on the waste body.	0	Informal reclaimers were working on the waste body.	WMCO	February 2021	Informal reclaiming can only be stopped once access control and security is improved on site. The site would need to be fenced as per condition 7.1.1. and security guards would need to patrol the site 24 hours a day to remove informal reclaimers.
7.2.4	All persons reclaiming waste at the designated facilities or officially working on the WDF must be wearing suitable personal protection equipment.	1 - Employees in the MRF were not all fully equipped with PPE. The workers have all been issued with gloves and masks but not all employees have been provided with safety boots. Informal reclaimers do not have PPE.	2	The LLM staff were fully equipped with PPE. At the time of the audit no persons (workers) were designated to work in the MRF or on the landfill to reclaim waste in the MRF and on the WDF.	WMCO		
7.2.5	Waste may not be burned at the Facility.	2 - No burning of waste was occurring during the audit. There was evidence of	0	Burning of waste was noted on the landfill site and surrounding the landfill site on the day of the audit. The incident register also indicates that several	WMCO	February 2021	R1,877,8562.19 to install a new perimeter fence (Landfill Site Closure Provisions, 2020 JPCE).

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		fires in the area immediately adjacent to the landfill site and evidence of the fire which occurred on 22 January 2019. No subsequent fires have been recorded in the incident register on site.		incidences of burning of waste had occurred on the landfill. The fires on site were mainly started by the informal reclaimers on site. The LLM needs to reinstate the fence and place security guards on site to improve the access control on site and ensure that burning of waste does not reoccur on site.			The costs of security services TBC by the LLM.
7.2.6	An Emergency Response Plan (ERP) must be developed and all staff must be trained in the implementation thereof. The ERP should be regularly updated and must include fire excavations, injury on duty, accidents, procedures caused by unexpected hazardous waste which entered the Facility.	0 - There is no emergency response plan for the site.	0	There is no emergency response plan for the site.	WMCO	January 2021	Nil. The plan can be developed in-house and training can also be undertaken in-house. Training records must be kept and made available for inspection during future audits.
7.2.7	The Facility must comply with the Provincial Noise Control Regulations P.N. 200/2013, as promulgated under the Environmental Conservation Act, 1989 (Act No. 73 of 1989).	N/A - No noise monitoring records were available for the audit team to review to determine if the facility complies with noise control regulations. No complaints related to noise have been	N/A	No noise monitoring records were available for the audit team to review to determine if the facility complies with noise control regulations. No complaints related to noise have been recorded in the complaints register.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		recorded in the complaints register.					
7.2.8	The License Holder shall take all reasonable steps to maintain service roads in a condition which ensures unimpeded access to the Facility for vehicles transporting waste and keep the roads free of waste	2 - The access roads were in a good condition.	1	The access roads to the landfill were in a good condition. The service roads on the west and east of the landfill site were covered in waste as there was no plant on site to move waste to the current disposal area on the landfill site.	WMCO	January 2021	Nil. The LLM have budgeted for the repairs of plant to be used on site. Once repaired and on site, the LLM should be able to clear waste from the service roads and move this on the landfill site.
8.	Environmental Pollution Investigations						
8.1	If, in the opinion of the Director, any environmental pollution, nuisances or health risks may be or are occurring on the Facility, the License Holder must investigate the cause of the problem and take reasonable steps to alleviate the problem in consultation with the Director.	N/A	N/A				
8.2	Should the investigation carried out as per Condition 8.1 above reveal any unacceptable levels of pollution, the License Holder must submit a report with mitigation measures to the satisfaction of the Director.	N/A	N/A				
9	Monitoring						
9.1	Monitoring and Measurement Plan						
9.1.1	The License Holder must put in place a monitoring and measurement plan that must amongst others include	0 - There was no documented monitoring and measurement plan for the site.	0	There was no documented monitoring and measurement plan for the WDF.	WMCO	February 2021	Nil. The monitoring and measurement plan can be developed in-house.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
9.1.3.1	Tonnage received, recovered, recycled , treated and transferred;	2	1	There was no documented plan in place to address how tonnage of waste received, recovered, recycled are recorded. Waste tonnages are recorded at the WDF for all waste types disposed and diverted from the WDF.	WMCO	N/A	
9.1.3.2	Waste types and sources;	1 - There was no documented plan in place to address how waste types and sources are recorded. The site has a weighbridge which is used to record waste entering the site.	1	There was no documented plan in place to address how waste types and sources are recorded. The site has a weighbridge which is used to record waste entering the site. The weighbridge was not operational on the day of the audit, due to the fire that occurred at the WDF. The LLM has since recorded all waste volumes and types entering the WDF to estimate the tonnage of waste entering the site.	WMCO	January 2021	Nil. The monitoring and measurement plan can be developed in-house.
9.1.3.3	Air quality monitoring, when required by the Director as part of investigative monitoring;	1 - There was no documented plan in place to inform gas monitoring. Gas monitoring was undertaken by DEA&DP in 2018.	1	There was no documented plan in place to inform gas monitoring. Gas monitoring was undertaken by DEA&DP in 2020.	WMCO	January 2021	<u>Monitoring plan</u> Nil to develop the monitoring and measurement plan as this can be developed in-house. <u>Gas monitoring</u> Nil if DEA&DP can undertake gas monitoring on behalf of the LLM.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
							R28,500 to purchase a gas monitor. A consultant can be appointed to assess air quality – R21,100
9.1.3.4	Water quality monitoring; and	1 - There is no documented plan in place to inform water quality monitoring. Groundwater monitoring was undertaken during the audit.	1	There is no documented plan in place to inform water quality monitoring. Groundwater monitoring was undertaken during the audit.	WMCO	January 2021	Nil. The monitoring and measurement plan can be developed in-house. Groundwater analysis forms part of the scope of works of the external auditor.
9.1.3.5	Yearly (once a year) topographical survey.	1 - There is no documented plan in place to inform topographical surveys. Two topographical surveys have been undertaken in the last 12 months, one in January and one in September.	1	There is no documented plan in place to inform topographical surveys. One topographical survey was undertaken as part of the external audit.	WMCO	January 2021	Nil. The monitoring and measurement plan can be developed in-house. Topographical surveys form part of the scope of works of the external auditor.
9.2	Water Monitoring						
9.2.1	The License Holder must establish and maintain a ground water monitoring network as recommended in the Groundwater Specialist Report, referenced:	1 - There are currently two monitoring	1	There are two monitoring boreholes on site, one upstream and one downstream of the site.	LLM	An additional downstream borehole to be	R 80,000.00 - R100,000.00. The cost includes siting, drilling and contractor's

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	C00720-ENY-GWSR-OI, dated 08 November 2017, by Advisian Worley Parsons Group as well as the Record of Decision from the Department Water and Sanitation, dated 26 July 2019, with at least one upstream and two downstream boreholes, within 6 (six) months of obtaining this license, so that unobstructed sampling, as required in terms of this License, can be undertaken.	boreholes, one upstream and one downstream of the site. Only the upstream borehole had water in it. No sampling on the downstream borehole was possible due to it being dry. One of the new license conditions is that a third borehole be established.		Both boreholes had water in them and sampling was done on both during the audit. One of the new license conditions is that a third borehole be established.		installed by end of 2021.	costs. Drilling of the borehole will also depend on underlying geology and the depth to groundwater.
9.2.2	Monitoring boreholes must be equipped with lockable caps. The Director and the Director: RPW reserve the right to take water samples at any reasonable time and to analyse these samples or have them analysed.	2 - Both boreholes are equipped with lockable caps.	2	Both boreholes are equipped with lockable caps.			
9.2.3	When possible, surface water monitoring must be performed in all runoff water retention structures that discharge to the natural environment at locations selected in conjunction with the Director and at such a frequency as determined by the Director.	N/A - It was not possible to undertake surface water sampling because all potential surface water bodies were dry.	N/A	It was not possible to undertake surface water sampling because all potential surface water bodies were dry.			
9.2.4	Monitoring for groundwater quality must be conducted for variables listed in Annexure II of this License.	2 - No samples were collected during the previous audit.	2	The samples from both boreholes was tested against the variables in Annexure II of the licence. Results are			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		The sample from BH1 will be tested against the variables in Annexure II.		provided in Appendix D of the audit report.			
9.3	Detection monitoring						
9.3.1	Monitoring for groundwater and runoff water will be conducted: (a) for variables listed in Annexure 11- bi-annually (twice each year); (b) or at such frequency as may be determined by the Director or the Director: RPW.	2 - The boreholes were dry in January. One sample was collected from BH1 in September.	1	Sampling on the boreholes were only conducted once in the past 12 months. The samples from both boreholes were tested against the variables in Annexure II of the licence and are presented in Appendix D of the audit report.		Bi-annually (twice per year)	In-house ground water monitoring costs: Borehole pump (Franklin) – R 12,000.00 Lab costs for 2 samples – R 2,600.00 Nil Labour Costs for LLM staff Consultant costs for 1 bi-annual sample: R22,500.00
9.4	Investigation monitoring						
9.4.1	If, in the opinion of the Director or Director: RPW, a water quality variable listed under the detection monitoring programme, as referred to in Condition 9.3, shows an increasing trend, the License Holder may be required initiate a monthly monitoring programme	N/A	N/A				
9.5	Further investigation						
9.5.1	If, in the opinion of the Director or Director: RPW, groundwater and/or stormwater pollution have occurred or may possibly occur, the License Holder must conduct and/or appoint specialists to conduct the necessary investigations and	N/A	N/A				

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	implement monitoring and rehabilitation measures to the satisfaction of the Director or Director: RPW						
9.6	Post-closure monitoring						
9.6.1	Groundwater monitoring by the License Holder, in accordance with Condition 9.2, will continue after closure of the Facility and be maintained for a period of 30 (thirty) years; or such lesser period as may be determined by the Director or Director: RPW.	N/A The site is still operational.	N/A	The site is still operational therefore this condition is not applicable.			
9.7	Monitoring Methods and Parameters						
9.7.1	The License Holder must carry out all tests required in terms of this License in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), referred to in the Standards Act, 2008 (Act No. 8 of 2008) to analyse the sample as taken under the monitoring programme specified in Condition 10.2.1.	2 The groundwater monitoring was undertaken in accordance with the SABS standards.	2	The groundwater monitoring was undertaken in accordance with the South African Bureau of Standards (SABS) standards.			
9.7.2	The License Holder may only use another method of analysis if written proof is submitted to and accepted by the Director or Director: RPW, specifying that the method to be used is at least equivalent to the SABS method.	N/A	N/A				
10	Auditing						
10.1	Internal Audits						
10.1.1	Internal audits must be conducted quarterly (four times a year) by the License Holder and on each audit occasion an. official report must be compiled by the relevant auditor, in the format prescribed by the Director to report the findings of the audits, which must be made available to the external auditor specified in Condition 11 .2 to be included in the	2 - The site is audited quarterly by the LLM, the last audit were undertaken as follows: September 2018 December 2018	2	The site was audited quarterly by the LLM, the last audits were undertaken as follows: 23 September 2019 17 December 2019 20 April 2020 15 July 2020			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	external audit report and submitted to the Director as instructed.	March 2019 June 2019					
10.2	External Audits						
10.2.1	The License Holder must appoint an independent external auditor to audit the Facility annually (once a year) and this auditor must compile an audit report documenting the findings of the audit, which must be submitted by the License Holder to the Director.	2 - The last external audit was undertaken in January 2019.	2	The last external audit was undertaken in September 2019.			
10.2.2	The audit report must: -						
10.2.2.1	Specifically state whether conditions of this License are adhered to;	2 - The previous audit report assesses compliance with all license conditions.	2	The previous audit report assessed compliance with all license conditions.			
10.2.2.2	Include or interpretation of all available data and test results regarding the operation of the Facility and all its impacts on the environment;	2 - The previous audit reports summarises waste disposal and recycling data. There were no monitoring results to include in the report.	2	The previous audit reports summarised waste disposal and recycling data. The groundwater sampling (monitoring) results were included in the report.			
10.2.2.3	Contain recommendations regarding non-compliance or partial non-compliance with the License conditions and must propose specific target dates for the implementation by the License Holder of the recommendations.	2 - The audit report contained actions and timeframes to address non-compliances.	2	The audit report contained recommendations regarding non-compliance or partial non-compliance and timeframes to address non-compliances.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
10.2.2.4	Must be submitted to the Residential Monitoring Committee (hereinafter referred to as the "Monitoring Committee"), provided in Condition 12 below, within 3 (three) months from the date on which the external auditor finalized the report.	N/A - There is no residential monitoring committee for the site.	N/A	There is no residential monitoring committee for the site.			
10.2.2.5	Must be submitted to the Director within 30 (thirty) days from the date on which the external auditor finalized the report.	2 - The audit report was submitted to DEA&DP within 30 days of the report being finalised.	2	The 2019 audit report was finalised on 30 October 2019 and submitted to DEA&DP on 12 November 2019.			
10.2.2.6	Specify whether corrective action which was taken for the previous audit's non-compliance was adequate.	1 - Section 2.3 of the January 2019 audit report specifies corrective actions, it however does not state whether corrective actions taken since the previous audit were successful.	2	Section 2 of the September 2019 external audit report compares the recommended corrective action of the January 2019 audit to the October 2019 audit. An indication on whether the corrective action was implemented or not is also presented in section 2 of the audit report. As many of the NCs noted in the January 2019 were not addressed, the October 2019 audit could not determine whether the corrective measures recommended were adequate.			
10.2.2.7	Must be in accordance with the format as prescribed by the Director.	1 - The audit report is in the format prescribed by DEA&DP. The previous audit	2	The audit report was in the format prescribed by DEA&DP.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		report did not specify the financial provisions required to address findings.					
10.3	Departmental Audits and Inspections						
10.3.1	The Director or the Director: RPW reserve the right to audit and/or inspect the Facility without prior notification at any time and frequency as may be determined by the Director or Director: RPW, or to have the Facility inspected.	N/A	N/A	Specifications of condition 10.3 are to be noted by the LLM and are beyond the scope of the external audit.			
10.3.2	The License Holder must make any records or documentation available to the Director or Director: RPW upon request, as well as any other information the Director or Director: RPW may require.	N/A	N/A				
10.3.3	The findings of these audits or inspections must be made available to the License Holder within 60 (sixty) days of the end of the audit or inspection. Information from the audits must be treated in accordance with the Promotion of Access to Information Act, 2000 (Act No. 2 of 2000).	N/A	N/A				
11	Monitoring Committee						
11.1	The License Holder must establish and take all reasonable steps to maintain and ensure the continued functioning of the Ashton / Zolani (adjacent area) Monitoring Committee for the normal operative lifetime of the Facility.	0 - There is no residential monitoring committee for the site.	0	There is no residential monitoring committee for the site.	WMCO	February 2021	Nil. LLM to engage with rate payers association, local environmental organisations and DEA&DP to establish a monitoring committee.
11.2	The Monitoring Committee will be representative of relevant interested and affected persons and may consist of at least the following persons:	N/A	N/A				

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
11.2.1	License Holder and/or his appointed consultant(s) or advisor(s);	N/A	N/A				
11.2.2	Representative(s) of the Health, Environment and/or Waste Departments of the relevant local authority;	N/A	N/A				
11.2.3	Representative(s) of the Provincial Government responsible for waste management and environmental functions; and	N/A	N/A				
11.2.4	At least 3 (three) persons/parties, or their representatives elected by the adjacent local residents.	N/A	N/A				
11.3	The Monitoring Committee will meet at least once a year and not later than 30 (thirty) days after the yearly external audit report specified in Condition 10.2 has been submitted according to Condition 13.7.	N/A	N/A				
11.4	The License Holder must keep minutes of all meetings of the Monitoring Committee and must ensure the distribution of these minutes to all members of the Monitoring Committee within 14 (fourteen) days after the meeting, even when no quorum, as specified in the Monitoring Meeting Constitution, was present. Proof of the invitations and the minutes must be recorded and be made available upon request.	N/A	N/A				
12	Record Keeping						
12.1	The License Holder must keep records of all monitoring results, nuisances and complaints at the Facility.	2 - A complaints register is kept in the weighbridge/ site office. No monitoring was undertaken during the last	2	A complaints register is kept in the weighbridge/ site office. Groundwater monitoring results of the previous external audit were available from the WMCO. No surface water or air emissions monitoring was conducted			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		internal or external audits.		since the previous external audit.			
12.2	Accurate records of waste volumes or masses received and recovered must be kept at the Facility and reported to the Director as per Condition 14.8	2 - All waste entering the facility is recorded using the weighbridge. Waste records are reported to the IPWIS.	2	The volume of all waste entering the facility was recorded, was converted to an estimated mass and were reported to the IPWIS. The weigh bridge at the landfill was not in use as the fire at the MRF of the landfill destroyed the electric supply to the weighbridge.			
12.3	All records required or resulting from activities required by this License must:						
12.3.1	Be legible:	2	2				
12.3.2	Be made available and should form part of the audit report:	2	2				
12.3.3	If amended, be amended in such a way that the original and any subsequent amendments remain legible and are easily retrievable;	N/A	N/A				
12.3.4	Be retained in accordance with documented procedures which are approved by the Director: and	2	2				
12.3.5	Be made available upon the request of the Director or Director: RPW.	N/A	N/A				
12.4	The License Holder must record and interpret all borehole and chemical analysis data in a format as agreed upon in writing between the Director or the Director: RPW and the License Holder or a relevant specialist if so required.	2 - The sample from the borehole BH1 has been tested against the parameters listed in the license.	2	The samples from the boreholes were tested against the parameters listed in the license.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
13	Reporting						
13.1	The License Holder must, within 24 (twenty-four) hours, notify the Director of the occurrence or detection of any incident on the Facility which has the potential to cause disruption in the normal operation of the Facility, or has caused water pollution, pollution to the environment, health risks or nuisance conditions.	NA – No significant incidents have occurred on site.	2	The fire that occurred at the WDF and burnt the equipment in the MRF and damaged and cut off the electrical supply to the weighbridge was reported to the DEADP by the LLM.			
13.2	The License Holder must within 14 (fourteen) days, or such time specified by the Director, from the occurrence or detection of any incident referred to in Condition 13.1.	N/A	N/A	This condition is not auditable.			
13.3	Submit an action plan, which must include a detailed time schedule and resource allocation signed off by management to the satisfaction of the Director, of measures taken to: -	N/A	1	The LLM recorded the damage to the MRF in the July 2020 internal audit report which was submitted to the DEADP. The report also briefly indicated the action taken to address the fire. The LLM however had not prepared and submitted a dedicated action plan for the incident to the DEADP.			
13.3.1	Correct the impact resulting from the incident;	N/A	N/A	The impact from the fire at the WDF has not yet been corrected (i.e. the MRF was not repaired and equipment was not replaced on site). Due to budget constraints and the unexpected event of the burning of the MRF, it was unsure when the LLM would repair the MRF and replaced damaged equipment.		WMCO	Costs to repair MRF and replace equipment to be confirmed by LLM once quantified and costed.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
13.3.2	Prevent the incident from causing any further impact; and	N/A	2	The fire at the MRF was stopped once it occurred. The LLM have prevented further burning of buildings, the MRF or any other infrastructure or equipment.			
13.3.3	Prevent a recurrence of a similar incident.	N/A	1	The LLM have prevented fires of any building, the MRF or any buildings and equipment at the WDF, but lack of access control, no security on site and no emergency response plan does not ensure that the burning of any facilities or offices at the WDF cannot reoccur on site. Burning of waste on the landfill site by informal waste reclaimers has continued at the WDF.			
13.4	In the event that measures have not been implemented within 21 (twenty-one) days of the incident referred to in Condition 13.1 to address impacts caused by the incident, or that the measures which have been implemented are inadequate, the Director, may implement the necessary measures at the cost and risk of the License Holder.	N/A	N/A				
13.5	The License Holder or duly appointed person must keep and maintain an incident and complaints register, which must be made available at the request of the Director and be made available to both the external and Departmental auditors for the purpose of their audits.	2 - A complaints register is kept by the site supervisor and was made available to the audit team for review.	2	A complaints and incident register is kept at the landfill site and was made available to the audit team for review.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
13.6	The Department must be notified within 7 (seven) days of any changes to the management of the Facility including the name of the incoming person together with evidence that such person has the required technical competence.	N/A - To be noted.	N/A	To be noted by the LLM.			
13.7	The Department must be notified within 14 (fourteen) days of the following changes:	N/A	N/A	There were no changes to condition 13.7.1 – 13.7.3			
13.7.1	License Holder's trading name, registered name or registered office address;	N/A	N/A				
13.7.2	Particulars of the License Holder's ultimate holding company (including details of an ultimate holding where a License Holder has become a subsidiary); and	N/A	N/A				
13.7.3	Steps taken with a view to the License Holder going into bankruptcy, entering into composition or arrangement with creditors.	N/A	N/A				
13.8	All audit reports (internal unless otherwise instructed and external) must be submitted to the Director within 30 (thirty) days from the date on which the auditor finalized the audit.	2	2	Internal and external audit report were submitted to the DEADP within 30 days of being finalised.			
13.9	The License Holder must register and report quantities of waste to the Department's Integrated Pollutant and Waste Information System (IPWIS) which can be accessed on the URL http://ipwis.pgwc.gov.za/ipwis3/public/ Reporting on IPWIS must be done as required by the Department.	2 - Data is reported on the IPWIS system.	2	Data is reported on the IPWIS system.			
13.10	The information required in terms of Condition 12.4 must be reported to the Director and the Director RPW in a yearly report, which may be attached to or form a part of the external audit report. The information must be represented in a trend graph	2 - Waste records were included in the 2019 external audit report.	2	Borehole and chemical analysis data records were included in Appendix D of the 2020 external audit report.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	that includes and compares all previous information and must be interpreted by an expert in the field.						
13.11	The License Holder must submit an Organic Waste Diversion Plan to the Director within 90 (ninety) calendar days after the signing of this Operation and Closure License and annually thereafter.	0 - No organic waste diversion plan has been submitted to DEA&DP.	0	No organic waste diversion plan was developed by the LLM or submitted to DEA&DP.	WMCO	January 2021	Nil. The plan can be developed in-house.
13.11.1	The information within the Organic Waste Management Diversion Plan must:	N/A	N/A				
13.11.1.1	Provide a <i>status quo</i> of current organic waste sources and volumes disposed of at municipal WDF's, and current rates and procedures of organic waste diversion from WDF's; and	N/A	N/A				
13.11.1.2	Set annual targets and identify procedures from 2019 that will be implemented to meet these targets for the diversion of organic waste from municipal WDF's, in order to reach a 50% diversion of organic waste by the year 2022 and 100% diversion of garden waste by the year 2027.	N/A	N/A				
14	Leasing and Alienation of the Sites						
14.1	Should the License Holder want to alienate or lease the Facility, he/she must notify the Director in writing of such an intention at least 120 (one hundred and twenty) days prior to the said transaction. Should the approval be granted, the subsequent License Holder will remain liable to compliance with all License conditions.	N/A	N/A				
15	Transfer of the Waste Management License						
15.1	Should the License Holder want to transfer holdership of this License, he/she must apply in terms of section 52 of the NEM: WA, 2008	N/A	N/A				

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
15.2	Any subsequent License Holder will be bound by the conditions of this License or Variations thereof	N/A	N/A				
16	Commencement						
16.1	The closure activities hereby licensed may not commence within 20 (twenty) days of the date of signature of the original License.	N/A	N/A	The closure activities for the landfill site have not commenced.			
16.2	Should the License Holder be notified by the Licensing Authority of a suspension of the License pending any appeals decision on the authorized activities, he/she may not continue or commence with the closure activities until authorized by the Director in writing.	N/A	N/A				
16.3	After the 20 (twenty) day appeal period has expired and no good cause to extend the appeal period has been submitted, a written notice must be given to the Department that the activity will commence.	N/A	N/A				
17	General						
17.1	This License will remain responsible for the Facility and/or any of the impacts on the environment arising from the operations.	N/A To be noted.	N/A	To be noted by the LLM.			
17.2	This License will not be constructed as exempting the License Holder from compliance with the provisions of the Health Act, 2003 (Act No. 61 of 2003), the National Water Act, 1998 (Act No. 36 of 1998) or any applicable Act, Ordinance, Regulation, By-laws and relevant National Norms and Standards.	N/A To be noted.	N/A	To be noted by the LLM.			
17.3	Transgression of any condition of this License could result in the suspension of the License by this Director.	N/A To be noted.	N/A	To be noted by the LLM.			
17.4	Based on the compliance to License conditions or recommendations from the audit reports and or	N/A To be noted.	N/A	To be noted by the LLM.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	changing legislation, the License can be amended or withdrawn.						
17.5	Should the License Holder want to conduct the waste management activity beyond the airspace Capacity, the License Holder must apply for a review of the License 1 (one) year before reaching that capacity.	N/A To be noted.	N/A	To be noted by the LLM.			
17.6	Non-compliance with a condition of this License may result in criminal prosecution or other actions provided for in section 67(1) of the NEM: WA.	N/A To be noted.	N/A	To be noted by the LLM.			
17.7	In terms of sections 28 and 30 of the National Environmental Management Act (Act No. 107 of 1998) (NEMA), and sections 19 and 20 of the National Water Act 1998 (Act No. 36 of 1998), any costs incurred to remedy environmental damage must be borne by the person responsible for the damage. It is therefore imperative that the License Holder reads through and understands the legislative requirements pertaining to the project. It is the License Holder's responsibility to take reasonable measures which include informing and educating contractors and Employees about environmental risks of their work and training them to operate in an environmentally acceptable manner.	No comparable previous license condition.	N/A	To be noted by the LLM.			
18	Rehabilitation and Closure of the Facility						
18.1	After the License Holder has ceased the disposal of waste on the Facility, this Department must be informed thereof and a timeframe for the commencement of the capping and rehabilitation must be determined. The License Holder will then develop detailed closure design plans that must be in line with the approved preliminary design plans.	N/A - The site is still operational.	N/A	The site is still operational.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
18.2	The License Holder will remain responsible for the Facility, and/or any of its impacts on the environment, after operations on the Facility have ceased	No comparable previous license condition.	N/A	The site is still operational.			
-	Σ Total compliance score	94	106				
-	No. of WML/Permit conditions audited	70	78				
-	Overall compliance rating	67.2%	67.95%				
	Status Indicator		Amber				

10.2. Appendix B: Photographic Record



Photograph 1: Entrance to the WDF with access gates and fencing intact



Photograph 2: Burning of waste at the entrance of the WDF



Photograph 3: Signage at the entrance of the landfill site



Photograph 4: Weigh bridge at the WDF (not operational)



Photograph 5: View of the entrance of the WDF from the waste body. Note the animal pens and houses above the offices at the WDF and within the WDF buffer zone



Photograph 6: View of the section of the intact fence at the entrance of the WDF



Photograph 7: Access road onto the WDF. Note the animals (pigs) along the access road



Photograph 8: Uncovered waste on the WDF



Photograph 9: Uncovered waste and burning of waste on the WDF. Note the animals on the WDF



Photograph 10: Uncovered waste and burning of waste on the WDF



Photograph 11: The damaged MRF at the WDF and waste stockpiled around the MRF. Note the animals (pigs) feeding on the waste



Photograph 12: Rear view of the damaged MRF at the WDF and waste stockpiled around the MRF



Photograph 13: View of the uncovered waste surrounding the MRF which inhibits movement of staff and vehicles around the MRF and onto the waste body



Photograph 14: Uncovered waste on slopes of the WDF in close proximity to the stormwater channels and as a result stormwater channels are filled with waste



Photograph 15: Stormwater channels filled with waste



Photograph 16: Animals (pigs) on the WDF consuming waste



Photograph 17: Animal (pigs) pens east of the entrance of the WDF



Photograph 18: Rubble stockpiled north west of the WDF to be used as cover material on the landfill site

10.3.Appendix C: Internal Audit Reports

Since the previous external audit report was developed, the quarterly internal audit reports were prepared by the LLM on:

1. 23 September 2019
2. 17 December 2019
3. 20 April 2020
4. 15 July 2020
5. 11 November 2020

10.4.Appendix D: Groundwater Monitoring Report

Groundwater Monitoring

Ground Water sampling was undertaken at Borehole 1 and Borehole 2 (GW 1 and GW2) at the Ashton WDF site on the 5th and 6th October 2020. During the site visit it was noted that both boreholes did have water. During the 2019 sample run Borehole 2 (GW 2) was dry and as a result no sample was taken.

The following collection procedure was applied:

- Sampling bottles were obtained from a SANAS Accredited Laboratory. Sampling bottles and containers were marked with a waterproof permanent marker with the monitoring point name. The date, time of sampling, description of sample and sample point were documented when the sample was taken.
- Ground Water samples were collected using a submersible pump and by filling plastic bottles to the brim of the bottle so to reduce the chance of more oxygen being dissolved into the water sample post collection.
- Once the sample was taken the bottle was placed in a cooler box with ice packs where it was kept at an average temperature of 4°C.
- The ground water samples were transported to a SANAS Accredited Laboratory on the same day they sampled to be tested.
- Parameters analysed included
 - Dissolved Calcium
 - Potassium
 - Dissolved Magnesium
 - Sodium
 - Total Alkalinity
 - Chloride
 - Chemical Oxygen Demand (Total)
 - Electrical Conductivity at 25°C
 - Fluoride
 - Ammonia
 - Nitrate
 - Nitrate/Nitrite
 - Nitrite
 - pH at 25°C
 - Orthophosphate
 - Sulphate

- Total Dissolved Solids at 180°C Alkalinity (mg CaCO₃/l).

Results

The results from the sampling are presented in the table C1 and Figure 5 and Figure 6 below. Based on the results obtained, no parameters exceeded the allowable limits in Borehole 1 (GW1). Some of the parameters in the sample from Borehole 2 (GW2) did exceed the general water quality parameter threshold limits as set out in the SANS 241: 2015

Table C1. Groundwater monitoring results

Determinants	Units	SANS 241 Limits	Sep-19 GW1	Oct-20 GW 1	Oct-20 GW2
Dissolved Calcium	mg Ca/l	N/A	15.2	7.15	116
Potassium	mg K/l	N/A	0.70	1.03	6.47
Dissolved Magnesium	mg Mg/l	N/A	7.50	12.4	77
Sodium	mg Na/l	≤200 Aesthetic	56	55	303
Total Alkalinity	mg CaCO ₃ /l	N/A	58	68	460
Chloride	mg Cl/l	≤300 Aesthetic	67	79	413
Chemical Oxygen Demand (Total)	mg O ₂ /l	N/A	8	80	80
Electrical Conductivity at 25°C	mg S/l	≤170	38	45.3	233
Fluoride	mg F/l	≤1.5	0.15	0.24	0.43
Ammonia	mg N/l	≤1.5	<0.11	<0.11	<0.11
Nitrate	mg N/l	≤11 Acute Health	0.24	0.26	<0.04
Nitrate/Nitrite	mg N/l	≤12 Acute Health	<0.25	0.26	<0.04
Nitrite	mg N/l	≤0.9 Acute Health	<0.01	<0.01	<0.01
pH at 25°C	pH units	≥5 – ≤9.7 Operational	7.8	8	6.9
Orthophosphate	mg P/l	N/A	0.08	0.21	<0.12
Sulphate	mg SO ₄ /l	≤250 Aesthetic ≤500 Acute Health	7.96	5.92	30.3
Total Dissolved Solids at 180°C	mg /l	≤1200 Aesthetic	284	252	1170

*Orange – shows increase from previous year

*Red – Shows exceeded the limit

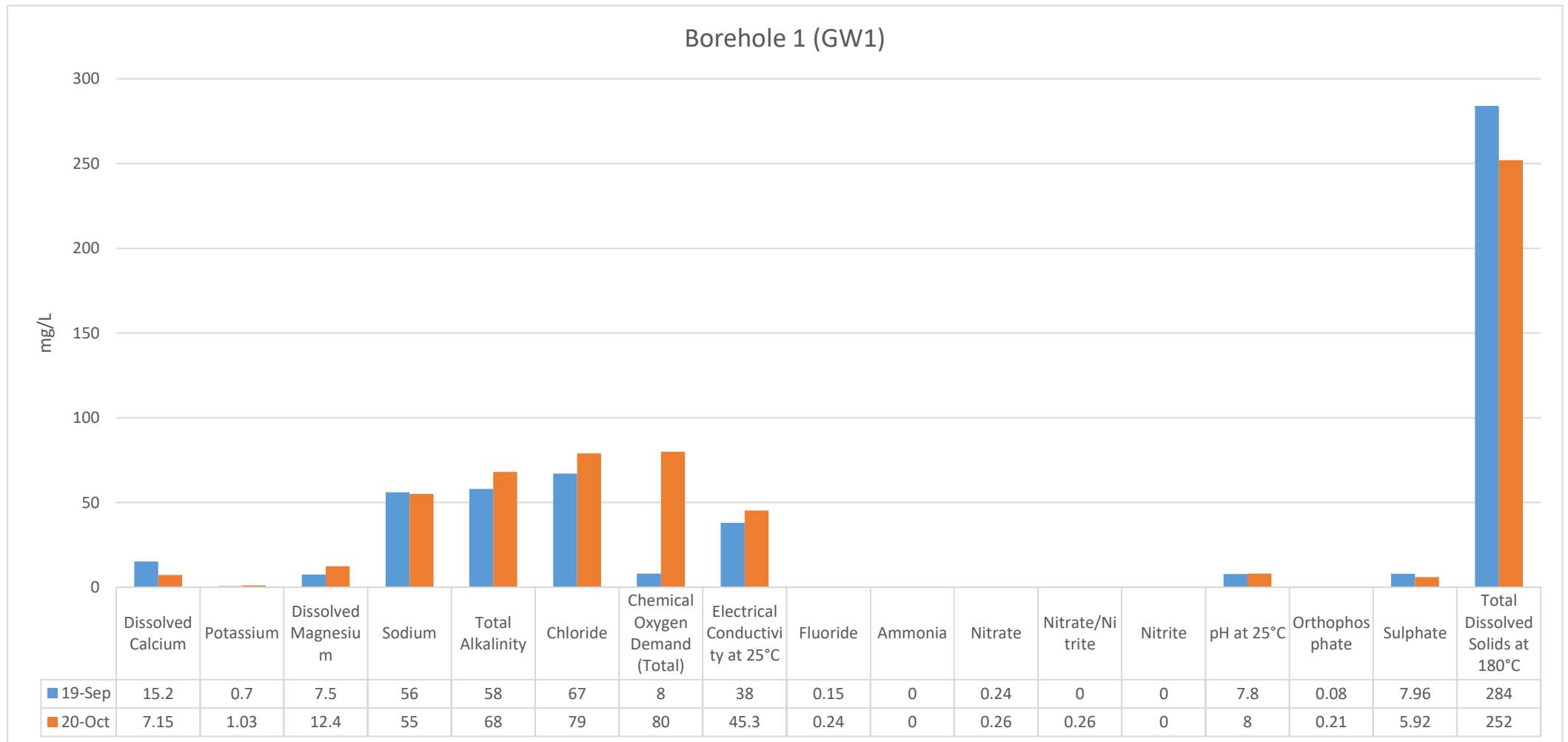


Figure 5: Graph showing results of Borehole 1 (GW1) from September 2019 and October 2020

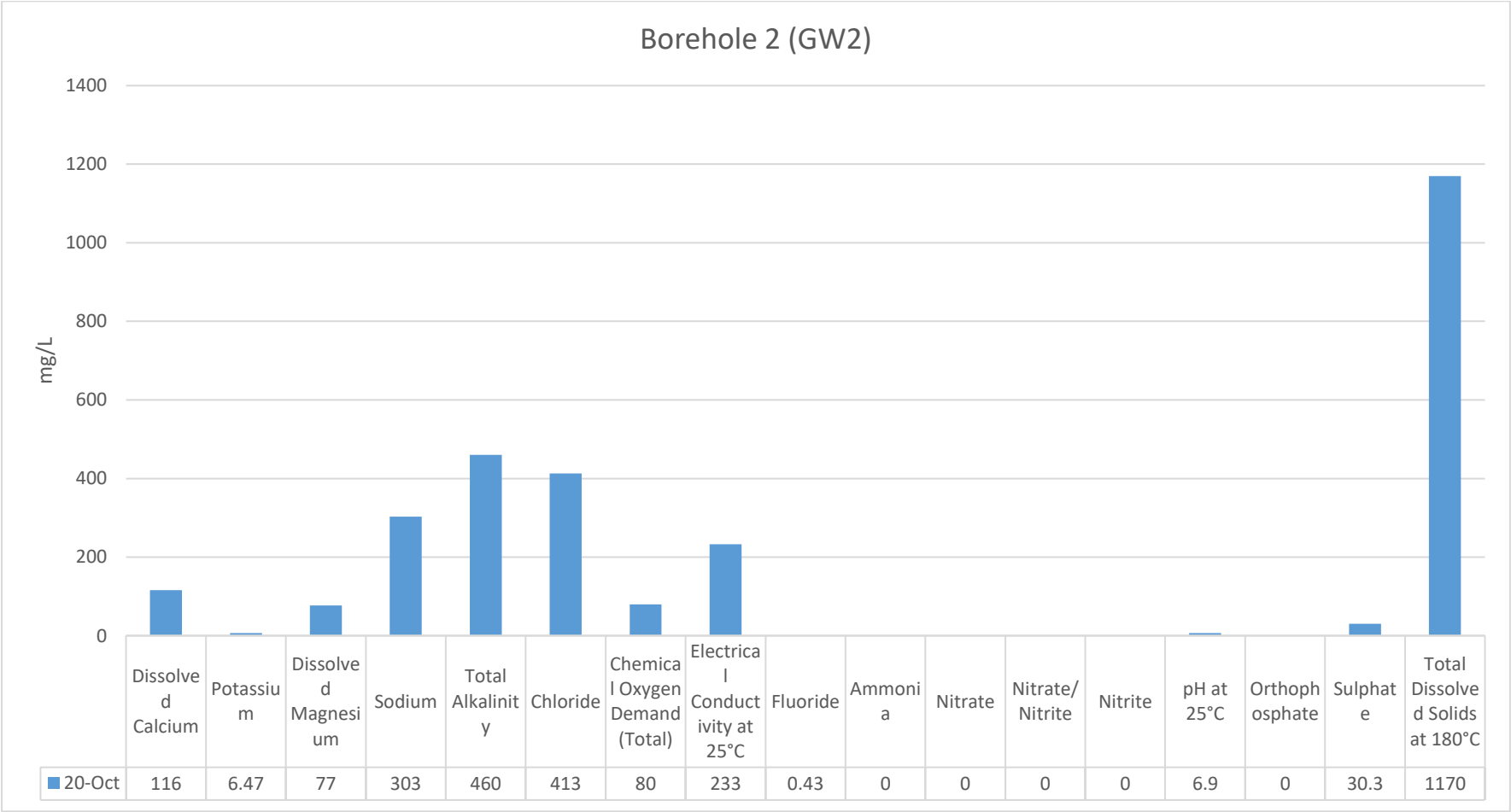


Figure 6: Graph showing results of Borehole 2 (GW2), October 2020

Conclusion

Ground Water samples were taken and submitted to a SANAS-accredited laboratory for analysis. The October 2020 results showed an increase in concentration of parameters tested as compared to the results from the 2019 sample run at Borehole 1 (GW). An increase in the concentration of certain parameters could be a result of recent rainfall events, resulting in pollutants entering the groundwater system. The increase in results at Borehole 1 (GW1) does not warrant any concern as all parameters for Borehole 1 (GW1) fell within the acceptable range of the threshold limits set by SANS 241:2015. Borehole 2 (GW2) which is downstream of Borehole 1 (GW1) and the Ashton WDF did see an increase in results as compared to GW1. Borehole 2 (GW2) recorded three (3) parameters (Sodium, Chloride and Electrical Conductivity) as being over the prescribed SANS 241:2015 limits. The increases in the three (3) parameters could be a result of leachate from solid waste entering in the groundwater system. Leachate has been shown to have higher amounts of Sodium and Chloride in groundwater.

It was noted that on the day of sampling Borehole 2 (GW2) oil and grease was present in the borehole as well as a smell of oil. The boreholes were locked therefore it is assumed that the source of the oil and grease had to be from the landfill. It is recommended that municipality undertake quarterly sampling. This to identify if pollutants from the Ashton Landfill are entering the ground water system.

Lab Results

Analytical Results

Methods	Determinands	Units	018619/20	018620/20
			TOP 1 - GW1	BOTTOM 1 - GW2
Chemical				
85	Dissolved Calcium	mg Ca/ℓ	7.15	116
85	Potassium	mg K/ℓ	1.03	6.47
85	Dissolved Magnesium	mg Mg/ℓ	12.4	77
84	Sodium	mg Na/ℓ	55	303
10G	Total Alkalinity	mg CaCO ₃ /ℓ	68	460
16G	Chloride	mg Cl/ℓ	79	413
3	Chemical Oxygen Demand (Total)	mg O ₂ /ℓ	80	80
2A	Electrical Conductivity at 25°C	mS/m	45.3	233
18G	Fluoride	mg F/ℓ	0.24	0.43
64G	Ammonia	mg N/ℓ	<0.11	<0.11
65Gc	Nitrate	mg N/ℓ	0.26	<0.04
65Ga	Nitrate/Nitrite	mg N/ℓ	0.26	<0.04
65Gb	Nitrite	mg N/ℓ	<0.01	<0.01
Calc.	Orthophosphate*	mg PO ₄ /ℓ	0.21	<0.12
1	pH at 25°C	pH units	8.0	6.9
67G	Sulphate	mg SO ₄ /ℓ	5.92	30.3
41	Total Dissolved Solids at 180°C	mg/ℓ	252	1170

10.5.Appendix E: Topographical Survey



Document Control and Disclaimer

FORM IP180_B



CLIENT	:	Langeberg Local Municipality
PROJECT NAME	:	Langeberg Local Municipality Waste Facility Audits
PROJECT No.	:	GE39035
TITLE OF DOCUMENT	:	Ashton WDF External Audit Report 2020
ELECTRONIC LOCATION	:	\\plz-cluster\projects\GE39035 EN1 KF Langeberg landfill audits\03_Project Management Plan Design\G_Document Management - Reports\Ashton\2020\Audit report\Ashton WDF External Audit 2020 FINAL.DOCX

Approved By		Reviewed By		Prepared By	
Project Executive					
ORIGINAL	NAME Walter Fyvie	NAME Kate Flood	NAME Ian Malloy		
DATE 29 November 2020	SIGNATURE 	SIGNATURE 	SIGNATURE 		
Approved By		Reviewed By		Prepared By	
Project Executive					
REVISION 1	NAME Kate Flood	NAME Kate Flood	NAME Ian Malloy		
DATE 07 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:

- GIBB's written agreement is obtained prior to such release, and
- 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
- 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.

GIBB (Pty) Ltd	Website :	www.gibb.co.za
----------------	-----------	--

GIBB: External compliance audit report of the Ashton Waste Disposal Facility

Chapter 10: List of Appendices

Postal Address :	P.O. Box 63703, Port Elizabeth; 6057	Physical Address :	Port Elizabeth 1st Floor St. George's Corner, 116 Park Drive Central Port Elizabeth 6001 PO Box 63703, Greenacres 6057
Contact Person :	Kate Flood	Email Address :	kflood@gibb.co.za
Telephone No. :	041 392 7500	Fax No. :	041 363 9300



**Western Cape
Government**
Environmental Affairs and
Development Planning

BETTER TOGETHER.

DIRECTORATE: WASTE MANAGEMENT



BONNIEVALE WASTE DISPOSAL FACILITY EXTERNAL COMPLIANCE AUDIT REPORT

Prepared by:

CHARL KRUGER (GIBB (Pty) Ltd)

Prepared for:

Langeberg Municipality



REFERENCE NO. 19/2/5/4/B1/4WLO128/18

07 January 2021

Revision 1.1

Terms of reference

The Terms of Reference (ToR) for GIBB Pty Ltd (hereafter referred to as GIBB), the appointed service provider, was to undertake external compliance audits of the Bonnievale waste disposal facility (WDF), in the jurisdictional area of the Langeberg Local Municipality (LLM) for a three year period according to the waste management licence (WML) issued for the site and all applicable national standards. The ToR furthermore required an annual topographical survey to be conducted to calculate the remaining airspace at the site.

GIBB was appointed as an independent external auditor by the LLM to undertake the annual compliance audit of the Bonnievale Waste Disposal Facility (WDF) based on the conditions of the approved Waste Management Licence (WML) (reference number: 19/2/5/4/B1/4/WL0128/18 dated 31 August 2018) as per the requirements of the National Environmental Management Waste Act (59 of 2008) as amended (hereafter referred to as the Waste Act). The WML was issued by the Western Cape Department of Environmental Affairs and Development Planning (DEADP) and it is required that the external compliance audit report is sent to the DEADP subsequent to conducting the audit. The Bonnievale WDF is located on Erf 462 – Municipal Commonage of Bonnievale, Division of Swellendam.

Executive summary

This external compliance audit report of the Bonnievale WDF on Erf 462, Municipal Commonage of Bonnievale, Swellendam Municipality, division of Bonnievale was developed subsequent to conducting the external audit of the landfill site with respect to the Bonnievale WDF WML (reference 19/2/5/4/B1/4WLO128/18) in fulfilment of requirements of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA). The WML requires an annual external audit of the compliance of the WDF against the licence conditions. The objective of the external audit of the Bonnievale WDF was to determine the compliance of the WDF in terms of the conditions of the Bonnievale WDF WML.

The external audit was conducted on 06 October 2020 and the topographical survey to determine the landfill airspace was conducted on 16 October 2020. A compliance rating of 68.52% was achieved for the external audit. The topographical survey and airspace analysis indicated that there is an increase in available airspace at the WDF and an increase in projected lifespan at the WDF due to the waste diversion occurring at the WDF. Since the October 2019 topographical survey:

- garden waste present at the WDF at that time was chipped and removed and
- the LLM have recorded that all garden waste received at the WDF was diverted from the WDF and that C&DW was reused as cover material at the WDF.

Should the LLM continue with the waste diversion of all garden waste and C&DW received at the WDF at the current rate at the WDF, and not dispose of waste at the WDF, the available airspace at the WDF should be unlimited (not decrease). The lifespan at the WDF would therefore be undefined (never-ending) should the LLM intend to continue to operate the WDF in this manner.

The overall compliance of the landfill site has decreased from 71.0% (October 2019 external audit) to 68.52% in the October 2020 external audit. Of concern is that the same non-compliances were noted in the 2019 and this 2020 audit. The compliance rating falls in the amber 'status indicator' and the Licence Holder must address the non-compliances noted and ensure that the compliance improves on site.

Another aspect of concern is that the LLM had not addressed the administrative non-compliances noted in the 2019 external audit report such as the correction of details on the WML and the plans that were required to be developed and submitted to the DEADP for review and approval. The LLM should prioritise implementing the corrective measures to address the administrative non-compliances as these do not require additional budget or staff and can be undertaken by the LLM.

On-site conditions that resulted in non-compliances were:

- no internal run-off drainage systems in place,
- waste filled stormwater channels around the site,
- no compaction or covering of waste on site (a finding according to the WML conditions),
- lack of access control on site especially after operating hours (a security service to prevent access to the site after operating hours),
- damaged fence at the WDF,
- evidence of burnt waste on site,
- a lack of PPE for a LLM employee temporarily stationed at the landfill site was noted on the day of the audit,
- the site office was damaged (no roof and windows),
- no first aid kit or fire extinguisher, and
- no buffer zone exists around the landfill site (WML requires an unbuilt area of 800m between the WDF and the nearest residential and/or light industrial area during the operative life of the Facility.).

Table of contents

Terms of reference	i
Executive summary	ii
Table of contents	iv
List of figures	v
List of tables	vi
1. Introduction	1
1.1. Subject	1
1.2. Background	2
1.3. Objectives	4
1.4. Scope and limitations	4
Limitations	4
1.5. Plan of development	5
2. Legal framework	6
3. Methodology	8
3.1. Administrative meeting	8
3.2. Desktop audit	8
3.3. Site inspection audit	9
4. Description of the Site and Waste Information	10
4.1. Waste Management Facility Details and Site Locality Maps	10
4.2. Waste Acceptance and Management	13
Access Control	14
Employees on Site	14
Vehicles and Equipment	14
Buildings and Services	14
Roads	14
Stormwater Management	15

Fires	15
Remaining Landfills Lifespan	15
General Management	18
Monitoring	18
5. General observations	19
6. Audit findings, results and discussion	20
6.1. Summary of key non-compliances:	20
7. Compliance rating	22
8. Conclusions and recommendations	23
8.1. Actions to be taken to address non-compliances:	23
Documentation	23
Operation	23
Monitoring	24
9. Bibliography	25
List of Appendices	26
Appendix A: Compliance table	27
Appendix B: Photographic record	57
Appendix C: Internal audit reports since the previous external audit	62
Appendix D: Topographical Survey	63
Document Control and Disclaimer	65

List of figures

Figure 1: Percentage of compliance of 3 last external audits conducted from January 2018 – October 2020	3
Figure 2: Bonnievale waste disposal facility locality map. Source Google Earth. Image date 29 July 2020 and accessed 08 October 2020.	11
Figure 3: Satellite image of Bonnievale waste disposal facility, source Google Earth. Image date 29 July 2020 and accessed 06 October 2020 show the corners of the site as per the coordinates in the WML.....	12
Figure 4: Volumetric Survey of the Bonnievale WDF.....	17

List of tables

Table 1: Non-compliances noted during the last 4 external audits conducted from 2018 - 2020..... 2

Table 2: Unfolding of detailed information in the external audit report..... 5

Table 3: Details of the waste management licence 6

Table 4: Site and Audit Details..... 10

Table 5: Waste diversion and disposal tonnages for the Bonnievale landfill (September 2020) 13

Table 6: Airspace determination 16

Table 7: List of Acronyms 19

Table 8: A list of non-compliances noted during the external audit 20

Table 9: Overall compliance of the Facility. 22

Table 10: Status indicator of the Facility. 22

1. Introduction

1.1. Subject

GIBB was appointed as an independent external auditor by the LLM to undertake the annual compliance audit of the Bonnievale Waste Disposal Facility (WDF) based on the conditions of the approved Waste Management Licence (WML) (reference number: 19/2/5/4/B1/4/WL0128/18 dated 31 August 2018) as per the requirements of the National Environmental Management Waste Act (59 of 2008) as amended (hereafter referred to as the Waste Act). The WML was issued by the Western Cape Department of Environmental Affairs and Development Planning (DEADP) and it is required that the external WDF audit report is sent to the DEADP subsequent to conducting the audit. The Bonnievale WDF is located on Erf 462 – Municipal Commonage of Bonnievale, Division of Swellendam.

The aim of the independent external annual audit is to review the conditions at the WDF, the existing waste management processes at the WDF, the records used to manage the WDF and the documentation used to manage the day-to-day operations at the WDF. This was done to document the potential areas of non-compliance with respect to the Bonnievale WDF WML. Non-compliances are highlighted in the audit checklist with necessary corrective actions and associated financial costs and timeframes to implement the corrective actions to ensure compliance with the WML. The audit report also gives feedback on whether previously highlighted non-compliances were addressed, providing a useful and on-going management tool for the management of the Bonnievale WDF.

This external compliance audit report fulfils the requirements of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA).

1.2. Background

The history of the previous 3 external audits and the findings of the current external audit are presented in the table below. To note is that similar non-compliances were noted at the Bonnievale WDF site from 2018 – 2020.

Table 1: Non-compliances noted during the last 4 external audits conducted from 2018 - 2020

Year	Overall audit compliance score	Brief summary of Partial and Non-compliances
January 2018	85.2%	- Not all construction requirements were met for the disposal of waste at the WDF. - Residences and animal pens for livestock within the 800 m landfill buffer zone. Informal residences approximately 100 m of WDF and formal residences approximately 100 m from the WDF. - An earth berm on the WDF to divert stormwater partly contained internal run-off (ponding occurred on site). This only occurred on one section of the WDF - Some of the bush waste on the northern section of the site exceeded the allowed 3 m height requirement - The minimum requirements for waste disposal and operation according to the Operation Report (October 1997) were not met - No plant was available on site to ensure waste is compacted or covered daily. Waste was covered intermittently as only garden waste and rubble were disposed on the WDF - Annexure II of the WDF WML was not completed and submitted to the DEADP
January 2019	82.3%	- Accuracy of the coordinates of the boundary of the Facility not verified within 90 days from 31 August 2018 - Buffer Zone infringement - There is no suitable infrastructure in place to control contaminated run-off - Waste disposal and operation minimum requirements not met - Geohydrological Report not yet submitted - Waste not compacted and covered on weekly basis - No stockpile of cover material - Emergency Response Plan not in place - No spill kits on site - Air Quality monitoring not conducted - Borehole infrastructure lacking - Monitoring committee for the Bonnievale WDF does not exist - Records of water volumes or masses received and disposed not kept on site - Organic Waste Diversion Plan not yet developed and submitted
October 2019	71.0%	- No organic waste diversion plan has been developed for the WDF - The municipality needs to conduct a geohydrological study for the site - No Emergency Response Plan has been developed for the site - The municipality need to develop and set targets for the diversion of waste from the Bonnievale WDF. - The municipality need to set up a Monitoring Committee for the facility - No first aid kits or fire extinguishers are kept on-site - Currently there are no internal run-off drainage systems in place

Year	Overall audit compliance score	Brief summary of Partial and Non-compliances
		- The community have established themselves within 12 meters of the facility, which is within the 800 meter buffer that should be imposed. - No groundwater, surface water or air quality monitoring is done for the site - No boreholes have been established for the facility.
October 2020	68.52%	- No organic waste diversion plan has been developed for the Bonnievale WDF - The municipality needs to conduct a geohydrological study for the site - No Emergency Response Plan has been developed for the site - The municipality need to develop and set targets for the diversion of waste from the Bonnievale WDF. - The municipality need to set up a Monitoring Committee for the facility - Gate staff appointed on a temporary basis need to be supplied with proper PPE - No first aid kits or fire extinguishers are kept on-site - Currently there are no internal run-off drainage systems in place - A community have established themselves within 90 meters of the facility and animal pens and structures are placed approximately 15m from the WDF. These structures are within the prescribed 800m buffer zone of the facility. - No groundwater, surface water or air quality monitoring had been done for the site - No boreholes had been established for the facility.

A bar graph of the overall compliance rating of the Bonnievale WDF for the three external audits conducted from January 2018 to October 2020 is presented below. To note is that the overall compliance rating for the Bonnievale WDF has decreased year on year from January 2018 to October 2020.

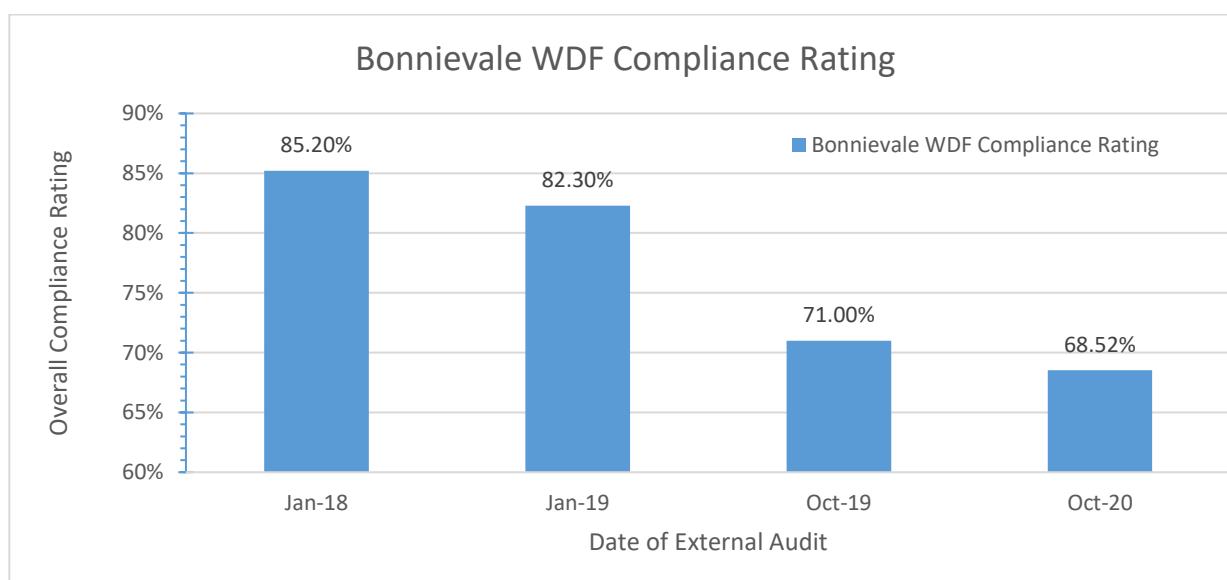


Figure 1: Percentage of compliance of 3 last external audits conducted from January 2018 – October 2020

1.3. Objectives

The objectives of the external audit of the Bonnievale WDF was to determine the compliance of the WDF in terms of the conditions of the Bonnievale WDF WML. Each condition of the WML was rated compliant (2), partially compliant (1), non-compliant (0) and not auditable based on the observations made by the external auditor on the day of the audit and a score was allocated to the rating. The scores for each condition was added and an overall score percentage of compliance was determined. A site audit of the WDF and interviews with the WMCO, landfill supervisor and staff based on the landfill site were conducted as part of the external audit and to determine the level of compliance of each condition of the WML.

1.4. Scope and limitations

The scope of the external audit was an independent external audit of the Bonnievale WDF and the assessment of compliance of each condition of the Bonnievale WDF WML (reference: 19/2/5/4/B1/4WLO128/18). A compliance checklist is presented in Appendix A of the report that indicates the compliance of each condition of the WML and the overall compliance of the WDF is presented in section 7 of the report. The compliance checklist also provides the corrective actions to address the non-compliances noted during the audit, the associated financial provision to correct the non-compliance and timeframes within which the non-compliances should be addressed.

Limitations

The compliance of the WDF was based on the observations made by the auditor on the day of the audit and is therefore not an indication of the conditions on site throughout the year. The auditor also assumed that the records provided on the day of the audit were kept up to date and were a true reflection of the management, incidents and complaints on site.

A compliance audit of the conditions in the EMPr for the Bonnievale WDF was not conducted.

1.5. Plan of development

The unfolding of detailed information respective chapters in this external audit report is explained in the table below.

Table 2: Unfolding of detailed information in the external audit report

Chapter in the External WDF Audit Report	Description of information provided in the chapter
Chapter 1: Introduction	This chapter provides the background of the WDF, the WML issued to the WDF and the compliance of the WDF in previous external audits. It also provides the objectives of the WDF external audit and the scope and limitation to the external audit.
Chapter 2: Legal Framework	The details of the WML and a summary of key South Africa legislation, norms and standards governing waste management is provided in the chapter.
Chapter 3: Methodology	A description of the method of investigation followed during the review of waste records and the inspection of the WDF is provided.
Chapter 4: Description of the Site and Waste Information	A description of the site conditions during the audit, waste management practices undertaken on site and records of waste disposed and diverted is provided in this chapter. The results of the topographical survey and airspace analysis are provided in this chapter as well.
Chapter 5: General Observations	The general observations made by the auditors of the condition of the site are provided in this chapter.
Chapter 6: Audit Findings	A summary of key non-compliant audit findings are presented in this chapter.
Chapter 7: Compliance Rating	The calculation of the compliance rating and the compliance rating is provided in this chapter.
Chapter 8: Conclusion and Recommendations	The conclusions of the external audit, the recommendations and actions to address the non-complaint findings are presented in this chapter.

2. Legal framework

The details of the WML for the operation and closure of the Bonnievale WDF is provided below. The WML (DEADP REF: 19/2/5/4/B1/4WL0128/18) was received from DEADP on 31 August 2018 and allows the operation of the Bonnievale WDF to 2027. The validity of the licence can be extended by the LLM depending on the available airspace at the WDF (condition number 16.6 of the WML).

Table 3: Details of the waste management licence

Facility Name:	Bonnievale Waste Disposal Facility	WMCO/ ECO details:	Mr G. Slingers
			Tel: -023 616 8028
			Email: glingers@langeberg.gov.za
Facility Address:	Erf 462 – Municipal Commonage of Bonnievale, Division of Swellendam. Division of Bonnievale.	GPS Coordinates (at entrance)	Latitude: 33° 55'36.20"S;
			Longitude: 20°04'50.19"E
Permit/Licence No:	19/2/5/4/B1/4WL0128/18	WML Date:	31 August 2018
Waste Licence Application:	Operation of the Bonnievale WDF	License valid till date:	N/A. All waste must be diverted by 2027. However, WML can be changed anytime depending on the airspace.
License Holder:	Langeberg Municipality	Facility Classification:	G:S: B-/ Class B
Telephone:	023 616 8000	Permissible Waste:	General waste
Licence Holder Address:	Private Bag X2, Ashton, 6715	Permissible Waste Activities:	Disposal of general waste. Crushing of C&DW and chipping of garden waste.
Application of the WML and reasons for issuing the WML	1) The DEADP conducted a review of selected Permits/WMLs as per section 53 (1) of the NEM:WA, as amended, which states that: "A licensing authority must review a waste management licence at intervals specified in the licence, or when circumstances demand that a review is necessary". 2) The proposed variation to the WML was in line with section 54(1)(a) and (d) of the NEM:WA, which states that: "(1) A licencing authority may, by written notice to the holder of a waste management licence, vary the licence- a) If it is necessary or desirable to prevent pollution; (and) d) To make a non-substantive amendment". 3) The review and subsequent non-substantive amendment made by the DEADP was conducted in order to align the Bonnievale Permit conditions with current waste legislation and repealed the existing Permit 16/2/7/H500/D79/Z1/P304 issued by		

	the Department of Water Affairs and Forestry on 31 July 1998 and issued the LLM with the WML 19/2/5/4/B1/4WLO128/18.
--	--

A summary of key South Africa legislation, norms and standards governing waste management is listed below. These should be read and considered with this audit report to effectively monitor the level of compliance of the Bonnievale WDF.

- National Environmental Management Act, Act 107 of 1998 (NEMA)
- National Environmental Management Waste Act (29 of 2008) (NEMWA), the primary legislation governing waste management in South Africa
- The minimum requirements for the Disposal of waste by landfill, second edition (DWAF, 1998)
- The national norms and standards for the storage of Waste GN 926 of 2013
- The standards for disposal of waste to landfill (second edition)(draft). Notice 615 of 2012, Gazette 35572
- Norms and standards for the storage of waste (draft). Notice 436 of 2011
- Standards for Assessment of waste for landfill disposal (draft). Notice 433 of 2011

3. Methodology

A description of the method of investigation followed in the environmental audit is provided in the sections below.

3.1. Administrative meeting

The WMCO was not on site on the day of the audit however, a telephonic discussion was conducted with the WMCO on 23 and 28 September 2020 in preparation of the WDF audit to discuss the audit methodology, the topographical survey and the documentation required for the audit. The WMCO advised that the site staff and site were prepared in preparation for the WDF external audit.

Subsequent to the WDF audit, additional email correspondence and telephonic discussions were had with the WMCO to clarify queries noted during the audit.

3.2. Desktop audit

The following documentation was available and reviewed on site:

- A copy of the current waste management license (WML) and previous version of the WML.
- Internal audit reports.
- External audit report dated January 2019.
- Records of chipping of waste which state the volume of waste chipped and the time. It was noted that the dates on which the chipping of the garden waste occurred was missing from latest record (page).
- A complaints registers, no entries at the time of the audit.
- An incident register.
- Contact details for employees at the LLM.
- Gate Controller Sheet

The following documentation was made available by the LLM subsequent to the WDF audit for review:

- Internal audit reports prepared by the LLM

A copy of the EMPr was not available at the WDF and no emergency plan or diversion plans were available at the WDF.

3.3. Site inspection audit

A brief description of the site inspection audit is provided below. The audit was conducted over one day.

Activities conducted on day one were:

1. The auditors met with the landfill supervisor at the entrance of the site and explained the reason for the visit.
2. A site walk through of the landfill was conducted during which photos were taken of the landfill.
3. The site supervisor was asked several questions regarding the condition and operations of the site.
4. The site supervisor and on-site staff member were asked several questions regarding the documentation that was required on site. The auditors were provided with the environmental file for the WDF. The auditors checked whether the documentation required to be on site was available in the WDF environmental file.

4. Description of the Site and Waste Information

4.1. Waste Management Facility Details and Site Locality Maps

A brief description of the site and a site locality map is provided below.

Table 4: Site and Audit Details

Inspection Date:	06 October 2020	WMCO/ ECO details:	Mr G. Slingers
			Tel: 023 616 8028
			Email: glingers@langeberg.gov.za
Facility Name:	Bonnievale Waste Disposal Site	Remaining airspace:	26,169m ³ airspace remaining in October 2020.
Facility Address:	Erf 462 – Municipal Commonage of Bonnievale, Division of Swellendam Division of Bonnievale.	License valid till date:	N/A. All waste must be diverted by 2027. However, WML can be changed anytime depending on the airspace. Available airspace till 2027.
Permit/Licence No:	19/2/5/4/B1/4WLO128/18	Current compliance rating	Amber (68.5%)
License Holder:	Langeberg Municipality	GPS Coordinates (at entrance)	Latitude: 33° 55'36.20"S;
Telephone:	023 616 8000		Longitude: 20°04'50.19"E
Local Municipality:	Langeberg Municipality	Facility Classification:	G:S: B-/ Class B
District Municipality:	Cape Winelands District Municipality	Weather conditions:	Sunny and slightly windy
External Auditor	GIBB (Pty) Ltd	Auditors	Ian Malloy
			Charl Kruger

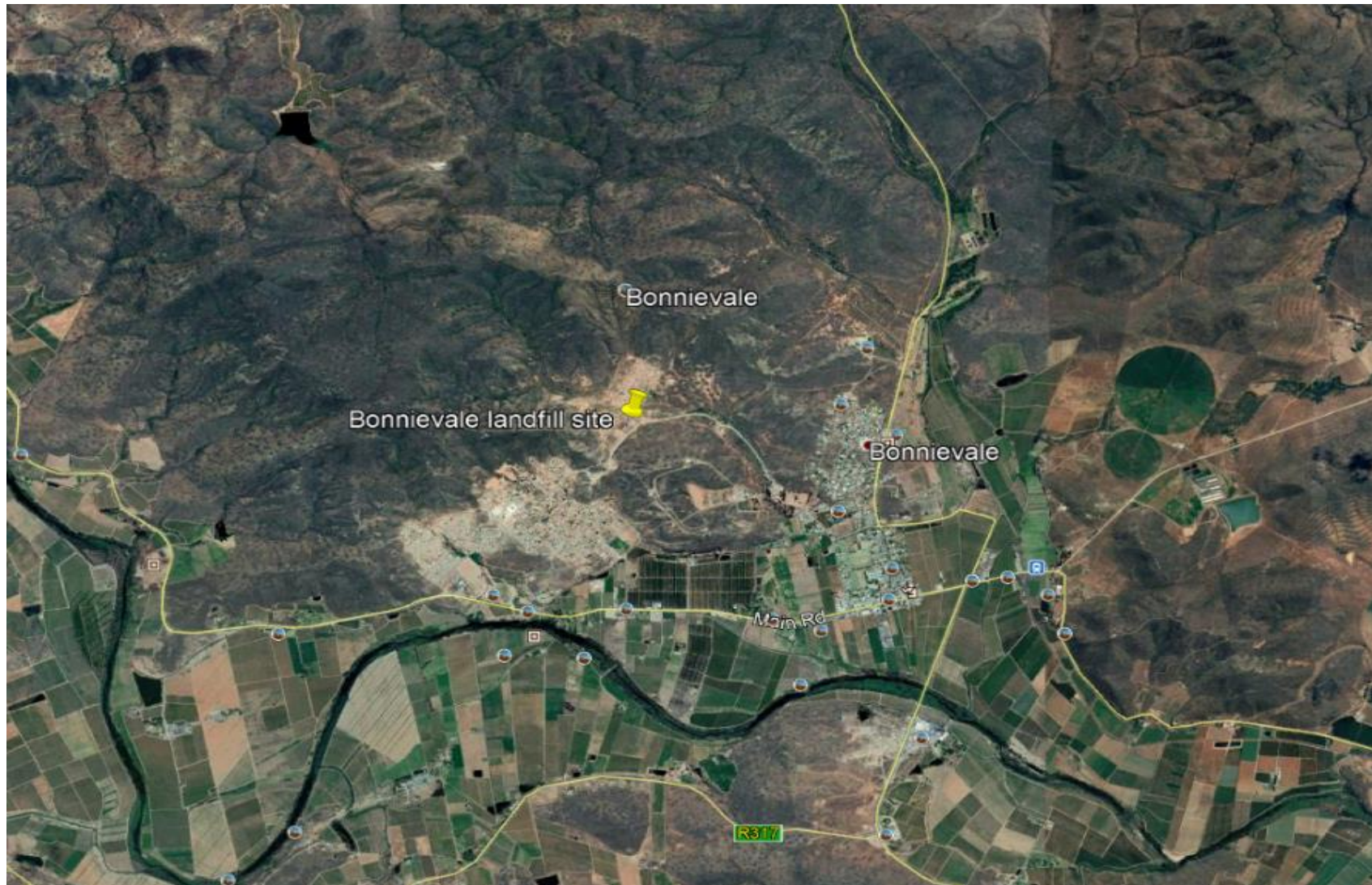


Figure 2: Bonnievale waste disposal facility locality map. Source Google Earth. Image date 29 July 2020 and accessed 08 October 2020.



Figure 3: Satellite image of Bonnievale waste disposal facility, source Google Earth. Image date 29 July 2020 and accessed 06 October 2020 show the corners of the site as per the coordinates in the WML.

4.2. Waste Acceptance and Management

The Bonnievale landfill is licensed as a general WDF. Although the Bonnievale landfill is licensed for general waste it only accepts construction and demolition waste (C&DW) and green waste. However, during September 2020, 16 tonnes of general waste was disposed at the WDF as the municipality could not gain access to the Ashton WDF due to community protests. This was the only time that general waste was disposed of at the WDF since the previous external audit. This equates to 1.33 tonnes of general waste disposed of at the site per month.

Green waste received on site is chipped periodically and stockpiled. These stockpiles are removed for use as mulch or for composting. C&DW received on site is stockpiled separately to organic waste and was used as cover material or crushed for use as fill material where required off-site.

The tonnages of green waste and C&DW diverted from the Bonnievale landfill site is provided in the table below. A total of 53.9 tonnes of garden waste and 13.8 tonnes of C&DW was diverted per month from the WDF from November 2019 to October 2020.

Table 5: Waste diversion and disposal tonnages for the Bonnievale landfill (September 2020)

Month	Waste diverted from WDF		Disposed at WDF
	Green waste (tonnes)	C&DW (tonnes)	General waste (tonnes)
November 2019	61	11	
December 2019	24	17	
January 2020	28	14	
February 2020	39	6	
March 2020	36	19	
April 2020	0	1	
May 2020	17	5	
June 2020	237	12	
July 2020	79	12	
August	34	14	
September 2020	53	16	16
October 2020	38	38	
Total	647	166	
Average per month	53.9	13.8	1.3

Access Control

The Bonnievale WDF site was fenced and there was a lockable gate at the entrance of the facility. The fence was damaged in some areas. The site access control was controlled by a site supervisor and gate controller who recorded all vehicles and waste entering and leaving the site.

Employees on Site

There was (1) permanent and one (1) temporary employee on site. The site was manned by a gate controller who recorded waste entering the site and oversees the offloading of waste. On the day of the audit, a temporary employee was based at the Bonnievale WDF to act as the gate controller. This temporary gate controller was provided with a reflector jacket. No other personal protective equipment (PPE) such as safety boots has been provided to this employee.

The designated gate controller at the Bonnievale WDF has eight years of experience and has received waste management training. This gate controller was at a training session while GIBB was conducting the external audit.

Vehicles and Equipment

There was no machinery or equipment on-site during the audit. A chipper was periodically used on site to chip green waste and a 40 ton bulldozer was periodically used to move waste on site.

Buildings and Services

There was a wooden guard house/ office at the entrance of the site. The structure was in a poor condition. The roof had been stolen by the surrounding community. The windows were missing and had been replaced with wooden boards. There was a toilet and conservancy tank, and a stand pipe with a water connection available on site that was in a good condition.

Roads

There was an internal gravel road on site in good condition, the road allowed access to the areas used to stockpile green waste and construction and demolition waste.

Stormwater Management

There were external storm water cut-off channels to divert stormwater away from the site, but no internal stormwater management measures. An external berm had been established at the top of the landfill site which was used to divert runoff water away from the site.

Fires

No fires or burning of waste were observed on site during the audit. Small amounts of burnt waste was noted on-site.

Remaining Landfills Lifespan

The latest surveys of the Bonnievale landfill site were undertaken in September 2019 and October 2020.

- The January 2019 survey concluded that the Bonnievale landfill site has airspace until 2056 (25,851m³ of airspace).
- The September 2019 survey calculated that there is 22,726m³ of airspace remaining and the site has sufficient airspace until 2044.
- The October 2020 survey which compared the volumes surveyed in 2019 with 2020, calculated that there is 26,169m³ of airspace remaining.

Based on the current waste management at the WDF the airspace at the WDF has increased since the October 2019 external audit. This is mainly as the result of waste diversion activities at the WDF. It was assumed that a large portion of the organic waste noted on site during the October 2019 external audit was also chipped and removed from site. Some of the C&DW present on site during the October 2019 external audit and survey had been removed for use as cover material at the Ashton landfill site and used as fill material. Should waste diversion continue at the current rate at the WDF then the site would have unlimited airspace and the lifespan of the WDF is undefined (i.e. more waste would be removed than disposed at the WDF).

The airspace calculation is provided in the table below and was based on the comparison of the aerial survey conducted in October 2019 and October 2020.

Table 6: Airspace determination

Calculation	Airspace
Nett airspace remaining: October 2019	22,726m ³
Plus the fill volume according to 2020 survey	5,770.31m ³
Subtract the cut volume according to 2020 survey	2,327.58m ³
Nett airspace remaining: October 2020	26,168.55m ³

Evident from the airspace calculations for the past 3 external audits was that the airspace on Bonnievale is very dependant on the following:

- The amount of organic waste disposed of at the site
- The proportion of organic waste this that is chipped, and removed from site
- The proportion of green waste this that is chipped, but not removed from site
- The proportion of organic waste that is not chipped and remains on the site

Further, the amount of construction and demolition waste (C&DW) disposed of on-site appears to vary widely depending on the number and type of developments taking place within the Municipality in any period. According to the waste records provided by the LLM, all C&DW was diverted from the Bonnievale WDF from November 2019 to October 2020.

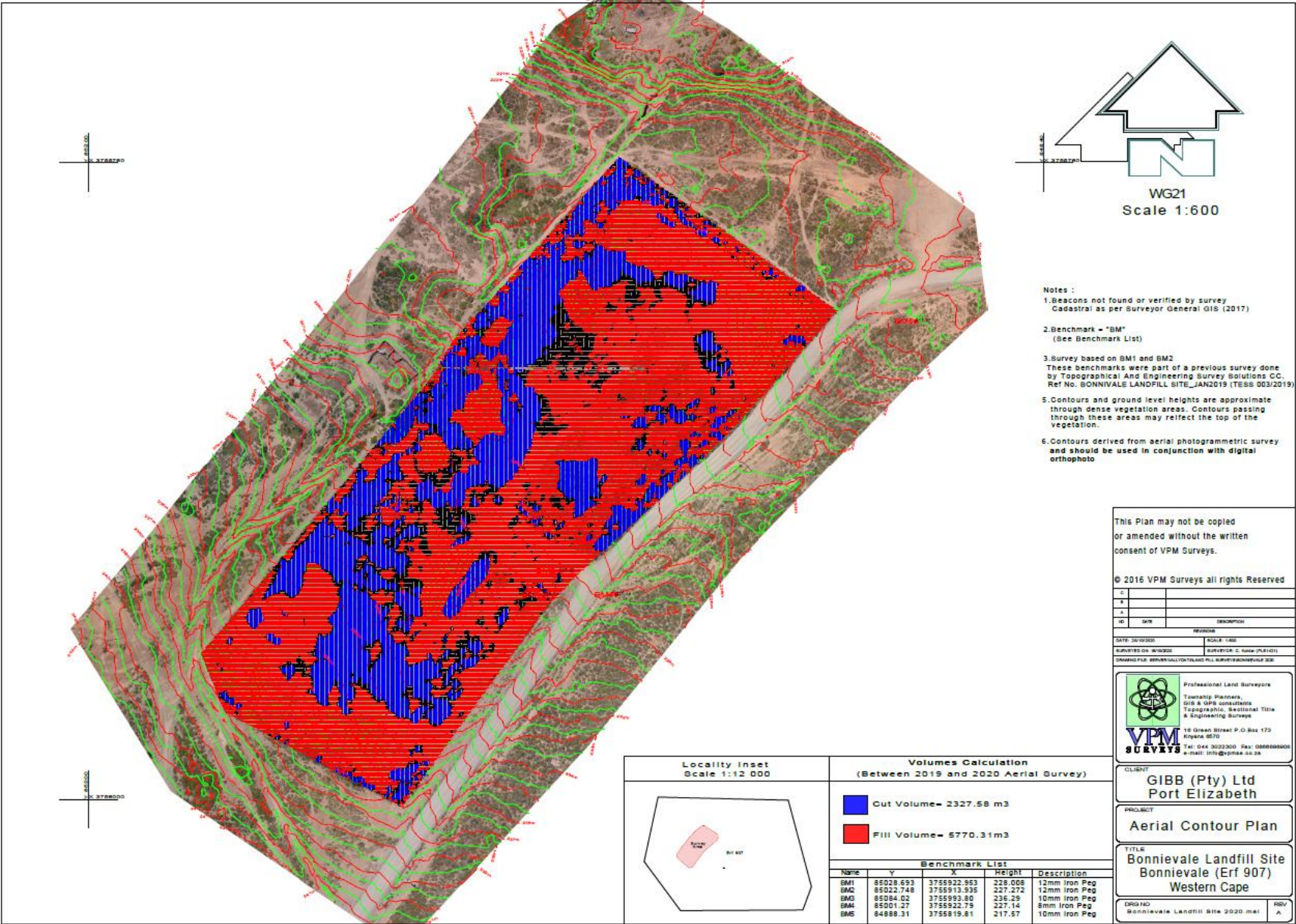


Figure 4: Volumetric Survey of the Bonnievale WDF

General Management

General management of the site was good. No prohibited waste types were observed on site. Green waste and construction and demolition waste were stockpiled separately on site and only minimal mixing of waste was observed.

Monitoring

Remaining airspace is determined through topographical surveys. There were no boreholes on site to conduct groundwater sampling and no surface water sampling was undertaken. No surface water was available for testing during the audit.

5. General observations

On the day of the audit, observations were made in terms of compliance with the conditions of the Waste Management Licence. These observations are reflected in the Audit Checklist and are discussed in relevant sections in the Audit Report. The following acronyms were used in the Audit Report.

Table 7: List of Acronyms

Acronym	Description	Compliance rating
NC	Non-compliant	0
PC	Partially compliant	1
C	Compliant	2
NA	Not audited	-

The shaded conditions in grey in the Audit Checklist compliance table included in Appendix A represent conditions of the Waste Management Licence that were not audited for reasons as outlined in the comments column.

The following observations were made on the day of the audit:

- A cell had been dug on-site for the disposal of general waste at the WDF because the Ashton WDF was closed due to community protest. The LLM disposed of waste at the Bonnievale WDF during this period. According to waste disposal records, 16 tons of general waste were disposed of at the WDF.
- Green waste and C&DW on the landfill site was not compacted or covered and was stockpiled on site until chipping and crushing occurs.
- Small amounts of waste was being burnt on and around the landfill site.
- The site office building was damaged, reportedly by the surrounding community, who stole the roof and windows of the building.
- The fence surrounding the site was damaged at a small portion along the fence. The municipality has used thorny bushes to cover the holes in the fence to provide some security.
- External stormwater diversion channels around the landfill were identified.
- Large amounts of green waste and C&DW were stockpiled at the North East and South West sections of the landfill site.
- No hazardous waste or health care risk waste was noted on site.
- No on-site plant or machinery to manage the WDF was noted during the audit.

6. Audit findings, results and discussion

6.1. Summary of key non-compliances:

A brief description of the non-compliances noted during the external audit are presented in the table below. The audit checklist provided in List of Appendices Appendix A: Compliance table provides a detailed list of all conditions of the WML and the compliance rating of each condition.

Table 8: A list of non-compliances noted during the external audit

Non-compliances noted during the external audit	Noted during previous external audits	Discussion
Management non-compliances noted on site		
A residents monitoring committee was not established for the WDF	x	The LLM to establish a residents monitoring committee.
Residents and animal pens for livestock within 800 m of the landfill (the landfill buffer zone)	x	The LLM to engage with residents and develop a plan to move residents and animals outside the 800 m buffer zone of the landfill site.
Burning of waste noted on site		The LLM to develop a plan to control the burning of waste on-site (manage access control on site after hours).
Documentation not developed and available on site		
No organic waste diversion plan developed for the WDF	x	The LLM to develop the identified plans and submit these to the DEADP for review and approval. Once approved, a copy of these plans to be made available at the WDF.
No waste minimisation, reduction, recovery, re-use and recycling plan	x	
Landfill management systems and an environmental management plan were not developed and available on site	x	
No documented monitoring and measurement plan for the site	x	
No emergency response plan was developed and available at the WDF	x	
A copy of the EMPr was not available on site		A copy of the EMPr should be available at the landfill site.
Infrastructure, equipment or plant related non-compliances		
Access control on site, with some broken places along the fence	x	The LLM to prioritise the provision of adequate budget for the improvement or replacement of identified infrastructure, facilities, equipment and stormwater management systems on the landfill site. This will improve the access control, waste management, safety of staff and the stormwater management at the landfill site.
No stormwater management system in place to drain runoff water	x	
No stormwater management system in place to separate clean and dirty water	x	
Signage did not have all required information as per the WML (wrong permit number)	x	
Operational non-compliances noted on site		
No Internal Stormwater runoff channels	x	

Non-compliances noted during the external audit	Noted during previous external audits	Discussion
Height limit of 3 m above ground level was exceeded	x	The LLM to implement the corrective measures for each non-compliance identified and ensure the WDF meets the WML conditions.
No dust suppression or dust management system in place on site	x	
No first aid kits or fire extinguishers are kept on-site	x	
Vermin were noted at and around the landfill site	x	
No monitoring of surface or ground water occurs on-site	x	

7. Compliance rating

An average compliance score is determined from which the overall compliance percentage is determined.

Average compliance score: 1.37

$$\frac{\sum \text{Total compliance score}}{\text{No. of Waste Management Licence conditions audited}} = \frac{111}{81}$$

Overall compliance rating: 68.52%

$$\frac{\text{Average compliance} \times 100}{\text{Compliance score of 2}} = \frac{(111/81) \times 100}{2}$$

Table 9: Overall compliance of the Facility.

Description	Results
$\sum$ Total compliance score	111
No. of WML/Permit/EMPr conditions audited	81
Average compliance score	1.37
Score for fully compliant conditions	96
Overall compliance rating	68.52

Table 10: Status indicator of the Facility.

Compliance rating	Status indicator	Action
85 – 100 %	Green	Minor improvements required
65 – 84 %	Amber	Improvements required
0 – 64 %	Red	Major improvements required

The compliance rating for the Facility from the audit performed falls in the amber 'status indicator'. The Licence Holder must address the non-compliances urgently as improvements are required and repeated administrative requirements were recorded during this external audit.

8. Conclusions and recommendations

The overall compliance of the landfill site has decreased from 71.0% since the 2019 external audit of the WDF to 68.52% in the 2020 external audit. Of concern is that the same non-compliances noted in the previous audit (2019) were noted again during the 2020 annual audit. Another aspect of concern is that the LLM had not addressed the administrative non-compliances noted in the 2019 external audit report such as the correction of details on the WML, the plans and geohydrological study that were required to be completed and submitted to the DEADP for review and approval. The LLM should prioritise implementing the corrective measures to address the administrative non-compliances as these do not require additional budget or staff, and can be developed by the LLM.

To ensure that infrastructure and facilities are not further damaged at the Bonnievale WDF, the LLM should improve the access control at the WDF by, for example, reinstating the fence and providing a 24 hour security service at the landfill site. By ensuring access control at the landfill site and the more regular provision of plant on site to improve the waste management on site, the LLM would address several of the non-compliances noted on site.

8.1. Actions to be taken to address non-compliances:

Documentation

The municipality must develop:

- an organic waste diversion plan,
- emergency response plan,
- monitoring and measurement plan, and
- A waste minimisation plan and develop a set of targets for the diversion on waste from the facility.

Operation

The municipality needs to:

- set up Monitoring Committees for the facility,
- provide first aid kits and fire extinguishers on-site,
- ensure internal run-off drainage systems in place on-site, and

- address the community that has established themselves within 12 meters of the facility and attempt to move these residents out of the 800 meter buffer that should be imposed.

Monitoring

The municipality needs to:

- ensure that ground, surface water and air quality monitoring is done for the site, and
- ensure that boreholes have been established for the facility.

9. Bibliography

- GIBB (Pty) Ltd. (30 October 2019). *Bonnievale Waste Disposal Facility Auditing of Site Operations*. Port Elizabeth.
- JPCE. (June 2020). *Langeberg Municipality Landfill Closure Provisions*. Cape Town.
- Langeberg Local Municipality. (10 July 2020). *Bonnievale Waste Disposal Facility Internal Audit Report*. Ashton.
- Langeberg Local Municipality. (11 December 2019). *Bonnievale Waste Disposal Facility Internal Audit Report*. Ashton.
- Langeberg Local Municipality. (20 April 2020). *Bonnievale Waste Disposal Facility Internal Audit Report*. Ashton.
- Langeberg Local Municipality. (25 September 2019). *Bonnievale Waste Disposal Facility Internal Audit Report*. Ashton.
- The Department of Environmental Affairs and Development Planning . (2020). *Departmental Compliance Audit Report of the Bonnievale Waste Disposal Facility*. Cape Town.

List of Appendices

Appendix A: Compliance table

Table 11: Compliance checklist for the external audit

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
1. Location							
1.1.	This Permit authorises the further development and operation of a WDF on Erf 462, Municipal Commonage of Bonnievale, Swellendam Municipality (hereinafter referred to as "the Facility"), according to the report 8/1/2/1 and 6/3/1 by Bonnievale Municipality, dated August 1997 and 27 October 1997 respectively (hereinafter referred to as "the Report"), submitted by the Permit Holder.	0 - The landfill site is located on Erf 907.	0	The landfill site is located on Erf 907. This could be an administrative error in the license. The SG code for the site is C073000200000 907 00000.	WMCO	January 2020	Nil. WMCO to engage with DEA&DP to determine if the erf number is correct and amend accordingly.
1.2.	The location of the entrance of the Facility shall be according to the co-ordinates which is defined as follows: Table 1: Location of the entrance of the Facility: 1. 35°55'36.09"S, 20°4'49.86"E	2 - This is correct, the site entrance is located at these coordinates.	2	This is correct, the site entrance is located at: 35°55'36.09"S, 20°4'49.86"E			
1.3.	The boundaries of the Facility must be according to co-ordinates which is defined as follows: Table 2: Boundaries of the Facility: Corners Latitude (S) Longitude (E) 1. 33°55'40.45"S 20°4'46.44"E 2. 33°55'37.27"S 20°4'44.44"E 3. 33°55'31.22"S 20°4'50.63"E	2 - The facility is located within the co-ordinates listed in the license	2	The facility is located within the co-ordinates listed in the license (refer to figure 2).			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	4. 33°55'33.10"S 20°4'53.71"E						
1.4.	The Permit Holder must verify the accuracy of the coordinates of the boundary of the Facility within 90 (ninety) days of the date of signature of this Permit.	0 - The co-ordinates of the facility are correct, but the Langeberg Local Municipality have not verified the accuracy of the co-ordinates with DEA&DP	0	The co-ordinates of the facility are correct, but the LLM have not verified the accuracy of the co-ordinates with DEADP. <i>The corrective action identified in the previous external audit has not been implemented.</i>	WMCO	January 2021	Nil. WMCO to engage with DEA&DP to verify the co-ordinates.
1.5.	The footprint of the Facility and its associated infrastructure is approximately 26 557m².	2 - This is correct	2	This is correct, the size from Google earth is approximately 25 902m².			
1.6.	The Surveyor General 21 Digit Code of the Facility is as follows: C07300020000090700000.	2 - This is correct	2	The site is located on the correct piece of land.			
2. Permissible Waste							
2.1	Any portion of the Facility, as demarcated in condition 1.3, may be used for the disposal of general waste. Only waste that is classified as general waste, according to the NEM:WA or any current and future Norms and Standards developed by the Department of Environmental Affairs, is permitted.	2 - No prohibited waste types were observed on site	2	No prohibited waste types were observed on site.			
2.2	If more than 80m³ of hazardous waste and/or 100m³ of general waste is going to be stored at the Facility, the NEM:WA "National Norms and Standards for the Storage of Waste", as contained in GN No. 926 of 29 November 2013, must be adhered to.	2 - No hazardous or general waste was noted to be stored on-site.	2	No hazardous or general waste was noted to be stored on-site.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
2.3	The Permit Holder shall take all reasonable steps to ensure that:						
2.3.1	no hazardous waste; and	2 - No hazardous or general waste was noted to be stored on-site.	2	No hazardous waste was noted to be stored or disposed of on-site.			
2.3.2	no health care waste, including pharmaceutical waste, as defined by the Western Cape Health Care Waste Management Act, 2007 (Act No. 7 of 2007), be disposed of at the Facility.	2 - No health care waste or pharmaceutical waste observed on site.	2	No health care waste or pharmaceutical waste observed on site.			
2.4	The Permit Holder must prevent the acceptance of any waste not authorised at the Facility.	2 - The gate controller visually checks waste entering the site	2	The gate controller visually checks waste entering the site.			
2.5	All waste loads must be checked at the gate to prevent the disposal of waste not permitted.	2	2	The gate controller visually checks waste entering the site.			
2.6	Organic waste is allowed to be disposed at the Facility but must be in accordance with the Organic Waste Diversion Plan, targets and procedures referred to in conditions 16.4 and 16.5 of the Permit.	N/A	1	The LLM are undertaking organic waste diversion, however no documented plan is in place. An organic waste diversion plan needs to be developed and implemented.	WMCO	January 2021	Nil, the plan can be developed in-house.
3	Appointment of Waste Management Control Officer/Environmental Control Officer						
3.1	The waste management activities that are authorised by this Permit, must be managed by fit	2 - Mr Glenn Slingers is the appointed Waste Management	2	Mr Glenn Slingers is the appointed Waste Management Control Officer			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	and proper persons who are competent in respect of the responsibilities to be undertaken by them.	Control Officer (WMCO)		(WMCO). A site supervisor was appointed to manage the WDF.			
3.2	A Waste Management Control Officer (WMCO) or Environmental Control Officer (ECO) must be appointed, who will monitor and ensure compliance and correct implementation of all mitigation measures and provisions as stipulated in the Permit. The WMCO/ECO must:	2 - Mr Glenn Slingers is the appointed Waste Management Control Officer (WMCO)	2	Mr Glenn Slingers is the WMCO and a site supervisor oversees the management of the site.			
3.2.1	report any non-compliance with any Permit conditions or requirements or provisions of NEM:WA to the Director through means reasonably available:	2 - The external audit reports are submitted to DEA&DP.	2	The external audit reports are submitted to DEADP. No significant incidents have occurred on site since the previous external audit which needed to be reported to DEADP.			
3.2.2	identify and submit potential measures to the Permit Holder and the Director in respect of waste minimisation, including the reduction, recovery, re-use and recycling of waste; and	1 - The LLM have identified an implemented waste diversion measures such as chipping of green waste for composting or use as mulch	1	The LLM have identified an implemented waste diversion measures such as chipping of green waste for composting or use as mulch and the crushing and reuse of C&DW. These measures have not yet been documented in a plan.	WMCO	January 2021	Nil, the plan can be developed in-house.
3.2.3	monitor any future construction activities and ensure that the construction plans are in accordance with the approved engineering design.	N/A	N/A	No construction is underway or planned for the site.			
4. Construction							
4.1	This Permit must be made binding to the main contractor, as well as individual contractors, and	N/A	N/A	No construction is underway at present. The conditions of the waste management			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	should be included in tender documentation for the construction contract.			license need to form part of the contract documentation for any future construction on site.			
4.2	The Facility or any portion thereof may only be used for the disposal of permissible waste if the Facility or any such portion has been constructed or developed according to the conditions listed under condition 4 of the Permit.	2 - No waste, other than building/construction rubble and green waste is disposed on-site	2	No waste, other than building/construction rubble and green waste is disposed on-site.			
4.3	Further construction and development within the proposed WDF must be carried out under the supervision of a Registered Professional Engineer. Any new cells developed must adhere to a Class B containment barrier design as described in GN No. R. 636, including a lined leachate collection dam. The Permit Holder must submit design drawings to the Director for approval 90 (ninety) days before commencement of the waste management activities.	N/A	N/A	No construction has been undertaken on site. Any future construction will need to be overseen by a registered professional engineer.			
4.4	Should a portion of the Facility be further developed, the Permit Holder shall notify the Director of such a development within the Facility and the person referred to in condition 4.3 shall submit a certificate or alternatively a letter to the Director that the construction of that development within the Facility, as proposed by the Permit Holder and approved by the Director, is in accordance with recognised civil engineering practice before disposal may commence on that portion within the Facility. The completed construction works of the development within the Facility shall be inspected by an official of	N/A	N/A	No construction is planned for the site, at present.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	the Department and the person referred to in condition 4.3. If the Director is satisfied with the construction of that further development within the Facility and has given written permission, the Permit Holder may use that portion of the Facility for the further disposal of waste.						
4.5	Any development which occurs within the 1:100 (one in one hundred) year flood line and/or within 500 (five hundred) m from the boundary of a wetland would require a Water Use Licence in terms of section 21 of the National Water Act, 1998 (Act No.36 of 1998) (NWA).	N/A	N/A	No construction is planned for the site, at present.			
4.6	All areas where waste is temporarily stored and handled, excluding the disposal area, must be designed and managed such that there is no escape of contaminants into the environment. All runoff, if any, must be prevented from entering local watercourses.	2 - There is no internal stormwater management system, however there are external berms and cut-off channels which divert stormwater away from the site.	2	There is no internal stormwater management system, however there are external berms and cut-off channels which divert stormwater away from the site.			
4.7	Should any archaeological artefacts be exposed during excavation, the construction in the vicinity of the finding must be stopped. Under no circumstances shall any artefacts be destroyed. Such and archaeological site must be marked and fenced off, and the South African Heritage Resource Agency must be contacted within 48 (forty eight) hours.	N/A	N/A	No construction is planned for the site, at present. If any artefacts are found during operations or future construction the South African Heritage Resource Agency must be contacted.			
4.8	The Permit Holder shall take all reasonable steps, such as suitable zoning and/or written agreements with adjacent landowners, to establish and maintain	0 - Informal dwelling and animal pens have encroached	0	Informal dwelling and animal pens have encroached into the buffer region of the site.	WMCO	It is unknown whether the LLM will be able to	N/A

GIBB Environmental: External compliance audit report of the Bonnievale Waste Disposal Facility
Appendix A. Compliance Table

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	an unbuilt area of "buffer zone" of 800 metres between the Facility and the nearest residential and/or light industrial areas during the operative life of the Facility. Heavy industries or industries which may create nuisance conditions may be permitted within the buffer zone in terms of appropriate legislation.	into the buffer region of the site		The closest structure to the site was located 12m to the North West of the site. <i>The corrective action identified in the previous external audit has not been implemented.</i>		relocate the informal settlements in the short term.	
4.9	Works shall be constructed and maintained on a continuous basis by the Permit Holder to divert and drain from the Facility in a legal manner, all runoff water arising on land adjacent to the Facility, which could be expected as a result of the estimated maximum precipitation during a period of 24 (twenty four) hours with an average frequency of 1:50 (once in fifty) years (hereinafter referred to as the "estimated maximum precipitation"). Such works shall, under the said rainfall event, maintain a freeboard of half a metre.	1 - There is no internal run-off management system within the facility.	1	There is no internal run-off management system within the facility. The external cut off channels had been compromised (siltation and filled with waste) with some cutting into the facility area.	WMCO	January 2021	Nil, minor works to be undertaken using municipal fleet or manually.
4.10	Works shall be constructed and maintained on a continuous basis by the Permit Holder to divert and drain from the working face of the Facility, all runoff water arising on the Facility, which could be expected as a result of the estimated maximum precipitation and to prevent such runoff water from coming into contact with leachate from the Facility. Such works shall, under the said rainfall event maintain a freeboard of half a metre.	0 - There is no internal run-off management system within the facility.	0	There are no internal run-off management within the facility. <i>The corrective action identified in the previous external audit has not been implemented.</i>	WMCO	January 2021	TBC, this cost will depend on the design of the stormwater system.
4.11	Runoff water referred to in condition 4.10 shall comply with the quality requirements prescribed by the Director and Director: RPW, which may be determined from time to time and shall be drained from the Facility in a legal manner.	N/A	N/A	No surface water was available for sampling during the audit.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
4.12	Runoff water referred to in condition 4.10 which does not comply with the quality requirements applicable in terms of condition 4.11 and all leachate shall, by means of works which shall be constructed and maintained on a continuous basis by the Permit Holder:	N/A	N/A	No run-off water was available to sample to determine the quality of the water.			
4.12.1	be discharged into any convenient sewer if accepted by the Authority in control of that sewer.	N/A	N/A	No monitoring results were available to determine the quality of run-off water.			
4.12.2	be treated to comply with the aforementioned standard and discharged in a legal manner; and/or,	N/A	N/A	No monitoring results were available to determine the quality of run-off water.			
4.12.3	with the written approval of the Director be evaporated in dams and/or be evaporated by spraying over portions of the Facility.	N/A	N/A	There are no evaporation dams on-site.			
4.13	Works constructed in compliance with condition 4.12 shall be such a capacity as to accommodate all runoff and leachate which could be expected as a result of the estimated maximum precipitation. Such works shall, under the said rainfall event, maintain a freeboard of half a metre.	N/A	N/A	No run-off was seen on-site. There are external cut-off channels to divert run-off from the site.			
4.14	The Facility shall be constructed in accordance with recognised civil engineering practice to ensure that it remains stable.	2 - Based on visually inspections the site appears to be in a stable condition.	2	Based on visually inspections the site appears to be in a stable condition.			
4.15	The maximum height of the Facility above ground level shall not exceed 3 (three) m.	0 - Based on survey results some sections of the site exceed the 3m height restriction	0	Based on survey results some north east sections of the site exceed the 3m height restriction.	WMCO	January 2021	Nil. Langeberg municipality to use existing equipment or existing tenders to relocate waste on

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
							site or flatten the waste on site.
4.16	The slope of the sides of the Facility shall be constructed in such a manner that little or no erosion occurs.	2 - No erosion was evident on the slopes of the facility, but erosion was seen in the external run-off channels	1	Some on-site erosion was evident on the surface of the facility, and erosion was seen in the external run-off channels.			
4.17	The Permit Holder shall make provision for adequate sanitation facilities at the Facility.	2 - There is one toilet block and a tap with running water on site.	2	There was one toilet block and only one tap with running water on site. As there was only two employees stationed at the site (gate controller and supervisor) this is deemed to be adequate.			
5	Facility Security and Access Control						
5.1	Weatherproof, durable and legible notices in at least three official languages applicable to the area, shall be displayed at each entrance to the Facility. These notices shall prohibit unauthorised entry and state the hours of operation, the name, the address and telephone number of the Permit Holder and the person responsible for the operation of the Facility.	1 - The site has signage in three different language. The WML number on the signage does not match that of the license.	1	The site has signage in three different languages (English, Afrikaans and isiXhosa). The notice board informs of operating times. The sign does contain the address of the LLM (refer to photograph 2). The WML number on the signage does not match that of the license.	WMCO	January 2021	The LLM need to update the existing sign with to add the address and update WML reference or purchase a new sign.
5.2	The Facility shall be fenced to a minimum height of 1.8 (one point eight) m, with gates of the same height at all entrances, to reasonably prevent unauthorised entry and curtail the spreading of wind-blown waste.	1 - The site is fenced and has a gate at the entrance. During the audit it was seen that the	1	The site is fenced and has a gate at the entrance, but the fence had been damaged.	WMCO	January 2021	R5,000 for basic repairs to the fence. Approximately R11,000 for new fence (JPCE, 2020)

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		fence had been damaged in some places					
5.3	The Permit Holder shall ensure effective access control.	2 - Site access is controlled by the site supervisor.	2	Site access is controlled by the site supervisor and gate controller. A record of all people and vehicles entering the site is kept.			
5.4	The Permit Holder shall ensure that the main entrance is manned at the weighbridge during the hours of operation and locked outside the hours of operations.	2 - Site access is controlled, by the site supervisor.	2	Site access is controlled by the site supervisor and gate controller through the main entrance during operating hours and the main entrance gate is locked outside the hours of operation. A record of all vehicles entering the site is kept. There is currently no weighbridge on-site.			
5.5	The Permit Holder shall take all reasonable steps to maintain service roads in a condition which ensures unimpeded access to the Facility for vehicles transporting waste and to keep the roads free of waste.	2 - The site is accessed along a gravel road which was in a good condition	2	The site is accessed along a gravel road which was in a good condition.			
6	Operational						
6.1	Waste disposal and operation shall be done according to the relevant minimum requirements, GN No. R. 636, the Operation Report, dated 27 October 1997, the conditions of this Permit and any other written instruction by the Department.	1 – 2019 comment is similar to the 2020 comment	0	General waste disposed of at the WDF during September 2020 was placed in a trench created at the WDF. The waste was covered and compacted in the trench, but the trench was not closed and	WMCO	January 2021	Nil. This would form of the day-to-day operations required at the WDF.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
				compacted. As a result of the trench, the waste in the waste body and the waste in the excavated soil was exposed and was not covered or compacted. The trench should be closed with the excavated soil and cover material placed over the trench on site and compacted. Green waste that is brought on site is stockpiled and chipped when sufficient amounts are stockpiled for use as mulch. It is not practical to compact or cover these stockpiles. No compaction over covering of construction and demolition waste occurs on site.			
6.2	The Permit Holder shall take all reasonable steps to ensure the Facility is operated in a manner which shall prevent the creation of nuisance conditions or health hazards, such as vectors (flies and vermin), exposed waste, dust, windblown litter, obnoxious odours and noise.	1 - Rodents (rats) were observed on site, however no dust, windblown litter or nuisance odours were noted on site.	1	Rodents (rats) were observed on site, however no dust, windblown litter or nuisance odours were noted on site.	Municipal Site Staff	Use of poison to kill rodents on site is not recommended as non-target species such as bird of prey may ingest the poison.	

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
6.3	The Permit Holder must notify the Director and the Director: RPW immediately of any events or incidents that may cause significant environmental damage or breach the requirements of the Permit.	N/A	N/A	No significant events, or incidents have occurred on site since the last audit.			
6.4	Any complaint from the public must be attended to by the Permit Holder, who must take all reasonable and practical steps to alleviate the cause of the complaint within a reasonable timeframe to the satisfaction of the Director and record it in terms of condition 11.	2 - A complaints register was available on site.	2	A complaints register was available on site. No complaints have been lodged since the last audit.			
6.5	All waste outside of the Facility boundaries, as specified in condition 1.3, must be removed and be disposed of within the boundaries of the Facility on a daily basis.	2 - No building/construction or green waste was noted outside of the boundaries of the facility.	2	No building/construction or green waste was noted outside of the boundaries of the facility. Waste that was observed was general windblown litter from the surrounding community along some points of the boundary fence outside the site.			
6.6	The Permit Holder must within 6 (six) months of the date of signature of this Permit submit a WDF Airspace Determination Report, which estimates the remaining volume of airspace and height of the Facility, as well as estimate the remaining time left for disposal at the Facility and inform the Director thereof in writing. Thereafter, annual reports must be submitted to the Director.	2 - Topographical surveys were undertaken in January, September 2019 and October 2020.	2	Topographical surveys were undertaken in September 2019 and October 2020. The airspace calculations are provided in section 4.2 above.			
6.7	The Permit Holder must within 6 (six) months of the date of signature of this Permit submit the WDF operational design to the Director for approval.	0 - The designs have not been submitted to DEA&DP since the last audit.	0	The WDF operational designs have not been submitted to DEA&DP since the last audit.	WMCO	January 2021	Nil, the designs should be available in the municipal archives.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
6.8	The Permit Holder must submit a detailed Geohydrological Report to the Director and the Director: RPW within 12 (twelve) months from the date of this Permit.	0 - No geohydrological report has been sent to the Director.	0	No geohydrological report has been sent to the Director. The deadline for the report was 31 August 2019. <i>The corrective action identified in the previous external audit has not been implemented.</i>	WMCO	January 2021	R64,200 to appoint an external service provider.
6.9	Waste disposed of at the Facility shall be compacted and covered on a weekly basis with a minimum of 150 (one hundred and fifty) mm of soil or other material approved by the Director, whilst areas that will not be used for waste disposal for longer than a year must be covered with a minimum of at least 200 (two hundred) mm of suitable cover material.	1 - No waste, other than building/construction rubble and green waste is disposed on-site. Covering and compaction occurs occasionally when vehicles are available. As only garden waste and construction and demolition waste is disposed of at site the LLM should engage with DEA&DP to determine if this condition can be	1	General waste was disposed of once at the facility since the previous external audit and was placed in an excavated trench and compacted and covered. However, the trench that was created at the WDF for the disposal of the general waste was not closed and waste within the trench and excavated soil was exposed and was not compacted and covered. The LLM placed sufficient cover material over the WDF that was not used for longer than a year. The C&DW and green waste disposed on-site are not covered as the green waste is chipped and composted or mulched, and the C&DW is crushed and used as cover or fill material. <i>The corrective action identified in the previous</i>	WMCO	January 2021	Nil, engagements with DEA&DP to update the permit so work can be undertaken in-house.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		amended or removed.		external audit has not been implemented.			
6.10	The Permit Holder must ensure that a stockpile of at least 3 (three) weeks of suitable cover material is available at all times.	1 - No stockpile of cover material was observed on-site. Building and construction rubble stockpiles can be used as covering material.	2	No stockpile of cover material was observed on-site. However, building and construction rubble stockpiles on site can be used as cover material if required. It is recommended that LLM engage with DEADP regarding removal/ amendment of conditions related to compaction and covering of waste.	WMCO	January 2021	Nil, engagements with DEA&DP can be undertaken in-house.
6.11	The topsoil must be stockpiled separately to be used for the final capping processes.	N/A	N/A	No topsoil has been removed from the site for use in rehabilitation.			
6.12	The waste body must be progressively constructed towards a pre-determined end-shape, as informed by an airspace determination study.	1 - The slopes of site are currently too steep and would need to be reshaped prior to closure.	1	The slopes of site are currently too steep and would need to be reshaped prior to closure.	WMCO	Before the closure of the site.	TBC, will form part of the rehabilitation cost of the site.
6.13	Skips or bins used for temporary storage of waste must be clearly marked to indicate the different types of waste which can be accepted.	N/A	N/A	No skips or bins are used on site.			
6.14	The Permit Holder must set targets to recover recyclables as part of an overall strategy to divert waste from being disposed of at waste disposal facilities.	1 – Green waste is recovered for composting and used as mulch. There	1	Green waste is recovered for composting and used as mulch. There is no documented plan in place	WMCO	January 2021.	Nil, a plan can be developed in-house.

GIBB Environmental: External compliance audit report of the Bonnievale Waste Disposal Facility
Appendix A. Compliance Table

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		is no documented plan in place which sets targets for diversion of waste from the site. The organic waste diversion plan should be aligned with National Targets in terms of the National Norms and Standards for the Disposal of Waste to Landfill (GN 636 of 2013) and the targets of the Western Cape Integrated Waste Management Plan.		which sets targets for diversion of waste from the site. The organic waste diversion plan should be aligned with National Targets in terms of the National Norms and Standards for the Disposal of Waste to Landfill (GN 636 of 2013) and the targets of the Western Cape Integrated Waste Management Plan.			
6.15	Reclamation of waste may not occur at the Facility.	2 - No reclamation occurs on-site.	2	No reclamation occurs on-site.			
6.16	All staff and visitors' occupational health and safety risks must be identified and managed. Protective clothing must be worn at the Facility.	2 - The gate controller has been provided with adequate Personal Protective Equipment (PPE)	0	The gate controller (a temporary employee) had not been provided with adequate PPE such as gloves, safety boots, a mask and overalls. Only a high visibility jacket had been supplied.	WMCO	Immediately	Approximately R800 per staff member for full PPE (shoes, gloves, overalls, etc.).
6.17	The Permit Holder must ensure that the provisions of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) are met to ensure the health and safety of all staff.	1 - The employee is provided with adequate Personal	1	The permanent employee is provided with adequate PPE; however the temporary employee was not provided	WMCO	January 2021.	R600 for a first aid kit. R600 for a fire extinguisher. The fire extinguisher will

GIBB Environmental: External compliance audit report of the Bonnievale Waste Disposal Facility
Appendix A. Compliance Table

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		Protective Equipment (PPE).		with adequate PPE. A toilet and running water were available on site. There was no first aid kit or fire extinguisher on-site during the audit. There have been occurrences of theft of equipment from the site.			require an annual service at an additional cost.
6.18	The Permit Holder shall remain responsible for the Facility, and/or any of the impacts arising from the operations on the environment.	2 - No impacts arising from the current operations on-site were noted at the time of the audit.	2	No impacts arising from the current operations on-site were noted at the time of the audit.			
6.19	Waste may not be burned at the Facility.	2 - There was no evidence that waste has been burnt on site	0	There was evidence that small amounts of waste had been burnt on site.	On-site Staff	January 2021.	R11,000.00 to repair fencing (JPCE, 2020) and prevent access outside operational hours Conduct daily inspections and stop any burning on-site.
6.20	The Facility must comply with the Noise Control Regulations P.N200/2013, as promulgated under the Environmental Conservation Act, 1989 (Act No. 73 of 1989).	2 - No complaints were lodged in the complaints register related to noise. No machinery or equipment was in operation on site during the audit.	2	No complaints were lodged in the complaints register related to noise. No machinery or equipment was in operation on site during the audit.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
6.21	All invasive alien vegetation must be removed annually.	2 - No invasive alien vegetation was observed on-site	2	No invasive alien vegetation was observed on-site.			
6.22	An Emergency Response Plan (ERP) must be developed, and all staff must be trained in the implementation thereof. The ERP should be regularly updated and must include fire evacuations, injury on duty, accidents, and procedures to be followed should unexpected hazardous waste enter the Facility.	0 - No Emergency Response Plan (ERP), has been developed by the municipality	0	No Emergency Response Plan (ERP), has been developed by the municipality. <i>The corrective action identified in the previous external audit has not been implemented.</i>	WMCO	January 2021	Nil, the plan can be prepared in-house.
6.23	A copy of this Permit must be kept at or near the Facility where the activities will be undertaken. The Permit must be produced to any authorised official of the Department who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein and must be made available for inspection by any employee or agent of the Permit Holder who works or undertakes work at the Facility.	2 - A copy of the license is kept on-site.	2	A copy of the license was kept on-site.			
6.24	Spill kits which include hydrocarbon absorbent material must be kept at the Facility and staff must be trained to use these spill kits.	0 - No spill kits are kept on-site The site does not accept any liquid or hazardous waste, however a spill kit could be used to clean up spills or vehicles and equipment operating on site.	0	No spill kits were kept on-site. The site does not accept any liquid or hazardous waste, however a spill kit could be used to clean up spills from vehicles and equipment operating on site. <i>The corrective action identified in the previous external audit has not been implemented.</i>	WMCO	January 2021	R4,500 for a spill kit with absorbent material and equipment such as bags and spades.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
7.							
7.1	If, in the opinion of the Director, any environmental pollution, nuisances or health risks may be caused by the facility, the license holder must investigate the cause of the problem and take reasonable steps to alleviate the problem in consultation with the Director.	N/A	N/A	No request has been received from the Director to undertake monitoring on site.			
7.2	Should the investigation carried out as per condition 7.1 above reveal any unacceptable levels of pollution, the license holder must submit a report with mitigation measures to the satisfaction of the Director.	N/A	N/A	Refer to 7.1 above.			
7.3	The Permit Holder must put in place a monitoring and measurement plan that must inter alia include:	0 - The LLM are keeping records on site, however there is no plan to govern the procedure for the retention of records	0	The LLM are keeping records on site, however there is no monitoring and measurement plan to govern the procedure for the retention of records.	WMCO	January 2021	Nil. A monitoring plan can be developed in-house.
7.3.1	mass (in tonnes or kilograms) received and disposed;	2 - DEADP's waste calculator forms are used on-site, by keeping a register of all vehicles coming in and out of the site.	1	There was no documented monitoring and measurement plan in place to address how tonnage of waste received and disposed at the landfill site are recorded and managed. DEADP's waste calculator forms were used on-site, by keeping a register of all vehicles coming in and out of the site. However no			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
7.3.2	waste types and sources;	2 - Information is captured manually on site and uploaded to the IPWIS system	1	There was no documented plan in place to address how waste types and sources are recorded and managed. Information was captured manually on site and uploaded to the IPWIS system.			
7.3.3	air quality monitoring; and	0 - No air quality monitoring is done on-site.	1	There was no documented plan in place to inform gas monitoring. Gas monitoring was undertaken by DEA&DP in 2020	WMCO	January 2021	Nil if DEADP can undertake gas monitoring on behalf of the LLM R25,000 to purchase a gas monitor. A consultant can be appointed to assess air quality – R20,000
7.3.4	an annual (once a year) topographical survey submitted to the Director in the form of an Airspace Determination Report, which must estimate the remaining volume of airspace of the Facility and the remaining lifetime for the disposal of waste at the Facility.	2 - The latest airspace and topographical survey has been submitted as part of this audit report.	1	There is no documented plan in place to inform topographical surveys. The latest airspace determination and topographical survey are included as part of this report.			
8	Monitoring						
8.1	Water Monitoring						
8.1.1	A monitoring borehole network for the Facility, which consist of at least one borehole upstream and one borehole downstream of the Facility, must be established and maintained by the Permit Holder so that unobstructed sampling, as required in terms of this Permit can be undertaken.	0 - There are no boreholes on site.	0	There were no boreholes on site. <i>The corrective action identified in the previous external audit has not been implemented.</i>	WMCO	January 2021	Approximately R35,000 per borehole, the cost will depend on the depth of groundwater.

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
8.1.2	Monitoring boreholes shall be equipped with lockable caps. The Director and Director: RPW reserves the right to take water samples at any time and to analyse these samples or have them analysed.	N/A	N/A	There were no boreholes on site. <i>The corrective action identified in the previous external audit has not been implemented.</i>	WMCO		
8.1.3	Surface water monitoring must be performed in all storm water drain outlets that discharges to the natural environment and adjacent to the Facility at locations selected in conjunction with and at such frequency as prescribed by the Water Quality Monitoring Protocol approved by the Director: RPW through the Western Cape Provincial Government.	0 - No surface water monitoring occurs on-site.	0	No surface water monitoring occurs on-site. No surface water was available on channels adjacent to the site to test. The LLM should collect surface waste samples immediately after rain and test the waste quality as indicated in the WML.	WMCO	Dependent on the availability of surface water.	R1,500 per sample
8.2	Background Monitoring						
8.2.1	Samples from the borehole as required above, where the groundwater in the borehole is at an expected higher hydraulic pressure level than the hydraulic pressure level of the groundwater under the Facility, shall be considered as background monitoring. Background groundwater monitoring shall be conducted during each monitoring occasion in terms of conditions 8.3, 8.4 or 8.5 for the water quality variables as agreed by the Director and the Director: RPW.	N/A	N/A	There are no boreholes on site, therefore no sampling can be undertaken.			
8.3	Detection Monitoring						
8.3.1	Monitoring shall be conducted on a biannual (twice per year) basis during late summer and late winter to capture seasonal variation, for the water quality	0 - No surface water monitoring occurs on-site.	0	No surface and ground water monitoring occurs on-site. The LLM should collect surface water samples immediately	WMCO	Dependent on the availability of surface water.	R1,500 per sample

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	variables as agreed by the Director and the Director: RPW.			after rain events and test the water quality as indicated in the WML.			
8.4	Investigate Monitoring						
8.4.1	If, in the opinion of the Director and Director: RPW, a water quality variable listed under the detection monitoring programme, as referred to in condition 8.3, shows an increasing trend, the Permit Holder shall initiate a monthly monitoring programme until such time that the variable is within acceptable limits.	N/A	N/A	The Director and Director: RPW has not requested that the LLM conduct surface water monitoring due to an increasing trend in a water quality variable listed under the detection monitoring programme.	WMCO		
8.5	Post- Closure Monitoring						
8.5.1	Groundwater monitoring by the Permit Holder, in accordance with condition 8.2 or 8.3, shall commence immediately upon closure of the Facility and be maintained for a period of 30 (thirty) years, or such lesser period as may be determined by the Director and Director: RPW.	N/A	N/A	The site is still operational so this condition is not applicable.			
8.6	Further Investigations						
8.6.1	If, in the opinion of the Director and Director: RPW, groundwater, surface water and/or air pollution have occurred or may possibly occur, the Permit Holder shall conduct the necessary investigations and implement additional monitoring and rehabilitation measures, which shall be to the satisfaction of the Director and Director: RPW.	N/A	N/A	No further investigations have been requested from the Director in this regard.			
9.0	Auditing						
9.1	Internal Audits						

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
9.1.1	Internal audits must be conducted quarterly (four time per year) by the Permit Holder and on each audit occasion an official report must be compiled by the relevant auditor to report the findings of the audits, which must be made available to the external auditor specified in condition 9.2.1 and the Director within 30 (thirty) days of the date of the audit was conducted, if requested.	2 - Quarterly internal audits are conducted at the Bonnievale site	2	Quarterly internal audits were conducted at the Bonnievale site. Audits were undertaken on: June 2019 September 2019 December 2019 April 2020 July 2020			
9.2	External Audits						
9.2.1	The Permit Holder must appoint an independent external auditor to audit the Facility annually (once a year) and this auditor must compile an audit report documenting the findings of the audit, which must be submitted by the Permit Holder to the Director.	2 - The last external audit was undertaken in September 2019	2	The last external audit was undertaken in October 2019 and the report was submitted to DEA&DP within 30 days of being finalised.	WMCO		
9.2.2	The audit report must:						
9.2.2.1	specifically state whether the conditions of this Permit are being adhered to;	2 - The previous audit report assesses compliance with all license conditions.	2	The previous audit report assessed compliance with all license conditions.			
9.2.2.2	include an interpretation of all available data and test results regarding the operation of the Facility and all its impacts on the environment;	2 - The audit report includes a summary of information.	2	The audit report includes a summary of the evaluation of operations, infrastructure, permit evaluation and the topographical survey.			
9.2.2.3	specify target dates for the implementation of the recommendations to achieve compliance; and	2 - The previous audit report includes	2	The previous audit report includes target dates to address findings.			

GIBB Environmental: External compliance audit report of the Bonnievale Waste Disposal Facility
Appendix A. Compliance Table

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		target dates to address findings					
9.2.2.4	specify whether the corrective action taken after the previous audits was adequate.	1 - No corrective actions have been taken since the previous audit were successful	2	Where applicable, the October 2019 audit report specified whether the corrective actions undertaken by the LLM since the January 2019 external audit was adequate	WMCO	October 2019, to be addressed in this audit report.	Nil, part of the scope of work of the external auditor.
9.2.3	The external audit report must be submitted to Environmental Monitoring Committee (hereinafter referred to as the "Monitoring Committee"), provided in condition 10 below, within 3 (three) months, from the date on which the external auditor finalised the report.	N/A	N/A	No environmental monitoring committee exists for the Bonnievale WDF.			
9.2.4	Each external audit must be submitted to the Director within 30 (thirty) days, from the date on which the external auditor finalised the report.	2 – The previous audit was undertaken on 29 January 2019 and the report was submitted to DEA&DP in February 2019.	2	The previous audit was undertaken in September 2019 and the report was submitted to DEADP on 30 October 2019, 30 days from the date the auditor finalised the audit report.			
9.2.5	Both the internal and external audit reports must be in accordance with the format as prescribed by the Director.	1 - The audit report was not in the format prescribed by DEA&DP. The previous audit report did not specify the financial provisions required to address findings	2	This external audit report and the previous external audit report, as well as the internal audit reports are in the format prescribed by DEADP.	WMCO	Immediately	Nil. This will be addressed in this and future audit reports.

GIBB Environmental: External compliance audit report of the Bonnievale Waste Disposal Facility
Appendix A. Compliance Table

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
9.3	Departmental Audits and Inspections						
9.3.1	The Director and the Director: RPW reserves the right to audit or inspect the Facility without prior notification at any time and any frequency as may be determined by the Director and Director: RPW.	N/A	N/A	To be noted.			
9.3.2	The Permit Holder must make any records or documentation available to the Director and the Director: RPW upon request, as well as any other information the Director and Director: RPW may require.	N/A	2	The Permit Holder made all documentation available to the Department during the Department's audit of the WDF.			
9.3.3	The findings of these audits or inspection shall be made available to the Permit Holder within 60 (sixty) days of the end of the audit or inspection and shall not be treated as confidential.	N/A	2				
10	Monitoring Committee						
10.1	The Permit Holder must take the necessary steps to establish, maintain and ensure the continued functioning of a Monitoring Committee for the normal operative lifetime of the Facility and for a period of at least 2 (two) years after the closure of the Facility, or such longer period as may be determined by the Director.	0 - No monitoring committee has been established for the Bonnievale Waste Disposal Facility.	0	No monitoring committee has been established for the Bonnievale WDF. <i>The corrective action identified in the previous external audit has not been implemented.</i>	WMCO	January 2021	Nil. LLM to engage with rate payers association, local environmental organisations and DEADP to establish a monitoring committee.
10.2	The Monitoring Committee shall be representative of relevant interested and affected persons and may consist of at least 3 (three) of the following representatives:	N/A	N/A	No monitoring committee has been established for the Bonnievale WDF.			
10.2.1	Permit Holder and/or his/her appointed consultant(s) or advisor(s);	N/A	N/A	No monitoring committee has been established for the Bonnievale WDF.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
10.2.2	representative(s) of the Health, Environment and/or Waste Departments of the relevant local authority;	N/A	N/A	No monitoring committee has been established for the Bonnievale WDF.			
10.2.3	representative(s) of the Department of Environmental Affairs and Development Planning; Directorate: Waste Management; and	N/A	N/A	No monitoring committee has been established for the Bonnievale WDF.			
10.2.4	at least 3 (three) persons/parties, their representatives elected by the local residents, or proof of notification of the invitation to attend the Monitoring Committee to interested and affected parties of each meeting.	N/A	N/A	No monitoring committee has been established for the Bonnievale WDF.			
10.3	The Monitoring Committee shall meet annually (once a year) and no later than 3 (three) months after the finalisation of the external audit report was conducted in terms of condition 9.2.1 and submitted in terms of condition 9.2.3.	N/A	N/A	No monitoring committee has been established for the Bonnievale WDF.			
10.4	The Permit Holder must keep minutes of all meetings of the Monitoring Committee and distribute these minutes to all members of the Monitoring Committee within 30 (thirty) days after the meeting.	N/A	N/A	No monitoring committee has been established for the Bonnievale WDF.			
11. Recording Keeping							
11.1	The Permit Holder must keep records of all monitoring results, nuisances and complaints at the Facility.	2 - No monitoring occurs on-site. A complaint register is kept on-site.	2	No monitoring occurs on-site. A complaint register is kept on-site.			
11.2	Accurate records of waste volumes or masses received and disposed must be kept at the Facility and reported to the Department as per condition 11.5.	2 - Waste volumes and masses received and disposed of is placed on Waste	2	Waste volumes and masses received and disposed of or diverted from the WDF are recorded and reported on the Waste Information System			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
		Information System (IPWIS).		(IPWIS). The records are based on visual estimates.			
11.3	All records required or resulting from activities required by this Permit must						
11.3.1	be legible;	2 - All records kept are legible.	2	All records kept are legible.			
11.3.2	be made available and should form part of any audit report;	2 - All records requested were made available upon request.	2	All records requested were made available upon request.			
11.3.3	if amended, be amended in such a way that the original and any subsequent amendments remain legible and are easily retrievable;	2 - No records have been amended	N/A	No records have been amended.			
11.3.4	be retained in accordance with documented procedures which are approved by the Director; and	2 - Records are stored at the municipal office.	2	Records are stored at the municipal office.			
11.3.5	be made available upon the request of the Director and/or Director: RPW.	N/A	2	Records were made available to the auditor during the DEADP audit.			
11.4	The Permit Holder shall record all borehole data and chemical analysis in a format agreed upon in writing between the Director and the Director: RPW, the Permit Holder, and a relevant specialist if so required.	N/A	N/A	No surface, ground water and air quality monitoring occurs on-site.			
11.5	The Permit Holder must register and report all waste volumes or masses received, disposed of or stored to the Department's Integrated Pollutant and Waste Information System (IPWIS), which can be accessed on the URL:http://ipwis.pgwc.gov.za/ipwis3/public , as required by the Department.	2 - The municipality submits monthly reports to the IPWIS	2	The municipality submits monthly reports to the IPWIS system.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
12	Reporting						
12.1	Reporting of Incidents						
12.1.1	The Permit Holder must, within 24 (twenty-four) hours, notify the Director of the occurrence or detection of any incident at the Facility, which has the potential to cause disruption in the normal operation of the Facility, or has caused water pollution, pollution of the environment, health risk or nuisance conditions.	2 - No incidents have occurred on-site	2	No incidents have occurred on-site that would require the municipality to inform the Director.			
12.1.2	The Permit Holder must, within 14 (fourteen) days, or a shorter period of time, if specified by the Director, from the occurrence or detection of any incident referred to in condition 12.1.1, submit an action plan, which must include a detailed time schedule, to the satisfaction of the Director of measures taken to:	N/A	N/A	No incidents have occurred which require action plans.			
12.1.2.1	correct the impact resulting from the incident;	N/A	N/A	No incidents have occurred which require action plans.			
12.1.2.2	prevent the incident from causing further impact; and	N/A	N/A	No incidents have occurred which require action plans.			
12.1.2.3	prevent a recurrence of a similar incident.	N/A	N/A	No incidents have occurred which require action plans.			
12.1.3	In the event that measures have not been implemented within 21 (twenty-one) days of the incident to address impacts caused by the incident referred to in condition 12.1.1, or measures which have been implemented are inadequate, the Director may implement the necessary measures at the cost and risk of the Permit Holder.	N/A	N/A	No incidents have occurred which require action plans.			
12.1.4	The Permit Holder or duly appointed person must keep an incident report and complaints register,	N/A	2	An incident and complaints register is maintained by the LLM and was available at the			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	which must be made available to both external and Departmental auditors for the purpose of their audits.			WDF. No incidents have occurred that require action plans and no complaints were made since the previous external audit.			
12.2	Other Reports						
12.2.1	The information required in terms of condition 12.1, shall be submitted to the Director within a period of one year from the date of issuing of this Permit and annually (once a year) thereafter.	N/A	N/A	To be noted.			
12.2.2	The information required in terms of condition 8 must be reported to the Director, and the Director: RPW, as specified in condition 11, where applicable, within a period of 60 (sixty) days following the analysis of the samples. The information must also be included into a trend report, which must contain a graphical representation of all results obtained previously at any specific point, as well as an interpretation and discussion of the results of each monitoring occasion.	N/A	N/A	No surface, ground water and air quality monitoring occurs on-site therefore there are no records to report.	WMCO		
13. Rehabilitation and Closure of the Facility							
13.1	The Permit Holder shall, at least 60 (sixty) days prior to the intended closure of the Facility, notify the Director by registered mail of such closure and submit final rehabilitation plans for approval.	N/A	N/A	To be noted by the Permit Holder. However, it is not applicable at this stage as the site is still in operation and there are no plans to close the site.			
13.2	Immediately following the cessation of operations, with the intention to close the Facility, the surface of the Facility shall be covered in such a way that:	N/A	N/A	The site is still operational.			
13.2.1	the formation of pools due to rain is prevented;	N/A	N/A	The site is still operational.			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
13.2.2	free surface runoff of rain-water is ensured; and	N/A	N/A	The site is still operational.			
13.2.3	no objects or materials which may hamper the rehabilitation of the Facility are present.	N/A	N/A	The site is still operational.			
13.3	The Permit Holder shall rehabilitate the Facility in accordance with a rehabilitation plan, which shall be submitted by the Permit Holder and which shall be to the satisfaction of the Director.	N/A	N/A	The site is still operational.			
14. Leasing and Alienation of the Facility							
14.1	Should the Permit Holder want to alienate or lease the Facility, he/she must notify the Director in writing of such an intention at least 120 (one hundred and twenty) days prior to the said transaction. Should the approval be granted, the subsequent Permit Holder shall remain liable to compliance with all Permit conditions.	N/A	N/A	Not applicable as no alienation or leasing of land is planned for the immediate future of the facility.			
15	Transfer of Permit						
15.1	Should the Permit Holder want to transfer holdership of this Permit, he/she must apply in terms of section 52 of the NEM:WA.	N/A	N/A	The waste management license has not been transferred.			
15.2	Any subsequent Permit Holder shall be bound by the conditions of this Permit.	N/A	N/A	To be noted.	WMCO		
16	General						
16.1	The Permit Holder shall remain responsible for the Facility, and/or any of the impacts arising from the operations on the environment.	N/A	N/A	To be noted.	WMCO		
16.2	This Permit shall not be construed as exempting the Permit Holder from compliance with the provisions of the Health Act, 2003 (Act No. 61 of 2003), the NWA,	N/A	N/A	To be noted. The Permit Holder takes responsibilities for compliance of the Health Act,	WMCO		

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
	or any applicable act, ordinance, regulation or by-law.			NWA, or any applicable act for the Facility.			
16.3	Transgression of any condition of this Permit could result in the suspension of the Permit by this Director.	N/A	N/A	The Permit Holder should take note of this requirement.	WMCO		
16.4	The Permit Holder must submit an Organic Waste Diversion Plan to the Director within 90 (ninety) days after the date of issue of this Permit and annually thereafter.	0 - No Organic Waste Diversion Plan has been developed for the facility.	0	No Organic Waste Diversion Plan has been developed for the facility. <i>The corrective action identified in the previous external audit has not been implemented.</i>	WMCO	January 2021	Nil, the organic waste diversion plan can be developed in-house.
16.5	The information within the Organic Waste Diversion Plan must:						
16.5.1	provide a status quo of current organic waste sources and volumes disposed of, and current rates procedures of organic waste diversion from the Facility; and	N/A	N/A	No Organic Waste Diversion Plan has been developed for the facility.			
16.5.2	set annual targets and identity procedures from 2018 that will be implemented to meet these targets for the diversion of organic waste from municipal WDF's, in order to reach a 50% diversion by the year 2022 and 100% diversion by the year 2027.	N/A	N/A	No Organic Waste Diversion Plan has been developed for the facility.			
16.6	The Permit may be reviewed at any time before the waste disposal airspace capacity is reached. Based on the results of the review, especially compliance to Permit conditions or recommendations from the audit reports and/or changing legislation, the Permit can be amended or withdrawn or the validity thereof be extended.	N/A	N/A	To be noted.			
-	Σ Total compliance score		111	-			

Licence No.	Facility - Operational Tasks - Check List	Previous Audit Compliance	Compliance Rating (2=C; 1=PC; 0=NC; -=NA)	Comments	Responsible person (for task)	Time Frame (to rectify highlighted issues)	Budget (Financial implications: has the budget included enough funds for this item?)
-	No. of Conditions Audited		81	-			
	Average Compliant Score		1.37				
-	Overall compliance rating		68.52%	-			
	Status Indicator		Amber				

Appendix B: Photographic record



Photograph 1: Entrance to the facility with a lockable gate



Photograph 2: Signage at the entrance of the site displayed in three local languages. Note the signage needs to be updated with the new licence number and address of the LLM



Photograph 3: Site office building where site staff are situated and the onsite ablution facility



Photograph 4: Fencing around the facility and overview of the waste body



Photograph 5: Cell created on site for the disposal of general waste



Photograph 6: Edge of the waste body with steep slopes and garden waste with thorns stockpiled against the fence to prevent community members entering the WDF. Note that the houses within the WDF buffer zone.



Photograph 7: Animal pens and houses within the WDF buffer zone



Photograph 8: Evidence of burnt garden waste on the WDF



Photograph 9: Chipped (left) and stockpiled (right) garden waste at the WDF



Photograph 10: C&DW stockpiled at the boundary of the WDF

Appendix C: Internal audit reports since the previous external audit

- 25 September 2019
- 11 December 2019
- 20 April 2020
- 10 July 2020

Appendix D: Topographical Survey



Document Control and Disclaimer

FORM IP180_B



CLIENT	:	Langeberg Local Municipality
PROJECT NAME	:	Langeberg Local Municipality Waste Facility Audits
PROJECT No.	:	GE39035
TITLE OF DOCUMENT	:	Bonnievale WDF External Audit Report 2020
ELECTRONIC LOCATION	:	\\plz-cluster\projects\GE39035 EN1 KF Langeberg landfill audits\03_Project Management Plan Design\G_Document Management - Reports\Bonnievale\2020 external audit\Bonnievale WDF External Audit 2020 FINAL.DOCX

Approved By Project Executive		Reviewed By	Prepared By
ORIGINAL	NAME Walter Fyvie	NAME Kate Flood	NAME Charl Kruger and Ian Malloy
DATE 29 November 2020	SIGNATURE 	SIGNATURE 	SIGNATURE
Approved By Project Executive		Reviewed By	Prepared By
REVISION 1	NAME Kate Flood	NAME Kate Flood	NAME Charl Kruger and Ian Malloy
DATE 07 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:

- GIBB's written agreement is obtained prior to such release, and
- 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
- 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.

GIBB (Pty) Ltd		Website :	www.gibb.co.za
Postal Address :	P.O. Box 63703, Port Elizabeth; 6057	Physical Address :	Port Elizabeth 1st Floor St. George's Corner, 116 Park Drive Central Port Elizabeth 6001 PO Box 63703, Greenacres 6057
Contact Person :	Kate Flood	Email Address :	kflood@gibb.co.za
Telephone No. :	041 392 7500	Fax No. :	041 363 9300

Certificate Of Completion

Envelope Id: A291B5D653F14F1B9D114B82A5D65A3F

Status: Completed

Subject: Please DocuSign: P20088_REPORTS_04_LANGE BERG LM_REV 00-Draft IWMP.pdf

Source Envelope:

Document Pages: 294

Signatures: 3

Envelope Originator:

Certificate Pages: 5

Initials: 0

Wonder Kekana

AutoNav: Enabled

doccontrol@deltabec.com

Envelopeld Stamping: Enabled

IP Address: 196.250.56.5

Time Zone: (UTC+02:00) Harare, Pretoria

Record Tracking

Status: Original

Holder: Wonder Kekana

Location: DocuSign

05-Feb-21 | 10:01

doccontrol@deltabec.com

Signer Events

CStander

chante.stander@deltabec.com

Security Level: Email, Account Authentication
(None)

Signature

DocuSigned by:


F56816D06756492...

Signature Adoption: Pre-selected Style

Using IP Address: 196.250.56.5

Timestamp

Sent: 05-Feb-21 | 10:03

Viewed: 05-Feb-21 | 10:04

Signed: 05-Feb-21 | 10:05

Electronic Record and Signature Disclosure:

Accepted: 05-Feb-21 | 10:04

ID: d9ff76df-807a-451b-a9a0-8df8cb3b03d8

JB Otto

kobus@kobusotto.co.za

Security Level: Email, Account Authentication
(None)

DocuSigned by:


ED9F46D99BE442E...

Signature Adoption: Pre-selected Style

Using IP Address: 197.89.89.207

Sent: 05-Feb-21 | 10:05

Viewed: 05-Feb-21 | 10:14

Signed: 05-Feb-21 | 10:16

Electronic Record and Signature Disclosure:

Accepted: 05-Feb-21 | 10:14

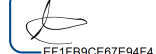
ID: 119740bb-a427-4dc9-b850-b3d60eef338a

Stanford Acres

stanford.acres@deltabec.com

Security Level: Email, Account Authentication
(None)

DocuSigned by:


EF1FB9CE87E94F4...

Signature Adoption: Drawn on Device

Using IP Address: 105.245.106.115

Signed using mobile

Sent: 05-Feb-21 | 10:16

Viewed: 05-Feb-21 | 11:23

Signed: 05-Feb-21 | 11:24

Electronic Record and Signature Disclosure:

Accepted: 05-Feb-21 | 11:23

ID: 3d02c83a-687d-4e55-8a0b-7cb27f9496a2

In Person Signer Events

Signature

Timestamp

Editor Delivery Events

Status

Timestamp

Agent Delivery Events

Status

Timestamp

Intermediary Delivery Events

Status

Timestamp

Certified Delivery Events

Status

Timestamp

Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	05-Feb-21 10:03
Certified Delivered	Security Checked	05-Feb-21 11:23
Signing Complete	Security Checked	05-Feb-21 11:24
Completed	Security Checked	05-Feb-21 11:24
Payment Events	Status	Timestamps
Electronic Record and Signature Disclosure		

ELECTRONIC RECORD AND SIGNATURE DISCLOSURE

From time to time, Delta Built Environment Consulting (we, us or Company) may be required by law to provide to you certain written notices or disclosures. Described below are the terms and conditions for providing to you such notices and disclosures electronically through the DocuSign system. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to this Electronic Record and Signature Disclosure (ERSD), please confirm your agreement by selecting the check-box next to 'I agree to use electronic records and signatures' before clicking 'CONTINUE' within the DocuSign system.

Getting paper copies

At any time, you may request from us a paper copy of any record provided or made available electronically to you by us. You will have the ability to download and print documents we send to you through the DocuSign system during and immediately after the signing session and, if you elect to create a DocuSign account, you may access the documents for a limited period of time (usually 30 days) after such documents are first sent to you. After such time, if you wish for us to send you paper copies of any such documents from our office to you, you will be charged a \$0.00 per-page fee. You may request delivery of such paper copies from us by following the procedure described below.

Withdrawing your consent

If you decide to receive notices and disclosures from us electronically, you may at any time change your mind and tell us that thereafter you want to receive required notices and disclosures only in paper format. How you must inform us of your decision to receive future notices and disclosure in paper format and withdraw your consent to receive notices and disclosures electronically is described below.

Consequences of changing your mind

If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. Further, you will no longer be able to use the DocuSign system to receive required notices and consents electronically from us or to sign electronically documents from us.

All notices and disclosures will be sent to you electronically

Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through the DocuSign system all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

How to contact Delta Built Environment Consulting:

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:

To contact us by email send messages to: doccontrol@deltabec.com

To advise Delta Built Environment Consulting of your new email address

To let us know of a change in your email address where we should send notices and disclosures electronically to you, you must send an email message to us at doccontrol@deltabec.com and in the body of such request you must state: your previous email address, your new email address. We do not require any other information from you to change your email address.

If you created a DocuSign account, you may update it with your new email address through your account preferences.

To request paper copies from Delta Built Environment Consulting

To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an email to doccontrol@deltabec.com and in the body of such request you must state your email address, full name, mailing address, and telephone number. We will bill you for any fees at that time, if any.

To withdraw your consent with Delta Built Environment Consulting

To inform us that you no longer wish to receive future notices and disclosures in electronic format you may:

- i. decline to sign a document from within your signing session, and on the subsequent page, select the check-box indicating you wish to withdraw your consent, or you may;
- ii. send us an email to doccontrol@deltabec.com and in the body of such request you must state your email, full name, mailing address, and telephone number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

Required hardware and software

The minimum system requirements for using the DocuSign system may change over time. The current system requirements are found here: <https://support.docusign.com/guides/signer-guide-signing-system-requirements>.

Acknowledging your access and consent to receive and sign documents electronically

To confirm to us that you can access this information electronically, which will be similar to other electronic notices and disclosures that we will provide to you, please confirm that you have read this ERSD, and (i) that you are able to print on paper or electronically save this ERSD for your future reference and access; or (ii) that you are able to email this ERSD to an email address where you will be able to print on paper or save it for your future reference and access. Further, if you consent to receiving notices and disclosures exclusively in electronic format as described herein, then select the check-box next to ‘I agree to use electronic records and signatures’ before clicking ‘CONTINUE’ within the DocuSign system.

By selecting the check-box next to ‘I agree to use electronic records and signatures’, you confirm that:

- You can access and read this Electronic Record and Signature Disclosure; and
- You can print on paper this Electronic Record and Signature Disclosure, or save or send this Electronic Record and Disclosure to a location where you can print it, for future reference and access; and
- Until or unless you notify Delta Built Environment Consulting as described above, you consent to receive exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you by Delta Built Environment Consulting during the course of your relationship with Delta Built Environment Consulting.