

Annexure C

# CAPITAL EXPENDITURE FRAMEWORK 2021/2026

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# Integrated Urban Development Grant (IUDG)

**Business Plan Report** 

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# **IUDG Business Plan Report**

Final Report 2021/22

## **Drakenstein Local Municipality**

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#### DISCLAIMER

While the information contained in this document is considered to be true and correct at the date of publication, changes in circumstances after the time of publication may impact on the accuracy of the information.



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#### Appendix A

Demographic Data Sources and Methodology

# Abbreviations

AADD	:	Annual Average Daily Demand
CCT	:	City of Cape Town
CEF	:	Capital Expenditure Framework
CIF	:	Capital Investment Framework
COGTA	:	Cooperative Governance and Traditional Affairs
CS	:	Community Survey
CSIR	:	Council for Scientific and Industrial Research
CW	:	Cape Winelands
DM	:	District Municipality
FA	:	Functional Area
GDPR	:	Gross Domestic Product Regional
GDP-R	:	Gross Domestic Product - Regional
HV	:	High Voltage
IDP	:	Integrated Development Plan
IUDF	:	Integrated Urban Development Framework
IUDG	:	Integrated Urban Development Grant
IWMP	:	Integrated Waste Management Plan
LSDF	:	Local Spatial Development Framework
LTFP	:	Long Term Financial Plan
LV	:	Low Voltage
MERO	:	Municipal Economic Review and Outlook
MRF	:	Materials Recovery Facility
MW	:	Medium Voltage
NMT	:	Non-Motorised Transport
PDDWF	:	Peak Daily Dry Weather Flow
PS	:	Pump Station
PSDF	:	Provincial Spatial Development Framework
PV	:	Photovoltaic
RTS	:	Refuse Transfer Station
RUL	:	Remaining Useful Life
SDF	:	Spatial Development Framework
SEP	:	Socio-Economic Profile
UAW	:	Unaccounted for water
VPUU	:	Violence Prevention through Urban Upgrading
WC	:	Western Cape
WCDM	:	West Coast District Municipality
WMP	:	Water Master Plan
WTP	:	Water Treatment Plan
WWTP	:	Wastewater Treatment Plant

# 1 Background and Introduction

Cabinet approved in April 2016 the Integrated Urban Development Framework (IUDF) as a policy framework for the transformation and restructuring of South Africa's urban spaces to achieve the vision of creating liveable, safe, resource-efficient cities and towns that are socially integrated, economically inclusive and globally competitive.

## **Core elements of the IUDF**



As an incentive to the implementation of the IUDF, Government has introduced a consolidated grant for Intermediary City Municipalities, namely the Integrated Urban Development Grant (IUDG). The IUDG refers to a new grant that is the result of a restructuring where various existing grants are being consolidated and intended to provide funding for public investment in infrastructure for the poor and to promote increased access to municipal-owned sources of capital finance in order to increase funding for investment in economic infrastructure. The ultimate goal is to ensure that these public investments are spatially aligned and to promote the sound management of the assets delivered by cities.

To qualify for the Integrated Urban Development Grant funding stream for 2020/21, the eligible Drakenstein Municipality must submit a Business Plan that contains a three-year capital programme that is aligned with a 10-year Capital Expenditure Framework (CEF) to the transferring officer within the Department of Cooperative Governance and Traditional Affairs (Vote 4).

This report represents the submission of the Drakenstein Local Municipality Draft Business Plan for the Integrated Urban Development Grant to the transferring officer by May 2020.

# 1.1 Requirements for IUDG Business Plan

According to the Division of Revenue Act, the details to be contained in the IUDG Business Plan include the following:

- This grant uses a three-year capital programme that is aligned to a 10-year Capital Expenditure Framework
- The 3-year capital programme must demonstrate alignment with the Capital Expenditure Framework
- The three-year capital programme must provide the following detail for each sub-programme that is partially or fully funded by the IUGD:
  - Classification of sub-programme as informal settlement upgrading, other new infrastructure or renewal
  - Anticipated outputs



- Indication of the proportion of outputs that will be delivered in priority areas as identified in the Spatial Development Framework
- Indication of the proportion of outputs that will benefit low-income households, high-income households or non-residential customers
- The three-year capital programme must demonstrate appropriate co-funding for the portion of the programme that does not benefit low-income households
- This grant uses the Municipal Infrastructure Grant-Management Information System (MIG-MIS) registration requirements

# **1.2** Requirements for a CEF

The Department of Cooperative Governance has developed a Guide to preparing a Capital Expenditure Framework (CEF), Draft V10 for the specific purpose of the IUDG which the Drakenstein Municipality followed in the preparation of the CEF submitted for the 2019/2020 IUDG. The Guide is still under revision.

A CEF is defined in the Guide as follows:

"The Capital Expenditure Framework in the context of this guideline includes all the infrastructure that falls within the mandate of the municipality and is funded by the municipality and includes own funding, grants received as well as borrowing raised by the municipality itself. It is an important tool in ensuring that long-term infrastructure investment decisions are timeously made in a financially viable way to support the IUDF objectives in facilitating spatial transformation.

The CEF therefor[e] differs from the Capital Investment Framework which is a "catch all" infrastructure requirement including the infrastructure to be provided by other levels of Government."

The CEF Guide further states that the guide is for the specific purpose of developing a CEF that meets the requirements for monitoring of the IUDG and is not for the purpose of the CEF required in the Spatial Planning and Land Use Management Act (SPLUMA). SPLUMA does not provide further detail on what a SPLUMA-compliant CEF should include. There is currently no specification for a SPLUMA-compliant CEF but this guide hopes to contribute to the development of such a specification.

# 1.3 Structure of this IUDG Business Plan

The structure of the Business Plan follows the key components of the Guideline to prepare a CEF Draft (COGTA v9). Chapter 2 starts by describing the strategic direction of the Drakenstein Municipality, followed by the description and socio-economic profiling of the Municipality in Chapter 3.

Chapter 4 describes the four Functional Areas of the Municipality. Thereafter, for each of the Functional Areas, a socio-economic assessment, population projection and land budget were determined for the potential growth until 2030. A technical assessment of backlog assessment, demand analysis and capacity requirements were done in order to arrive at a high-level estimate of capital investment required for the backlog and growth in the respective Functional Areas.

Chapter 5 represents the outcome of the financial module. It summarises the Long-Term Financial Plan (LTFP) and affordability envelope, whereafter the capital investment is analysed and fit per Functional Area to reach a 10-year Capital Expenditure Framework (Chapter 6) from which a three 3-year Capital Expenditure Programme is drawn (Chapter 7).

#### Figure 1: Structure of the IUDG Business Plan



### 2 Strategic direction of the Drakenstein Local **Municipality**

#### **Municipal Vision** 2.1

Drakenstein Local Municipality's long-term vision in the IDP is to become "A City of Excellence".

The long-term Strategic Plan (Vision 2032) is the strategy for Drakenstein Municipality to realise the vision of being a "City of Excellence" within the next fifteen years. Key facets of Vision 2032 are economic dynamism, quality of life for all, long-term strategies to maintain competitiveness, a strong, well-governed brand and financial sustainability.



#### Figure 2: Vision 2032 Key facets

#### The Drakenstein Spatial Development Framework 2.2 2020

The spatial development vision, "A diverse community sustained within the valley of freedom, striving for excellence," provides the guidance for the development trajectory and development decisions of the Drakenstein Municipality. The spatial development vision of the Drakenstein Municipality is one that leverages the natural, physical and cultural elements that define its unique position. The Drakenstein Municipality seeks to create an interconnected, resilient environment that strives for excellence, embraces innovation and pursues freedom for all, creating a tolerant and cohesive society in which informality is accepted, redress of past injustices is prioritised, and freedom for all is realised.

(Source: Drakenstein Spatial Development Framework, 2020.

#### Figure 3: Spatial vision for Drakenstein Municipality



Source: Drakenstein SDF, 2020

# 2.3 Alignment of the IDP Key Performance Areas and the SDF Key Spatial Concepts

The Drakenstein Strategic Framework comprises seven key performance areas (KPAs), known as the IDP KPAs. Seven key spatial concepts emerged from the SDF based on an evaluation of the spatial opportunities and challenges as well as the formulation of the spatial vision.

**Table 1** below illustrates the alignment of the IDP KPAs and the key spatial concepts. The KPAs in the Drakenstein Strategic Framework provide the overall basis for performance within the municipality and the key spatial concepts provide the spatial strategies aligned with and in support of achieving the KPAs

#### Table 1: IDP Key Performance Areas and the SDF Key Spatial Concepts

					Key Spatial Concepts			
KPA Strategic Objective KPA 1: Good Governance To promote proper governance and public participation	KPA Strategic Objective	Concept 1: Achieving Vision 2032 Catalytic Zones and Big Moves	Concept 2: Promoting Integrated Environmental Management	Concept 3: Promoting Agriculture and Rural Development	Concept 4: Protecting and Promoting Heritage and Cultural Landscapes	Concept 5: Reinforcing the Hierarchy of Settlements and Promoting Rural- Urban Connectivity	Concept 6: Promoting Connectivity, Mobility and Logistics Corridors	Concept 7: Promoting Spatial Transformation toward Resilient, Inclusive, Smart and Sustainable Settlements
1	KPA 1: Good Governance To promote proper governance and public participation	A responsive Municipality based on sound principles which embodies and embrace the rule of law, public participation, accountability and responsibility.	Promotes custodian/ stewardship of natural assets. Develop environmental awareness and education.	Increase exposure of agricultural practices and products to the general public and increase food security and nutritional awareness.	Establish partnerships for integrated management of landscapes and scenic routes and areas of cultural significance which cut across municipal boundaries.	Promote through public participation the focus of investment according to the hierarchy of settlements. Encourage investment and public-private- partnerships in priority nodes.	Establish Intergovernmental Forums to promote logistics corridors and improve connectivity.	Investigate private- public partnerships for key priority projects.

KPA Strategic Objective					Key Spatial Concepts			
		Concept 1: Achieving Vision 2032 Catalytic Zones and Big Moves	Concept 2: Promoting Integrated Environmental Management	Concept 3: Promoting Agriculture and Rural Development	Concept 4: Protecting and Promoting Heritage and Cultural Landscapes	Concept 5: Reinforcing the Hierarchy of Settlements and Promoting Rural-Urban Connectivity	Concept 6: Promoting Connectivity, Mobility and Logistics Corridors	Concept 7: Promoting Spatial Transformation toward Resilient, Inclusive, Smart and Sustainable Settlements
2	KPA 2: Financial Sustainability To ensure the financial sustainability of the Municipality in order to fulfil the statutory requirements	<ul> <li>Affordable and sustained revenue base to finance capital and operating budget expenses.</li> <li>Sound financial management practices and clean audit reports to build the public's confidence in management</li> </ul>	Public-private partnerships for disaster management. Incentivise conservation of private land	Re-orientation of existing farming model to facilitate appropriate subdivision, diversification, and adaptive reuse of irrigated land, fasttracked land reform and new local food chains between producers and consumers.	Acknowledge the potential for growing the contribution that these resources (heritage and cultural resources) make to the local economy.	Expand the municipal revenue base and prioritise capital investment aligned to the prioritisation of settlements.	Establish N1 Gateways and Logistics hubs to improve spending and revenue in the municipal area.	Promote urban renewal programmes in CBDs. Facilitate land ownership and security of tenure.
3	KPA 3: Institutional Transformation To provide an effective and efficient workforce by aligning our institutional arrangements to our overall strategy in order to deliver quality services.	A motivated and skilled workforce that supports the operational needs of the municipality in the implementation of the IDP objectives.	Invest in public private partnerships.	Adopt new land use management scheme to manage agriland diversification.	Adopt new land use managements scheme and heritage overlay zone to address impact on sensitive landscapes.	Municipal Capital Investment Prioritisation Model to be aligned to prioritisation of settlements in the SDF	Efficient institutional procedures to prepare land for development of logistic hubs.	New models of housing delivery and security of tenure to promote densification, accommodate a variety of income groups and a range of land uses.
4	KPA 4: Physical Infrastructure and Services To ensure efficient infrastructure and energy supply that will contribute to the improvement of quality of life for all citizens within Drakenstein as well as to improve our public relations thereby pledging that our customers are serviced with dignity and care.	<ul> <li>An adequate and well maintained infrastructure network complementing the developmental goals of the Municipality.</li> <li>A caring Municipality that is sensitive to the needs of the community based on a sound and embedded value system.</li> </ul>	Promote offgrid services in outer lying and environmentally sensitive areas. Improve basic services to reduce disaster risk. Stricter management of resource utilization and consumption.	Promote offgrid agriculture infrastructure. Employ new technology e.g. hydroponic growing.	Promote off-grid services in outer- lying areas or environmentally sensitive areas.	Planning and implementation of new infrastructure and upgrading/ renewal of infrastructure, to be prioritised according to hierarchy of settlements	Integrated planning and provision of services to support logistic hubs and connectivity, including the Paarl East-West Integration Corridor.	Upgrade network capacity to cope with densification. Ensure that long-term planned expansion of infrastructure networks will result in optimal use of land and smart growth patterns.

					Key Spatial Concepts			
	KPA Strategic Objective	Concept 1: Achieving Vision 2032 Catalytic Zones and Big Moves	Concept 2: Promoting Integrated Environmental Management	Concept 3: Promoting Agriculture and Rural Development	Concept 4: Protecting and Promoting Heritage and Cultural Landscapes	Concept 5: Reinforcing the Hierarchy of Settlements and Promoting Rural-Urban Connectivity	Concept 6: Promoting Connectivity, Mobility and Logistics Corridors	Concept 7: Promoting Spatial Transformation toward Resilient, Inclusive, Smart and Sustainable Settlements
5	KPA 5: Planning and Economic Development Well developed strategies implemented to promote economic growth and development in Municipal Area	To facilitate sustainable economic empowerment for all communities within Drakenstein and enable a viable and conducive economic environment through the development of related initiatives including job creation and skills development	Eco-tourism encouraged. Employment through EPWP.	Agriculture as the economic base of the region. Agri-tourism and heritage assets to be promoted. Leverage rural and economic growth through road and rail infrastructure. Encourage food security.	Promote ecotourism, agri-tourism and signage strategy for municipality	Focus on creating conducive environments and empowered communities in the settlements.	Empower communities by improving connectivity between to markets, to places of work, stay and economic opportunities	Optimise use of land in greenand brownfield developments.
6	KPA 6: Safety and Environmental Management Respond to all emergencies within predetermined times in order to mitigate risks and hazards. Develop and approve strategic and Disaster Risk Management Plans that feeds into the IDP which render communities safe. Increase staff compliment. Increase Vehicle Fleet.	To contribute to the health and safety of communities in Drakenstein through the pro active identification, prevention, mitigation and management of health including environmental health, fire and disaster risks.	Protect Critical Biodiversity Areas. Roll-out of disaster management plans and map high vulnerability index and risk areas. Recognise the threat of climate change.	Establish sites for urban agriculture to promote household food security and improved nutrition. Employ appropriate technology to manage climate control.	Protect scenic routes, gateways, view sheds and sensitive interfaces between settlements and the natural and rural environment.	Settlement planning and renewal to identify areas of safety and environmental mitigation required in order to secure community safety and environmental protection.	Provide for adequate access to health and safety facilities, and improve access routes required by emergency vehicles.	Protect the particular sense of place of settlements and nodes.

KPA Strategic Objective		Key Spatial Concepts										
		Concept 1: Achieving Vision 2032 Catalytic Zones and Big Moves	Concept 2: Promoting Integrated Environmental Management	Concept 3: Promoting Agriculture and Rural Development	Concept 4: Protecting and Promoting Heritage and Cultural Landscapes	Concept 5: Reinforcing the Hierarchy of Settlements and Promoting Rural-Urban Connectivity	Concept 6: Promoting Connectivity, Mobility and Logistics Corridors	Concept 7: Promoting Spatial Transformation toward Resilient, Inclusive, Smart and Sustainable Settlements				
7	KPA 7: Social and Community Development Integrated Sustainable Human Settlement Plan that addresses the needs based on the available financial Resources. To establish an environment where the poor and the most vulnerable are empowered through the building of social capital, the implementation of development programmes and support and sustainable livelihood strategies.	To assist and facilitate with the development and empowerment of the poor and the most vulnerable. These include the elderly, youth and the disabled.	Identify and map high disaster risk areas.	Provide for farmworker and rural dweller settlement in the Human Settlement Plan. Innovative land reform/owners hip options.	Celebrate gateways/sc enic entry points to the municipality and its settlements.	Promote sustainable delivery of social facilities, public open spaces, recreational facilities and housing in each settlement.	Plan for adequate access to social facilities for all citizens, but especially the poor and vulnerable.	Promote social development, community livelihoods and safety through the sustainable delivery of social facilities, public open spaces, recreational facilities and housing. Pursue social and physical integration of previously segregated areas.				

# 2.4 Mission

The mission of the municipality is comprised of eight strategic thrusts to propel the economic and social progress, as follows:

- Protecting and enhancing of the quality of life of our residents and the unique environment of our area;
- Providing efficient and effective delivery of services which is responsive to the community's needs;
- Promoting the principles of access, equity and social justice in the development of services;
- Delivering an effective organisational culture which strives for service excellence;
- Exercising regulatory functions of Council consistently and without bias;
- Encouraging community participation in the processes of Council by consulting widely on its activities and policies;
- Creating an enabling environment for economic growth, job creation and the alleviation of poverty; and
- Promoting a future-oriented approach to planning.

(IDP 2018/19: 136)

# 3 Description of the Drakenstein Local Municipality

This section describes the geographical location of the Municipality, as well as a high-level socioeconomic profile of the existing and future population. If further briefly describes the economic profile. The aim of this section is to briefly introduce the socio-economic profile of the Drakenstein Municipality and the spatial targeting areas from a municipal perspective.

# 3.1 Locality and Regional Context

The Drakenstein Municipality is centrally located within the Cape Winelands District, Western Cape Province. The Municipality is strategically located on the major transport routes (National Road N1 and railway) in the Western Cape Province. The Drakenstein Municipality is bordered by the Swartland Local Municipality towards the northwest and the Witzenberg Municipality borders Drakenstein towards the northeast. The Bergrivier Municipality forms the northern border. Towards the east, Drakenstein is bordered by the Breede Valley Municipality, to the south by the Stellenbosch Municipality and towards the southwest by the City of Cape Town Municipality.

The Drakenstein Municipality is considered to be the most urban of the municipal areas in the Cape Winelands District. This can be attributed to its close proximity to the City of Cape Town.

According to the 2014 Western Cape Provincial Spatial Development Framework (PSDF), the Drakenstein Municipality forms part of the Cape Functional Region wherein leading towns such as Paarl are targeted for strategic infrastructure interventions such as public transport and upgrading due to its strategic locality. The 2014 PSDF identified Paarl as a regional centre and Wellington as a service centre.





Source: Western Cape Provincial Spatial Development Framework, March 2014

The Cape Winelands District, within which the Drakenstein Municipality is located, is considered to be predominantly an agriculturally driven economy which is supported by prominent manufacturing and tertiary sectors. The Cape Winelands District has in the past experienced favourable economic growth compared to the Western Cape Province and has contributed significantly to the economy of the Western Cape in terms of Gross Domestic Product Regional (GDPR) and employment. The District is known for its fruit, grape and wine production, which are the main exports from the District and a major attraction for domestic and international tourists (Western Cape Government Provincial Treasury – Municipal Economic Review and Outlook (MERO) 2017).

The Cape Winelands District contributed R56.5 billion (11.4%) to the Western Cape's (WC) economy and contributed 15.2% to the Provincial employment in 2015. The economic drivers in the Cape Winelands District's economy are finance, insurance, the real estate and business services sector, the manufacturing sector, and the wholesale and retail trade, catering and accommodation sector (Western Cape Government Provincial Treasury – MERO 2017).

The Drakenstein Municipality covers an area of 1,538 km<sup>2</sup>. The Municipality stretches from south of the N1 up to and including Saron in the north. The Klein Drakenstein, Limiet and Saron mountain ranges form its eastern edge and the agricultural area immediately to the west of the R45 is its western border. The main urban centres within the Municipality are Paarl and Wellington, linked by Mbekweni. The Municipality has a number of dispersed rural towns and hamlets, namely Saron, Gouda, Hermon, Simondium, Windmeul, Bainskloof Village and Klapmuts North.

The Growth Potential Study (2013) classified the Drakenstein Municipality as having "Very High" growth potential. Paarl is considered to have "Very High" growth potential and Wellington is considered to have "High" growth potential.





Source: Drakenstein SDF, 2020

# 3.2 Municipal Demographic and Economic Profile

The Municipality has a population of 280,195 (Community Survey (CS) 2016), making it the most populated local municipality in the Cape Winelands District. The Municipality has grown by 2.2% per annum in the five-year period between the Census 2011 and CS 2016. Based on projections, the Municipality is estimated to grow by 69,988 individuals to an overall population of 350,183 in 2030.

Compared to other Municipalities in the District, it is the second-most densely populated municipality, with 182 persons living within a square kilometre, following behind the Stellenbosch Municipality, which has 187 persons living within a square kilometre.

In terms of geography, the largest portion of the Municipality's population reside in urban areas (91.9%), with the remaining population residing in farm areas (8.1%). Household dwelling types are mostly formal (92.3%), with 7.7% being informal. This translates to 5,546 informal dwellings within the Municipal area.<sup>1</sup>

Overall, almost half (47%) of the Municipality's households fall within the low-income bracket (household monthly income between R0 to R3,200). 42% fall within the middle-income and 11% within the high-income bracket.

Province	Western Cape	District	Cape Winelar	nds		
Wards	33	Area	1,538km <sup>2</sup> (1.2% of the t	otal surface area of Western Cape)		
Population	2011			251,262		
	2016			280,195		
	Growth 2011 to 2010	6		28,933 people 2.2% per annum 11.5% overall		
	Population Density	2016		182 people/km <sup>2</sup>		
	Urbanisation 2016			85.3%		
	Projected Populatio	on 2030		350,183		
	Growth from 2016 to	o 2030	69,988 people 1.6% per annum 44.7% overall			
Households	2011		59,774			
	2016		71,686			
	Growth 2011 to 201	6	11,912 households 3.7% per annum 19.9% overall			
	Household Density	2016		47 households/km <sup>2</sup>		
	Projected Househol	lds 2030		99,573		
	Growth from 2016 to	o 2030		27,887 2.3 per annum 73.4% overall		
	Average household	Size 2011		4.2		
	Average household	Size 2016		3.9		
	Average household	Size 2030		3.5		

 Table 2: Summary of Municipal Demographic Profile

<sup>&</sup>lt;sup>1</sup> Drakenstein Local Municipality, Human Settlements November 2018 – list of informal settlements (registered, unregistered and emergency housing) with dwelling counts (date of survey ranging from 2016 to 2018)



Drakenstein was R10.3 billion in 2007, increasing to R19.8 billion in 2016 (current prices). Over the period, real average annual growth was 2.4%. Real annual GDP-R growth declined sharply in 2009 and 2015 (due to weaker macroeconomic fundamentals and drought).

Sector Contribution to the Economy According to the Drakenstein Socio Economic Profile (2017), the Municipality's economy is mostly characterised by tertiary sector activities which collectively contributed 66.8% to the total GDP-R. The primary sector, which includes agriculture, forestry, fishing, mining and quarrying subsectors, is the lowest-contributing sector to the GDP-R. This shows that although agriculture forms part of the Cape Winelands District backbone, it is not necessarily the biggest contributor to the economy. The local economy is mostly urban in nature. The tertiary sector historically performed well. However, it did subdue in the last five years (2005 and 2015) with a growth of 3.6 % as opposed to the previous 4.0% growth. Table 3 provides an overview of Drakenstein's GDP-R performance per sector from 2005 to 2016.

		Contribution	R million	Tre	nd
	Sector	2015	2015	2005 - 2015	2010 - 2015
	Primary Sector	6.6	1 225.6	2.5	2.1
	Agriculture, forestry and fishing	6.4	1 181.9	2.6	2.1
	Mining and quarrying	0.2	43.7	-0.4	2.1
	Secondary Sector	26.6	4 940.1	0.1	-0.2
	Manufacturing	16.0	2 971.4	-1.7	-1.9
	Electricity, gas and water	2.6	484.5	2.0	1.9
	Construction	8.0	1 484.2	7.4	4.5
	Tertiary Sector	66.8	12 390.7	4.0	3.6
	Wholesale and retail trade, catering and accommodation	17.7	3 277.1	4.1	4.0
	Transport, storage and communication	8.9	1 657.7	2.2	2.3
	Finance, insurance, real estate and business services	21.2	3 940.2	5.1	4.0
	General government	10.6	1 966.3	3.1	2.9
	Community, social and personal services	8.4	1 549.5	3.9	3.6
	Total Drakenstein	100	18 556.3	2.8	2.5
	Source: 2017 Socio-Econor .https://www.westerncape.g economic-profiles/2017/wc0 11 january 2018.pdf.	nic Profile: Drake. ov.za/assets/dep: 23 drakenstein	nstein Municip artments/treas 2017_socio-ec	ality. Quantec F ury/Documents, conomic_profile	Research, 2017 /Socio- _sep-lg
Employment	Between 2005 and 2016 of from 96,472 to 108,595 ability to create jobs, the labour. The unemployme while the youth unemplo	(see Table 4), th (annual growth e pace of job cl nt rate increase yment rate is ve	ne number of rate of 1.3% reation is too red from 12.9% ery high at 3	people employ 6). Despite th a slow to abso 6 in 2005 to 14 3.4%. Draken	ved increased le economy's orb additional 4.9% in 2016, stein has the

highest unemployment rates compared to other local municipalities in the Cape

 Table 3: Drakenstein Economic Sector Performance (2005 – 2016)

Winelands District. However, the unemployment rate is lower than the unemployment rate of the Western Cape Province.

Table 4: Unempl	able 4: Unemployment Rates for Drakenstein Municipality, Cape Winelands District and Western Cape											
Area	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016e
Drakenstein	12.9	12.2	12.3	12.2	12.8	12.9	13.1	13.7	13.6	14.0	14.4	14.9
Cape Winelands District	9.6	9.0	9.2	9.2	9.8	9.8	10.1	10.7	10.6	10.9	11.2	11.6
Western Cape	16.5	15.8	15.7	15.3	15.8	16.1	16.4	17.0	16.7	17.2	17.8	18.7
Source: 2017	Socio	-Econor	nic P	rofile <sup>.</sup>	Draker	nstein	Munici	nality	Quant	ec R	esearch	2017

<u>https://www.westerncape.gov.za/assets/departments/treasury/Documents/Socio-economic-</u> profiles/2017/wc023 drakenstein 2017 socio-economic profile sep-lg - 11 january 2018.pdf.

Sector Contribution Employment

to

Employment in this municipal area is dependent on a diverse range of sectors, which is reflective of the more urban nature of some of the towns in the area which all contribute goods and services to other industries within the region.

In 2015, the Drakenstein municipal area employed a total of 107,114 people, the majority of whom (67.6% or 72,434 in total) were concentrated within the tertiary sector. The wholesale and retail trade, catering and accommodation (22.6%); community, social and personal services (15.1%) and the finance, insurance, real estate and business services (14.5%) subsectors contributed the most to employment within the Municipality.

The agriculture, forestry and fishing subsector, which forms part of the primary sector, is also a large employer within the municipal area, employing 14.5% or 16,133 individuals in total. Although employment opportunities within this subsector decreased by 4,366 for the period 2005 – 2015, job-creation accelerated in recent years, evident from the 3,554 additional jobs created during the same period. The wine grape harvesting season in 2015 started earlier than normal due to warmer weather in August and September, which put cellars under pressure to manage the larger intakes over a shorter period, which could have contributed to additional seasonal employment in the area (VinPro, 2016). With the decline in GDPR growth, it can be expected that job creation will grow at slower rates and eventually sectors will shed jobs as in the recession. Employment changes within this subsector testify to its volatile nature and its dependency on factors spanning beyond poor weather conditions, such as consumer demand, exchange rates and commodity prices.

	Contribution to employment (%)	Number of jobs	Tre	end				
Sector	2015	2015	2005 - 2015	2010 - 2015				
Primary Sector	15.1	16 206	-4 402	3 529				
Agriculture, forestry and fishing	15.1	16 133	-4 366	3 554				
Mining and quarrying	0.1	73	-36	-25				
Secondary Sector	17.2	18 474	-693	682				
Manufacturing	8.6	9 263	-3 204	-1 100				
Electricity, gas and water	0.3	329	123	71				
Construction	8.3	8 882	2 388	1 711				
Tertiary Sector	67.6	72 434	22 332	11 843				
Wholesale and retail trade, catering and accommodation	22.6	24 158	7 849	4 107				
Transport, storage and communication	4.3	4 649	1 893	945				
Finance, insurance, real estate and business services	14.5	15 535	3 914	2 032				
General government	11.1	11 916	3 091	1 258				
Community, social and personal services	15.1	16 176	5 585	3 501				
Total Drakenstein	100	107 114	17 237	16 054				
Source: 2017 Socio-Economic Profile: Drakenstein Municipality. Quantec Research, 2017 https://www.westerncape.gov.za/assets/departments/treasury/Documents/Socio-economic- profiles/2017/wc023_drakenstein_2017_socio-economic_profile_sop-la_=11_january_2018_pdf								

Table 5: Drakenstein Municipality Employment Growth per Sector (2005 - 2016)

# 3.3 Spatial Planning and Spatial Form

Aurecon was appointed by the Drakenstein Municipality to undertake the five-year review of the Drakenstein Municipal Spatial Development Framework (SDF) in accordance with the provisions of the Local Government Municipal Systems Act No. 32 of 2000 and must be adopted by Council to be in place by 2020. The review will be done to ensure that the Municipal SDF is aligned with the updated National Guidelines for the Development of Spatial Development Frameworks (DRDLR 2014) and the approved Municipal Integrated Development Plan (IDP 2020). The scope and reach of the SDF will reflect a 5-year (2020-2025), 10-year (2020-2030) and 20-year (2020-2040) horizon.

### 3.3.1 The 7 Key Spatial Development Concepts of the SDF

#### Concept 1: Achieving Vision 2032 Catalytic Zones and Big Moves

Vision 2032 makes provision for five Catalytic Zones that are intra-municipal zones of spatial and economic activity. The Big Moves, and associated programmes, initiatives and projects, as identified by Vision 2032, form the first basis of this spatial concept.

Big Moves, or game changers, have been defined for each of the Catalytic Zones. The Catalytic Zones and Big Moves are shown in Figure 6. It is envisioned that they will serve to dramatically alter and improve the space economy and sustainability of the Drakenstein Municipality over the long term. Some Catalytic Zones overlap and share specific Big Moves, which strengthens the integration between the different zones.

It is evident from this map that the highest concentration of Big Moves is in the North City and N1 Corridor Zones. This speaks to the need to improve integration in an east–west direction, as well as to facilitate and strengthen urban development in a north–south direction, stretching from the North City Corridor to the South City Corridor. The underpinning of the spatial agenda that has informed these nodes and corridors is the need to leverage the socio-economic benefits of improved spatial integration. There is a clear need to move beyond the divisive spatial form and structure that has resulted due to topographical features and entrenched by historical development agendas promoting socio-spatial and socio-economic exclusion.



Figure 6: Concept 1: Achieving Vision 2032 Catalytic Zones and Big Moves

Source: Drakenstein SDF, 2020.

#### **Concept 2: Promoting Integrated Environmental Management**

The natural environment is a fundamentally important informant to spatial planning, as it is the main form-giving element of the natural landscape. The natural environment provides the natural resources that are necessary to sustain life, and provides restorative environments necessary for human well-being.

The objective of this concept is to manage and protect the natural assets of the Drakenstein Municipality defined in the status quo, including the critical biodiversity areas, protected areas, vulnerable terrestrial and freshwater ecosystems. The concept also promotes the strengthening of the role and contribution of natural assets in ecosystem functioning.

Healthy and well-managed ecosystems support human well-being, as well as the local and regional economy. The impact of disasters such as the recent drought on the local economy was a clear indication of the critical importance of an integrated approach to the management and prevention of natural and man-made disasters, as well as to the management of the environment.

The key natural environment factors that shape the spatial concept, such as Critical Biodiversity Areas (CBAs) and Protected Areas (PAs), are shown on the concept map. Based on the sensitivities of existing spatial patterns, an environmental corridor is evident. It should also be highlighted that remnants of natural habitat in the remainder of the Municipality are also of high conservation importance even if they are no longer physically connected.

#### Figure 7: Concept 2: Promoting Integrated Environmental Management



Source: Drakenstein SDF, 2020.

#### **Concept 3: Promoting Agriculture and Rural Development**

Protecting and promoting the agricultural economy is a priority for the Drakenstein Municipality to grow as a primary agricultural production centre within the Western Cape Region. In doing so, food security will be supported, and employment opportunities will be provided for rural residents.

Prime and unique high-potential agricultural land is threatened by urban sprawl, land degradation, indiscriminate mining, climate change and the over-abstraction of water sources. The protection and management of high-potential agricultural land (spatially delineated as land with a high land capability) is the basis for the third spatial concept.

In addition to the protection of high-value agricultural land, the capability of the land should also be leveraged, where possible, to support socio-economic initiatives in the agricultural industry. Given the character of Paarl, it is critical to take the importance of rural development initiatives into account, given the emphasis that must be placed on the creation of opportunities for the residents of the Drakenstein Municipality. The Logistics Hubs and Farmer Production Support Units (FPSUs) indicated in Figure 8 show the nodal location of these hubs, or nodes of activity, that support agriculture and rural development along key strategic corridors. Figure 8 indicates that land capability is medium to high in the northern and middle sections of the Municipality as well as south of the N1, towards Simondium. It is evident from the map that land capability becomes lower towards the eastern edge of the Municipality. This can be ascribed to the mountains and ecological corridor situated along its eastern border.

Land capability is defined by the Department of Agriculture, Land Reform and Rural Development (DALRRD) as the most intensive long-term use of land for purposes of rainfed farming determined by the interaction of climate, soil and terrain. If the land is classified as having low land capability, it means that the land has low potential to sustain agricultural activities. If the land is rated as having high land capability, it has high potential to be productive for agricultural activities.

Figure 8: Concept 3: Promoting Agriculture and Rural Development



Source: Drakenstein SDF, 2020.

#### **Concept 4: Protecting and Promoting Heritage and Cultural Landscapes**

This spatial concept focuses on promoting and protecting the scenic and rural landscape, as well as conserving cultural landscapes and heritage resources of the Drakenstein Municipality. The Drakenstein Municipality has rich heritage narratives, and this concept looks at how these can be leveraged. Developing the potential of the cultural and heritage resources can make a significant contribution to the growth of the tourism sector.

This spatial concept, shown in Figure 9, shows the scenic routes and heritage areas, as well as the heritage sites. It further conceptualises five gateways and scenic regional entry points to the Municipality, as well as scenic and tourist routes that should be promoted. Three of the five gateways and scenic regional entry points are located along the N1 Corridor at Klapmuts, De Poort, and at the proposed Huguenot gateway, with the De Poort area located at the interface between the primary east-west and north-south linkages. This further reinforces the importance of the N1 Corridor as a key east-west linkage, and of the R44/R46 as the key north-south linkage. The other two gateways indicate the entry points to and from the rural hinterland and are considered to be important entry points for people who travel along the route.


#### Figure 9: Concept 4: Protecting and Promoting Heritage and Cultural Landscapes

Source: Drakenstein SDF, 2020.



#### Concept 5: Reinforcing the Hierarchy of Settlements and Promoting Rural-Urban Connectivity

The Drakenstein Municipality forms part of the Cape Metro Functional Region, within which a hierarchy of settlements has been established. Figure 10 shows the current Settlement Classification, indicating the following:

- Primary Regional Service Centre: Paarl, Mbekweni and Wellington (indicated as '1');
- Secondary Regional Service Centre: Klapmuts (North and South) and Southern Paarl and Ben Bernard (indicated as '2');
- Rural Settlements with Threshold to Support Permanent Social Services: Gouda and Saron (indicated as '3');
- Rural Settlements without Threshold to Support Permanent Social Services: Hermon, Simondium, Windmeul and Bainskloof (indicated as '4').

Figure 10 also shows the nature of development in the current nodes, as well as the proposed development potential and growth implications for these nodes.

The Paarl CBD is the Primary Urban Node, with Mbekweni, Wellington and Klapmuts viewed as secondary nodes. The towns of Paarl, Mbekweni and Wellington form an elongated conurbation, and together form the urban core of the Municipality. This conurbation is the primary growth node in the region, and it is proposed that this urban conurbation be developed as one integrated, primary urban node, reinforcing the status of Paarl–Mbekweni–Wellington as the urban core, and as the Primary Regional Service Centre. The spatial concept reinforces Paarl/Mbekweni and Wellington through the attraction of higher-order, high-quality education and health facilities, and regional government administration and commercial headquarters. Klapmuts is expected to grow towards a Regional Service Node by 2040, due to the planned investment in commercial and industrial uses, and this is also reflected in the concept map. It is noteworthy that despite the concentration of urban uses and activities, Paarl–Wellington also includes pockets of rural character, with Wellington highlighted as a Farmer Protection Support Unit (FPSU).

Klapmuts is also viewed as key to the urban growth in the Drakenstein and Stellenbosch municipalities. Klapmuts is proposed as a light industrial mixed-use logistics precinct, and is a gateway, as it is located at the confluence of Drakenstein, Stellenbosch and City of Cape Town. All three municipalities view Klapmuts as a prospective regional node along the N1 National Road.

This concept recognises the inter-relationship between the rural and urban nodes, and the securing and integrating of urban–rural connectivity. These urban nodes are supported by rural nodes, located along key movement routes. The nodes in the Rural Hinterland acknowledge the aforementioned nodes in the hierarchy, and the needs and demands are differentiated by the context. Rural development initiatives should also actively promote compact development, limiting sprawl and enhancing the protection of natural resources as well as the rural character and heritage of the towns. The location of the rural nodes is underpinned by existing development patterns as well as by their conceptualised role in the agricultural sector in terms of Farmer Protection Support Units (FSPUs) and other initiatives such as logistics hubs that are integrated into a broader mobility and logistics network.



Figure 10: Concept 5: Reinforcing the Hierarchy of Settlements and Promoting Rural–Urban Connectivity

Source: Drakenstein SDF, 2020.

#### **Concept 6: Promoting Connectivity, Mobility and Logistics Corridors**

In support of, and as a catalyst for, the spatial transformation and development trajectory required, this concept aims to promote the necessary linkages, integration and densification within the Drakenstein Municipality. This concept further serves to promote the Drakenstein Municipality as a regional growth node through the strengthening of its position within the regional distribution network, unlocking key economic drivers, and exploiting the favourable location of Paarl and Klapmuts, abutting the N1 National Road. As is evident in Figure 11, one of the primary strategies, as further unpacked in the following chapter, is the development of Klapmuts as a logistics hub to leverage from its location as a gateway to the Cape Metro coupled with its ease of access from the N1.

This must be further supported by the promotion of ribbon development along to N1 from Klapmuts to Paarl (Primary Growth Node and N1 Corridor on Figure 11), with a specific focus on the land parcels between the Old Paarl Road and the N1 as well as Ben Bernhard for mixed-use and light industrial purposes. It should be noted that the proposed development should only be promoted on land parcels south of the N1 and on land suitable for development since there are various land parcels within this corridor which are environmentally sensitive.

Furthermore, this concept also seeks to reinforce the need to co-ordinate public transport and nonmotorised transport connectivity within, and between, settlements in the Drakenstein Municipality, as well as between settlements and towns within the wider region. Transport and mobility in the Drakenstein Municipality should be able to serve the regional mobility needs and improve accessibility on a local level. The local priority is to improve accessibility and mobility, and to reduce travel time between Paarl East and the economic and social opportunities in Paarl West (see proposed East–West Linkage in Figure 11). One of the key project examples in realising this linkage is the integration between Paarl East and Paarl West through the Klein Drakenstein Road Central Improvement Corridor. Another example, as indicated in Figure 11, is the North–South activity corridor, linking Paarl, Mbekweni and Wellington, which seeks to improve this route for pedestrians. This includes, but is not limited to, better access points from Mbekweni to Jan van Riebeeck Drive as well as landscaping and the provision of improved public transport stops.



Figure 11: Concept 6: Promoting Connectivity, Mobility and Logistics Corridors

Source: Drakenstein SDF, 2020.

# Concept 7: Promoting Spatial Transformation toward Resilient, Inclusive, Smart and Sustainable Settlements

This concept focuses on creating a conducive environment for the smart growth of the settlements in accordance with their function in the nodal hierarchy and their development potential. The objective of this concept is also to spatially restructure the urban space towards the creation of inclusive communities, safe and resilient communities, social development and community livelihoods through the smart and sustainable delivery of services. This concept places emphasis on guiding human settlements investment on well-located land that promotes spatial restructuring and prevents housing delivery on the urban periphery.

The fundamental aim of this concept is to enable spatial restructuring to reverse Apartheid-led settlement patterns and to promote resilient and sustainable human settlements within the Drakenstein Municipality. To achieve this, the focus should be geared toward the urban cores such as Paarl, Wellington and Mbekweni, while the growth of rural settlements should be contained. Human settlements and housing projects should be developed within the urban edge, as far as possible, to reduce sprawl, and within growth nodes and centres to enable access to socio-economic opportunities (employment, leisure, housing, transport, etc.).

Figure 12 shows the main proposals for human settlements and spatial restructuring. Given the scarcity of well-located and suitable land for human settlements, spatial interventions should therefore focus on upgrading, infill development and densification opportunities within designated densification zones as shown in Figure 12. Areas earmarked for densification/infill development in the urban cores should cater for a variety of housing needs and options. This entails, for example, catering for a mix of incomes (lower- and high-income groups) as well as various typologies (medium and high densities). The SDF should be read in conjunction with the Drakenstein Draft HSP (2019) for further details regarding housing projects. Such interventions include the upgrading of informal settlements, higher-density housing and mixed-use developments, and urban renewal or regeneration (particularly in the Paarl CBD). Urban renewal initiatives should also promote smart cities (for example, innovation in service delivery, or the incorporation of Information and Communications Technology [ICT]). The detailed proposals for spatial transformation and human settlement development are shown in the Focus Area Framework maps.





Source: Drakenstein SDF, 2020

# 3.3.2 Spatial Form and Main Land Use Distribution

The Drakenstein Municipal area is predominantly characterised by commercial agricultural land use. The mountain ranges towards the east form a spine along the eastern edge. The two-main urban centres, Paarl and Wellington, occupy a small portion of the study area to the south. The current settlement pattern is characterised by sparsely populated areas to the north. The southern portion of the Municipality is densely populated due to the main economic activities that are clustered in Paarl, Wellington and Mbekweni. Paarl is the main regional service centre, and the administrative centre, of the Drakenstein Municipality. Paarl, Mbekweni and Wellington are situated in close proximity to the main transport routes (N1 highway) which provide freight connectivity to the City of Cape Town to the southwest. The main connector routes in the Municipality are the R44, R45 and R46, which run in a north–south direction and connect all the urban areas with one another.

The rural towns Saron and Gouda are located in the north, and Hermon is situated in the mid-west region. These towns are connected to the main urban centres through corridors of agricultural activity. The vast distances between the urban settlements in the south and rural hinterlands located towards the north reduce accessibility between the towns.

The settlement patterns in Drakenstein have evolved in relation to topography, riverine corridors and patterns of access. Drakenstein's urban settlement's origins can be attributed to agriculture service centres, church towns, mission settlements or railway towns.

#### Figure 13: Drakenstein Urban Nodes and Structuring Elements



(K) DRAKENSTEIN

j Utban Edge 🛛 📕 Nature Reserve (Private)

# 3.3.3 Municipal Spatial Targeting Areas – Catalytic Zones and Big Moves

The Municipality's Vision 2032 makes provision for five catalytic zones within the Drakenstein Municipal Area. The Catalytic Zones are intra-municipal zones of spatial and economic activity. They cut across wards and administrative boundaries of the five towns in Drakenstein.

Drakenstein analysed and identified key challenges that the Municipality is experiencing. To address these challenges, and in order to ensure vertical and transversal alignment, adequate time and resource allocation, and to enable performance management, an array of interventions was identified. These were classified as Key Initiatives, Programs and Projects and were allocated to a series of *Big Moves*. *Big Moves* are initiatives which will, over the next fifteen years, dramatically alter and improve the space, economy and sustainability of Drakenstein. In turn, the *Big Moves* have been located spatially within five Catalytic Zones.





The five Catalytic Zones are outlined below, along with schematics indicating the physical location of the Zone and the spatial location of the *Big Moves* within each Zone. It is important to note that some Catalytic Zones overlap and thus share specific Big Moves. This is critical because it promotes and strengthens the integration between the different catalytic zones (IDP 2017/2022).



Figure 15: Drakenstein IDP Vision 2032 – Five Catalytic Zones with proposed "Big Moves"

Source: Drakenstein SDF, 2020.

# 3.3.3.1 Catalytic Zone 1: N1 Corridor

The N1 Corridor stretches from Klapmuts in the west and Huguenot Tunnel toll plaza in the east. The corridor straddles the N1 and includes areas such as Klapmuts, Ben Bernhard, the De Poort and Paarl Hamlet and the Huguenot Tunnel toll plaza. The corridor is part of the N1 route, being the main vehicular access route, linking Cape Town to the north of South Africa. The corridor thus has an important role as main access route to Paarl and Wellington and the Drakenstein hinterland. Development along this corridor must be well managed to promote the Drakenstein area as a destination for tourists as well as new businesses, industries and residents.

The N1 Corridor, includes the following proposed Big Moves:

- Implement an Integrated Commercial and Industrial Hub at Klapmuts;
- Promotion of a light industrial and commercial Business Hub at Ben Bernhard;
- Development of De Poort and Paarl Hamlet node;
- Development of Carolina / Lustigan Intersection (North of the N1);
- Development of the Huguenot Tunnel Long Haul facility.

#### Figure 16: N1 Corridor with proposed "Big Moves"



# 3.3.3.3 Catalytic Zone 2: South City Corridor (South of N1, Simondium)

The South City Corridor is situated to the south of the N1 – thus generally bounded by the N1, the R301 south of the Drakenstein Prison, and the R45. This area is gaining popularity due to its strategic location within the Drakenstein Municipal boundaries and its accessibility to the City of Cape Town, surrounding neighbouring municipalities and northern parts of South Africa (IDP 2017/2022).

The South City Corridor, includes the following proposed Big Moves:

- Bulk Infrastructure Upgrades required for the proposed developments in the area;
- Creation of the Schuurmansfontein Road and Watergat Road Integration Route;
- Proposed development between the R301 and R44.

#### Figure 17: South City Corridor with proposed "Big Moves"



# 3.3.3.4 Catalytic Zone 3: Paarl East–West Integration Corridor (Along Main Road, Paarl CBD, Paarl East)

The Paarl East–West Integration Corridor Catalytic Zone mainly focuses on the integration of Paarl East and Central Paarl. The integration of the two areas is envisioned through the enhancement of the main distributor roads within the Catalytic Zone, which includes Klein Drakenstein Road and Lady Grey Street as major activity corridors. It is also important to note that the revitalisation and upgrading of the Huguenot Station Precinct and Paarl Central Business District also form part of this initiative.

Furthermore, the development of key, strategically located vacant properties within the catalytic zone, for the development of the Paarl Waterfront, the Paarl Arboretum, the De Kraal Mixed-Use Node, the Boy Louw Multi-Purpose Sport Centre and the Boland Park can also be regarded as crucial components of the integration of Paarl East and West.

The Big Moves proposed for the Paarl East–West Integration Corridor include:

- Berg River Corridor/Paarl Waterfront and Arboretum Precinct;
- Klein Drakenstein Road Central Improvement District (including Lady Grey Street);
- The Paarl Central Business District Renewal and integration between Paarl East and West.



#### Figure 18: Paarl East–West Integration Corridor with proposed "Big Moves"

# 3.3.3.5 Catalytic Zone 4: North City Integration Corridor (Northern Paarl, Mbekweni, Wellington)

This Catalytic Zone is located north of the N1 and runs in a general north-south direction (with the inclusion of Nieuwedrift as exception) and is referred to as the North City Integration Corridor. The Corridor includes the urban areas of Northern Paarl, Mbekweni and Wellington (including the Wellington Industrial Park Precinct and the Berg River Boulevard extension to the R45 and Nieuwedrift). The Corridor overlaps with the Paarl East–West Integration Corridor. The Big Moves that overlap with the other Catalytic Zones are not included in the tables for the North City Integration Corridor zone (refer to the other two Zones).

The Big Moves proposed for the corridor include:

- Development of the Dal Josaphat Industrial Area;
- Wellington Industrial Park;
- Wellington CBD Plan and Implementation;
- Vlakkeland, Erf 16161, Erf 557 Mbekweni and Roggeland Mixed-Use Development;
- Berg River Boulevard Extension to R45 and Nieuwedrift development.

# Windmeul Mbekweni Mbekweni D1 - Development of Dal Joraphat Industrial Area D2 - Wellington Industrial Park D3 - Wellington CBD Plan and Implementation D4 - Vlakkeland and Roggeland D4 - Eff 557 Mbekweni D4b - Eff 16161 D5 - Serg River Boulevard Extension to R45 / Newwedrift Development

#### Figure 19: North City Integration Corridor with prosed "Big Moves"

# 3.3.3.6 Catalytic Zone 5: Hinterland (Saron, Gouda, Hermon, Rural and Natural Areas)

Drakenstein's Hinterland comprises the towns of Windmeul, Hermon, Gouda and Saron. This inland region is strategically located along the R44, and in close proximity to the N7, a strategic transport corridor of the Western Cape.

The region focuses primarily on agriculture and related sector activities to enhance the Agro-Processing value chain in the area.

#### Figure 20: Hinterland Corridor with proposed "Big Move"



# 3.4 Overview of Municipal Infrastructure

## 3.4.1 Water

## 3.4.1.1 Water sourcing and supply

Paarl and Wellington are supplied with water by a combination of local sources and purchased water from the City of Cape Town (CCT). Paarl receives water locally from the Nantes and Bethel bulk storage dams, which are filled with local runoff as well as augmentation by pumping from the Berg River. This water is treated locally at the Meulwater Water Treatment Plan (WTP) (8.0 Ml/d). Wellington receives water from the Antoniesvlei source which is treated locally at the Wellington Water Treatment Plant (2.5 Ml/d). Both towns purchase bulk water from the CCT Wemmershoek scheme and would not be able to ensure security of supply without this assured augmentation from the CCT.

Hermon purchases water in bulk from the CCT, which originates from the Voëlvlei dam scheme. Gouda purchases water in bulk from the West Coast District Municipality (WCDM), which is extracted from the Voëlvlei dam and treated at the WCDM Voëlvlei WTP. Saron receives bulk water from the Leeu River, approximately 8km north eats of the town.

Table 6 provides the existing reservoir storage capacity for the systems in the Drakenstein Municipality and Figure 13 and Table 6 highlight these reservoirs as well as the key bulk water transmission lines within the Municipality:

Reservoir	Storage Capacity
Paarl	177,2 MI
Wellington	50,45 MI
Gouda	2,82 MI
Hermon	0,50 MI
Saron	2,00 MI
Total Capacity	232,97 MI

Table 6: Reservoir storage capacities for towns in Drakenstein Municipality

Figure 21: Bulk water elements for Drakenstein Municipality



It is important to note that the centres of Hermon, Gouda and Saron are isolated from the supply sources of Paarl and Wellington, and thus are reliant solely on their current sources of supply. However, the

presence of the Voëlvlei dam and the potential draw-offs that it ensures sufficient security of supply for these northern centres.

# 3.4.1.2 Assets

The assets and their replacement cost were reviewed in the Water Master Plan and a replacement cost was estimated. A summary of the replacement cost for the water infrastructure for Drakenstein Municipality is given in Table 7.

Drakenstein - Total							
	Cost (Rand)						
	Description						
Bulk pipes		286 400 000					
Reservoirs		478 370 000					
Towers		8 470 000					
Pumping stations		13 610 000					
Reticulation pipes							
537.7 km	Pressure pipelines < 175mm Ø	289 230 000					
149.7 km	Pressure pipelines >= 175mm Ø	328 570 000					
43820	Erf connections	132 560 000					
Total cost		1 537 210 000					
Present AADD (kl/d)*	56 500						
Unit replacement value (	(R/kl/d)	27 207					

Table 7: Summary of replacement cost for water assets in Drakenstein Municipality

#### Figure 22: Water Infrastructure Remaining Useful Life (RUL)



Source: Adapted from Drakenstein Municipality Asset Portfolio Analysis, March 2013

# 3.4.1.3 Water demand

In terms of demand, the present Annual Average Daily Demand (AADD) used by the municipality for modelling and planning purposes equates to an AADD of 56,5 Ml/day for the entire municipality.

Most of the water demand is taken up by the centres of Paarl and Wellington (approximately 95%). With this current AADD of 56,5 Ml/day, the total reservoir storage capacity equates to approximately 4 days' worth of storage. In terms of water treatment capacity, it is important to note that the total WTP capacity of the Drakenstein Municipality systems to treat their own raw water equates to roughly 10% of the current AADD of 56.5 Ml/d for these municipal systems. The balance of the treated water is supplied by the CCT and WCDM, thus demonstrating the reliance of Drakenstein on its neighbouring municipalities to ensure security of supply to its network of reservoirs and distribution pipelines.

Table 8 indicates the current and future water demand for the Drakenstein area. The figures are based on projected development in the Drakenstein area based on the Water Master Plan, for up to 2030.

#### Table 8: Drakenstein Municipality – Current and Future water demand

Water Demand - Drakenstein Municipality									
	Low low Income	Low Income	Middle Income	High Income	Business & Industrial	Other	Losses	Total	Unit
Existing number of households 2016	10885	23236	30122	7445				49647	units
Existing non-residential area					3129	853		3982	ha
Existing Water AADD	2845	5383	12913	5718	5708	16511	7422	56500	kl/d
Future Projected number of households 2030	15283	31928	41983	10379				99573	units
Future Estimated non-residential area					3540	904		4443	ha
Future Water AADD	4219	8072	19361	8415	10358	24630	11072	86127	kl/d
Increase in AADD	1374	2689	6448	2697	4650	8119	3650	29627	kl/d

Source: Adapted from the Drakenstein Adapted from the Water and Sewer Master Plan 2017

The Drakenstein Water Master Plan indicates that overall the existing water distribution system has insufficient capacity to supply the future water demands for the fully occupied scenario and the additional future development areas.

# 3.4.1.4 Current Challenges

#### Unaccounted for water

Unaccounted for water (UAW) is the difference between the total water inputs into a system and the total water sales made by the municipality to end clients. It represents water that has been lost due to leaks in the system or to non-billable sources such as communal stand pipes in informal settlements. The UAW figures for the Drakenstein Municipality are the following:

#### Table 9: Unaccounted for water in Drakenstein Municipality

Town	% UAW
Paarl	19%
Wellington	16%
Hermon	15%
Gouda	29%
Saron	23%

On average, these figures are better than the national average, which is between 30 and 35%. However, the UAW figures still represent losses, either through leaks or failure to collect revenue, which will need to be restricted going forward as pressure on water resources continues to grow.

#### Reservoirs and feeder mains

Saron is the only town that has insufficient current reservoir storage capacity and does require additional storage. In Paarl, while the Courtrai Upper reservoir has insufficient storage capacity, it is only marginally below the generally accepted storage requirement of 36 h x AADD.

In terms of feeder mains, the 525 mm dia. feeder main from Wemmershoek supply line to the Courtrai lower reservoirs and the 375 mm dia. main from Courtrai to Wellington are both in a bad condition and require upgrading. In Wellington, the 250 mm dia. feeder main from the Welvanpas reservoir to the Welvanpas Pump Station (PS) requires upgrading.

The project list presented in the technical assessment addresses the projects that requires priority implementation.

#### Backlogs

Other than the bulk/reticulation network upgrades required, the Drakenstein Municipality has backlogs in terms of basic service provision for water services (see Table 10). The priority is to address the informal settlements which are below minimum level of service. Below minimum level of service situation also exists in rural farm areas. However, these are typically on private land which does not form part of the Drakenstein water reticulation system. Nevertheless, these situations must be evaluated.

Lower level of service households must also be addressed in the future but are not currently a priority. Furthermore, many of the lower level of service households will be addressed with housing projects.

Table 10: Level of service backlog for water services

Level of service	Number of households
Below minimum (informal settlements)	481
Below minimum (farms)	297
Standpipe	4,882
Yard connection	24,306

Furthermore, various assets have a remaining useful life of fewer than five years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list. The asset management backlog projects are typically identified in the master plan or by the municipality.

# 3.4.2 Wastewater

# 3.4.2.1 Wastewater drainage areas and treatment

Each individual urban centre in the Drakenstein Municipality operates in a main drainage area and is serviced by its own Wastewater Treatment Plan (WWTP). Paarl has five pumping stations, Wellington five, Pearl Valley one, Hermon one, Gouda one and Saron two.

Each main drainage area is self-contained, with its various networks of gravity mains feeding the pump stations, which in turn deliver wastewater through a series of rising mains to the drainage area's WWTP. Figure 15 illustrates these treatment plants and bulk pipelines relative to the various urban centres.

Figure 23: WWTP locations relative to urban centres and bulk sewer pipelines



Table 11 provides the existing wastewater treatment plant capacities for the drainage areas in the Drakenstein Municipality.



Table 11: WWTP capacities for towns in Drakenstein Municipality

WWTP	Capacity
Paarl	35,0 MI/d
Wellington	16,0 MI/d (upgraded)
Pearl Valley	2,0 MI/d
Hermon	0.09 MI/d
Gouda	0.64 MI/d
Saron	1,5 MI/d
Total Capacity	55.23 MI/d

It is important to note that the total capacity of the existing WWTPs in the Drakenstein Municipality is approximately 1.44 x the present PDDWF of 38,4 Ml/d. This demonstrates a safety net of approximately 44% capacity for the overall treatment plant capacity.

# 3.4.2.2 Assets

The assets and their replacement cost were reviewed in the Sewer Master Plan and a replacement cost was estimated. A summary of the replacement cost for the wastewater infrastructure for the Drakenstein Municipality is given in Table 12.

	Bushawatain Tatal							
	inc. P&G, Cont., Fees							
	exc. VAT							
457.2 km	Gravity pipelines < 175mm Ø	753 710 000						
117.3 km	117.3 km Gravity pipelines >= 175mm Ø							
5.7 km	5.7 km Rising mains < 175mm Ø							
21.3 km	21.3 km Rising mains > 175mm Ø							
	20 Pump stations	65 160 000						
347	774 Erf connections	75 490 000						
Total cost	1415 100 000							
Present PDDWF (kl/c	36 543							
Unit replacement value	ue (R/kl/d)	38 725						

Table 12: Summary of replacement cost for wastewater assets in Drakenstein Municipality

#### Figure 24: Wasterwater (sanitation) Infrastructure Remaining Useful Life (RUL)



Source: Adapted from Drakenstein Municipality Asset Portfolio Analysis, March 2013

# 3.4.2.3 Sewer yield

Table 13 shows the current and future sewer yields for the Drakenstein Municipal area. The future demands are based on potential future development up to 2030 as presented in the Sewer Master Plan.

#### Table 13: Current and Future sewage yields in Drakenstein Municipality

Sewage yields - Drakenstein Municipality											
	Low low Income	Low Income	Middle Income	High Income	Business & Industrial	Other	Water Ingress	Total	Unit		
Existing number of households 2016	10885	23235	30122	7444					units		
Existing non-residential area					3129	853		3982	ha		
Existing Water PDDWF	1965	3683	8793	3814	3879	11222	5044	38401	kl/d		
Future Projected number of households 2030	15283	31928	41983	10379					units		
Future Estimated non-residential area					3507	903			ha		
Future Water PDDWF	2848	5373	12842	5507	6630	16333	7342	56876	kl/d		
Increase in PDDWF	883	1690	4049	1693	2751	5111	2298	18475	kl/d		

Source: Adapted from the Drakenstein Adapted from the Water and Sewer Master Plan 2017

The sewage yields vary in terms of percentages of the AADD, owing to groundwater infiltration factors and predominant land uses in the different urban centres.

When comparing the WWTP capacity to the PDDWF, all the wastewater treatment plants have sufficient capacity to handle average daily wet flows, except for Saron, which is under capacity. On days with high rainfall and resultant infiltration, many of the treatment plants will be operating at full or exceeding full capacity. The Sewer Master Plan also indicates that the current wastewater network required upgrades dependent on future developments.

# 3.4.2.4 Current challenges

#### Groundwater infiltration and flooding

Groundwater infiltration is high across the Drakenstein Municipality, with all modelling undertaken to calculate peak flows assuming an ingress of 30%, much higher than the generally accepted norm of 15 to 20%. This is specifically noted in the Paarl East area, mainly due to the high water table level.

The Paarl system experiences regular flooding during heavy rains, implying that the existing stormwater network is unable to adequately collect and convey surface stormwater, which in turn is infiltrating the sewer network.

#### Backlogs

Other than the bulk/reticulation network upgrades required as per the Sewer Master Plan, the Drakenstein Municipality has backlogs in terms of basic service provision for wastewater services (see Table 14). The priority is to address the informal settlements which are below minimum level of service. Below minimum level of service situations also exist in rural farm areas. However, these are typically on private land which does not form part of the Drakenstein Water reticulation or sewer drainage systems. The wastewater on rural farms is not included in the municipal budget since the wastewater on farms is the responsibility of the owner. Nevertheless, these situations must be evaluated further.

The Drakenstein Municipality makes available Farm Subsidies to farmers which are governed by a set of criteria.

#### Table 14: Level of service backlog for wastewater services

Level of service	Number of households
Below minimum (informal settlements)	735
Below minimum (farms)	1,183

Furthermore, various wastewater assets have a remaining useful life of fewer than five years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements,

which are added to the municipality project list. The asset management backlog projects are typically identified in the master plan or by the municipality.

The high risk of defunct equipment is at the Paarl WWTW and upgrading and rehabilitation are needed urgently.

The Newton, Saron, Wellington Industrial, Kaplan Street, Mbekweni, Edison and Donkervliet sewerage pump stations need to be upgraded urgently.

# 3.4.3 Electricity

Energy is essential for human life and households generally use electricity for cooking, heating and lighting purposes. Energy sources also have usage risks such as health and safety risks in the use of paraffin and open flame.

SERVICE STANDARD DEFINITION: Households with access to electricity as the primary source of lighting.										
Area	2011	2016	Total increase 2011 - 2016	Average annual increase 2011 - 2016	Average annual growth 2011 - 2016					
Drakenstein	95.0%	94.5%	10,936	2,187	3.6%					
Cape Winelands District	92.8%	92.6%	34,507	6,901	3.5%					

#### Table 15: Household Access to Electricity

Source: Drakenstein Municipality IDP 2018/2019

The total number of households in Drakenstein grew by 11,912 between 2011 and 2016 whilst the total number of households receiving access to electricity only increased by 10,936 households. Household growth is therefore outstripping the provision of electricity services, evident from the fact that 94.5% of all households had access in 2016, compared to 95.0% in 2011.

Electricity was previously available to formally reticulated dwellings only. All formal dwellings have been electrified. Good progress has been made with the installation of electricity connections to informal dwellings during the 2019/2020 financial year, which was funded with Integrated National Electrification Funding (INEP).

Of the 5 999 households identified in 2019, a total of 3 107 (52%) households have been electrified, an additional 210 households were also added. A further 2 892 households are awaiting electricity services.

Informal and illegal electricity connections remain a challenge. Basic services are provided to farms in the rural area through a subsidy scheme for farm workers. Basic services in the rural areas are addressed by Eskom as they mostly reside in the Eskom supply areas.

A number of Co-Generation PV installation applications were processed by the Drakenstein Electrotechnical Department for approval, as required for safety reasons. During the 2018/2019 financial year, applications for an additional 1 MW of solar PV plants were received. In addition, special co-generation tariffs were developed to facilitate consumers who installed PV plants.

A Time-of-Use project was initiated during the financial year. Smart meters were introduced during the 2016/17 financial year on a test and research basis prior to introducing a Time-of-Use tariff for domestic consumers.

# 3.4.3.1 Supply Authority

The Drakenstein Electrotechnical Department is the responsible entity for the distribution of electricity to the urban areas of Paarl, including Mbekweni, Wellington, South City and surrounding farms.

# 3.4.3.2 Bulk Infrastructure

Drakenstein purchases electricity from Eskom at 132 kV Kliprug Substation, 66 kV Dalweiding Substation, 66 kV Parys Substation, 66 kV Slot Substation, 6 kV Dwarsrivier Substation and 11 kV at Wellington Switching Substation.

The Paarl network is further distributed via a 66 kV network incorporating Dalweiding, Palmiet, Parys and Suidend Substations. Slot, Kliprug and Dwarsrivier remain spur feeds from Eskom. All substations are operated under n-1 contingency.

Paarl and Wellington remain separate networks as per historical boundaries.

# 3.4.3.3 Reticulation Infrastructure

Reticulation at Paarl consists of 11 kV switching stations at each of the bulk substations and downstream ring connected, 11 kV switching stations:

•	Dalweiding [7]	-	Palmiet [3]	-	Parys [5]	-	Sı	uidend [2]
	- Groenheuwel		<ul> <li>Mackier</li> </ul>		- Denneburg		-	Paarl Mall
	<ul> <li>Vlakkeland</li> </ul>		<ul> <li>New Orleans</li> </ul>		– Bernardi		_	Tabak
	– Dalwes		<ul> <li>Klein Nederburg</li> </ul>		– Ou Tuin			
	<ul> <li>Daljosofat</li> </ul>				<ul> <li>Meulwater</li> </ul>			
	– Retief				– Eiland			
	<ul> <li>Reningingswerke</li> </ul>							
	– Edison							
	– Mbekweni							
	Slot	-	Dwarsrivier		Kliprug			

The Wellington reticulation network begins at the 11 kV Main Switching Station and consists of the following 11 x 11 kV switching substations:

•	Industrial / Oude Pont	•	Pentz Street	-	Bain Street
•	Pentz Street Wes	•	Blouvlei	-	Berg and Dal
•	Stokery	•	Derde Laan	-	Newton
•	Regent	-	Conmarine		

Eskom distributes electricity to the outlying rural areas including Saron, Hermon and Gouda.

#### Figure 25: Electricity Infrastructure Remaining Useful Life (RUL)



Source: Adapted from Drakenstein Municipality Asset Portfolio Analysis, March 2013

# 3.4.4 Roads and Stormwater

This section of the report includes all stormwater infrastructure, including channels, pipes and inlets. The roads of the Functional Area are addressed in the transportation section of the technical assessment.

# 3.4.4.1 Assets

Most towns in the Drakenstein Municipality are based around the Berg River or branches thereof. All stormwater is directed towards the river with channels and underground stormwater pipes.

Table 16 and Table 17 specify the quantity of stormwater assets in the Drakenstein Municipality, and estimate a construction cost.

Link Description	Number Off	Total Length	Total Costs
Concrete Channel	1,129.00	87,747.81	R 186,962,335.56
Earth Channel	46.00	6,368.70	R 62,141,309.91
Box Culvert	89.00	2,333.65	R 22,305,576.06
Pipe	10,803.00	319,800.75	R 332,605,338.68
TOTAL	12,067.00	416,250.92	R 604,014,560.21

Table 16: Drakenstein stormwater pipes and channels, length and replacement cost

Source: Adapted from Drakenstein Municipality Asset Portfolio Analysis, March 2013

#### Table 17: Drakenstein stormwater structures, quantity and replacement cost

Node Description	Number Off	Total Costs	Total Cost + 70% over heads
Manhole	3599	R 36,709,800.00	R 62,406,660.00
Kerb Inlet	6432	R 43,737,600.00	R 74,353,920.00
Grid Inlet	685	R 4,658,000.00	R 7,918,600.00
Wing Walls	993	R 6.752.400.00	R 11,479,080.00
Other / Dummy	692	R 4,705,600.00	R 7,999,520.00
TOTAL	12401	R 96,563,400.00	R 164,157,780.00

Source: Adapted from Drakenstein Municipality Asset Portfolio Analysis, March 2013

The remaining useful life of the assets is illustrated in Figure 26.

Figure 26: Stormwater Infrastructure Remaining Useful Life (RUL)



Source: Adapted from Drakenstein Municipality Asset Portfolio Analysis, March 2013

# 3.4.4.2 Flood lines

A flood line analysis was conducted for the greater Drakenstein Municipal area in 2009. The study summarises the technical basic calculations of hydrology and hydraulics, which are then used for further

analyses. The end result is flood lines for the following return periods: 1:20, 1:50 and 1:100 year for the Berg River and the 1:100-year flood line for the Leeu River and the Spruit River.

The flood lines are therefore available for planning purposes. No major issues where reported during the flood lines study. Focus should be placed on minimising the effect of urbanisation on run-off to ensure that flood peaks are attenuated and not amplified by future development.

# 3.4.4.3 Current Challenges

#### Backlogs

One of the major challenges of the Municipality in terms of stormwater is the lack of an integrated stormwater management plan for the Municipality as a whole. Current reports and studies are outdated, and a new plan is required to identify and prioritise future projects. Consequently, there is no clearly defined backlog in terms of stormwater infrastructure. Typically, the stormwater infrastructure will form part of other projects such as road upgrades, new developments and housing developments. Large area development projects can have a significant impact on runoff parameters and larger detention dams may be required.

Additionally, there are other backlogs in terms of stormwater assets. Various stormwater assets have a remaining useful life of fewer than five years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the stormwater network. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list.

The projects which require immediate attention are included in the municipal budget and are discussed in the technical assessment. Many stormwater projects, such as large detention dams, indirectly address the current housing backlog of the Drakenstein area, which is approximately 22 000 subsidised or partially subsidised opportunities.

# 3.4.5 Transportation

# 3.4.5.1 Existing Road Network

The bulk of the population in the Drakenstein Municipality resides in the larger town such as Paarl and Wellington. The smaller towns such as Saron, Hermon and Simondium are connected to the bigger towns through the road and rail network.

The structuring roads within the Drakenstein municipal area are:

- National Route 1 (N1) with Klapmuts and Simondium South of the N1 and the other towns north of the N1. The N1 is an important freight route, connecting Cape Town to Johannesburg and other destinations north.
- R44 Connecting the town of Klapmuts in the south to Windmeul, Wellington, Hermon, Gouda and Saron. The railway line follows the alignment of this road until the road divert west towards Gouda and Porterville. The Average Annual Daily Traffic along the R44 through Wellington is in excess of 13500 (RNIS);
- R45 This road extends through the centre of Paarl, connecting Simondium with Paarl Main Road but also towns outside the municipal border such as Malmesbury;
- R46 The R46 connects Malmesbury with Touws River, via Riebeek-Kasteel, Tulbagh and Ceres. The R46 is co-signed with the R44 between Gouda and Hermon in the Drakenstein Municipality;
- R301 This road is also considered to be a main route in DM, as it links Paarl with Franschhoek a key tourist destination in the Stellenbosch Municipal Area;
- R101 Also known as Old Paarl Road, extends from Klapmuts parallel to the N1 until it crosses the N1 south of Paarl, where it joins the R45.

# 3.4.5.2 Condition of Existing Road Network, Railways and Public Transport

The Drakenstein Municipality experiences increased pressure on the road infrastructure, especially the major through and collector routes. With Paarl and Wellington at the centre of a hub of main transport routes, the area provides corridors for traffic movement, including freight between Cape Town, the South Coast, West Coast, Northern Cape and northern provinces.

Paarl–Wellington–Mbekweni has a well-developed internal road network providing good vehicular access to its many urban facilities and opportunities. This road network supports a road-based public transport system dominated by mini-bus taxis providing an internal as well as eternal service, connecting the towns with rural settlements.

There are currently three long-distance commercial bus services that operate in the Cape Winelands District, namely:

- Greyhound;
- Translux;
- Intercape.

All three these operators primarily travel on the national routes between major cities such as Cape Town, Johannesburg, Pretoria and Durban. Within the Drakenstein Municipality the pickup point is at the Monument Shell, on the corner of Main and South Street.

The railway line, providing a rail-based passenger service, runs through the length of the Municipality in a north–south direction. There is a daily service between Cape Town, Paarl, Wellington and Gouda. Railway stations within the Drakenstein Municipality are located at:

- Paarl;
- Huguenot;
- Mbekweni;
- Dal Josafat;
- Wellington;
- Malan;
- Soetendal;
- Hermon;
- Gouda.

The Shosholoza Meyl, a long-distance rail operation, provides a rail service between the Cape Town CBD and Johannesburg. This service follows the alignment of the N1.

Freight rail operations take place on a daily basis, with freight trains operating on the same railway lines as passenger operations.

Figure 27: Road Transport Infrastructure Remaining Useful Life (RUL)



Source: Adapted from Drakenstein Municipality Asset Portfolio Analysis, March 2013

## 3.4.5.3 Non-motorised transport

In some areas, non-motorised transport (NMT) usage is not adequately supported. Improvement in the provision of NMT facilities is required.

#### 3.4.5.4 Key challenges

The Integrated Transport Plan (ITP), compiled by the Drakenstein Municipality, identified problem areas to be addressed: safety, long waiting times, poor integration between modes, illegal operations and lack of law enforcement. In recent years, Drakenstein has also experienced an increase in heavy freight vehicles as Paarl expanded its industrial areas. The Municipality does not have an Integrated Traffic Management Plan, which is urgently required.

# 3.4.5.5 Future Planned Routes/Upgrades

Paarl:

- Strengthen/improve north-south and east-west links to initiate and fast-track development, in particular the connection between Lady Grey and Klein Drakenstein Road and the completion of Van der Stel Street towards Klein Drakenstein Street.
- Establish Klein Drakenstein Road as a vibrant activity corridor;
- Create linkages between Boland Park and the Waterfront site;
- Road infrastructure to support urban renewal in key nodes such as the area around the Paarl and Huguenot Station, Paarl CBD (along Main Road), Berg River frontage, sports and recreation facilities, agri-processing and food industry.
- Focus on the development of Paarl Station and Dal Josafat Station as strategic economic transport hubs;
- Boland Park planning should include planning for Langenhoven Avenue road reserve;
- Upgrade R301 south of N1;
- Oosbosch/Van Riebeeck upgrade under construction;
- Van Riebeeck upgrade between Oosbosch/Van der Stel;
- Extension of Berg River Boulevard from Oosbosch to Retief;
- Extension of the Berg River Boulevard from Retief to R45;
- Bridge over Berg River linking Retief and Van der Stel.

#### Mbekweni

- Strengthen and create linkages with industrial nodes through safe connection across the railway line to Wellington Industrial par;
- Prioritise sidewalk/NMT provision along major routes and make provision for cycling tracks in all urban upgrade projects;
- Reconfiguration of primary access and movement routes to establish more legible urban structure and to facilitate public transport.
- Extension of Mafila Street to Wamkelekile Street and Nobula Street to Jan van Riebeeck Street.

#### Wellington

- Capitalise on the critical mass of existing transport enterprises and provide supporting infrastructure for logistics and transport;
- Provide walkways and cycle tracks for pedestrians and recreational purposes (along the existing road known as the "Perdeskoen");
- Upgrade of R44 for Wellington industrial park.

#### Simondium

- Ensure that new road links include cycling/pedestrian lanes;
- Establish optimal public connection between R301 and R45.

#### Windmeul

Divert heavy vehicles away from MR218 through appropriate traffic-calming measures.

#### Hermon

- Strengthen the north-south movement through development and upgrading of the R46;
- Provide connected NMT routes and a connected system of safe open spaces;
- Create improved public transport linkages for commuting to schools in urban centres.

#### Gouda

- Capitalise on the location at the R44/R46 intersection through pursuing the possible development of a freight logistics/transport hub with a weigh bridge, service station and tuck shop (at Malva Street/R44 intersection);
- Facilitate new NMT and road connections to create legible urban structure.

# 3.4.6 Solid Waste Removal

Refuse removal is an essential service that ensures that health-related problems are kept at bay. A lack of or inadequate service is likely to result in illegal dumping. There are growing concerns around the land and environmental limitations in the creation and lifespan of landfill sites. This would benefit greatly from the reduce–reuse–recycle approach, which encourages non-wasteful consumption practices (reduce), the reuse of products where possible (reuse) and the recycling of the product where its use in current form has been exhausted (recycle).

The Municipality is responsible for refuse collection services, solid waste disposal and treatment, the management of solid waste facilities, waste minimisation, street sweeping and the cleaning of open undeveloped municipal erven. The Municipality strives to meet basic community needs through the provision of affordable and sustainable waste management services and the provision of a clean and healthy environment.

The current minimum level of service for refuse removal is as follows:

- All formal erven are serviced by a black bag removal system at least once a week;
- Informal erven are serviced by drum or central skip removal at least once a week;

Illegal dumping and littering have been identified as a key issue. The action plan for remedying this consists of regular clean-up projects in high-density areas and main routes;

Basic waste management information is as follows:

- On average, 42,000 refuse removal service points are being serviced weekly;
- 84,150 tons of solid waste are disposed at the Wellington Solid Waste Disposal Site;
- In total, 4,300 kilometres of streets are swept per annum;
- 360 hectares of open erven are cleaned and mowed.

Note: All formal erven are serviced by a refuse bin removal service at least once a week. Informal erven are serviced by bag or central skip removal at least once a week. The total number of households (refuse removal) indicates the total number of collection points.

The Municipality has embarked on a vigorous Waste Minimisation programme to divert green waste and builders' rubble from the landfill site and a dedicated facility has been constructed for this purpose.

Green aztecas, however prone to vandalism, are placed throughout the municipal area as receptacles for glass. Additional receptacles for other recyclable commodities, such as plastics, paper, cooking oil, electronic waste and motor oil, are available at the Wellington drop-off area (Wellington landfill site, Interspace) and Material Recovery Facility (Paarl Refuse Transfer station, Distillery Street).

SERVICE STANDARD DEFINITION: Households who have solid waste removed by local authorities at least weekly.					
Area	2011	2016	Total increase 2011 – 2016	Average annual increase 2011 - 2016	Average annual growth 2011 - 2016
Drakenstein	86.1%	90.6%	13,436	2,687	4.7%
Cape Winelands District	79.9%	81.8%	34,548	6,910	4.0%

#### Table 18: Household Access to Solid Waste Removal

Source: Drakenstein Municipality IDP 2018/2019

The Municipality has made great strides to extend refuse removal services to all households i.e. access to waste removal services at least once a week improved from 86.1% in 2011 to 90.6% in 2016. The current refuse removal services backlog can arguably be attributed to outlining farms areas that do not fall within the ambit of responsibility of the Municipality or areas that are geographically difficult to reach.

The key issue identified is the imminent running out of airspace at the Wellington Landfill site. All other landfills have been closed and most have been rehabilitated. The Wellington Landfill has reached its licensed capacity. The Municipality is in the process of applying for a further increase in the allowed landfill height. The action plan proposed in the IDP 2017-22 includes the selection of a new landfill site and upgrading of the solid waste management infrastructure to compliance levels. Other possible projects that could be initiated to increase landfill capacity are to apply for an increase in the landfill foortprint. This is a major risk to the Municipality. The process of siting, coordination with neighbouring municipalities, design and approvals could take more than five years to conclude before construction commences.

The Drakenstein Integrated Waste Management Plan (IWMP) third-generation draft was developed in 2019 and is currently being finalised by JPCE. A key difference in the new third-generation draft 2019 IWMP compared to the second-generation IWMP published in 2014 is that the proposed waste to energy plant has been omitted.

The existing waste infrastructure in the Drakenstein Municipality is described in Table 19. Facilities highlighted in green are still operational. As can be seen, all the waste disposal facilities, except for the Wellington landfill site, have been decommissioned.

#### Table 19: Existing waste management infrastructure in Drakenstein

Waste Management Area and Facility Type	Classification	Licence Type	Available airspace (Including years)
Wellington WDF	G:M:B+	Operational	Until 2020 (2011 data)
Dal Josafat WDF	n/a	Decommission (2014/15)	n/a
Paarl RTS/MRF/composting		Operational	
Saron Drop-Off		Oparational	General Waste Cpacity -10 x 6m^3 plus 1 x 30 m^4 plus 3 recycling igloos ( <100 m^3)
Saron WDF	n/a	Decommissioned (2014/15)	n/a
Paael /Orleans WDF	n/a	Decommissioned (2014/15)	n/a
Hermon WDF	n/a	Decommissioned (2014/15)	n/a
Hermon Drop-Off		Operational	General Waste Cpacity -3 x 6m <sup>3</sup> plus 2 recycling igloos (< 100 m <sup>3</sup> )
Klapmuts WDF	G:S:B+	Decommissioned (2014/15)	n/a
Zanddrift Boy Louw WDF		Decommissioned	n/a
Gouda Drop-Off		Operational	General Waste Capacity -5 x 6m <sup>3</sup> plus 2 recycling igloos (< 100 m <sup>3</sup> )
Gouda WDF	n/a	Decommissioned (2014/15)	n/a
Wellington WDF	H:h	Decommissioned (2014/15)	n/a
Mbekweni mini drop-off sites		Operational	3 mini drop-off facilities in the informal areas of Mbekweni - typically 6m wide x 3m deep x 2m high enclosures

Figure 28: Solid Waste Infrastructure Remaining Useful Life (RUL)



Source: Adapted from Drakenstein Municipality Asset Portfolio Analysis, March 2013

Key gaps that were identified in the Drakenstein IWMP include:

- Public awareness of the latest waste legislation;
- Rehabilitation of disposal facilities before dates specified in the closure licences;
- Public awareness and education regarding source separation (clear and blag bag scheme);
- Information management systems regarding waste generation types and volumes, especially hazardous waste;
- Maintenance and replacement of the collection fleet;
- Law enforcement for illegal dumping;
- Vacant personnel positions;
- Funding mechanisms outside of the Municipality need to be explored.

Strategies that were proposed in the Drakenstein IWMP include:

- Maximisation of waste avoidance and reduction and minimisation of waste disposal through awareness initiatives, law enforcement, material recovery and treatment plants;
- IWMP Goal 1: Strengthened education, capacity and advocacy towards Integrated Waste Management;
- IWMP Goal 2: Improved integrated waste management planning and implementation for efficient waste services and infrastructure;

- IWMP Goal 3: Effective and efficient utilisation of resources;
- IWMP Goal 4: Improved compliance with the environmental regulatory framework.

High-priority projects recommended in the Drakenstein IWMP include:

- Fill vacant posts within the Waste Department as soon as possible (Goal 1);
- Finalise the IWMP 3<sup>rd</sup> Generation (Goal 2);
- Review and replace collection vehicles where required (Goal 2);
- Construction of six more Mini-Drop-off facilities (Goal 2);
- Appointment of contractor(s) for recycling and RTS operations (Goal 3);
- Investigate waste diversion alternatives (Goal 3);
- Conduct internal and external compliance audits on all waste facilities (Goal 4);
- Cooperate with the public and law enforcement to reduce instances of illegal dumping (Goal 4).

### 3.4.7 Social Infrastructure

The Capital Expenditure Framework includes only municipal-owned and -funded social and community infrastructure. The Municipal SDF is the source that deals with all social and community infrastructure. The Drakenstein municipal social infrastructure asset portfolio includes the following services / facilities.

Service/Facility	Quantity
Arboretum	1
Cemetery	13
Community Centre/Hall	12
Fire Station	4
Library	18
Municipal Offices	6
Museum	3
Nature Reserve	2
Soup Kitchen	11
Sport Grounds	13
Thusong Centre	2
Recreational Facilities	5

Table 20: Municipal Social Infrastructure/Community Facilities Asset Portfolio

The Drakenstein Municipality has a large variety and quantity of social and community facilities. The main challenges experienced with regard to the provision of adequate access to social facilities to residents are the maintenance and upgrading of existing social facilities. This is especially applicable to sport and recreation facilities within the municipal area. The social and community infrastructure demand is primarily for sport and recreation facilities.

Through spatial targeting and optimisation, the amount of capital needed to address the future needs will be reduced. As a result, a higher level of services can be delivered which will service the needs of more customers in a single location.

In terms of Asset Care (Maintenance) Plans, according to the Drakenstein Asset Management Status Quo Report June 2016, assets managed by departments other than the civil and electro-technical departments, mostly buildings and community facilities, do not have preventive maintenance plans in place and maintenance is mostly reactive.

The two Thusong facilities located in Paarl East and Mbekweni are managed according to the Six Block Model prescribed by National Government. It houses six national governmental departments, including SASSA and the Department of Social Services and Consumer Protection. It also houses six NGOs, including Arise and Shine (Disabled Forum), Down Syndrome Association, Gender Violence Research Initiative (MRC study), HIV/Aids research study (University of Stellenbosch) and the CDW programme. It also provides computer training opportunities in three dedicated computer laboratories (Office of the Premier).

In general, it is acknowledged that an asset survey of the municipal social and community survey is required to inform asset management. Such as survey has been conducted and is being analysed.

The Drakenstein Municipality has a large variety and quantity of social and community facilities. The main challenges experienced with regard to the provision of adequate access to social facilities to residents are the maintenance and upgrading of existing facilities. This is especially applicable to sport and recreation facilities within the municipal area. The social and community infrastructure demand is primarily for sport and recreation facilities.

# 3.4.7.1 Health and Emergency Services

The access to health and emergency facilities (hospitals, clinics and community health centres) are based on the CSIR Guidelines for the Provision of Social Facilities in South Africa (2012).

Facility	Average Threshold (Population)	Acceptable Travel Distance (km)
Hospital	300,000 to 900,000	30km
Community Health Centres	100,000 to 140,000	5km
Clinics	24,000 to 70,000	5km
Fire Station	60,000 to 100,000	8 to 23 minutes response time
Police Station	60,000 to 100,000	8km urban area, 16km peri-urban and 24km other

The Municipality currently has adequate provision of hospitals.

The Municipality currently has adequate provision of clinics and community health care facilities, with the exception of the rural settlement Hermon, which does not have access to a clinic or community health care facility within an acceptable travel distance. However, due to Hermon's size, it does not comply with the average threshold population guidelines of a minimum of 24,000 people to justify the provision of a clinic.

The Municipality currently has adequate provision of police stations, with all areas falling within at least a 24km radius of a station.

# 3.4.7.2 Education Services

Accesses to educational facilities are based on the South African Schools Act, 1996 (Act No. 84 of 1996) Norms and Standards. At full implementation of the Norms and Standards, every school will be required to have a catchment area (area to be served by a school) with a radius of up to 3km (45 minutes walking time). A total walking distance to and from school will then be 6km (1.5 hours walking distance time).

Facility	Average Threshold (Population) (CSIR Guidelines)	Acceptable Travel Distance (km) (South African Schools Act)
Primary School	7,000	3km (45 minutes walking time)
Secondary School	12,500	3km (45 minutes walking time)

The Municipality currently has adequate provision of primary schools except for Southern Paarl, where access is limited to Simondium.

In terms of secondary schools, the Municipality is adequately serviced within the Paarl–Mbekweni– Wellington area. Similar to primary schools, there are no secondary schools in the Southern Paarl area, with the exception of Simondium.
The two rural areas Gouda and Hermon do not have access to a secondary school within an acceptable travel distance. These two settlements, however, are small in nature and do not comply with the average threshold population guidelines of 7,000 people to justify the provision of a secondary school.

## 3.4.7.3 Social and Civic Services

Access to social and civic services is based on the CSIR Guidelines for the Provision of Social Facilities in South Africa (2012).

Facility	Average Threshold (Population)	Acceptable Travel Distance (km)
Municipal Offices	1 per Local Municipality	30km
Local Library	20,000 to 70,000	8km to 10km
Community Hall (Large)	60,000	10km
Community Hall (Medium/Small)	10,000 to 15,000	15km
Cemetery (Medium)	8.8ha/50,000	15km

The Municipality currently has adequate provision of Municipal Offices, libraries and community halls.

Drakenstein is experiencing a shortage of land for cemeteries and the lack of a regional cemetery has been identified as a challenge. This reality is forcing municipalities to consider alternative methods of interment such as cremation, grave recycling in old cemeteries. The implementation of multiple burial interments has implications that the Municipality must consider when selecting a new cemetery site. The selection of a 60-ha site (recommended by the 2006 Cemetery Study) would likely not be necessary for the 50-year planning horizon. Considering a stable burial rate of  $\pm 1$  300/year, the number of burials over 50-years would equate to 65,000. With only one body/grave, 3,344 graves/ha could be accommodated, equating to  $\pm 19,43$ ha. Allowing  $\pm 5,5$  ha for associated infrastructure, a total of  $\pm 24,93$  ha, or 25 ha, would be sufficient for the 50-year planning horizon. The site for the regional cemetery has not been finalised. Various sites have been identified, however. Site suitability analyses must be done before a decision can be made on which site will be proposed for the location of the new regional cemetery.

Table 21. Existing cemetery capacity for October 2014	Table 21:	Existing	cemetery	capacity	for	October	2014
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Cemetery	Location	Availability of Graves	Availability of Graves (Paarl/Wellington Area)
Parys	Paarl	Full	100
Dal Josafat	Paari	Full	
Mountain Road	Paarl	Full	100 C
Aandblom	Wellington	Full	12
Champagne	Wellington	50	50
Hillcrest	Wellington	300	300
Voorstraat	Wellington	Full	
Simondium General	Simondium	100	100
Simondium (NG Church)	Simondium	400	400
Hermon	Hermon	2700	100
Gouda	Gouda	338	
Saron	Saron	5000	(11)
Total		8888*	850**

Source: WorleyParsons RSA (Pty) Ltd. Phase 1 Identification of Land for Regional Cemetery Purposes, January 2015

### 3.4.7.4 Recreation

Access to recreation facilities is based on the CSIR Guidelines for the Provision of Social Facilities in South Africa (2012).

Facility	Average Threshold (Population)	Acceptable Travel Distance (km)
Sports Complex (grouping of fields and/or sports complexes)	60,000	10km
Grass Field (2 football fields equivalent) with 500-seat stand	30,000	5km
Grassed Surface (2 football fields equivalent)	15,000	3km

The Municipality currently has adequate provision of sports grounds except for South City (including Simondium).

# 3.5 Municipal Development Challenges

Urban Form and Land Use Patterns	The legacy of the apartheid policy of separate development and group areas still characterises the pattern of land use in settlements, and very little has been achieved in facilitating spatial integration;
	<ul> <li>Scarce suitable land for decanting and/or relocation of informal settlements within Mbekweni and Paarl East;</li> </ul>
	<ul> <li>Land invasion of prime land parcels by informal dwellers within areas such as Mbekweni and Paarl East;</li> </ul>
	Urban renewal and regeneration in areas such as Paarl and Wellington remain a priority. Urban renewal involves the relocation of businesses, the demolition of structures, and the use of public assets to revitalise the urban milieu for the benefit of all its users. Policies such as Special Ratings Areas, Restructuring Zones and Special Use Areas are tools to assist in renewal.
Human Settlements	Sustainable human settlements are one of the great challenges faced by the Municipality, with a huge backlog in terms of the provision of housing opportunities. Increasing trend in people living in backyard structures and informal settlements primarily in Paarl, Wellington and Mbekweni;
	Informal settlements specifically act as "arrival cities" for the majority of migrant job seekers who flock to the Cape Winelands in search of socio-economic opportunities;
	Growing need to incorporate affordable rental housing options for households in Paarl East and Mbekweni that cannot afford to secure/buy a house or otherwise do not qualify for subsidised housing;
	Increasing trend of farm evictions in rural towns/areas;
	Poor location and form of recent subsidised housing schemes within lower income areas such as Mbekweni. The housing schemes are located on the edge of townships in Mbekweni and Paarl East, away from economic and social opportunities and lacking in amenities needed to create vibrant communities such as play parks and libraries;
	There is a high demand and pressure for middle to upper income development in the rural areas to the south of the N1 (Paarl South) - calling for a clear policy and spatial structure to inform decisions on such applications;
	The Municipality still has a serious backlog in respect of the upgrading of rental stock due to the huge cost implications to upgrade, which is estimated to be over R1 billion.
Social and Community Facilities	Drakenstein reports that spatial imbalances are experienced with regard to access to social facilities in lower- to middle-income residential areas;
	Main social facilities that have been identified as lacking are sport and recreation facilities and lack of cemeteries;
	Main challenges experienced with regard to social facilities are the maintenance and upgrading of existing sport and recreational facilities;
	There is a need to conduct a social facilities investigation which will inform what social facilities are most in need and in which areas these facilities are needed.

Infrastructure	•	Lack of alignment of infrastructure investment and upgrading with new growth areas;
	•	Water: Paarl and Wellington both require upgrading of their feeder mains to cater for anticipated future growth. Addressing backlog (481 households) to provide at least a minimum level of water service, high unaccounted for water (UAW) and network upgrades to ensure functionality;
	ľ	Wastewater: Addressing backlog (735 households) to provide at least a minimum level of wastewater service, High Groundwater Infiltration and WWTP overflow during high rainfall days;
	Ľ	Wastewater: a range of pump stations require upgrading, as well as the completion of the Wellington WWTW upgrade;
	•	Electricity: all substations are operating within installed capacity with maintenance and upgrade programmes in place for future expansion. The reticulation network requires strengthening to facilitate planned growth in existing areas and new developments on the urban edge e.g. Vlakkeland and developments south of the N2 will require the construction of new 132/66/11 kV substations. Informal and illegal electricity connections will remain a challenge;
	•	Stormwater: Providing new detention dams to ensure stormwater management for housing projects and address aging stormwater infrastructure with renewals and replacement. One of the major challenges of the Municipality in terms of stormwater is the lack of an integrated stormwater management plan for the Municipality as a whole. Current reports and studies are outdated, and a new plan is required to identify and prioritise future projects;
	•	Transport: The Integrated Transport Plan (ITP), compiled by the Drakenstein Municipality, identified problem areas to be addressed: safety, long waiting times, poor integration between modes, illegal operations and lack of law enforcement. In recent years, Drakenstein has also experienced an increase in heavy freight vehicles as Paarl expanded its industrial areas. The Municipality does not have an Integrated Traffic Management Plan, which is urgently required;
	ŀ	Aging bulk infrastructure. The cost of service delivery increases due to unplanned maintenance on infrastructure that has passed its economic life.
Economic Activity	•	Drakenstein economy not sufficiently diversified in terms of sub-sectors and the export basket;
	ľ	Economy is vulnerable to external shocks such as drought. Real annual growth declined sharply in 2009 and 2015. The economy has therefore experienced inconsistent annual growth for the period of 2007 to 2016;
	ľ	Capital investment is declining, and the pace of job creation is too slow to absorb labour with high levels of youth unemployment. Drakenstein reports unemployment at 18.3% and youth unemployment at 33.4%;
	ľ	Drakenstein will need a balanced portfolio of sectors to create a more resilient, productive and equitable economy. Attention will need to be paid to investment promotion, rolling out ICT infrastructure, skills development and entrepreneurship.
Movement and Linkages	•	There is still a poor integration between modes of transport in Drakenstein, namely rail, road-based taxi and private vehicles;
	12.	Lack of infrastructure provision for public transport and NMT;
	ŀ	The R44 through Wellington experiences heavy daily volumes of traffic, with people journeying north–south from Klapmuts up and through Wellington;
	•	Heavy freight has increased as a result of industrial growth in and around Paarl, leading to excessive heavy loading of the existing road network.

Environmental Features		Ad hoc transformation of the natural landscape, without giving consideration to scenic landscape quality, cultural heritage significance, and loss of biodiversity, including threatened ecosystems and species that may take place, especially within the urban area;
	-	Urban encroachment into agricultural areas that offer good soil potential in terms of soils;
	-	Land degradation and increased water and soil contamination as a result of urban sprawl;
	•	The persistence of alien vegetation, which allows for veld fires to occur more frequently and intensely, destroying soil structure and seed banks;
	•	Climate change is predicted to be a major long-term threat to biodiversity, as it is likely to cause a shift in species distribution;
	-	Climate change is not a threat to biodiversity alone, but also holds risks for Drakenstein related to loss of ecosystem services, increased fire likelihood, flooding, drought and heat stress;
	-	Climate change holds a risk for development in areas that could become high-risk areas in terms of predicted climate-related hazards without giving consideration to these impacts, e.g. development in the floodplain;
	-	Over-abstraction and modification of natural watercourses is altering flow regimes, which impacts on species migration and breeding, aquatic habitats, food resources, and wetland ecosystems.

# 3.6 Key Municipal Strategies and Interventions

# 3.6.1 Consolidated Municipal Concept

The Consolidated Municipal Concept visually spatialises and illustrates the final vision for the Drakenstein Municipal area. Based on the key issues and spatial implications analysed, seven key spatial concepts have been defined to shape the Consolidated Municipal Concept. It encapsulates the individual key spatial concepts discussed in this section. The 7 concepts that make up the Consolidated Municipal Concept are stated below:

- Vision 2032 Catalytic Zones and Big Moves;
- Integrated Environmental Management;
- Agriculture and Rural Development;
- Heritage and Cultural Landscape;
- Hierarchy of Settlements and Rural-Urban Linkages;
- Connectivity, Mobility and Logistics;
- Spatial Transformation to Resilient, Inclusive, Smart and Sustainable Settlements.

The concepts that have been identified are cross-cutting and inter-dependent. It is important to consider that the seven concepts influence, and are influenced by, the overarching themes and considerations outlined below.

Figure 29: Consolidated Municipal Concept Map



(K) DRAKENSTEIN

## 3.6.2 Overarching Themes

### 3.6.2.1 Climate Change

It is essential that Climate Change be mainstreamed across various sectors and line departments within the Drakenstein Municipality by integrating it into all strategic objectives, policies, plans, strategies, operations, etc. This is particularly important since it is acknowledged that local municipalities such as the Drakenstein Municipality do not have the human and financial resources to mobilise a separate portfolio for climate change.

Climate Change has the potential to exacerbate current economic and social problems which, if unmanaged, could pose a significant risk to municipal infrastructure and service delivery. This risk needs to be addressed by all municipal departments.

Mainstreaming of climate change response implies that local government adopts, expands and enhances the climate risk measures as part of its normal planning processes, and into its existing everyday activities and functions. Mitigation and adaptation to climate change will require both standalone policies and integration into development planning tools such as Integrated Development Plans (IDPs) and SDFs.

With climate resilience being considered a key element in realising the Consolidated Municipal Concept, the SDF supports a co-ordinated response to climate change within the Drakenstein Municipality by highlighting the work that has already been done, and by offering a structure through which interventions can be further strengthened and supported.

The SDF proposals are framed to support the implementation of the Drakenstein Climate Change Action Plan in facilitating low-carbon development trajectory, climate resilience and sustainable growth and economic development.

The SDF proposals have been set out in an integrated manner to support the Drakenstein Climate Change Objectives developed as part of their Climate Change Adaptation Plan. These objectives are:

- Water security and efficiency;
- Climate-resilient and low-carbon development:
  - Infrastructure;
  - Transport;
  - Settlements;
- Energy efficiency and demand side management;
- Biodiversity and ecosystem management;
- Food security (agriculture);
- Public health;
- Disaster management;
- Building a response capacity through improved co-ordination and awareness.

### 3.6.2.2 Economic Growth

At a conceptual level, economic growth and its application through the SDF relate to spatial strategies and tools to increase the attractiveness (commercial and residential development), competitiveness (favourable administrative environment for business establishment) and Gross Domestic Product (GDP) (output of goods and services) of the Drakenstein Municipality. (IEGS, 2019). The Drakenstein Municipality, through the SDF, can increase these economic growth metrics through the following tools and strategies:

- Communicating a clear and transparent development trajectory;
- Reducing red tape and increasing efficiency in development applications;

- Ensuring that infrastructure planning and delivery is aligned with the spatial development framework (infrastructure being the enabler of urban development);
- Releasing well-located land for mixed-use development, which should include affordable high-density residential development (access to economic opportunities and decreased transportation cost);
- Investing and developing areas with high potential;
- Implementing urban regeneration strategies;
- Leveraging from Public–Private Partnerships (PPPs) for the beautification and development of public assets (i.e. Paarl Waterfront and Arboretum); and
- Protecting and enhancing natural and historical assets that produce employment opportunities (i.e. tourism industry) (IEGS, 2019).

These overarching tools and strategies are by no means an exhaustive list, but they will all contribute, if successfully implemented, in increasing the Drakenstein Municipality's attractiveness, competitiveness and GDP. These considerations are taken through to the concepts and strategies that follow.

#### 3.6.2.3 Infrastructure

The provision of reliable and quality infrastructure is a direct enabler of urban development. Given the historical mismatch between infrastructure planning/development and spatial planning, it is critical to emphasise the need to closely align these two municipal functions. In this sense, the concepts and resultant strategies put forward within this SDF seeks to do this through various means. At a conceptual level, this must be achieved through the application of urban planning concepts/tools and strategies which include, but are not limited to:

- Densification;
- Infill development;
- Strong adherence to the urban edge;
- Urban Regeneration;
- Transit–Orientated Development;
- The promotion of brownfield developments.

As a whole, these urban planning concepts/tools were conceptualised to make the best use of existing resources, or in other words existing infrastructure. The reason for this relates to the fact that the development of new infrastructure carries with it large capital cost (CAPEX) coupled with an even larger operational cost (OPEX) over the lifecycle of these infrastructural elements. One example of this relates to the importance of the regeneration and densification of declining CBDs and other urban areas.

In South Africa, and specifically in the Drakenstein Municipality, CBDs are well serviced with infrastructure, but the infrastructure is not utilised to its maximum potential. Decaying infrastructure in the CBD/ core urban areas can serve to exacerbate urban sprawl since this reinforces the perception that greenfield development is more cost-effective that brownfield development mainly due to cost implications and low demand for residential and commercial space in dilapidated urban areas and CBDs.

Despite the trend for new developments outside of the CBD/ urban cores, new infrastructure developed outside of these areas incur a large capital cost and operational costs that often make these infrastructure developments and the related asset management requirements financially unsustainable (from a municipal financial perspective).

#### 3.6.2.4 Tourism

Tourism has been identified as one of the key priority sectors to create jobs and grow the economy in South Africa, the Western cape and specifically, and the Drakenstein Municipality. According to the IDP (2019/20), the tourism sector remains buoyant. Hence the Western Cape Government's strong drive to prioritise this

sector for the next five years. In 2015, the Western Cape accounted for approximately 14.5% of all South African tourist arrivals and earned approximately 21.8% of South Africa's total tourist spend.

The Cape Winelands District and in particular the Drakenstein Municipality continued to experience significant growth in the traditional core markets, namely Germany and France, and it is anticipated that this market will continue to experience steady growth for the foreseeable future. The Drakenstein Municipality should position itself to achieve sustainable growth in this sector through aligning the Municipality's Tourism strategy with the Provincial priorities. The Drakenstein Municipality has geared itself toward aligning its tourism strategy with the Provincial Priorities.

The role that the Tourism sector must play as a key growth sector for the local economy is an important factor to be considered. Tourism, coupled with the three other overarching themes, was considered when proposing strategies for each of the 7 Concepts and for the strategies that were identified for each of the Focus Areas.



# 4 Spatial Transformation Agenda and Technical Assessments

The purpose of this chapter is to undertake an assessment of the need for infrastructure investment for 2030 aligned to the spatial transformation agenda and backlog alleviation. The chapter starts by describing the demarcation of the entire municipal area into Functional Areas for which the infrastructure investment requirements will be determined.

# 4.1 Description of Functional Areas

The Guide to preparing a Capital Expenditure Framework for the purpose of the IUDG requires that the Municipal area should be divided into Functional Areas. The Business Plan submission should illustrate the spatial transformation agenda and investment framework developed per Functional Area in order to achieve the IUDG outputs. A Functional Area is defined as follow:

"A Functional Area is an area with similar characteristics (homogenic) from a developmental and service demand perspective. A typical example is to demarcate the rural part of the municipality or the tribal land area because it has more or less similar challenges (low density, lack of high order services, etc.) and it requires a specific development strategy that is unique to the development challenges of the area. It may include specific Priority Development Areas such as a specific focus on servicing the traditional villages, or providing basic services to informal settlements as well as maintaining services for the rural area (e.g. gravel roads)" - COGTA, Guide to preparing a Capital Expenditure Framework – Draft Document Version 9

The Functional Areas that were earmarked for the purpose of completing this CEF for the IUDG are similarly aligned in a spatial manner to the IDP Vision 2032 Catalytic Zones. It is important to keep in mind that some Catalytic Zones overlap. The four Functional Areas (FA) are delineated as follows:

Catalytic Zone	Function Area	Town/Area
North City Corridor	Functional Area 1: North City	Paarl, Wellington and Mbekweni
Paarl East/West Integration Corridor	Functional Area 1: North City	Paarl East and Central Paarl
N1 Corridor	Functional Area 2: N1 Corridor	Klapmuts North, Ben Bernhard, the De Poort, Paarl Hamlet and the Huguenot Tunnel toll plaza (non-residential in nature)
South City Corridor	Functional Area 3: South City	Boschenmeer, Val de Vie, Paarl Valley and Simondium
Rural Hinterland	Functional Area 4: Rural Hinterland	Windmeul, Hermon, Gouda, Saron and Bainskloof Village

 Table 22: Catalytic Zones and Functional Areas Delineation

The North City Corridor includes the urban areas of Paarl, Mbekweni and Wellington and therefore form the main urban core of the Municipality. This Corridor overlaps with the N1 Corridor and the Paarl East/West Integration Corridor. The delineation of Functional Areas requires that areas with similar characteristics from a developmental and service demand perspective be clustered. Taking this into account, the urban core, namely Paarl, Wellington and Mbekweni, is delineated as one Functional Area.



In terms of the population distribution within the four Functional Areas, the largest concentration of population resides in Functional Area 1: North City, which includes the urban core of Paarl, Mbekweni and Wellington. This Functional Area is estimated to house 77.3% of the Municipality's total population by 2030 (an overall increase of 53,041 individuals). It is therefore one of the areas with the highest pressure for investment and development.

It must be noted, however, that the highest growth in terms of overall percentage is expected to occur in Functional Area 3: South City. The area is expected to experience a total population growth of 212.5% by 2030 (an overall increase of 15,616 people). This extremely high growth rate can be ascribed to the area being under immense pressure for the development of low-density upmarket residential developments. The area is also well located in terms of transport routes. This Functional Area is therefore one of the areas with the highest pressure for investment and development.

The Rural Hinterland Functional Area, which includes all the rural settlements and hamlets situated towards the northern and mid-western parts of the municipal area, although the largest Functional Area in terms of geographical area (93% of the total), housed only 16% of the Municipality's total population in 2016. Positive but low population growth is projected for this Functional Area (overall growth of 1.2% from 2020 to 2030), resulting in the overall decrease in its contribution to the Municipality's total population in 2030.

The N1 Corridor Functional Area is non-residential in nature, with its primary focus on commercial/business, industrial and mixed-use development and the realisation of the envisioned five Big Moves within this Catalytic Zone. This does not mean that there can be no residential development within this corridor, but simply that residential development and result population and household projections have not been taken into consideration/calculated in this assessment.



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# 4.2 Functional Area 1: North City

## 4.2.1 Existing Situation

The North City Functional Area comprises the urban areas of Paarl, Wellington and Mbekweni and therefore consists of the Paarl East–West Integration Corridor Catalytic Zone and the North City Integration Corridor Catalytic Corridor.

This Functional Area constitutes only 3.9% of the total municipal area but constitutes the largest portion of its population (77.7% in 2016). The estimated population was 231,639 people in 2020 and is expected to increase to 270,687 people by 2030 (17.9% growth). The population density of this area is 3,669 people per square kilometre in 2016 and it is estimated to be 4,564 people per square kilometre in 2030.

Most households fall within the middle-income bracket (42%), followed by the low-income bracket (30%). 17% fall within the low-income bracket.

Paarl is the main regional centre and the most significant urban settlement within the Drakenstein Municipality. The main health, education, cultural facilities and government services are located within this centre. It contains a variety of commercial / business services as well as a strong education, health industrial services and agricultural sector. Paarl fulfils an important function as a regional centre within the greater Cape Metro region. According to the PSDF (2014), Paarl is classified as a high growth potential area. The long-term vision of this area is to become a City of Excellence by 2032.

Wellington is classified as a secondary growth node / Secondary Service Centre and even though it is the second-most significant settlement, after Paarl, it is considered to be an important urban settlement within the Drakenstein Municipality. According to GPS (2013), Wellington has very high socio-economic needs and in tandem with Paarl is classified as a region that fulfils a service, tertiary education, agri-processing and distribution, tourist destination and administrative centre function for the northern winelands region.

The development focus of Wellington is centered around infill and densification as well as areas which do not inhibit on natural and cultural assets, and where infrastructure is available and where movement networks can support future growth. This entails focusing on connecting with other main urban areas such as Mbekweni and Paarl.

Mbekweni is a high-density residential township. The township contains a mix of residential, commercial and public facilities. Mbekweni is regarded as a secondary node with the development focus on creating improved linkages to surrounding urban areas, investing in public realm and better access to socio-economic services and housing opportunities.

Figure 33: North City Functional Area



Source: Adapted from the Drakenstein Municipality Zoning Scheme By-Law (May 2018)



Household Income Structure 2011	<i>Low Low:</i> R0 to R800 per month	17%	Household Income Structure
	<i>Low:</i> R801 to R3,200 per month	30%	11% 17%
	<i>Middle:</i> R3,201 to R25,600 per month	42%	42% 30%
	<i>High:</i> R25,601+ per month	11%	LowLow = Low = Middle = High Source: StatsSA Census 2011

It is evident from the statistics above that the North City Functional Area is host to the largest amount of people within the Municipality. Based on the available statistics and the projected growth, it is evident that the middle-income bracket is the largest group in the area. This can be ascribed to the large amount of people who reside within the Paarl East community. This area is host to the majority of middle-income groups. It is evident that the majority of people that reside within the Paarl West area fall within the higher-income area and the lower-income group typically resides within the Mbekweni area. Interpreting the statistic further it is evident that although the Functional Area only comprises 3.9% of the total geographical area, it has the highest density of people per square kilometre. The high population density of the area emphasises that this is the main urban area of the Municipality. It is also evident that the majority (97.7%) of people within this Functional Area reside in formal dwellings and only 2.3% reside in informal dwellings. The area will experience a 2.3% population growth per annum, emphasising the importance of investing in / maintaining the necessary infrastructure services.

## 4.2.2 Current Challenges

- Spatial segregation due to apartheid policies of the past persists and characterises the pattern of land use in the main urban, especially between east and west;
- Proposed and existing human settlement projects are situated on the urban periphery of the town, further emphasising spatial segregation;
- Public assets such as land, buildings, and transport and utility infrastructure should be geared to enable more inclusive opportunity to improve living, including redress;
- The existing industrial area in Paarl does not fully meet modern logistical requirements. The opportunity exists to determine whether re-using industrial space to enable development will lead to a diverse commercial district. This will have the potential to attract investment and development;
- Limited business and retail opportunities in Paarl East and Mbekweni. The urban areas of Paarl East, Mbekweni and the southern portions of Wellington have limited access to economic, income-generating and social opportunities, which leads to an unsustainable spatial structure. These communities often have poor access to social and recreational facilities because these facilities are poorly located in areas with unfavourable amenity value;
- There is poor integration between transport modes in Paarl, and NMT networks in Paarl are also of poor quality. The NMT network along the arboretum and the pedestrian crossing between Paarl East and Paarl West should be upgraded to ensure pedestrian walkways and routes which are safe and secure;
- Continuous population and urban growth puts pressure on the Municipality to manage the proliferation of informal settlements on public land parcels and on land of natural, heritage and conservation significance;

- Future transport proposals should not further divide the town but rather play a role in integrating the different urban areas;
- Bulk infrastructure supply not sufficient to allow the development of implementation-ready projects, including the servicing of municipal-owned townships as integrated human settlements, city densification, informal settlement upgrading, and economic investment nodes.

## 4.2.3 Future Situation

## 4.2.3.1 Estimated Household Growth and Land Budget 2030

The estimated population and household growth for Paarl, Wellington and Mbekweni is shown in the following table.

Area	Population/ Households	2016	2020	2025	2030	Growth in Numbers (2016 to 2030)
Paarl	Population	120,711	128,472	138,879	150,129	29,418
	Households	30,883	33,876	38,028	42,688	11,805
Wellington	Population	62,175	66,172	71,533	77,327	15,152
	Households	15,907	17,448	19,587	21,988	6,081
Mbokwoni	Population	34,760	36,994	39,991	43,231	8,471
widekweni	Households	8,893	9,755	10,950	12,292	3,399
Total	Population	217,646	231,639	250,403	270,687	53,041
	Households	55,683	61,079	68,565	76,968	21,285

#### Table 23: North City Population and Household Growth

The overall household growth and the land budget for the North City area are shown below:

 Table 24: North City Household Growth Profile and Demand for Residential

Household Growth and Profile								
	Low-low Income	Low Income	Middle Income	High Income	Total			
Existing number of households 2016	9,474	16,772	23,539	5,898	55,683			
Projected number of households 2030	13,096	23,183	32,537	8,153	76,968			
Estimated household growth 2016 to 2030	3,622	6,411	8,998	2,255	21,285			
Demand for Residential								
	Low-low Income	Low Income	Middle Income	High Income	Total			
Existing number of residential units 2016	8,137	14,401	22,313	5,860	50,711			
Backlog in residential units 2016	1,338	2,371	1,226	38	4,972			
Projected number of residential units needed 2030	4,959	8,782	10,223	2,292	26,257			
Units achieved through densification (brownfields) 2030	496	878	1,022	229	2,626			

Household Growth and Profile					
Units achieved through additional land (greenfields) 2030	4,463	7,904	9,201	2,063	23,631

It is evident from the tables above that the highest demand for residential units needed in 2030 will be in the middle-income group. It is estimated that 10,223 units will be needed by 2030 for this income group. It is also worth noting that the middle-income group will have the highest projected number of households in 2030 (32,537 households) and it is further estimated that the middle-income group will experience the highest household growth from 2016 to 2020, 8,998 households growth.

The total land use requirements are set out for residential, community and social services and business/retail as follows:

- short term (2020 to 2025),
- medium term (2020 to 2030) total requirements from 2020 to 2030 and includes the short-term requirements.

The land use requirements are based on the following assumptions:

- The residential requirements are based on the total estimated household growth at an average gross density of 25 dwelling units per hectare.
- The total community and social services land use requirements are based on the total land required to accommodate the future required social and community facilities as per the CSIR Guidelines for the Provision of Social Facilities in South Africa (2012).
- The land use budget for business or retail opportunities was calculated using 0,4m<sup>2</sup>/capita for the lower order shopping centres such as Local Convenience Centres with a maximum size of 5,000m<sup>2</sup> leasable floor area providing convenience goods. For the larger centres such as Neighbourhood, Community and Regional Shopping Centres as well as shops in the original central business districts, providing specialised goods, the guideline of 0,6m<sup>2</sup>/capita was used.

		North City	Total	Paarl		Mbekweni		Wellington	
Land Use	Period	GLFA (m2)	Land area (ha)						
Residential (25du/ha)	Short Term: 2020 to 2025	-	305.24	-	166.07	-	47.82	-	91.35
	Medium Term: 2020 to 2030	-	648.39	-	352.50	-	101.51	-	194.38
Community and Social	Short Term: 2020 to 2025	-	8.54	-	3.60	-	-	-	-
Services	Medium Term: 2020 to 2030	-	23.19	-	12.63	-	2.40	-	3.60
Business/ Retail	Short Term: 2020 to 2025	30,021.90	10.01	16,650.83	5.55	4,794.70	1.60	8,576.37	2.86
	Medium Term: 2020 to 2030	62,475.69	20.83	34,650.44	11.55	9,977.80	3.33	17,847.45	5.95

#### Table 25: North City Land Use Budget

### 4.2.3.2 Development Strategy and Intended Impact

The Paarl, Wellington, Mbekweni Urban Complex forms part of the Paarl East–West Integration Corridor (refer to paragraph 3.3.3.3) and the North City Integration Corridor (refer to paragraph 3.3.3.4) Catalytic Zones.

#### The Big Moves proposed for these corridors include -

#### **Big Moves**

- Paarl East–West Integration Corridor
  - Berg River Corridor Planning and Development (Arboretum and Waterfront site);
  - The Paarl CBD revitalisation and integration between Paarl East and West;
  - Huguenot Station and De Kraal Mixed-Use Node;
  - De Poort / Paarl Hamlet Node.
- North City Integration Corridor
  - Developing of Inland Port and Agri-processing hub;
  - Vlakkeland, Erf 557 Mbekweni and Roggeland (SAHRA acquisition of land for Integrated Mixed-Use development);
  - Upgrade and development of the Dal Josaphat Industrial Area;
  - Berg River Boulevard Extension to Nieuwedrift development;
  - Wellington Industrial Park;
  - Wellington Urban Design Framework and Implementation;
  - Proposed LSDF for entire Mbekweni area;
  - New Town, Roggeland and Vlakkeland Precinct Plan.

#### Proposed Prioritisation of "Big Moves" from Spatial Planning point of view:

- Priority 1 Infill: Development of the Vlakkeland, Erf 557 Mbekweni and Roggeland. The SDF promotes the North City Corridor as the area with the highest social and economic benefits for its residents based on the area's appetite for mixed-use development, densification, integration, use of different modes of transport and existence of employment opportunities. Therefore, the development of Vlakkeland, Erf 557 and Roggeland should be promoted, as these will support the spatial principles of the Spatial Planning and Land Use Management Act;
- Priority 1 Upgrade: Paarl CBD and Klein Drakenstein Road Renewal. A new way of thinking is required to transform the Paarl CBD into a vibrant city centre. This area has the potential to serve as a catalyst for unlocking live-work-play opportunities. High-density residential development should be encouraged together with commercial and social facilities with the added advantage of facilities being within walking distance. The Paarl CBD forms part of a local spatial development framework/urban design framework and is gazetted as a Restructuring Zone and thus the foundation to support and foster innovation is set;
- Priority 2 Infill: Wellington Industrial Park. Development of the Wellington Industrial Park provides investment opportunities for national and international markets with subsequent employment opportunities being created for the residents of the Drakenstein Municipality. The location of this industrial park on the R44 provides unrivalled access to the Swartland Municipality, with linkages to the N7 connecting with the Saldanha Bay Municipality. The economic benefits for this industrial park with the Saldanha Bay Industrial Development Zone should be investigated as the existence of the connecting N7 and rail linkages presents opportunities which should benefit both municipalities;
- Priority 2 Upgrade: Wellington Urban Design Framework and Implementation. A new way of thinking is required to transform Wellington CBD into vibrant city centres. This area has the potential to serve as a catalyst for unlocking live-work-play opportunities. High-density residential development should be encouraged together with commercial and social facilities with the added advantage of facilities being within walking distance. Wellington forms part of a local spatial development framework/urban design framework and is gazetted as a Restructuring Zone and thus the foundation to support and foster innovation is set.

The following tables represent the implementation matrix for the various "Big Moves" within this Functional Area, which includes the following elements:

- Big Move;
- Key Performance Area.

# Table 26: Paarl East–West Integration Corridor Implementation Matrix – Berg River Corridor/ Paarl Waterfront and Arboretum Precinct

Big Move	Berg River corridor/ Paarl Waterfront and Arboretum Precinct
Intended Impact -	A stable electricity network with spare capacity;
Indicators of Success	Increase in capital investment;
	<ul> <li>Lowering in unemployment rate;</li> </ul>
	Reduce in the use of potable water;
	Establishment of a WWTW with sufficient capacity for future developments and the eradication of maintenance backlogs;
	Establishment of the Boy Louw Multi-Purpose Sport Centre;
	Use of the cycle route as part of the greater Bitou / Cape Town Cycle Route;
	Receive and approve developments on vacant municipal land by Council;
	Effective execution of the Paarl Waterfront and Arboretum Precinct Plan and Framework;
	<ul> <li>Decrease in crime rate;</li> </ul>
	Safe and adequate public toilets.
Project, Programmes	Commissioning of new N1 132/6611Kv80MVA Substation;
and Initiatives	Commissioning of new Mall Substation 66/11/kv20MVA;
	Special tariffs for property rates and bulk services by incentivising capital investment and job creation;
	Recycle treated sewerage water, Paarl – pipe system to industrial area and sport fields;
	Upgrading of WWTW to ensure sufficient capacity for future developments (especially Paarl South) and eradicating maintenance backlogs especially at Paarl WWTW;
	<ul> <li>Boy Louw Multi-purpose sport centre;</li> </ul>
	Proposal call for the development of vacant municipal land;
	<ul> <li>Development of Drakenstein cycle route as part of greater Bitou/Cape Town Cycle Route;</li> </ul>
	<ul> <li>Identification and Site development of cultural and heritage places of interest;</li> </ul>
	Installation of Tourism signage and infrastructure at iconic areas;
	<ul> <li>Municipal-wide CCTV Coverage;</li> </ul>
	Increased law enforcement and SAPS patrols;
	Upgrading of Public Toilets.

# Table 27: Paarl East–West Integration Corridor Implementation Matrix – Klein Drakenstein Road Central Improvement District (Including Lady Grey Street)

Big Move	Klein Drakenstein Road Central Improvement District (Including Lady Grey Street)			
Intended Impact -	A stable electricity network with spare capacity;			
Indicators of Success	<ul> <li>Reduced use of potable water;</li> </ul>			
	<ul> <li>Increase in capital investment:</li> </ul>			
	<ul> <li>Lowering in unemployment rate;</li> </ul>			
	<ul> <li>Installed industrial water meters;</li> </ul>			
	Installed pre-paid water meters;			
	<ul> <li>Upsized reticulation system;</li> </ul>			
	<ul> <li>Upgraded sewer system;</li> </ul>			
	Solid Waste Management Infrastructure at compliant level;			
	<ul> <li>Upgraded community and public facilities;</li> </ul>			
	<ul> <li>Decrease in crime rate;</li> </ul>			
	<ul> <li>Establishment of a WWTW with sufficient capacity for future developments and the eradication of maintenance backlogs;</li> </ul>			
	<ul> <li>Use of the cycle route as part of the greater Bitou / Cape Town Cycle Route;</li> </ul>			
	<ul> <li>Completion of Van Der Stel Street towards Klein Drakenstein Road;</li> </ul>			
	<ul> <li>Execution of Olive Grove Community Project;</li> </ul>			
	Execution of Klein Drakenstein Road Central Improvement District Plan.			
Project, Programmes	<ul> <li>Commissioning of new N1 132/6611Kv80MVA Substation;</li> </ul>			
and Initiatives	<ul> <li>Commissioning of new Mall Substation 66/11/kv20MVA;</li> </ul>			
	<ul> <li>Action plan to manage high water consumers;</li> </ul>			
	<ul> <li>Brownfields – upgrade underutilised industrial sites with minimum infrastructure cost input requirements to encourage industrial investment;</li> </ul>			
	<ul> <li>Special tariff for property rates and bulk services by incentivising capital investment and job creation;</li> </ul>			
	<ul> <li>Industrial water meters, Paarl – meter of unmetered connections;</li> </ul>			
	<ul> <li>Recycle treated sewerage water, Paarl – pipe system to industrial area and sport fields;</li> </ul>			
	<ul> <li>Replacement / upsizing of reticulation system;</li> </ul>			
	<ul> <li>Pre-paid water meters area wide;</li> </ul>			
	<ul> <li>Upgrading of WWTW to ensure sufficient capacity for future developments and eradicating maintenance backlogs especially at Paarl WWTW;</li> </ul>			
	<ul> <li>Upgrade and rehabilitation of sewer system in entire Drakenstein;</li> </ul>			
	<ul> <li>Increase monitoring of wet industries into municipal bulk sewers and to WWTW;</li> </ul>			
	<ul> <li>Law enforcement with regard to water restrictions;</li> </ul>			
	Upgrading of Solid Waste Management Infrastructure to compliance levels.			
	<ul> <li>Maintenance and upgrade of all community and public facilities (community halls and Thusong centres);</li> </ul>			
	<ul> <li>Alienation of serviced industrial and commercial sites;</li> </ul>			
	<ul> <li>Investigating Urban Special Rating Areas to establish Central Improvement Districts;</li> </ul>			

Big Move	Klein Drakenstein Road Central Improvement District (Including Lady Grey Street)
	Proposal call for the development of vacant municipal;
	Develop Drakenstein cycle route as part of greater Bitou / Cape Town Cycle Route;
	Identification and site development of cultural and heritage places of interest;
	Installation of Tourism signage and infrastructure at iconic areas;
	Municipal-wide CCTV Coverage;
	Increased law enforcement and SAPS patrols;
	Upgrading of public toilets;
	<ul> <li>Coordination of sufficient health services / facilities;</li> </ul>
	<ul> <li>Accreditation, restructuring zones;</li> </ul>
	<ul> <li>Completion of Van Der Stel Street towards Klein Drakenstein Road;</li> </ul>
	VPUU Project Coordination;
	Boland Cricket Park regeneration;
	<ul> <li>Olive Grove Community Project.</li> </ul>

#### Table 28: Paarl East–West Integration Corridor Implementation Matrix – Paarl Central Business District (CBD) Renewal

Big Move	Paarl Central Business District Renewal
Intended Impact -	A stable electricity network with spare capacity;
Indicators of Success	Reduced use of potable water;
	Increase in capital investment;
	Lowering in unemployment rate;
	Installed industrial water meters;
	<ul> <li>Upsized reticulation system;</li> </ul>
	Installed pre-paid water meters;
	Establishment of a WWTW with sufficient capacity for future developments and the eradication of maintenance backlogs;
	Upgraded sewer system;
	Use of the cycle route as part of the greater Bitou / Cape Town Cycle Route;
	<ul> <li>Decrease in crime rate;</li> </ul>
	<ul> <li>Safe and adequate public toilets;</li> </ul>
	Execution of the Paarl and Wellington CBD Local SDF.
Project, Programmes	Commissioning of new N1 132/6611Kv80MVA Substation;
and Initiatives	<ul> <li>Commissioning of new Mall Substation 66/11/kv20MVA;</li> </ul>
	Action plan to manage high water consumers;
	Special tariff for property rates and bulk services by incentivizing capital investment and job creation;
	Area-wide water-saving devices for municipal buildings;
	Industrial water meters, Paarl – meter of unmetered connections;
	Replacement / upsizing of reticulation system;
	Pre-paid water meters area wide;

Big Move	Paarl Central Business District Renewal
	<ul> <li>Upgrading of WWTW to ensure sufficient capacity for future developments and eradicating maintenance backlogs especially at Paarl WWTW;</li> </ul>
	<ul> <li>Upgrade and rehabilitation of sewer system in entire Drakenstein;</li> </ul>
	<ul> <li>Increase monitoring of wet industries into municipal bulk sewers and to WWTW;</li> </ul>
	<ul> <li>Law enforcement with regard to water restrictions;</li> </ul>
	Investigating Urban Special Rating Areas to establish Central Improvement Districts;
	Develop of Drakenstein cycle route as part of greater Bitou / Cape Town Cycle Route;
	Identification and site development of cultural and heritage places of interest;
	<ul> <li>Installation of Tourism signage and infrastructure at iconic areas;</li> </ul>
	<ul> <li>Municipa-wide CCTV Coverage;</li> </ul>
	Increased law enforcement and SAPS patrols;
	<ul> <li>Upgrading of public toilets;</li> </ul>
	<ul> <li>Coordination of sufficient health services / facilities;</li> </ul>
	<ul> <li>Accreditation, restructuring zones.</li> </ul>

# Table 29: Paarl East–West Integration Corridor Implementation Matrix – Huguenot Station and De Kraal Mixed-Use Nodes

Big Move	Huguenot Station and De Kraal Mixed-Use Nodes
Intended Impact -	A stable electricity network with spare capacity;
Indicators of Success	Reduced use of potable water;
	Increase in capital investment;
	<ul> <li>Lowering in unemployment rate;</li> </ul>
	Installed industrial water meters;
	Upsized reticulation system.
	Installed pre-paid water meters;
	Establishment of a WWTW with sufficient capacity for future developments and the eradication of maintenance backlogs;
	Upgraded sewer system;
	<ul> <li>Upgraded community and public facilities;</li> </ul>
	Completion of the De Kraal Sport Stadium;
	Receive and approve developments on vacant municipal land;
	Use of the cycle route as part of the greater Bitou / Cape Town Cycle Route;
	Decrease in crime rate;
	Execution of the Paarl and Wellington CBD Local SDF;
	Execution of the Klein Drakenstein Road Central Improvement District Plan;
	Completion of De Kraal and Zanddrift Sportsground Indoor facility;
	Execution of the Huguenot Station Precinct Plan.

Big Move	Huguenot Station and De Kraal Mixed-Use Nodes
Project, Programmes	Commissioning of new N1 132/6611Kv80MVA Substation;
and Initiatives	Commissioning of new Mall Substation 66/11/kv20MVA;
	Action plan to manage high water consumers;
	<ul> <li>Brownfields – upgrade underutilised industrial sites with minimum infrastructure cost input requirements to encourage industrial investment;</li> </ul>
	Special tariff for property rates and bulk services by incentivising capital investment and job creation;
	Area-wide water-saving devices for municipal buildings;
	Industrial water meters, Paarl – meter of unmetered connections;
	Replacement / upsizing of reticulation system;
	Pre-paid water meters area wide;
	<ul> <li>Upgrading of WWTW to ensure sufficient capacity for future developments and eradicating maintenance backlogs especially at Paarl WWTW;</li> </ul>
	<ul> <li>Upgrade and rehabilitation of sewer system in entire Drakenstein;</li> </ul>
	Increase monitoring of wet industries into municipal bulk sewers and to WWTW;
	Law enforcement with regard to water restrictions;
	<ul> <li>Maintenance and upgrade of all community and public facilities (community halls and Thusong centres);</li> </ul>
	De Kraal Sport Stadium;
	Alienation of serviced industrial and commercial sites;
	Investigating Urban Special Rating Areas to establish Central Improvement Districts;
	Proposal call for the development of vacant municipal land.
	Develop Drakenstein cycle route as part of greater Bitou / Cape Town Cycle Route;
	Identification and site development of cultural and heritage places of interest;
	<ul> <li>Installation of Tourism signage and infrastructure at iconic areas;</li> </ul>
	Municipal-wide CCTV Coverage;
	Increased law enforcement and SAPS patrols;
	Accreditation, restructuring zones;
	De Kraal and Zanddrift Sportsground Indoor facility;
	Huguenot Station Precinct.

# Table 30: North City Integration Corridor Implementation Matrix – Vlakkeland, Erf 16161, Erf 557 Mbekweni and Roggeland

Big Move	Vlakkeland, Erf 16161, Erf 557 Mbekweni and Roggeland (SAHRA acquisition of land for Integrated Mixed-Use development)
Intended Impact -	<ul> <li>Completion of the Vlakkeland bulk water upgrade, Mbekweni;</li> </ul>
Indicators of Success	<ul> <li>Completion of the development of the Vlakkeland mixed-use development;</li> </ul>
	<ul> <li>Completion of the development of Erf 557;</li> </ul>
	<ul> <li>Completion of the development of the Roggeland;</li> </ul>
	<ul> <li>Upgrade and development of Mbekweni in accordance with the Urban Design Plans (in terms of Mbekweni Precinct Plan);</li> </ul>
	<ul> <li>Completion of upgrading of Pelikaan Park / Newton;</li> </ul>

Big Move	Vlakkeland, Erf 16161, Erf 557 Mbekweni and Roggeland (SAHRA acquisition of land for Integrated Mixed-Use development)		
	Upgrading of Paarl WWTW completed.		
Project, Programmes	Vlakkeland Bulk water upgrade, Mbekweni;		
and Initiatives	<ul> <li>Upgrading of Waste Water Treatment Works (WWTW) to ensure sufficient capacity for future developments and eradicating maintenance backlogs especially at Paarl WWTW;</li> </ul>		
	Vlakkeland mixed-use development: Secure development rights;		
	Erf 557 mixed-use development: Secure development rights;		
	<ul> <li>Secure development rights for Roggeland;</li> </ul>		
	Mbekweni Precinct Plan;		
	Upgrading of Pelikaan Park / Newton.		

#### Table 31: North City Integration Corridor Implementation Matrix – Development of Dal Josaphat Industrial Area

Big Move	Development of Dal Josaphat Industrial Area
Intended Impact -	<ul> <li>Completion and establishment of the Inland Port and Agri-processing plant;</li> </ul>
Indicators of Success	<ul> <li>Completion of upgrade of the infrastructure, at minimum cost, of brownfield sites;</li> </ul>
	<ul> <li>Serviced Industrial and Commercial sites transferred to property developers;</li> </ul>
	<ul> <li>Completion of the establishment of a Special Ratings Area in Dal Josaphat industrial area;</li> </ul>
	Upgrading of Paarl WWTW completed.
Project, Programmes	Development of Inland Port and Agro-processing plant (BM);
and Initiatives	Brownfields – upgrade underutilised industrial sites with minimum infrastructure cost input requirements to encourage industrial investment;
	<ul> <li>Alienation of serviced Industrial and Commercial sites;</li> </ul>
	<ul> <li>Upgrading of Dal Josaphat;</li> </ul>
	<ul> <li>Upgrading of Waste Water Treatment Works (WWTW) to ensure sufficient capacity for future developments and eradicating maintenance backlogs especially at Paarl WWTW.</li> </ul>

# Table 32: North City Integration Corridor Implementation Matrix – Berg River Boulevard Extension to R45 and Nieuwedrift Development

Big Move	Berg River Boulevard Extension to R45 and Nieuwedrift Development	
Intended Impact -	<ul> <li>Completion of reservoir and bulk water pipeline;</li> </ul>	
Indicators of Success	<ul> <li>Council accepts successful bidder's development proposals;</li> </ul>	
	<ul> <li>Completion of Berg River Boulevard extension to Retief Street;</li> </ul>	
	<ul> <li>Council approval and implementation of site development plan for R45 and Nieuwedrift/Berg River Boulevard Gateways;</li> </ul>	
	<ul> <li>Completion of Berg River Boulevard extension to R45.</li> </ul>	

Project,       Programmes       Nieuwedrift, Paarl – 0.5Ml reservoir and bulk water pipe;         and Initiatives       Nieuwedrift – Call for Development Proposals;	Big Move	Berg River Boulevard Extension to R45 and Nieuwedrift Development
<ul> <li>Extension of Berg River Boulevard to Retief Street;</li> <li>Town Gateways;</li> <li>Extension of Berg River Boulevard to R45 and Nieuwedrift.</li> </ul>	Project, Programmes and Initiatives	<ul> <li>Nieuwedrift, Paarl – 0.5Ml reservoir and bulk water pipe;</li> <li>Nieuwedrift – Call for Development Proposals;</li> <li>Extension of Berg River Boulevard to Retief Street;</li> <li>Town Gateways;</li> <li>Extension of Berg River Boulevard to R45 and Nieuwedrift.</li> </ul>

#### Table 33: North City Integration Corridor Implementation Matrix – Violence Prevention through Urban Upgrading

Big Move	Violence Prevention through Urban Upgrading (VPUU)
Intended Impact - Indicators of Success	<ul> <li>Community Based Business Park.</li> </ul>
Project, Programmes and Initiatives	Community Based Business Park to promote the Informal Economy.

#### Table 34: Big Move – Wellington Industrial Park

Big Move	Wellington Industrial Park			
Development of the We	llington Industrial Park provides investment opportunities for national and			
international markets with	subsequent employment opportunities being created for the residents of the			
Drakenstein Municipality. The location of this industrial park on the R44 provides unrivalled access to				
Swartland Municipality, with linkages to the N7 connecting with the Saldanha Bay Municipality. The				
economic benefits for this industrial park with the Saldanha Bay Industrial Development Zone should be				
investigated as the exister	nce of the connecting N7 and rail linkages presents opportunities which should			
benefit both municipalities.				

D'				
Project, Programmes	Secure development rights;			
and initiatives	<ul> <li>Agro-processing parks;</li> </ul>			
	Brownfields – upgrade underutilised industrial sites with minimum infrastructure cost input requirements to encourage industrial investment;			
	<ul> <li>Alienation of serviced Industrial and Commercial sites;</li> </ul>			
	Identify new landfill site;			
	<ul> <li>Solution to landfill site problem;</li> </ul>			
	<ul> <li>Upgrade and rehabilitation of sewerage pump stations (Wellington Industrial);</li> </ul>			
	Town Gateways.			
Intended Impact - Indicators of Success	<ul> <li>Commencement of the extension development of the Wellington Industrial Park precinct;</li> </ul>			
	Establishment of Agro-parks in the Wellington Industrial Park Precinct;			
	<ul> <li>Completion of the upgrade of infrastructure, at minimum cost, of brownfield sites;</li> </ul>			
	<ul> <li>Serviced Industrial and Commercial sites transferred to property developers;</li> </ul>			
	<ul> <li>Completion of the establishment of an Agro-processing Industrial Park for Wellington Industrial Park Precinct;</li> </ul>			
	<ul> <li>Commencement of the operation of the new landfill site;</li> </ul>			
	<ul> <li>Completion of the upgrade and rehabilitation of sewerage pump stations;</li> </ul>			
	<ul> <li>Completion of the development of the R44 and R45 intersection Gateway;</li> </ul>			
	<ul> <li>Rates and tax base increases for the area;</li> </ul>			

Big Move	Wellington Industrial Park
	Employment opportunities created.

#### Table 35: Big Move – Wellington Urban Design Framework and Implementation

Big Move	Wellington Urban Design Framework and Implementation			
A new way of thinking is required to transform Wellington CBD into a vibrant city centre. This area has the potential to serve as a catalyst for unlocking live-work-play opportunities. High-density residential development should be encouraged together with commercial and social facilities with the added advantage of facilities being within walking distance. Wellington forms part of a local spatial development framework/urban design framework and is gazetted as a Restructuring Zone and thus the foundation to support and foster innovation is set.				
Project, Programmes and	Church Street, Wellington UDF Implementation - Secure development rights;			
Initiatives	<ul> <li>Upgrading of Waste Water Treatment Works to ensure sufficient capacity for future developments and eradicating maintenance backlogs;</li> </ul>			
	Town Gateways.			
Intended Impact - Indicators of Success	<ul> <li>Upgrade and development of the Church and Tourist Gateway Precinct in accordance with the Urban Design Plan (i.t.o. Wellington CBD Urban Design Framework);</li> </ul>			
	<ul> <li>Upgrade and development of the other six precincts in accordance with the Urban Design Plans (in terms of Wellington CBD Urban Design Framework);</li> </ul>			
	Upgrading of the Wellington WWTW completed;			
	Rates and tax base increases for the area;			
	Completion of the development of the Retief Street/Champagne Road, Hermon road and Bainskloof road Gateways Employment opportunities created;			
	Employment opportunities created.			

The Paarl and Paarl East Urban Concepts (Figure 34) as per the Drakenstein SDF are depicted in the following figures and illustrate the intended land use development of the Big Moves.

Figure 34: Paarl Spatial Framework



Source: Drakenstein Spatial Development Framework, 2020

#### Figure 35: Four main Precincts in Paarl



The main precincts are as follows:

- Paarl West CBD and Main Street.
- Arborefum and Waterfront Site.
- Huguenot Station
   Klein Drakenstein

Source: Paarl LSDF 2017-2022

#### Figure 36: Proposed LSDF Plan for Paarl



Source: Paarl LSDF 2017-2022

#### Figure 37: Paarl Local SDF Plan Legend

#### LSDF Plan Legend

<del></del>	Active edges		Improved landscaping
	Positive edges	1000000 1000000 1000000 1000000	Retained rural areas
۲	Existing public transit facility		Health- and education-oriented uses
	Proposed public transit facility		Mixed commercial (informal / formal)
0	Railway station		New medium or high density development
	Public Transport Interchange	1111.	Gradual change from industrial to commercial activity
	Future IPIN route	.))))	Provision for formal commercial uses
_	Redevelop and rehabilitate existing pedestrian bridge		Mixed-use intensification or infill
-	New pedestrian bridge	_	Celebrate and expose cultural heritage
	Parking areas		Sports facilities
-	Construct new road		Retain and enhance residential component
	Extend dual carriageway along Klein Drakenstein		Protect historic residential fabric
[]]	Focal point for NMT development	1	New institutional or education use
	Key activity route		Industrial redevelopment
	Pedestrian-friendly routes		Landscaped and improved parking areas
$\rightarrow$	Pedestrian movement routes		Residential infil development
$\times$	New 'urban square'	-	Arboretum day use area
	River contidor	-	Access to Arboretum through Waterfront
	New sports complex		Raised pedestrian crossing
157	Retain and enhance public green spaces	ŝ	Entrance / galeway

#### Human Settlements Projects in Paarl East are shown in Table 36 below:

#### Table 36: Human Settlement Projects within Paarl East

Name of project	Location of project	Type of project/Subsidy Mechanism	Nr of opportunities	Estimated Date of Delivery / Status of project	Project status
7 de Laan	Erf 10552 (Paarl)	UISP	37	Planning Phase	Draft layouts concluded. Development rights in process of obtainment
Bonaque Square	Erf 10552 (Paarl)	UISP	59	Planning Phase	Draft layouts concluded. Development rights in process of obtainment
Bosbok Flats	Erf 10274 (Paarl)	UISP	62	Planning Phase	Draft layouts concluded. Development rights in process of obtainment
Spooky Flats	Erf 10197 & Erf 10195	UISP	33	Planning Phase	Dignified site. Service provider to be appointed for preliminary feasibility study. No temporary relocation site identified.
Kamp Fresh	Erf 13453 (Paarl)	UISP	39	Planning Phase	Draft layouts concluded. Development rights in process of obtainment
Fairyland (Bo- dal Road)	Erf 23707 (Paarl)	UISP	81	Construction on hold subject to relocation of overflow shack in way of construction	Of the 256 opportunities, 80 top structures must still be constructed. Overflow shacks to be relocated to Schoongezicht site, currently in process of being serviced.

Name of project	Location of project	Type of project/Subsidy Mechanism	Nr of opportunities	Estimated Date of Delivery / Status of project	Project status
IRDP Paarl- East (above cricket ground)	Erf 13480 & Erf 21128 (Paarl)	IRDP Project (BNG / GAP)	530	Planning Phase	Project feasibility report submitted to DHS on 31 March 2019
Chester Williams	Erf 13467 (Paarl)	UISP	109	Planning Phase	Draft layouts concluded. Development rights in process of obtainment
Kingston Town	Erf 10568 & Erf 10571 (Paarl)	UISP	122	Project Implemented. 88 houses completed to date. Progress stalled due to shack in way of construction (non- qualifier)	Project to be capped at 88 if no space can be created to decant those in the way of construction
Vlakkeland	Erf 8378 & 10595 (Paarl)	IRDP (BNG / GAP / Social Housing)	2556	Construction in Progress	Project is a combination of emergency housing and IRDP. 347 opportunities will be provided and 175 enhanced serviced sites. 56 structures have been completed.
Lantana Kolbe Street	Erf 5959 & 10595	UISP	84	Project Implemented. 51 houses completed to date. 25 outstanding	Servicing of last 25 units in process. Construction of top structures to commence towards Sept / Oct 2019
Lover's Lane	Erf 10545 (Paarl)	UISP	156	Planning Phase	Layout Plan complete. Development rights in process.
Schoongezicht (Dal Josaphat)	Portion 19 of Farm 527 (Paarl)	IRDP / Emergency Housing	347	Construction in progress	Project is a combination of emergency housing and IRDP
Siyahlala Phase 1	Erf 28279 & Erf 28280 (Paarl)	PHP	50	Planning Phase (On hold)	Formal township establishment process. Project cannot continue before structures are removed or shifted. 44 units outstanding.
Siyhlala Phase 2	Erf 28275 & Erf 28276 (Paarl)	PHP	193	Planning Phase (On Hold)	4 out of 193 units are outstanding. Project cannot continue before structures are removed or shifted.



Figure 38: Human Settlement Pipeline Projects within Paarl, Paarl East and Mbekweni

The Mbekweni Spatial Framework as per the Drakenstein SDF is depicted below:

Figure 39: Mbekweni Spatial Framework



Drakenstein Spatial Development Framework, 2020

The following proposed nodes and land uses have been proposed as new for the Mbekweni and Van Wyksvlei area:

- The Industrial Area south of Bartolomeu Street currently has vacant land that can be utilised for industrial purposes;
- A business node is proposed in the Drommedaris area on two strategically portions of land. The land use and zoning proposed for the node include: Business/Taxi, Social and Welfare and Crèche;
- The Ihkwezi Heritage and Skills node are proposed on vacant land situated south of the Desmond Tutu Secondary School. The proposed land use and zoning for this node include: Museum, computer and skills centre;
- A Thusong Social Node is proposed towards the south of the town. Strategically located vacant land is located around the current Thusong centre. The proposed land use and zoning for the land include: NGOs, Information Centre, Pay Point, Legal Office, Doctors and Professional Services;
- The Mbekweni Commercial Node is proposed at the Midway Shopping Centre located on the corner of Wamkelekile Street and Jan Van Riebeeck Drive. The proposed land use and zoning for the area include: Informal Trading, Mbekweni Business Hive and Meat Market;
- The Mbekweni Entertainment Node is proposed in central Mbekweni. The proposed land use and zonings include Business such as Restaurants, Offices and Internet Cafes;
- Towards the West the Mbekweni Sports/Welfare Node is proposed where the current Mbekweni Sport Grounds are located. The proposed uses include: Crèche, Social and Welfare Services;



- A Mixed Development Corridor is proposed along Blignaut Street and includes proposed areas for Informal Trading;
- Van Wyksvlei Commercial, Social, Public Services Node is proposed on the vacant land around Wellington Clinic.

There are significant developments in process of which some are already approved, located on the southern part of the Paarl. Figure 33 indicates the developments which are in process and which have been approved. It is estimated that 2,714 units will be developed within this area once completed.

#### Figure 40 Proposed and Current Developments towards the south of Paarl



The table below summarises the different developments indicated above and their estimated number of units that have been taken into consideration in the estimation of the land budget.

Table 37: Development Table fo	r current and proposed developments	within the Paarl, just north of the N1.
--------------------------------	-------------------------------------	---

Developments	Statuc	Estimated Number of Unite
Developments	Status	Estimated Number of Onits
A - Development	In process	146
B - Kleine Parys II	Approved	115
C – Burgzicht	Approved	8
D - Kleine Parys I	Approved	40
E - Mountain Crest	In process	112
F - Development	Approved	53
G - Bergenzicht	Approved	802
H - La Vie Estate	Approved	288
I - Boland Park Lifestyle Estate	Approved	600
Developments	Status	Estimated Number of Units
---------------------	------------	---------------------------
J - Filling Station	Approved	-
K - Vendome Estate	In Process	550
Total		2,714

Human Settlements Projects are showcased in Tables 38 and Table 39.

#### Table 38: Mbekweni Housing Project Pipeline (Council-Approved)

Name of project	Location of project	Type of project/Subsidy Mechanism	Nr of opportunities	Estimated Date of Delivery / Status of project	Project status
Erf 557	Erf 557 & Erf 2316 (Mbekweni)	IRDP / Social Housing Pilot Project	541	Funding application submitted to Provincial Human Settlements, Urban Approval, planning to commence	Project initiation document submitted to the DHS during 2018. Awaiting approval
Drommedaris 1407	Erf 1325 & Erf 584 (Mbekweni)	People's Housing Project (PHP)	1588	Completed. Council resolution on non- qualifiers	Discussions in process to implement
Silvertown 1 (Lobola Street)	Mbekweni	Upgrading of informal Settlement (UISP)	93 Dwellings 404 Residents	No Planned project	Dignified site. Informal settlements included om the Enumeration and GIS Mapping Study.
Silvertown 2 (Lobola Street)	Mbekweni	Upgrading of informal Settlement (UISP)	35 dwellings 109 residents	No Planned project	Dignified site. Informal settlements included om the Enumeration and GIS Mapping Study.

#### Table 39: Informal Settlements Projects (Mbekweni)

Name of project	Location of project	Type of project/Subsidy Mechanism	Nr of opportunities	Estimated Date of Delivery / Status of project	Project status
B & C Block (Hostels and Backyarders)	Erf 4593 & 4623 (Mbekweni)	Indeterminate	26 dwellings 78 Residents	No Planned Project	Done internally and keeping it on as a pipeline. Structural investigation with regard to structures. Survey to be conducted.

The Wellington Spatial Framework as per the Drakenstein SDF is depicted in Figure 41.

Figure 41: Wellington North Spatial Framework



Source: Drakenstein Spatial Development Framework, 2020

#### Figure 42: Wellington South Spatial Framework



In addition to the big moves, the following development strategies also apply to Wellington:

- Upgrading of Pelican Park Sport Ground in Wellington.
- Human Settlement developments include:

Table 40: Human settlements projects in the Wellington

Name of project	Location of project	Type of project/Subsidy Mechanism	Nr of opportunities	Estimated Date of Delivery / Status of project	Project status
Carterville 1	Wellington	IRDP	200	Project Incomplete	No Funding in the 2018/19financial year
Carterville 2	Wellington	IRDP	49	Project Incomplete	No Funding in the 2018/19financial year

### 4.2.3.3 Intended Impacts

In addition to the intended impacts included for each of the Big Moves, the proposed investment discussed above aims to integrate Paarl East and Paarl West. The integration of the two areas is envisioned through the enhancement of the main distributor roads within the Catalytic Zone, which includes Klein Drakenstein Road and Lady Grey Street as major activity corridors.

It is also important to note that the revitalisation and upgrading of the Huguenot Station Precinct and Paarl CBD form part of this initiative. Furthermore, the development of key strategically located vacant properties within the catalytic zone for the development of the Paarl Waterfront, the Paarl Arboretum, the De Kraal Mixed Use Node, the Boy Louw Multi-Purpose Sport Centre and the Boland Park can also be regarded as crucial components of the integration of Paarl East and West.

The development of the Wellington Industrial Park could provide investment opportunities for national and international markets with subsequent employment opportunities being created for the residents of the Drakenstein Municipality. The location of this industrial park on the R44 provides unrivalled access to the Swartland Municipality, with linkages to the N7 connecting with the Saldanha Bay Municipality. The economic benefits for this industrial park with the Saldanha Bay Industrial Development Zone should be investigated as

the existence of the connecting N7 and rail linkages presents opportunities which should benefit both municipalities.

The Wellington CBD has the potential to serve as a catalyst for unlocking live-work-play opportunities. Highdensity residential development should be encouraged together with commercial and social facilities with the added advantage of facilities being within walking distance. Wellington forms part of a local spatial development framework/urban design framework and is gazetted as a Restructuring Zone and thus the foundation to support and foster innovation is set.

### 4.2.4 North City Technical Assessment

### 4.2.4.1 Water

4.2.4.1.1 Capacity: Water

#### Available supply

The North City area purchases water in bulk from the City of Cape Town's Wemmershoek scheme. The Wellington area has some water supply from its own source in the adjacent mountains, the Antoniesvlei source. The Antoniesvlei source is, however, supplemented, especially in summer months, with water purchased from the City of Cape Town.

Raw water from Antoniesvlei is purified at the Wellington Welvanpas WTP. Furthermore, studies at the time of this report investigate new raw dam water to supply the new Welvanpas Water Treatment works. Implementation is planned within the next 5 to 10 years. The new raw water dam will ensure water supply security for the Wellington functional area for potential future development.

Furthermore, Paarl has its own water source from Paarl Mountain. In Paarl, the local sources are the Nantes and Bethel bulk storage dams, which are filled with local runoff as well as augmentation by pumping from the Berg River. This water is treated locally at the Meulwater Water Treatment Plan, which has a capacity of 8.0 Ml/d.

#### **Bulk assets**

This section gives a high-level overview of bulk assets. The overview includes the replacement cost and remaining useful life (RUL) of the assets. The table below indicates the existing bulk assets for the functional area. The data is based on the Drakenstein Water Master Plan and Water Services Development Plan.

Table 41: Bulk assets: Replacement cost and RUL

BULK PIPES								
			RUL ≤ 5 years		RUL: 6-10 years			
Pipe length	Replacement Cost		Replacement	Replacement Cost		Replacement		
(m)	(Rand)	% of assets	Length (m)	(Rand)	% of assets	Length (m)	Replacement Cost	
52855	R 257,147,305.39	19%	10240	R 49,818,566.23	32%	17023	R 82,819,890.24	

#### Network assets (distribution and reticulation)

In Paarl and Mbekweni, the system is operated in 17 zones. There are 5 sets of reservoir zones, 7 Pressure Reducing Valve (PRV) zones, 4 booster pumping zones and one zone that is supplied with water directly from the Wemmershoek scheme. In Wellington, the system is operated in 7 zones supplied from 6 reservoir sites. A reservoir storage capacity of 227 MI is available in the combined North City functional area.

In Wellington, there is one tower and one booster pumping zone is present in the high-lying areas and one PRV zone to supply areas where high static pressures occur. The Welvanpas reservoirs are supplied with bulk water from the Antoniesvlei source.



A new main supply line (Strawberry king line) to supply Wellington was recently completed. The Strawberry king line unlocked further potential for development in the North City area between Paarl and Wellington.

The tables below present a high-level overview of network/reticulation assets. The overview includes the replacement cost and remaining useful life (RUL) of the assets. The data is based on the Drakenstein Water Master Plan and Water Services Development Plan.

#### Table 42: Reticulation Assets

		RETICULATI	ON ASSE	TS: PIPES							
Pipes <	175mmØ	Pipe	s ≥ 175m	ımØ	Erf co	nne	ctions				
Length (km)	Cost (Rand)	Length (km)	Cost (Ra	nd)	Number	Cos	t (Rand)				
414	R 223,169,779.45	122	R	270,642,325.25	35665	R 1	07,540,128.42				
	RELICOLATION ASSETS: PIPES ROL										
RUL ≤ 5 years RUL: 6-10 years											
Replacement		Reticulation			Erf		Reticulation				
Length (km) @	Erf connections @	Replacement	Replace	ment Length (km)	connections	Re	placement Cost				
11%	13%	Cost (Rand)		@ 12%	@ 53%		(Rand)				
59	4636	R 68,299,548.21		64	18902	R 1	16,253,720.62				
		<b>RETICULATION AS</b>	SETS: PL	JMP STATIONS							
Pump station	Replacement Cost	RU	L≤5 yea	rs	RUL:	6-10	years				
capacity (l/s)	(Rand)	% of assets	Replace	ment Cost (Rand)	% of assets	Replacement Cost					
605.00	R 12,970,000.00	76%	R	9,857,200.00	17%	R	2,204,900.00				
		RETICULATION	ASSETS:	RESERVOIRS							
Reservoir	Replacement Cost	RU	L≤5 yea	rs	RUL:	6-10	years				
capacity (kl)	(Rand)	% of assets	Replace	ment Cost (Rand)	% of assets	Rep	lacement Cost				
218400.00	R 447,699,322.80	1%	R	3,459,973.56	14%	R	64,795,839.13				
		T	OWERS								
Tower capacity	Replacement Cost	RU	L≤5 yea	rs	RUL:	5-10	years				
(kl)	(Rand)	% of assets	Replace	ment Cost (Rand)	% of assets	Rep	lacement Cost				
150.00	R 8,470,000.00	1%	R	84,700.00	14%	R	1,225,869.08				

#### **Existing and Future Demand**

The table below summarises the current and future water demand of the functional area. The future demand values are based on potential future development up to 2030 as per the Drakenstein Water Master Plan.

#### Table 43: Existing and Future demand for the functional area

Water Den	Water Demand - Paarl, Mbekweni & Wellington										
	Low low	Low	Middle	High	Business &						
	Income	Incom	Income	Income	Industrial	Other	Losses	Total	Unit		
Existing number of households 2016	9474	16772	23539	5898				55683	units		
Existing non-residential area					503	429		932	ha		
Existing Water AADD	2710	4797	11542	4820	5073	14673	6596	50212	kl/d		
Future Projected number of households 2030	13096	23183	32537	8153				76968	units		
Future Estimated non-residential area					587	446		1033	ha		
Future Water AADD	3746	6631	15954	6663	7012	20282	9117	69406	kl/d		
Increase in AADD	1036	1834	4412	1843	1939	5609	2521	19194	kl/d		

The split between land use is based on the Drakenstein Annual report, which indicates water use per sector. The residential component is also split further based on typical increases in water demand as the end-user income level increases. The split percentages used are tabled below. The total water demand reflects actual demand as quoted in the Drakenstein Water Master Plan.

#### Table 44: Water demand split percentages

		Business &		
Land use	Residential	Industrial	Other	Losses
Percentage split	48%	10%	29%	13%
Residential Income level	Low low Income	Low Income	Middle Income	High Income
Percentage split	15%	15%	26%	43%

In Paarl and Mbekweni, approximately 19% of the bulk supply is Unaccounted for water (UAW). Measurements were taken over one year (Jul 2014 to Jun 2015) to determine to the percentage of UAW. In Wellington, approximately 16% of the bulk supply is Unaccounted for water (UAW). Measurements were taken over a one-year period (Jul 2014 to Jun 2015) to determine to the percentage of UAW.

The Drakenstein water master plan states that the existing water distribution system has insufficient capacity to supply the future water demands for the fully occupied scenario and the additional future development areas. Projects are identified and prioritised in the Water master plan to address shortfalls in water infrastructure as development commences.

### 4.2.4.1.2 Backlog in Access to Services: Water

The table below indicates the number of households which have a lower level of service in terms of access to water services in the North City functional area.

Level of service	Number of households
Below minimum	481
Standpipe	4882
Yard connection	24,306

The total number of informal households in the functional area surveyed was 5,363. The numbers above indicate that most of these households have access to a standpipe. However, 481 of the informal settlement households are further than 200 meters from a standpipe or other water source.

The number of households in the functional area is expected to grow by 3.1% per year. The backlog must be addressed along with future planning with the focus on the informal settlement areas, as these areas can create new backlog.

The Informal settlements are addressed in the housing backlog. New housing projects will decrease the number of informal settlements with standpipes. However, in the interim, a basic level of service must be provided.

Currently, 24 306 households receive water through a yard connection. This is an acceptable level of service for water. However, the municipality can further improve the level of service for these households by providing water inside dwellings.

#### 4.2.4.1.3 Backlog in Asset Management: Water

From the tables provided regarding the infrastructure of the functional area, it is evident that various assets have a remaining useful life of fewer than 5 years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The backlog for asset management is addressed in the project list provided in the next section. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list. The asset management backlog projects are typically identified in the master plan or by the municipality.

### 4.2.4.2 Wastewater

#### 4.2.4.2.1 Capacity: Wastewater

#### Available supply

Each urban centre in the Drakenstein Municipality operates as a main drainage area and is serviced by its own Wastewater Treatment Plan (WWTP). The Paarl–Mbekweni area has 10 pumping stations which pump wastewater to the Paarl Wastewater Treatment Plant. The Paarl WWTP has a capacity of 35,0 Ml/d.

The Wellington functional area has 6 pumping stations which pump wastewater to the Wellington Wastewater Treatment Plant. The Wellington WWTP has a capacity of 16,0 Ml/d.

#### **Bulk assets**

The bulk assets for the Paarl area is the Paarl Wastewater Treatment Plant as well as the bulk drainage pipes in the network. The bulk assets for the Wellington functional area are the Wellington Wastewater Treatment Plant as well as the bulk drainage pipes in the network. For the wastewater network, the Drakenstein Sewer Master Plan splits the sewer pipes between smaller than 175 mm diameter and larger than 175 mm diameter pipes. For the purposes of this assessment, all pipes larger than 175 mm diameter are assumed to be bulk pipes, as these pipes are typically outfall sewers collecting a network of smaller (160 mm diameter) pipes. The table below indicates all the bulk pipes with a replacement cost and remaining useful life (RUL). The data is based on the Drakenstein Sewer Master Plan and Water Services Development Plan.

#### Table 45: Bulk sewer assets

	BULK SEWER (≥ 175mmØ )									
			RUL ≤ !	5 years		-10 years				
Pipe Length			Replacement			Replacement				
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)			
120.4	R 462,359,522.88	15%	18.49	R 70,990,377.39	0.4%	0.47	R 1,801,912.00			

#### **Network assets**

The drainage areas are self-contained, with their various networks of gravity mains feeding the pump stations, which in turn deliver wastewater through a series of rising mains to the drainage area's WWTP.

This section provides a high-level overview of the wastewater network assets in the functional area. All pipes smaller than 175 mm diameter, pump stations and erf connections are shown in the tables below. The tables indicate the replacement cost and the remaining useful life of the assets. The data is based on the Drakenstein Sewer Master Plan and Water Services Development Plan.

#### Table 46: Network sewer assets

	SEWER PIPELINES < 175mmØ										
			RUL ≤ 5	5 years		RUL: 6-10 years					
Pipe Length			Replacement			Replacement					
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)				
397.55	R 656,648,878.41	10%	37.84	R 62,506,822.39	0%	0	R -				
PUMP STATIONS											
			RUL ≤ 5	5 years	RUL: 6-10 years						
Capacity (I/s)	Replacement Cost (Rand)	% of assets	Replace	ement Cost (Rand)	% of assets	Replacement Cost (Rand)					
593	R 43,715,263.16	26%	R	11,205,196.54	4%	R	1,540,186.07				
			ERF	CONNECTIONS							
			RUL ≤ 5	5 years		RUL: 6-2	10 years				
Number of			Replacement			Replacement					
connections	Replacement Cost (Rand)	% of assets	Number	Replacement Cost (Rand)	% of assets	Number	Replacement Cost (Rand)				
30470	R 66,154,088.92	10%	2900	R 6,297,249.60	0%	0	R -				

#### **Existing and Future Demand**

The table below summarises the current and future sewage yield of the functional area. The future sewage yield values are based on potential future development up to 2030 as per the Drakenstein Sewer Master Plan.

Sewage yields - Paarl, Mbekweni & Wellington									
	Low low	Low	Middle	High	Business &		Water		
	Income	Incom	Income	Income	Industrial	Other	Ingres	Total	Unit
Existing number of households 2016	9474	16772	23539	5898				55683	units
Existing non-residential area					503	429		932	ha
Existing Water PDDWF	1887	3341	8038	3357	3533	10219	4593	34968	kl/d
Future Projected number of households	12000	22402	22527	0153				7000	
2030	13096	23183	32537	8153				76968	units
Future Estimated non-residential area					587	446		1033	ha
Future Water PDDWF	2609	4618	11111	4640	4883	14125	6349	48335	kl/d
Increase in PDDWF	721	1277	3073	1283	1350	3906	1756	13367	kl/d

Table 47: Existing and Future sewage yield for the functional area

For this assessment, it is assumed that the sewage yields are directly proportionate to the water demand per land use and income level. Consequently, the same split percentage applied to the water demand indirectly applies to the sewage yield. However, the total sewage yield reflects actual sewage yield as quoted in the Drakenstein Sewer Master Plan.

The Drakenstein Sewer Master Plan states that upgrades are required according to the additional future developments. Projects are identified and prioritised in the sewer master plan to address shortfalls in sewer infrastructure as development commences.

#### 4.2.4.2.2 Backlog in Access to Services: Wastewater

The table below indicates the number of households which have a lower level of service in terms of access to water services in the Paarl functional area.

Level of service	Number of households
No toilet provision	735

The total number of informal households in the functional area surveyed was 5,363. The numbers above indicate that most of these households have access to a toilet. However, 735 of the informal settlement households are defined to be below the minimum required level of service for wastewater.

The number of households in the functional area is expected to grow by 3.1% per year. The backlog must be addressed along with future planning with the focus on the informal settlement areas, as these areas can create a new backlog.

The Informal settlements are addressed in the housing backlog. New housing projects will decrease the number of informal settlements without access to wastewater services. However, in the interim, a basic level of service must be provided.

#### 4.2.4.2.3 Backlog in Asset Management: Wastewater

From the tables provided regarding the wastewater infrastructure of the functional area, it is evident that various assets have a remaining useful life of fewer than 5 years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The backlog for asset management is addressed in the project list provided in the next section. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list. The asset management backlog projects are typically identified in the master plan or by the municipality.

### 4.2.4.3 Electricity

The Drakenstein Electrotechnical Department is responsible for the distribution of electricity to the urban areas of Paarl, Mbekweni and Wellington.

The Dalweiding and Parys 66/11 kV Substations provide bulk electricity to Paarl and Mbekweni and the Wellington (Eskom) 66/11kV Substation services Wellington.

The current level of service is:

- Residential: Grid Electricity Service connected and metered (conventional and pre-paid);
- Commercial and Industrial: Grid Electricity Service connected and metered (conventional and pre-paid);
- Institutional and Public Service: Grid Electricity Service connected and metered (conventional).

### 4.2.4.3.1 Backlog in Access to Services: Electricity

The housing demand (Drakenstein Municipality, 2015) was estimated at 22,079 with a required average of 2,270 units per year over a ten-year period.

According to Table 6: Housing delivery in Drakenstein of the Electrical Masterplan, housing delivery up to the 2016/17 financial year was 572 units per year.

All formal households within this Functional Area have an electricity connection and backlog is associated with housing delivery and new informal dwellings.

In 2019, a total of 5 607 informal households were identified and to date 2 871 (51%) electricity connections have been completed, with a backlog of 2 736 connections. An additional 210 connections were made while in construction.

### 4.2.4.3.2 Backlog in Asset Management: Electricity

There is significant backlog in the bulk and reticulation infrastructure within this Functional Area. This includes but is not limited to the following equipment:

- Dalweiding and Parys 66/11 kV Substations;
  - Replacement of 66/11 kV transformers;
  - Replacement of 11 kV switchgear;
- Reticulation infrastructure;
  - 11kV feeders and switching stations in the Paarl CBD and surrounding residential areas ;
  - 11 kV switching stations at Mbekweni, Groenheuwel and Vlakkeland;
  - Ongoing upgrades at the Main, Oude Pont, Pentz Street and Stokery 11 kV Substations have reduced the backlog on asset management. However, renewal projects for primary feeders and oil-filled ring main units are ongoing;
  - Replacement from overhead to underground networks are ongoing.

#### 4.2.4.3.3 Capacity: Electricity

The current Parys, Dalweiding and Wellington bulk Substations under n-1 contingency have limited capacity.

#### Table 48: Functional Area 1 – Bulk Substations capacity

Substation Name	Installed Capacity (n-1) [MVA]	Current Transformer Loading [MVA]	Spare Capacity (n-1) [MVA]
Dalweiding	45	37	8
Parys	50	47	3



Palmiet	30	20.7	9.3
Wellington (Eskom) 66/11 kV Substation	40	33	7

In order to accommodate immediate growth, the Municipality is planning to upgrade the 66/11kV transformers at the Dalweiding and Parys Substations, which will add a further 30 MVA to the network. The Wellington bulk supply is dependent on the Eskom Substation and to enable future growth there is planning to construct a municipal 66/11kV Substation in Wellington.

The 11 kV reticulation networks require the renewal of the Ou Tuin, Mbekweni, Groenheuwel, Vlakkeland, Wellington Main, Oude Pont, Pentz Str and Stokery switching stations. All new projects must include for the upgrading and strengthening of the 11kV primary and secondary feeder networks.

### 4.2.4.4 Roads and Stormwater

#### 4.2.4.4.1 Capacity: Roads and Stormwater

This section of the report includes all stormwater infrastructure, including channels, pipes and inlets. The roads of the functional area are addressed in the transportation section of the technical assessment.

#### Bulk assets

The functional area is situated around the Berg River. All stormwater is directed towards the river with channels and underground stormwater pipes. For this report, it was defined that bulk stormwater is all pipes larger than 600mm in diameter. The table below lists the bulk stormwater pipes and their estimated remaining useful life. The remaining useful life of all stormwater assets is based on the typical conditions of stormwater infrastructure as investigated in the asset portfolio analysis (2013).

#### Table 49: Bulk stormwater pipes and remaining useful life

Pipes > 600mmØ							
Pipe			RUL ≤ 5 ye	ears		RUL: 6-10 y	ears
Length			Replacement	Replacement Cost		Replacement	Replacement Cost
(km)	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	(Rand)
13.43	R 14,726,484.91	7%	0.94	R 1,030,853.94	7.0%	0.94	R 1,030,853.94

#### Network assets

The functional area comprises various underground stormwater pipes, typically 100D concrete specification pipes. The table below summarises all the pipes in the functional area and give an indication of the replacement cost and typical remaining useful life of the assets.

#### Table 50: Stormwater network pipes with remaining useful life and replacement cost

Pipes < 375mmØ							
Pipe			RUL ≤ 5 years RUL: 6-10 years				ears
Length			Replacement	Replacement Cost		Replacement	Replacement Cost
(km)	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	(Rand)
188.07	R 206,170,788.81	7%	13.16	R 14,431,955.22	7%	13.16468791	R 14,431,955.22
			Pipes =	450mmØ			
Pipe			RUL ≤ 5 ye	ears		RUL: 6-10 y	ears
Length			Replacement	Replacement Cost		Replacement	Replacement Cost
(km)	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	(Rand)
26.87	R 29,452,969.83	7%	1.88	R 2,061,707.89	7.0%	1.88	R 2,061,707.89
			Pipes =	525mmØ			
Pipe			RUL ≤ 5 ye	ears		RUL: 6-10 y	ears
Length			Replacement	Replacement Cost		Replacement	Replacement Cost
(km)	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	(Rand)
26.87	R 29,452,969.83	7%	1.88	R 2,061,707.89	7.0%	1.88	R 2,061,707.89
Pipes = 600mmØ							
Pipe			RUL ≤ 5 ye	ears		RUL: 6-10 y	ears
Length			Replacement	Replacement Cost		Replacement	Replacement Cost
(km)	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	(Rand)
13.43	R 14,726,484.91	7%	0.94	R 1,030,853.94	7.0%	0.94	R 1,030,853.94

Other than the underground stormwater pipes, there are other stormwater assets in the functional area such channels (earth and concrete). Further assets include inlets and outlets to the stormwater underground networks as well as manholes connecting the pipes. A summary of other stormwater assets is given below. The list of assets includes an indication of the replacement cost as well as the estimated remaining useful life of the assets.

Channels							
Channel			RUL ≤ 5 years			RUL: 6-10 y	ears
Length			Replacement	Replacement O	Cost	Replacement	Replacement Cost
(km)	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	(Rand)
41.74	R 172,554,405.97	7%	2.92	R 12,078,808	3.42 7.0%	2.92	R 12,078,808.42
	Manholes						
			RUL ≤ 5 years RUL: 6-10 years			ears	
Number of			Replacement	Replacement C	Cost	Replacement	Replacement Cost
manholes	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	(Rand)
3013	R 52,239,189.91	7%	210.88	R 3,656,743	3.29 7.0%	210.88	R 3,656,743.29
	Inlet and others						
		RUL ≤ 5 years RUL: 6-10 years			ears		
			Replacement	Replacement C	Cost	Replacement	Replacement Cost
Number	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	(Rand)
6909	R 79,865,500.68	7%	483.61	R 5,590,585	5.05 7.0%	483.61	R 5,590,585.05

#### **Existing and Future Demand**

The existing stormwater systems in the functional area are mostly sufficient for the current scenario. The 1:20, 1:50 and 1:100 floods have been analysed for the area.

It is important that any new development must be evaluated to consider the impact of stormwater runoff after development. Ideally, the development should include flood peak attenuation methods to only release a flow equal to no more than the 1:2 year pre-development runoff peak flow.

### 4.2.4.4.2 Backlog in Access to Services: Stormwater

There is no clearly defined backlog in terms of stormwater infrastructure. Typically, the infrastructure will form part of other projects such as road upgrades or housing developments. Large area housing projects can have a significant impact on runoff parameters and larger detention dams might be required.

For the Paarl area, the housing backlog is approximately 8539 fully subsidised houses and 2670 partially subsidised houses. For the Mbekweni area, the housing backlog is approximately 2269 fully subsidised houses and 547 partially subsidised houses.

For the Wellington area, the housing backlog is approximately 3302 fully subsidised houses and 880 partially subsidised houses.

If any stormwater upgrades or larger stormwater projects are required for housing projects in the future, they must be included in the municipality's project list. The projects listed for stormwater include detention dams linked to addressing the housing backlog.

#### 4.2.4.4.3 Backlog in Asset Management: Stormwater

From the tables provided regarding the stormwater infrastructure of the functional area, it is evident that various assets have a remaining useful life of fewer than 5 years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality's project list.

### 4.2.4.5 Transportation

### 4.2.4.5.1 Backlog in Access to Services (Transport)

Existing development strategies and policy documents list several transport-related challenges that prevent access to services within the Paarl and Mbekweni area (Functional Area 1):

Public Transport	<ul> <li>Limited access to public transport and public transport-related information within all areas;</li> </ul>
	<ul> <li>Limited services during off-peak periods (all areas);</li> </ul>
	<ul> <li>Public Transport services not universally accessible;</li> </ul>
	<ul> <li>Road based public transport is dominated by Minibus Taxis (all areas);</li> </ul>
	<ul> <li>Only two rail services being rendered on the Drakenstein railway line, one outbound in the morning and another inbound in the afternoon/evening;</li> </ul>
	<ul> <li>Inadequate long-distance facilities for waiting passengers;</li> </ul>
	Improved access to the IPTN system and PT-related information (all areas).
Public Transport	<ul> <li>Poorly defined public spaces in Paarl CBD;</li> </ul>
Infrastructure	<ul> <li>Lack of shelter at existing public transport facilities (all areas);</li> </ul>
	<ul> <li>Underutilisation of facilities during the off-peak (all areas);</li> </ul>
	No Park and Ride facility at Huguenot Station.
Learner transport	Little information available about the learner transport services within this Functional Area.
Freight	Road infrastructure is inadequate to accommodate the transport of heavy haul vehicles (all areas).

Non-Motorised Transport	<ul> <li>Key nodes within this Functional Area do not adequately support Non-Motorised Transport (NMT);</li> </ul>
	<ul> <li>NMT infrastructure is not continuous and not universally accessible;</li> </ul>
	<ul> <li>Lack of NMT infrastructure along major routes and lack of continuity on existing NMT routes (all areas);</li> </ul>
	Provide more walkways and cycle tracks for pedestrians and recreational purposes.
Transport for	No scheduled services for transporting tourists between attractions (Paarl and Wellington);
Tourism	Promoting the unique scenic quality of the area as a destination for MTB and hiking (Paarl and Wellington).
Road Network	Poor linkage between Paarl East and West;
	Strengthen and create new linkages between Mbekweni and industrial nodes through safe connection across railway line to Wellington Industrial Park.

### 4.2.4.5.2 Backlog in Asset Management

The backlog in asset management as listed in the reference documents is summarised in the table below.

Public Transport	Implementation of Integrated Public Transport Network (IPTN) (all areas)
Public Transport	<ul> <li>Upgrading of the Mbekweni Station buildings (all areas);</li> </ul>
Infrastructure	Upgrading of transfer terminal facilities (all areas).
NMT	<ul> <li>Upgrade of existing sidewalks (all areas);</li> </ul>
	<ul> <li>Ramps to improve universal accessibility (all areas);</li> </ul>
	Provision of NMT routes along major roads (all areas).
Transport for Tourism	Street name signs (all areas);
	Tourism signage (all areas).
Road Network	<ul> <li>Upgrade of various proclaimed roads and main roads (listed in Asset Management Plan prepared by SMEC) (all areas);</li> </ul>
	<ul> <li>Reconstruction of various streets (listed in Asset Management Plan) including Drommedaris and Cecilia Streets;</li> </ul>
	<ul> <li>Repair slip at Jan Phillips Mountain Drive (Paarl);</li> </ul>
	<ul> <li>Traffic calming along Paarl Main Road;</li> </ul>
	Construct Van der Stel Street between Abattoir and Klein Drakenstein Road.



Figure 43: Van der Stel Street Extension

- Paving of unsurfaced parking areas;
- Intersection improvements and provision and maintenance of traffic lights;
- Berg Rivier Boulevard:
  - Upgrading of Berg River Boulevard North and South;
  - Berg River Boulevard extension from Long Street to R45.
- Upgrading of:
  - the intersection between Berg River Boulevard and Main Road;
  - Jan van Riebeeck/Market Circle;
  - Langehoven Ave;
  - Huguenot Bypass;
  - JvR from Huguenot/ Oosbosch; and
  - JvR from Oosbosch/Van Der Stel.
- Refurbishment of Lady Grey Street bridge (bearings and joints);
- Renewal of key nodes such as the Huguenot Station, Paarl CBD and Paarl Station;
- Completion of Van der Stel Street towards Klein Drakenstein;
- Langenhoven Avenue (road reserve);
- Road reconfiguration for improved linkage between Klein Drakenstein and Lady Grey Road. Reconfiguration of Vlakkeland Layout so that main Street connects to Bo-Dal;
- Extension of Mafila Street to Wamkelekile Street, Nobula Street to Jan van Riebeeck Street.
- Upgrade of Genl Hertzog Boulevard;
- Reconstruction of streets (Stokery Road, Genl Hertzog);
- Paving of unsurfaced, public parking areas;
- Provision and maintenance of traffic lights;

	-	Traffic calming along Wellington Main Road.
General	•	Revision of the Integrated Transport Master Plan (all areas).

### 4.2.4.5.3 Capacity: Transport

The development of an IPTN and the Paarl, Huguenot and Dal Josaphat Stations as transport hubs is required to improve access to public transport. A functional IPTN will provide affordable transport to commuters, relieve congestion on the road network and support the planned development.

Taking into consideration the expected residential development in Mbekweni and the densification of the residential area east of the railway line, the provision of links between Paarl East and West is crucial. The links should make provision for motorised and non-motorised transport. The existing links between Paarl East and West that could be upgraded and utilised are:

- Oosbosch Street increase capacity;
- Lady Grey Street Road reconfiguration for improved linkage between Klein Drakenstein and Lady Grey Road;
- Langenhoven Road require upgrade;
- Lang street extend and connect with Bo Dal Josaphat.

An Overview Plan, prepared by ITS, shows the major linkages within Functional Area 1 (refer to Figure 44). It should be noted that this plan is a draft and has not yet been adopted by the Municipality. This plan shows the extension of Berg River Boulevard North to the R45 and Van der Stel Street West to Paarl Main Road. The extension of these roads is necessary to unlock and provide access to the residential development in Paarl North (West of the railway line).



#### Figure 44: Overview Plan - Paarl Roads

The planned expansion of the Wellington Industrial park would increase the desire of residents from Mbekweni (east of the railway line) to cross the railway line to access employment opportunities at Wellington Industrial

(west of the railway line). Safe crossing points and NMT infrastructure are required to support this movement across the railway line.

The planned residential development in Wellington, west of the railway line, will require that Lady Loch Street be upgraded to support the increased traffic movement along this road. To facilitate the movement between Paarl, Mbekweni and Wellington, Champagne Road needs to be upgraded to increase the capacity along this major link to Paarl and Mbekweni.

The densification of Wellington would increase pressure on the existing road network and planned upgrades should be implemented.

To make destinations beyond the border of this Functional Area more accessible, an improved public transport network is required.

### 4.2.4.6 Solid Waste

Level of Service	All formal erven are serviced by a black bag removal system at least once a week by the Drakenstein Municipality;
	Informal erven are serviced by a drum or central skip removal service at least once a week by the Drakenstein Municipality.

### 4.2.4.6.1 Backlog in Access to Services: Solid Waste

The Wellington Landfill site services the entire Municipality and has reached its final licensed capacity. The Municipality is in the process of applying for an increase in allowed landfill height.

There is currently a problem of illegal dumping in Mbekweni. However, the establishment of 3 mini public dropoffs has reduced this problem significantly. Following this positive feedback, the Municipality is planning to establish 6 more mini public drop-offs.

Access to refuse removal services above the minimum service level in Silverton, Mbekweni, Groenheuwel and Fairyland are all below 80%. Access to refuse removal services needs to be improved in these areas, especially in the informal settlements.

#### 4.2.4.6.2 Backlog in Asset Management: Solid Waste

The management of the Wellington Landfill facility is currently by the Drakenstein Municipality. However, the Municipality is in the process of outsourcing the management through a 3-year contract.

A large portion of the Municipality's collection fleet is older than 8 years and therefore maintenance and repairs are a challenge. These vehicles are being replaced on a continuous basis.

#### 4.2.4.6.3 Capacity: Solid Waste

There is only one landfill site, namely the Wellington Landfill site, which must be decommissioned in 2020. An extension to this landfill is planned for the medium term and a new landfill is planned for the long term.

There is a refuse transfer station (RTS), Materials Recovery Facility (MRF) and composting facility situated in Paarl run by the Municipality.

The number of trucks is sufficient to adequately service the area.

### 4.2.4.7 Social and Economic Infrastructure

#### 4.2.4.7.1 Backlog in Asset Management: Social and Economic Infrastructure

According to the IDP (2018/19: 93) the following is applicable to the management and maintenance of Municipal and Public Facilities:

"On an annual basis provision is made in the annual capital and operational budgets for maintenance and upgrading of council owned properties and facilities. Community needs as well as regular inspections conducted at facilities are used to inform the budget".

In terms of Asset Care (Maintenance) Plans, according to the Drakenstein Asset Management Status Quo Report June 2016, assets managed by departments other than the civil and electro-technical departments, mostly buildings and community facilities, do not have preventive maintenance plans in place and maintenance is mostly reactive.

The following has been highlighted in the IDP (2018/19):

- Upgrading of Pelikaan Park Sport Ground in Wellington (Project in process expected completion date March 2020);
- Upgrade of Wellington Licensing Centres Current capacity of the facilities is not adequate for the demand in services;
- Upgrading of the Wellington Library;
- Upgrade of Newtown Sports Facility (Project completion March 2020);
- Construction of hockey field (artificial turf);
- Upgrading and extension of Huguenot Tennis Clubs;
- Upgrade and construction of new playparks;
- Upgrade Paarl Mountain Nature Reserve;
- Upgrade Mbekweni Swimming Pool;
- Upgrade Dal Josaphat Athletics Track and installation of new high mast lighting;
- Construction of new indoor sporting facility;
- Upgrading of Antoniesvlei Resort and Hall;
- Upgrading of existing and dormant cemeteries.

The need for a night shelter has also been identified.

A survey of the social infrastructure assets owned by the municipality was recently undertaken and will inform the backlog and planning for asset management in future.

There are multiple cemeteries located within the area, but the majority of the cemeteries have reached their capacity. A new regional cemetery is thus proposed for this Functional Area. The regional cemetery should be able to serve the entire Municipality.

Based on the existing requirements and projected population growth, the demand for community and social facilities is set out below.

# 4.2.4.7.2 Capacity and Backlog in Access to Services: Social and Economic Infrastructure

The community and social facility requirements for the Paarl/Mbekweni/Wellington area are set out below. Based on the current provision, there is no immediate demand. The future requirements were determined purely on the population threshold information for the various facilities as set out in the previous section.

Facility	Short Term (2020 – 2025)	Medium Term (2025 – 2030)
Clinics	-	1
Fire Station	-	-
Police Station	-	-
Primary School	2	3

#### Table 52: North City Functional Area Community and Social Facility Requirements

Facility	Short Term (2020 – 2025)	Medium Term (2025 – 2030)
Secondary School	1	2
Local Library	1	1
Community Hall (Medium/Small)	1	1
Cemetery (Medium)	-	-
Sports Complex (grouping of fields and/or sports complexes)	-	-
Grass Field (2 football fields equivalent) with 500-seat stand	-	1
Grassed Surface (2 football fields equivalent)	2	

### 4.2.4.8 Consolidated 10-year Capital Requirements

The following table summarises the capital requirements from all sectors for this functional area, for the purpose of developing investment programmes.

Infrastructure Sector	2021/22		22/23		23/24		24/25		25/26		26/27		27/28		28/29		29/30		30/31	
North City Corridor	61,709,305	48%	25,090,000	28%	32,300,000	34%	4,860,000	7%	800,000	1%	659,651,713	39%	532,219,186	36%	483,525,842	34%	446,339,358	36%	402,883,368	33%
Basic Services	1,000,000	2%	-	0%	-	0%	-	0%	-	0%	11,471,283	2%	10,671,283	2%	10,671,283	2%	10,671,283	2%	10,671,283	3%
Water	2,200,000	4%	3,000,000	12%	-	0%	-	0%	-	0%	109,578,895	17%	83,841,970	16%	78,841,970	16%	72,762,803	16%	72,762,803	18%
Waste Water	2,900,000	5%	2,000,000	8%	-	0%	-	0%	-	0%	153,337,072	23%	135,626,935	25%	132,446,532	27%	110,776,865	25%	111,276,865	28%
Energy/Electricity	-	0%	-	0%	-	0%	-	0%	-	0%	104,520,892	16%	85,503,800	16%	68,869,800	14%	64,277,008	14%	64,777,008	16%
Roads/Streets and Stormwater	18,592,348	30%	-	0%	-	0%	-	0%	-	0%	132,992,407	20%	117,642,407	22%	116,392,407	24%	114,725,740	26%	102,712,454	25%
Solid Waste	-	0%	-	0%	-	0%	3,000,000	62%	-	0%	9,456,512	1%	10,074,416	2%	5,102,000	1%	6,102,000	1%	6,102,000	2%
Housing	10,800,000	18%	-	0%	11,600,000	36%	-	0%	-	0%	43,036,667	7%	43,036,667	8%	19,936,667	4%	18,000,000	4%	-	0%
Social and Economic Infrastructure	13,096,957	21%	640,000	3%	700,000	2%	1,860,000	38%	800,000	100%	61,913,045	9%	30,033,180	6%	33,333,180	7%	30,166,514	7%	14,131,514	4%
Other	13,120,000	21%	19,450,000	78%	20,000,000	62%	-	0%	-	0%	33,344,941	5%	15,788,529	3%	17,932,004	4%	18,857,145	4%	20,449,441	5%

 Table 53: North City Functional Area consolidated 10-year capital investment requirements per sector

Please note: The project locations are currently being verified and will only be finalised for the 2022/2023 submission. The implication being that many projects are currently allocated to the "various/municipal wide" functional area which could potentially be reallocated elsewhere once verified, creating a more informed picture of the capital requirements per geographical area.

# 4.3 Functional Area 2: N1 Corridor

### 4.3.1 Existing Situation

The N1 Corridor Functional Area consists of Klapmuts in the west and the Huguenot Tunnel toll plaza in the east. In terms of Catalytic Zones, the N1 Corridor overlaps with the North City Integration Corridor (north of the N1) and the South City Corridor (south of the N1). As a result, this Functional Area overlaps with the North City Functional Area (north of the N1) and the South City Functional Area (south of the N1).

The corridor straddles the N1 and includes areas such as Klapmuts, Ben Bernhard, the De Poort and Paarl Hamlet and the Huguenot Tunnel toll plaza. The corridor is part of the N1 route, the main vehicular access route, linking Cape Town to the north of South Africa. The corridor thus has an important role as main access route to Paarl and Wellington and the Drakenstein hinterland. Development along this corridor must be well managed to promote the Drakenstein area as a destination for tourists as well as new businesses, industries and residents. The N1 Corridor Functional Area is currently non-residential in nature, with its primary focus on commercial/business, industrial and mixed-use development and the realisation of the envisioned five Big Moves for this Catalytic Zone (discussed in more detail below). The residential areas that fall within this Functional Area have been incorporated into the North City and South City Functional Areas.

#### Figure 45: N1 Corridor Functional Area



Source: Adapted from the Drakenstein Municipality Zoning Scheme By-Law (May 2018)

### 4.3.1.1 Klapmuts North

Klapmuts North is currently a predominantly low-density rural area with a number of transitional activities, mainly small farms and small holdings, as well as a large parcel of undeveloped land that belongs to the Municipality. The area is located adjacent to the N1 and the Klapmuts on and off ramps. This strategic location

places pressure on the area from a range of activities, including small holdings, tourism venues, light manufacturing and logistics enterprises. Klapmuts North covers an estimated 3.5 square kilometres. The area is currently not serviced by the municipal bulk services networks and any new development or densification would require a substantial investment from the municipality. This area is serviced by Eskom.





Source: Adapted from the Drakenstein Municipality Zoning Scheme By-Law (May 2018)

#### Figure 47: Klapmuts North Spatial Framework



Source: Drakenstein Spatial Development Framework, 2020

### 4.3.1.2 Ben Bernhard

The Ben Bernhard industrial area at the southern end of Paarl has recently experienced some pressure for intensified industrial development. The total area is approximately 3.8 square kilometres. There is considerable scope for further expansion of industrial uses within the existing footprint, but new development beyond this footprint (i.e. to the west of the Simonsvlei Winery) will require substantial investment in services infrastructure and is thus not recommended for the foreseeable future.

Mixed use is recommended for this area, with appropriate uses including green industry, agri-processing, office parks and transport-related uses.

#### Figure 48: Ben Bernhard Zoning Map



Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)





Source: Drakenstein Spatial Development Framework, 2020

### 4.3.2 Current Challenges

- Klapmuts North is currently not serviced by the municipal bulk services networks and any new development or densification will require substantial investment from the municipality.
- Major services (water and sewerage reticulations and bulks services, including pump stations and reservoir capacity) are required for the entire Ben Bernhard area.

### 4.3.3 Future Situation

Within Klapmuts North, a large piece of land (Farm 736 RE) was sold to Distell. Farm 736 will be transformed into a manufacturing and logistics hub for Distell. The land will also be earmarked for mixed use in the classic sense of the word, which means a mix between different land uses such as commercial (offices and retail) and industrial (warehouses and distribution centres). It can also mean a mix between residential and commercial, or all of the above. The proposed development will be a major development in the area and will have a positive impact on local economic stimulation through job creation and infrastructure expansion for future growth.





The Klapmuts North Local Area Spatial Development Framework (LSDF) was developed in 2018 (draft document dated July 2018). It has not yet been approved, however. Once the document has been approved, the development proposals should be incorporated into this report. The LSDF proposed various residential development within Klapmuts North, which will have a significant impact on the land use budget and population projections for this area.

#### Figure 51: Klapmuts North Conceptual Framework



Source: Klapmuts North Draft Local Spatial Development Framework, July 2018

The Draft Klapmuts North SDF provides the following table as an indication of the land available for development:

Zoning	Ha	m²
Agri development zone	292.87	2928726.93
Environmental management zone	93.12	931173.43
High intensity mixed use	66.48	664827.59
High to medium density	63.91	639070.58
Higher density	42.40	423976.71
Low intensity mixed use	29.41	294063.39
Manufacturing and logistics	74.72	747224.16
Medium - low density	56.05	560492.76
Offices and higher density residential	29.09	290935.09
Total	748.05	7480490.63

Table 54: Klapmuts North - Gross land sizes for different uses including farm portions and erven

Source: Klapmuts North Draft Local Spatial Development Framework, July 2018

### 4.3.3.1 Land Budget

The N1 Corridor and its development proposals are non-residential in nature, with their primary focus on commercial/business, industrial and mixed-use development. This does not mean that there can be no residential development within this corridor, but simply that residential development and as a result population and household projections have not been taken into consideration/calculated in this assessment. This Functional Area also overlaps with the North City Integration Corridor and the South City Corridor.

The following table shows the high-level estimated vacant/underutilised land within this area that could be developed in the long term. It should be noted that, although these areas are large, the total developable land has not yet been established and will be subject to specialist studies.

Please note that this land use budget does not take the development proposals outlined in the Klapmuts North Draft Local Spatial Development Framework (July 2018) into consideration.

#### Table 55: N1 Corridor Land Use Budget

	Commercial	Industrial	Mixed Use	Total
Klapmuts North Short/Medium Term (10 Years)	-	-	190ha	190ha
Klapmuts North Long Term (10-20 Years)	-	-	150ha	150ha
Ben Bernhard Short/Medium Term (10 Years)	10ha	15	-	25ha
Ben Bernhard Long Term (10-20 Years)	60ha	140	-	200ha

### 4.3.3.2 Development Strategy – Big Moves

As mentioned earlier, the N1 Corridor Functional Area forms part of the N1 Corridor Catalytic Zone (refer to 3.3.3.5). The following Big Moves are relevant to this Functional Area:

#### Big Moves

#### N1 Corridor:

- Implement an Integrated Commercial and Industrial Hub at Klapmuts
- Development of the Huguenot Tunnel Long Haul facility
- Promotion of a light Industrial and Commercial Business Park at Ben Bernhard
- De Poort and Paarl Hamlet node
- Carolina / Lustigan Intersection (North of the N1)

The following tables represent the implementation matrix for the various "Big Moves" within this Functional Area, which includes the following elements:

- Big Move
- Key Performance Area

Table 56: N1 Corridor Implem	entation Matrix - Implement an Integrated Commercial and Industrial Hub at Klapmuts
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Big Move	Implement an Integrated Commercial and Industrial Hub at Klapmuts
Intended Impact -	<ul> <li>Approval of Klapmuts SDF by Council;</li> </ul>
Indicators of Success	Provision of adequate water, sewer, electricity, storm water and roads;
Project, Programmes and Initiatives	<ul> <li>Klapmuts Local Spatial Development Framework;</li> </ul>

Big Move	Implement an Integrated Commercial and Industrial Hub at Klapmuts
	<ul> <li>Brownfields – upgrade underutilised industrial sites with minimum infrastructure cost input requirements to encourage industrial investment;</li> </ul>
	Proposal call for the development of vacant municipal land;
	Implementation of basket of incentives for industrial development;
	Provision of bulk infrastructure services;
	Green Industry Incubator Park;
	Agrarian Reform Programme.

#### Table 57: N1 Corridor Implementation Matrix - Development of the Huguenot Tunnel Long Haul facility

Big Move	Development of the Huguenot Tunnel Long Haul facility
Intended Impact -	Developed Huguenot Tunnel Long Haul Facility;
Indicators of Success	Use of the cycle route as part of the greater Bitou / Cape Town Cycle Route;
	Receive and approve developments on vacant municipal land by Council.
Project, Programmes	Huguenot Tunnel Long Haul Facility;
and Initiatives	Develop of Drakenstein cycle route as part of greater Bitou / Cape Town Cycle Route;
	Proposal call for the development of vacant municipal land.

#### Table 58: N1 Corridor Implementation Matrix - Promotion of a light Industrial and Commercial Business Park at Ben Bernhard

Big Move	Promotion of a light Industrial and Commercial Business Park at Ben Bernhard
Intended Impact -	A stable electricity network with spare capacity;
Indicators of Success	Upgraded Strawberry King Bulk Water Pipeline;
	Lowering in unemployment rate;
	Increase in capital investment;
	<ul> <li>Establishment of a WWTW with sufficient capacity for future developments and the eradication of maintenance backlogs;</li> </ul>
	Reduced crime rate.
Project, Programmes	New Mall substation;
and Initiatives	New N1 substation;
	<ul> <li>Upgrade of Strawberry King water;</li> </ul>
	Courtrai, Paarl – 2nd Reservoir and bulk balance pipeline;
	Industrial water meters, Paarl – meter of unmetered connections;
	Upgrading of WWTW to ensure sufficient capacity for future developments and eradicating maintenance backlogs especially at Paarl WWTW.
	Develop of Drakenstein cycle route as part of greater Bitou / Cape Town Cycle Route;
	Municipal Wide CCTV Coverage;
	Increased law enforcement and SAPS patrols;
	<ul> <li>Fair Valley Communal Agri-project;</li> </ul>
	Green Logistics Hub and Business Park.

#### Table 59: N1 Corridor Implementation Matrix - De Poort and Paarl Hamlet node

Big Move	De Poort and Paarl Hamlet node
Intended Impact -	Developed De Poort Tourism Gateway;
Indicators of Success	A stable electricity network with spare capacity;
	Increase in capital investment;
	Lowering in unemployment rate;
	<ul> <li>Establishment of a WWTW with sufficient capacity for future developments and the eradication of maintenance backlogs;</li> </ul>
	Use of the cycle route as part of the greater Bitou / Cape Town Cycle Route;
	<ul> <li>Decrease in crime rate;</li> </ul>
	Use of Courtrai, Paarl – 2nd Reservoir and bulk balance pipeline.
Project, Programmes	De Poort Tourism Gateway;
and Initiatives	New Mall substation;
	New N1 substation;
	<ul> <li>Courtrai, Paarl – 2nd Reservoir and bulk balance pipeline;</li> </ul>
	<ul> <li>Upgrading of WWTW to ensure sufficient capacity for future developments (especially Paarl South) and eradicating maintenance backlogs especially at Paarl WWTW;</li> </ul>
	Development of Drakenstein cycle route as part of greater Bitou/Cape Town Cycle Route;
	Identification and Site development of cultural and heritage places of interest;
	Installation of Tourism signage and infrastructure at iconic areas;
	Municipal-wide CCTV Coverage;
	Increased law enforcement and SAPS patrols;
	<ul> <li>Accreditation, restructuring zones;</li> </ul>
	Proposal call for the development of vacant municipal.

### Table 60: N1 Corridor Implementation Matrix - Carolina / Lustigan Intersection (North of the N1)

Big Move	Carolina / Lustigan Intersection (North of the N1)
Intended Impact - Indicators of Success	<ul> <li>A stable electricity network with spare capacity;</li> </ul>
	Establishment of a WWTW with sufficient capacity for future developments and the eradication of maintenance backlogs;
	Decrease in crime rate;
	Execution of Boland Park Precinct.
Project, Programmes and Initiatives	New Mall substation;
	New N1 substation;
	Replacement / upsizing of reticulation system;
	<ul> <li>Upgrading of WWTW to ensure sufficient capacity for future developments and eradicating maintenance backlogs especially at Paarl WWTW;</li> </ul>
	Upgrade and rehabilitation of sewer system in entire Drakenstein;
	Develop of Drakenstein cycle route as part of greater Bitou / Cape Town Cycle Route;
	<ul> <li>Municipal-wide CCTV Coverage;</li> </ul>

Big Move	Carolina / Lustigan Intersection (North of the N1)
	<ul> <li>Increased law enforcement and SAPS patrols;</li> <li>Private Developments (Bergenzight, Neffensaan, Klipland, Groot Parys, Klein Parys Extension 2);</li> <li>Boland Park Precinct.</li> </ul>

### 4.3.3.3 Intended Impacts

The Klapmuts area should be prioritised as a new regional economic node, with the main purpose to attract investment in the Drakenstein Municipality based on its accessibility and unrivalled logistical network.

The Klapmuts area can serve as the Connecting Gateway with our neighbouring municipalities, namely the City of Cape Town, the Stellenbosch Municipality (via R44 to the south) and the Swartland Municipality (via the R44 to the north) and the Breede Valley Municipality and/or any South African area situated along the N1 (via N1 to the east).

The Drakenstein Municipality should therefore strive to market Klapmuts as:

- An attractive decentralised economic node with quality services and good accessibility for businesses wishing to locate outside of the City of Cape Town due to pressures such as traffic congestion, high property rates etc.;
- An attractive economic hub for goods and services from other neighbouring municipalities due its unrivalled regional access and logistics network.

This economic node will achieve even greater traction and momentum if the Drakenstein and Stellenbosch Municipalities come to a mutual understanding and commitment to attract businesses and employment opportunities to the Klapmuts area to benefit both municipalities and their communities to achieve their development objectives. Addressing the Klapmuts development issue clearly requires a collaborative sub-regional spatial development framework between the Stellenbosch and Drakenstein Municipalities in order to avoid unsustainable twin developments.

A logistics hub and tourism gateway are proposed at the Huguenot Tunnel (i.e. Toll gate plaza), as this is the entry point to the Winelands area and City of Cape Town and/or exit to several other national destinations.

The Drakenstein Municipality could capitalise on this long-haul transport facility by creating an enabling environment for tourism opportunities and creating logistics opportunities. These opportunities should be exploited to create employment opportunities for the residents of the Drakenstein Municipality.

### 4.3.4 N1 Corridor Technical Assessment

### 4.3.4.1 Water

### 4.3.4.1.1 Supply and Assets

Currently, the N1 Corridor's main water demand contributor is the Ben Bernard industrial area. At the moment, the area partially receives water from the Wemmershoek bulk pipeline and the Courtrai reservoirs, which are located in the North City area across the N1. The area is currently not developed to a great extent. However, it is projected that large mixed-use developments will occur in the next 5 to 10 years.

Another large anticipated contributor to the N1 Corridor functional area is the Klapmuts North area. However, the Klapmuts North does not have existing bulk water infrastructure in place at present. Nevertheless, bulk infrastructure and larger-scale development is planned for the area within the next 5 to 10 years. It is anticipated that, in the future, this zone will obtain water from the Wemmershoek pipeline. For the time being,

some boreholes are in place to supply the area, but storage and pressure boosting will be required, as well as treatment to SANS 241 potable water standards.

Furthermore, no significant bulk water assets such as reservoirs are located in the N1 corridor yet. Currently, there are bulk pipelines, including a recently constructed 315 mm diameter water main, in the Ben Bernard area. This line helps supply the Ben Bernard area sufficiently. Furthermore, this water main also assists in feeding the Courtrai reservoirs. There is another existing minor water connection. However, with future development, all proposed water master plan items will be implemented as required.

### 4.3.4.1.2 Future Demand

The table below summarises the current and future water demand of the functional area. The future demand values are based on potential future development up to 2030 as per the Drakenstein Water Master Plan. Please note that it is assumed that the current water demand contributions are negligible and currently form part of other water demand areas in the water master plan. However, the future demand is significant and is considered separately in the table below.

Water Demand - N1 Corridor													
	Low low	Low Incom e	Middle	High	Business &	Other	Losses	Total	Unit				
Existing number of households 2016	0	0	0	0				0	units				
Existing non-residential area					0	0		0	ha				
Existing Water AADD	0	0	0	0	0	0	0	0	kl/d				
Future Projected number of households 2030	0	0	0	0				0	units				
Future Estimated non-residential area					274	0		274	ha				
Future Water AADD	0	0	0	0	1730	0	0	1730	kl/d				
Increase in AADD	0	0	0	0	1730	0	0	1730	kl/d				

Table 61: Existing and Future demand for the functional area

### 4.3.4.1.3 Backlog in Access to Services: Water

No access to water backlog currently exists in the N1 Corridor area.

#### 4.3.4.1.4 Backlog in Asset Management: Water

No asset management backlog currently exists in the N1 Corridor area.

### 4.3.4.2 Wastewater

#### 4.3.4.2.1 Supply and Assets

The N1 Corridor functional area currently has only 1 sewage pump station in the Ben Bernhard industrial area. Since future proposed development of the area is significant, new infrastructure will be required. The Ben Bernard area will still pump to the main Paarl bulk sewer and drain to the Paarl WWTP. However, depending on the extent of the development, at some point a new WWTP, namely the "Rural WWTP" as in the Drakenstein Sewer Masterplan, will be required.

The other future area is Klapmuts North. This area is not near any WWTP at present. Thus, small-scale developments will have to use on-site sewage treatment. Alternatively, when large developments are approved, the proposed Klapmuts WWTP must be constructed. This plant will also receive water from Klapmuts South, which is situated in the Stellenbosch Municipal area.

### 4.3.4.2.2 Future Demand

The table below summarises the current and future sewage yield of the functional area. The future sewage yield values are based on potential future development up to 2030 as per the Drakenstein Sewer Master Plan. Please note that it is assumed that the current sewage yield contributions are negligible and currently form part of the sewerage yield treated in the Paarl area. However, the future demand is significant and is considered separately in the table below.

Sewage yields - N1 Corridor														
	Low low	Low	Middle	High	Business &	Other	Water	Total	Unit					
Existing number of households 2016	0	0	0	0	maastria	other	1161 033	0	units					
Existing non-residential area					0	0		0	ha					
Existing Water PDDWF	0	0	0	0	0	0	0	0	kl/d					
Future Projected number of households 2030	0	0	0	0				0	units					
Future Estimated non-residential area					274	0		274	ha					
Future Water PDDWF	0	0	0	0	1370	0	0	1370	kl/d					
Increase in PDDWF	0	0	0	0	1370	0	0	1370	kl/d					

Table 62 Existing and Future demand for the functional area

The Drakenstein Sewer Master Plan states that upgrades are required according to the additional future developments. Projects are identified and prioritised in the sewer master plan to address shortfalls in sewer infrastructure as development commences.

### 4.3.4.2.3 Backlog in Access to Services: Wastewater

No access to wastewater backlog currently exists in the N1 Corridor area.

### 4.3.4.2.4 Backlog in Asset Management: Wastewater

No asset management backlog currently exists in the N1 Corridor area.

### 4.3.4.3 Electricity

The Drakenstein Electrotechnical Department is responsible for the distribution of electricity to the N1 corridor, except Klapmuts.

The area to the north, starting at the Huguenot tunnel, is fed from the Palmiet Substation and at the Lustigan/ Carolina bridge from the Parys Substations. Ben Bernhard is fed from the Suidend Substation and Klapmuts from the Eskom, Klapmuts Substation.

The existing reticulation infrastructure is rural overhead lines with pole-mounted transformers.

The current level of service is:

- Residential: Grid Electricity Service connected and metered (conventional and pre-paid);
- Commercial and Industrial: Grid Electricity Service connected and metered (conventional and pre-paid);
- Institutional and Public Service: Grid Electricity Service connected and metered (conventional).

#### 4.3.4.3.1 Backlog in Access to Services: Electricity

The housing demand (Drakenstein Municipality, 2015) was estimated at 22,079 with a required average of 2,270 units per year over a ten-year period.

According to Table 6: Housing delivery in Drakenstein of the Electrical Masterplan, housing delivery up to the 2016/17 financial year was 572 units per year.

All formal households within this Functional Area have an electricity connection and backlog is associated with housing delivery and new informal dwellings.

### 4.3.4.3.2 Backlog in Asset Management: Electricity

The backlog in Asset Management is minimal and the replacement of overhead lines and pole-mounted transformers to the farming community is based on failure.

### 4.3.4.3.3 Capacity: Electricity

The current available bulk capacity is shown in the table below.

#### Table 63: Functional Area 3 – Bulk Substations Capacity

Substation Name	Installed Capacity (n-1) [MVA]	Current loading [MVA]	Spare Capacity (n-1) [MVA]
Palmiet	30	20.7	9.3
Parys	50	47	3
Suidend	40	22.5	17.5
Klapmuts (Eskom)	20	5	15

As shown in the table above, the existing substations have sufficient bulk capacity for the anticipated growth, except for the Parys Substation, which is nearing capacity. The municipality is therefore planning to upgrade the 66/11kV transformers at the Parys Substation and to construct a new substation close to the Boschenmeer Estate.

The existing four transformers at the Parys Substation will be upgraded from 15MVA to 20MVA, adding 15MVA to the network.

The new substation will be a 132/66/11kV transformation with a 132kV supply from the Eskom Safariland Substation and will enable a 66kV ring feed between the Suidend and Parys Substations.

The existing 11kV reticulation consists of long rural overhead lines with pole-mounted transformers and will be upgraded to a cable-based reticulation network with strategic 11kV switching stations.

### 4.3.4.4 Roads and Stormwater

Currently, the largest part of the stormwater infrastructure located within the functional area belongs to SANRAL or to the Western Cape Government. Most of the existing developments in this corridor are privately owned and maintain their own internal stormwater infrastructure. It is expected that municipal stormwater infrastructure will be installed with the future development of this area.

All developments will need to assess stormwater requirements on a per-site basis. Post development, stormwater will have to be attenuated on site as per the latest municipal requirements. Investigation into major storm events will also form part of the EIA process for each proposed development.

#### 4.3.4.4.1 Backlog in Access to Services: Stormwater

No stormwater access backlog currently exists in the N1 Corridor area.

### 4.3.4.4.2 Backlog in Asset Management: Stormwater

No stormwater asset management backlog currently exists in the N1 Corridor area.

### 4.3.4.5 Transportation

The Ben Bernhard area comprises provincial roads as well as minor roads. Furthermore, there is currently no developed road networks in the Klapmuts North area. The existing roads in Klapmuts north are currently Class 4 and will have to be upgraded to Class 2 with future development and will have to accommodate a 25 m road reserve.

Furthermore, discussion regarding the alignment and linking of new roads with provincial roads and the N1 must be discussed with the Drakenstein Municipality, the Stellenbosch Municipality, the Western Cape Government and SANRAL, respectively.

### 4.3.4.5.1 Backlog in Access to Services: Transportation

The backlog in access to services is not unique compared to the other Functional Areas within Drakenstein. Existing strategies and policy documents list transport-related challenges, similar to the other Functional Areas, preventing access to services within this Functional Area.

Public Transport	<ul> <li>Poor access to the IPTN (all areas);</li> <li>Road based public transport is dominated by minibus taxis (all areas).</li> </ul>
Learner transport	<ul> <li>Limited information about Learner transport provision (all areas).</li> </ul>
Freight	Development of the Huguenot Tunnel Long Haul facility.
NMT	<ul> <li>Development of the Drakenstein cycle route as part of the greater Bitou/Cape Town Cycle route;</li> </ul>
	New, safe NMT connections to create legible urban structure and NMT network (all areas).

### 4.3.4.5.2 Backlog in Asset Management: Transportation

The backlog in asset management as listed in the reference documents is summarised in the table below.

Public Transport	Acceptance and implementation of IPTN.
NMT	Upgrade of NMT infrastructure;
	• NMT routes and infrastructure are not universally acceptable.

#### 4.3.4.5.3 Capacity: Transportation

An affordable public transport network is required to connect residents to employment opportunities and public facilities outside this Functional Area.

In areas where a settlement is separated by major roads or railway lines, infrastructure allowing safe crossing opportunities must be provided. Divisional and minor roads in the area should be upgraded to paved roads and non-motorised and motorised transport links provided to improve connectivity.

### 4.3.4.6 Solid Waste

Level of Service	All formal erven are serviced by a black bag removal system at least once a week by the Drakenstein Municipality;
	Informal erven are serviced by a drum or central skip removal service at least once a week by the Drakenstein Municipality.

#### 4.3.4.6.1 Backlog in Access to Services: Solid Waste

The Wellington Landfill site services the entire Municipality and has reached its final licensed capacity. The Municipality is in the process of applying for an increase in allowed landfill height.

### 4.3.4.6.2 Backlog in Asset Management: Solid Waste

The management of the Wellington Landfill facility is currently by the Drakenstein Municipality. The Municipality is in the process of outsourcing the management through a 3-year contract.

A large portion of the Municipality's collection fleet is older than 8 years and therefore maintenance and repairs are a challenge. These vehicles are being replaced on a continuous basis.

#### 4.3.4.6.3 Capacity: Solid Waste

There is only one landfill site. namely the Wellington Landfill site. which will need to be decommissioned in 2020. An extension to this landfill is planned for the medium term and a new landfill is planned for the long term.

### 4.3.4.7 Social and Economic Infrastructure

The N1 Corridor Functional Area is currently non-residential, with its primary focus on commercial/business, industrial and mixed-use development and the realisation of the envisioned five Big Moves for this Catalytic Zone. The residential areas and as a result the community and social facilities that fall within this Functional Area have been incorporated into the North City and South City Functional Areas.

### 4.3.4.8 Consolidated 10-year Capital Requirements

The N1 Corridor overlaps with the North City Integration Corridor (north of the N1) and the South City Corridor (south of the N1) and as a result overlaps with the North City Functional Area (north of the N1) and the South City Functional Area (south of the N1). Various projects that will impact this area as well as the broader area exist and were therefore included in the "Municipal-Wide" list (refer to paragraph 4.6.1 and Table 101 of this report).

Infrastructure Sector	2021/22		2021/22		22	2/23	23	/24	24	/25	25	/26	26/27	8	27/28		28/29		29/30		30/31	6
N1 Corridor		0%	4	0%		0%		0%		0%	71,907,159	4%	71,907,159	5%	71,907,159	5%	63,359,106	5%	48,685,053	4%		
Water	28		÷.		-		-		2		8,611,386	12%	8,611,386	12%	8,611,386	12%	8,611,386	14%	2,486,386	5%		
Waste Water	-				-		-		-			0%	-	0%		0%	-	0%		0%		
Energy/Electricity	52		4		-		-		2		63,295,773	88%	63,295,773	88%	63,295,773	88%	54,747,720	86%	46,199,667	95%		

Please note: The project locations are currently being verified and will only be finalised for the 2022/2023 submission. The implication being that many projects are currently allocated to the "various/municipal wide" functional area which could potentially be reallocated elsewhere once verified, creating a more informed picture of the capital requirements per geographical area

# 4.4 Functional Area 3: South City

### 4.4.1 Existing Situation

The South City Functional Area is a 41km<sup>2</sup> tract of land located south of the N1 Road within the Drakenstein municipal area and consists of the South City Catalytic Corridor.

The South City Functional Area is predominantly characterised by agricultural and natural land uses. However, large portions of the Functional Area are characterised by large-scale, high-income residential developments such as the Boschenmeer Golf Estate (refer to Figure 53), Pearl Valley Golf Estate (refer to Figure 55) and Val De Vie Estate (Figure 54).

Simondium, a historically rural farm area, is also part of the Functional Area (refer to Figure 56). The little hamlet of Simondium lies at the upper point of a triangle with Stellenbosch and Franschhoek on the R45. Simondium has a semi-rural character.

Within this Functional Area lies the Drakenstein Prison (Victor Verster), located towards the southeastern portion of the Functional Area.

The South City Functional Area constitutes 2.6% of the total municipal area. However, it is expected that this Functional Area will experience the highest growth rate in the next 10 years. The estimated population is 7,347 people in the Functional Area in 2020 and is expected to increase to 23,392 people by 2030 (212.5% growth in population from 2020 to 2030). The population density of this area is 180 people per square kilometre.

In terms of dwelling types, an estimated 382 households reside in informal dwellings within informal settlements. There are three informal settlements within this Functional Area, namely Simondium, Nieuwehoop and Brickfields.

The largest portion of households falls within the middle-income bracket (46%), followed by the high-income bracket (25%). 23% falls within the low-income bracket and 6% within the low-low income bracket.

It is evident from the already approved (and in process) developments (Figure 38 and Table 66) that this area has the development potential to provide for approximately 10,000 residential units over the long term (20-year horizon), including ancillary uses such as small commercial nodes and community facilities in a well-connected area, which should include a connection to the R44.

The major infrastructure investment which will be investigated includes a link road between the R301 and R44 to facilitate public throughfare for improved internal and regional access. To remain public at all costs with minimal visual impact on landscape. Significant bulk water and wastewater infrastructure and upgrading are required to accommodate the expected future growth and to unlock the development potential of this area. Large municipal investment in these sectors is planned over the next five years, which will result in an increase in the municipal revenue base.



Source: Adapted from the Drakenstein Municipality Zoning Scheme By-Law (May 2018)


Household Income Structure 2011	<i>Low Low:</i> R0 to R800 per month	6%	Household Income Structure
	<i>Low:</i> R801 to R3,200 per month	23%	15% 11%
	<i>Middle:</i> R3,201 to R25,600 per month	46%	29% 45%
	<i>High:</i> R25,601+ per month	25%	<ul> <li>LowLow</li> <li>Low</li> <li>Middle</li> <li>High</li> <li>Source: StatsSA Census 2011</li> </ul>

Figure 53: Paarl South (Boschenmeer Golf Estate) Zoning Map



Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)

### Figure 54: Val De Vie Estate Zoning Map



Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)

Figure 55: Paarl Valley Golf Estate Zoning Map



Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)

Figure 56: Simondium Zoning Map



Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)

## 4.4.2 Current Challenges

- The road system is currently designed to facilitate regional vehicle traffic and there are no cycle lanes, although there is a pedestrian sidewalk along the eastern verge of the R45 between the church and node intersections. It is the 7th-most dangerous road in the province;
- Some of the gravel roads, especially the Simonsvlei road, are in poor quality;
- Water quality: Although most of the high catchments in the precinct are well protected, problems are experienced as these tributaries flow into the Berg River, which itself is a constant cause for concern due its poor water quality;
- There is a continuous threat of irrigation farmers losing their export status due to issues around water quality. Better protection of the lower reaches of rivers and water courses is required;
- Housing: As a result of the general effects of policies around the tenure of farmworkers and current aspirations towards non-agricultural futures of many residents, there has been an increase in the number of people seeking off-farm accommodation. This has resulted in a small but long-standing informal settlement in the Simondium node and considerable pressure for housing.

### Simondium Node Challenges:

- The node is rather spread out in a series of sub-nodes with a distance of between 1 km and 1.5 kms between them;
- Long pedestrian walking distances (in excess of 20 minutes) although they have been facilitated to some extent by a street lit sidewalk between the Watergat Road intersection and the post office;
- An important consideration will be to keep as much future development on the eastern side of the R45 as possible so as to limit the need for vehicle and particularly pedestrian crossings;
- Social facilities are located far away for the majority of residents, especially residents from the lower-income groups who have to make use of public transport to reach social facilities. There is a police station at Groot Drakenstein, approximately 4km away in the neighbouring Stellenbosch Municipality;
- Public high schools in Paarl are accessible only by private motor vehicles or public transport (Simondium Precinct Plan (2014:12-16));
- Ability to fully service rural areas have been identified as a challenge.

## 4.4.3 Future Situation

## 4.4.3.1 Estimated Household Growth and Land Budget 2030

#### Table 65: South City Household Growth Profile and Demand for Residential

Household Growth and Profile							
	Low-low Income	Low Income	Middle Income	High Income	Total		
Existing number of households 2016	110	437	867	465	1,880		
Projected number of households 2030	356	1,406	2,792	1,497	6,050		
Estimated household growth 2016 to 2030	245	969	1,925	1,032	4,170		
Demand for Residential							
	Low-low Income	Low Income	Middle Income	High Income	Total		
Existing number of residential units 2016	8	255	773	462	1,498		
Backlog in residential units 2016	103	182	94	3	382		
Projected number of residential units needed 2030	348	1,151	2,019	1,035	4,552		
Units achieved through densification (brownfields) 2030	-	-	-	-	-		
Units achieved through additional land (greenfields) 2030	348	1,151	2,019	1,035	4,552		

The total land use requirements are set out for residential, community and social services and business/retail as follows:

- short term (2020 to 2025);
- medium term (2020 to 2030) total requirements from 2020 to 2030 and includes the short-term requirements.

The land use requirements are based on the following assumptions:

- The residential requirements are based on the total estimated household growth at an average gross density of 25 dwelling units per hectare;
- The total community and social services land use requirements are based on the total land required to accommodate the future required social and community facilities as per the CSIR Guidelines for the Provision of Social Facilities in South Africa (2012);
- The land use budget for business or retail opportunities were calculated using 0,4m<sup>2</sup>/capita for the lower order shopping centres such as Local Convenience Centres with a maximum size of 5,000m<sup>2</sup> leasable floor area providing convenience goods. For the larger centres such as Neighbourhood, Community and Regional Shopping Centres as well as shops in the original central business districts, providing specialised goods, the guideline of 0,6m<sup>2</sup>/capita was used.

#### Table 66: South City Land Use Budget

		South City Total			
Land Use	Period	GLFA (m2)	Land area (ha)		
Decidential (25 du/ha)	Short Term: 2020 to 2025	-	83.08		
Residential (2500/ha)	Medium Term: 2020 to 2030	-	159.98		
Community and Social	Short Term: 2020 to 2025	-	2.40		
Services	Medium Term: 2020 to 2030	-	6.00		
Business/Detail	Short Term: 2020 to 2025	7,297.10	2.43		
Dusiness/ Retail	Medium Term: 2020 to 2030	13,500.82	4.50		

It is evident from the already approved developments (Figure 38 and Table 66) that this area has high development potential and is therefore under pressure for development, most notably for low-density residential development, which totalled more than 11,000 residential units (to be developed over the next 20 years). An estimated 2,060 residential units will be developed and occupied over the short term (2020 to 2025), within the Val de Vie 2 (Pearl Valley 2), The Vines (Val de Vie Winelands Lifestyle Estate) and Safariland (The Acres). This will imply the creation of a variety of development opportunities, including small commercial nodes, different housing typologies and community facilities in a well-connected area, which should include a connection to the R44.

Figure 38 indicates the developments that will take place within this Functional Area. The orange indicates the developments which have already been approved, the red indicates the developments which are still "In Process". Table 66 provides the estimated units of each development.

Development	Status	Estimated Units
A - Wilde Paarde Jaght	Approved	118
B - Azalea Acres	Approved	62
C - Zandrift	Approved	580
D - Fill Station	Proposed site	-
E - Shopping Centre	Approved	-
F - Drakenzicht	In process	336
G - Paarl Ronwe Development	In process	85
H - Bochenmeer (Approved) 494	Complete	494
I - Sense de Lieu Phase 1 (In Process) 511	In process	511
J - Sense de Lieu Phase 2 (In Process)	In process	U/D
K - Fraaigelegen (Approved)	Approved	1,572
L - River Farm (In Process)	In process	66
M - Levendal (Approved)	Approved	899
N - The Vines (Approved)	Approved	182
O - Val De Vie (Approved)	Complete	534
P - De Hoop (In Process)	Approved	3,646
Q - Pearl Valley 2 (Approved)	Approved	1,094
R - Pearl Valley 1 (Approved)	Complete	500
S - Safariland (In Process)	Approved	587
T - Bretagna Estate	Approved	232
Total		11,498

Table CZ. D.		ant Davialammanta	Courth Class	Cunational Area
Table 6/: Pr	cobosed and Curr	ent Developments	SOUTH CITY	Functional Area
	opoood and our	one bororopinonto		

Figure 57: Proposed and current Developments in Paarl South.





The South City Urban Concept as per the Drakenstein SDF (2015 - 2020) is depicted in the figure below. **Figure 58: Drakenstein South Spatial Framework** 

Source: Drakenstein SDF 2020

#### Table 68: Simondium Housing Project Pipeline

Name of project	Location of project	Type of project/Subsidy Mechanism	Nr of opportunities	Estimated Date of Delivery / Status of project	Project status
Portion 1 of Farm 1222 and Erf 941/4	Portion 1 of Farm 1222 and Erf 941/4 & Erf 115 (Simondium)	IRDP	1033	Planning Phase	Land acquisition has been granted. This project is part of the Simondium Erf 115 & Farm 941/4.

Figure 59: Human Settlements Project Pipeline - Simondium



Roads

## 4.4.3.2 Development Strategy – Big Moves

The South City Functional Area forms part of the South City Corridor Catalytic Zone. The following Big Moves are relevant to this Functional Area:

#### **Big Moves**

- South City Corridor:
  - Bulk Infrastructure Upgrades required for the proposed developments in the area;
  - Proposed development between the R301 and R45;
  - The proposed linkage between Schuurmansfontein Road and Watergat Road.

Proposed Prioritisation of "Big Moves" from Spatial Planning point of view (refer to Table 5):

- Priority 1 New: Investment in the South City Corridor Bulk Infrastructure will serve as a catalyst for further investment in the new area. These public investments should include the provision of bulk infrastructure, upgrading of the R301 and ensuring a public integration route, namely the Watergat/Schuurmansfontein Integration Route (past Madiba House). Public investment should be geared towards the creation of an integrated human settlement a live-work-play environment.
- Priority 4 Infill: Creation of the Watergat/Schuurmansfontein Integration Route

The following tables represent the implementation matrix for the various "Big Moves" within this Functional Area, which includes the following elements:

- Big Move;
- Key Performance Area.

#### Table 69: South City Corridor Implementation Matrix - Creation of a new city corridor between R301 and R45

Big Move	Creation of a new city corridor between R301 and R45 (Watergat / Schuurmansfontein Integration Route
Intended Impact - Indicators of Success	<ul> <li>Construction of bridge and public road;</li> <li>Construction of housing units;</li> <li>Inauguration ceremony attended by local, provincial and national spheres of government at Mandela House Tourism Node;</li> <li>Rates and tax base increasing for the area south of the N1;</li> <li>Construction of public facilities;</li> <li>Approval of re-naming of R301 by Competent Authority;</li> <li>Infrastructure upgrade and improvement of R301;</li> <li>Employment opportunities created;</li> <li>Incremental increase of number of residents using community/public facilities;</li> <li>Erection of signage and beautification of town gateways.</li> </ul>
Project, Programmes and Initiatives	<ul> <li>Attract investment for range of human settlements opportunities;</li> <li>Provision of public facilities within new south city corridor;</li> <li>Freedom Road project (R301 south of N1 – renaming and upgrade);</li> <li>Promotion of a commercial node;</li> <li>Development of Drakenstein cycle route as part of greater Bitou/Cape Town Cycle Route;</li> <li>Town Gateways;</li> </ul>

Big Move	Creation of a new city corridor between R301 and R45 (Watergat / Schuurmansfontein Integration Route
	<ul><li>Mountain Slope Study;</li><li>South of the N1 Local SDF.</li></ul>

#### Table 70: South City Corridor Implementation Matrix - Investment in South City Corridor Bulk Infrastructure

Big Move	Investment in South City Corridor Bulk Infrastructure
Intended Impact - Indicators of Success	Provision of basic services to all residents within the South City Corridor.
Project, Programmes	Commissioning of new N1 132/6611kV80MVA Substation;
and Initiatives	Courtrai – Levendal/Val de Vie, Simondium, Paarl bulk pipeline;
	Bulk water pipeline and 2MI reservoir – Simondium (Phase 1);
	<ul> <li>Extension of reticulation system, Simondium (Phase 2);</li> </ul>
	<ul> <li>Upgrading of Waste Water Treatment Works to ensure sufficient capacity for future developments and eradicating maintenance backlogs especially at Paarl WWTW;</li> </ul>
	Boreholes and 0.5MI Reservoirs – 1x Simondium.

## 4.4.3.3 Intended Impacts

The Watergat/Schuurmansfontein Integration Route as indicated in the SDF and prioritised in the IDP proposes a spatial link to connect communities to the east (Simondium) and west (along the R301) of the Berg River. This public route will also provide a further additional link to the Stellenbosch Municipal Area. The subsequent provision of bulk services in the area will also unlock development opportunities in the Simondium area, which could link up/connect with the Groot Drakenstein and Meerlust housing project located within the Stellenbosch Municipal Area. Again, an opportunity can be created to address the dire need for farmworker housing in an integrated manner in the Simondium/Groot Drakenstein Area, should transport linkages and bulk services be prioritised by both municipalities. Working together on this common goal can result in benefits for both municipalities with greater motivation for MIG funding, housing subsidies and other funding options. It is also noteworthy that the Drakenstein Municipality supplies and is responsible for providing electricity (including the related infrastructure) to areas located within the Stellenbosch Municipal Area.

In addition to the intended impacts of each of the Big Moves, the following impacts of the planned investment need to be emphasised:

- Major expansion of the municipal revenue base to strengthen municipal financial sustainability;
- Integration of the east and west of the Functional Area and improvement in public accessibility currently there are only private routes that are utilised by residents of the Gated Communities that provide throughfare;
- Commercial Economic activity nodes, community facilities and services infrastructure concentrated around the R301 development corridor at strategic intersections.

## 4.4.4 South City Technical Assessment

## 4.4.4.1 Water

## 4.4.4.1.1 Capacity: Water

### Available supply

The South City Functional Area purchases water in bulk from the City of Cape Town's Wemmershoek scheme. The water is stored in the Pearl Valley reservoirs and distributed to users. A part of the Functional Area is serviced from the Courtrai reservoirs.

### Bulk assets

This section gives a high-level overview of the bulk assets. The overview includes the replacement cost and remaining useful life (RUL) of the assets. The table below indicates the existing bulk assets for the Functional Area. The data is based on the Drakenstein Water Master Plan and Water Services Development Plan.

#### Table 71: Bulk assets: Replacement cost and RUL

BULK PIPES								
			RUL≤5 years			RUL: 6-10 years	5	
Pipe length	Replacement Cost		Replacement	Replacement Cost		Replacement		
(m)	(Rand)	% of assets	Length (m)	(Rand)	% of assets	Length (m)	Replacement Cost	
3600	R 28,532,694.61	19%	697	R 5,527,796.35	32	% 1159	R 9,189,575.73	

#### Network assets (distribution and reticulation)

The system is operated in 4 zones. There is 1 set of reservoir zones, 2 Pressure Reducing Valve (PRV) zones, and one zone that is supplied with water directly from the Wemmershoek scheme.

A reservoir storage capacity of 8.3 MI is available in the Paarl South Functional Area.

The tables below presents a high-level overview of the network/reticulation assets. The overview includes the replacement cost and remaining useful life (RUL) of the assets. The data is based on the Drakenstein Water Master Plan and Water Services Development Plan.

#### **Table 72: Reticulation Assets**

RETICULATION ASSETS: PIPES							
Pipes <175mmØ		Pipes ≥ 175mmØ		Erf connections			
Length (km)	Cost (Rand)	Length (km)	Cost (Rand)	Number	Cost (Rand)		
71	R 38,710,220.55	23	R 52,597,674.7	5313	R 16,399,871.58		
RETICULATION ASSETS: PIPES RUL							
RUL≤5 years			RUL: 6-10 years				
Replacement		Reticulation		Erf	Reticulation		
Length (km)@	Erf connections	Replacement Cost	Replacement Length (kn	n) connections	Replacement Cost		
11%	@ 13%	(Rand)	@ 12%	@ 53%	(Rand)		
10	691	R 12,175,851.79	11	2816	R 19,648,879.38		
		RETICULATION AS	SSETS: PUMP STATIONS				
	RIII < 5 years RIII : 6-10 years						
r		RU	L≤5 years	RUL: 6	5-10 years		
Pump station	Replacement Cost	RU	L≤5 years	RUL: 6	5-10 years		
Pump station capacity (I/s)	Replacement Cost (Rand)	RU% of assets	L ≤ 5 years Replacement Cost (Ran	RUL: (	5-10 years Replacement Cost		
Pump station capacity (I/s) 0.00	Replacement Cost (Rand) R -	RU % of assets 76%	L ≤ 5 years Replacement Cost (Ran R -	RUL: 6	5-10 years Replacement Cost R -		
Pump station capacity (I/s) 0.00	Replacement Cost (Rand) R -	RU % of assets 76%	L ≤ 5 years Replacement Cost (Ran R -	RUL: (	5-10 years Replacement Cost R -		
Pump station capacity (I/s) 0.00	Replacement Cost (Rand) R -	RU % of assets 76% RETICULATION	L ≤ 5 years Replacement Cost (Rand R - ASSETS: RESERVOIRS	RUL: 6	5-10 years Replacement Cost R -		
Pump station capacity (I/s) 0.00	Replacement Cost (Rand) R -	RU % of assets 76% RETICULATION RU	L ≤ 5 years Replacement Cost (Rand R - ASSETS: RESERVOIRS L ≤ 5 years	RUL: (	5-10 years Replacement Cost R -		
Pump station capacity (I/s) 0.00 Reservoir	Replacement Cost (Rand) R - Replacement Cost	RU % of assets 76% RETICULATION RU	L ≤ 5 years Replacement Cost (Rand R - ASSETS: RESERVOIRS L ≤ 5 years	RUL: (	5-10 years Replacement Cost R - 5-10 years		
Pump station capacity (I/s) 0.00 Reservoir capacity (kl)	Replacement Cost (Rand) R - Replacement Cost (Rand)	RU % of assets 76% RETICULATION RU % of assets	L ≤ 5 years Replacement Cost (Rand R - ASSETS: RESERVOIRS L ≤ 5 years Replacement Cost (Rand	RUL: 6 N of assets 17% RUL: 6 N of assets	5-10 years          Replacement Cost         R         -         5-10 years         Replacement Cost		

### **Existing and Future Demand**

The table below summarises the current and future water demand of the Functional Area. The future demand values are based on potential future development up to 2030 as per the Drakenstein Water Master Plan.

#### Table 73: Existing and Future demand for the Functional Area

Water Demand - Paarl South										
	Low low	Low	Middle	High	Business &					
	Income	Income	Income	Income	Industrial	Other	Losses	Total	Unit	
Existing number of households 2016	110	437	867	466				1880	units	
Existing non-residential area					75	344		419	ha	
Existing Water AADD	59	236	802	718	386	1115	501	3817	kl/d	
Future Projected number of households 2030	719	1938	2989	1006				6651	units	
Future Estimated non-residential area					119	361		480	ha	
Future Water AADD	388	1045	2764	1549	1218	3532	1588	12083	kl/d	
Increase in AADD	328	809	1962	831	832	2417	1086	8266	kl/d	

The split between land use is based on the Drakenstein Annual report, which indicates water use per sector. The residential component is also split further based on typical increases in water demand as the end-user income level increases. The split percentages used are tabled below. The total water demand reflects actual demand as quoted in the Drakenstein Water Master Plan.

#### Table 74: Water demand split percentages

		Business &		
Land use	Residential	Industrial	Other	Losses
Percentage split	48%	10%	29%	13%
Residential	Low low		Middle	
Income level	Income	Low Income	Income	High Income
Percentage split	15%	15%	26%	43%

Approximately 19% of the bulk supply is Unaccounted for water (UAW). Measurements were taken over one year (Jul 2014 to Jun 2015) to determine to the percentage of UAW.

The Drakenstein water master plan states that the existing South City water distribution system has insufficient capacity to supply the future water demands for the fully occupied scenario and the additional future development areas. Projects are identified and prioritised in the Water master plan to address shortfalls in water infrastructure as development commences.

## 4.4.4.1.2 Backlog in Access to Services: Water

There is only a few informal settlements in the South City Functional Area. However, these informal settlements are situated on private land. All the informal settlement backlog is addressed under the main Paarl Functional Area.

Backlog for the South City area is only to upgrade and improve water services in the Simondium area. Nevertheless, no service levels in the area are currently below the required minimum.

## 4.4.4.1.3 Backlog in Asset Management: Water

From the tables provided regarding the infrastructure of the Functional Area, it is evident that various assets have a remaining useful life of fewer than 5 years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The backlog for asset management is addressed in the project list provided in the next section. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list. The asset management backlog projects are typically identified in the master plan or by the municipality.

## 4.4.4.2 Wastewater

## 4.4.4.2.1 Capacity: Wastewater

### Available supply

Each urban centre in Drakenstein Municipality operates in as a main drainage area and is serviced by its own Wastewater Treatment Plant (WWTP). The South City Functional Area comprises a Waste Water Treatment Plant at Pearl Valley, which services Val de Vie and Pearl Valley estates with various private pumping stations.

Two other areas in the South City Functional Area (the Boschenmeer golf estate and Paarl South 1 as defined in the Sewer Master plan) have pumping stations which pump wastewater to the Paarl Wastewater Treatment Plant. A new bulk sewer line adjacent to the R301 and Berg river (Paarl South Bulk Sewer Project) will unlock various developments in the South City Functional Area.

#### Bulk assets

The bulk assets for the South City area is the Pearl Valley Wastewater Treatment Plant as well as the bulk drainage pipes in the network. For the wastewater network, the Drakenstein Sewer Master Plan splits the sewer pipes between smaller than 175 mm diameter and larger than 175 mm diameter pipes. For this

assessment, all pipes larger than 175 mm diameter are assumed to be bulk pipes, as these pipes are typically outfall sewers collecting a network of smaller (160 mm diameter) pipes. The table below indicates all the bulk pipes with a replacement cost and remaining useful life (RUL). The data is based on the Drakenstein Sewer Master Plan and Water Services Development Plan.

#### Table 75: Bulk sewer assets

	BULK SEWER (≥ 175mmØ )										
			RUL≤5	5 years		RUL: 6-10 years					
Pipe Length			Replacement			Replacement					
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)				
8.8	R 35,490,477.12	15%	1.35	R 5,449,184.54	0%	0.034295445	R 138,313.83				

#### **Network assets**

The drainage area comprises various networks of gravity mains feeding the pump stations, which in turn deliver wastewater through a series of rising mains to the Pearl Valley WWTP and Paarl WWTP.

This section provides a high-level overview of the wastewater network assets in the Functional Area. All pipes smaller than 175 mm diameter, pump stations and erf connections are shown in the tables below. The tables indicate the replacement cost and the remaining useful life of the assets. The data is based on the Drakenstein Sewer Master Plan and Water Services Development Plan.

#### Table 76: Network sewer assets

	SEWER PIPELINES < 175mmØ								
			RUL≤5	5 years		RUL: 6-1	0 years		
Pipe Length			Replacement			Replacement			
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)		
23.65	R 38,971,121.59	10%	2.25	R 3,709,685.73	0%	0	R -		
PUMP STATIONS									
			RUL≤5	5 years		RUL: 6-1	0 years		
Capacity (I/s)	Replacement Cost (Rand)	% of assets	Replac	ement Cost (Rand)	% of assets	Replac	ement Cost (Rand)		
119	R 13,454,736.84	26%	R	3,448,749.01	4%	R	474,040.34		
	ERF CONNECTIONS								
			RUL≤5	years		RUL: 6-1	0 years		
Number of			Replacement			Replacement			
connections	Replacement Cost (Rand)	% of assets	Number	Replacement Cost (Rand)	% of assets	Number	Replacement Cost (Rand)		

#### **Existing and Future Demand**

3,915,911.08

1804

R

The table below summarises the current and future sewage yield of the Functional Area. The future sewage yield values are based on potential future development up to 2030 as per the Drakenstein Sewer Master Plan.

372,758.05

0%

0

R

Table 77: Existing and Future sewage yield for the Functional Area

10%

172

R

Sewage yields - Paarl South									
	Low low	Low	Middle	High	Business &		Water		
	Income	Income	Income	Income	Industrial	Other	Ingress	Total	Unit
Existing number of households 2016	110	437	867	465				1880	units
Existing non-residential area					75	344		419	ha
Existing Water PDDWF	28	111	379	339	182	527	237	1805	kl/d
Future Projected number of households	719	1938	2989	1006				6651	units
Future Estimated non-residential area					87	361		448	ha
Future Water PDDWF	183	494	1308	733	212	1671	751	5353	kl/d
Increase in PDDWF	155	383	928	394	29	1144	514	3548	kl/d

For this assessment, it is assumed that the sewage yields are directly proportionate to the water demand per land use and income level. Consequently, the same split percentage applied to the water demand indirectly applies to the sewage yield. However, the total sewage yield reflects actual sewage yield as quoted in the Drakenstein Sewer Master Plan.

The Drakenstein Sewer Master Plan states that upgrades are required according to the additional future developments. Projects are identified and prioritised in the sewer master plan to address shortfalls in sewer infrastructure as development commences.

## 4.4.4.2.2 Backlog in Access to Services: Wastewater

As mentioned in the water backlog section, there are only a few informal settlements on private land in the South City Functional Area.

No service levels in the area are currently below the required minimum. Thus, there are no backlogs in terms of the provision of access to wastewater services.

Projects in the area are to increase capacity to allow for further developments, which indirectly will address housing backlogs in the greater Paarl area.

## 4.4.4.2.3 Backlog in Asset Management: Wastewater

From the tables provided regarding the wastewater infrastructure of the Functional Area, it is evident that various assets have a remaining useful life of fewer than 5 years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The backlog for asset management is addressed in the project list provided in the next section. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list. The asset management backlog projects are typically identified in the master plan or by the municipality.

## 4.4.4.3 Electricity

The Drakenstein Electrotechnical Department is responsible for the distribution of electricity to the Functional Area – South City. This Functional Area's electricity is supplied by the Parys, Dwarsrivier and Kliprug Substations.

The current level of service is:

- Residential: Grid Electricity Service connected and metered (conventional and pre-paid);
- Commercial and Industrial: Grid Electricity Service connected and metered (conventional and pre-paid);
- Institutional and Public Service: Grid Electricity Service connected and metered (conventional).

## 4.4.4.3.1 Backlog in Access to Services: Electricity

The housing demand (Drakenstein Municipality, 2015) was estimated at 22,079 with a required average of 2,270 units per year over a ten-year period.

According to Table 6: Housing delivery in Drakenstein of the Electrical Masterplan, housing delivery up to the 2016/17 financial year was 572 units per year.

All formal households within the South City Functional Area have household electricity connections. The current backlog is therefore assumed to be a backlog in housing delivery and new informal dwellings within this area.

In 2019, a total of 270 informal households were identified and to date 236 (87%) electricity connections have been completed with a backlog of 34 connections. The outstanding connections are new households in old settlements and a new settlement.

## 4.4.4.3.2 Backlog in Asset Management: Electricity

Backlog in Asset Management in the South City Functional Area is minimal as most developments are less than 20 years old. Replacement of overhead lines and-pole mounted transformers to the farming community is ongoing.

## 4.4.4.3.3 Capacity: Electricity

Substation Name	Installed Capacity (n-1) [MVA]	Current loading [MVA]	Spare Capacity (n-1) [MVA]
Parys	50	47	3
Dwarsrivier	20	10.2	9.8
Kliprug	20	4.5	15.5

#### Table 78: Functional Area 3 – Bulk Substations Capacity

As shown in the table above, Parys is nearing its capacity and with multiple housing and associated projects approved in the area, a switching station and future substation are planned in the region of the Boschenmeer Estate N1.

A 11kV switching station is currently under construction at Carolina Road.

The new substation will be a 132/66/11 kV transformation to:

- enable a new supply point from the Eskom Safariland 132 kV Substation;
- allow for a ring feed between the new substation, Suidend and Parys.

Also, in planning is the upgrade of the 4 x 15 MVA transformers at the Parys 66/11 kV Substation to 4 x 20 MVA transformers to increase capacity by 15 MVA under n-1 contingency.

The newly built Kliprug 132/66 kV Substation has been reserved for development of the Val de Vie Estate.

## 4.4.4.4 Roads and Stormwater

## 4.4.4.4.1 Capacity: Roads and Stormwater

This section of the report includes all stormwater infrastructure, including channels, pipes and inlets. The roads of the Functional Area are addressed in the transportation section of the technical assessment.

### **Bulk assets**

The Functional Area is situated around the Berg River. All stormwater is directed towards the river with channels and underground stormwater pipes. For this report, bulk stormwater is all pipes larger than 600mm in diameter. The table below lists the bulk stormwater pipes and their estimated remaining useful life. The remaining useful life of all stormwater assets is based on the typical conditions of stormwater infrastructure as investigated in the asset portfolio analysis (2013).

#### Table 79: Bulk stormwater pipes and remaining useful life

	Pipes > 600mmØ								
Pipe			RUL ≤ 5 yea	rs		RUL: 6-10 ye	ars		
Length			Replacement	Replacement		Replacement	Replacement		
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Cost (Rand)	% of assets	Length (km)	Cost (Rand)		
2.38	R 2,778,922.88	7%	0.17	R 194,524.60	7.0%	0.17	R 194,524.60		

#### Network assets

The Functional Area comprises various underground stormwater pipes, typically 100D concrete specification pipes. The table below summarises all the pipes in the Functional Area and gives an indication of the replacement cost and typical remaining useful life of the assets.

			Pipes < 37	75mmØ			
Pipe			RUL ≤ 5 yea	rs	RUL: 6-10 years		
Length			Replacement	Replacement		Replacement	Replacement
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Cost (Rand)	% of assets	Length (km)	Cost (Rand)
33.27	R 38,904,920.27	7%	2.33	R 2,723,344.42	7%	2.328965087	R 2,723,344.42
			Pipes = 4	50mmØ			
Pipe			RUL ≤ 5 yea	rs		RUL: 6-10 ye	ars
Length			Replacement	Replacement		Replacement	Replacement
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Cost (Rand)	% of assets	Length (km)	Cost (Rand)
4.75	R 5,557,845.75	7%	0.33	R 389,049.20	7.0%	0.33	R 389,049.20
			Pipes = 52	25mmØ			
Pipe			RUL ≤ 5 yea	rs		RUL: 6-10 ye	ars
Length			Replacement	Replacement		Replacement	Replacement
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Cost (Rand)	% of assets	Length (km)	Cost (Rand)
4.75	R 5,557,845.75	7%	0.33	R 389,049.20	7.0%	0.33	R 389,049.20
			Pipes = 60	00mmØ			
Pipe		RUL ≤ 5 years RUL: 6-10 years					ars
Length			Replacement	Replacement		Replacement	Replacement
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Cost (Rand)	% of assets	Length (km)	Cost (Rand)
2.38	R 2,778,922.88	7%	0.17	R 194,524.60	7.0%	0.17	R 194,524.60

#### Table 80: Stormwater network pipes with remaining useful life and replacement cost

Other than the underground stormwater pipes, there are other stormwater assets in the Functional Area such channels (earth and concrete). Further assets include inlets and outlets to the stormwater underground networks, as well as manholes connecting the pipes. A summary of other stormwater assets is given below. The list of assets includes an indication of the replacement cost as well as the estimated remaining useful life of the assets.

#### Table 81: Other stormwater network assets with remaining useful life and replacement cost

			Chan	nels			
Channel			RUL ≤ 5 yea	rs		RUL: 6-10 ye	ars
Length			Replacement	Replacement		Replacement	Replacement
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Cost (Rand)	% of assets	Length (km)	Cost (Rand)
5.58	R 22,052,576.57	7%	0.39	R 1,543,680.36	7.0%	0.39	R 1,543,680.36
	Manholes						
			RUL ≤ 5 yea	rs		RUL: 6-10 ye	ars
Number of			Replacement	Replacement		Replacement	Replacement
manholes	Replacement Cost (Rand)	% of assets	Length (km)	Cost (Rand)	% of assets	Length (km)	Cost (Rand)
543	R 9,421,850.09	7%	38.04	R 659,529.51	7.0%	38.04	R 659,529.51
			Inlet and	others			
			RUL ≤ 5 years RUL: 6-10 years				ars
			Replacement	Replacement		Replacement	Replacement
Number	Replacement Cost (Rand)	% of assets	Length (km)	Cost (Rand)	% of assets	Length (km)	Cost (Rand)
1141	R 13,192,499.32	7%	79.89	R 923,474.95	7.0%	79.89	R 923,474.95

### **Existing and Future Demand**

The existing stormwater systems in the Functional Area are mostly sufficient for the current scenario. The 1:20, 1:50 and 1:100 floods have been analysed for the area.

It is important that any new development must be evaluated to consider the impact of stormwater runoff after development. Ideally, the development should include flood peak attenuation methods to release only a flow equal to no more than the 1:2 year pre-development runoff peak flow.

## 4.4.4.4.2 Backlog in Access to Services: Stormwater

There is no clearly defined backlog in terms of stormwater infrastructure. Typically, the infrastructure will form part of other projects such as road upgrades or housing developments. Large area housing projects can have a significant impact on runoff parameters and larger detention dams may be required.

Furthermore, it is possible that some of the main Paarl area housing projects can be implemented on land acquired in the South City area. Typically, most stormwater requirements form part of the housing project itself. However, if any other stormwater upgrades or larger stormwater projects are required for housing projects in the future, they must be included in the municipality's project list.

## 4.4.4.3 Backlog in Asset Management: Stormwater

From the tables provided regarding the stormwater infrastructure of the Functional Area, it is evident that various assets have a remaining useful life of fewer than 5 years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list.

## 4.4.4.5 Transportation

## 4.4.4.5.1 Backlog in Access to Services: Transportation

Existing development strategies and policy documents list a number of transport-related challenges that prevent access to services for the South City Functional Area:

Public Transport	Improved access to the IPTN and public transport-related information;
	The road based public transport is dominated by Minibus Taxi industry;
	<ul> <li>Limited public transport services during off-peak periods;</li> </ul>
	<ul> <li>Public transport is not universally accessible;</li> </ul>
	<ul> <li>Only two rail services being rendered on the railway line through this Functional Area, one outbound in the morning and inbound in the afternoon/evening.</li> </ul>
Learner transport	Little information available about the learner transport services.
Freight	Existing road network does not support the movement of heavy vehicles adequately.
NMT	<ul> <li>Limited NMT infrastructure in rural areas and poor linkage to public transport;</li> </ul>
	NMT infrastructure is not continuous and not universally accessible;
	<ul> <li>Safety and security;</li> </ul>
	Improve NMT infrastructure across railway to allow safe crossing.
Road Network	Poor east-west connectivity within this Functional Area:
	To improve the east-west connectivity the creation of the Watergat/Schuurmansfontein integration route with bridge across the Berg River is required.

## 4.4.4.5.2 Backlog in Asset Management: Transportation

The backlog in asset management as listed in the reference documents is summarised in the table below.

Public Transport		Accept and implement the IPTN.
Public T Infrastructure	ransport	<ul><li>Inadequate long-distance facilities for waiting passengers;</li><li>Lack of shelter at existing facilities.</li></ul>
Freight		Provide supporting infrastructure for logistics and transport.
NMT		<ul><li>Lack of NMT infrastructure and poor maintenance thereof;</li><li>NMT infrastructure is not universally accessible.</li></ul>

Transport for Tourism	-	Street name signs and tourism signage.
Road Network		Some proclaimed main roads require upgrading;
	-	Reconstruction of streets.

## 4.4.4.5.3 Capacity: Transportation

A Roads Master Plan, prepared by ITS Engineers, shows all the roads and planed development within this Functional Area (Figure 60). It should be noted that this plan is a draft and has not yet been adopted by the Municipality. The extensive residential development planned to take place within this Functional Area requires additional public east–west and north–south linkages shown below.

#### Figure 60: Functional Area 3 Road Links



A public transport network connecting Functional Area 3 to other Functional Areas within Drakenstein is necessary to enable cross-boundary movements.

## 4.4.4.6 Solid Waste

Level of Service	•	All formal erven are serviced by a black bag removal system at least once a week by the Drakenstein Municipality;
	•	Informal erven are serviced by a drum or central skip removal service at least once a week by the Drakenstein Municipality.

## 4.4.4.6.1 Backlog in Access to Services: Solid Waste

The Wellington Landfill site services the entire Municipality and has reached its final licensed capacity. The Municipality is in the process of applying for an increase in allowed landfill height.

Access to refuse removal services in informal settlements in this area needs to be improved.

## 4.4.4.6.2 Backlog in Asset Management: Solid Waste

The management of the Wellington Landfill facility is currently by the Drakenstein Municipality. The Municipality is in the process of outsourcing the management through a 3-year contract.

A large portion of the Municipality's collection fleet is older than 8 years and therefore maintenance and repairs are a challenge. These vehicles are being replaced on a continuous basis.

## 4.4.4.6.3 Capacity: Solid Waste

There is only one landfill site, namely the Wellington Landfill site, which will need to be decommissioned in 2020. An extension to this landfill is planned for the medium term and a new landfill is planned for the long term.

There is a refuse transfer station (RTS), Materials Recovery Facility (MRF) and composting facility situated in Paarl run by the Municipality.

The number of trucks is sufficient to adequately service the area.

## 4.4.4.7 Social and Economic Infrastructure

In general, residents of this area have very limited access to social facilities. The social facilities are located within the main urban areas. Residents must travel towards the Paarl CBD if they want to access social facilities. The existing social facilities within this Functional Area include a Church, Satellite Clinic, Satellite Library and two Primary Schools. The majority of these social facilities are located within the Simondium Node.

With the high population growth rate that is expected for this area, the provision of social facilities will become clearer. Adequate planning has to be done to ensure that this is taken into consideration. It has to be noted, however, that the proposed development that will take place within this Functional Area will be through the development of Gated Communities. Whether the provision of social facilities will be made accessible to the rest of the public that is not part of the Gated Community remains to be determined.

## 4.4.4.7.1 Backlog in Asset Management: Social and Economic Infrastructure

According to the IDP (2018/19: 93), the following is applicable to the management and maintenance of Municipal and Public Facilities:

"On an annual basis provision is made in the annual capital and operational budgets for maintenance and upgrading of council owned properties and facilities. Community needs as well as regular inspections conducted at facilities are used to inform the budget".

In terms of Asset Care (Maintenance) Plans, according to the Drakenstein Asset Management Status Quo Report June 2016, assets managed by departments other than the civil and electro-technical departments, mostly buildings and community facilities, do not have preventive maintenance plans in place and maintenance is mostly reactive.

## 4.4.4.7.2 Capacity and Backlog: Social and Economic Infrastructure

The IDP (2018/19) indicates the following projects for this Functional Area:

- Project: Construction of Simondium Community Hall;
- Establish a Sport field at local school in Simondium;
- New Tennis Courts at Boy Louw Sports Facility;
- Construction of De Kraal Sports Facility.

Most of the facilities required to address backlog in access to the facilities require new facilities. There are, however, exceptions where only upgrading existing facilities may suffice in order to address the demands.

The community and social facility requirements for the South City (including the Simondium Area) area are set out below. Based on the current provision, there is a potential demand for both primary and secondary schools. The future requirements for South City were determined purely on the population threshold information for the various facilities as set out in the previous section.

### Table 82: South City Community and Social Facility Requirements

Facility	Short Term (2020 – 2025)	Medium Term (2025 – 2030)
Primary School	1	1
Secondary School	-	1
Clinics	-	-
Secondary School	-	-
Local Library	-	-

## 4.4.4.8 Consolidated 10-year Capital Requirements

The following table summarises the capital requirements from all sectors for this Functional Area, for the purpose of developing investment programmes.

Infrastructure Sector	202	1/22	22	/23	23	/24	24	/25	25	/26	26/27		27/28		28/29		29/30		30/31	
South City Corridor	-	0%	-	0%	-	0%	-	0%	•	0%	147,270,035	9%	138,680,035	9%	136,973,900	10%	104,810,970	8%	104,810,970	9%
Water	-		-		-		-		-		86,721,879	59%	83,546,879	60%	82,596,879	60%	89,040,212	85%	89,040,212	85%
Waste Water	-		-		-		-		-		55,175,886	37%	49,760,886	36%	50,254,751	37%	11,648,487	11%	11,648,487	11%
Energy/Electricity	-		-		-		-		-		4,122,270	3%	4,122,270	3%	4,122,270	3%	4,122,270	4%	4,122,270	4%
Social and Economic Infrastructure	-		-		-		-		-		1,250,000	1%	1,250,000	1%	-	0%	-	0%	-	0%

Table 83: South City consolidated 10-year capital investment requirements per sector

Please note: The project locations are currently being verified and will only be finalised for the 2022/2023 submission. The implication being that many projects may are currently allocated to the "various/municipal wide" functional area which could potentially be reallocated once verified, creating a more informed picture of the capital requirements per geographical area

# 4.5 Functional Area 4: Rural Hinterland

## 4.5.1 Existing Situation

The Rural Hinterland Functional Area consists of the hamlets and farming areas in the Drakenstein Municipality and include Windmeul, Hermon, Gouda, Saron and Bainskloof Village. These areas from part of the Hinterland Catalytic Zone.

Figure 61: IDP Vision Hinterland Catalytic Zone





Source: Adapted from the Drakenstein Municipality Zoning Scheme By-Law (May 2018)

The Hinterland Functional Area constitutes 93% of the total municipal area, making it the largest Functional Area. This Functional Area is dominantly rural in nature, with 75% of its population residing in farm areas. The estimated population is 55,453 people in the Functional Area in 2020 and is expected to increase to 56,104 people by 2030 (1.2% growth in population from 2020 to 2030). The population density of this area is 36 people per square kilometre. More than half of the households in this Functional Area earn less than R3,200 per month, with 43% falling in the low-income bracket and 9% in the low-low-income bracket.



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## 4.5.1.2 Windmeul

Windmeul is a small hamlet strategically located at the intersection of the R44 and the MR 281, which eventually becomes Paarl Main Road. The settlement serves as a service centre for the surrounding intensive farming area, where the produce is mainly wine and table grapes. Although the pressure for residential estate development has eased off, it is likely to resurface, should the property market regain its buoyancy, due to its location on the R44 and its scenic setting. In addition, the need for subsidised housing for farmworkers and rural dwellers from the surrounding area has been identified in the original 2001 SDF for Windmeul, which is likely to have increased as no subsidised housing projects have been undertaken in this settlement since 2001. A major constraint to development at this node is the lack of bulk water supply and sewerage services. Off-grid rural lifestyle development should be considered so as to add to the critical mass of the village and support local services and businesses. In terms of electricity, the existing 11 kV networks must be upgraded to supply development in this area.



#### Figure 63: Windmeul Zoning

Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)

Figure 64: Windmeul Spatial Framework



Source: Drakenstein Spatial Development Framework, 2020

## 4.5.1.3 Hermon

Hermon is a very small hamlet situated at the intersection of the R44 and the R46 to Riebeek Kasteel. The town has its origins as a mission station (Rondeheuwel), from where it developed into a local service centre for the farming community related to the railway line. Hermon has a distinct sense of place with the potential to attract limited tourism activities and possibly businesses and industries interested in alternative technologies. The key to the future of this hamlet is to retain this sense of place and build on the tourism/green industry potential without comprising its scale and character. This area is serviced by ESKOM.

Figure 65: Hermon Zoning Map



Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)



### Figure 66: Hermon Spatial Framework

Source: Drakenstein Spatial Development Framework, 2020

## 4.5.1.4 Gouda

Gouda is predominantly a residential rural town established in support of the agricultural activities in the surrounding area. The historically coloured eastern portion of the town is characterised by two distinct residential areas – a southern low-density area and the northern higher-density area dominated by low-income subsidised housing development. Business development in the eastern portion of the town is non-existent, with the only economic activity a fruit storage and packaging facility, five shopping facilities and a hotel located in the western portion of town. The town is also marketed for tourists, with the nearby Voëlvlei Dam and Berg River being excellent venues for swimming, fishing, canoeing and yacht sailing, while the mountains are perfect for hiking, bird watching and finding wild flowers like proteas and other rare and endangered species, including snakes, baboons, and cheetahs. Gouda cheeses can be bought from local grocery stores, while tourists can enjoy the small-town hospitality, tranquillity and safety. The local hotel and guesthouses supply ample accommodation and the village has a railway station with a regular train service to and from Cape Town.

Gouda is strategically located at the intersection of the R46 to Tulbagh and the R44 to Saron and Porterville. This town has its origins as a service centre for the surrounding farming area at the railway station. As such the town has attracted some agri-processing in the past (Del Monte canning), but changes in consumer preferences and the global economic downturn has led to the closure of this business. The town is characterised by a typical apartheid separation of former white and black areas, with the black areas removed from the old town centre, where some economic activity still takes place. Given the limited economic opportunities in the town, the large demand for housing is worrying. It seems unlikely that new agribusiness will be attracted to the town, but the town could capitalise on its excellent location along the R44 freight route, and facilities such as its road freight weigh bridge, service station and truck stop could bring new investment and business to the town. The approved wind farm presents an opportunity for further investment and job opportunities for Gouda. This area is serviced by ESKOM.



Figure 67: Gouda Zoning Map

Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)

### Figure 68: Gouda Spatial Framework



Source: Drakenstein Spatial Development Framework, 2020

Table 84: Gouda Hous	sing Project Pipeline
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Name of project	Location of project	Type of project/Subsidy Mechanism	Nr of opportunities	Estimated Date of Delivery / Status of project	Project status
Gouda IRDP	Erf 1245 (Gouda)	IRDP	420	Phase 1 Concluded. Discussions on- going as to when Phase 2 will be developed.	Phase 1 (150 units) completed. Portion of the next phase be used for emergency housing. Consideration to absorb informal settlement into Emergency Housing component.
Gouda Emergency Housing	Erf 1245 (Gouda)	IRDP	25	Funding application submitted to Provincial Department of Human Settlements. Once approved, planning to commence.	Provision was to be made for this project on the Business Plan for the Implementation in the 2018/19 Financial Year. Project is part of the Gouda IRDP



## 4.5.1.5 Saron

Saron is a historically coloured settlement area and the town is steeped in history. A low-density middle- to high-income residential area is located at the entrance and to the north of the only entrance road into town. The older residential area is located in the northeastern portion of the town with the latest addition, a subsidised residential development of some 600 housing units, located to the southeast. Industrial development is non-existent, and business development is limited to eight general dealers spread across the town.

The historic settlement of Saron has been in relative decline due to a variety of factors, including changes in lifestyles, loss of the town's water rights and the state of the economy. The key assets of this town are its historic buildings, pattern of development (garden allotments) and its setting in a scenic rural landscape and these should be preserved at all costs. Investment should focus on skills development and socio-economic opportunities for the resident community. Excessive growth should be resisted – infill development can be allowed, but the urban footprint should not expand. Key interventions would be investment in the public realm – particularly in the historical core, and approach routes to the town, and the supporting eco/ adventure tourism opportunities. The whole town and its surrounding commonage are currently the subject of a land claim which will probably take a substantial number of years to resolve. The commonage provides opportunities for a variety of farming opportunities at various scales and should be preserved for the benefit of the whole community in the long term – urban development should not be allowed. Major bulk water services, including WWTW and reservoir capacity, are required for the existing town plan for 5 - 10 years. This area is serviced by ESKOM.



#### Figure 69: Saron Zoning Map

Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)

### Figure 70: Saron Spatial Framework



Source: Drakenstein Spatial Development Framework, 2020)

### Table 85: Saron Housing Project Pipeline

Name of project	Location of project	Type of project/Subsidy Mechanism	Nr of opportunities	Estimated Date of Delivery / Status of project	Project status
Saron IRDP	Saron	IRDP	350	Preliminary planning phase	In the process of submitting the project application to Council. Project consists of four vacant land parcels.




Form Portion





# 4.5.1.6 Bainskloof Village

The historic village of Bainskloof provides access to the sport and recreation opportunities of the Hawequa Mountains. Whereas no further development should be allowed so as protect the sense of place of the historic village and surrounding conservation area, investment in the public areas would be appropriate to celebrate this gateway to the mountain. Only limited infrastructure services are available at Bainskloof. Water source cannot be extended. This area is serviced by ESKOM.





Source: Drakenstein Municipality Zoning Scheme By-Law (May 2018)

Figure 72: Bainskloof Village Spatial Framework



Source: Drakenstein Spatial Development Framework, 2020

# 4.5.2 Current Challenges

- The main challenges experienced in the rural hinterland Functional Area include infrastructure challenges, followed by lack of economic growth and employment opportunities, as well as lack of social development and social cohesion;
- Rural areas in Drakenstein have suffered economic decline and there is strong evidence of rural-urban migration. Agriculture, as a key economic sector, has been subject to declining growth over the past 10-15 years due to a variety of factors. This has meant that the agriculture sector cannot offer the employment opportunities it used to;
- Rural residents have poor access to different modes of transport. They are often excluded from economic opportunities due to the lack of adequate public transport, especially Gouda, Hermon and Saron, which are all located towards the northern region of the Municipality. High transport costs to the main urban centres/economic activity often make it financially unviable;
- Currently, tourism is predominantly focused in the urban areas of Paarl and Wellington, and rural towns such as Hermon, Gouda and Saron are often excluded from proposed tourism initiatives.

# 4.5.3 Future Situation

# 4.5.3.1 Estimated Household Growth and land budget 2030

The following provides the estimated household growth and land budget requirements for 2030 for the total rural hinterland Functional Area.



### Table 86: Rural Hinterland Household Growth Profile and Demand for Residential

Household Growth and Profile							
	Low-low Income	Low Income	Middle Income	High Income	Total		
Existing number of households 2016	1,300	6,027	5,716	1,080	14,123		
Projected number of households 2030	1,469	6,808	6,456	1,220	15,953		
Estimated household growth 2016 to 2030	168	781	741	140	1,830		
Demand for Residential							
	Low-low Income	Low Income	Middle Income	High Income	Total		
Existing number of residential units 2016	1,197	5,844	5,622	1,078	13,741		
Backlog in residential units 2016	103	182	94	3	382		
Projected number of residential units needed 2030	271	963	835	143	2,212		
Units achieved through densification (brownfields) 2030							
Units achieved through additional land (greenfields) 2030	271	963	835	143	2,212		

The total land use requirements are set out for residential, community and social services and business/retail as follows:

- short term (2020 to 2025);
- medium term (2020 to 2030) total requirements from 2020 to 2030 and includes the short-term requirements.

The land use requirements are based on the following assumptions:

- The residential requirements are based on the total estimated household growth at an average gross density of 25 dwelling units per hectare;
- The total community and social services land use requirements are based on the total land required to accommodate the future required social and community facilities as per the CSIR Guidelines for the Provision of Social Facilities in South Africa (2012);
- The land use budget for business or retail opportunities were calculated using 0,4m<sup>2</sup>/capita for the lower order shopping centres such as Local Convenience Centres with a maximum size of 5,000m<sup>2</sup> leasable floor area providing convenience goods. For the larger centres such as Neighbourhood, Community and Regional Shopping Centres as well as shops in the original central business districts, providing specialised goods, the guideline of 0,6m<sup>2</sup>/capita was used.

		Rural Hinterland			
Land Use	Period	GLFA (m2)	Land area (ha)		
Residential (25du/ha)	Short Term: 2020 to 2025	-	26.00		
	Medium Term: 2020 to 2030	-	53.24		
Community and Social	Short Term: 2020 to 2025	-	-		
Services	Medium Term: 2020 to 2030	-	-		

### Table 87: Rural Hinterland Land Use Budget

		Rural Hinterland			
Land Use	Period	GLFA (m2)	Land area (ha)		
Business/ Retail	Short Term: 2020 to 2025	128.56	0.04		
	Medium Term: 2020 to 2030	260.36	0.09		

# 4.5.3.2 Development Strategy and Intended Impact

The Rural Hinterland Functional Area forms part of the Hinterland Catalytic Zone (refer to 3.3.3.5).

The Big Move for this Functional Area is to establish/enhance the agro-processing value-chain in the rural area. This Big Move will focus on enhancing the existing agro-processing sector in the region through the development of a Business Retention and Expansion Strategy linked to the sector. It will focus on both upstream and downstream linkages of this sector.

The following tables represent the implementation matrix for the various "Big Moves" within this Functional Area, which includes the following elements:

- Big Move;
- Key Performance Area.

Table 88: Hinterland Corridor	<ul> <li>Enhance agro-processing</li> </ul>	value-chain in rural area
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Big Move	Enhance agro-processing value-chain in rural area					
Intended Impact -	<ul> <li>High Value Manufacturing;</li> </ul>					
Indicators of Success	<ul> <li>Increased contribution of SME agro-processors to the GDPR and employment;</li> </ul>					
	<ul> <li>Increased access of SME agro-processors to business development services;</li> </ul>					
	<ul> <li>Availability of Integrated Transportation system – both passenger and goods and services;</li> </ul>					
	<ul> <li>Business Expansion;</li> </ul>					
	<ul> <li>Capital Investment;</li> </ul>					
	Infrastructure Investment;					
	<ul> <li>Social Stability;</li> </ul>					
	<ul> <li>Decrease in Social Services demands in area;</li> </ul>					
	New businesses established in value chain;					
	Development of dignified and integrated human settlements;					
	Increase in skilled workforce;					
	Decrease in Absolute Poverty Rates.					
Project, Programmes	Gouda and Saron CBD: Small Business Development Upgrade;					
and Initiatives	Hermon Precinct Plan;					
	<ul> <li>Rural Tourism Product Development;</li> </ul>					
	Identification and site development of cultural and heritage places of interest;					
	Installation of Tourism signage and infrastructure at iconic attractions;					
	<ul> <li>Saron Transformation Process (TRANCRAA);</li> </ul>					
	Upgrading of Saron Community Hall.					
	Upgrade/replace reticulation system in Saron;					
	Replace/upgrade of bulk water pipe, Saron and Gouda;					
	Pre-paid water meters –area wide;					

Big Move	Enhance agro-processing value-chain in rural area						
	Saron Water Depot;						
	Centralise sludge management;						
	<ul> <li>Upgrade and rehabilitation of sewerage pump station (Saron);</li> </ul>						
	<ul> <li>Upgrade and Rehabilitation of sewer systems in entire Drakenstein;</li> </ul>						
	Re-use of treated wastewater effluent;						
	Water Treatment works (2MI/d,2MI reservoir and 100MI, open dam, Saron;						
	<ul> <li>Gouda Small Holdings - Water Reticulation System;</li> </ul>						
	<ul> <li>Telemetric system upgrade;</li> </ul>						
	<ul> <li>Replacement/Upsizing of reticulation system;</li> </ul>						
	Environmental Performance Monitoring System;						
	Promotion of Green Economy;						
	100-year Berg River Flood scenarios;						
	<ul> <li>Air Quality Management Plan and Air Quality monitoring;</li> </ul>						
	<ul> <li>Berg River Maintenance Management Plan;</li> </ul>						
	<ul> <li>Update of key plans including Climate Change Strategy and Environmental Management Framework;</li> </ul>						
	<ul> <li>Water and Wastewater in rural areas;</li> </ul>						
	Identification of available land for ECD centres;						
	<ul> <li>Accreditation Restructuring Zones-Appointment of turnkey implementation housing agent;</li> </ul>						
	Co-ordination of sufficient health services.						

In addition to the Big Moves, the following development strategies were developed as part of the Municipal SDF<sup>2</sup> to transform the rural hinterland:

- SDF Spatial Strategy Accessible routes as link to the City of Cape Town, Swartland Municipality and Berg River Municipality:
  - Windmeul is strategically located at the intersection of the R44 and the MR281 (eventually becoming Paarl Main Road). This hamlet should harness its strategic location and scenic quality to establish Windmeul as a centre for outdoor adventure sports to attract residents from the City of Cape Town (Durbanville is the closest town) and the Swartland Municipality. The Perdeberg Nature Reserve falls partially within the Drakenstein Municipal Areas and partially (larger area) within the Swartland Municipal Area;
  - Hermon, situated at the intersection of the R44 and the R46, should capitalise on its linkage with Riebeeck Kasteel and Riebeeck Wes in the Swartland Municipal Area to create tourism opportunities;
  - Opportunities for recreational activities, festivals, sporting activities should be investigated along the Berg River. Tourism should be a main focus with coordination between the Drakenstein, Swartland and Berg River Municipalities for major events spanning over all three Local Authority Areas;
  - The R44 also running parallel to the Berg River also connects rural hamlets such as Gouda and Saron with Porterville, which is located within the Berg River Municipal Area to the north.
- SDF Spatial Strategy Gouda as nodal link to Witzenberg Municipality:
  - Gouda is strategically located at the intersection of the R46 to Tulbagh (via the Nuwekloof Pass) and the R44 to Saron and Porterville. This strategic location should be capitalised on through pursuing a

<sup>&</sup>lt;sup>2</sup> Drakenstein Spatial Development Framework: A Spatial Vision 2015 – 2035 (Annual Review 2017/2018 document)

freight logistics hub with weighbridge, service station and truck-stop as indicated in the SDF. With an Agri-Park being proposed for Ceres in the Witzenberg Municipality by the Department of Rural Development and Land Reform, this logistics hub could serve as a major economic injection for the Gouda area.

# 4.5.4 Rural Hinterland Technical Assessment

## 4.5.4.1 Water

4.5.4.1.1 Capacity: Water

### Available supply

The Rural Hinterland Functional Area is spread over a large area which comprises the full extent of the Drakenstein Municipal boundaries. The water supply for these areas comes from various sources. The town of Hermon purchases water in bulk from the City of Cape Town's Voëlvlei dam scheme. The town of Gouda purchases water in bulk from the West Coast District Municipality (WCDM), which is extracted from the Voëlvlei dam and treated at the WCDM Voëlvlei WTP. The town of Saron receives bulk water from the Leeu River, approximately 8km northeast of the town. The water is mostly stored in reservoirs before distributed to users.

### **Bulk assets**

This section gives a high-level overview of the bulk assets. The overview includes the replacement cost and remaining useful life (RUL) of the assets. The table below indicates the existing bulk assets for the Functional Area. The data is based on the Drakenstein Water Master Plan and Water Services Development Plan.

### Table 89; Bulk assets: Replacement cost and RUL

BULK PIPES							
		RUL ≤ 5 years RUL: 6-10 years					
Pipe length	Replacement Cost		Replacement	Replacement Cost		Replacement	
(m)	(Rand)	% of assets	Length (m)	(Rand)	% of assets	Length (m)	Replacement Cost
1385	R 730,000.00	19%	268	R 141,426.93	32%	446	R 235,112.40

### Network assets (distribution and reticulation)

The networks in the Functional Area comprise the towns Hermon, Gouda, Saron and Bainskloof. All the towns operate separately as single supply zones.

A reservoir storage capacity of 5.4 MI is available in the Rural Hinterland Functional Area.

The tables below present a high-level overview of the network/reticulation assets. The overview includes the replacement cost and remaining useful life (RUL) of the assets. The data is based on the Drakenstein Water Master Plan and Water Services Development Plan.

### **Table 90: Reticulation Assets**

RETICULATION ASSETS: PIPES							
Pipes <	175mmØ	Pipe	s ≥ 175mmØ	Erf coi	Erf connections		
Length (km)	Cost (Rand)	Length (km) Cost (Rand)		Number	Cost (Rand)		
53	R 27,370,000.00	5	R 5,340,000.00	2842	R 8,640,000.00		
		RETICULATION	N ASSETS: PIPES RUL				
	RUL≤5 years		RUL	: 6-10 years			
Replacement	,	Reticulation		Érf	Reticulation		
Length (km) @	Erf connections	Replacement Cost	Replacement Length (km)	connections	Replacement Cost		
11%	@ 13%	(Rand)	@ 12%	@ 53%	(Rand)		
6	369	R 4,721,300.00	7	1506	R 8,504,400.00		
		RETICULATION AS	SSETS: PUMP STATIONS				
		RU	L≤5 years	RUL: 6-10 years			
Pump station	Replacement Cost						
capacity (I/s)	(Rand)	% of assets	Replacement Cost (Rand)	% of assets	Replacement Cost		
N/A	R -	N/A	N/A	N/A	N/A		
RETICULATION ASSETS: RESERVOIRS							
		RU	L≤5 years	RUL: 6	-10 years		
Reservoir	Replacement Cost						
capacity (kl)	(Rand)	% of assets	Replacement Cost (Rand)	% of assets	Replacement Cost		
5403.00	R 13,640,000.00	1%	R 105,414.59	14%	R 1,974,126.83		

### **Existing and Future Demand**

The table below summarises the current and future water demand of the Functional Area. The future demand values are based on potential future development up to 2030 as per the Drakenstein Water Master Plan.

#### Table 91: Existing and Future demand for the Functional Area

Water Demand - Rural Hinterland									
	Low low	Low	Middle	High	Business &				
	Income	Incom	Income	Income	Industrial	Other	Losses	Total	Unit
Existing number of households 2016	1300	6027	5716	1080				14123	units
Existing non-residential area					2551	80		2631	ha
Existing Water AADD	76	350	569	179	250	722	325	2471	kl/d
Future Projected number of households 2030	1469	6808	6456	1220				15953	units
Future Estimated non-residential area					2559	97		2657	ha
Future Water AADD	85	396	643	203	399	816	367	2908	kl/d
Increase in AADD	10	45	74	23	149	94	42	437	kl/d

The split between land use is based on the Drakenstein Annual report, which indicates water use per sector. The residential component is also split further based on typical increases in water demand as the end-user income level increases. The split percentages used are tabled below. The total water demand reflects actual demand as quoted in the Drakenstein Water Master Plan.

Table 92:	Water	demand	split	percentages
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		Business &		
Land use	Residential	Industrial	Other	Losses
Percentage split	48%	10%	29%	13%
Residential	Low low		Middle	
Income level	Income	Low Income	Income	High Income
Percentage split	15%	15%	26%	43%

The total water inputs for each area were compared with the total water sales, which resulted in Unaccounted for water (UAW) figures of 50% for Bainskloof, 15% for Hermon, 29% for Gouda and 23% for Saron. The UAW of 50% in Bainskloof is exceptionally high and should be addressed as a matter of priority.

Measurements were taken over one year (Jul 2014 to Jun 2015) to determine to percentage UAW.

The Drakenstein water master plan states that the existing Rural Hinterland water distribution system has insufficient capacity to supply the future water demands for the fully occupied scenario and the additional future development areas. Projects are identified and prioritised in the Water master plan to address shortfalls in water infrastructure as development commences.

### 4.5.4.1.2 Backlog in Access to Services: Water

According to the Drakenstein Annual report water services section, there are approximately 134 households with no water supply, and 163 households with water supplies more than 200 m from their dwelling. Therefore, approximately 297 households fall below a minimum level of service. However, these households are located on farms which do not form part of the Municipal water reticulation system. The information is also outdated and can be updated only once a detail service level rural survey on the farms becomes available.

### 4.5.4.1.3 Backlog in Asset Management: Water

From the tables provided regarding the infrastructure of the Functional Area, it is evident that various assets have a remaining useful life of fewer than 5 years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The backlog for asset management is addressed in the project list provided in the next section. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list. The asset management backlog projects are typically identified in the master plan or by the municipality.

### 4.5.4.2 Wastewater

### 4.5.4.2.1 Capacity: Wastewater

### Available supply

Each town in the Rural Hinterland Functional Area operates as a main drainage area and is serviced by its own Wastewater Treatment Plant (WWTP). The following WWTPs are currently in service in the Rural Hinterland Functional Area:

- Hermon (0.09 MI/d capacity);
- Gouda (0.64 Ml/d capacity);
- Saron (0.83 MI/d capacity).

### Bulk assets

The bulk assets for the Rural Hinterland area are the various Wastewater Treatment Plants as well as the bulk drainage pipes in the network. For the wastewater network, the Drakenstein Sewer Master Plan splits the sewer pipes between smaller than 175 mm diameter and larger than 175 mm diameter pipes. For this assessment, all pipes larger than 175 mm diameter are assumed to be bulk pipes, as these pipes are typically outfall sewers collecting a network of smaller (160 mm diameter) pipes. The table below indicates all the bulk pipes with their replacement cost and remaining useful life (RUL). The data is based on the Drakenstein Sewer Master Plan and Water Services Development Plan.

#### Table 93: Bulk sewer assets

BULK SEWER (≥ 175mmØ )							
		RUL≤5 years				RUL: 6-1	0 years
Pipe Length			Replacement			Replacement	
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)
12.7	R 22,620,000.00	15%	1.95	R 3,473,059.94	0%	0.049494563	R 88,154.88

### **Network assets**

The drainage areas for each town in the Rural Hinterland comprises various networks of gravity mains feeding the pump stations, which delivers wastewater to the various WWTPs of each town.

This section provides a high-level overview of the wastewater network assets in the Functional Area. All pipes smaller than 175 mm diameter, pump stations and erf connections are shown in the tables below. The tables indicate the replacement cost and the remaining useful life of the assets. The data is based on the Drakenstein Sewer Master Plan and Water Services Development Plan.

#### Table 94: Network sewer assets

	SEWER PIPELINES < 175mmØ												
			RUL≤5	5 years	RUL: 6-10 years								
Pipe Length			Replacement			Replacement							
(km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)	% of assets	Length (km)	Replacement Cost (Rand)						
36	R 57,380,000.00	10%	3.43	R 5,462,038.52	0%	0	R -						
PUMP STATIONS													
			RUL≤5	5 years		RUL: 6-1	0 years						
Capacity (I/s)	Replacement Cost (Rand)	% of assets	Replac	ement Cost (Rand)	% of assets	Replacement Cost (Rand)							
70	R 7,350,000.00	26%	R	1,883,968.86	4%	R	258,956.87						
			ERF	CONNECTIONS									
			RUL≤5	5 years		RUL: 6-1	0 years						
Number of			Replacement			Replacement							
connections	Replacement Cost (Rand)	% of assets	Number	Replacement Cost (Rand)	% of assets	Number	Replacement Cost (Rand)						
2500	R 5,440,000.00	10%	238	R 517,837.04	0%	0	R -						

### **Existing and Future Demand**

The table below summarises the current and future sewage yield of the Functional Area. The future sewage yield values are based on potential future development up to 2030 as per the Drakenstein Sewer Master Plan.

Table 95: Existing and	Future sewage yield for	or the Functional Area
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	Sewage yields - Rural Hinterland														
	Low low	Low	Middle	High	Business &		Water								
	Income	Income	Income	Income	Industrial	Other	Ingress	Total	Unit						
Existing number of households 2016	1300	6027	5716	1080				14123	units						
Existing non-residential area					2551	80		2631	ha						
Existing Water PDDWF	50	231	375	118	164	476	214	1628	kl/d						
Future Projected number of households	1469	6808	6456	1220				15953	units						
Future Estimated non-residential area					2559	97		2656	ha						
Future Water PDDWF	56	261	424	134	166	537	242	1819	kl/d						
Increase in PDDWF	6	30	49	15	2	62	28	191	kl/d						

For this assessment, it is assumed that the sewage yields are directly proportionate to the water demand per land use and income level. Consequently, the same split percentage applied to the water demand indirectly applies to the sewage yield. However, the total sewage yield reflects actual sewage yield as quoted in the Drakenstein Sewer Master Plan.

The Drakenstein Sewer Master Plan states that upgrades are required according to the additional future developments. Projects are identified and prioritised in the sewer master plan to address shortfalls in sewer infrastructure as development commences.

### 4.5.4.2.2 Backlog in Access to Services: Wastewater

Similar to water services, the Drakenstein Annual report wastewater services section indicates that there are approximately 805 households below a minimum level of service. Approximately 354 of the households have no toilet provision and 451 have access to toilets below a minimum level of service.

However, as mentioned previously, these households are located on farms which do not form part of the Municipal water reticulation system. Wastewater on farms is the responsibility of the farm owners. Furthermore, the information is outdated and can be updated only once a detail service level rural survey on the farms becomes available.

### 4.5.4.2.3 Backlog in Asset Management: Wastewater

From the tables provided regarding the wastewater infrastructure of the Functional Area, it is evident that various assets have a remaining useful life of fewer than 5 years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The backlog for asset management is addressed in the project list provided in the next section. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list. The asset management backlog projects are typically identified in the master plan or by the municipality.

# 4.5.4.3 Electricity

The Rural Hinterland Functional Area's electricity is distributed by Eskom and the Drakenstein Electrotechnical Department.

Drakenstein distributes electricity to the rural areas on the urban edge of Paarl through the Slot 66/11 kV Substation in Northern Paarl, Suidend 66/11 kV Substation in Suid Agter Paarl, Simondium and Klapmuts and Palmiet to the west of Paarl.

Eskom distributes electricity to the rest of the rural areas to the north of Paarl, and the towns of Hermon, Saron and Gouda.

The current level of service is:

- Residential: Grid Electricity Service connected and metered (conventional and pre-paid);
- Commercial and Industrial: Grid Electricity Service connected and metered (conventional and pre-paid).

# 4.5.4.3.1 Backlog in Access to Services: Electricity

The housing demand (Drakenstein Municipality, 2015) was estimated at 22,079 with a required average of 2,270 units per year over a ten-year period.

According to Table 6: Housing delivery in Drakenstein of the Electrical Masterplan, housing delivery up to the 2016/17 financial year was 572 units per year.

All formal households within the Rural Hinterland Functional Area have household electricity connections. The current backlog is therefore assumed to be a backlog in housing delivery and new informal dwellings within this area.

In 2019, a total of 122 informal households were identified in Gouda and no further update is available.

### 4.5.4.3.2 Backlog in Asset Management: Electricity

The renewal of rural lines and pole-mounted transformers is ongoing with the bulk of transformers replaced due to lightning.

# 4.5.4.3.3 Capacity: Electricity

Substation Name	Installed Capacity (n-1) [MVA]	Current Transformer Loading [MVA]	Spare Capacity (n-1) [MVA]
Slot	20	10	10
Suidend	40	22.5	17.5
Palmiet	30	20.7	9.3

### Table 96: Functional Area 4 – Bulk Substations Capacity

Due to the shape of the region and the constraints of Paarlberg, these substations have adequate capacity for growth.

# 4.5.4.4 Roads and Stormwater

### 4.5.4.4.1 Capacity: Roads and Stormwater

This section of the report includes all stormwater infrastructure, including channels, pipes and inlets. The roads of the Functional Area are addressed in the transportation section of the technical assessment.

### **Bulk assets**

The Rural Hinterland Functional Area is spread across a large area and is situated around sections or subbranches of the Berg River. All stormwater is directed towards the river with channels and underground stormwater pipes. For this report, bulk stormwater is all pipes larger than 600mm in diameter. The table below lists the bulk stormwater pipes and their estimated remaining useful life. The remaining useful life of all stormwater assets is based on the typical conditions of stormwater infrastructure as investigated in the asset portfolio analysis (2013).

### Table 97: Bulk stormwater pipes and remaining useful life

	Pipes > 600mmØ													
Pipe			RUL ≤ 5 yea	ars	RUL: 6-10 years									
Length			Replacement	Replacement Cost		Replacement	Replacement							
(km)	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	Cost (Rand)							
0.30	R 240,137.92	7%	0.02	R 16,809.65	7.0%	0.02	R 16,809.65							

### Network assets

The Functional Area comprises various underground stormwater pipes, typically 100D concrete specification pipes. The table below summarises all the pipes in the Functional Area and gives an indication of the replacement cost and typical remaining useful life of the assets.

### Table 98: Stormwater network pipes with remaining useful life and replacement cost

	Pipes < 375mmØ													
Pipe			RUL≤5 yea	ars		RUL: 6-10 years								
Length			Replacement	Re	eplacement Cost		Replacement	Repl	acement					
(km)	Replacement Cost (Rand)	% of assets	Length (km)		(Rand)	% of assets	Length (km)	Cost	Cost (Rand)					
4.16	6 R 3,361,930.90	7%	0.29	R	235,335.16	7%	0.290864	R	235,335.16					
Pipes = 450mmØ														
Ріре			RUL≤5 yea	ars			RUL: 6-10 ye	ars						
Length			Replacement	Re	eplacement Cost		Replacement	Repl	acement					
(km)	Replacement Cost (Rand)	% of assets	Length (km)		(Rand)	% of assets	Length (km)	Cost	: (Rand)					
0.59	R 480,275.84	7%	0.04	R	33,619.31	7.0%	0.04	R	33,619.31					
			Pipes = 5	525	immØ									
Pipe			RUL ≤ 5 yea	ars		RUL: 6-10 years								
Length			Replacement	Re	eplacement Cost		Replacement	Replacement						
(km)	Replacement Cost (Rand)	% of assets	Length (km)		(Rand)	% of assets	Length (km)	Cost	: (Rand)					
0.59	R 480,275.84	7%	0.04	R	33,619.31	7.0%	0.04	R	33,619.31					
			Pipes = 6	500	)mmØ									
Pipe			RUL≤5 yea	ars			RUL: 6-10 ye	ars						
Length			Replacement	eplacement Cost		Replacement Replacement								
(km)	Replacement Cost (Rand)	% of assets	Length (km)		(Rand)	% of assets	Length (km)	Cost	: (Rand)					
0.30	) R 240,137.92	7%	0.02	R	16,809.65	7.0%	0.02	R	16,809.65					

Other than the underground stormwater pipes, there are other stormwater assets in the Functional Area such channels (earth and concrete). Further assets include inlets and outlets to the stormwater underground networks, as well as manholes connecting the pipes. A summary of other stormwater assets is given below. The list of assets includes an indication of the replacement cost as well as the estimated remaining useful life of the assets.

### Table 99: Other stormwater network assets with remaining useful life and replacement cost

	Channels													
Channel			RUL≤5 yea	ars	RUL: 6-10 years									
Length			Replacement	Replacement Cost	:	Replacement	Replacement							
(km)	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	Cost (Rand)							
46.80	R 54,496,662.68	7%	3.28	R 3,814,766.39	7.0%	3.28	R 3,814,766.39							
Manholes														
			RUL≤5 yea	ars		RUL: 6-10 years								
Number of			Replacement	Replacement Cost	:	Replacement	Replacement							
manholes	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	Cost (Rand)							
43	R 745,620.00	7%	3.01	R 52,193.40	7.0%	3.01	R 52,193.40							
			Inlet and	d others										
			RUL≤5 yea	ars		RUL: 6-10 ye	ars							
			Replacement	Replacement Cost	:	Replacement	Replacement							
Number	Replacement Cost (Rand)	% of assets	Length (km)	(Rand)	% of assets	Length (km)	Cost (Rand)							
752	R 8,693,120.00	7%	52.64	R 608,518.40	7.0%	52.64	R 608,518.40							

### **Existing and Future Demand**

The existing stormwater systems in the Functional Area are mostly sufficient for the current scenario. The 1:20, 1:50 and 1:100 floods have been analysed for the area.

It is important that any new development must be evaluated to consider the impact of stormwater runoff after development. Ideally, the development should include flood peak attenuation methods to release only a flow equal to no more than the 1:2 year pre-development runoff peak flow.

### 4.5.4.4.2 Backlog in Access to Services: Stormwater

There is no clearly defined backlog in terms of stormwater infrastructure. Typically, the infrastructure will form part of other projects such as road upgrades or housing developments. Large area housing projects can have a significant impact on runoff parameters and larger detention dams may be required.

The Rural Hinterland area has housing backlogs in the Saron and Gouda areas. Saron has a backlog of approximately 803 fully subsided housing units and 27 partially subsidised housing units. Gouda has a backlog

of approximately 1440 fully subsided housing units and 251 partially subsidised housing units. Typically, most stormwater requirements form part of the housing project itself. However, if any other stormwater upgrades or larger stormwater projects are required for housing projects in the future, they must be included in the municipality's project list.

### 4.5.4.4.3 Backlog in Asset Management: Stormwater

From the tables provided regarding the stormwater infrastructure of the Functional Area, it is evident that various assets have a remaining useful life of fewer than 5 years. These assets must be replaced, renewed or refurbished to ensure efficient operation of the service network. The Drakenstein Municipality reviews its assets frequently and identifies the need for replacements, which are added to the municipality project list.

# 4.5.4.5 Transportation

# 4.5.4.5.1 Backlog in Access to Services: Transportation

Existing development strategies and policy documents list several transport-related challenges that prevent access to services within the Rural Hinterland (Functional Area 4):

Public Transport		<ul> <li>Poor access to the IPTN (all areas);</li> </ul>
		<ul> <li>Road-based public transport is dominated by minibus taxis (all areas);</li> </ul>
		<ul> <li>Only two rail services per day, one outbound in the morning and another inbound in the afternoon/evening (all areas except Saron);</li> </ul>
		No link between Saron and the railway line (no rail link or station).
		<ul> <li>Limited services during off-peak periods (all areas);</li> </ul>
		<ul> <li>Public transport is not universally accessible (all areas).</li> </ul>
Public	Transport	<ul> <li>Lack of shelter at existing public transport facilities (all areas);</li> </ul>
Infrastructure		<ul> <li>Inadequate long-distance facilities for waiting passengers (all areas).</li> </ul>
Learner transport		<ul> <li>Limited public transport for learners commuting to school in urban centres (all areas);</li> </ul>
		<ul> <li>Limited information about Learner transport provision (all areas).</li> </ul>
Freight		Infrastructure does not support logistics and freight transport sufficiently (all areas).
NMT		<ul> <li>Limited NMT infrastructure in rural areas and key nodes do not adequately support NMT (all areas);</li> </ul>
		<ul> <li>NMT infrastructure is not universally accessible DITP (all areas);</li> </ul>
		<ul> <li>Improved linkages between Hermon north and south of the R46 the use of connected NMT routes (shown in Figure 50).</li> </ul>

	Rate Hermon South
	Figure 73: Hermon North and South
	New, safe INIVIT connections to create legible urban structure and NMT network (all areas).
Road Network	Poor north-south connections across the R46 (Hermon).

# 4.5.4.5.2 Backlog in Asset Management: Transportation

The backlog in asset management as listed in the reference documents is summarised in the table below.

Public Transport	Acceptance and implementation of IPTN.
NMT	Upgrade of NMT infrastructure;
	NMT routes and infrastructure is not universally acceptable.
Transport for Tourism	Street name signs and tourism signs.
Road Network	Upgrade of proclaimed and main roads;
	<ul> <li>Upgrade of gravel to paved roads;</li> </ul>
	Reconstruction of streets;
	Traffic calming;
	Paving of parking areas;
	Provision and maintenance of traffic lights;
	Upgrade of the Gouda parking area.

# 4.5.4.5.3 Capacity: Transportation

To provide access to the development within Functional Area 4, an affordable public transport network is required to connect residents to employment opportunities and public facilities.

In areas where a settlement is separated by major roads or railway lines, infrastructure allowing safe crossing opportunities must be provided. Divisional and minor roads in the area should be upgraded to paved roads and non-motorised and motorised transport links provided to improve connectivity.

# 4.5.4.6 Solid Waste

Level of Service	•	All formal erven are serviced by a black bag removal system at least once a week by the Drakenstein Municipality;
	•	Informal erven are serviced by a drum or central skip removal service at least once a week by the Drakenstein Municipality.

## 4.5.4.6.1 Backlog in Access to Services: Solid Waste

The Wellington Landfill site services the entire Municipality and has reached its final licensed capacity. The Municipality is in the process of applying for an increase in allowed landfill height.

Access to refuse removal services above the minimum service level in Simondium, Windmeul, Nooder-Paarl Central, Nederburg, Latana, Ronwe, Sonop, Slem, Gouda, Hermon, Bovlei and Groenberg is below 80%.

# 4.5.4.6.2 Backlog in Asset Management: Solid Waste

The management of the Wellington Landfill facility is currently by the Drakenstein Municipality. The Municipality is in the process of outsourcing the management through a 3-year contract.

A large portion of the Municipality's collection fleet is older than 8 years and therefore maintenance and repairs are a challenge. These vehicles are being replaced on a continuous basis.

### 4.5.4.6.3 Capacity: Solid Waste

- There is only one landfill site, namely the Wellington Landfill site, which will need to be decommissioned in 2020. An extension to this landfill is planned for the medium term and a new landfill is planned for the long term;
- There is are public drop-off facilities located in Saron, Hermon and Gouda which are all run by the Municipality;
- The number of trucks in the current collection fleet needs to be assessed to determine whether they can service this area adequately.

# 4.5.4.7 Social and Economic Infrastructure

# 4.5.4.7.1 Capacity and Backlog in Access to Services: Social and Economic Infrastructure

In terms of the rural areas, which consist of various rural nodes spread across the municipal area, access to community and social facilities should consider accessibility and catchments areas to a larger extent than population thresholds. Based purely on the population threshold information for the various facilities, no demand for social facilities was identified over the next 20 years.

# 4.5.4.7.2 Backlog in Asset Management: Social and Economic Infrastructure

According to the Drakenstein Asset Management Status Quo Report June 2016, assets managed by departments other than the civil and electro-technical departments, mostly buildings and community facilities, do not have preventive maintenance plans in place and maintenance is mostly reactive.

However, "On an annual basis provision is made in the annual capital and operational budgets for maintenance and upgrading of council owned properties and facilities. Community needs as well as regular inspections conducted at facilities are used to inform the budget "(IDP (2018/19: 93)

A survey of the social infrastructure assets owned by the municipality was recently undertaken and will inform the backlog and planning for asset management in future.

### 4.5.4.8 Consolidated 10-year Capital Requirements

The following table summarises the capital requirements from all sectors for this Functional Area, for the purpose of developing investment programmes.

Infrastructure Sector		2021/22 22		/23	23/24		24/25		25/26 26/27		27/28		28/29		29/30		30/31			
Rural Hinterland	-	0%	-	0%	-	0%	-	0%	•	0%	92,071,163	5%	70,434,273	5%	63,582,333	5%	36,291,000	3%	80,827,000	7%
Water	-		-		-		-		-		59,524,524	65%	42,860,940	61%	38,874,000	61%	24,916,000	69%	30,730,000	38%
Waste Water	-		-		-		-		-		19,000,000	21%	17,650,000	25%	16,150,000	25%	4,650,000	13%	44,432,000	55%
Energy/Electricity	-		-		-		-		-		633,306	1%	-	0%	-	0%	-	0%	-	0%
Roads/Streets and Stormwater	-		-		-		-		-		7,725,000	8%	6,725,000	10%	6,725,000	11%	6,725,000	19%	4,900,000	6%
Solid Waste	-		-		-		-		-		-	0%	500,000	1%	500,000	1%	-	0%	-	0%
Social and Economic Infrastructure	-		-		-		-		-		3,745,000	4%	1,255,000	2%	-	0%	-	0%	750,000	1%
Other	-		-		-		-		-		1,443,333	2%	1,443,333	2%	1,333,333	2%	-	0%	15,000	0%

 Table 100: Rural Hinterland Functional Area consolidated 10-year capital investment requirements per sector

Please note: The project locations are currently being verified and will only be finalised for the 2022/2023 submission. The implication being that many projects are currently allocated to the "various/municipal wide" functional area which could potentially be reallocated elsewhere once verified, creating a more informed picture of the capital requirements per geographical area

# 4.6 Municipal-Wide

### 4.6.1 Consolidated 10-year Capital Requirements

The following table summarises the capital requirements from all sectors that are regarded as "Municipal-Wide". This includes programmes that:

- serve more than one Functional Area
- do not have a spatial reference.

Table 101: Municipal-Wide consolidated 10-year capital investment requirements per sector

Infrastructure Sector	2021/22	2	22/23		23/24		24/25		25/26		26/27		27/28		28/29		29/30		30/31	
Various/Municipal Wide	66,393,264	<b>52%</b>	65,931,954	<b>72%</b>	62,833,043	66%	61,723,043	93%	63,643,043	99%	715,621,021	42%	655,938,408	45%	646,196,779	46%	590,965,920	48%	581,557,692	48%
Water	9,095,000	14%	14,528,406	22%	11,983,768	19%	11,983,768	19%	13,983,768	22%	40,613,962	6%	37,203,962	6%	28,144,962	4%	37,089,962	6%	78,775,962	14%
Waste Water	5,000,000	8%	9,528,403	14%	11,983,768	19%	11,983,768	19%	10,983,768	17%	16,315,000	2%	13,800,000	2%	13,800,000	2%	12,700,000	2%	14,200,000	2%
Energy/Electricity	22,382,577	34%	24,021,739	36%	24,021,739	38%	24,021,739	39%	24,021,739	38%	169,265,578	24%	173,166,727	26%	155,316,569	24%	149,980,194	25%	148,340,228	26%
Roads/Streets and Stormwater	6,500,000	10%	9,528,406	14%	11,983,768	19%	11,983,768	19%	10,983,768	17%	114,183,979	16%	106,068,979	16%	106,568,979	16%	105,568,979	18%	110,345,420	19%
Solid Waste	11,800,000	18%	6,000,000	9%	-	0%	-	0%	-	0%	80,423,011	11%	74,024,086	11%	100,024,086	15%	96,690,752	16%	71,365,752	12%
Housing	-	0%	105,000	0%	110,000	0%	115,000	0%	120,000	0%	6,261,667	1%	3,041,667	0%	3,041,667	0%	1,675,000	0%	-	0%
Social and Economic Infrastructure	6,158,187	9%	850,000	1%	1,685,000	3%	500,000	1%	300,000	0%	34,907,256	5%	24,067,473	4%	21,782,400	3%	22,157,400	4%	21,532,400	4%
Other	5,457,500	8%	1,370,000	2%	1,065,000	2%	1,135,000	2%	3,250,000	5%	252,650,570	35%	223,565,516	34%	216,518,117	34%	164,103,634	28%	136,997,930	24%
Transport	-	0%	-	0%	-	0%	-	0%	-	0%	1,000,000	0%	1,000,000	0%	1,000,000	0%	1,000,000	0%	-	0%
Grand Total	128,102,569	100%	91,021,954	100%	95,133,043	100%	66,583,043	100%	64,443,043	100%	1,686,521,092	100%	1,469,179,062	100%	1,402,186,014	100%	1,241,766,354	100%	1,218,765,083	100%

Please note: The project locations are currently being verified and will only be finalised for the 2022/2023 submission. The implication being that many projects may are currently allocated to the "various/municipal wide" functional area which could potentially be reallocated once verified, creating a more informed picture of the capital requirements per geographical area

# 5 Financial Overview

# 5.1 Financial Philosophy

The financial philosophy of Drakenstein is to provide a sound financial base and the resources necessary to sustain a satisfactory level of municipal services for the citizens of Drakenstein.

It is the goal of the Municipality to achieve a strong financial position with the ability to withstand local and regional economic impacts; to adjust efficiently to the community's changing service requirements; to effectively maintain, improve and expand the Municipality's infrastructure; to manage the Municipality's budget and cash flow to the maximum benefit of the community; to prudently plan, coordinate and implement responsible and sustainable community development and growth; and to provide a high level of fire and other protective services to assure public health and safety.

Based on the financial framework, financial strategies and the general financial philosophy statement, the Municipality must develop financial policies that support the above. Drakenstein's financial policies must also address the following fiscal goals:

- To keep the Municipality in a fiscally sound position in both the long and short term;
- To maintain sufficient financial liquidity through regular reviews and adjustments to meet normal operating and contingent obligations;
- To apply credit control policies which maximise collection while providing relief to the indigent;
- To implement credit control policies that recognise the basic policy of customer care and convenience;
- To operate utilities in a responsive and fiscally sound manner;
- To maintain and protect existing infrastructure and capital assets;
- To provide a framework for the prudent use of debt financing; and
- To direct the Municipality's financial resources toward meeting the goals of the Municipality's Integrated Development Plan (IDP).

# 5.2 Situational Analysis: Financial Health Overview

The liquidity levels of the organisation are under strain but have started to improve in 2020/21, in spite of the temporary decrease in 2019/20 due to the effects of the COVID-19 lockdown.

The municipality has introduced a revenue management, expenditure management and cost containment programme under the leadership of the City Manager to raise and collect all revenue due to the municipality. Included in the programme is a focus on expenditure management and cost containment to ensure that available resources are optimised for quality service delivery. Current ten-year external loans of the Development Bank of Southern Africa, Standard Bank and Nedbank were restructured in December 2019 to be repaid over a period of up to 17.5 years, including redemption "holidays" until the end of 2022/23. Due to the restructuring of the external loans of the Development Bank of Southern Africa, Standard Bank up over the next five financial years. The increase of the municipality's revenue base is expected to reduce the current gearing ratio from 74.5% (2019/20 Audited) to an estimated 36.9% in the 2025/26 financial year.

The municipality has a significant revenue base that continues to grow compared with previous years. The municipality is still confident that the growth in medium to high income developments will be increasing, albeit much slower than expected, due to the economic impact of the lockdown in 2019/20.

# 5.3 Current Capital Expenditure

Capital expenditure budgeting will be done through the Capital Assets Prioritisation software from 2022/23. This software is currently being set up and will ensure that scarce available financial sources are allocated to capital projects that will have the biggest impact on the outputs and outcomes that will improve the quality of life of Drakenstein's customer base. This model will also ensure that sufficient funds are made available for the renewal of dilapidated infrastructure to ensure on-going quality service delivery.

# 5.3.1 Capital expenditure by standard classification

Table 4.4 below depicts the main types of capital expenditure as per the Government Financial Statistics (GFS) standard classification. The four standard classifications are:

- Governance and administration comprising of the sub-categories of executive and council; budget and treasury office; and, corporate services (including vehicles, equipment and IT related products);
- Community and public safety comprising of the sub-categories of community and social services; sport and recreation; public safety; housing; and, health;
- Economic and environmental services comprising of the sub-categories of planning and development; road transport; and, environmental protection; and
- Trading services comprising of the sub-categories of electricity; water; waste water management; and, waste management.

The amounts in **Table 102** and the percentages in Figure 74 reflect the standard classification and its subcategory allocations as a percentage of the total capital budget. Due to the developmental nature of a capital budget it only makes sense to look at what percentage of the available scarce financial resources are spent in what standard classification of capital expenditure. The focus must be on the investment in infrastructure that will improve the quality of life of Drakenstein's customer base and that will raise future economic benefits for the Municipality.





# 5.3.2 Analysis of the MTREF Capital Expenditure

Total capital expenditure forecasted for the 2021/22 financial year amounts to R128.1 million compared with the projected capital expenditure of R231.0 million for the 2020/21 financial year (revised budget). Capital expenditure forecasts for the outer financial years amounts to R91.0 million (2022/23), R95.1 million (2023/24), R66.6 million (2024/25) and R64.4 million in year five (2025/26). The capital programme also shows capital projects to the amount of R4.218 billion which cannot be accommodated in the next five financial years.

It should be noted that the capital expenditure budget has been considerably decreased over the MTREF, if compared to the spending in the past five years. This is due to the moratorium on the taking up of loans until 2025/2026, the accumulation of internal reserves for capital replacement over the MTREF and the decrease in capital grants due to the economic impact of COVID-19.

For the 2021/2022 financial year the split between the main standard classifications (GFS) as set out in Table 105 below and Graph 6 above, are as follows: Electricity receives 17.5% of the capital budget, roads 21.5%, sport and recreation 10.6%, finance and administration 12.5%, waste 9.6%, other 9.4% (housing, community and social services, public safety and etcetera), water 7.9% and waste water 7.5%.

Capital expenditure trends over the years shown in **Table 102** are depicted in the Figure 75. It is clear from this figure that the majority of capital expenditure is invested in those categories previously known as trading services (water, electricity, waste water and refuse removal infrastructure) and roads infrastructure. The investment in these infrastructure services stimulates economic growth and especially the trading services generate revenue that increases our tax base.

### Table 102: MTREF High Level Capital Budget per Government Financial Statistics (GFS)

	2021/2022 MTREF HIGH LEVEL CAPITAL BUDGET EXPENDITURE PER GOVERNMENT FINANCIAL STATISTICS											
Serial Number	Description	Audited Expenditure 2017/2018	Audited Expenditure 2018/2019	Audited Expenditure 2019/2020	Original Budget 2020/2021	Revised Capital Budget 2020/2021	2021/2022 Tabled Capital Budget	2022/2023 Approved Capital Budget	2023/2024 Indicative Capital Budget	2024/2025 Indicative Capital Budget	Draft 2025/2026 Indicative Capital Budget	Draft 2026/2027 and onwards Indicative Capital Budget
Column Reference	А	В	с	D	E	F	G	I	J	к	L	м
1	Community and Social Services: Core Function - Cemeteries, Funeral Parlours and Crematoriums	388,286	1,609,565	1,618,168	4,900,000	809,000	-	-	-	-	-	8,011,930
2	Community and Social Services: Core Function - Community Halls and Facilities	9.874.046	2.545.661	122,797	100.000	-	160.000	455.000	510.000	1.665.000	620.000	7.060.000
3	Community and Social Services: Non-core Function - Agricultural	158,625	219.682		-	-		-	-		-	1.070.000
4	Community and Social Services: Non-core Function - Cultural Matters	1,145,741	347.302	459.508	-	-	170.000	660.000	520.000	380.000	190.000	12,772,000
5	Community and Social Services: Non-core Function - Libraries and Archives		61,540	160,808	-	-	-	-	-	-	-	
6	Energy Sources: Core Function - Electricity	145,925,422	155,203,667	53,542,646	39,950,000	46,527,499	22,382,577	24,021,739	24,021,739	24,021,739	24,021,739	928,658,661
7	Executive and Council: Core Function - Mayor and Council	3,241,573	73,122	2,607	-	-	-	-	-	-	-	-
	Executive and Council: Core Function - Municipal Manager, Town			· · · ·								
8	Secretary and Chief Executive Finance and Administration: Core Function - Administrative and	596,864	142,860	97,205	120,000	336,545	-	-	-	-	-	10,230,000
9	Corporate Support	5,365,493	7,313,136	3,809,203	3,208,900	4,329,413	8,911,500	100,000	100,000	150,000	2,170,000	25,396,125
10	Finance and Administration: Core Function - Budget and Treasury Office	5,014	1,020	-	-	-	-	-	-	-	-	-
11	Finance and Administration: Core Function - Finance	509,251	402,452	853,478	-	-	250,000	-	-	-	-	984,375
12	Finance and Administration: Core Function - Fleet Management	30,939,233	13,215,034	167,165	1,083,543	1,083,543	4,090,000	19,450,000	20,000,000	-	-	253,612,177
13	Finance and Administration: Core Function - Human Resources	90,260	1,961,956	-	-	-	-	-	-	-	-	-
14	Finance and Administration: Core Function - Information Technology	4,310,221	5,691,407	6,208,077	2,367,294	5,237,897	2,530,000	-	-	-	-	32,426,912
	Finance and Administration: Core Function - Marketing, Customer											
15	Relations, Publicity and Media Co-ordination	18,019	24,773	206,280	-	21,154	196,000	-	-	-	-	-
16	Finance and Administration: Core Function - Property Services	5,871,914	6,471,754	577,548	1,010,399	482,389	-	-	-	-	-	7,520,000
17	Finance and Administration: Core Function - Supply Chain Management	2,708,508	871,820	912,081	2,082,860	800,870	-	-	-	-	-	-
18	Finance and Administration: Non-core Function - Risk Management	30,194	-	30,000	-	-	-	-	-	-	-	-
19	Housing: Non-core Function - Housing	30,707,680	38,737,059	33,732,642	8,687,291	22,657,581	10,800,000	5,100,000	11,600,000	3,000,000	-	62,307,600
20	Internal Audit: Core Function - Governance Function	10,068	59,506	-	-	-	-	-	-	-	-	-
21	Other: Core Function - Tourism	-	-	210,000	-	-	-	-	-	-	-	2,250,000
22	Planning and Development: Core Function - Economic Development/Planning	16,689	165,848	151,747	-	-	5,000	-	-	-	-	3,239,726
23	Planning and Development: Core Function - Project Management Unit	-	-	130,995	150,000	150,000	-	215,000	-	-	-	-
24	Planning and Development: Core Function - Town Planning, Building Regulations and Enforcement, and City Engineer	115,845	-				-	-		_	-	_
25	Public Safety: Core Function - Fire Fighting and Protection	5,543	2,988,448	2,183,527	1,637,600	786,500	895,000	1,435,000	2,430,000	1,415,000	1,490,000	12,520,000
	Road Transport: Core Function - Police Forces, Traffic and Street Parking											
26	Control	621,839	441,491	605,211	2,110,000	1,666,540	2,110,000	-	-	-	-	4,050,000
27	Road Transport: Core Function - Roads	64,400,084	77,076,695	57,165,823	87,394,552	94,237,892	25,481,404	9,528,406	11,983,768	11,983,768	10,983,768	658,236,893
20	Sport and Recreation: Core Function - Community Parks (including	220 702	752.004	865 220	775 000	001 775						12 200 000
20	Sport and Recreation: Core Eunction - Recreational Eacilities	2 884 220	2 105 /51	4 082 520	6 900 162	8 690 049	2 02/ 792	-	-	-	-	12,200,000
30	Sport and Recreation: Core Function - Sports Grounds and Stadiums	13 231 584	2,155,451	16 219 397	7 341 292	8 327 939	14 191 305			-		14 835 000
31	Waste Management: Core Function - Solid Waste Disposal (Landfill Sites)	10,201,004	20,007,000	10,210,007	7,511,232	0,02.7,005	4 000 000	6 000 000	-	-	_	1,000,000
32	Waste Management: Core Function - Solid Waste Removal	15,592,655	2,896,791	2,539,340	3.000.000	3,567,894	8,100,000		-	-	-	64,281,930
33	Waste Management: Core Function - Street Cleaning		190,000				200.000	-	-	-	-	
34	Waste Water Management: Core Function - Public Toilets	-		-	-	-		-	-	-	-	-
35	Waste Water Management: Core Function - Sewerage	123,920	-	2,320	-	-	-	-	-	-	-	-
36	Waste Water Management: Core Function - Waste Water Treatment	206,196,348	56,164,519	31,527,414	8,915,000	14,203,210	9,600,000	9,528,403	11,983,768	11,983,768	10,983,768	1,073,413,767
37	Water Management: Core Function - Water Distribution	107,563,292	174,039,211	51,574,113	35,238,539	16,122,424	10,095,000	14,528,406	11,983,768	11,983,768	13,983,768	1,023,299,587
38	Grand Total	652,978,143	572,533,531	269,757,843	216,972,433	231,020,113	128,102,569	91,021,954	95,133,043	66,583,043	64,443,043	4,218,378,422



### Figure 75: Capital Expenditure per Standard Classification

# 6 10-Year Capital Expenditure Framework

# 6.1 Budget Assumptions

Drakenstein Municipality has prepared its financial plans and forecast on the basis of sound historical income and expenditure trends, and based upon latest forecasts and knowledge to date. Future years forecasts are neither worst case scenario, or overly optimistic, and as such it is seen as little value to artificially revise these estimates to create a significant negative or positive variance that is not anticipated, as this could simply be misleading to the reader of this LTFP.

In Table 103 below the LTREF budget projection issues are depicted with the current financial year actual percentage increases and the assumed next ten financial year's increases.

### Table 103: 2020/2030 LTREF Key Budget Projections

	2021/2031 LTREF KEY BUDGET PROJECTIONS											
SERIAL NUMBER	DESCRIPTION	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031
COLUMN REFERENCE	А	С	D	E	F	G	н	I	J	К	L	м
1	GROWTH PARAMETERS											
2	Growth (GDP)	0.90%	3.30%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%	1.90%
3	Headline inflation rates	3.30%	3.90%	4.20%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%	4.40%
4	REVENUE INCREASES											
5	Property rates	7.50%	-2.00%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
6	Refuse removal services revenue increase	7.80%	7.50%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%
7	Sanitation services revenue increase	8.30%	6.00%	8.30%	8.30%	8.30%	8.30%	9.76%	9.76%	9.76%	9.76%	9.76%
8	Water services revenue increase	6.90%	6.00%	6.90%	6.90%	6.90%	6.90%	7.49%	7.49%	7.49%	7.49%	7.49%
9	Electricity life line consumers	6.22%	14.59%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%
10	Electricity domestic consumers	4.90%	14.59%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%
11	Electricity revenue increase	6.22%	14.59%	6.43%	6.43%	6.43%	6.43%	6.65%	6.65%	6.65%	6.65%	6.65%
12	<u>GEARING</u>	1		1		1						
13	Gearing Ratio (NT formula)	68.54%	62.77%	56.48%	50.09%	44.17%	38.40%	39.61%	40.36%	41.45%	41.83%	42.89%
14	Interest and Redemption as a % of total operating revenue (conditional grants excluded)	8.06%	7.40%	8.99%	8.32%	7.76%	7.29%	6.82%	7.05%	7.07%	6.83%	6.81%
15	EMPLOYEE RELATED COSTS											
16	Wage bill cost-of-living increases	6.50%	6.50%	6.15%	6.15%	6.15%	6.15%	5.28%	5.28%	5.28%	5.28%	5.28%
17	Estimated notch increase	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%

	2021/2031 LTREF KEY BUDGET PROJECTIONS											
SERIAL NUMBER	DESCRIPTION	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031
COLUMN REFERENCE	А	с	D	E	F	G	н	I	J	к	L	м
18	BULK PURCHASES											
19	Bulk Purchases - Electricity	8.75%	17.80%	8.90%	8.90%	8.90%	8.90%	8.90%	8.90%	8.90%	8.90%	8.90%
20	Bulk Purchases - Water	22.19%	5.00%	4.10%	4.10%	4.10%	4.10%	4.10%	4.10%	4.10%	4.10%	4.10%
21	OTHER EXPENDITURE											
22	Contracted Services	47.34%	2.10%	18.30%	-15.43%	3.86%	3.72%	3.72%	3.72%	3.72%	3.72%	3.72%
23	Depreciation and Amortisation	11.27%	0.97%	1.39%	2.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
24	Impairment Loss	2.34%	-39.70%	3.84%	4.07%	4.32%	4.58%	4.58%	4.58%	4.58%	4.58%	4.58%
25	Inventory Consumed	-26.06%	-2.59%	3.47%	4.90%	18.85%	-4.98%	-4.98%	-4.98%	-4.98%	-4.98%	-4.98%
26	Operating Leases	25.07%	-7.28%	3.02%	5.65%	3.86%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%
27	Operational Cost	16.71%	12.92%	3.10%	5.77%	2.07%	5.55%	5.55%	5.55%	5.55%	5.55%	5.55%
28	GRANTS: NATIONAL DEPARTMENTS	5				1			I			
29	Equitable share <b>(R'000)</b>	178,332	171,259	183,640	185,945	185,945	185,945	185,945	185,945	185,945	185,945	185,945
30	Equitable share % growth	9.21%	4.13%	7.23%	1.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
31	Integrated Urban Development Grant (R'000)	58,649	59,256	39,773	41,344	41,344	41,344	41,344	41,344	41,344	41,344	41,344
32	Other grants (National and Provincial) <b>(R'000)</b>	158,950	73,715	76,666	38,356	37,371	37,371	37,371	37,371	37,371	37,371	37,371

# 6.2 Long-Term Financial Plan

The Long-Term Financial Plan (LTFP) outlines a comprehensive multi-year financial plan that will ensure longterm financial sustainability for Drakenstein Municipality. The Financial Plan is essential to ensure that the Municipality continues to implement its mandate effectively without eroding its capital base and to move towards self-sufficiency in meeting the growing demands of service delivery.

This plan will also focus on the expansion of Drakenstein's revenue sources in relation to its costs to ensure that the Municipality stays a financially viable and sustainable going concern. Drakenstein must utilise available financial resources in an effective, efficient and economical way to ensure that outputs have the desired outcomes as set out in Chapter 5 of the IDP. The financial strategies detailed in this plan must contribute to the achievement of these objectives.

Budgets in terms of National Treasury's Municipal Budget and Reporting Regulations only need to cover a planning period of the next financial year and the two outer financial years thereafter. However, the MTREF and the multi-year sustainable financial plan will cover key budget focus areas over the next five years and the LTREF (Long term revenue and expenditure framework) even longer. It will also cover the current financial year's information as well as the previous three financial years' audited information.

This Long-Term Financial Plan (LTFP) generates information which is used to guide decisions about Council operations into the future. However, as with any long-term plan, the accuracy of this LTFP is subject to many inherent influences. These variables and risks can be divided into two main categories:

# 6.2.1 External Influences – items outside of the Municipality's control:

Unforeseen political and economic changes or circumstances such as:

- Interest rates fluctuations;
- Localised economic growth through residential development and new business;
- Consumer Price Index;
- Changes in levels of grant funding;
- Changes to tariffs and levies and their conditions (eg Eskom bulk tariff increases);
- Availability of essential resources such as fuel, electricity and water;
- Community needs and expectations;
- A change in the level of legislative compliance; and
- Economic changes due to health disasters.

Variable climatic conditions such as:

- Flooding;
- Fires; and
- Drought.

# 6.2.2 Internal Influences – items that the Municipality can control:

- Agreed service level review outcomes;
- Infrastructure asset management;
- Rates and other tariff increases;
- Performance management;
- Efficiencies in service delivery and administrative support; and
- Salaries and wages (vacancy rate).

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	2021/2022 LONG TERM REVENUE AND EXPENDITURE FRAMEWORK (MTREF)															
Serial Number	Description	Audited Expenditure 2017/2018 R'000	Audited Expenditure 2018/2019 R'000	Audited Expenditure 2019/2020 8'000	Original Budget 2020/2021 R'000	2020/2021 Revised Operating Budget R'000	Approved 2021/2022 Operating Budget R'000	2022/2023 Indicative Operating Budget R'000	2023/2024 Indicative Operating Budget R'000	2024/2025 Indicative Operating Budget R'000	2025/2026 Indicative Operating Budget R'000	2026/2027 Indicative Operating Budget R'000	2027/2028 Indicative Operating Budget R'000	2028/2029 Indicative Operating Budget R'000	2029/2030 Indicative Operating Budget R'000	2030/2031 Indicative Operating Budget R'000
Column Refe- rence	A	8	c	D	E	F	6	н	1	a.	ĸ	ı	м	N	o	р
1	Bulk Purchases Electricity	632,001	673,708	768,631	835,891	825,891	972,890	1,059,477	1,153,771	1,256,456	1,368,281	1,490,058	1,622,673	1,767,091	1,924,362	2,095,630
2	Bulk Purchases Water	2,739	4,306	9,820	12,000	12,000	0	0	0	0	0	0	0	0	0	0
3	Contracted Services	183,179	148,047	143,553	211,507	147,323	152,526	177,945	150,492	156,306	162,113	168,136	174,383	180,862	187,582	194,551
4	Depreciation and Amortisation	223,736	212,294	216,017	240,352	240,352	242,691	246,074	251,074	251,074	251,074	251,074	251,074	251,074	251,074	251,074
5	Employee Related Cost	564,969	657,224	665,366	688,196	704,136	743,377	783,287	824,656	868,221	914,099	962,402	1,013,257	1,066,799	1,123,170	1,182,520
6	Impairment Loss	128,635	105,608	153,488	157,075	208,152	125,514	130,331	135,641	141,502	147,978	154,751	161,834	169,241	176,987	185,087
7	Interest, Dividends and Rent on Land	132,450	158,386	178,731	182,312	182,312	180,316	176,320	166,959	158,790	147,443	135,486	148,088	158,349	171,594	197,811
8	Inventory Consumed	38,421	37,697	55,892	41,327	50,043	48,973	50,441	52,914	62,887	59,756	56,781	53,954	51,268	48,715	46,290
9	Inventory Consumed Water	0	0	0	0	0	12,492	13,004	13,537	14,092	14,670	15,272	15,898	16,550	17,228	17,934
10	Loss on disposal of PPE	0	9,089	(392)	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
11	Losses	864	2,339	93	0	0	0	0	0	0	0	0	0	0	0	0
12	Remuneration of Councillors	28,062	29,945	31,027	31,709	31,709	33,640	34,650	35,689	36,760	37,863	38,998	40,168	41,373	42,615	43,893
13	Transfers and Subsidies	10,532	22,541	16,657	9,460	10,161	18,118	50,210	30,210	10,210	10,210	10,210	10,210	10,210	10,210	10,210
14	Other Expenditure	106,235	111,709	87,087	103,356	116,462	128,031	128,396	134,851	132,748	138,597	144,704	151,080	157,737	164,687	171,943
15	Total Operating Expenditure	2,051,823	2,197,894	2,325,970	2,515,184	2,530,541	2,660,568	2,852,134	2,951,795	3,091,046	3,254,085	3,429,872	3,644,618	3,872,553	4,120,224	4,398,945
16	Property rates	(245,517)	(271,147)	(311,892)	(331,537)	(342,977)	(403,841)	(440,023)	(474,334)	(507,846)	(545,934)	(586,879)	(630,895)	(678,213)	(729,078)	(783,759)
17	Service Charges-Electricity	(968,420)	(1,019,090)	(1,171,403)	(1,249,790)	(1,245,779)	(1,411,764)	(1,499,801)	(1,599,390)	(1,706,198)	(1,819,873)	(1,941,122)	(2,070,448)	(2,208,392)	(2,355,525)	(2,512,462)
18	Service Charges-Sanitation	(84,208)	(95,321)	(116,384)	(126,900)	(121,818)	(124,877)	(134,736)	(147,940)	(162,630)	(178,540)	(196,006)	(215,181)	(236,231)	(259,341)	(284,711)
19	Service Charges-Waste	(85,034)	(101,139)	(124,370)	(135,188)	(126,864)	(136,379)	(146,591)	(161,368)	(173,955)	(187,523)	(202,150)	(217,917)	(234,915)	(253,238)	(272,991)
20	Service Charges-Water	(188,588)	(167,820)	(163,949)	(164,548)	(157,334)	(167,485)	(178,451)	(191,863)	(206,462)	(222,068)	(238,854)	(256,908)	(276,328)	(297,215)	(315,681)
21	Agency Services		0	0	<u>a ar as a</u> t	(14,123)	(14,123)	(14,547)	(14,983)	(15,433)	(15,896)	(16,373)	(16,864)	(17,370)	(17,891)	(18,428)
22	Fines, Penalties and Forfeits	(92,938)	(75,253)	(82,126)	(79,896)	(137,673)	(80,625)	(80,625)	(80,625)	(80,625)	(80,625)	(80,625)	(80,625)	(80,625)	(80,625)	(80,625)
23	Gains	(4,622)	(1,979)	(1,894)	0	0	0	0	0	0	0	0	0	0	0	0
24	Gains on disposal of PPE	24,306	(13,398)	2,707	(2,000)	(2,000)	(22,572)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)	(2,000)
25	Interest - External Investments	0	0	(6,153)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)
26	Interest, Dividends and Rent on Land	(40,536)	(25,138)	(7,274)	(10,339)	(8,214)	(8,214)	(8,814)	(9,459)	(10,150)	(10,893)	(11,690)	(12,546)	(13,464)	(14,449)	(15,506)
27	Licences or Permits	(3,332)	(3,463)	(5,695)	(3,351)	(3,351)	(3,214)	(3,214)	(3,214)	(3,214)	(3,214)	(3,214)	(3,214)	(3,214)	(3,214)	(3,214)
28	Other Revenue	(28,841)	(39,531)	(31,575)	(41,062)	(28,928)	(23,630)	(23,006)	(23,886)	(24,591)	(25,326)	(26,084)	(26,864)	(27,668)	(28,496)	(29,348)
29	Rental from Fixed Assets	(8,541)	(9,509)	(15,983)	(15,557)	(5,826)	(5,213)	(4,774)	(4,301)	(3,792)	(3,245)	(2,777)	(2,376)	(2,033)	(1,740)	(1,489)
30	Transfers and Subsidies	(142,918)	(211,613)	(193,366)	(265,053)	(226,517)	(200,111)	(236,306)	(204,316)	(204,316)	(204,316)	(204,316)	(204,316)	(204,316)	(204,316)	(204,316)
31	Transfers and subsidies: Capital	(151,870)	(150,160)	(180,714)	(168,149)	(172,226)	(97,133)	(56,107)	(53,458)	(52,473)	(52,473)	(52,473)	(52,473)	(52,473)	(52,473)	(52,473)
32	Total Operating Revenue	(2,021,061)	(2,184,560)	(2,410,071)	(2,599,369)	(2,599,632)	(2,705,180)	(2,834,994)	(2,977,138)	(3,159,684)	(3,357,926)	(3,570,562)	(3,798,628)	(4,043,240)	(4,305,600)	(4,587,002)
33	Operating (Surplus)/Deficit	30,762	8,334	(84,101)	(84,185)	(69,092)	(44,612)	17,140	(25,343)	(68,638)	(103,841)	(140,690)	(154,009)	(170,687)	(185,376)	(188,058)

### Table 104: 2021/2022 Long Term Revenue and Expenditure Framework (MTREF) per Expenditure Category

# 6.3 Long Term Capital Expenditure Funding

Capital expenditure is funded through own revenue, grants and donations from outside stakeholders and external borrowings. Own revenue can only be generated through operating budget surpluses, but, this means that Drakenstein's customer base must pay for it through property rates and service charges levied.

Grants and donations through government programmes and private investors are another important funding source. Government programmes will usually give grants for bulk infrastructure services and internal infrastructure services where the investment in infrastructure is needed to provide basic services to the poor. Private investors will contribute levies to improve bulk services provision and to invest in basic infrastructure services for township development.

The capital expenditure funding trends over the past four years and forecasted ten years (LTREF) under review are set out in Table 105 and Figure 76. The available funding from all sources over the LTREF is referred to as the affordability envelope. In Figure 76 it is clear that external borrowings (light blue colour) was the main source of funding of capital expenditure for the period 2016/17 till 2018/19. Due to restructuring of loans no debt will be taken up during the period 2021/22 until 2025/26, but will once again be from 2026/27 to 2030/31. It also clearly shows that own funding (green colour) is becoming the only other funding source for the MTREF.

These reserves need to be rebuilt as from the 2021/22 financial year as indicated in Table 105 and Figure 76. Therefore, the decision to limit capital funding from own funds to R50 million per year until 2030/31. Grant funding (dark blue colour) fluctuates depending on the success of business plan applications for grant funding from government and funding agency programmes.

	2021/2022 LTREF HIGH LEVEL CAPITAL BUDGET EXPENDITURE PER FUNDING SOURCE												
Serial Number	Financial Year	Capital Replacement reserve	External loans	Grants	Other	Capital Budget Totals							
Column	Α	В	С	D	E	G							
1	Audited Expenditure 2017/2018	55,073,136	476,218,758	121,686,249	-	652,978,143							
2	Audited Expenditure 2018/2019	78,266,756	357,114,628	136,348,449	803,698	571,729,833							
3	Audited Expenditure 2019/2020	31,085,427	93,963,326	144,709,089	-	269,757,843							
4	Original Budget 2020/2021	63,300,476	-	153,671,957	-	216,972,433							
5	Revised Capital Budget 2020/2021	86,264,232	-	144,755,881	-	231,020,113							
6	2021/2022 Indicative Capital Budget	31,720,000	-	96,382,569	-	128,102,569							
7	2022/2023 Indicative Capital Budget	34,915,000	-	63,773,000	-	98,688,000							
8	2023/2024 Indicative Capital Budget	41,675,000	-	61,329,000	-	103,004,000							
9	2024/2025 Indicative Capital Budget	14,110,000	-	60,344,000	-	74,454,000							
10	2025/2026 Indicative Capital Budget	11,970,000	-	60,344,000	-	72,314,000							
11	2026/2027 Indicative Capital Budget	50,000,000	245,000,000	60,344,000		355,344,000							
12	2027/2028 Indicative Capital Budget	50,000,000	260,000,000	60,344,000		370,344,000							
13	2028/2029 Indicative Capital Budget	50,000,000	310,000,000	60,344,000		420,344,000							
14	2029/2030 Indicative Capital Budget	50,000,000	310,000,000	60,344,000		420,344,000							
15	2030/2031 Indicative Capital Budget	50,000,000	350,000,000	60,344,000		460,344,000							

### Table 105: Capital Expenditure per Funding Source (LTREF Affordability Envelope)



### Figure 76: Capital Expenditure per Funding Source (LTREF Affordability Envelope)

# 6.3.1 External Borrowings

External borrowing as a funding source is capped at 50% of total operating revenue (excluding conditional grants) as per Council's External Borrowing Policy. Due to development opportunities and pressures, Council allowed investment in infrastructure through external borrowings that has led the capped percentage to be exceeded.

Due to the slowdown of the South African economy and in Drakenstein Municipality as well, residential developments are taking place at a slower rate than assumed five years ago. During the 2019/20 year the majority of long-term loans were restructured.

Due to the restructuring of the external loans of the Development Bank of Southern Africa, Standard Bank and Nedbank, no further external loans will be taken up over the next four financial years. This will assist in decreasing the gearing ratio to 68.5% at the end of the 2020/21 financial year, before decreasing to 62.8% (2021/22), 56.5% (2022/23), 50.1% (2023/24), 44.2% (2024/25) and 38.4% (2025/26) as depicted in Figure 77. This will result that the gearing ratio decrease to below the National Treasury norm of 45% and within the 50% norm of Council's External Borrowing Policy.

The constraints placed on the available funding available for capital project implementation, the moratorium on the taking up of external loans during the loan restructuring period as well as the limited grants received by the Municipality, has necessitated a significant decrease in the capital expenditure over the next 5 years.



# 6.3.2 Grant funding

Drakenstein Municipality's capital grants allocation (IUDG, INEP, WC Transport and etcetera), due to the formulae applied, are substantially lower when compared to secondary cities of the same size. As this formula is not within the control of the Municipality, it has resolved to source vigorously for government grant funding through government grant and foreign grant programmes. The Municipality has thus set up a Grant Task Team (GTT), a sub-committee of the Revenue Management, Expenditure Management and Cost Containment Committee that is under the leadership of the Accounting Officer, to ensure the sourcing of additional grant funding is dealt with in a much more focused and strategic manner. The role of the GTT is to unlock any possible grant funding, in addition to the current conventional government grant funding streams available via the Division of Revenue Act (DoRA). The sub-committee reports in monthly intervals to the Revenue Management, Expenditure Store Stor

### The following grant applications are in process and current grant programmes are pending:

- DBSA IIPSA funding: R27.9 million grants received for planning activities. Successful implementation
  may result in Drakenstein Municipality being eligible for possible additional grant funding from DBSA. The
  grant availability agreement was extended to 30 June 2021 due to delays relating to COVID-19 lockdown
  period.
- Department of Environmental Affairs Operation Phakisa: Operation Phakisa is a Presidential programme established to support the implementation of the National Development Plan to promote the SA economy through various waste management initiatives which contributes to the GDP of the country through job creation; reducing negative environmental impact; formalization & protection of informal workers; and economic transformation. The following 5 proposals were submitted as listed in the table below: Programme is awaiting funding confirming to proceed –

Table 106: Projects - Operation Phakisa

PROJECT NAME	AMOUNT
Wellington Landfill Site: Material Recovery Facility (MRF)/Transfer Station	R 43,700,000
Wellington Landfill Site: Provision of Sustainable alternative disposal methods for organic food waste (Biogas Plant)	R 18,300,000
Wellington WWTW: Re-Use of Effluent	R 167,000,000
Drakenstein Lightweight Bricks Manufacturing using Recycled Polystyrene	R 52,900,000
Recycling Awareness campaign	R 1,200,000
TOTAL VALUE OF APPLICATIONS	R 283,100,000

- Department of Human Settlements: Funding for Simondium Innovative Technology "Bubbler Sewer System". Feedback received: DoHS are overcommitted with projects, and as a result was forced to implement budget cuts. With the Department's inability to be able to contribute towards bulks, did not consider this in the budgeting process for 2021/22.
- Department of Energy (DoE)/DBSA Support Programme: Drakenstein identified as a pilot for the rollout of a DBSA grant for electricity backlog eradication, for operational and capital projects. Implementation of this programme has been delayed due to funding constraints.
- Department of Water & Sanitation (DWS) Water Services Infrastructure Grant (WSIG): Funding application for Water Demand Management approved in principle for approximately R5 million.

Funding has been approved and gazetted as follows:

2021/22: R4,095,000

2022/23: R5,000,000

- Neighbourhood Development Partnership Programme (NDPG): Funding support and approval to proceed with planning processes, received from National Treasury.
- DBSA Vumela bulk infrastructure financing product: First meeting held in March 2021 regarding the possibility of this innovative funding solution for the Paarl South bulk sanitation upgrades.
- IDIS Private Development Funding Programme (PDFP): PDFP was developed by IDIS to unlock Foreign Direct Investment (FDI) for projects to assist South African municipalities. Funding invested is not a loan and does not require any repayments. Municipality to provide security to unlock funding at no cost. Security provided is a "pledge" by the municipality to keep/maintain a percentage of its fixed assets owned above an agreed threshold level for a period of 5 years. Example: If the fixed assets owned by municipality is valued at R10 billion, and the municipality decides it is comfortable to pledge 30% (R3billion), FIVE times the pledge value will be unlocked for projects to be implemented over a 5-year period (5 x R3 billion = R15 billion). The municipality is in the process of having internal discussions regarding the viability of exploring this funding option.

# 6.3.3 Affordability Envelope: Addressing the funding Gap

Table 107 below sets out the available funding sources (also referred to as the affordability envelope). The difference between the affordability envelope and the total capital need is referred to as the funding gap.

	AVAILABLE FUNDING SOURCES TO BE USED FOR THE PRIORITISATION MODEL FOR CAPITAL ASSET INVESTMENT													
Serial Number	Financial Year	Capital Replacemen t reserve	% of Total Capex	External Loans	% of Total Capex	Prioritised Capex (Prioritisation Model)	% of Total Capex	Total Own Funding	% of Total Capex	Grants	% of Total Capex	Capital Budget Totals	% of Total Capex	
Column Reference	Α	В	С	D	E	F	G	H	I	J	к	L	М	
1	2021/2022	31,720,000	24.8%	-	0.0%	31,720,000	24.8%	31,720,000	24.8%	96,382,569	75.2%	128,102,569	100.0%	
2	2022/2023         34,915,000         38.4%         -         0.0%         34,915,000         38.4%         34,915,000         38.4%         56,106,954         61.6%         91,021,954         100.0%													
3	2023/2024 41,675,000 43.8% - 0.0% 41,675,000 43.8% 41,675,000 43.8% 53,458,043 56.2% 95,133,043 100.0%													
4	2024/2025	14,110,000	21.2%	-	0.0%	14,110,000	21.2%	14,110,000	21.2%	52,473,043	78.8%	66,583,043	100.0%	
5	2025/2026	11,970,000	18.6%	-	0.0%	11,970,000	18.6%	11,970,000	18.6%	52,473,043	81.4%	64,443,043	100.0%	
6	MTREF	134,390,000	30.2%	-	0%	134,390,000	30.2%	134,390,000	30.2%	310,893,652	69.8%	445,283,652	100%	
7	2026/2027	50,000,000	14.1%	245,000,000	68.9%	295,000,000	83.0%	295,000,000	83.0%	60,344,000	17.0%	355,344,000	100.0%	
8	2027/2028	50,000,000	13.5%	260,000,000	70.2%	310,000,000	83.7%	310,000,000	83.7%	60,344,000	16.3%	370,344,000	100.0%	
9	2028/2029	50,000,000	11.9%	310,000,000	73.7%	360,000,000	85.6%	360,000,000	85.6%	60,344,000	14.4%	420,344,000	100.0%	
10	2029/2030	50,000,000	11.9%	310,000,000	73.7%	360,000,000	85.6%	360,000,000	85.6%	60,344,000	14.4%	420,344,000	100.0%	
11	2030/2031	50,000,000	10.9%	350,000,000	76.0%	400,000,000	86.9%	400,000,000	86.9%	60,344,000	13.1%	460,344,000	100.0%	
12	LTREF Grand	384,390,000	15.5%	1,475,000,000	60%	1,859,390,000	75.2%	1,859,390,000	75.2%	612,613,652	24.8%	2,472,003,652	100%	
13														
14	Capital budget (LTFP affordability envelope) for the next five (2021/2022 - 2025/2026) years to adress IDP needs = 445,283,652 5.97%													
15						LTFP affordability env	elope fo	r years six (2026/2027) t	o ten (20	030/2031) to adress IDP	needs =	2,026,720,000	27.15%	
16	Ī			IDF	o needs	in capital programme th	at could	not be addreses in yea	rs one (2	021/2022) to ten (2030/	2031) =	4,991,697,604	66.88%	

### Table 107: Available Funding Sources (LTREF Affordability Envelope)

Total capital programme based on CEF needs = 7,463,701,256 100.00%

The five-year MTREF indicates that the capital programme of R445.3 million in terms of the affordability envelope will only address 6.0% of Drakenstein's total capital programme needs of R7.464 billion as indicated in the Ten Year Capital Expenditure Framework. Over the LTREF this improves to 33.1% of the total capital programme needs in terms of the affordability envelope, but still leaving a funding gap of 66.9% over the LTREF.

The funding gap, based on the average capital need over the LTREF less the available funding per the affordability envelope is indicated in graph 13 below. Based on the forecasted MTREF, the average funding gap in 2021/22 is 83.4%, increasing to 89.2% in 2022/23, further increasing to 89.4% 2023/24 and 92.2% 2024/25 and 2025/26, before decreasing to 38.3% in 2030/31. The large funding gaps between 2021/22 and 2025/26 is due to the moratorium placed on the taking up of external loans, as discussed earlier in the chapter.



Figure 78: LTREF Capital Affordability Envelope and Funding Gap

It is imperative to solve the unfunded and underfunded mandate issues to allow the operating budget to generate more operating surpluses to boost the funding of capital projects through own revenue. The funding

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gap will further accumulate over time, if it is not addressed, which could result in the collapse of municipality's infrastructure in the long-term.

# 6.4 Financial Position of the Municipality

## 6.4.1 Asset Management

The objective of the Asset Management Policies is to define the asset management intent of Drakenstein, including the life-cycle management, accounting and administrative policies and procedures relating to physical assets (immoveable and movable assets) and computer software (intangible assets) of the Drakenstein Municipality. The principles and policy statements are embedded in the Asset Management Policy (AMP) and Financial Asset Management Policy (FAMP) of Council.

### Key Performance Area (KPA) 2: Financial Sustainability

- Key Focus Area (KFA) 12. Asset Management
- Indicator: Submission of a GRAP Compliant Fixed Asset Register to the Auditor General

### Table 108: Asset Management Targets

	IDP TARGETS 2017-2022										
Unit of Measurement	Baseline Actual 2016/2017	Target 2017/18	Target 2018/19	Target 2019/20	Target 2020/21	Target 2021/22					
Number of GRAP Compliant Fixed Asset Registers submitted to the Auditor General by 31 August	1	1	1	1	1	1					

### Table 109: Municipal Financial Position – Asset Management

	MFMA Norm	Minimum	Healthy	Base Case 10- Year Average
ASSET MANAGEMENT				
Capital Expenditure / Total Expenditure	10% - 20%	10%	20%	20%
Repairs and Maintenance as % of PPE and Investment Property	8%	n.a.	n.a.	4%

# 6.4.2 Debtors Management

Drakenstein shall incur debt only when necessary to meet a public need and when funding for such projects is not available from current revenues or other sources. Long-term borrowing will be used to finance capital improvements as approved in the Municipality's CEF. Capital projects financed through the incurring of debt shall be financed for a period not to exceed the expected useful life of the project. The Municipality will not incur debt to finance current operations. Lease-purchase obligations, capital outlay notes or other debt instruments may be used as a medium-term method of borrowing for the financing of vehicles, computers, other specialised types of equipment, or other capital improvements. All these principles are embedded in the Borrowing Policy of Council.

### Table 110: Municipal Financial Position – Debtors Management

	MFMA Norm	Minimum	Healthy	Base Case 10- Year Average
DEBTORS MANAGEMENT				
Gross Consumer Debtors Growth	n.a.	n.a.	0%	1.1%
Payment Ratio / Collection Rate	95%	90%	95%+	95%
Net Debtors Days	30	60	30	45

# 6.4.3 Liquidity Management

In terms of Section 13(2) of the Municipal Finance Management Act, each Municipality must establish an appropriate and effective Cash Management and Investment Policy. Investments of the Municipality will be undertaken in a manner that seeks to ensure the preservation of capital in the overall portfolio. The portfolio will remain sufficiently liquid to enable the Municipality to meet daily cash flow demands and conform to all state and local requirements governing the investment of public funds.

The preservation of principles is the foremost objective of the investment program. Drakenstein will continue the current cash management and investment practices, which are designed to emphasise safety of capital first, sufficient liquidity to meet obligations second, and the highest possible yield third. These principles are embedded in the Cash Management and Investment Policy of Council.

### Table 111: Municipal Financial Position – Liquidity Management

	MFMA Norm	Minimum	Healthy	Base Case 10- Year Average
LIQUIDITY MANAGEMENT				
Minimum Liquidity Level	1 – 3 months	1.0	1.0	2
Liquidity Ratio (Current Assets: Current Liabilities)	1.5 – 2.0: 1	1.0: 1	2.0: 1	1.5: 1

# 6.4.3.1 Current Ratio

The current ratio, which expresses the current assets as a proportion to current liabilities. A current ratio between one point five and two to one (1.5-2:1) is acceptable and considered to be very healthy in terms of the National Treasury Guidelines. Drakenstein's current ratio as at 30 June 2018 was 0.95:1; as at 30 June 2019 decreased to 0.61:1 and recovered to 0.89 at 30 June 2020. It is envisaged that it will be 0.95:1 at 30 June 2021 and thereafter 1.08:1 (2021/22), 1.19:1 (2022/23), 1.32:1 (2023/24), 1.40:1 (2024/25) and 1.50:1 (2025/26).

# 6.4.3.2 Debtors Turnover Ratio

The debtors' turnover ratio, which have a great impact on the liquidity of the Municipality, increased to 68.4 days at 30 June 2020 (due to the impact of COVID 19 on the economy) compared to 60.2 days at 30 June 2019 and 77.1 days as at 30 June 2018. The debtors' turnover ratio (before considering the provision for impairment) at 30 April 2021 stood at 62.8 days. Over the medium- and long-term the Municipality will attempt to decrease the debtors' turnover ratio to 65 days at the end of the 2021/2022, financial year, and to 64 days, 63 days, 62 days and 61 days at the end of the 2022/23, 2023/24, 2024/25 and 2025/26 financial years respectively.

The debtor's turnover ratio (after provisions for bad debt impairment) increased to 46.5 days as at 30 June 2020 (due to the impact of COVID 19 on the economy) compared to 44.3 days as at 30 June 2019 and 47.8 days as at 30 June 2018. At 30 April 2021 this ratio stood at 41.6 days. Over the medium- and long-term the Municipality will attempt to decrease the debtors' turnover ratio (after provisions for bad debt impairment) to about 42 days over the MTREF period ending on 30 June 2026.

The "acceptable" norm is 30 days as per MFMA Circular 71. This norm cannot be met and should be at least 45 days due to current credit control legislation requiring certain notification actions from a municipality before

the electricity supply to a consumer may be disconnected to enforce reaction from a consumer in arrears. Going the legal.

# 6.4.3.3 Collection Rate

The revenue collection rate which largely determines if the Municipality remains a going concern. Drakenstein will endeavour over the short-, medium- and long-term to collect at least 95% of its billed revenue. Due to the impact of the COVID-19 lockdown, the collection rate and the accompanying provision for doubtful debt has been reviewed and a provision for doubtful debt impairment of 2.5% of expected billed revenue (services and property rates) had been made. For each of the four outgoing years of the MTREF a provision of 2.5% (2022/23), 2.6% (2023/24), 2.6% (2024/25) and 2.6% (2025/26) has been made. The majority of debt older than 90 days has been provided for and the writing-off of irrecoverable debt of all indigent households and the incentives in the Writing-Off of Irrecoverable Debt Policy will reduce the debtor's turnover ratio over the short-and medium-term.

# 6.4.4 Liability Management

Refer to the net financial liability ratio.

### Table 112: Municipal Financial Position – Liability Management

	MFMA Norm	Minimum	Healthy	Base Case 10- Year Average
LIABILITY MANAGEMENT				
Debt Service as % of Total Operating Expenditure	6% - 8%	n.a.	7.5%	8%
Total Debt (Borrowings) / Operating Revenue	45%	40%	35%	45%
Debt Service Cover Ratio (Cash Generated by Operations / Debt Service)	n.a.	1.3	1.5	1.5

# 6.4.5 Sustainability

Drakenstein needs to ensure that its operating budget is balanced and cash-funded through realistically anticipated revenue to be received/collected to cover operating expenditure. As there are limits on revenue, it is necessary to ensure that services are provided at levels that are affordable; and, that the full costs of service delivery are recovered. However, to ensure that households, which are too poor to pay for even a portion of their basic services, at least have access to these basic services; there is a need for the subsidisation of these households through an indigent support subsidy.

The operating budget should also generate reasonable and sustainable cash surpluses to assist with the financing of capital budget expenditure since Drakenstein infinitely cannot continue to finance capital projects with external borrowings. Net financial liabilities (total liabilities less current assets) as a percentage of total operating revenue (capital items excluded) should be below acceptable target levels to ensure long-term financial sustainability. Current assets should be maintained and renewed or replaced in time to ensure that services are rendered at the desired quality levels over the long-term. For this purpose, a Long-Term Financial Sustainability Policy with three critical financial sustainability ratios was developed.

Financial sustainability over the long term has to do with the maintenance of high-priority expenditure programmes, both operating and capital, to ensure programme sustainability and desired quality of service to be rendered. There must also be rates and service charge stability and predictability in the overall rate burden by ensuring reasonable rates and service charges to fund programmes. Fair sharing in the distribution of council resources and the attendant taxation between current and future ratepayers (intergenerational equity) must also be promoted to ensure that the current generation are not over-burdened for the use of infrastructure by future generations – in other words sound long-term financial management. Based on the above three elements, financial sustainability could be defined as follows:

"A council's long-term financial performance and position is sustainable where planned long-term services and infrastructure levels and standards are met without unplanned increases in rates and service charges or disruptive cuts to services"
Three key financial indictors or ratios were developed to influence long-term financial sustainability planning and budgeting. They are:

- An operating surplus ratio to influence financial performance planning and budgeting;
- A net financial liabilities ratio to influence financial position planning and budgeting;
- An asset sustainability ratio to influence asset management performance planning and budgeting.

The abovementioned are embedded in the developed **Long-Term Financial Sustainability Policy** approved by Council.

#### Table 113: Municipal Financial Position – Sustainability

	MFMA Norm	Minimum	Healthy	Base Case 10- Year Average
SUSTAINABILITY				
Net Financial Liabilities Ratio	n.a.	n.a.	< 60%	40%
Operating Surplus Ratio	n.a.	n.a.	0% - 10%	5%
Asset Sustainability Ratio	n.a.	n.a.	> 90%	100%

### 6.4.5.1 Operating surplus ratio

Table 114 below the operating budget (capital grants revenue and expenditure excluded) forecasted for the 2021/22 financial year reflects an operating surplus of R44.6 million. This position should change into a more balanced budget and an operating surplus in 2025/26 to the amount of R103.8 million.

The long-term aim is to generate operating surpluses and even higher cash surpluses through economic growth and development. These cash surpluses will be used to build the Capital Replacement Reserve (CRR) for the funding of future capital expenditure. The more Drakenstein fund from own funds the less Drakenstein has to borrow from the open market to finance capital expenditure.

The information below has been populated in Figure 79 to present a picture of Drakenstein's **Operating Surplus Ratio** developed in terms of the **Long-Term Financial Sustainability Policy**. It is clear from the blue line that Drakenstein Municipality's operating results until the 2010/2011 financial year was moving downwards towards a financial unsustainable position. The blue line represents the current expected trend, whereas the grey line indicates the Operating Surplus Ratio as reported in the 2014/2015 reviewed IDP.

#### Table 114: Operating Surplus

	2021/2022 LONG TERM REVENUE AND EXPENDITURE FRAMEWORK (MTREF)															
Serial Number	Description	Audited Expenditure 2017/2018 R'000	Audited Expenditure 2018/2019 R'000	Audited Expenditure 2019/2020 R'000	Original Budget 2020/2021 R'000	2020/2021 Revised Operating Budget R'000	Approved 2021/2022 Operating Budget R'000	2022/2023 Indicative Operating Budget R'000	2023/2024 Indicative Operating Budget R'000	2024/2025 Indicative Operating Budget R'000	2025/2026 Indicative Operating Budget R'000	2026/2027 Indicative Operating Budget R'000	2027/2028 Indicative Operating Budget R'000	2028/2029 Indicative Operating Budget R'000	2029/2030 Indicative Operating Budget R'000	2030/2031 Indicative Operating Budget R'000
Column Refe- rence	A	В	с	D	E	F	G	н	I	J	к	L	М	N	0	Р
1	Total Operating Expenditure	2,051,823	2,192,894	2,325,970	2,515,184	2,530,541	2,660,568	2,852,134	2,951,795	3,091,046	3,254,085	3,429,777	3,644,338	3,872,000	4,119,313	4,397,596
2	Total Operating Revenue	(2,021,061)	(2,184,560)	(2,410,071)	(2,599,369)	(2,599,632)	(2,705,180)	(2,834,994)	(2,977,138)	(3,159,684)	(3,357,926)	(3,570,562)	(3,798,628)	(4,043,240)	(4,305,600)	(4,587,002)
3	Operating (Surplus)/Deficit	30,762	8,334	(84,101)	(84,185)	(69,092)	(44,612)	17,140	(25,343)	(68,638)	(103,841)	(140,785)	(154,290)	(171,240)	(186,287)	(189,406)





The actual audited results of 2012/2013 produced an operating surplus ratio moving upwards towards a more financial sustainable position. The 2013/2014 audited results then suddenly moved downwards mainly due to a non-cash transaction (provision for the rehabilitation of landfill sites) due to environmental legislation municipalities operating budgets had to accommodate. The same environmental legislation affected Drakenstein Municipality in 2017/2018 due to a recalculation of the landfill sites rehabilitation costs.

The 2020/25 MTREF clearly shows that Drakenstein has absorbed these temporary setbacks of the past few years and the operating surplus ratio projects further positive movements towards long-term financial sustainability. Figure 79 shows a significant improvement in the operating budgeted deficit for the 2021/22 financial year compared with the 2020/21 adjustments budgeted deficit.

This position can significantly also change if Drakenstein's tax base increases with new middle and highincome housing developments, business and industrial developments. In the long-term planning, the timing of the implementation of the developments have been pushed out to the LTREF. A conservative provision for the increase of operating revenue through additional developments has been made in the MTREF budget, as to ensure that budgeted anticipated revenue is realistic and secure.

### 6.4.5.2 Net financial liability ratio

The net financial liability ratio is calculated by dividing total liabilities fewer current assets by the total operating revenue (excluding capital grants). This would be an indicator to ensure that net financial liabilities exceed current assets and must be served using available operating revenues to ensure that Drakenstein remains within recommended levels for sustainability. Drakenstein's Policy refers to an

upper limit target of 70% and a lower limit target of 0% to ensure a reasonable financial sustainability range to operate within.



Figure 80: Net Financial Liability Ratio

Figure 80 sketches the net financial liability ratio picture. The depletion of reserves and the taking up of external loans is the main reasons why the ratio drastically increased from 2004/2005 to 2011/12. Drakenstein went over the sustainability limit of 70% in 2017/2018 and this will continue until 2021/22 due to the extensive investment in revenue generating infrastructure (electricity, water and waste water). During 2021/22 till 2025/26 it will decrease significantly due to the moratorium on the taking up of long-term borrowings.

The only way to reduce the net financial liability ratio is to reduce the gearing ratio to below 50% over the long-term as depicted in Figure 77 (external borrowings as a percentage of total operating revenue) above. This however goes together with the assumption that the operating budget must yield higher operating surpluses as depicted in Figure 79 (operating surplus ratio).

### 6.4.5.3 Asset sustainability ratio

The asset sustainability ratio is calculated by dividing the capital expenditure amount spent on the renewal/replacement of asset infrastructure by the depreciation expenditure. This would be an indicator to ensure that existing infrastructure is sufficiently replaced or renewed when they reach their useful life.

Based on the 2021/2026 MTREF capital budget 4% (2021/22), 6% (2022/23), 5% (2023/24), 16% (2024/25) and 16% (2025/26) of the capital budget expenditure are related to the renewal, replacement and upgrading of existing infrastructure. National Treasury's norm is 40%, thus the current spending models for the outer years are lower than this norm. The reason for this is the significant decrease in the capital budget over the MTREF due to the moratorium on the taking up of new loans. Drakenstein Municipality also do not get their fair share of government grants for a developing municipality compared with other secondary and intermediary cities. Due to the Municipality's dependency on capital grants over the next five years, there is a distinct possibility that the incentive portion of the IUDG allocations might decrease over the next few financial years.





Figure 81 illustrates the effect of the reduction of the capital budget over the MTREF. Current capital expenditure spending trends project that existing infrastructure are not being renewed/replaced sufficiently or maintained efficiently to prevent future renewal "backlogs". If future renewal "backlogs" are not addressed, it will result in a reduction of service levels and will likely create a burden on future ratepayers; who will either have to incur substantial financial costs to restore the assets or it will result in a convenience cost from not being able to utilise the assets. Examples are the closure of roads due to excessive pot holes, unacceptable blue drop and green drop statuses due to quality standards not maintained and etcetera.

The decrease in the capital budget is an attempt by Drakenstein to decrease its gearing ratio over the MTREF. The ratio decreases up to 2025/26, before it stabilises over the last five outer years reaching the acceptable limits of between 90% and 110% by 2030/31.

### 6.4.6 Financial Management Strategies and Programmes

The following are some of the more significant programmes that have been identified:

- The post-implementation review of the municipal Standard Chart of Accounts (mSCOA).
- Integration of all computerised systems and acquisition of hardware and software required. The integration of computerised systems and acquisition of the required hardware and software within the Municipality to ensure that information is accurate, relevant and prompt, which in turn will facilitate the smooth running and effective management of the Municipality.
- Development of an mSCOA compliant Medium-Term Revenue and Expenditure Framework (MTREF) Budget.
- Development and implementation of a uniform budget reporting framework compliant with National Treasury's Municipal Budget and Reporting Regulations. Implementation of a budget module on the financial system.
- Review and update asset, budget and accounting policies and procedures.

- Training and development of financial and other staff. The aim of this project will be to ensure that the financial and other staff members receive the training they require to ensure a cost-effective and efficient service to the Municipality and its customers.
- Enhance budgetary controls and timeliness of financial data. Building the capacity of the Budget and Treasury Office to ensure that financial information for reporting purposes is generated timeously. It will also include the monitoring and reporting on budget variances.

## 6.4.7 Efficiency

In an environment of limited resources, it is essential that the Municipality make maximum use of the resources at its disposal by using them in an effective and efficient manner. Efficiency in operations and investment will increase poor people's access to basic services. It is therefore imperative for the operating budget to be compiled on the zero-base budget approach to eliminate any "fat" usually built in a budget with an incremental approach.

	MFMA Norm	Minimum	Healthy	Base Case 10-Year Average
EFFICIENCY				
Accounting Surplus	Break even or >0	Break even	> 0	5%
Cash Operating Surplus	n.a.	Break even	> 0	7%
Net Operating Surplus / Total Operating Revenue	>= 0%	Break even	> 0%	3%
Electricity Surplus / Total Electricity Revenue	0% - 15%	> 0%	> 15%	18%
Water Surplus / Total Water Revenue	>= 0%	= 0%	> 0%	25%

### 6.4.8 Revenue Management

The liquidity levels of the organisation are under strain but have started to improve in 2020/21, in spite of the temporary decrease in 2019/20 due to the effects of the COVID-19 lockdown.

The municipality has introduced a revenue management, expenditure management and cost containment programme under the leadership of the City Manager to raise and collect all revenue due to the municipality. Included in the programme is a focus on expenditure management and cost containment to ensure that available resources are optimised for quality service delivery. Current tenyear external loans of the Development Bank of Southern Africa, Standard Bank and Nedbank were restructured in December 2019 to be repaid over a period of up to 17.5 years, including redemption "holidays" until the end of 2022/23. Due to the restructuring of the external loans of the Development Bank of Southern Africa, Standard Bank and Nedbank, no further external loans will be taken up over the next five financial years. The increase of the municipality's revenue base is expected to reduce the current gearing ratio from 74.5% (2019/20 Audited) to an estimated 38.4% in the 2025/26 financial year.

The municipality has a significant revenue base that continues to grow compared with previous years. The municipality is still confident that the growth in medium to high income developments will be increasing, albeit much slower than expected, due to the economic impact of the lockdown in 2019/20.

The following are some of the more significant revenue raising strategies/programmes that have been identified:

The following are some of the more significant programmes that have been identified:

The implementation of the reviewed Credit Control and Debt Collection Policy and Indigent Support Policy. These policies and the relevant procedures detail all areas of customer care, credit control, indigent support and debt collection of the amounts billed to customers, including procedures for non-payment, etcetera. These policies also define the qualification criteria for an indigent household and the level of free basic services enjoyed by indigent households.

- The implementation of the reviewed Tariff Policy. This policy will ensure that fair tariffs are charged in a uniform manner throughout the municipal area.
- The implementation of the reviewed Property Rates Policy. This policy ensures that fair deferential rates and an updated valuation roll are applied to the entire municipal area and will aim to ensure that all properties are included in the Municipality's records. Furthermore, the policy will ensure that valuations are systematically carried out on a regular basis for all properties.
- The implementation of the reviewed Writing-Off of Irrecoverable Debt Policy with special incentives to encourage outstanding debtors to pay a certain percentage of their outstanding debt and the Municipality to write-off a certain percentage of outstanding debt in terms of the approved policy.
- The review and implementation of an improved Payment Strategy. This strategy aims at implementing innovative cost-effective processes to encourage consumers to pay their accounts in full on time each month, including increasing the methods of payment and implementing on-line pre-payment systems. It includes a revenue protection unit that implement and see to it that credit control actions in terms of Council's policies are enforced vigorously to improve payment percentage levels.
- The implementation of revenue enhancement strategies to ensure that all the properties in Drakenstein Municipality are levied all the required services. These strategies will ensure that revenue gaps are closed and that the municipality bills consumers for all services rendered.

#### In addition to the above, the revenue management programme under the leadership of the City Manager aims to raise and collect all revenue due to the municipality and has the following as focus areas:

- Property rates: Monitoring the implementation of the 2021/22 2024/25 general and supplementary valuation rolls, by the appointed independent valuer.
- Electricity revenue: Investigate the impact of consumers going "off-grid" on the electricity revenue and mitigating actions to reduce the effect on the revenue stream.
- Water revenue: Investigate what measures can be implemented to curb water wastage in informal settlements as well as to reduce the high kiloliters consumed by indigent households.
- Sanitation revenue: Investigate the tariff structure, as the base on which the tariff is calculated (i.e. number of toilets/urinals) are open to error due to a lack of credible information (i.e. human error, building plans outdated/non-existent, illegal toilets installed).
- Refuse removal revenue: Investigate the tariff structure of multiple removals per week revenue versus cost of providing service.
- Integration of GIS and Solar (financial system): Report on the integration of GIS, spatial planning and SOLAR (financial system)
- Traffic fines & Bylaw offences: Investigate the implementation of AARTO & prosecution through the Municipal court of bylaw infringements.
- Funding options (Grants): Investigate the possibility to obtain grants/funds from Provincial Government and other sources.
- **Optic fibre project:** Consider the implementation of a 5<sup>th</sup> utility in the form of an optic fibre service.
- Saron debtors Project plan: Investigate alternative credit control measures in areas such as Saron, where traditional credit control measures, such as the blocking of pre-paid electricity, is not available.
- Transfer of rental stock: Investigate and obtain public participation into the transfer of rental stock to lessees.
- Utilisation/alienation of land and buildings: Identify sites not required for basic services to be sold.

• **Financial recovery plan:** Focus on revenue and debtor's management to ensure that the municipality remains sustainable.

#### Key Performance Area (KPA) 2: Financial Sustainability

- Key Focus Area (KFA) 08. Revenue Management;
- Indicator: Raise / collect operating budget revenue as per approved budget.

#### Table 116: Revenue Management Targets

	IDP TARGETS 2017-2022								
Unit of Measurement	Baseline <i>Actual</i> 2016/2017	Target 2017/18	Target 2018/19	Target 2019/20	Target 2020/21	Target 2021/22			
Percentage of total Annual Operating Budget revenue raised / received by 30 June	101.63%	98%	98%	98%	98%	98%			

#### Table 117: Municipal Financial Management – Revenue Management

	MFMA Norm	Minimum	Healthy	Base Case 10-Year Average
REVENUE MANAGEMENT				
% Increase in Billed Income p.a.	CPI	n.a	n.a	2.7%
Operating Revenue Growth %	CPI	n.a	n.a	2.7%
Annual Increase per Income Source: Equitable Share	n.a	n.a	n.a	9.51%
Annual Increase per Income Source: Property Rates	n.a	n.a	n.a	8.4%
Annual Increase per Income Source: Electricity Services	n.a	n.a	n.a	5.42%
Annual Increase per Income Source: Water Services	n.a	n.a	n.a	6%

### 6.4.9 Expenditure Management

#### Key Performance Area (KPA) 2: Financial Sustainability

- Key Focus Area (KFA) 09: Expenditure and Cost Management;
- Indicator: Spend Operating Budget expenditure as per approved Budget.

#### Table 118: Expenditure and Cost Management Targets

	IDP TARGETS 2017-2022								
Unit of Measurement	Baseline <i>Actual</i> 2016/2017	Target 2017/18	Target 2018/19	Target 2019/20	Target Targe 2020/21 2021/2				
Percentage of total Annual Operating Budget spent by 30 June	97.10%	95%	95%	95%	95%	95%			

#### Table 119: Municipal Financial Management – Expenditure Management

	MFMA Norm	Minimum	Healthy	Base Case 10-Year Average
EXPENDITURE MANAGEMENT				
% Increase in Operational Expenditure	n.a.	n.a.	n.a.	
Creditors Payment Period	30	30	30	30
Contribution per Expenditure Item: Staff Cost (Salaries, Wages and Allowances)	25% - 40%	25% - 30%	25%	28%
Contribution per Expenditure Item: Contracted Services	2% - 5%	2% - 5%	< 5%	8.7%

### 6.4.10 Grant Dependency

Refer to Table 120 for grant funding allocations (grants and grants rollover). See also Paragraphs 6.3.2 and 6.3.3.

Tahle	120.	Munici	hal Finar	ncial Ma	nagement	- Grant	Dependency
Iable	120.	wiumen	jai i illai	iciai ivia	layement	– Grant	Dependency

	MFMA Norm	Minimum	Healthy	Base Case 10-Year Average
GRANT DEPENDENCY				
Total Grants / Total Revenue	n.a.	n.a.	n.a.	14.5%
Own Source Revenue to Total Operating Revenue	n.a.	n.a.	n.a.	85.5%
Capital Grants to Total Capital Expenditure	n.a.	n.a.	n.a.	12%

## 6.5 **Prioritisation Model for Capital Assets Investment**

Drakenstein developed a Prioritisation Model for Capital Assets Investment that was implemented from the start of the 2013/14 financial year. The purpose of the policy is to allocate available revenue for capital investment through a points system based on thirteen principles. These principles are statutory requirement; service delivery; essential service; economic stimulation; community benefit; permanent job creation; labour intensive construction; revenue generating; aesthetical improvement; social upliftment; spatial development framework compliance; risk factor and time factor.

Three main categories were defined i.e. basic services infrastructure and roads, social and economic infrastructure and operational infrastructure. It needs to be noted that these categories do not concur with the GFS standard classifications. Each of these infrastructure categories will receive a percentage allocation of prioritised funds.Prioritised funds mean conditional grants, own revenue and external borrowings to be distributed amongst the prioritised capital projects on the capital programme.

Basic services and roads infrastructure comprising of electricity main supply and networks; water main supply and networks; solid waste infrastructure; and, roads and storm water will receive approximately 70% of prioritised funds.

Social and economic infrastructure comprising of public safety; parks and recreation; environmental; libraries; sport and recreation facilities; arts and culture; new urban development; business development; industrial development; any development that will help grow the local economy and that will create jobs; labour intensive capital projects; and etcetera will receive approximately 20% of prioritised funds.

Operational infrastructure comprising of vehicles, plant and equipment; computer hardware and software; communication networks; office furniture and equipment; machinery, tools and equipment; municipal office buildings; and etcetera will receive approximately 10% of prioritised funds.

During 2019/20 the municipality acquired a Capital Project Prioritisation & Monitoring Software, which was necessitated by the inclusion of the municipality as part of the intermediate city programme receiving the Integrated Urban Development Grant (IUDG). As part of having access to the grant, the Department of Cooperative Governance (DCOG) requires of intermediate city municipalities to compile an annual CEFs according to the legislative requirement stated in the Spatial Planning and Land Use Management Act (Act No 16 of 2013) and aligned to the requirements stated in the Integrated Urban Development Framework (IUDF). The Municipality is in the process of configuring the software for the Drakenstein area and projects linked to the IDP.

The benefit of such a Capital Expenditure Framework (CEF), is that it allows municipalities the ability to plan in an integrated manner and prioritise infrastructure investment in such a way that it will improve the distribution of investment and result in improved spatial development.

The software acquired assists the municipality to improve the management of capital projects planning, budgeting and prioritisation and reporting. The tool encompasses several features, including being able to assist with the respective life cycle phases of the capital projects and prioritisation of capital budgets.

The software would necessitate the updating of the current Prioritisation Model for Capital Assets, as it now provides for a multi-tiered approach to prioritisation, and application of prioritisation of strategic outcomes, budget capping based on collective strategic targets and consideration of investment requirements based on the outputs of long-term sector planning and asset management systems.

The quality of the current Prioritisation Model for Capital Assets that is performed is normally limited by the granularity of data and the availability/adequacy of information.

The new software, as the process of information management is enhanced, will allow for improved prioritisation. Furthermore, the software will be used to ensure, prior to prioritisation, that projects are prepared to a level where in the originator of future capital projects can:

- Demonstrate that the proposed project meets the functional requirements and objectives, and is aligned to meet the need it seeks to address;
- Aligns the proposed projects to the city's strategic programmes and KPAs, already demonstrating how these projects could contribute and align towards meeting of the city's strategic objectives;
- Demonstrate that the proposed project is properly planned and ready to be implemented, should it receive budget;
- Ascertain the capital and operational expenditure of the proposed project, to a sufficient level of accuracy, over the full project life-cycle;
- Ascertain accessibility to grants, impact on municipal revenue and expenditure; and
- Determine and document any risks and concerns that may result in project failure, inclusive of a plan to manage or eliminate such risks.

Albeit the constriction of the funding available for capital expenditure, the guidelines as indicated in the policy cannot be achieved in the next three financial years, as most funding is from conditional grants. As such Table 121 below depicts the allocations per infrastructure type. Basic services infrastructure in 2021/2022 will receive 59.0% of the total capital budget. Over the MTREF basic services infrastructure will receive 49.0% (2022/23), 50.0%; (2023/24), 58.5% (2024/25) and 55.8%% (2025/26) of the total capital budget.

Social and economic infrastructure will receive 23.5% of the total capital budget. Over the MTREF social and economic infrastructure will receive 20.8% (2022/23), 20.8% (2023/24), 29.8% (2024/25) and 28.9% (2025/26) of the total capital budget.

Operational infrastructure will receive 17.5% of the total capital budget. Over the MTREF operational infrastructure will receive 30.2% (2022/23), 29.2% (2023/24), 11.7% (2024/25) and 15.3% (2025/26) of the total capital budget.

Table 121: Allocations	per	Infrastructure	Туре
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2021/2022 MTREF HIGH LEVEL CAPITAL BUDGET EXPENDITURE PER INFRASTRUCTURE TYPE AND FUNDING											
Serial Number	Infrastructure Type / Funding Source	Approved 2021/2022 Capital Budget	Distribution %	2022/2023 Indicative Capital Budget	Distribution %	2023/2024 Indicative Capital Budget	Distribution %	2024/2025 Indicative Capital Budget	Distribution %	2025/2026 Indicative Capital Budget	Distribution %
Column Reference	А	В	С	D	E	F	G	Н	1	J	K
1	Basic Services and Road Infrastructure	75.604.198	59.0%	44.585.215	49.0%	47.551.304	50.0%	38.951.304	58.5%	35.951.304	55.8%
2	Grants	66,514,198	51.9%	39,585,215	43.5%	35,951,304	37.8%	35,951,304	54.0%	35,951,304	55.8%
3	Prioritised Funds	9,090,000	7.1%	5,000,000	5.5%	11,600,000	12.2%	3,000,000	4.5%	-	0.0%
4	Economical Infrastructure	30,065,871	23.5%	18,931,739	20.8%	19,831,739	20.8%	19,816,739	29.8%	18,641,739	28.9%
5	Grants	26,560,871	20.7%	16,521,739	18.2%	17,506,739	18.4%	16,521,739	24.8%	16,521,739	25.6%
6	Prioritised Funds	3,505,000	2.7%	2,410,000	2.6%	2,325,000	2.4%	3,295,000	4.9%	2,120,000	3.3%
7	Operational Infrastructure	22,432,500	17.5%	27,505,000	30.2%	27,750,000	29.2%	7,815,000	11.7%	9,850,000	15.3%
8	Grants	3,307,500	2.6%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
9	Prioritised Funds	19,125,000	14.9%	27,505,000	30.2%	27,750,000	29.2%	7,815,000	11.7%	9,850,000	15.3%

For the 2021/22 financial year the distribution is as depicted in Figure 82.



Figure 82: Capital Expenditure Distribution for the 2021/2022 Financial Year

The prioritised funds used for the allocations to the above infrastructure categories reflected in Drakenstein's capital budget come from the Municipality's operating revenue surpluses (CRR), grants and external borrowings.

## 6.6 Capital Expenditure Framework

A capital expenditure framework is a comprehensive, high-level, long-term infrastructure plan that flows from a spatial development framework. Accordingly, it estimates the level of affordable capital investment by the municipality over the long term by comparing an estimate of capital investment needs to an estimate of available capital finance sources.

Please note, this submission does not break the various infastructure types down by programmes for either the 10-year capital expenditure framework or the 3-year capital expenditure programme, this will only be included in the 2022/2023 submission.

#### Programmes:

- New bulk infrastructure programme (to increase capacity)
- Existing bulk infrastructure upgrade programme (asset management and increase of capacity)
- Existing bulk infrastructure refurbish/replacement programme (to extend useful life of assets)
- New network infrastructure programme (to extend capacity)
- Existing network infrastructure upgrade programme (asset management and to extend capacity)
- Existing network refurbishment/replacement programme (to extend useful life of assets)
- New social and economic infrastructure (facilities) programme
- Existing social and economic infrastructure upgrade, refurbishment, replacement programme
- Land aquisition programme
- Housing delivery programme
- Community Health programme
- Recreation Programme
- Environmental programme
- Safety programme
- Other

It should also be noted that the project locations are currently being verified and will only be finalised for the 2022/2023 submission. The implication being that many projects may are currently allocated to the "various/municipal wide" functional area which could potentially be reallocated once verified, creating a more informed picture of the capital requirements per geographical area.

The summarised Capital Expenditure Framework (CEF) 2021/22 – 2030/31 for the Drakenstein Municipality is depicted in the following tables.

Infastructure Sector	2021/22	2	22/23		23/24		24/25		25/26		26/27		27/28		28/29		29/30		30/31	
Basic Senices	1,000,000	1%		0%		0%	i	0%	-	0%	11,471,283	1%	10,671,283	1%	10,671,283	1%	10,671,283	1%	10,671,283	1%
Water	11,295,000	9%	17,528,406	19%	11,983,768	13%	11,983,768	18%	13,983,768	22%	305,050,646	18%	258,065,137	17%	237,069,197	17%	232,420,364	19%	273,795,384	22%
Waste Water	7,900,000	6%	11,528,403	13%	11,983,768	13%	11,983,768	1.8%	10,983,768	17%	243,827,958	14%	216,837,821	15%	212,651,283	15%	139,775,352	11%	181,557,352	15%
EnergyElectricity	22,382,577	17%	24,021,739	26%	24,021,739	25%	24,021,739	36%	24,021,739	37%	341,837,819	20%	326,088,570	22%	291,604,412	21%	273,127,191	22%	263,439,172	22%
Roads/Streets and Stormwater	25,092,348	20%	9,528,406	10%	11,983,768	13%	11,983,768	18%	10,983,768	17%	254,901,385	15%	230,436,385	16%	229,686,385	16%	227,019,719	18%	217,957,874	18%
Transport	-	0%	-	0%	-	0%	-+	0%	+	0%	1,000,000	0%	1,000,000	0%	1,000,000	0%	1,000,000	0%	-	0%
Solid Waste	11,800,000	9%	6,000,000	7%		0%	3,000,000	5%		0%	89,879,522	5%	84,598,501	6%	105,626,086	8%	102,792,752	8%	77,467,752	6%
Housing	10,800,000	8%	105,000	0%	11,710,000	12%	115,000	0%	120,000	0%	49,298,333	3%	46,078,333	3%	22,978,333	2%	19,675,000	2%	-	0%
Social and Economic Infrastructure	19,255,144	15%	1,490,000	2%	2,385,000	3%	2,360,000	4%	1,100,000	2%	101,815,301	6%	56,605,653	4%	55,115,580	4%	52,323,914	4%	36,413,914	3%
Other	18,577,500	15%	20,820,000	23%	21,065,000	22%	1,135,000	2%	3,250,000	5%	287,438,844	17%	240,797,378	16%	235,783,455	17%	182,960,779	15%	157,462,371	13%
Grand Total	128,102,569	100%	91,021,954	100%	95,133,043	100%	66,583,043	100%	64,443,043	100%	1,686,521,092	100%	1,469,179,062	100%	1,402,186,014	100%	1,241,766,354	100%	1,218,765,083	100%
Affordability	128,102,569		98,688,000		103,004,000		74,454,000		72,314,000		355,344,000		370,344,000		420,344,000		420,344,000		460,344,000	
Funding Gaps (Surplus/Shortfall)			7,666,046		7,870,957		7,870,957		7,870,957		-1,331,177,092		-1,098,835,062		- 981,842,014		- 821,422,354		- 758,421,083	

#### Table 122: 10-Year Capital Expenditure Framework per Infrastructure Sector

#### Table 123: 10-Year Capital Expenditure Framework per Functional Area

Functional Area	2021/22	2	22/23		23/24		24/25		25/26		26/27		27/28		28/29		29/30		30/31	
North City Corridor	61,709,305	48%	25,090,000	28%	32,300,000	34%	4,860,000	7%	800,000	1%	659,651,713	39%	532,219,186	36%	483,525,842	34%	446,339,358	36%	402,883,368	33%
N1 Corridor	-	0%	1.1	0%		0%	e 14.	0%		0%	71,907,159	4%	71,907,159	5%	71,907,159	5%	63,359,106	5%	48,686,053	4%
South City Corridor	3	0%	a l	0%	28	0%	8 - 54	0%	(34)	0%	147,270,035	9%	138,680,035	9%	136,973,900	10%	104,810,970	8%	104,810,970	9%
Rural Hinterland		0%	24	0%		0%	18	0%	(4)	0%	92,071,163	5%	70,434,273	5%	63,582,333	5%	36,291,000	3%	80,827,000	7%
Various/Municipal Wide	66,393,264	52%	65,931,954	72%	62,833,043	66%	61,723,043	93%	63,643,043	99%	715,621,021	42%	655,938,408	45%	646, 196, 779	46%	590,965,920	48%	581,557,692	48%
Grand Total	128,102,569	100%	91,021,954	100%	95,133,043	100%	66,583,043	100%	64,443,043	100%	1,686,521,092	100%	1,469,179,062	100%	1,402,186,014	100%	1,241,766,354	100%	1,218,765,083	100%
Affordability	128,102,569		98,688,000		103,004,000		74,454,000		72,314,000		355,344,000		370,344,000		420,344,000		420,344,000		460,344,000	
Funding Gaps (Surplus/Shortfall)			7,666,046		7,870,957		7,870,957		7,870,957		-1.331,177.092		-1.098.835.062		- 981,842,014		- 821,422,354		- 758,421,083	

#### Table 124: 10-Year Capital Expenditure Framework per Infrastructure Category

Infrastructure Category	2021/22	2	22/23	ų I	23/24		24/25		25/26		26/27		27/28		28/29		29/30		30/31	
Basic Services and Road Infrastructure	73,561,925	57%	64,606,954	71%	67,573,043	71%	58,973,043	89%	55,973,043	87%	1,211,158,856	72%	1,089,689,032	74%	1,029,026,180	73%	928,480,321	75%	949,827,088	78%
Social and Economical Infrastructure	33,504,144	26%	455,000	0%	1,845,000	2%	1,865,000	3%	620,000	1%	87,296,647	5%	50,564,499	3%	42,549,427	3%	38,799,427	3%	21,039,427	2%
Operational Equipment	21,036,500	16%	25,960,000	29%	25,715,000	27%	5,745,000	9%	7,850,000	12%	388,065,588	23%	328,925,530	22%	330,610,407	24%	274,486,606	22%	247,898,568	20%
Grand Total	128,102,569	100%	91,021,954	100%	95,133,043	100%	66,583,043	100%	64,443,043	100%	1,686,521,092	100%	1,469,179,062	100%	1,402,186,014	100%	1,241,766,354	100%	1,218,765,083	100%
Affordability	128,102,569		98,688,000		103,004,000		74,454,000		72,314,000		355,344,000		370,344,000		420,344,000		420,344,000		460.344.000	
Funding Gaps (Surplus/Shortfall)			7,666,046		7,870,957		7,870,957		7,870,957		-1,331,177,092		-1,098,835,062		- 981,842,014		- 821,422,354		- 758,421,083	

The following can be derived from the 10-year CEF:

- The 10-Year CEF aligns with the Municipality's MTREF (2021/22 to 2030/31)
- The most significant portion of capital expenditure are within the North City Functional Area as well as the Municipal Wide projects

# 7 3-Year Capital Expenditure Programme

## 7.1 Alignment with the Capital Expenditure Framework

The three-year capital programme is indicated in the table below and is required to demonstrate alignment with the 10-year Capital Expenditure Framework. It is clear from the comparison with the 10-year CEF that there is alignment.

Infrastructure Sector	2021/22	2	22/23		23/24			
North City Corridor	61,709,305	48%	25,090,000	28%	32,300,000	34%		
Basic Services	1,000,000	2%	-	0%	-	0%		
Water	2,200,000	4%	3,000,000	12%	-	0%		
Waste Water	2,900,000	5%	2,000,000	8%	-	0%		
Energy/Electricity	-	0%	-	0%	-	0%		
Roads/Streets and Stormwater	18,592,348	30%	-	0%	-	0%		
Solid Waste	-	0%	-	0%	-	0%		
Housing	10,800,000	18%	-	0%	11,600,000	36%		
Social and Economic Infrastructure	13,096,957	21%	640,000	3%	700,000	2%		
Other	13,120,000	21%	19,450,000	78%	20,000,000	62%		
N1 Corridor		0%	•	0%	•	0%		
South City Corridor		0%	•	0%	•	0%		
Rural Hinterland		0%	•	0%	•	0%		
Various/Municipal Wide	66,393,264	<b>52%</b>	65,931,954	<b>72</b> %	62,833,043	66%		
Water	9,095,000	14%	14,528,406	22%	11,983,768	19%		
Waste Water	5,000,000	8%	9,528,403	14%	11,983,768	19%		
Energy/Electricity	22,382,577	34%	24,021,739	36%	24,021,739	38%		
Roads/Streets and Stormwater	6,500,000	10%	9,528,406	14%	11,983,768	19%		
Solid Waste	11,800,000	18%	6,000,000	9%	-	0%		
Housing	-	0%	105,000	0%	110,000	0%		
Social and Economic Infrastructure	6,158,187	9%	850,000	1%	1,685,000	3%		
Other	5,457,500	8%	1,370,000	2%	1,065,000	2%		
Transport	-	0%	-	0%	-	0%		
Grand Total	128,102,569	100%	91,021,954	100%	95,133,043	100%		
Affordability	128,102,569		98,688,000		103,004,000			
Funding Gaps (Surplus/Shortfall)	-		7,666,046		7,870,957			

Table 125: 3-Year	nlanned Fx	nenditure ner	Functional Area	and Infrastructure	Sector
		perioritare per			

## 7.2 Anticipated Outputs

The Devision of Revenue Act (DoRA) has outlined the outputs linked to the CEF as follows:

- Number of new water connections meeting minimum standards;
- Number of new sewer connections meeting the minimum standards;
- Number of dwellings provided with connections to the main electricity supply by the municipality;
- Percentage of known informal settlements receiving integrated waste handling services during the financial year;
- Additional square meters of parks provided during the financial year;
- Additional square meters of outdoor sports facilities provided during the financial year;
- Additional square meters of public open space provided during the financial year;
- Number of additional community halls during the financial year;
- Number of additional libraries during the financial year;
- Percentage of unsurfaced road graded during the financial year;
- Percentage of surfaced municipal road lanes which has been resurfaced and resealed;
- Length of non-motorised transport paths built over the financial year; and
- Number of work opportunities and Full-Time Equivalents (FTEs) created using expanded public works programme (EPWP) guidelines for the above outputs.

Please note that these will be updated and reported directly to CoGTA.

## 7.3 Anticipated Outputs in Priority Areas

The planned expenditure per Functional Area is set out below:

Table 126: 3-Year planned expenditure per Functional Area

Functional Area	2021/22	1	22/23		23/24	
North City Corridor	61,709,305	48%	25,090,000	28%	32,300,000	34%
N1 Corridor	-	0%	-	0%	-	0%
South City Corridor	-	0%	-	0%	-	0%
Rural Hinterland	-	0%	-	0%	-	0%
Various/Municipal Wide	66,393,264	52%	65,931,954	72%	62,833,043	66%
Grand Total	128,102,569	100%	91,021,954	100%	95,133,043	100%
Affordability	128,102,569		98,688,000		103,004,000	
Funding Gaps (Surplus/Shortfall)	•		7,666,046		7,870,957	

## 7.4 Anticipated Spending per Income Category

The planned expenditure per Functional Area and that for the poor in each Functional Area are summarised in the following table.

	202	1/22	2	2/23	23/24			
Functional Area	Total	Expenditure on	Total	Expenditure on	Total	Expenditure on		
	Expenditure	Poor	Expenditure	Poor	Expenditure	Poor		
North City Corridor	61,709,305	29,086,624	25,090,000	11,826,148	32,300,000	15,224,575		
Various/Municipal Wide	66,393,264	31,390,245	65,931,954	31,172,141	62,833,043	29,706,999		
Grand Total	128,102,569	60.476.869	91.021.954	42.998.289	95,133,043	44.931.574		

## 7.5 Funding Sources

The summarised financing for the 3-year capital expenditure programme is depicted as follows:

#### Table 128: Summary of planned financing

Financial Year	Capital Replacement reserve	External loans	Grants	Other	Capital Budget Totals
Α	В	С	D	E	G
Audited Expenditure 2017/2018	55,073,136	476,218,758	121,686,249	-	652,978,143
Audited Expenditure 2018/2019	78,266,756	357,114,628	136,348,449	803,698	571,729,833
Audited Expenditure 2019/2020	31,085,427	93,963,326	144,709,089	-	269,757,843
Original Budget 2020/2021	63,300,476	-	153,671,957	-	216,972,433
Revised Capital Budget 2020/2021	86,264,232	-	144,755,881	-	231,020,113
2021/2022 Indicative Capital Budget	31,720,000	-	96,382,569	-	128,102,569
2022/2023 Indicative Capital Budget	34,915,000	-	63,773,000	-	98,688,000
2023/2024 Indicative Capital Budget	41,675,000	-	61,329,000	-	103,004,000

#### The following can be derived from the 3-year capital expenditure programme:

- The 3-year capital expenditure programme aligns with the Drakenstein Municipality's affordability envelope and planned capital expenditure;
- The most significant portion of capital expenditure is within the North City Functional Area and Municipal-Wide projects;
- The CEF does differentiate between funding sources, namely CRR and Grants.

# Appendix A Demographic Data Sources and Methodology

#### **Population and Household Projections**

In order to develop credible population and household projections for the short, medium and long term for the Drakenstein Local Municipality, it is important to review existing information together with past and current trends. The population and household statistics of the Municipality, as published by Statistic South Africa, for the years 2001, 2011 and 2016 are shown in the following table.

#### Population and Household Statistics 2001, 2011 and 2016

Year	Source	Population Total	Population Average Annual Growth Rate	Urban Population	Rural Population	Households	Household Average Annual Growth Rate	Average Household Size
2001	StatsSA Census 2001	194,417	-			44,410	-	4.38
2011	StatsSA Census 2011	251,262	2.60% (2001 -2011)	214,389 (85.3% of the total)	36,873 (14.7% or total)	59,774	3.02% (2001 -2011)	4.20
2016	StatsSA Community Survey 2016	280,195	2.20% (2011-2016)	257,505 (91.9% of the total)	22,690 (8.1% of the total)	71,686	3.70% (2011-2016)	3.91

Source: Statistics South Africa, Census 2001, Census 2011 and Community Survey 2016

The following conclusions can be made from the table above:

- The population growth rate, although positive, is showing a decrease with an average annual growth rate of 2.6% from 2001 to 2011 compared to an average annual growth rate of 2.2% from 2011 to 2016;
- The portion of the population residing in rural areas is decreasing. In 2011, a total of 36,873 people resided in rural/farm areas within the Municipality (14.7% of the total population). This number decreased significantly in 2016, to only 22,690 (8.1% of the total population);
- The household growth rate is higher than the population growth rate and is showing an increase. From 2001 to 2011, the number of households increased by 3.02% per year compared to 3.7% from 2011 to 2016;
- The fact that the household growth rate is faster than the population growth rate, and that the household growth rate is increasing when the population growth rate is decreasing results in a decreasing average household size. One explanation for this occurrence is the formation of new households. From 2001 to 2016, the average household size decreased from 4.38 to 3.91, an average annual decrease of 0.75%.

It is also important to note that Census 2011 and Community Survey 2016 data is only available at municipal and at ward level. Some key indicators of Census 2011 data are available on sub-place level, which to some extent cab be related back to specific towns or delineated township/suburb areas. Due to ward boundary delineations not following formal township/suburb boundaries, and in many instances crossing across various urban townships/suburbs as well as rural/farming areas, developing town level profiles is not always possible. Ward 1, for example, includes the town area of Simondium, Winelands Estate, the industrial area Ben Bernhard well as Klapmuts North.

A presentation to the Western Cape Property Development Forum Conference 2017 (Trends in Western Cape Urbanisation: Challenges and Opportunities for the Development Industry? - Piet van Zyl, Head of Department: Environmental Affairs & Development Planning) indicates that urban areas are growing at a much faster rate than rural areas. According to the presentation, the estimated urban population growth rate (up until 2040) will be an estimated 1.57% per annum, while the overall population is expected to grow by 1.12% per annum.

The Growth Potential Study (GPS3) Draft Report 2013 indicates where growth is likely to occur in the Province at town level. This study highlights that Paarl has both very high growth potential and very high socio-economic

need, which is the highest rating. The study further classifies Wellington as a town with medium growth potential and very high socio-economic need

Taking the above-mentioned information into consideration, the population projections for the Municipality were calculated based on the following assumptions:

- Clustering of ward and sub-place boundaries to develop town/area specific profiles;
- An average annual growth rate of 1.57% was applied for the Paarl/Mbekweni/Wellington urban area. This is in line with the Provincial planning estimate as well as the Growth Potential Study (GPS3);
- The area south of the N1/Paarl South's growth cannot be quantified by applying linear growth rates, since this area houses high-income gated communities which develop around a specific demand. For this reason, the known planned and/or approved developments within this area, their estimated number units, together with their planned phasing were used as number of households. An estimated 2,060 residential units will be developed and occupied over the short term (2020 to 2025), within the Val de Vie 2 (Pearl Valley 2), The Vines (Val de Vie Winelands Lifestyle Estate) and Safariland (The Acres). Over the medium to long term, an estimated 5,714 residential units will be developed and occupied in developments such as the De Hoop Community Lifestyle Estate, Levendal, Fair Valley, Sence de Lieu, Paarl Hills (Ronwe farm), Zanddrift Lifestyle & Retirement Estate and Wilde Paarde Jagt. This results in an average annual population growth of 7.9% over the period 2020 to 2040;
- An average annual growth rate of 0.5% was applied to rural villages and towns such as Simondium, Saron, Gouda and Hermon in order to accommodate natural growth;
- Based on the fact that the rural areas are currently experiencing a decrease in growth and the occurrence of urbanisation, an average annual growth rate of 0% was applied to all other rural and farm areas;
- The number of households was calculated by dividing the total population by the average household size. In order to account for the fact that the average household size is decreasing, the average household size was calculated using the base 2016 average of 3.91 and then applying an average annual growth of -0.75% (the average annual growth rate from 2001 to 2016).

The population and household projections for the Municipality for the period 2016 to 2040 are shown in the following table.

			Ye	ear	Total	Growth in N	umbers	Growth (%)			
Population/ Households	2016	2020	2025	2030	2035	2040	Short Term: 2020 to 2025	Medium Term: 2020 to 2030	Long Term: 2020 to 2040	Total Growth 2020 to 2040 (%)	Average Annual Growth (%) 2020 to 2040
Population	280,195	294,869	321,251	348,068	376,060	405,388	26,382	53,199	110,519	37%	1.60%
Households	71,686	77,752	87,965	98,971	111,042	124,303	10,213	21,220	46,551	60%	2.37%

#### Population and Household Projection, Short, Medium and Long Term

Source: Own calculations taken from Drakenstein SDF

The population and household numbers of the Drakenstein Municipality is projected to increase by 110,519 and 4,551 respectively over the long term (from 2020 to 2040). From the table above, it is evident that the largest concentration of Drakenstein's population resides in the urban areas of Paarl, Wellington and Mbekweni (77.7% in 2020, increasing to 78% in 2040). The largest population growth in numbers is within the Paarl, Wellington and Mbekweni area, with an overall increase of almost 85,000 individuals from 2020 to 2040. The largest population growth, percentage-wise, will be within the Southern Paarl area, which shows an overall increase of 315% in population from 2020 to 2040.

#### Land Use Budget

The total land use requirements are set out for residential, community and social services and business/retail are as follows:

- short term (2020 to 2025);
- medium term (2020 to 2030) total requirements from 2020 to 2030 and includes the short-term requirements.

The land use requirements are based on the following assumptions:

- It is important to note that the individual columns for Paarl, Mbekweni and Wellington do not add up to the column showing the total for the Paarl, Mbekweni and Wellington area as a whole. The reason for this is that the column showing the total land use budget for the Paarl, Mbekweni and Wellington area was calculated based on the total population for this area. Because these three urban areas are continuous, it was important to highlight that although the estimated increase in population for one of these areas on its own does not necessarily indicate a need for a specific community or social facility, but the area as a whole does. For example, a primary school has a population threshold of 7,000 people. Therefore, the need for a single primary school over the short term was identified for the Paarl area alone (projected population increase of 10,407 people), with no need within the Mbekweni or Wellington areas (projected increase of 2,997 and 5,307 people, respectively). However, with a projected increase of 18,764 people for the Paarl, Mbekweni and Wellington area as a whole, the need for two primary schools was identified to serve the area.
- The residential land use requirements are based on the total estimated household backlog/growth:
  - Low income at an average gross density of 33 dwelling units per hectare.
  - Middle income at an average gross density of 20 dwelling units per hectare.
  - High income at an average gross density of 16 dwelling units per hectare.
- The total community and social services land use requirements are based on the total land required to address the current backlog as well as accommodate the future required social and community facilities (2030) as per the Council for Scientific and Industrial Research (CSIR) "The Neighbourhood Planning and Design Guide: Creating Sustainable Human Settlements" (2019). Section H of the Red Book, "Housing and social facilities" also provide population thresholds and access distances for typical facilities social and community services, but not according to population size of an area. The Red Book states: "Some government departments provide specific guidance on relevant facilities, e.g. the Department of Sport and Recreation's Norms and Standards for Sport and Recreation Infrastructure Provision and Management and the Department of Basic Education's National Minimum Uniform Norms and Standards for School Infrastructure. The CSIR Guidelines for the Provision of Social Facilities in South Africa (2012) breaks down the required provision of community and social services based on an area's total population, thus per Metropolitan Cities/Regions, Large Cities/Small Metros, Large Towns/Regional Service Centres, Small-Medium Towns/Regional Service Centres, Small Towns/Isolated Regional Service Centres, Dense Dispersed Settlements, Villages and Remote Villages. As such more detail is also provided in the CSIR Guidelines for the Provision of Social Facilities in South African Settlements and the Department of Rural Development and Land Reform's Social Facility Provision Toolkit" and therefore this Guideline which breaks the provision of facilities down per population were used in this exercise. The CSIR Red Book were however also consulted to ensure alignment.
- In terms of the rural areas, which consist of various rural nodes spread across the municipal area, access to community and social facilities considered accessibility and catchments areas to a larger extent than population thresholds.
- The land use budget for business or retail opportunities was calculated using 0,4m<sup>2</sup>/capita for the lower order shopping centres such as Local Convenience Centres with a maximum size of 5,000m<sup>2</sup> leasable floor area providing convenience goods. For the larger centres such as Neighbourhood, Community and Regional Shopping Centres as well as shops in the original central business districts, providing specialised goods, the guideline of 0,6m<sup>2</sup>/capita was used.

- Industrial/Warehousing: The current supply is provided and provides and includes vacant stands. The future land use budget is focused on the development of Klapmuts and Ben Bernhard as part of the N1 Corridor;
- The Estimated Main Land Use Budget aims to provide land budget for the urban complex of Paarl, Wellington and Mbekweni, as well as individually for the urban areas. Higher-order land uses should be planned on a larger spatial scale while lower-order uses are planned on local area scale. As a result, the land areas for individual towns will not add up for the urban complex villages/towns.

#### N1 Corridor assumptions:

- The N1 Corridor and its development proposals are non-residential in nature, with their primary focus on commercial/business, industrial and mixed-use development. This does not mean that there can be no residential development within this corridor, but simply that residential development and as a result population and household projections have not been taken into consideration/calculated in this assessment. This Functional Area also overlaps with the North City Integration Corridor and the South City Corridor;
- The land use table shows the high level estimated vacant/underutilised land within this area that could be developed over the short/medium term. It should be noted that although these areas are large, the total developable land has not yet been established and will be subject to specialist studies;
- Please note that this land use budget does not take the development proposals outlined in the Klapmuts North Draft Local Spatial Development Framework (July 2018) into consideration.

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