



WATER SERVICES DEVELOPMENT PLAN

**2022 - 2026
5-year Cycle**

REVISION 4: 2025/2026



WSDP Compiled and submitted for approval

Municipal WSDP Coordinator:

Name:

Signature:

Date:

WSDP Recommended for approval

Municipal Manager

Recommended:

Name:

Signature:

Date:

Final Council approval

Capacity:

Name:

Signature:

Date:

Name:

Signature:

Date:

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BACKGROUND

Introduction

Harry Gwala District Municipality (HGDM) as the Water Service Authority, has a duty to all customers or potential customers in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to Water Services [Water Services Act of 1997 Section 11]. HGDM therefore has a legislative responsibility to prepare a Water Services Development Plan (WSDP) for its area of jurisdiction [Water Service Act of 1997 Section 12]. Planning work related to various aspects of water services are being dealt with on a continuous basis through the year and the results of such work are then systematically fed into the WSDP.

Name of WSA

Name	Harry Gwala District Municipality	
Address	Private Bag X501 IXOPO 3276	40 Main Street IXOPO 3276

Status of WSDP

The planned completion dates for the revision of the WSDP are as follows:

- WSDP Role players approval (Draft version) – March 2025
- EXCO approval – May 2025
- Expected Council approval – June 2025
- Submission of final WSDP with amended comments & input - August 2025

WSDP drafting team

The following role players for input into the WSDP are shown in Table 1 below:

Table 1: Role Players

Position	Designation	Name	Surname	Tel	Email
Municipal Manager	Municipal Manager	Mr Gamakulu	Sineke	039-834-8707	sinekeg@harrygwalm.gov.za
Mayor	Mayor	Mr Zamokwakhe David	Nxumalo	039-834-8736	nxumaloz@harrygwalm.gov.za
Director: Water & Sanitation	Executive Director Water Services	Mr Dumisani	Gqiba	039-834-3939	gqibad@harrygwalm.gov.za
IDP Manager	IDP Manager	Mr Zweli	Mtolo	039-834-8700	mtoloz@harrygwalm.gov.za
GIS Technician	GIS Technician	Mr Thulasizwe	Maphumulo	039-834-8700	maphumulot@harrygwalm.gov.za
Chief Financial Officer	Chief Financial Officer	Mr Khulani	Mzimela	039-834-8701	mzimelak@harrygwalm.gov.za
Environmental	Environmental Manager	Ms Thobeka	Mahlaba	039-834-8700	mahlabat@harrygwalm.gov.za
Director: Engineering & Infrastructural Services	Executive Director: Infrastructure Services Department	Mr Nkululeko	Biyase	039-834-8704	biyasen@harrygwalm.gov.za
WSDP Contact	Chief Engineers: Research, Planning and Design Unit	Mr S'khanyiso	Ngcobo	039-834-3939	ngcobosk@harrygwalm.gov.za
Manager: Water & Sanitation Services	Operation and Maintenance Director	Mrs Mamakhwa	Ntamanem	039-834-5574	ntamanem@harrygwalm.gov.za
Director: Water & Sanitation	Operation and Maintenance Director	Mrs Mamakhwa	Ntamanem	039-834-5574	ntamanem@harrygwalm.gov.za
WSA Manager	Senior Manager	Mrs Basetsana	Khathali-Msomi	039-834-5568	khathalib@harrygwalm.gov.za

Process followed

HGDM annually prepares a revised WSDP in time for the approval of the annual municipal budget. Planning work related to various aspects of water services are being dealt with on a continuous basis through the year and the results of such work are then systematically fed into the WSDP.

Sector Integration

The following documentation and sources of info were used as supporting input into the compilation of the WSDP:

- *Water and Sanitation Master Plan 2012*
- *Water and Sanitation Master Plan 2025*
- *5-Year Reliability Water and Sanitation Master Plan 2024*
- *Integrated Development Plan 2024/2025*
- *Spatial Development Framework 2023*
- *DWS Blue Drop Assessment 2023*
- *DWS Green Drop Assessment 2023*
- *DWS No Drop Assessment 2022*
- *MuSSA Feedback Report 2024*
- *HGDM Indigent Policy 2024/2025*
- *HGDM Environmental Management Framework 2024*
- *HGDM District Development Model 2020*
- *HGDM Groundwater Resource Assessment 2025*
- *HGDM Surface Water Resource Assessment 2025*

Table 2: WSDP Approval Process

Item	Date
WSDP Role players Meeting	Bi-annual
Submission of draft WSDP document to WSA for comments	End of February
Policy Review (Strategic Planning)	End of March
EXCO approval	May
Advertise for public comment	End May
Council approval	June
Submit to DWA for final approval (Audit Report for previous year & web-based WSDP document)	End of August

Public comments

The WSDP will be advertised during May 2025 for public comment.

Adoption record

The 2024/2025 revision of the WSDP has been approved by the HGDM Council during June 2024.

WSDP Co-ordinators

The WSA unit is under the Executive Director: Water Services, and is responsible for the WSDP reviews. The WSDP process is managed by the Senior Manager: Research, Planning and Design Unit.

PMU

HGDM has a PMU and is functioning well. The PMU unit comprises of a manager, two chief technicians, seven technicians, a senior ISD Officer, and three ISD officers.

The PMU Manager is situated under the Executive Director: Infrastructure, and is responsible for the implementation of all projects scheduled by the WSA.

The organograms below indicate the split in functions related to water and sanitation services.

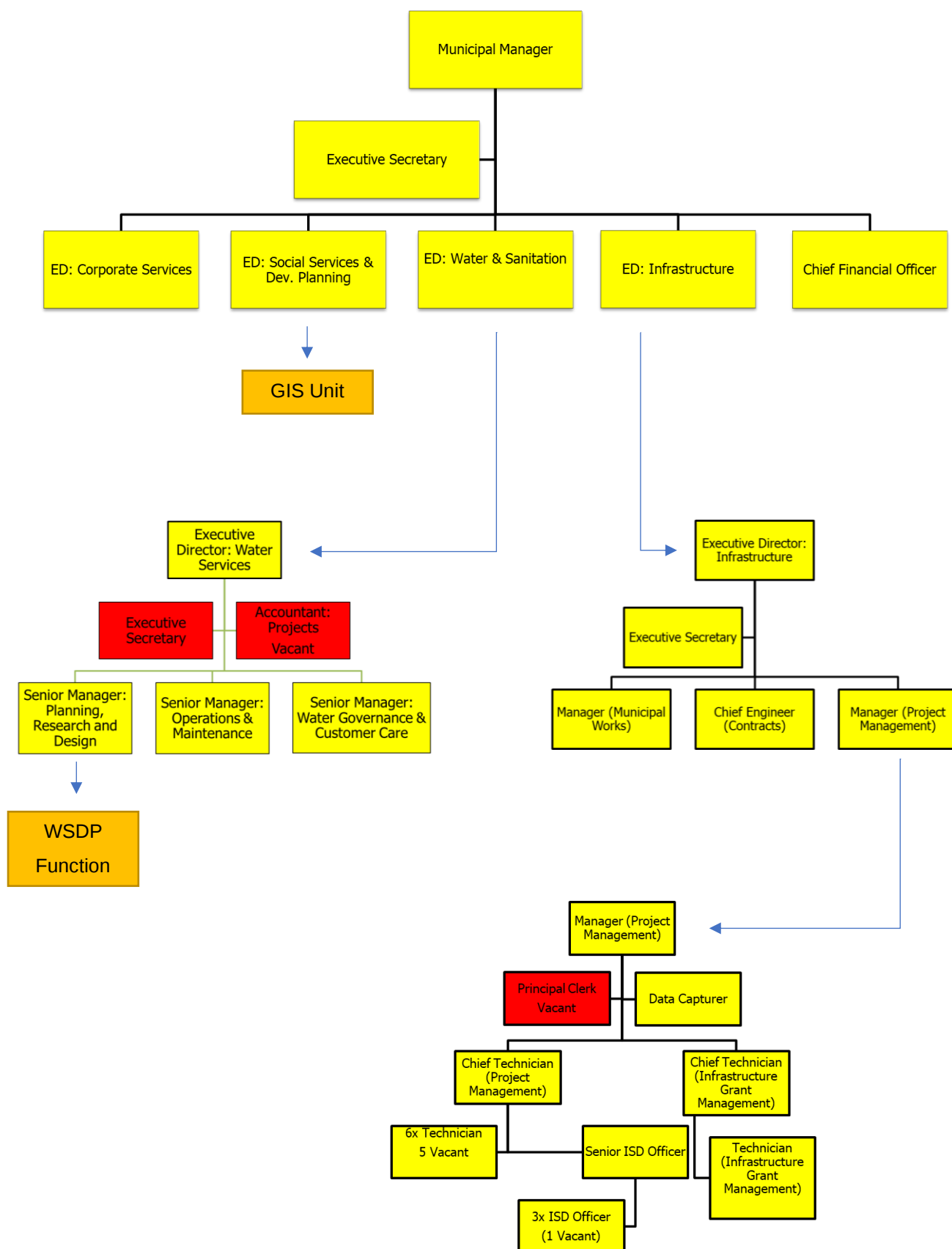


Figure 1: KZN PGDS Framework

Water Services Level Policy

HGDM has a Service Level Standards bylaws (available from the HGDM website at www.harrygwalandm.gov.za.) The following levels of service for water and sanitation are available from the municipality:

Table 3: Service Levels

Domestic Water Supply				
Service Level	Level of Service	Definition	Applicable Tariff Structure	Norms and Standards
Higher Level	Full pressure conventional house connection (Above RDP standard)	Full pressure unrestricted individual erf/yard connection	Stepped block tariff	Design specifications
Medium Level	Yard tank (Above RDP standard)	Restricted (to 200l per day) individual erf connection with tank in yard	No charge	Design specifications
Medium Level	Communal street taps (RDP standards)	Unrestricted full pressure standpipe not further than 200m from dwellings (shared by a number of consumers)	No charge	Design specifications
Lower Level	Rudimentary	Formalised supply: - Borehole equipped with hand pump - Protected spring - Communal standpipe within 800m from dwellings	No charge	Design specifications

Domestic Sanitation				
Service Level	Level of Service	Definition	Applicable Tariff Structure	Norms and Standards
Higher Level	Water borne (Above RDP standard)	Unrestricted connection to municipal sewerage system	Water consumption based tariff structure included in water tariff	Design specifications
Medium Level	Conservancy tank (RDP standards)	Localised temporary sewage storage facility	Rate per load disposed by municipality	Design specifications
Medium Level	Septic tanks (RDP standards)	On-site disposal (self-treatment)	No charge	Design specifications
Lower Level	Ventilated improved pit (VIP) (RDP standards)	Dry pit with sufficient capacity on-site disposal based on set standards	No charge	Design specifications

Indigent Policy

Poverty alleviation and the rendering of basic services to households who cannot afford to pay for essential services are rated highly on the priority lists of the South African government. HGDM has an Indigent Policy in place (www.harrygwalam.gov.za), that determines who qualifies as an indigent individual, granting the person access to free basic services, such as water and sanitation.

The following applicants may be considered as an indigent if they meet one of the following requirements:

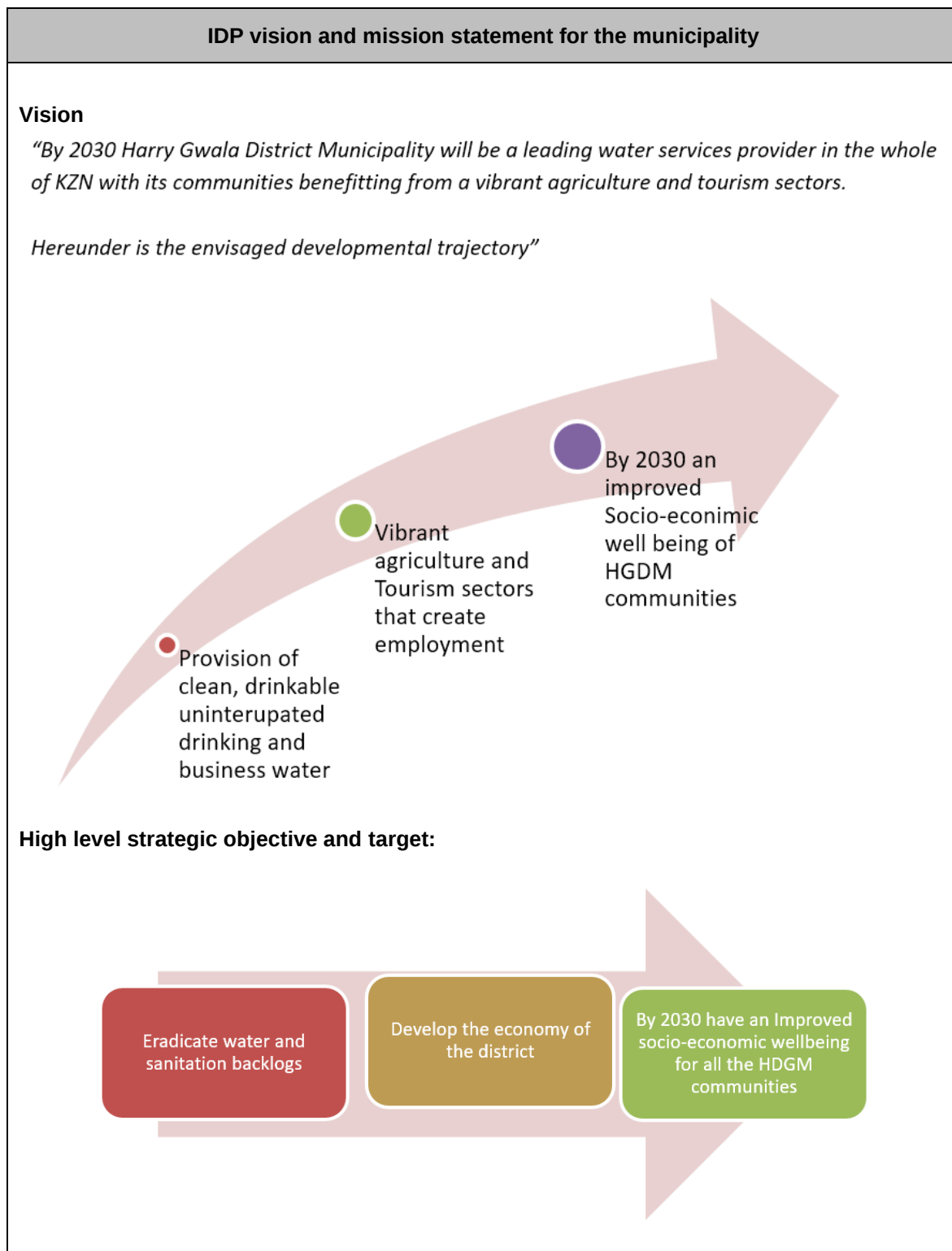
- Indigent households who have income that is less than the prescribed threshold.
- Households' owners who depended on pensions or social grants for their livelihood.
- Households' owners temporally without income.
- The applicant must be a resident of the municipality.
- The applicant must be eighteen (18) years of age and above.
- The total household joint gross income of all occupants or dependents in a single household must be less than **R4200,00**.
- The applicant must be the owner or tenant who receives municipal services and is registered as an account holder on the municipal financial system, provided that the Indigent Policy requirements of being registered as an account holder does not apply to households in informal settlements and rural areas where no accounts are rendered.
- The applicant must have a single property (stand), the applicant cannot have two properties registered in his/her name to qualify.
- All households that are child headed, even if they are below eighteen (18) years of age can apply for the indigent support.
- The registered indigent must be either the owner or occupant (tenant) of the property concerned.
- All households applying for Free Basic water must have water connected to the household.
- Subsidies apply to households and not individuals. The onus for applying for indigent subsidy rest with the consumer who cannot afford to pay the full municipal tariff for services received.

The following free basic services will be provided as per area:

- Indigent urban areas 6kl of free basic water and sanitation per household.
- Indigent rural areas have RDP standpipe for water and one approved VIP toilet per household;
- Indigent farm dwellers will be provided with 6kl of water and an approved VIP toilet per household (provided they do not reside on the farm).
- Indigent households will be provided with free honey sucking services once a year.
- According to utility system parameter settings qualifying indigent consumers who are on prepaid have to purchase at least 1kl of water on monthly basis prior to issue of free 6kl of water.

IDP and WSDP Goals

The Integrated Development Plan for the HGDM has the following vision and mission statement for the region:



Part of the development objectives for Harry Gwala is facilitating the delivery of basic services that include water services (i.e. water and sanitation provision), strengthening the local economy with particular emphasis on

tourism, agriculture and small business sectors, and the sustainable use of land and the natural environment. The importance of the vision and objectives in terms of the WSDP is the development of Harry Gwala through the provision of equitable and sustainable water services leading to an improvement in the quality of life. It therefore follows that planning in respect of water services must increase the current level of service throughout the region with an improvement experienced by all. Planning must therefore be sustainable in terms of water resources, material resources, contractor capacity, management capacity, as well as funding and maintenance cost.

All these development strategies will ultimately link to the need and spatial requirement for water services provision. **Spatial development within the HGDM is directly related to the provision and availability of water services, therefore development tends to follow sustainable planning in the WSDP and not force water services provision into areas that are currently not economically viable or sustainable to supply.**

This support the water and sanitation infrastructure development focus of the KZN Provincial Growth and Development Strategy (PGDS) for 2035, which will be discussed in the next section.

Strategic Objectives & Development Goals

The HGDM WSDP supports the KZN PGDS Strategic Framework. WSDP goals, objectives, interventions and projects are aligned to place HGDM in a position to fulfil its role as WSA in achieving the provincial PGDS for 2035.

While the focus has been predominantly on providing each person with sustainable infrastructure and eradicating backlogs, the status of existing and aging infrastructure, as well as the availability and sustainability of water resources has been neglected. An extract of the KZN PGDS can be reviewed below.

"The 2015/2016 drought experienced in the country and more so in the Province has had a severe impact on the citizens of the Province and their livelihoods. The most severe impact has been felt by the rural communities of KZN whose livelihoods depend on agriculture, including livestock. The Province, through various initiatives and programs, has attempted to ensure a reliable supply of water to its citizens. The continued low rainfall has made this task increasingly challenging. National and Provincial government have spent millions of rand to ensure citizens have access to water.

The discourse on reliable and affordable water supply has forced the water sector to re-look at several aspects of the water source management and water supply. In terms of water source it is being argued that the Province requires a better understanding of groundwater and its catchment areas. This strategy argues that water planning and resource management should be done at a quaternary catchment level - the focus should not only be at regional level. Alternative water sources, like grey water and desalination must become viable options as sources of supply.

There is also a school of thought that the severity of the drought is a direct correlation to the poor maintenance programs of water services authorities. These related to poor borehole upgrades and spring protection, high water losses due to leakages not been attended to urgently, water theft and lack of bulk and reticulation planning.

Skills development and capacity building, in the water sector continues to be an area of investigation in this review. There is a school of thought that argues that the skills required are more at an artisan level rather than at engineering level. This relates to the ***maintenance issue around boreholes and spring protection and attendance of water leaks***. There is, however, another school of thought that water services authorities have focused more on ***water demand*** rather than water source management and that shift must be emphasised. Further, there is increasing pressure being put on the water sector institution to begin to develop a ***sustainable water sector capacity building model***. The water services boards, the water services departments and the water services authorities all have various levels and type of expertise within their institutions. Therefore, these institutions along with engineering councils and the private sector must begin to provide a holistic sustainable ***capacity building model*** that contributes to a new water sector investment strategy. In addition, there is a growing demand for ***localized water skills*** at all levels as well as employment and business opportunities. The water sector through the vast capital spend have the potential to improve ***employment opportunities and create entrepreneurs in decentralized local spaces***.

The financial cost of water supply cannot be underestimated and the Province needs to have a funding model to address this. Like energy, water costs will increase and become increasingly expensive for consumers and business, thus the importance of having a reliable and affordable water supply. The Department of Water and Sanitation in the Province have several key capital water projects that will ensure a relative supply of water in the province. The growing concerns will be the pace at which our province is urbanizing and the greater demand this will have on water provision in these urbanized areas as well as to ensure reliable access to water, in rural areas.

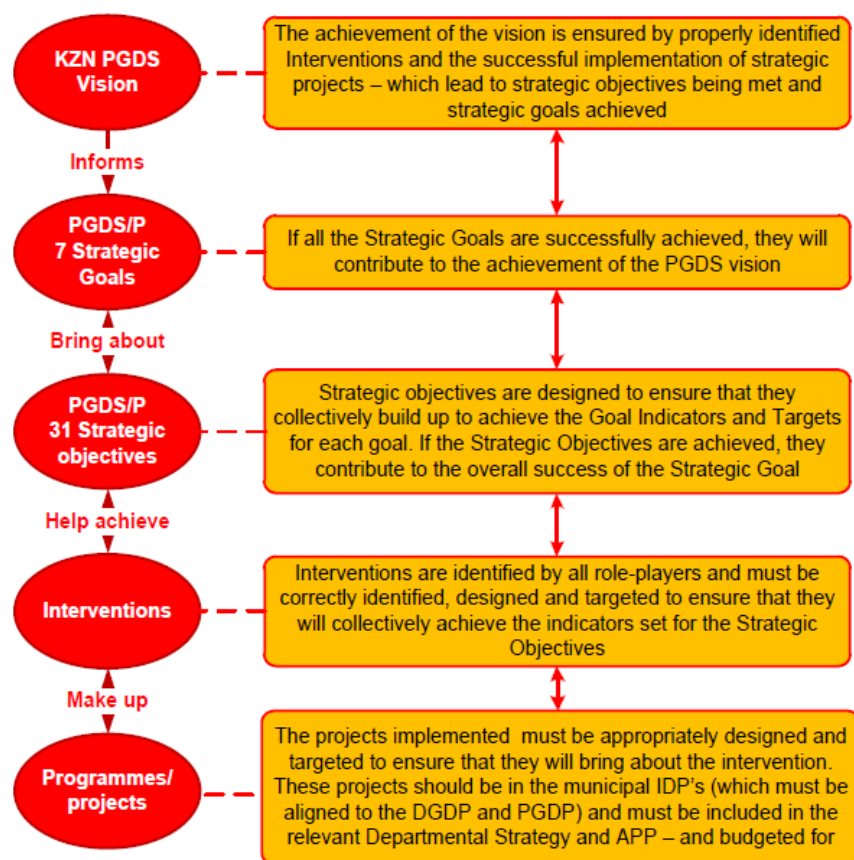
*Given the above, the Province in the next five years must engage in the development of a new water sector investment strategy. This strategy must include **elements of water loss and maintenance, water availability, cost of water supply**. In addition, the strategy should include water source plans that consider ground water, desalination, grey-water. Further a discussion on localized skills and local business development. Greater emphasis on improving rural access to water and increasing mitigating measures to this section of our population."*

As water provision will increase, so will water resources needs, operation and maintenance of existing infrastructure, efficient institutional and financial capacity to manage infrastructure and revenue etc. The KZN PGDS Framework aims to achieve at least 90% reliable services by 2035.

An overview of the KZN PGDS framework with associated goals and objectives for water and sanitation services can be reviewed in the next figure.

The 2016 Revised PGDS Strategic Framework

Figure 10: PGDS Strategic Framework



2016 PGDS STRATEGIC GOALS and OBJECTIVES		
STRATEGIC GOAL	No	STRATEGIC OBJECTIVE 2016
1 INCLUSIVE ECONOMIC GROWTH	1.1	Develop and promote the agricultural potential of KZN
	1.2	Enhance sectoral development through trade investment and business retention
	1.3	Enhance spatial economic development
	1.4	Improve the efficiency, innovation and variety of government-led job creation programmes
	1.5	Promote SMME and entrepreneurial development
	1.6	Enhance the Knowledge Economy
2 HUMAN RESOURCE DEVELOPMENT	2.1	Improve early childhood development, primary and secondary education
	2.2	Support skills development to economic growth
	2.3	Enhance youth and adult skills development and life-long learning
3 HUMAN AND COMMUNITY DEVELOPMENT	3.1	Eradicate poverty and improve social welfare services
	3.2	Enhance health of communities and citizens
	3.3	Safeguard and enhance sustainable livelihoods and food security
	3.4	Promote sustainable human settlements
	3.5	Enhance safety and security
	3.6	Advance social cohesion and social capital
4 INFRASTRUCTURE DEVELOPMENT	4.1	Development of seaports and airports
	4.2	Develop road and rail networks
	4.3	Develop ICT infrastructure
	4.4	Ensure availability and sustainable management of water and sanitation for all
5 ENVIRONMENTAL SUSTAINABILITY	4.5	Ensure access to affordable, reliable, sustainable and modern energy for all
	4.6	Enhance KZN waste management capacity
	5.1	Enhance resilience of ecosystem services
6 GOVERNANCE AND POLICY	5.2	Expand the application of green technologies
	5.3	Adapt and respond climate change
	6.1	Strengthen policy, strategy coordination and IGR
7 SPATIAL EQUITY	6.2	Build government capacity
	6.3	Eradicate fraud and corruption
	6.4	Promote participative, facilitative and accountable governance
	7.1	Enhance the resilience of new and existing cities, towns and rural nodes, ensuring equitable access to resources, social and economic opportunities
	7.2	Ensure integrated land management use across the Province, ensuring equitable access to goods and services, attracting social and financial investment

Strategic Objectives and Interventions for the KZN PGDS can be reviewed below.

KZN PGDS Strategic Objectives and Interventions

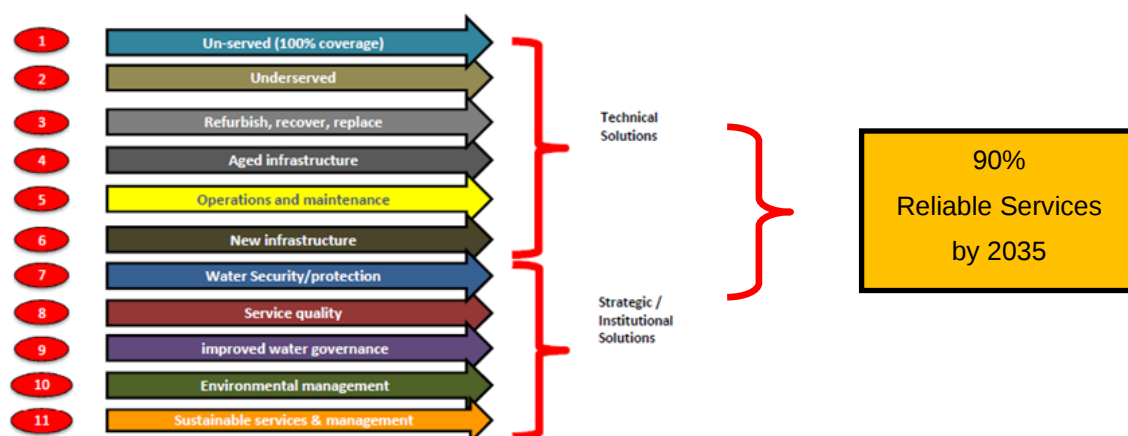
Strategic Objective 4.4 Indicators:

- 4.4.1 Percentage mean annual runoff water stored in each district.
- 4.4.2 Quantity of water abstracted per annum in each district.
- 4.4.3 Number of households receiving minimum standards of sanitation.
- 4.4.4 Percentage households with access to safe drinking water
- 4.4.5 Cubic meters of water available.
- 4.4.6 Surface Water storage as a percentage of surface mean annual runoff per district.
- 4.4.7 Non-Revenue Water loss – (physical and non-physical water loss).
- 4.4.8 Number of projects not approved due to bulk Water and Sanitation Infrastructure constraint.
- 4.4.9 Number of MIG and WSIG projects meeting 75 litres of water per person per day.

Strategic Objective 4.4 Interventions:

- 4.4(a) Review and implement the Provincial Water Sector Investment Strategy.
- 4.4(b) Policy and guidelines on the inclusion of quaternary catchment for groundwater, grey water and desalination.
- 4.4(c) Develop and implement water sector capacity building programme with all water institutions.
- 4.4(d) Develop new water and sanitation tariff policy.
- 4.4(e) Expedite the approval of Water Use Licences.
- 4.4(f) Programme for development of water sources (desalination, rainwater, recycling, groundwater).
- 4.4(g) Expedite the planning and implementation of sub-transmission networks in the Province.

The HGDM WSDP supports the above framework, and will elaborate on each aspect in more details throughout the document under each relevant chapter. The following provides a framework for these topics under 11 categories as depicted in the KZN PGDS document.



These 11 categories are consolidated in the WSDP under the following topics as required by the web-based WSDP template of DWS:

- TOPIC 1: SETTLEMENT DEMOGRAPHICS AND PUBLIC AMENITIES
- TOPIC 2: SERVICE LEVEL & ASSOCIATED SERVICES PROFILE
- TOPIC 3: WATER AND SANITATION ASSET MANAGEMENT
- TOPIC 4: OPERATION & MAINTENANCE
- TOPIC 5: WATER CONSERVATION & DEMAND MANAGEMENT
- TOPIC 6: WATER RESOURCES
- TOPIC 7: FINANCIAL PROFILE
- TOPIC 8: INSTITUTIONAL ARRANGEMENTS & CUSTOMER SERVICES

Items related to the Strategic Objectives and Development Framework will be discussed throughout this WSDP and reference will be made to the 2035 targets.

Background to the Area

HGDM is located to the South West of the KwaZulu-Natal province. Its population is sparsely spread throughout an area of 10 618.0 km². The municipality forms part of the border between KwaZulu-Natal and Eastern Cape Province, and is composed of the following four local municipalities: UBuhlebezwe; Dr. Nkosazane Dlamini Zuma; Greater Kokstad and UMzimkhulu.

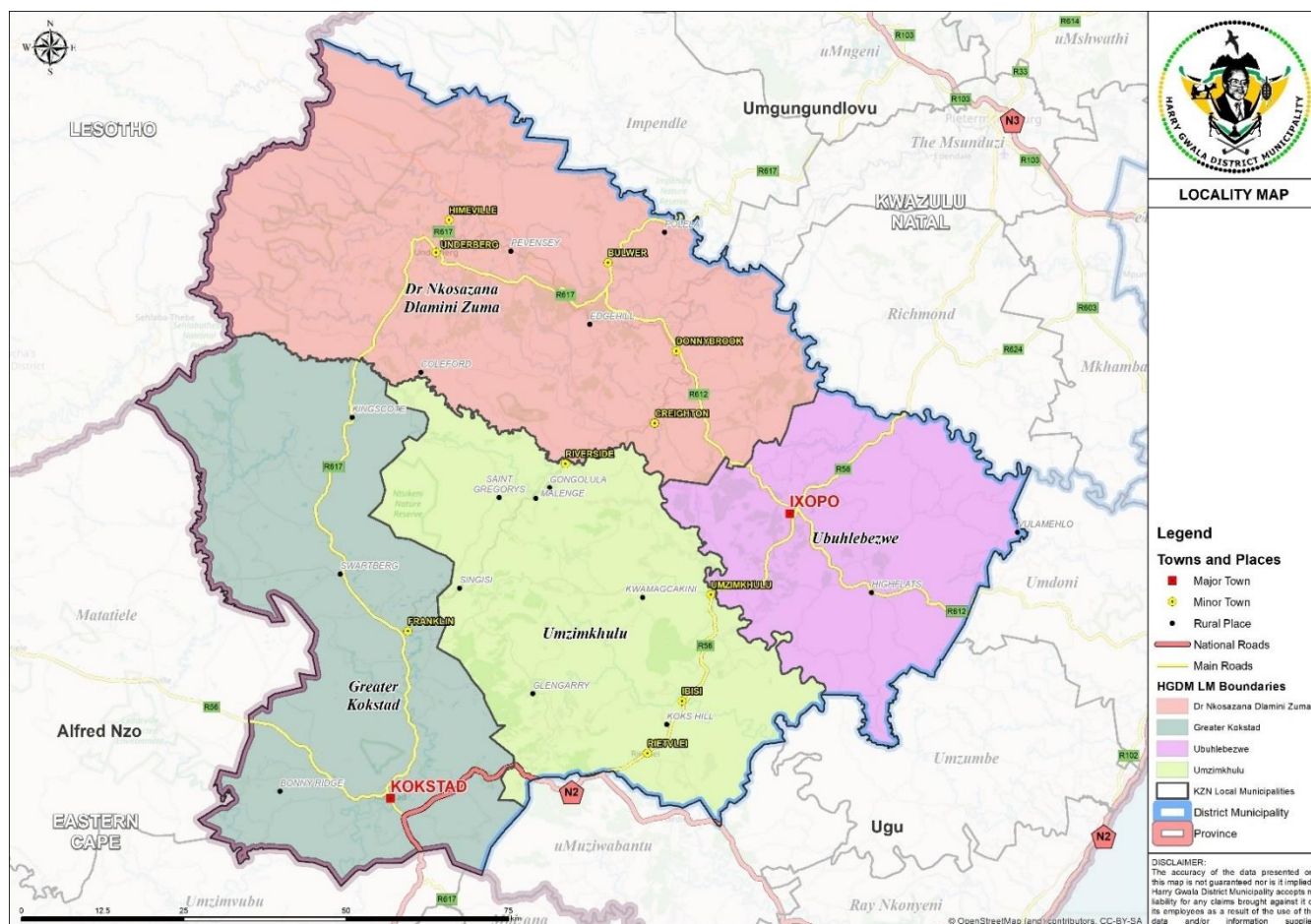


Figure 2: Locality map of Harry Gwala District Municipality.

HGDM includes the southernmost part of the uKhahlamba Drakensberg National Park adjacent to Lesotho and borders Eastern Cape Province in the west. The southern section of the uKhahlamba Drakensberg Park World Heritage Site falls within the Harry Gwala District. This uKhahlamba Drakensberg Park World Heritage Site forms part of the Maloti-Drakensberg Transfrontier Conservation and Development Area which was established in 2001 between Lesotho and South Africa. On 22 June 2013 this Transfrontier Conservation Area was designated as a Transfrontier World Heritage Site when UNESCO inscribed Lesotho's Sehlabathebe National Park as an extension to South Africa's uKhahlamba Drakensberg Park World Heritage Site. The Transfrontier World Heritage Site is now to be named the Maloti Drakensberg Transboundary World Heritage Site (Peace Parks Foundation). It is mostly rural landscape with privately owned farmlands, and a number of traditional authority areas in between.

Key rivers in the district are the UMzimkhulu, Umkomaas, Ibisi and Umzimvubu rivers, which run from the mountains of Drakensberg to the coastal shores of KwaZulu-Natal and Eastern Cape respectively. At approximately 1,054,700 hectares, this district has a population density of approximately 0.5 persons per hectare.

A map showing land distribution can be reviewed under Figure 3. Tribal Authority areas, Land Reform Areas, privately owned farms and urban areas can be seen.

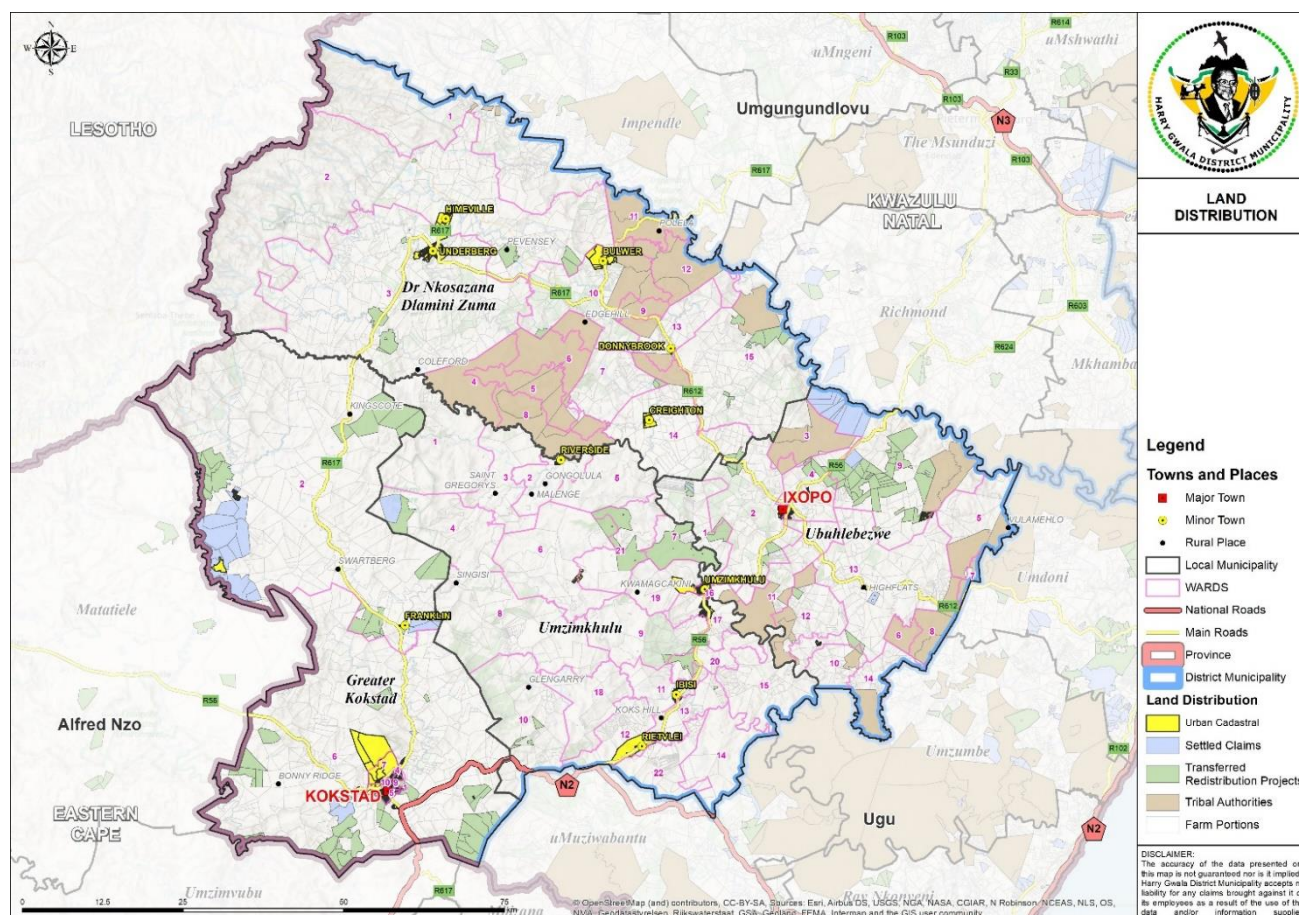


Figure 3: Land distribution in Harry Gwala District Municipality

HGDM is characterised by the high topography of the Drakensberg along the Lesotho/KZN boundary. This area is mostly known for tourism and conservation. The remaining area of the district has a rural context which is primarily used for agriculture and forestry. A terrain map of the district can be reviewed in Figure 4.

Climatic conditions vary significantly from the north-western Drakensberg region down to the south-eastern region. The Drakensberg region as well as the central area of Dr Nkosazana Dlamini Zuma municipality have an average rainfall of over 1000mm, whereas most of the remaining parts of HGDM have an average rainfall of around 600-800mm per year. The mean annual precipitation for the district can be reviewed in Figure 5.

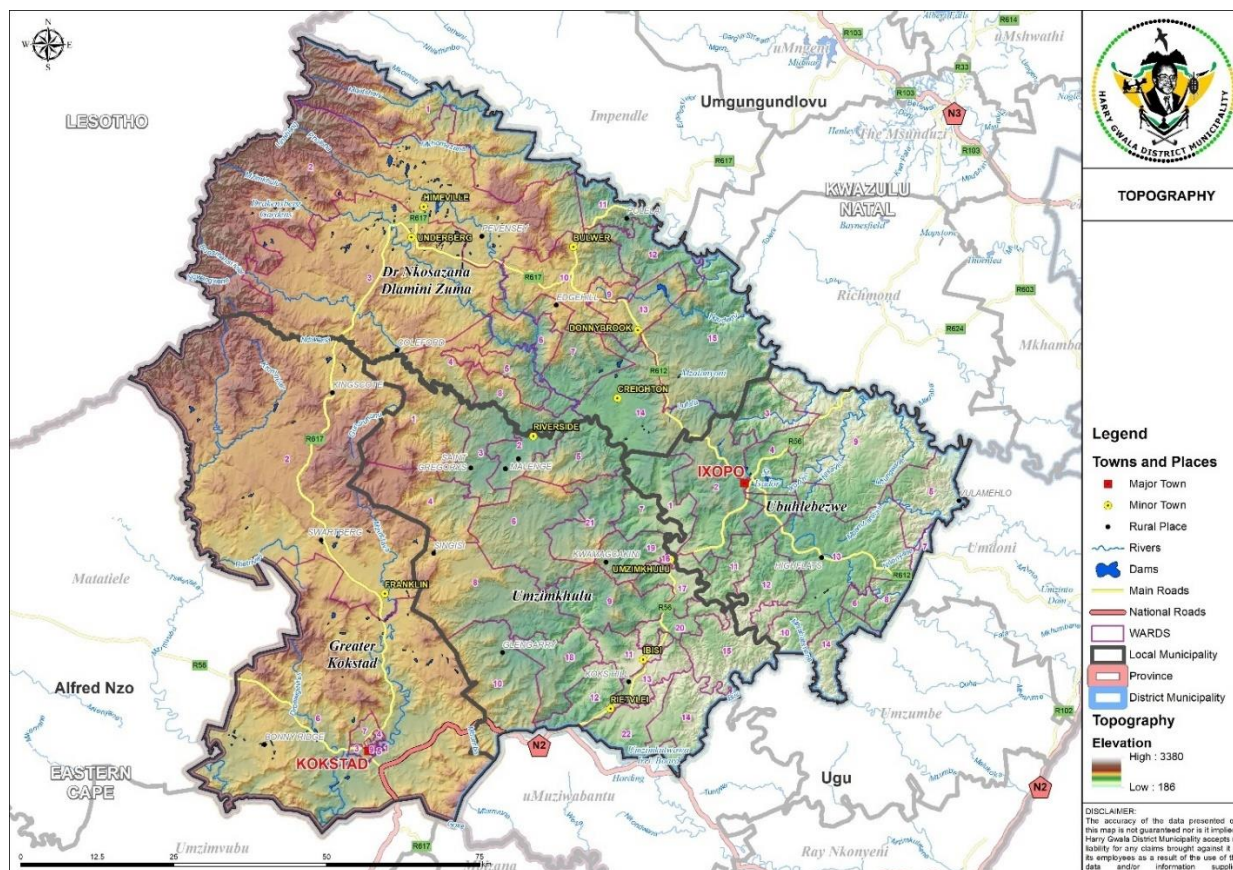


Figure 4: Topography of Harry Gwala District Municipality

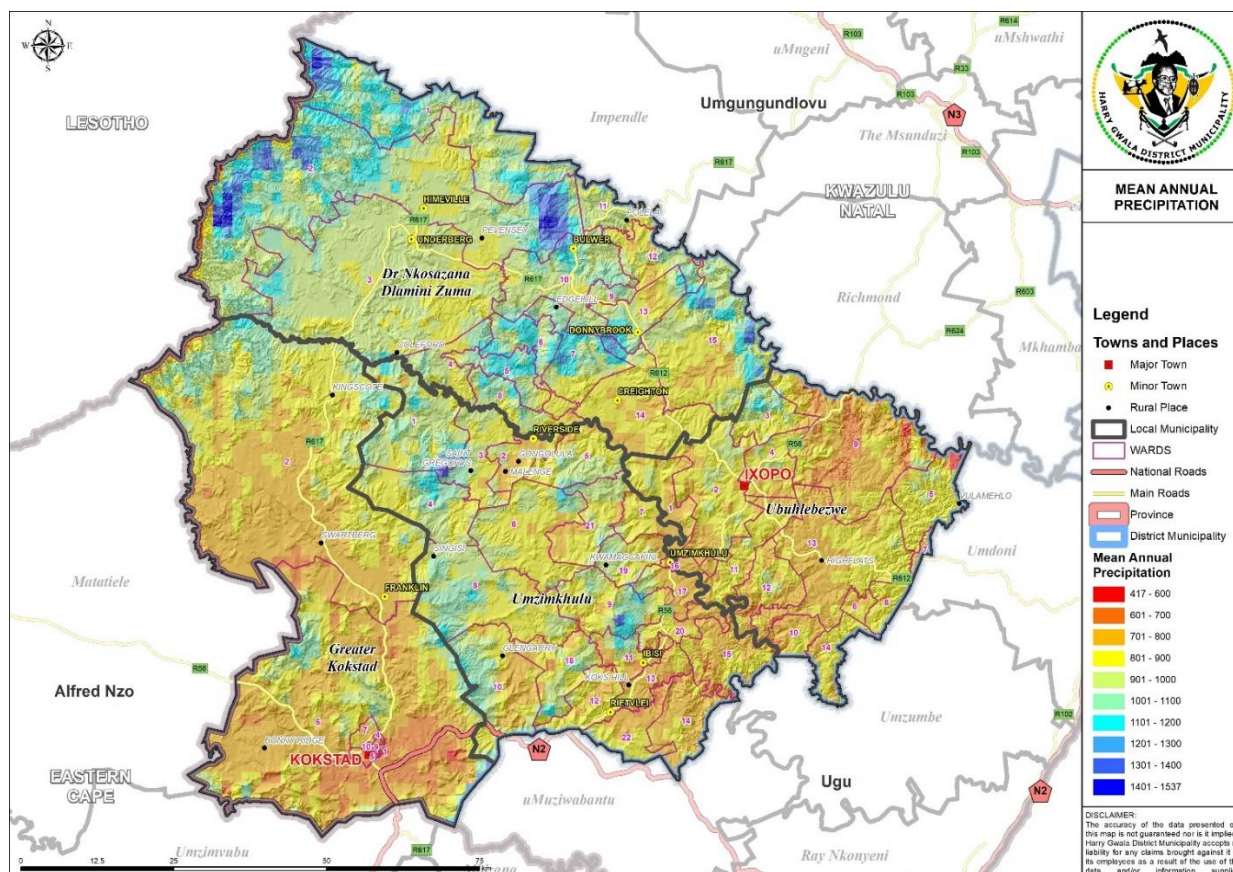


Figure 5: Precipitation map of Harry Gwala District Municipality

CHAPTER 1: EXISTING PROJECTS

Overview of Existing Projects

HGDM has the following implementation programmes in terms of water and sanitation provision:

- **WATER**

- **Regional Water Supply Schemes**

A regional water supply area is characterised by a large bulk water supply scheme with a sustainable surface water source, water treatment works, command reservoirs, and secondary bulk reservoirs expanding across a large region within the DM.

The supply footprints have been identified in such a way that water can be provided to all households within the area in a sustainable manner and at the lowest possible cost (R/kl).

- **Sub-Regional Water Supply Schemes**

A sub-regional water supply scheme also has a sustainable surface water source, water treatment works and bulk infrastructure, but is more localised within a local municipality area.

- **Stand-alone Schemes**

Stand-alone schemes serve 2 purposes:

- a. Due to time and budget constraints with implementation of costly bulk infrastructure, intermediate stand-alone schemes are developed to alleviate the water shortage in areas where regional water supply will take several years to be completed. The intermediate stand-alone scheme is designed in such a way that once the regional scheme reaches the area, it can simply be connected up with the intermediate stand-alone scheme so that the scheme now forms part of the regional scheme.
- b. Stand-alone schemes are also developed in areas outside the footprint of regional schemes where a sustainable bulk water source such as a weir or production borehole can be used to serve several communities in the same vicinity.

- **Rudimentary Water Supply**

In areas where settlements cannot be served by either Regional Schemes or Stand-alone Schemes, local water sources are used to provide a survival level of water on a rudimentary level, such as a borehole with a handpump or a spring protection.

- **SANITATION**

- Urban water-borne sanitation is provided as towns are developing, and funding is sourced accordingly.

- Sanitation in the rural areas is being provided in the form of dry-pit VIP toilets.

- **SPECIAL PROJECTS**

Special projects are individual infrastructure requirements on a Local Municipal level which are addressed and budgeted for on a needs basis.

- **EMERGENCY INTERVENTION PROJECTS**

Emergency Intervention Projects are projects which require immediate intervention, such as during disaster management. Examples of such projects include the following:

- ❖ **Emergency Drought Relief**
- ❖ **COVID-19**
- ❖ **Disaster Management such as floods**

- **5-YEAR WATER & SANITATION RELIABILITY SERVICE DELIVERY IMPLEMENTATION PLAN PROJECTS**

DWS initiated 5-year water and sanitation reliability service delivery implementation plans for each DM, with a pipeline of projects to address existing infrastructure reliability and sustainability. These projects are there to ensure a 90% reliable water and sanitation service through the following 5 workstreams:

- ❖ **Infrastructure**
- ❖ **Reliability**
- ❖ **Water Security**
- ❖ **Water Governance**
- ❖ **Finances**

Projects are being prioritised as funding is available.

Introduction to Prioritisation Models in Service Delivery

The first Water Supply and Sanitation Policy White Paper was published in 1994 and enacted as the Water Services Act, Act 108 of 1997 (dwa.gov.za, 1994). The Department of Water Affairs (DWA) had the responsibility of providing these services. A few guidelines were provided on how to implement these services, and **the primary principle is that development should be demand-driven.** The Apartheid era has left a legacy of prejudice, and it is important that the new water supply policies ensure that their implementation does not become subjective to political influence. The Water for Growth and Development Framework, published by

DWA, stipulates that proper planning and resources need to be used to supply water through various programmes, such as bulk water schemes, intermediate stand-alone schemes, and survival-level of water where water scarcity is prevalent (dwa.gov.za, 2011). The water policies, however, provide little guidance about how these services should be prioritised.

The Water and Sanitation White Paper was revised in 2002 and adopted by Parliament on 17 September 2003 as the Strategic Framework for Water Services (dwa.gov.za, 2003). Some major amendments were made to the roles of the DWA and local government. DWA's function changed from being a direct delivery function to being a sector leader, supporter and regulator. The responsibility of service delivery was handed over to the local government, and each district and local municipality have to implement their own policies to manage service delivery. This includes their approach to prioritise service delivery. The prioritisation of these service deliveries has created an immense challenge to local government. The most basic of these services is water and sanitation supply. Due to the vastness and remote characteristics of the rural areas, it is one of the most difficult aspects of service delivery that local government faces. Additional to the spatial characteristics of these areas, political influence often dictates the outcomes of service delivery planning instead of focusing on the actual water needs of rural communities.

Most District Municipalities, in the more rural areas, are the WSP's for their respective area of jurisdiction. This includes the Local Municipal areas within the District Municipal area. In the Water Services Act of 1997, it stipulates that an Integrated Development Plan (IDP) for each District Municipality should provide details on all Sector Plans required on a National level (Government Gazette, 1997). The purpose of Sector Plans is to provide details on certain aspects or roles that the District Municipalities have to adhere to, explaining their plan of action for each aspect. The Water Services Development Plan (WSDP) is the Sector Plan detailing the approach that the municipality follows for water services, and how they intend to provide water services to its users. This is part of the planning purposes of the Municipality; therefore, the responsibility for compiling the WSDP usually lies with the Planning Department.

The WSDP should, therefore, detail the approach that the municipality follows for water services delivery, and the process followed to prioritise and implement these services. It is this process that should include the consultative process with all relevant stakeholders to take their views into consideration (dwa.gov.za, 2004).

This consultative process is, in many cases driven by political influence, and is prone to result in argumentative situations between ward councillors to motivate projects within their own wards.

The ward councillors fulfil the role of acting on behalf of the local people in their respective wards with their focus on a consultative and participatory process for service delivery needs. A ward councillor, therefore, has the responsibility of being a spokesperson for the ward, which entails the successful voicing of community needs to the entities providing service delivery. Due to this responsibility, it is important that the councillor ensures that community needs are being addressed. Councillors for these wards may affiliate to different political parties.

Ward councillors are, therefore, in a predicament because they compete with the other ward councillors for budget allocations. The Water Services Provider (WSA), in return, faces the following challenges:

- If ten communities from different wards do not have water services, how should the budget allocations be done and which settlement will get water services first?
- Whose viewpoint acts as the decisive when deciding where water services should be implemented?

The community with the lowest level of services in one ward may, for example, be in a better position compared to communities in other wards because it is close to a perennial river. The question remains what objective measurement can determine which community is worse-off?

Figure 6 represents a typical workflow process to approve a WSDP review:

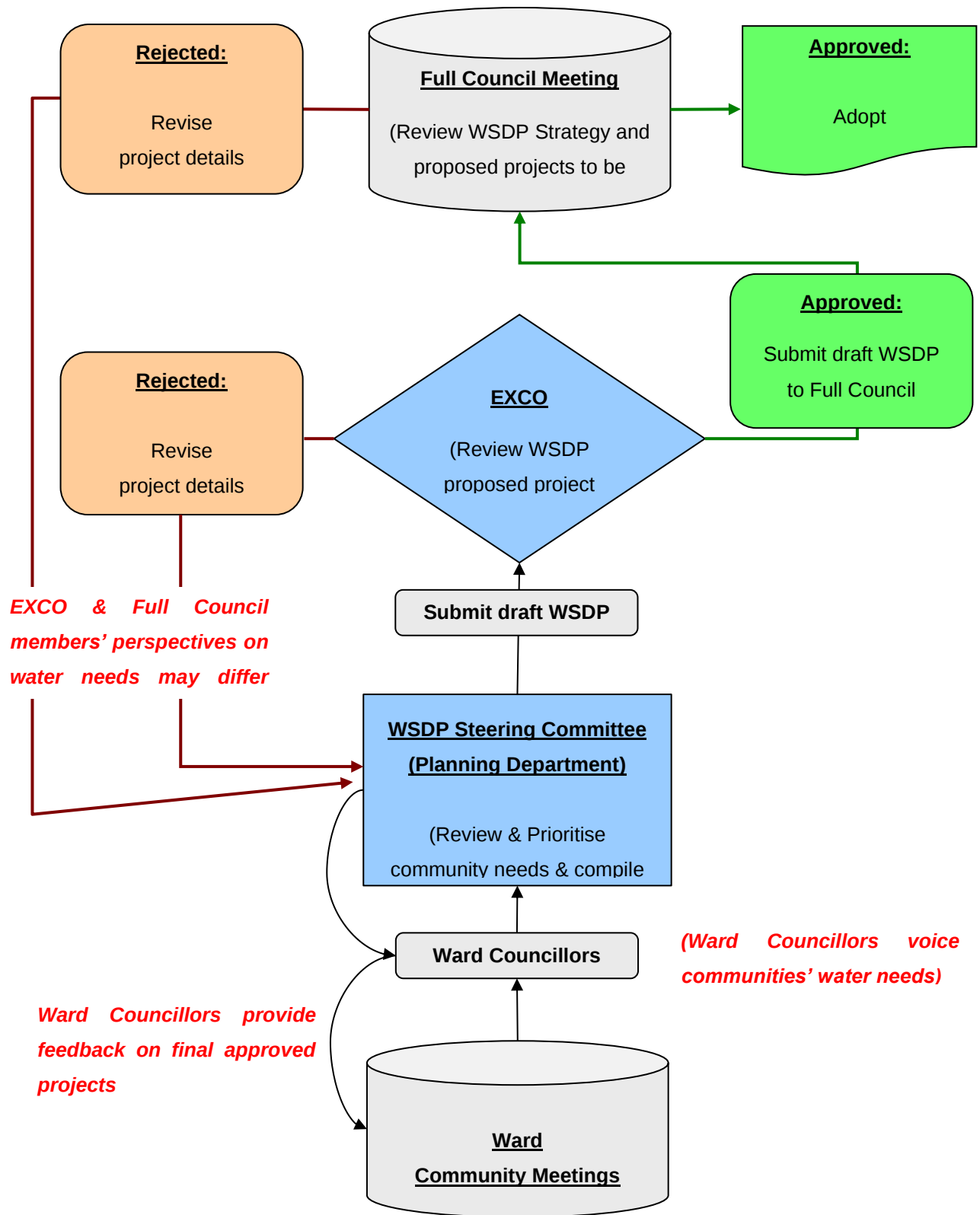


Figure 6: Precipitation map of Harry Gwala District Municipality

Figure 6 clearly demonstrates that an endless cycle of resubmissions may occur if the perspectives of the Executive Council (EXCO) and the councillors on water needs differ from what the WSDP Steering Committee view as priorities for water services implementation. Three factors play a dominant role in the above situation:

- **Individual perceptions of their own needs**

People in one location may feel that they have an urgent need for water services since they have to walk down to the river to fetch water, but another community may not even have surface water within walking distance.

- **Community expectations of ward councillors**

Ward councillors are voted for mainly on the expectation from the ward communities about what the councillor can do for them. This includes service delivery on various levels. Councillors, therefore, need to ensure that service delivery is taking place in their respective wards else they will lose their position as ward councillor.

- **Political pressure**

Since multiple political parties are presented in a given municipality, it may become a tug-of-war to see which political party can do the most for their wards. This mainly consists of provision for basic services in the rural areas. Prioritisation for service delivery may, therefore, become biased to maintain favour with the ward communities.

A Prioritisation Model for water and sanitation needs resolves the above conflict situations where projects are prioritised in an objective, unbiased approach based on their most urgent need for water and sanitation services.

Prioritisation Methods

Several prioritisation methods exist that can be used, depending on the scenario and what the desired outcomes should be. A few of these typical methods are discussed in this section.

The National Association of County and City Health Officials (NACCHO), Washington DC, has developed the Assessment Protocol for Excellence in Public Health (APEXPH) planning tool (NACCHO, 2012). This is a flexible planning tool for health officials to address health-related issues in communities. A critical component of the Part I and Part II APEXPH processes occurs at the point where the identified issues are prioritised. Prioritising issues allows the health department and community to direct resources, time, and energy to those issues that are deemed most critical and practical to address.

The APEXPH workbook briefly mentions some of the most popular prioritisation methods, which are further described in the NACCHO document (cdc.gov, 2012). A brief summary of these methods is described next:

1 Simplex Method

The Simplex Method obtains group perceptions by the use of questionnaires. The answers to the questionnaires are scored and ranked and the issues with the highest scores are given the highest priority.

2 Nominal Group Planning Method

Nominal Group Planning was developed for situations where individual judgments must be obtained and combined to arrive at decisions which cannot be determined by one person. This strategy is best for problem exploration, knowledge exploration, priority development, program development, and program evaluation.

3 Criteria Weighting Method

The criteria weighting method is a mathematical process whereby participants establish a relevant set of criteria and assign a priority ranking to issues based on how they measure against the criteria. **The calculated values do not necessarily dictate the final policy decision, but offer a means by which choices can be ordered.**

4 A "Quick and Colorful" Method

This technique uses a means whereby individual group members vote to prioritise each health problem. A ballot or open method can be used.

The document further provides a summary of the positive and negative aspects of each method in Table 4.

Table 4: Prioritisation Methods

PRIORITIZATION TECHNIQUES	Strengths	Weaknesses	Optimal size of group
Simplex	Efficient and quick to use, once questionnaire is constructed. Can be used with any size group. Allows for weighting of problems.	Requires the development of a questionnaire. Relies heavily on how questions are asked.	Any size.
Nominal Group Planning	Motivates and gets all participants involved. Can be used to identify areas for further discussion and can be used as part of other techniques (e.g., to help develop a Simplex questionnaire.) Allows for many ideas in a short period of time Stimulates creative thinking and dialogue. Uses a democratic process.	Vocal and persuasive group members can affect others. A biased or strong-minded facilitator can affect the process. Can be difficult with larger groups (more than 20-25) May be overlap of ideas due to unclear wording or inadequate discussion.	10-15 (larger groups can be broken down into subgroups.) Not <6.
Criteria Weighting	Offers numerical criteria with which to prioritize. Mathematical process (this is a weakness for some.) Objective; may be best in situations where this is competition among the issues. Allows group to weight criteria differently.	Can become complicated. Requires predetermining criteria.	Any size.
Hanlon (described in the APEXPH Workbook, pp 23 24 and Appendix E)	PEARL component can be a useful feature. Offers relatively quantitative answers that are appealing for many. Baseline data for issues can be used for parts; this can be appealing due to the objectivity of the data.	The process offers the lowest priorities for those issues where solution requires additional resources or legal changes which may be problematic. Very complicated.	Any size.
A "Quick and Colorful" Approach	Simple. Well-suited to customizing. Blinded responses prevent individuals influencing others. Less time intensive.	Less sophisticated (may be a benefit for some groups). Doesn't offer the ability to eliminate options that may be difficult to address given current laws and resources. If open voting is used, participants may be influenced by others' votes.	Any size.

The document concludes with the following statement:

"By using formalized techniques, such as those described here, groups have a structured mechanism that can facilitate an orderly process. Such a process also offers a common starting point that groups can alter to suit their own specific needs. Whatever technique is used, it is important to keep in mind that the reason prioritization is undertaken is to include input from all interest groups. Therefore, it is vitally important to include the community when defining criteria."

The theoretical foundation of the expected outcomes and results of a prioritisation model is that the level of urgency or the need for water and sanitation supply to rural communities can be determined by establishing the existing form of water access.

It should be possible to assign a "water and sanitation needs" value to the various aspects and characteristics of each settlement related to water and sanitation access. A total score can then be assigned to each settlement, which represents their urgency or need for water and sanitation services. **The higher the score, the higher the priority of the project for implementation.**

The most appropriate prioritisation technique for water and sanitation services in the South African rural context proves to be the Criteria Weighting method, and has been used successfully in various local government institutions to prioritise service delivery.

Prioritisation Models for Service Delivery

It is recommended that HGDM initiates prioritisation models for water and sanitation implementation. The purpose of the prioritisation models are to prioritise settlements and project implementation in an un-biased, objective way. Prioritisation Models can be developed for each of the forementioned project streams:

- 1 Regional Scheme Rollouts
- 2 Sub-Regional Scheme Rollouts
- 3 Stand-Alone Schemes
- 4 Rudimentary Water Supply Rollouts
- 5 Rural Sanitation Rollouts

The Prioritisation Models can be based on a weighted criteria method, whereby criteria for each model is given a weight, which counts up to a total score of 100. The highest score implies the highest priority for implementation.

11.2.4 Water Implementation Model

For water implementation, the weighted criteria can be based on specific characteristics of each settlement within HGDM. Where water needs to be provided to individual settlements, the settlements' individual prioritisation score is used to prioritise implementation.

Where larger areas are involved with several settlements grouped together, e.g. within regional bulk reservoir zones, the average score of all settlements within each zone is calculated. This is then used as a zoning score to prioritise zones. The scoring criteria can be seen below:

Table 5: Scoring criteria for water implementation

FACTOR	CRITERION	VALUE	WGHT
Existing Primary Water Source	Urban & RWSS (with Bulk, Secondary Bulk, Retic) RWSS (with Bulk, Secondary Bulk) RWSS (only Retic) CWSS/Stand alone Potable BH/Spring/H.Pump Unprotected Surface Water (River/Dam etc)	0 0.25 0.5 0.5 0.75 1	30
Project Cost / Capita Project Cost / HH	> R 40,000 R30,000 - R40,000 R20,000 - R30,000 R10,000 - R20,000 < R10,000	0.2 0.4 0.6 0.8 1	15
Walking Distance to Water	< 1 km 1 – 3 km > 3 km	0 0.7 1	20
Within 4 km of a Dev. Corridor/RSC	Primary / Service Centre Secondary Tertiary None	1 0.75 0.5 0	5
Existing Sanitation	Less than 5% 25% 75% More than 95%	1 0.75 0.25 0	5
Existing Use / Level of Service	Nothing (> 3km walking) Survival (< 3km walking) Rudimentary ≥ RDP	1 0.75 0.5 0	15
Linkages to other projects< (supplyable) All settlements within 5km of existing Regional Scheme Layouts	Yes No	1 0	5
History of Water Borne Disease	Yes No	1 0	5
		Total	100

11.2.5 Rural Sanitation Implementation Model

Rural sanitation implementation can be based on the same principle as with water, however different criteria and weights are used to address specific rural sanitation needs.

A typical scoring criteria for sanitation rollouts can be seen below:

Table 6: Phase 1 and 2 scoring criteria for rural sanitation implementation

FACTOR	CRITERION	VALUE	WEIGHT
Water Implementation	Catch-up	1	40
	Current Water Implementation (2008-2014)	0.5	
	Future Water Projects	0	
Distance to downstream open groundwater (Pollution potential)	<50m	1	25
	100m	0.6	
	250m	0.4	
	500m	0.2	
	>500m	0	
Settlement density in relation to HH count. (Susceptability to diseases)	> 10	1	15
	5 - 9.99	0.6	
	2 - 4.99	0.4	
	1 - 1.99	0.2	
	<1	0.1	
Settlement type (Susceptability for diseases to surrounding urbanised area)	Urban Fringe	1	10
	Peri-urban	0.5	
	Rural	0.1	
Rural Development Nodes Development Corridors Centres	Yes	1	10
	No	0	
		Total	100

Current Projects

The following tables provide a summary of the current water and sanitation projects being implemented within HGDM for the 2025/2026 to 2027/2028 financial years.

Table 7: Current Projects for HGDM (2025/26 – 2027/28)

Municipality	Wards	Project Name	Funding	Service Type	Type of Project	Budget		
						2025-26	2026-27	2027-28
HGDM All LMs	All	Operations and Maintenance Allocation	MIG	Water	O&M	37 827 883	10 000 000	12 000 000
	All	Infrastructure Asset Management Allocation	MIG	Management	Asset Management	12 216 512	24 433 024	0
	All	Water Conservation and Water Demand Management (WCWDM)	WSIG	Water	WCWDM	434 782	0	0

Municipality	Wards	Project Name	Funding	Service Type	Type of Project	Budget		
						2025-26	2026-27	2027-28
Dr Nkosazana Dlamini Zuma	2 & 3	Underberg- Himville Sewer Upgrade	MIG	Sanitation	Upgrade	10 695 834	17 218 941	0
	2 & 3	Underberg- Himville Sewer Upgrade	MIG	Sanitation	Upgrade	7 295 753	5 333 851	45 000 000
	5	Sub Regional Scheme: Khukhulela: Portion 3, Construction of Rising Main (Ward 05)	MIG	Water	New Infrastructure	25 249 957	30 000 000	0
	7	Gala Donnybrook Water Supply	MIG	Water	New Infrastructure	12 856 457	0	0
	10	Greater Bulwer Bulk Water Scheme	RBIG	Water	New Infrastructure	0	0	0
	11	Mkhohlwa-Mdayane Water Supply	WSIG	Water	New Infrastructure	11 475 583	2 969 438	0
	5,6,8 and 14	Creighton Water Supply Scheme Phase 2	MIG	Water	New Infrastructure	57 762 208	40 000 000	30 000 000

Municipality	Wards	Project Name	Funding	Service Type	Type of Project	Budget		
						2025-26	2026-27	2027-28
Greater Kokstad	1,3, 4, 5, 7, 8, 9 & 10	Raising of the Kempsdale Dam Wall	MIG	Water	Upgrade	39 317 301	50 000 000	0
	6	Mamiesa Outfall Sewer	WSIG	Sanitation	New Infrastructure	434 782	734 255	1 590 250
	8	Mahhagu Sanitation	MIG	Sanitation	New Infrastructure	5 375 585	8 664 067	0
	8	Bhongweni Water Supply	WSIG	Water	New Infrastructure	11 317 578	3 517 000	0
	8	Refurbishment & Upgrade of Bhongweni Phase 2	WSIG	Water	Refurbishment	4 690 045	20 894 449	19 861 933
	10	Shayamoya Water Supply	WSIG	Water	New Infrastructure	17 825 045	3 245 693	0
	10	Refurbishment & Upgrade of Shayamoya Phase 2	WSIG	Water	Refurbishment	5 445 994	20 355 894	21 589 666

Municipality	Wards	Project Name	Funding	Service Type	Type of Project	Budget		
						2025-26	2026-27	2027-28
Ubuhlebezwe	4	Emazizini Water Supply	WSIG	Water	New Infrastructure	2 500 000	0	0
	6 & 8	Refurbishment Bhayi-Gudlucingo Schemes	WSIG	Water	Refurbishment	0	0	0
	12	Nokweja/Mashumi Community Water Supply	WSIG	Water	New Infrastructure	0	0	0

Municipality	Wards	Project Name	Funding	Service Type	Type of Project	Budget		
						2025-26	2026-27	2027-28
Umzimkhulu	1	Mhlangeni Water Intervention	WSIG	Water	Upgrade	0	0	869 564
	2	Corinth Nyanisweni Water Supply	WSIG	Water	New Infrastructure	7 400 000	5 430 390	13 538 598
	3	Hostela-Mncweba Water Supply	WSIG	Water	New Infrastructure	220 000	0	0
	5	Nngwagwane Water Intervention	WSIG	Water	Upgrade	434 782	896 436	3 555 840
	6	Dulati - Marhewini Water Supply	WSIG	Water	New Infrastructure	289 656	23 000 000	17 454 500
	7	Mfulamhle Water Supply	WSIG	Water	New Infrastructure	434 782	925 450	2 105 620
	7	Nazareth Water Supply	WSIG	Water	New Infrastructure	3 681 588	5 540 545	2 668 450
	7	Mfulamhle/Cabane Water Supply	WSIG	Water	New Infrastructure	0	0	0
	8	Njunga/Balbel Water Supply	WSIG	Water	New Infrastructure	7 677 339	3 902 300	9 865 233
	11	KwaMay-Theekloof Water Supply Scheme Phase 3	MIG	Water	New Infrastructure	1 209 868	0	0
	12	Machunwini Water Supply	WSIG	Water	New Infrastructure	8 779 089	2 337 662	0
	15 & 20	Greater Summerfield Water Supply Scheme Phase 2 (Ward 15)	MIG	Water	New Infrastructure	4 400 000	0	0
	16 & 19	Mbizweni Main Sewer Collector Upgrade in Umzimkhulu Town (Ward 16)	MIG	Sanitation	Upgrade	918 890	0	0
	19 & 21	Ward 19 & 21 Umzimkhulu Intervention	WSIG	Water	Upgrade	3 915 477	6 250 488	11 900 346
	22	Greater Mngqumeni Water Supply Scheme Phase 5 and 6 (AFA) MIS 467168	MIG	Water	New Infrastructure	2 010 988	0	0
	22	Greater Mngqumeni Water Supply Scheme Phase 6.1	MIG	Water	New Infrastructure	12 308 513	24 617 027	0

Figure 7: Current Project Map for HGDM (2025/26 – 2027/28)

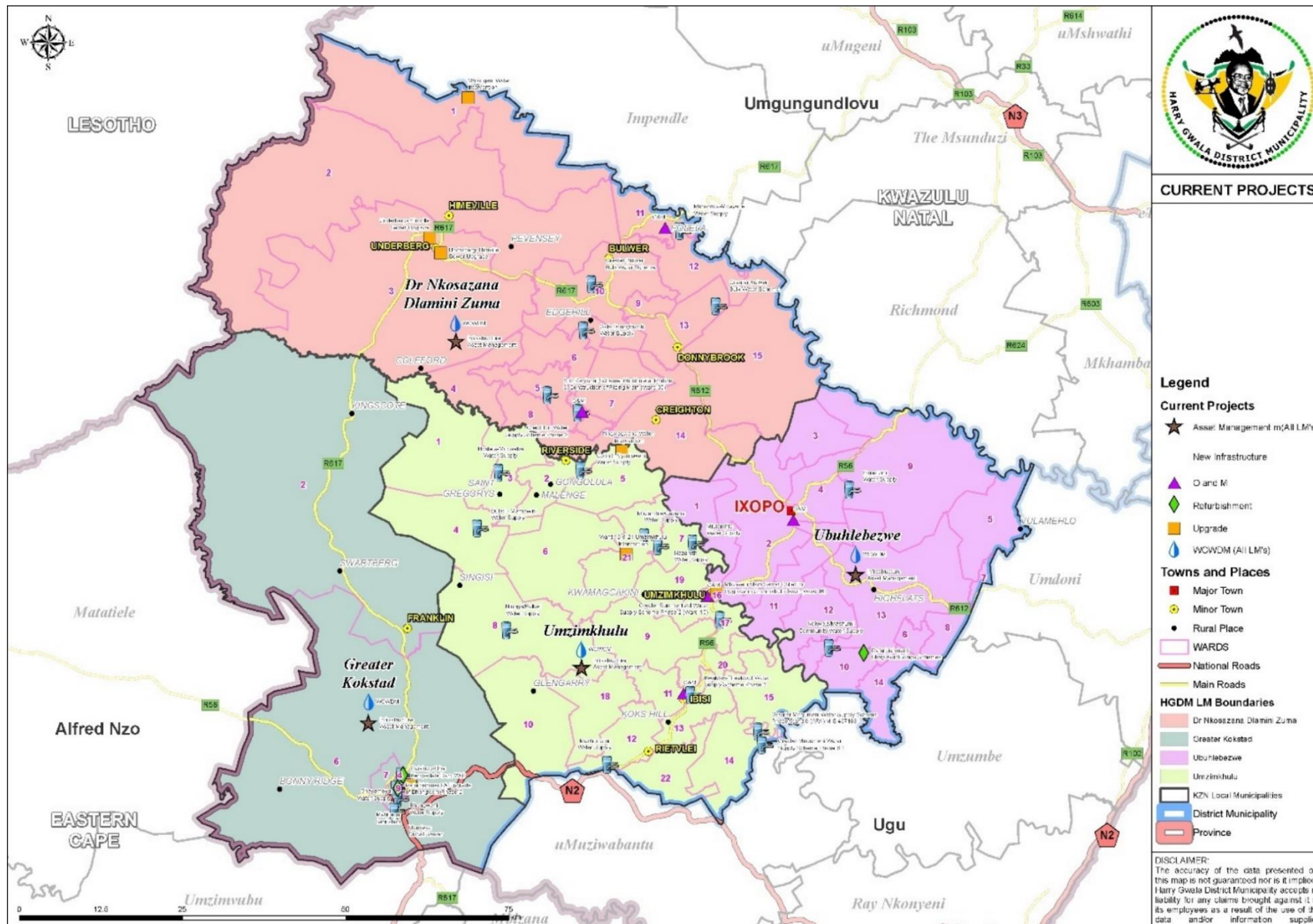


Figure 8: Current Project Map for Dr NDZ (2025/26 – 2027/28)



Figure 9: Current Projects for Ubuhlebezwe (2025/26 – 2027/28)

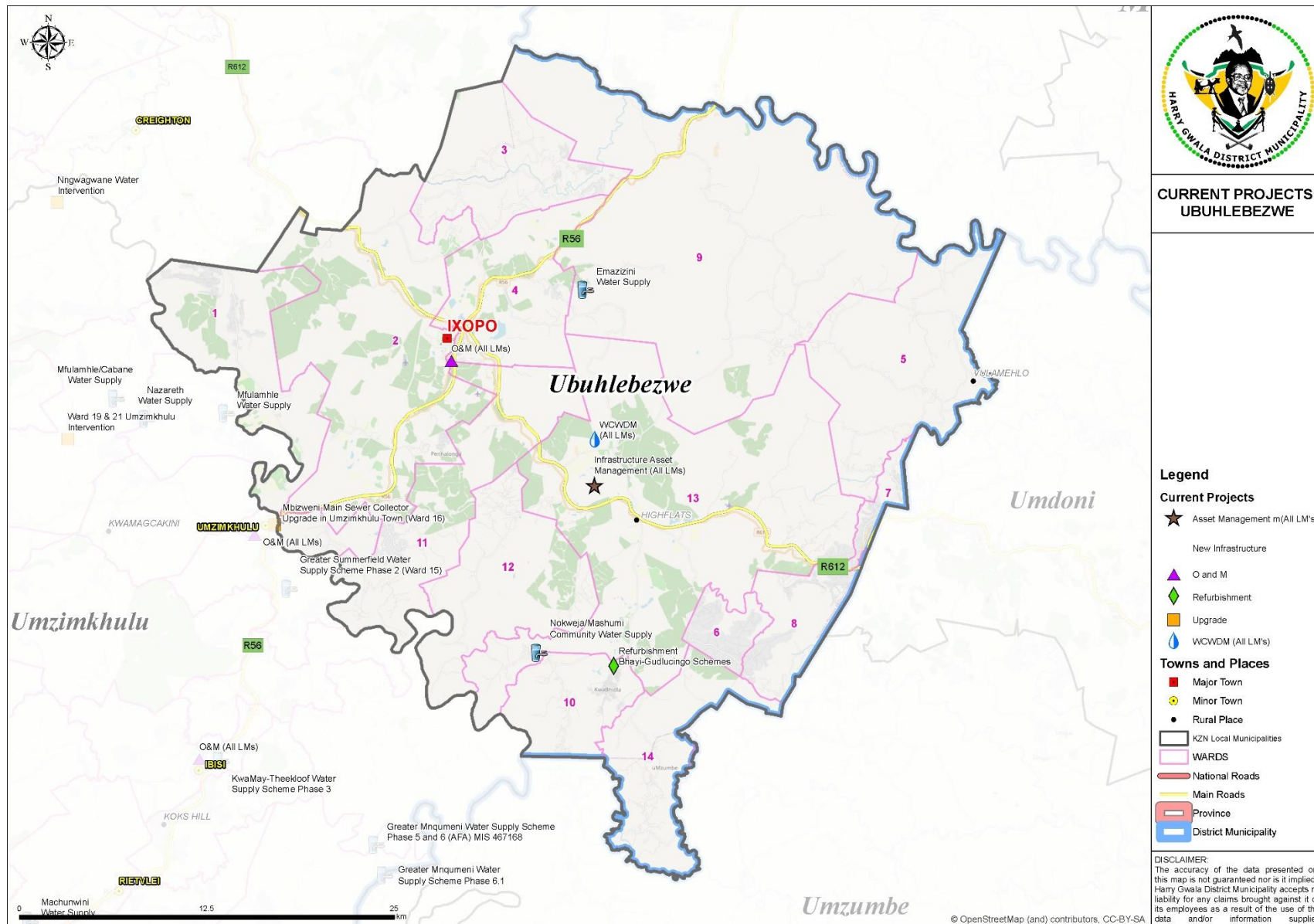


Figure 10: Current Projects for Umzimkhulu (2025/26 – 2027/28)

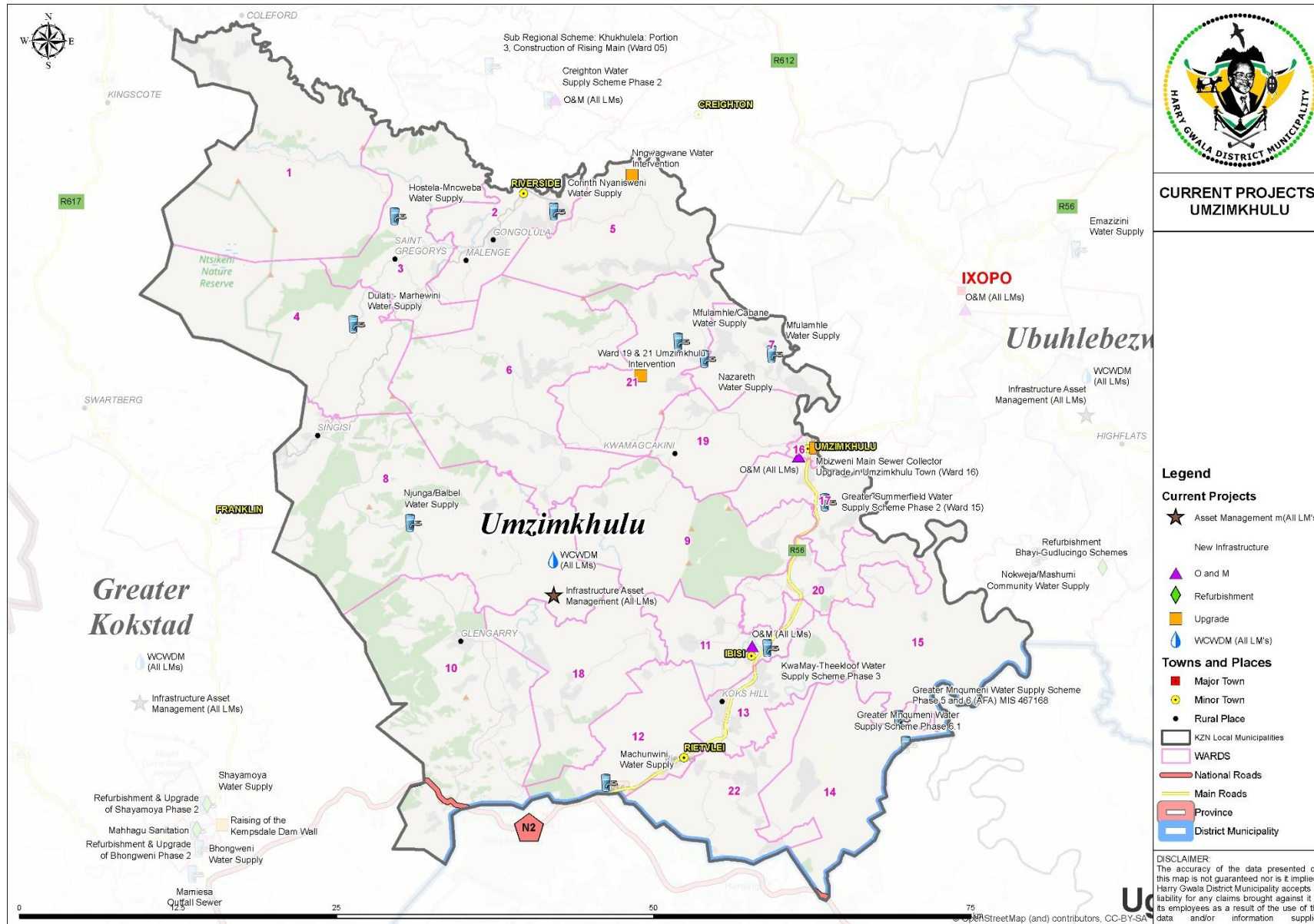
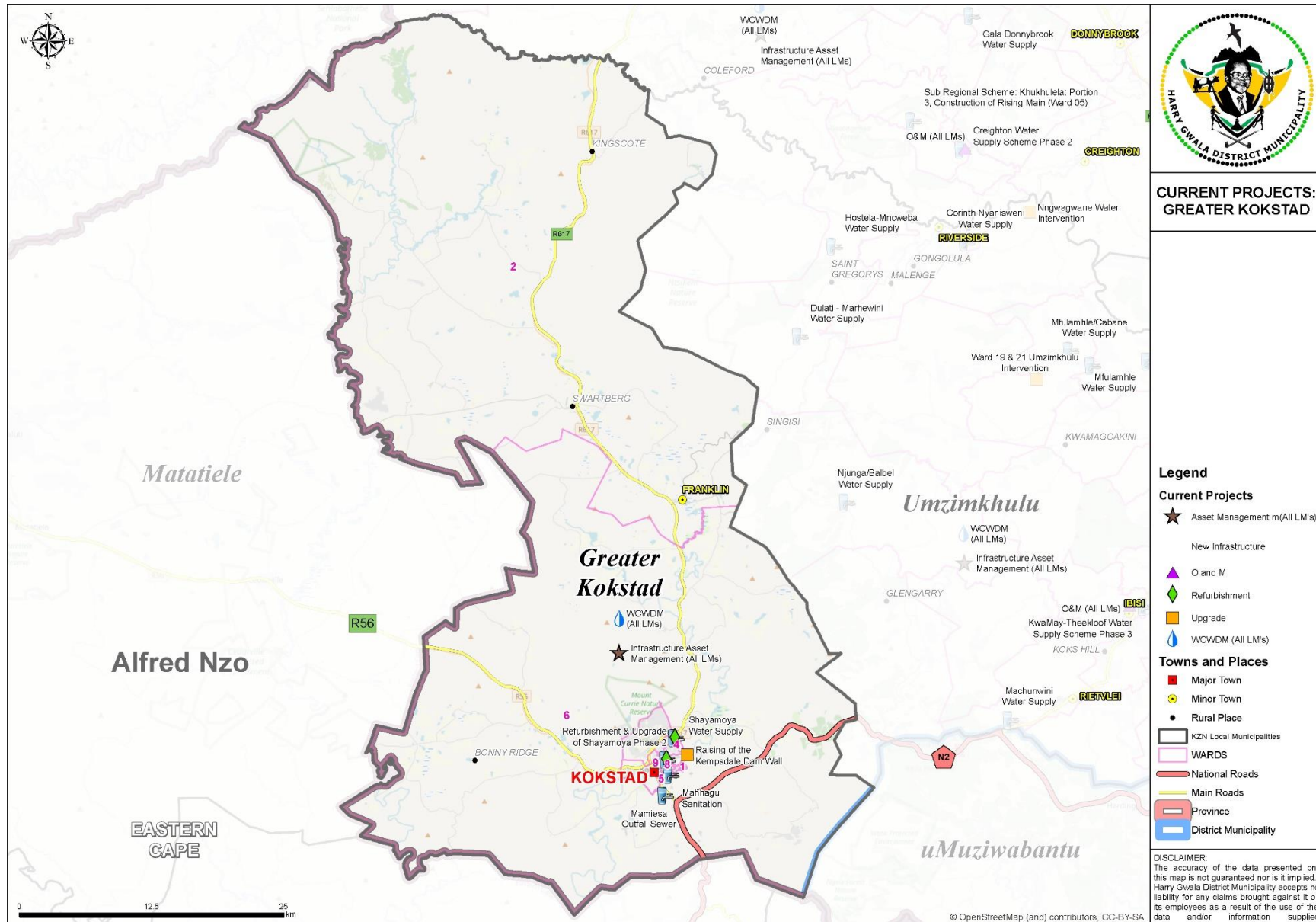


Figure 11: Current Projects for Greater Kokstad (2025/26 – 2027/28)



CHAPTER 2: WSDP TOPICS

Chapter 2 provides details on the eight topics of the WSDP reporting structure. Each topic will be discussed in details in this chapter.

TOPIC 1: SETTLEMENT DEMOGRAPHICS AND PUBLIC AMENITIES

HOUSEHOLDS

The current consumer profile of the district is based on an updated household count which was done from Google Earth aerial photography dated 2023. A total of **156 915 households** were updated.

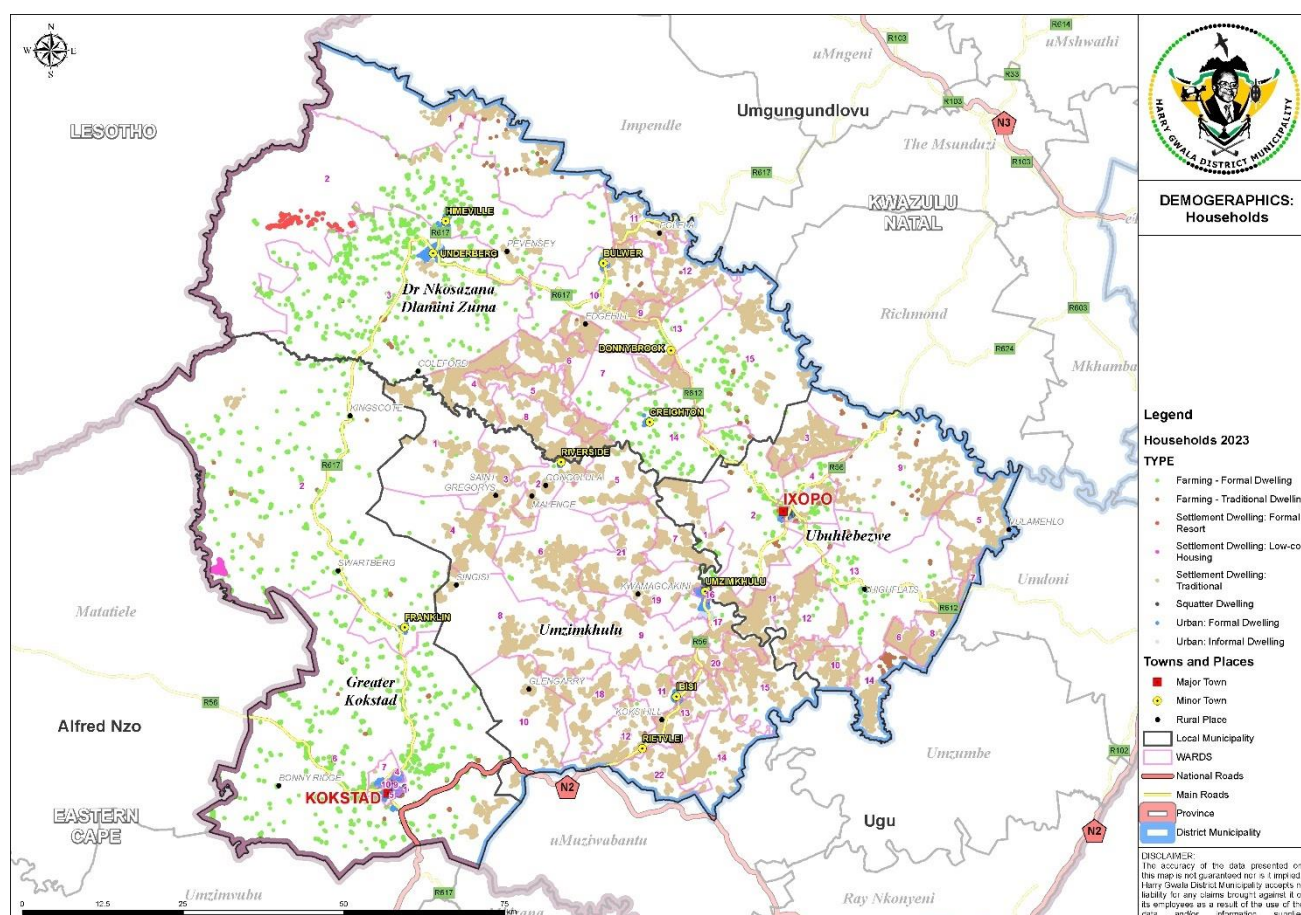


Figure 12: Household Distribution

A thorough analysis was done on the households as to where each household is located, and what type of dwelling it is. The largest concentrations of households are situated within the traditional authority and land reform areas, with more sparsely scattered households and farm dwellings throughout the remaining district.

The following map depicts the household densities in a more visual presentation. Households are clustered in the number of households within a square kilometre.

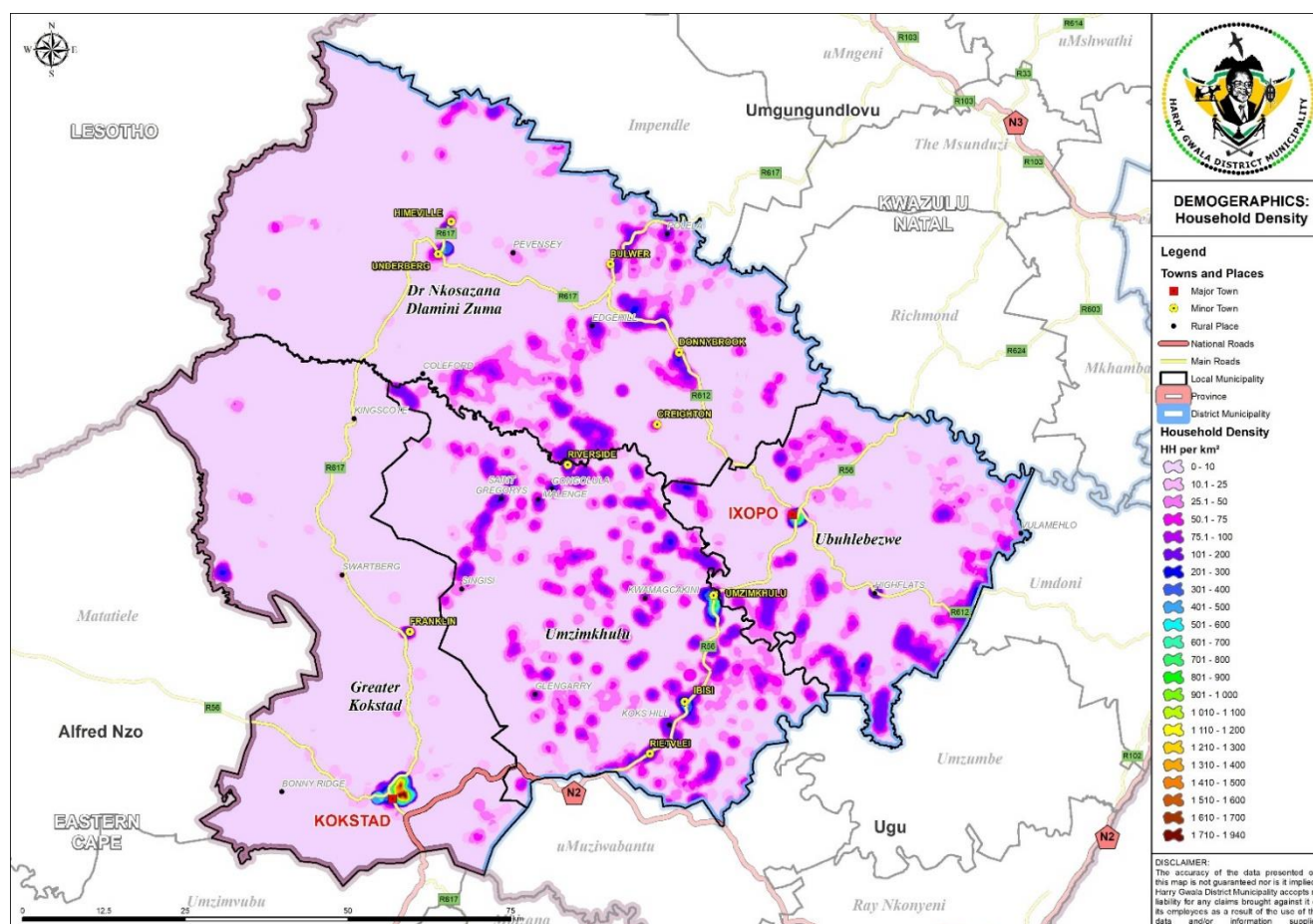


Figure 13: Dwelling Density Pattern per Square Kilometre (2023)

Apart from the high-density households within the urban town areas, there is a trend of high-density clusters along main routes and rivers. The vast scattered clusters of households in the rural landscapes, together with the lower annual rainfall in these areas, makes finding sustainable local water sources and water service delivery a challenging task for the municipality. Local groundwater sources are not always reliable for stand-alone schemes, and sustainable water provision in most cases is reliant on costly and time-delayed regional scheme planning and implementation.

The following map depicts the growth in households since the previous household count was done in 2015. Each square represents the number of new households per square kilometre from 2015 to 2023.

The highest growth has taken place around Kokstad in the form of informal settlement clusters surrounding the formal town area. Umzimkhulu town has also shown a significant growth. The remaining high growth clusters with a growth rate of around 60-80 new households per square kilometre, are predominantly within traditional authority areas, as well as land reform areas as well as along main roads.

These growth factors have a significant impact on water demands, and will be important for the compilation of the Water Master Plan demand and water balance calculations.

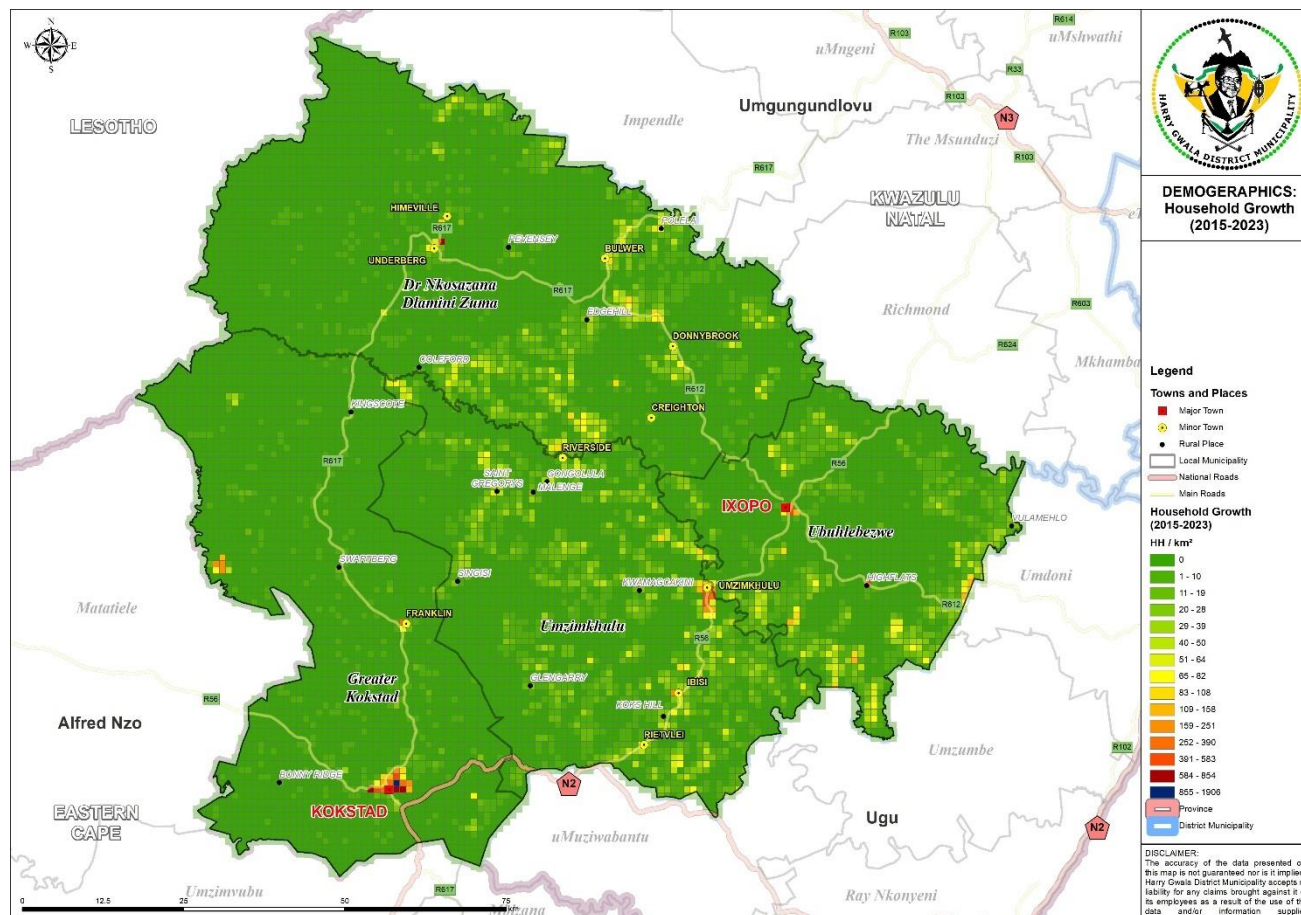


Figure 14: Household growth per sq. km (2015-2023)

Due to the spatial analysis requirements for water and sanitation provision at household level, HGDM uses its own household data set which contains actual household positions. Households are defined by, and projects are implemented per local settlement areas.

There is furthermore much debate as to how accurate the Census 2022 figures are. In a post-release STATSSA noted a 31% undercount, which was adjusted. However, when the household counts of 2022 are compared with the household counts of 2011, a total growth of only 2 919 households over 11 years for the entire DM is unrealistic. This is also observed with numerous other district municipalities. A comparison table between the 2011 Census data and the latest 2022 Census data can be seen in the table below.

Table 8: STATSSA Census data (2011 – 2022)

Local Municipality	HOUSEHOLDS		Growth over 11 years	POPULATION		Ave Households Size	
	2011	2022		2011	2022	2011	2022
Greater Kokstad	19 140	22 736	3 596	65 981	81 676	3.40	3.60
Ubuhlebezwe	25 520	26 742	1 222	110 925	133 032	4.30	5.00
Umzimkhulu	42 907	40 064	-2 843	180 302	220 620	4.20	5.50
Dr Nkosazana Dlamini Zuma	24 581	25 525	944	103 318	128 565	4.20	5.00
Total	112 148	115 067	2 919	460 526	563 893	4.10	4.90

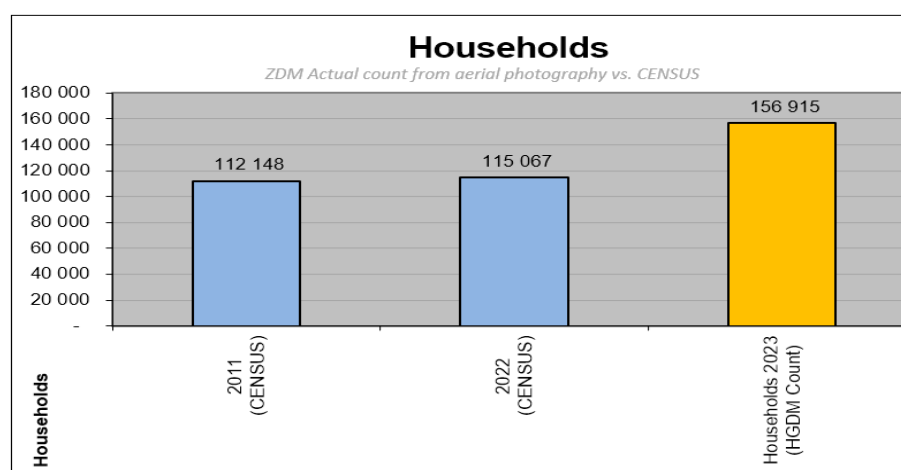
The Census 2022 statistics will also not be released per EA, and is currently only available on a Local Municipal level. This makes it impossible to correlate discrepancies between the Census 2022 household count, and that of the HGDM household count done from aerial photography.

Since the basis of the WSDP demographics and project implementation relies on settlement areas and each settlement's household count, as well as spatial analysis that can only be done from the physical locations of household points on the GIS, the HGDM 2023 household count is therefore used for its demographic profile. However, the Census 2022 does provide population per household, which is used to derive population figures by multiplying it with the HGDM 2023 household count.

For population analysis, the 2022 Census figures will be applied to the 2023 HGDM household count as per local municipality. A comparison table can be reviewed under Table 9 below, showing current and historical household growth and population figures per local municipality.

Table 9: HGDM and STATSSA Census comparison

Local Municipality	2011 (CENSUS)	2022 (CENSUS)	Growth % over 11 years	Annual flat growth rate	Average Population per household (CENSUS 2022)	Households 2023 (HGDM Count)	Total Population (Census 2022 pph x HGDM HH)
Greater Kokstad	19 140	22 736	18.8%	1.7%	3.60	23 096	83 146
Ubuhlebezwe	25 520	26 742	4.8%	0.4%	5.00	36 131	180 655
Umzimkhulu	42 907	40 064	-6.6%	-0.6%	5.50	59 846	329 153
Dr Nkosazana Dlamini Zuma	24 581	25 525	3.8%	0.3%	5.00	37 842	189 210
TOTAL (ZDM)	112 148	115 067	2.60%	0.2%	4.90	156 915	782 164



To summarise the above outcomes, the current household count for HGDM taken from the 2023 household count, is 156 915, with a total population of 782 164 when STATSSA population per household is applied (statssa.gov.za)

In Table 10 the different types of dwellings per local municipality can be reviewed.

Table 10: Current domestic consumer profile

Household Type	Dr NDZ	Greater Kokstad	Ubuhlebezwe	Umzimkhulu	Grand Total
Farming - Formal Dwelling	2 720	3 523	837	113	7 193
Farming - Traditional Dwelling	384	211	366	3	964
Settlement Dwelling: Formal Resort	469				469
Settlement Dwelling: Low-cost Housing		904			904
Settlement Dwelling: Traditional	31 129	934	30 641	52 342	115 049
Squatter Dwelling		3 270	2 138	215	5 623
Urban: Formal Dwelling	2 939	14 254	1 751	6 448	25 392
Urban: Informal Dwelling	199		397	725	1 321
Grand Total	37 840	23 096	36 130	59 846	156 915

INDUSTRIAL and BUSINESSES

Industrial and business properties are not yet available, and will be updated in future WSDP reports.

SETTLEMENTS

Settlements have been updated during 2024/2025 with the assistance of each ward councillor to ensure correct settlement boundaries and names. This was critically important since the entire WSDP planning and implementation of projects are settlement-based. New imagery has been obtained from Google Earth and a new household count for 2023 has been done. The settlements were revised and aligned with these new household points and counts. Settlement locations are summarised in the following table.

Table 11: Settlement Location

Settlement Main Type	Nr of Settlements
Urban	57
Rural	423
TOTAL	480

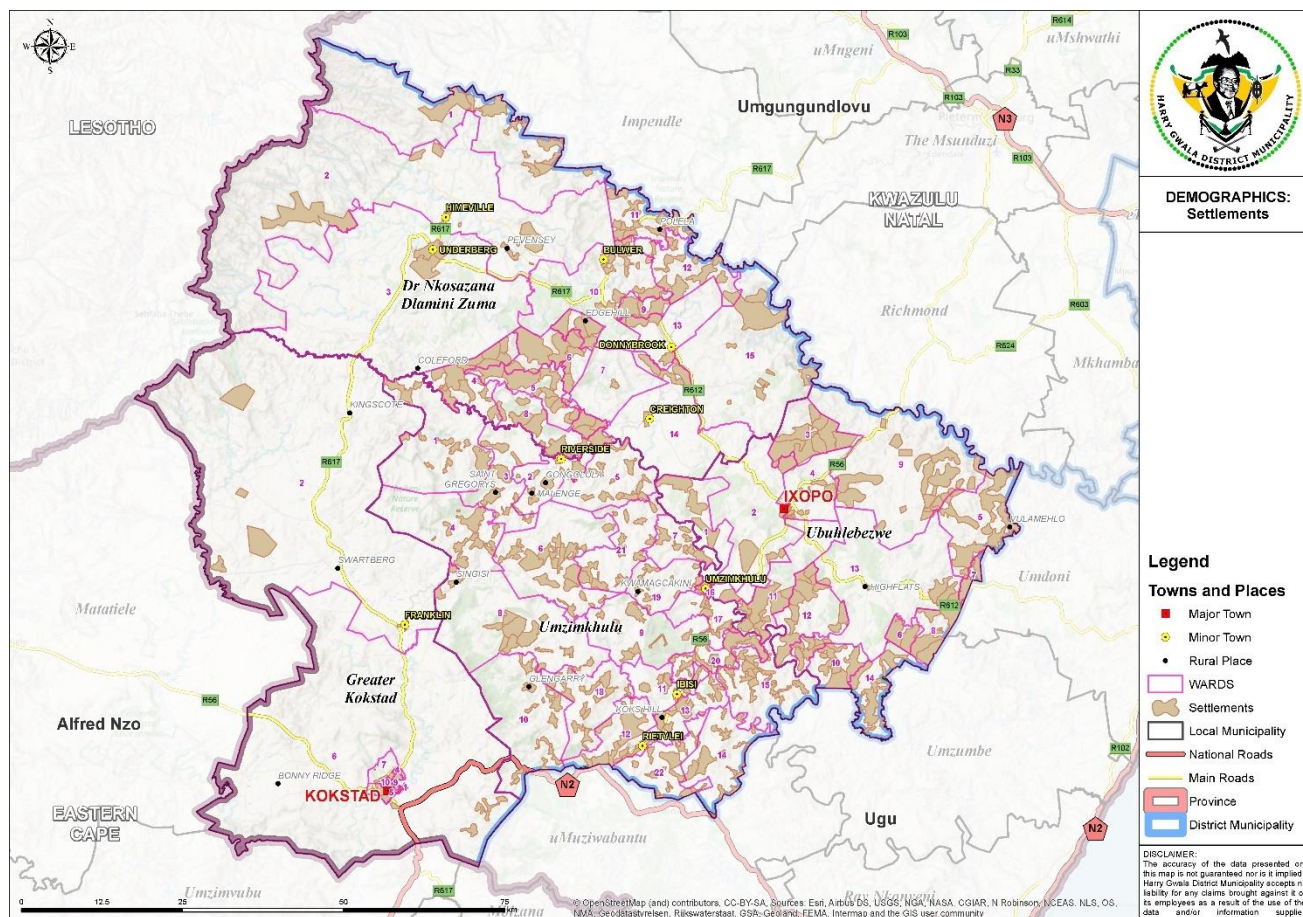


Figure 15: Settlements of Harry Gwala District Municipality

Rural settlements are mostly concentrated within the eastern part of Dr Nkosazana Dlamini Zuma Municipality, the Ubuhlebezwe, and Umzimkhulu Municipalities.

The WSDP requires settlement types to be defined. The proceeding table provides an overview of this.

Table 12: Settlement Types

Class	Settlement Type	Nr of Settlements
URBAN	Urban - Formal Town	40
	Urban - Former Township	3
	Urban - Informal	2
	Urban - Working Town	-
	Urban - Service Centre	2
	Urban - Squatter Camp	10
RURAL	Rural - Service Centre	
	Urban Fringe - Informal Settlement	
	Peri-Urban - Squatter Camp	
	Rural - Formal Dense >5000	-
	Rural - Formal Dense <5000	157
	Rural - Scattered Dense	62
	Rural - Scattered Medium Density	103
	Rural - Scattered Low Density	39
	Rural - Scattered Very Low Density	35
	Rural - Farming	27
TOTAL		480

The following are regarded as formal towns and nodes within HGDM (IDP, 2024/2025):

Table 13: Formal Towns and Nodes

LOCAL MUNICIPALITY	TOWNS NAME	PSDF (2022)	EASTERN SEABOARD RSDF (2023)	DSDF (2022/ 2027)
Greater Kokstad LM	Kokstad	Town	Regional Development Anchor	Primary Node
	Franklin	Small Service Centre	Local Town/ Large Village	Secondary Node
Umzimkhulu LM	Umzimkhulu	Small Town	Rural Service Centre	Primary Node
	Riverside	Small Town	Small Rural Village	Tertiary Nodes
DR Nkosazana Dlamini Zuma LM	Underberg	Small Town	Rural Service Centre	Primary Node
	Bulwer	Small Town	Rural Service Centre	Primary Node
	Creighton	-	Rural Service Centre	Secondary Node
	Donnybrook	Small Town	Local Town/ Large Village	Secondary Node
	Edgehill	-	Local Town/ Large Village	-
	Himeville	-	Rural Service Centre	Primary Node
Ubuhlebezwe LM	Ixopo	Town	Rural Service Centre	Primary Node
	Highflats	Small Town	Rural Service Centre	Secondary Node

PUBLIC AMENITIES

The WSDP requires details on public amenities, and what type of services each have. The number of institutes in each category is listed below.

Table 14: Public Amenities

FACILITY	Total
Education	424
Health	64
Police Station	14
Prison	2
Communty Hall	To be confirmed

TOPIC 2: SERVICE LEVEL & ASSOCIATED SERVICES PROFILE

WATER LEVEL OF SERVICES

Table 15: Access to water (households)

WATER Level of Service	Not Served	Rudimentary - 800m	RDP - 200m	Above RDP - Yard Connections	Above RDP - House Connections	Grand Total
Dr Nkosazana Dlamini Zuma	7 160	16 100	7 986	104	6 490	37 840
1	532	835	1 091		89	2 547
2	424	249			1 548	2 221
3	80	13			2 913	3 006
4	1 427	1 486			2	2 915
5	798	1 476	389			2 663
6	674	1 191	1 560			3 425
7	228	1 695			83	2 006
8	538	309	2 210		1	3 058
9	409	1 541	77		1	2 028
10	137	1 837	255	104	585	2 918
11	110	2 119	358		2	2 589
12	206	1 266	209			1 681
13	727	564	381		445	2 117
14	55	734	818		575	2 182
15	815	785	638		246	2 484

WATER Level of Service	Not Served	Rudimentary - 800m	RDP - 200m	Above RDP - Yard Connections	Above RDP - House Connections	Grand Total
Greater Kokstad	739	242	3 770	398	17 947	23 096
1			588		1 032	1 620
2	234	63	147		2 589	3 033
3					2 767	2 767
4					1 839	1 839
5			27	337	853	1 217
6	505	175			2 460	3 140
7		4	1		1 991	1 996
8			9		1 352	1 361
9			1 775	61	1 290	3 126
10			1 223		1 774	2 997

WATER Level of Service	Not Served	Rudimentary - 800m	RDP - 200m	Above RDP - Yard Connections	Above RDP - House Connections	Grand Total
Ubuhlebezwe	5 605	9 714	17 823		2 991	36 133
1	882	1 035	342		41	2 300
2	289	346	921		647	2 203
3	70	1 456	1 490		32	3 048
4	633	14	946		1 834	3 427
5	595	1 503	817			2 915
6	16	4	2 092			2 112
7	31	272	1 876			2 179
8	530	563	1 651			2 744
9	181	488	1 330		61	2 060
10	701	2 138			1	2 840
11	44	27	2 399		43	2 513
12	235	390	2 040		15	2 680
13	244	1 305	669		315	2 533
14	1 154	173	1 250		2	2 579

WATER Level of Service	Not Served	Rudimentary - 800m	RDP - 200m	Above RDP - Yard Connections	Above RDP - House Connections	Grand Total
Umzimkhulu	27 834	989	25 035		5 988	59 846
1	1 031		2 188		9	3 228
2	180	96	2 664		554	3 494
3	1 525	1	1 321		3	2 850
4	1 543	9	1 081		17	2 650
5	1 723	116	826		2	2 667
6	1 519	32	1 508		13	3 072
7	1 795	735	138		1	2 669
8	2 361		769		1	3 131
9	923		1 418			2 341
10	1 110		1 235		32	2 377
11	1 287		420		1 073	2 780
12	673		1 301		466	2 440
13	1 207		1 496		391	3 094
14	1 874		843		4	2 721
15	2 375		181		2	2 558
16	128				2 503	2 631
17	652		2 093		861	3 606
18	1 482		617		1	2 100
19	831		780		48	1 659
20	920		1 670			2 590
21	1 067		1 664		6	2 737
22	1 628		822		1	2 451
Grand Total	41 338	27 045	54 614	502	33 416	156 915

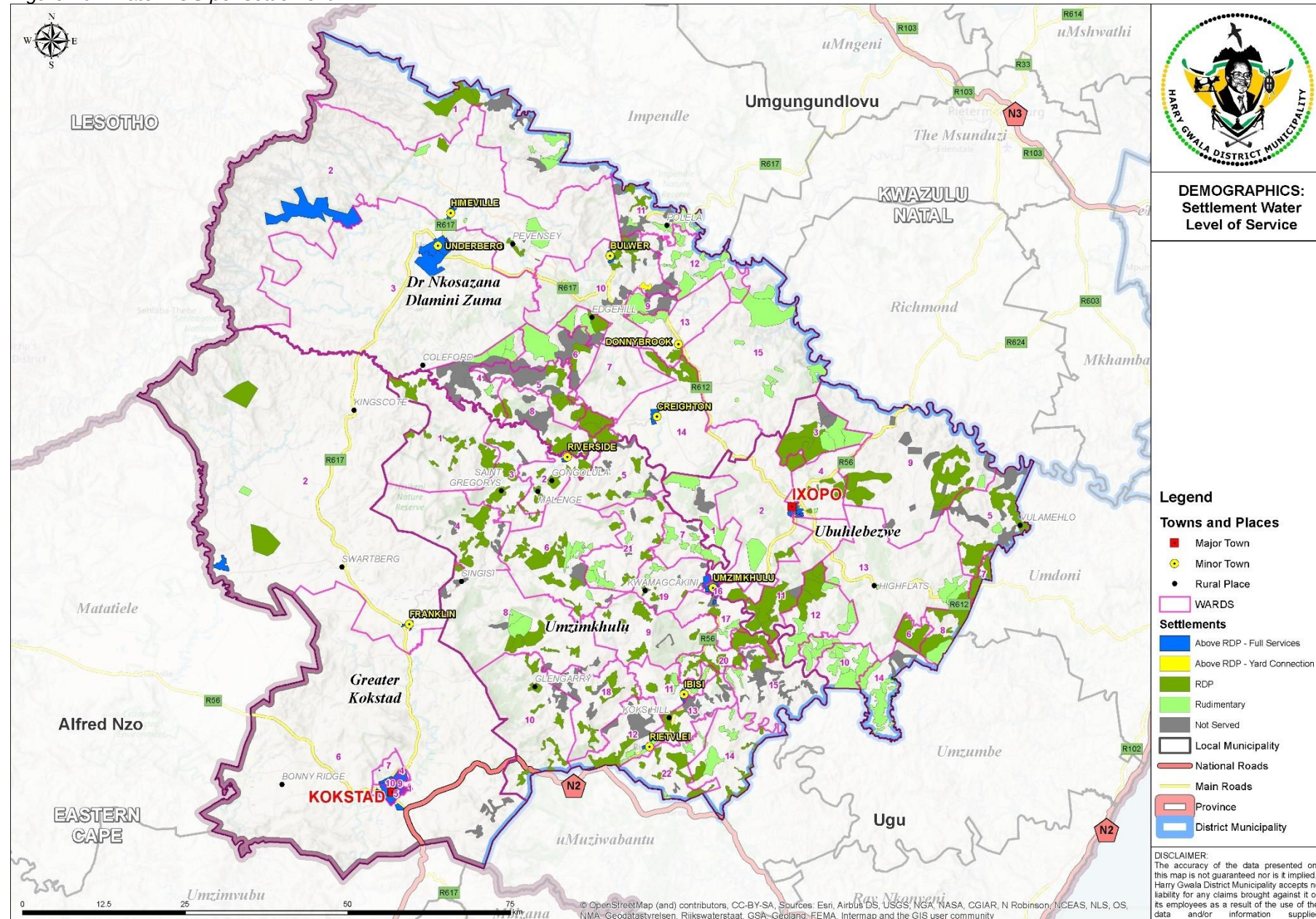
BACKLOGS						
WATER Level of Service	Not Served	Rudimentary - 800m	RDP - 200m	Above RDP - Yard Connections	Above RDP - House Connections	Grand Total
Dr Nkosazana Dlamini Zuma		61.5%	21.1%	0.3%	17.2%	100%
Greater Kokstad		4.2%	16.3%	1.7%	77.7%	100%
Ubuhlebezwe		42.4%	49.3%	0.0%	8.3%	100%
Umzimkhulu		48.2%	41.8%	0.0%	10.0%	100%
Grand Total		43.6%	34.8%	0.3%	21.3%	100%

Assumptions and counts:

- Water level of services were confirmed per settlement by each ward councillors during 2025
- Full water services were assigned to urban areas indicated by the councillors as having house connections.
- Above RDP level of service was assigned to households indicated by the councillors as having yard connection services in the settlements.
- RDP level of service was assigned to households within a RDP reticulation scheme where 200m standpipes are installed.
- Rudimentary service level was assigned to households within an 800m distance from public boreholes in the GIS data set. There is however limited details in the borehole data set regarding the functionality of each borehole. There may be therefore an over-estimation of this level of service calculation as boreholes may not be working. A full hydrocensus is required to know which boreholes and springs do actually provide water to the surrounding households.

- Not Served level of service was assigned to households located further than 800m away from any formal public water source. The assumption is that they are either served by water tankers, or have to rely on natural untreated, and possible unsustainable water sources.
- In private farming areas, formal farm houses have been given full water and sanitation services. The assumption is that a formal farm house would have full services. However traditional rural homesteads on private farms have been marked as not served as it is unknown if these traditional homesteads on farms do have any services.

Figure 16: Water LOS per settlement



SANITATION LEVEL OF SERVICES

Table 16: Access to sanitation (households)

Row Labels	Not Served	RDP - VIPs	Above RDP - Waterborne	Grand Total
Dr Nkosazana Dlamini Zuma	4 669	27 069	6 102	37 840
1	106	2 351	90	2 547
2	65	608	1 548	2 221
3	93		2 913	3 006
4	278	2 634	3	2 915
5	714	1 949		2 663
6	1 648	1 777		3 425
7	182	1 741	83	2 006
8	580	2 477	1	3 058
9	22	2 005	1	2 028
10	435	1 898	585	2 918
11	132	2 455	2	2 589
12	239	1 442		1 681
13		2 062	55	2 117
14	81	1 526	575	2 182
15	94	2 144	246	2 484

Row Labels	Not Served	RDP - VIPs	Above RDP - Waterborne	Grand Total
Greater Kokstad	4 384	764	17 948	23 096
1	588		1 032	1 620
2	78	366	2 589	3 033
3			2 767	2 767
4			1 839	1 839
5	27	337	853	1 217
6	680		2 460	3 140
7	5		1 991	1 996
8	9		1 352	1 361
9	1 775	61	1 290	3 126
10	1 222		1 775	2 997

Row Labels	Not Served	RDP - VIPs	Above RDP - Waterborne	Grand Total
Ubuhlebezwe	8 597	24 543	2 993	36 133
0		1		1
1	8	2 250	41	2 299
2	289	1 266	648	2 203
3	352	2 664	32	3 048
4	615	977	1 835	3 427
5	408	2 507		2 915
6	637	1 475		2 112
7	1 612	567		2 179
8	1 372	1 372		2 744
9	1 054	945	61	2 060
10		2 839	1	2 840
11	1 523	947	43	2 513
12		2 665	15	2 680
13	572	1 646	315	2 533
14	155	2 422	2	2 579

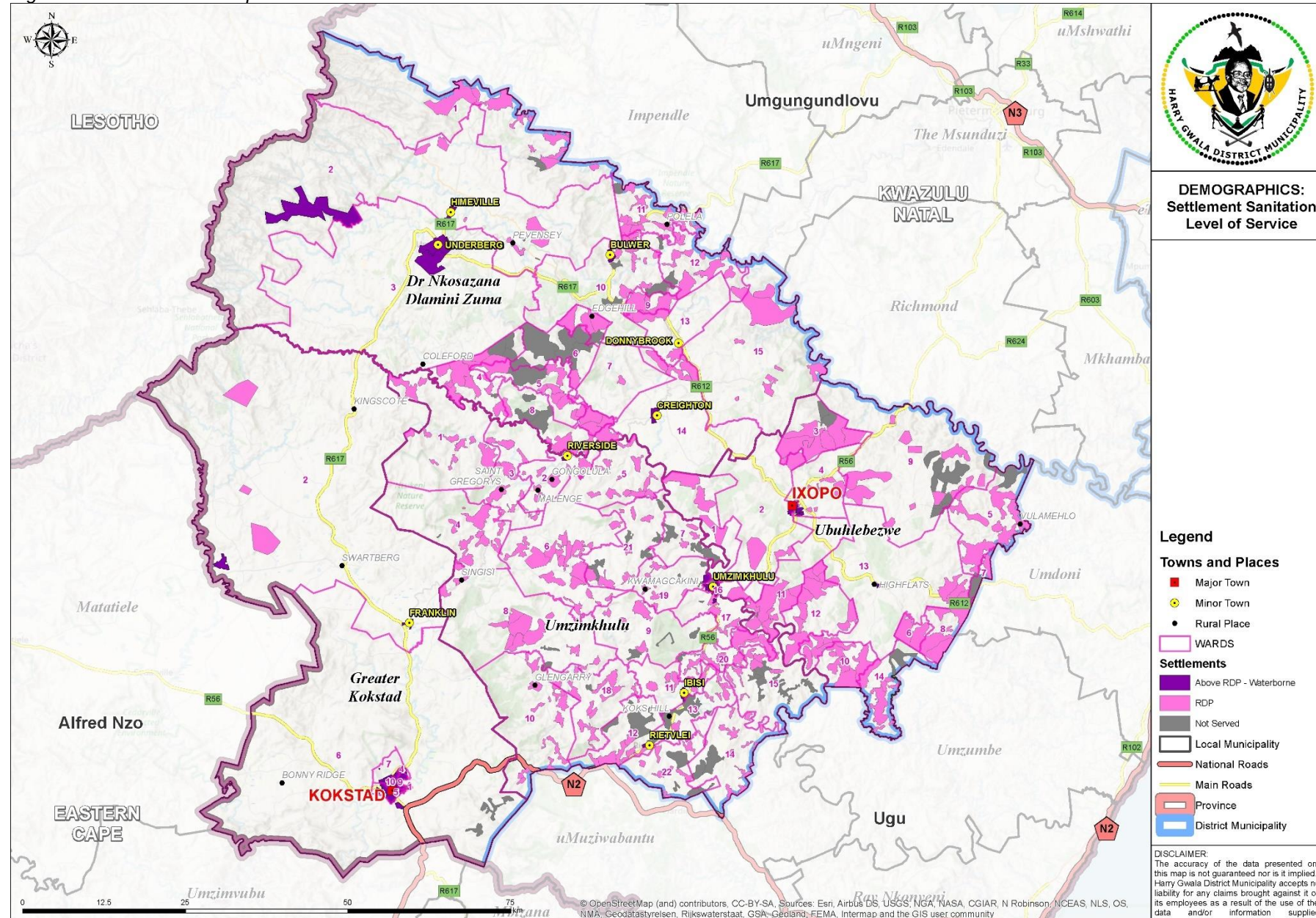
Row Labels	Not Served	RDP - VIPs	Above RDP - Waterborne	Grand Total
Umzimkhulu	13 371	40 486	5 989	59 846
0			1	1
1		3 219	8	3 227
2	1	2 939	554	3 494
3		2 847	3	2 850
4	5	2 628	17	2 650
5	776	1 889	2	2 667
6		3 059	13	3 072
7	2 159	509	1	2 669
8	547	2 583	1	3 131
9	1 062	1 279		2 341
10	27	2 318	32	2 377
11	35	1 672	1 073	2 780
12	565	1 409	466	2 440
13	1 839	864	391	3 094
14	1 454	1 263	4	2 721
15	1 615	941	2	2 558
16	128		2 503	2 631
17	14	2 731	861	3 606
18	27	2 071	2	2 100
19	739	872	48	1 659
20	164	2 426		2 590
21	1 193	1 538	6	2 737
22	1 021	1 429	1	2 451
Grand Total	31 021	92 862	33 032	156 915

Row Labels	Not Served	RDP - VIPs	Above RDP - Waterborne	Grand Total
Dr Nkosazana Dlamini Zuma	12.3%	71.5%	16.1%	100%
Greater Kokstad	19.0%	3.3%	77.7%	100%
Ubuhlebezwe	23.8%	67.9%	8.3%	100%
Umzimkhulu	22.3%	67.7%	10.0%	100%
Grand Total	19.8%	59.2%	21.1%	100%

Assumptions and counts:

- Sanitation level of services were confirmed per settlement by each ward councillors during 2025
- Above RDP level of services were assigned to urban areas indicated by the councillors as having full waterborne services
- RDP level of services were assigned to households in settlements indicated by councillors having VIP sanitation. In cases where only a percentage was indicated, the older households were selected based on the percentage indicated. The newer households post 2015 were therefore excluded and marked as not served. This is a backlog in sanitation that will have to be addressed eventually through an infill programme once all the settlements have benefited from a sanitation project.
- Not Served was assigned to households having no formal sanitation infrastructure.
- In private farming areas, formal farm houses have been given full water and sanitation services. The assumption is that a formal farm house would have full services. However traditional rural homesteads on private farms have been marked as not served as it is unknown if these traditional homesteads on farms do have any services.

Figure 17: Sanitation LOS per settlement



PUBLIC INSTITUTIONS PROFILE

The WSDP is required to review and address water and sanitation provision for public amenities within its area of jurisdiction. Although most of these public institutions are departments on their own, HGDM as the WSA has a mandate to provide solutions for these institutes in terms of sustainable water and sanitation provision.

Examples of such solutions include sustainable water supply that could be provided to a school from a nearby water supply scheme. HGDM would be able to supply a water pipeline to the school with a bulk water meter outside the premises, and it will be the responsibility of the school or the Department of Education to extend the water supply to the school itself, and pay HGDM for water used in the school. This is in favour of HGDM as it can be a source of revenue for the DM.

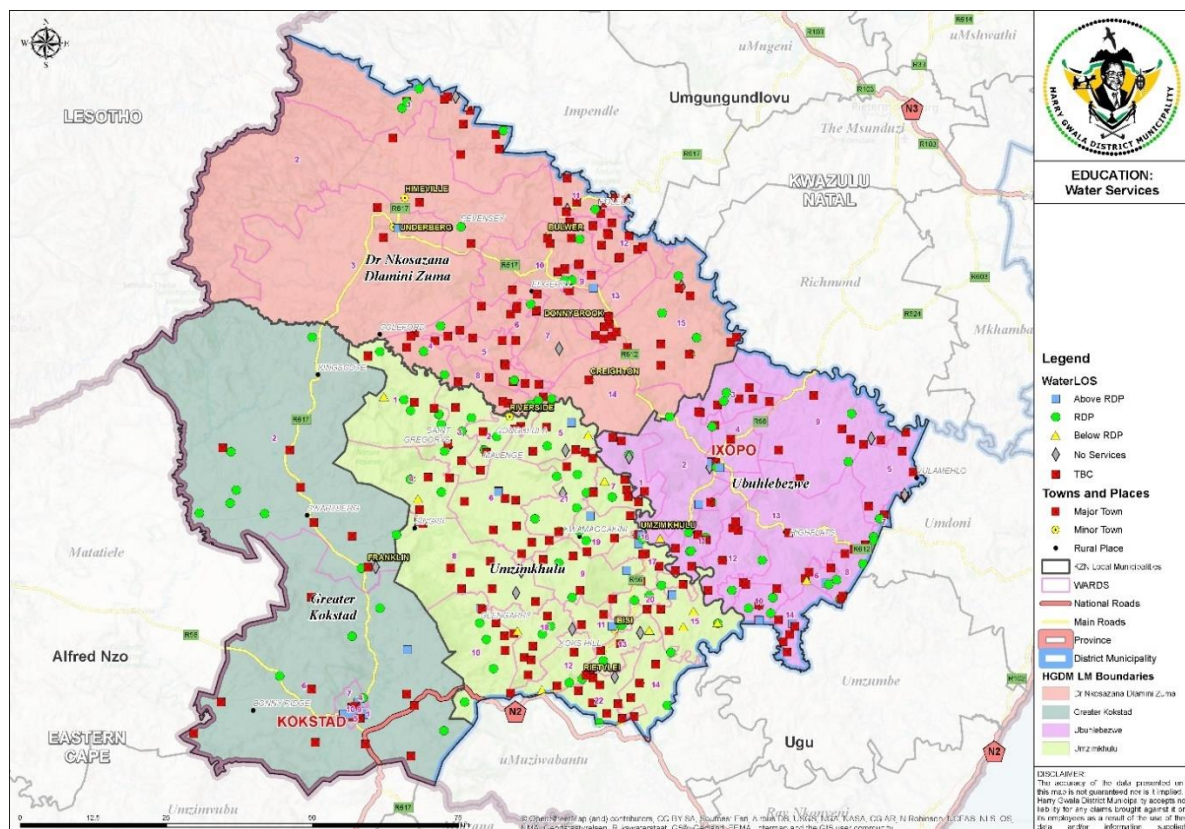
There is limited details available for water and sanitation details at most public amenities, of which schools are the most important since many schools have water issues. Some details have been obtained for schools and health institutes, but it remains a challenge to obtain such details. The following tables and maps provide details on the water and sanitation situation at schools and health institutes, and where no info is available.

Table 17: Public institutions and 'dry' industries: access to water

Institution	No off	WATER			
		None or inadequate	Communal standpipe	Yard connection	Full Water Services
Businesses	TBC	TBC	TBC	TBC	
Clinics	43	3			40
Creches	TBC	TBC	TBC	TBC	
"Dry" Industries	TBC	TBC	TBC	TBC	
Hospitals	6				6
Magistrate offices	TBC	TBC	TBC	TBC	
Police Stations	14				
Prisons	2				2
Schools	424	TBC	TBC	TBC	TBC
Community Halls	TBC	TBC	TBC	TBC	
Total	489	3	-	-	48

Table 18: Public institutions and 'dry' industries: access to sanitation

Institution	No off	SANITATION			
		None or inadequate	VIP	Flush with Septic tanks	Waterborne
Businesses	TBC	TBC	TBC	TBC	TBC
Clinics	43		13	22	13
Creches	TBC	TBC	TBC	TBC	TBC
"Dry" Industries	TBC	TBC	TBC	TBC	TBC
Hospitals	6				6
Magistrate offices	TBC	TBC	TBC	TBC	TBC
Police Stations	14				
Prisons	2				2
Schools	424	TBC	TBC	TBC	TBC
Community Halls	TBC	TBC	TBC	TBC	TBC
Total	489	-	13	22	21



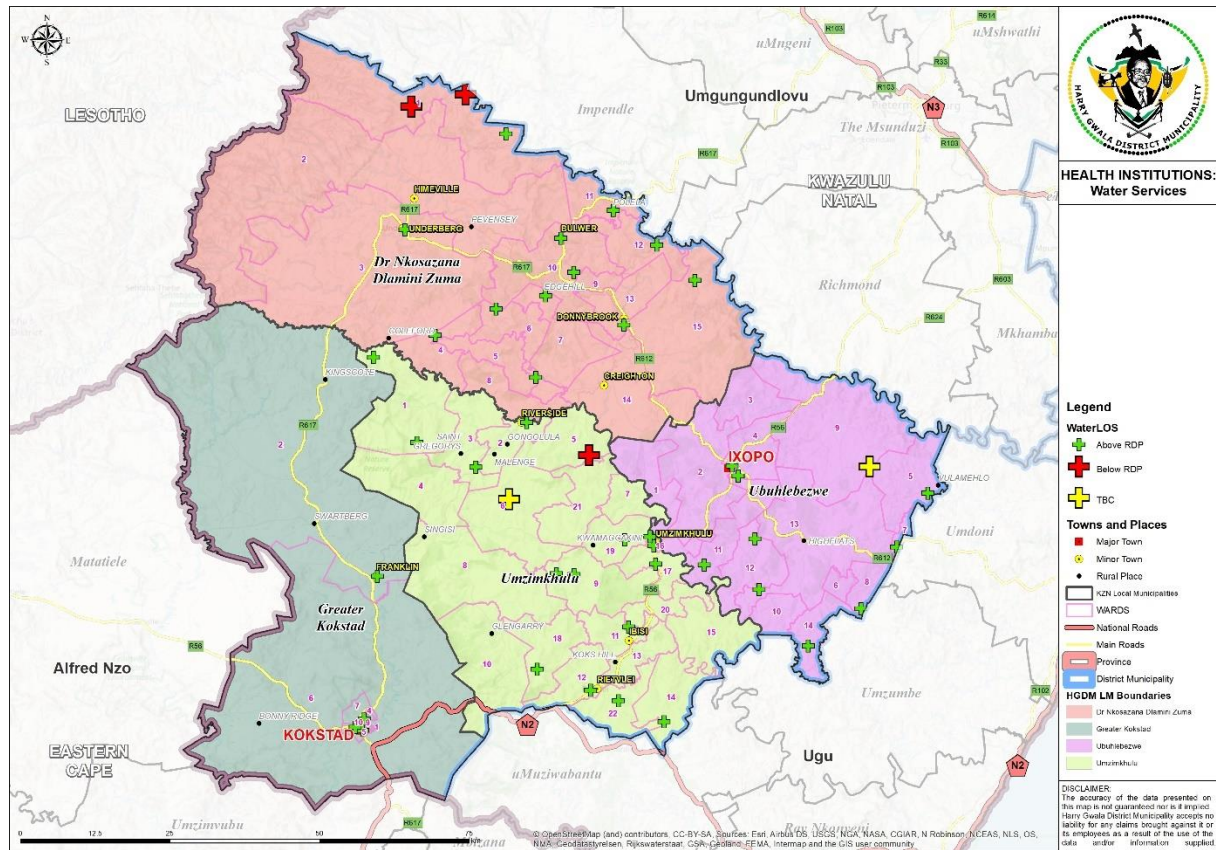


Figure 20: Health Institute Facilities' Water Status



Figure 21: Health Institute Facilities' Sanitation Status

TOPIC 3: WATER AND SANITATION ASSET MANAGEMENT

HGDM has done extensive work on the development of a database that will serve as an asset register, but also to be used as the basis for the development of an asset management system and to capture asset related information electronically for ongoing use.

Table 21 below provides a brief overview of the schemes in the district These figures will be refined as information are being updated.

Table 19: Summary of schemes in the district

Summary Data	LOS	Total
Number of Schemes	Above RDP - Urban	11
	Above RDP - Rural	TBC
	RDP	TBC
	Rudimentary	TBC
	TOTAL SCHEMES	TBC

Figure 20 below shows examples of infrastructure data that is currently available on the GIS. Some gaps still exist in the infrastructure information, HGDM has been systematically updating its infrastructure details and eliminating data gaps where possible within its capability and resources. This process involves both feature as well as attribute data, and will support the asset management system initiative of HGDM which is currently in development

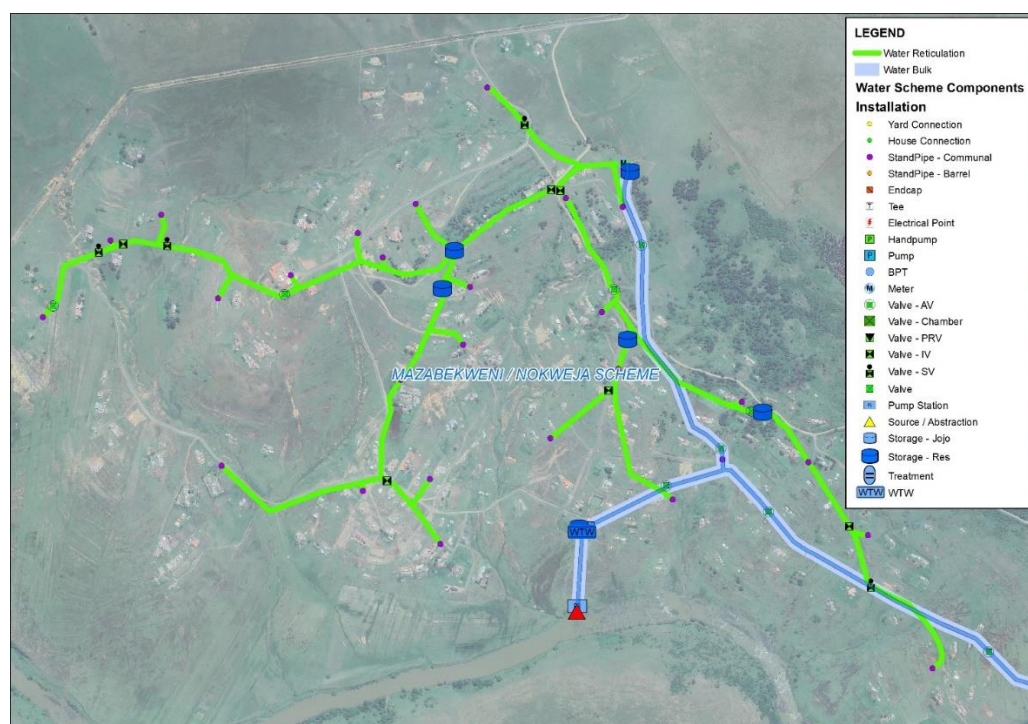


Figure 22: Example of All Water Infrastructure Assets Close-up

Assets are continuously being updated as available as-builts are being sourced. It is critical that as-builts for all completed infrastructure projects are provided to HGDM in electronic dwg CAD files. This will enable the GIS department to import and convert the Cad details to the GIS geodatabase. Figure 21 below shows all the existing water infrastructure that is available on the GIS.

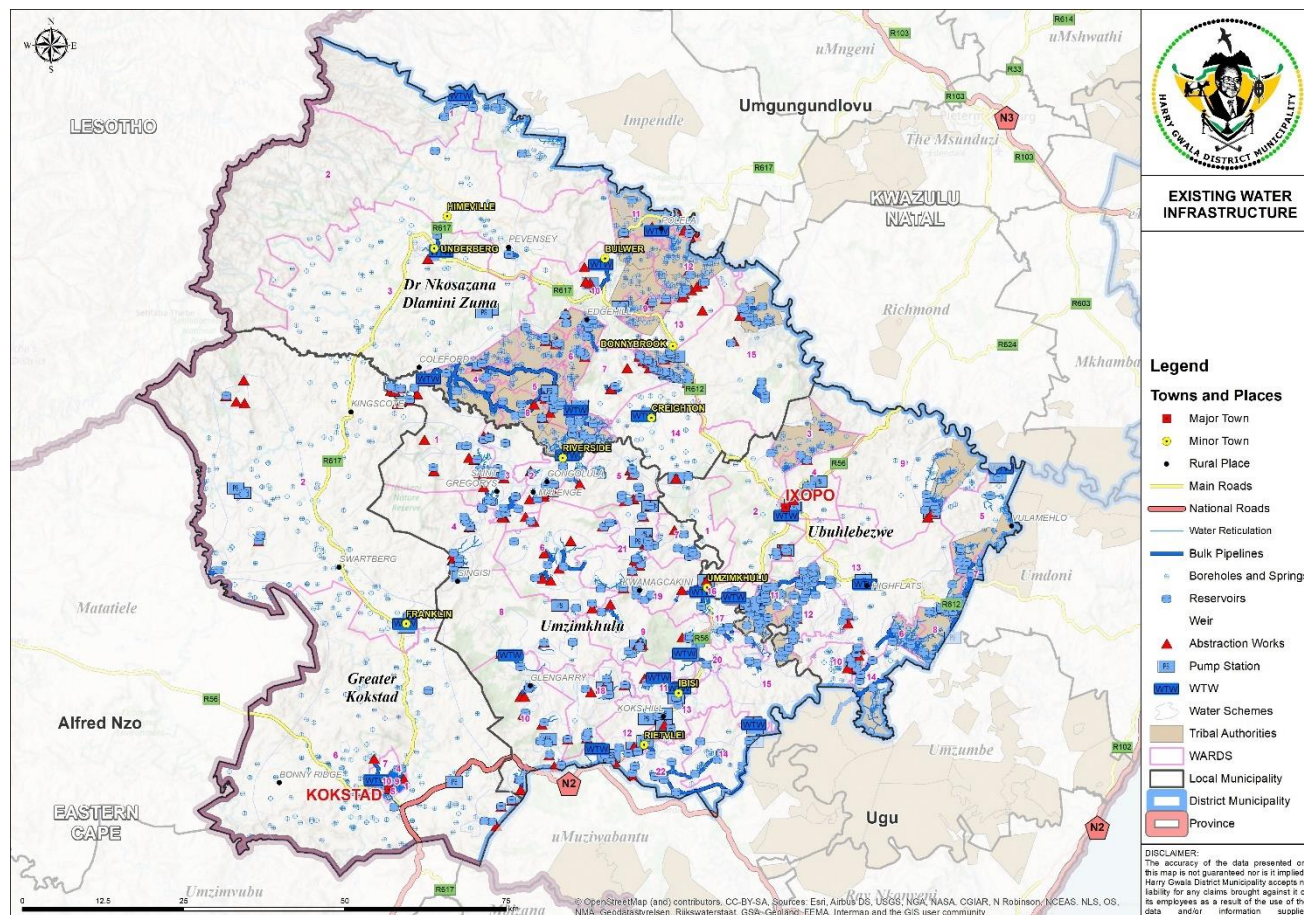


Figure 23: Map of Existing Water Infrastructure

Table 22 provide a further breakdown of the number and length of each type of pipeline and component. There is still a substantial number of schemes to be verified and updated, and details will be updated in future WSDP reports as information is obtained and updated on the GIS.

Table 20: Existing Water Infrastructure Assets

Summary Data	Description	Total (km, units)
Pipelines	Bulk	897km
	Reticulation	1524km
Installations	Yard Connection	In Progress
	StandPipe - Barrel	0
	StandPipe - Communal	In Progress
	Electrical Point	TBC
	Valve	In Progress
	Meter	In Progress
	Bulk Metering Points	TBC
	Handpump	TBC
	Playpump	TBC
	Electrical Pump	TBC
	Diesel Pumps	TBC
	Equipped BH pumps (Type unverified)	TBC
	Pump Station	In Progress
	Scheme Source / Abstraction	246
	Break-pressure Tank	TBC
	Storage - Jojo	In Progress
	Storage - Reservoir	In Progress
	Weir	TBC
	Treatment (Sand filters etc)	0
	Water Treatment Works	28
	Boreholes	1966
	Spring Protections	TBC
	Windmills	22
Replacement Value	Civil	TBC
	Mechanical	TBC
	Electrical	TBC
	Telemetry	TBC

Table 21: Summary of sewer schemes in the district

Summary Data	LOS	Total
Number of Schemes	Waterborne Schemes	12

Table 24 below shows the existing sewer infrastructure that is available on the GIS, with an associated map under Figure 22 showing the spatial distribution of these assets.

Table 22: Existing Sewer Infrastructure Assets

Summary Data	Description	Total (km, units)
Pipelines	Bulk	1.9km
	Reticulation	102.05km
Installations	Pump Station	4
	Wastewater Treatment Works	12
Replacement Value	Civil	TBC
	Mechanical	TBC
	Electrical	TBC
	Telemetry	TBC

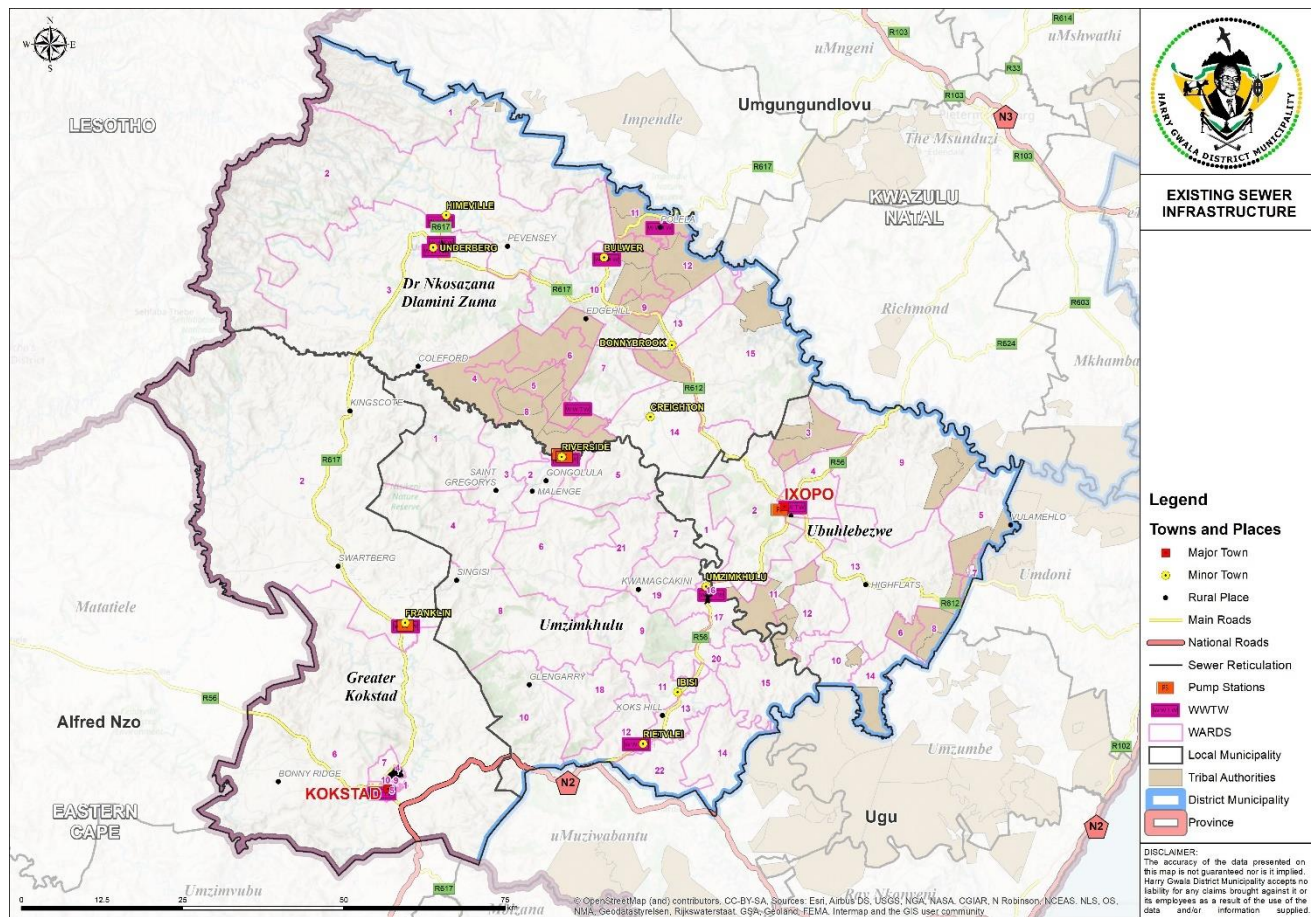


Figure 24: Map of Existing Sanitation Infrastructure

TOPIC 4: OPERATION & MAINTENANCE

Operation and Maintenance management is split up as follows:

❖ **Bulk Water and Wastewater Management:**

The core function for Water Services Provision Bulk is to ensure that water and wastewater infrastructure is managed properly in order to produce a cost effective and SANS 241 acquiescent quality of water. It is also to Operate and Maintain the Bulk Infrastructure in order to minimize down time).

❖ **Rural and Urban Reticulation:**

The main function of the "Urban and Rural Reticulation Section" division is to operate and maintain the water and sanitation networks in both urban and rural areas within the Local Municipalities.

Of critical importance is the funding of Operations and Maintenance of existing and future schemes as they are being commissioned. Correct O&M of physical infrastructure is arguably more important than infrastructure construction because unless successful preventative maintenance procedures are instituted schemes will become inoperative. As a large proportion of expenditure relates to staff, competent personnel are required to ensure that the large investments in water services are not negated through dysfunction or dereliction.

This section looks at existing infrastructure which have reached its end of lifespan, and whether refurbishment, O&M or replacement is necessary for sustainable service delivery. This is applicable for water and sanitation components such as WTW's or Pump Stations, but also for scheme networks where infrastructure has deteriorated or reached the end of its lifespan. It furthermore entails O&M for all borehole and spring protection services where O&M plays a significant role.

Other factors influencing proper O&M include Staff capacity, external resources, equipment and budget requirements.

The DWS 5-Year Water and Sanitation Reliability Service Delivery Implementation Plan has been completed during 2024. This Implementation Plan takes all the above aspects into account and provides a pipeline of projects for the next 5 years to enable the municipality in providing a 90% reliable service delivery for water and sanitation. This forms part of the KZN PGDS Framework. The first year's prioritised projects identified for rollout can be reviewed under Chapter 11.

Table 25 below shows the operational costs associated with the provision of water services in the district against the total income. At present a significant decline exists for O&M, and HGDM is addressing these issues through various means.

Table 23: Operational costs and income

Operating costs and income	Total 5yr projected	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027
Operational costs	TBC				R 162 157 700	R 170 214 011
Personnel costs	TBC				R 65 331 257	R 68 250 000
Total O&M costs	R -	R -	R -	R -	R 227 488 957	R 238 464 011
Equitable share: FBS	TBC				R 37 827 883	R 10 000 000
Income: sales (actual payment)	TBC				R 71 779 385	R 71 655 669
Total income	R -	R -	R -	R -	R 109 607 268	R 81 655 669
Deficit/surplus	R -	R -	R -	R -	R 117 881 689	R 156 808 342

From the above summary, it is clear that a critical shortfall exist in HGDM in terms of the financial requirement for O&M as opposed to the funding and income available to perform the O&M. HGDM did receive an allowance of 10% on the MIG funding for O&M which is not included in this table. This will be updated in future reviews.

KPI's include maintaining proper O&M on relevant assets, as well as keeping staff and budget requirements in place.

Blue Drop & Green Drop Assessments

The WSDP is required to indicate and assess the latest Blue and Green Drop Assessments and show key information from the reports. This section will provide such information and an overview on the status of water and sewer treatment plants. The following shows the manner in which the Blue Drop Assessments are being evaluated and what the scoring implies.

Blue Drop Assessments

- Blue Drop Score:** The Blue Drop IRIS scorecard is a web-enabled audit tool used to collect data and calculate the Blue Drop Scores. This data is collated into the Blue Drop Report outlining the WSIs performance against 5 Key Performance Areas for water supply systems assessed. A Blue Drop score (%) is awarded to an individual water supply system based on the results from the audit process which measures performance against 5 Key Performance Areas (KPA), plus a suite of bonuses and penalties. The individual audit scores aggregate as a single (weighted) institutional Blue Drop score. The score is weighted against the System Input Volume (SIV) towards the water supply system. This score serves as a Performance Indicator of the capacity, compliance, and good practice that the institution attains against the Blue Drop audit requirements, which again have been derived from national and international standards. A water supply system that achieves $\geq 95\%$ Blue Drop score, is regarded as excellent. A system that achieved $< 31\%$ is regarded as a dysfunctional system which would require appropriate interventions. [Note: The audit covers the abstraction, treatment, and distribution network to point of use].

Institutions that achieve $\geq 95\%$, are Blue Drop Certified in acknowledgement of excellence



The Blue Drop Scores for each water supply system is categorised as following:

$\geq 95-100\%$	Excellent situation, need to maintain via continued improvement
$\geq 80- < 95\%$	Good performance, some room for improvement
$\geq 50- < 80\%$	Average performance, ample room for improvement
$\geq 31- < 50\%$	Very poor performance, need targeted intervention towards gradual sustainable improvement
$0- < 31\%$	Critical state, need urgent intervention for all aspects of the water services business

Municipal Blue Drop Score		
Blue Drop Score 2023	%	66.18%
Blue Drop Score 2014	%	62.86%
Blue Drop Score 2012	%	69.35%
Blue Drop Score 2011	%	40.09%

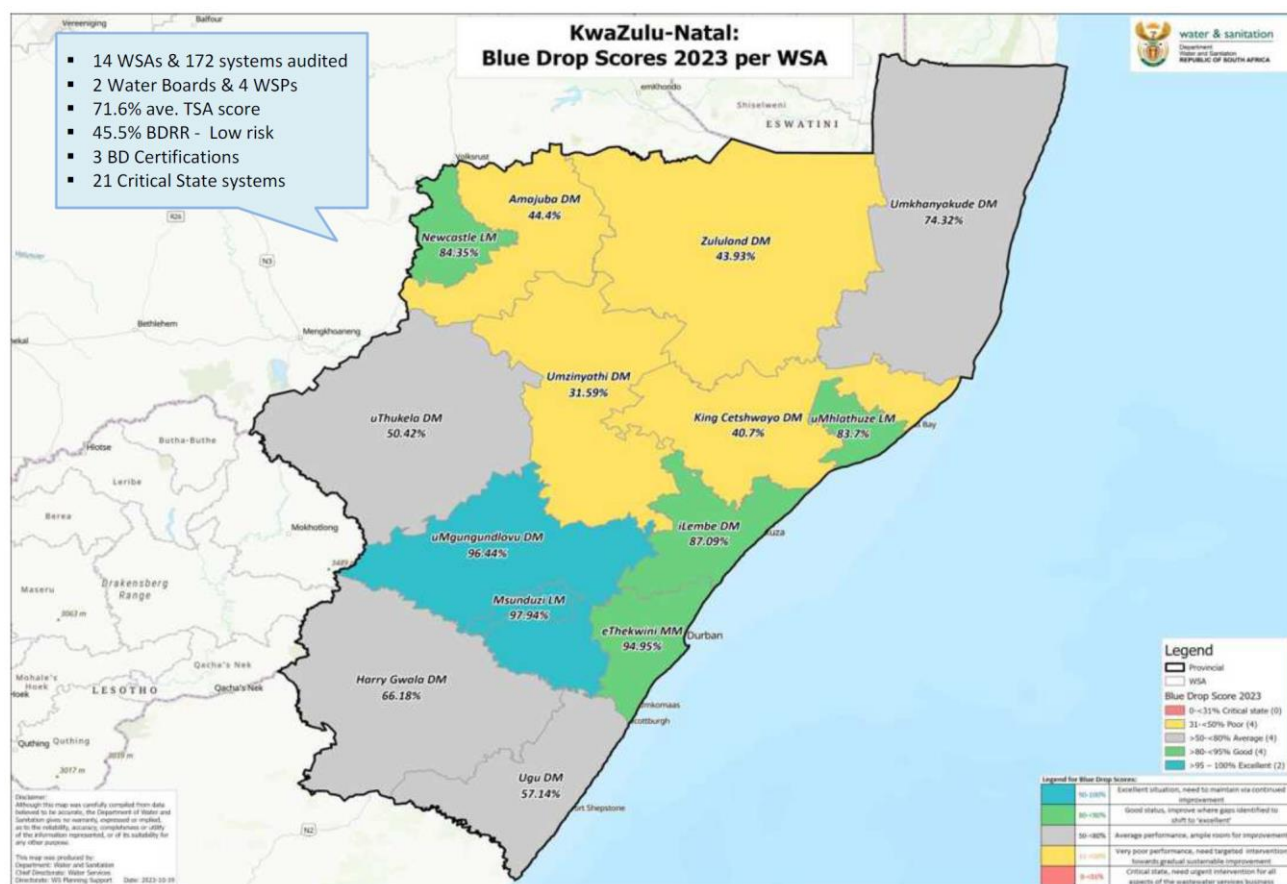


Figure 25: Overview of KZN Blue Drop Scoring outcomes

The WSDP furthermore requires that all intervention required at each plant are reflected to ensure that all plants have at least a 90% reliability by 2035. This is currently being updated as part of the Master Plan review, and will be updated in future WSDP reports.

Table 24: Assessment of Water Treatment Works

WTW	Refurbishment / Upgrading / Replace Costs		
	Emergency Intervention	Medium-Term	Long-Term
BULWER WTW	TBC	TBC	TBC
ST APOLLINARIS/CENTOCOW WTW	TBC	TBC	TBC
CHIBINI WTW	TBC	TBC	TBC
CREIGHTON WTW	TBC	TBC	TBC
FRANKLIN WTW	TBC	TBC	TBC
WASHBANK/HIGHLANDSWTW (PACKAGE PLANT)	TBC	TBC	TBC
HLANGANANI/POLELA WTW (PACKAGE PLANT)	TBC	TBC	TBC
IBISI WTW	TBC	TBC	TBC
IXOPO WTW (UW)	TBC	TBC	TBC
JOLIVET / UGU WTW	TBC	TBC	TBC
KOKSTAD WTW	TBC	TBC	TBC
MACHUNWINI WTW (PACKAGE PLANT)	TBC	TBC	TBC
NGWANGWANE WTW	TBC	TBC	TBC
MNQUMENI WTW	TBC	TBC	TBC
NOKWEJA WTW (PACKAGE PLANT)	TBC	TBC	TBC
MQATSHENI WTW	TBC	TBC	TBC
NIJUNGA WTW (PACKAGE PLANT)	TBC	TBC	TBC
RIETVLEI WTW	TBC	TBC	TBC
RIVERSIDE WTW	TBC	TBC	TBC
ESIQANDULWENI WTW	TBC	TBC	TBC
UMZIMKHULU TOWN WTW	TBC	TBC	TBC
UNDERBERG WTW	TBC	TBC	TBC

Green Drop Assessments

The **Green Drop** score reflects the status of the **complete wastewater business** over a period of 12 months based on full Green Drop audit, whereas the **Green Drop Risk Rating Assessment** focuses on **specific risk indicators** at a specific moment in time (i.e., snapshot view), or a more prolonged period in time (i.e. 12 month period). This is undertaken by calculation of the **Cumulative Risk Rating (CRR)** of each Wastewater Treatment Works (WWTWs). The **CRR** calculation is a concise and focussed benchmarking exercise which extracts four key risk areas that would individually and collectively, give a snapshot view of the status of wastewater treatment. This allows the Water Services Institution (WSI) to identify, quantify and manage the risks associated with wastewater treatment, thereby empowering them to take relevant strategic management operational decisions and infrastructure upgrades to support and improve sustainable water services provision.

The CRR scores are reported as the %CRR deviation is unit of measurement which allows the Regulator to compare the risk rating of similar sized and types of WWTWs, thereby informing mitigating measures by the WSI and regulatory interventions by the Department of Water and Sanitation (DWS), in order to improve wastewater management where critical and high risks were identified.

The %CRR deviation score reflects the total risk rating of each WWTW expressed as % of the maximum risk that a treatment plant can potentially reach.

Table 1: %CRR deviation categorisation

- ✓ A higher value indicates a high-risk state that requires urgent intervention to improve the overall risk rating of the WWTWs.
- ✓ The results are provided in colour coded format – each colour has a specific meaning and performance reference as per table below.

Low	Medium	High	Critical
<50%	50%<70%	70% - <90%	90% - 100%

HARRY GWALA DISTRICT MUNICIPALITY		
Municipal CRR%		
CRR 2023 (%CRR/CRRmax)	%	65.8%

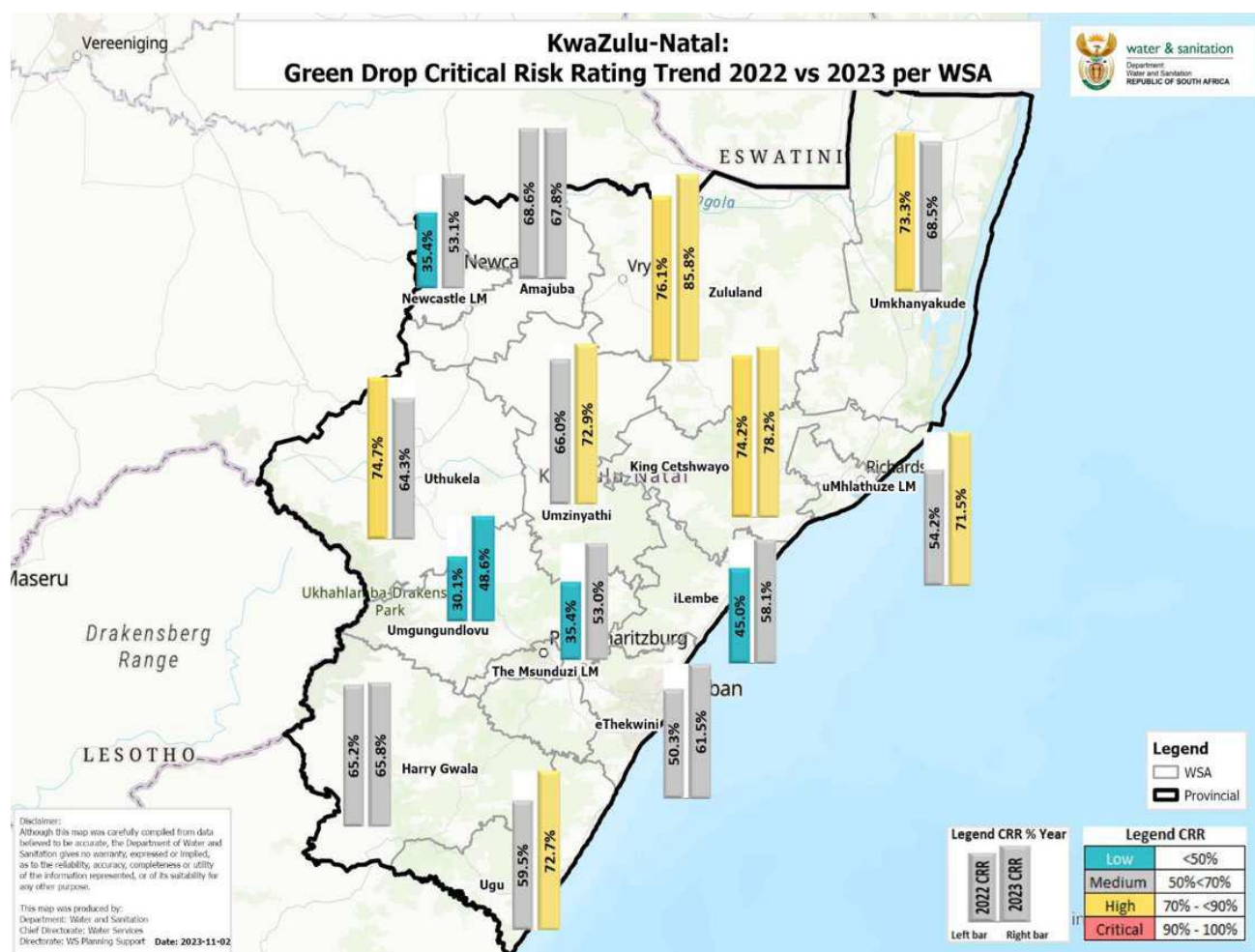


Figure 26: KZN Overview on the latest Green Drop Assessments

Harry Gwala District Municipality has 11 WWTWs whereby 10 systems are owned and operated by the municipality and 1 system is owned and operated by Umgeni water (Ixopo WWTW). All the WWTWs are registered on IRIS. The design capacity and classification of the WWTWs ranges from as small as 100 kl per day to the capacity of 6 400 kl per day. Technologies across the WWTWs are oxidation ponds, Biofilters, and activated sludge. The effluent quality of all WWTWs is assessed against GA limits as no information on WUL limits is available.

The WSDP furthermore requires that all intervention required at each plant are reflected to ensure that all plants have at least a 90% reliability by 2035. This is currently being updated as part of the Master Plan review, and will be updated in future WSDP reports.

Table 25: Assessment of Waste Water Treatment Works

WWTW	Refurbishment / Upgrading / Replace Costs		
	Emergency Intervention	Medium-Term	Long-Term
BULWER	TBC	TBC	TBC
POLELA / HLANGANANI	TBC	TBC	TBC
UNDERBERG OLD	TBC	TBC	TBC
IXOPO	TBC	TBC	TBC
IBISI	TBC	TBC	TBC
RIVERSIDE	TBC	TBC	TBC
HIMEVILLE	TBC	TBC	TBC
ST APOLLINARIS	TBC	TBC	TBC
UNDERBERG NEW	TBC	TBC	TBC
FRANKLIN	TBC	TBC	TBC
UMZIMKHULU OLD	TBC	TBC	TBC
KOKSTAD	TBC	TBC	TBC

The above assessments are currently in the process of being reviewed as part of the Master Plan review.

TOPIC 5: WATER CONSERVATION & DEMAND MANAGEMENT

HGDM has embarked on an extensive Unaccounted for Water programme (UAW), aimed at understanding the usage of water in the district and to provide guidance to future demand management and water loss interventions. Specific interventions will be launched at individual schemes to address water losses through:

- Pressure management
- Leak repair programmes
- Meter repair & replacement programmes
- Internal plumbing leaks
- Consumer end-use demand management initiatives

The water demand strategy will focus on a number of ways to ensure the reduction of water demand by consumers, for example:

- Influencing the behaviour of consumers
 - School and public educational and awareness programmes aimed at promoting effective usage of water (brochures, advertising, newsletters, demonstrations, exhibits, informative billing, etc)
 - Water services tariff that promotes efficient water usage
 - Any other “win-win” initiatives that could influence consumers positively
- Specific targeted projects like;
 - Repair plumbing leaks inside properties
 - Installation of water flow control devices, etc.

Table 26: IWA Method of categorizing water use

System Input Volume	Authorized Consumption	Billed Authorized Consumption	Billed Metered Consumption	Revenue Water
			Billed Unmetered Consumption	
		Unbilled Authorized Consumption	Unbilled Metered Consumption	Non-Revenue Water
			Unbilled Unmetered Consumption	
	Water Losses	Apparent Losses	Unauthorized Consumption	
			Customer Meter Inaccuracies and Data Handling Errors	
		Real Losses	Leakage on Transmission and Distribution Mains	
			Leakage and Overflows at Storage Tanks	
			Leakage on Service Connections up to point of Customer Meter	

The following is a summarised water balance chart that needs to be completed for the WSDP. This is still in progress and will be completed as part of the Master Plan review.

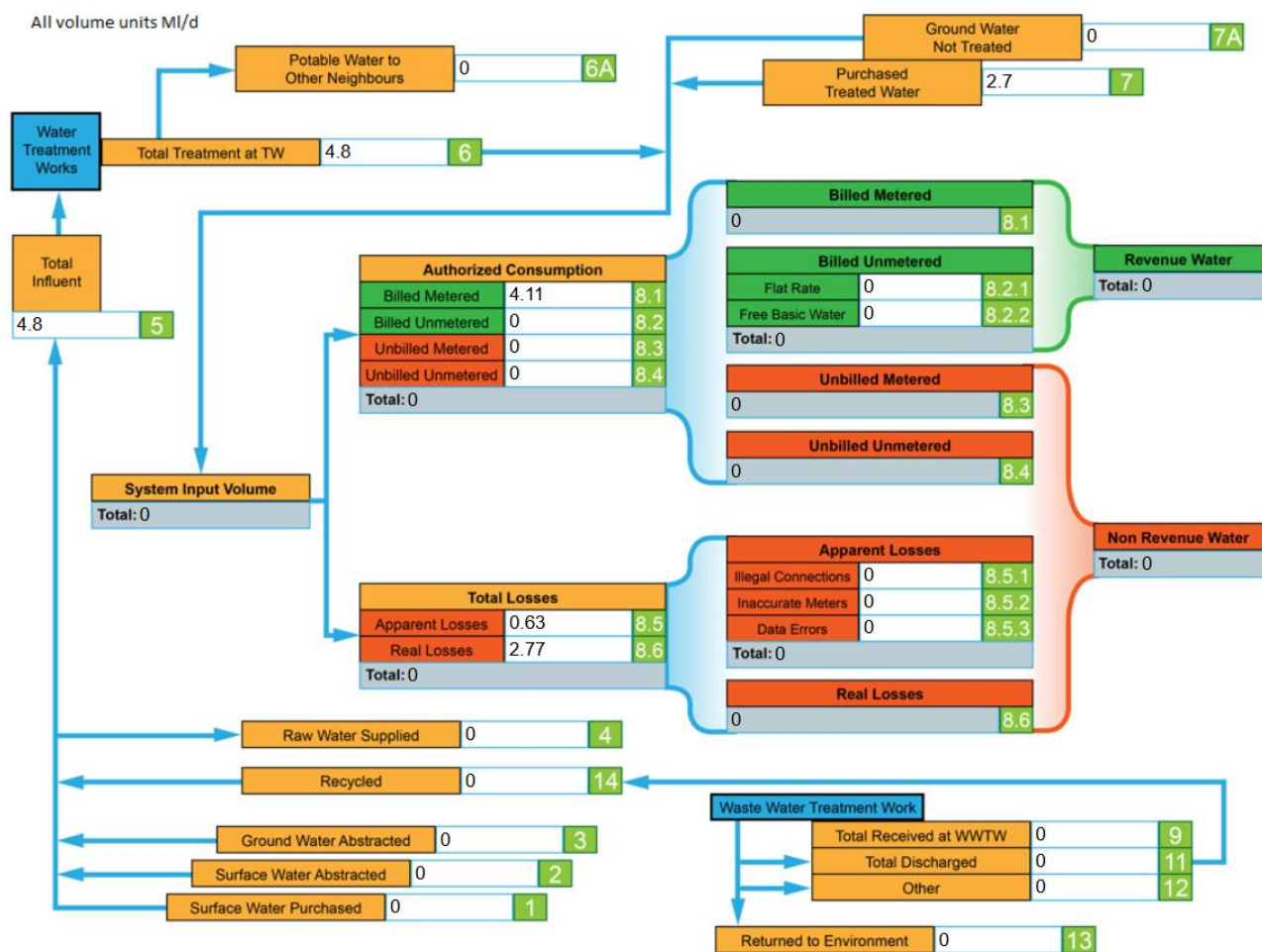


Figure 27: Water Balance Chart for HGDM

The following details per Treatment Plant are required. There is limited details currently available on the treatment plants, but this will be addressed during the compilation of the Master Plan. Details will be updated and populated for future WSDP versions.

	BULLWER WTW	ST APOLLINARIS/CENTOCOW WTW	CHIBINI WTW	CREIGHTON WTW	FRANKLIN WTW	WASHBANK/HIGHLANDS WTW (PACKAGE PLANT)	HLANGANANI/POLELA WTW (PACKAGE PLANT)	IBISI WTW	IXOPO WTW (UW)	JOLIVET /UGU WTW	KOKSTAD WTW	MACHUNINI WTW (PACKAGE PLANT)	NGWANGWANE WTW	MINQUENI WTW	NOKWEIA WTW (PACKAGE PLANT)	MQATSHENI WTW	NUNGA WTW (PACKAGE PLANT)	RIETVELD WTW	RIVERSIDE WTW	ESQANDULWENI WTW	UMZIMKHULU TOWN WTW	UNDERBERG WTW
Topic: 5.2 Water Balance																						
5.2.1 Amount of surface water purchased.																						
5.2.2 Amount of surface water abstracted.	1		1		0.8	0.25	0.135	2.406		12.78	0.6			0.6	1.44			0.414	0.25	0.78	2.61	4
5.2.3 Amount of ground water abstracted.				0.722		0.25																
5.2.4 Amount of raw water supplied.	1		1	0.722	0.8	0.82	0.135	2.406		12.78	0.6			0.6	1.44	1		0.414	0.25	0.78	2.61	4
5.2.5 Total influent of water to water treatment plants.																						
5.2.6 Total water treated at water treatment plants.																						
5.2.6A Potable water sent to neighbours.																						
5.2.7 Total amount of treated water purchased.																						
5.2.7A Amount of untreated water pumped directly into reticulation system.																						
5.2.8.1 Amount of billed and metered water consumed.																						
5.2.8.2 Amount of billed, but not metered, water consumed.																						
5.2.8.3 Amount of unbilled metered water consumed.																						
5.2.8.4 Amount of unbilled and unmetered water consumed.																						
5.2.8.5 Apparent loss of water.	20%		20%	20%	20%	20%	20%	20%		20%	20%			20%	20%	20%	20%	20%	20%	20%	20%	20%
5.2.8.6 Real loss of water.																						
5.2.8.2.1 Water is billed for based on a flat rate tariff (i.e. not based on a meter reading).																						
5.2.8.2.2 Free basic water used through unbilled unmetered stand pipes or yard connections.																						
5.2.8.5.1 Water used through illegal connections.																						
5.2.8.5.2 Water used but not billed for because of inaccurate meters.																						
5.2.8.5.3 Water used but not billed for because of data transfer errors, low estimated readings or any administrative errors.																						
5.2.9 Total amount of water received at waste water treatment works.	0.18	0.135			0.24		0.9	0.4		6.9									2.1		2.7	0.12
5.2.11 Total amount of water discharged from waste water treatment works.																						
5.2.12 Other																						
5.2.13 Amount of water returned to the environment.																						
5.2.14 Amount of recycled water supplied.																						
5.2.15 WTW Capacity (ML/Day)	1		1	1	0.5	0.82	0.25	5	4		18	0.6		2	1.44	1.2	0.48	0.5	3	1.1	5	4.5

Figure 28: WTW Water Balance Charts

	BULLWER	POLELA / HLANGANANI	UNDERBERG OLD	IXOPO	IBISI	RIVERSIDE	HIMEVILLE	ST APOLLINARIS	UNDERBERG NEW	FRANKLIN	UMZIMKHULU OLD	KOKSTAD
Capacity (ML/Day)	0.13	0.15	0.24		0.8	0.6	0.15	0.7	0.18	0.1	2	6.4
Inflow capacity (ML/day)	0.18	0.9	0.12		0.4	2.1	0.21	0.135	0.12	0.24	2.7	6.9

Figure 29: WWTW Water Balance Charts

No Drop Assessments

The following section provides details on the latest No Drop Assessment for HGDM. WCWDM details are being updated as part of the Master Plan and more details will be included in future WSDP versions.

2023 No Drop Criteria

The 2023 No Drop assessments were performed using a reduced set of No Drop Criteria. These criteria were selected to assess a WSA's understanding of their WC/WDM status, the plans, strategies, budgets, and implementation of remedial projects. Below is a brief description of the Criteria.

Criteria 1	WC/WDM status quo, plans and strategies, budgets, and implementation of projects (Water Resource Diagram, Water Balance, Council approved WC/WDM strategies and budgets)
Criteria 2	Asset management as it relates to meter replacement. Monitoring, analysis, and action of high loss District Metered Areas (DMAs) in metropolitan municipalities
Criteria 3	Technical skills of WC/WDM team
Criteria 5	Compliance and Performance based on the water loss and efficiency Key Performance Indicators (KPI) and year on year improvement there-of

Figure 30: Overview of the No Drop criteria

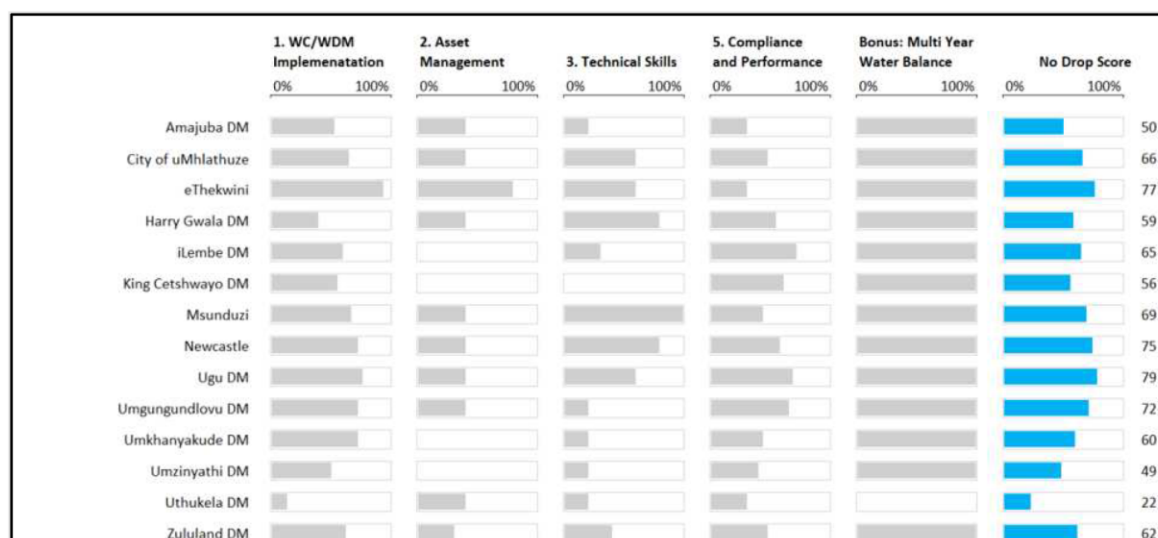
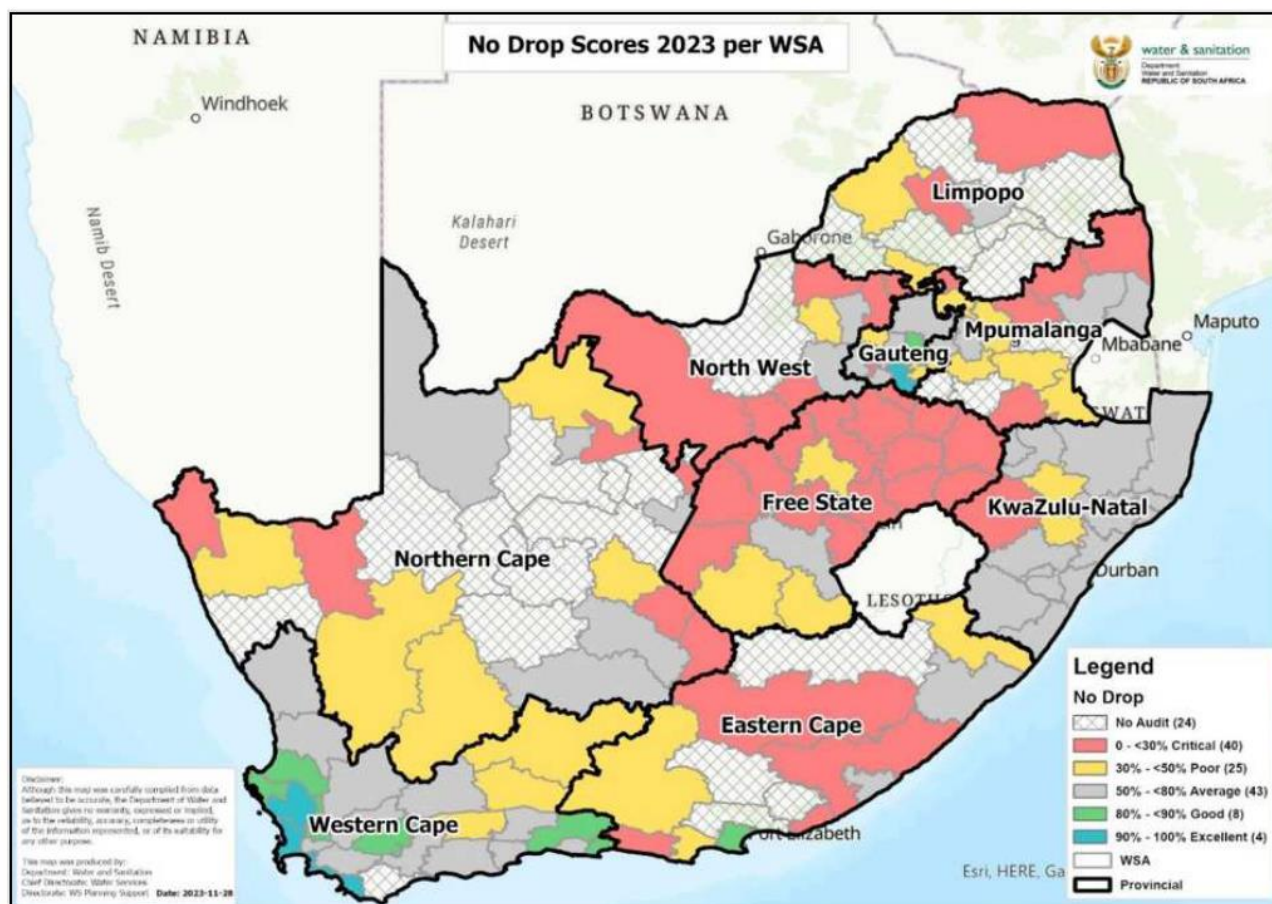


Figure 31: Overview of the latest No Drop Status

HARRY GWALA DISTRICT MUNICIPALITY

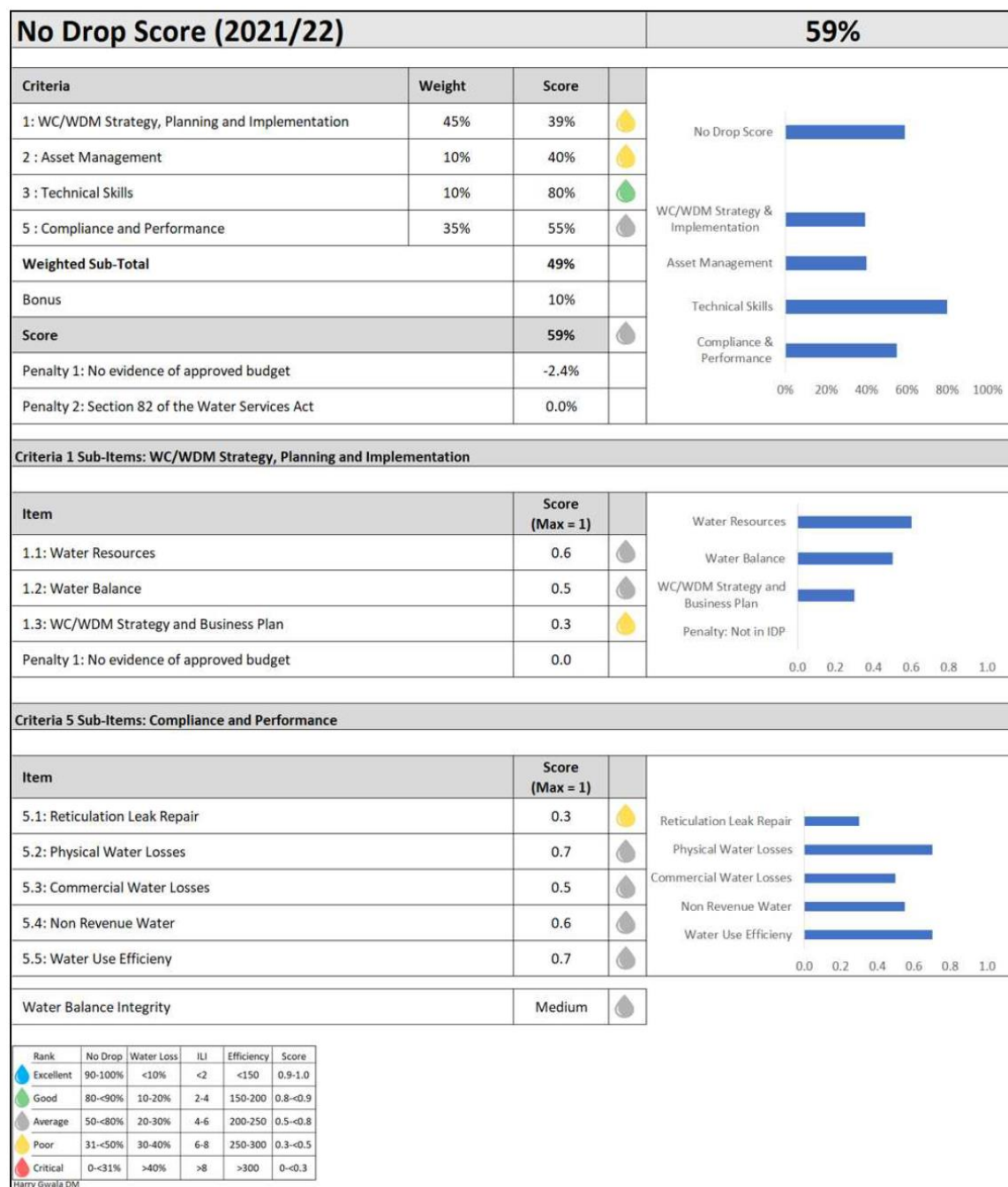


Figure 32: HGDM No Drop Scoring Assessment Outcomes

TOPIC 6: WATER RESOURCES

The district has three main catchments, namely the Mkomazi in the north, the central Mzimkhulu and the Mzimvubu catchment in the south, as well as the headwaters of the Mpambanyoni, Mtwalume and Mzumbe catchments located in the north east.

The district has several large wetland systems including: the Pholela, Ngwangwane and Ndawana systems in the north western section of the district in the foothills of the Drakensberg, The Kromrivier and Mzintlanga systems in the southern area of the district, which includes the Franklin Vlei, to the north the Ntsikeni Nature Reserve and its extensive wetland system, and to the north east the Upper and little Bisi system; as well as several wetlands in remaining municipalities.

Mzumbe River is one of the ten identified free flowing rivers in KZN. The top section of the river falls within Harry Gwala, and is designated as an aquatic landscape corridor in this district. The Mzimkhulu River, which originates in the Berg and flows through the centre of Harry Gwala, is of the four National Flagship Rivers, and is designated as a critical linkage in this district.

A high-level Groundwater and Surface Water Assessments were completed in May 2025 for the HGDM. This is in preparation for the Water Master Plan Review that is currently in progress. It is critical that during the Water Master Plan review, the available water resources are investigated to determine the sustainability of surface water as well as groundwater for the sustainability of water supply.

Surface Water Assessment Outcome

- The HGDM spans over 45 quaternary catchments of the Pongola-Mtumvuna Water Management Area (WMA) (DWS, 2016). The HGDM spans over rainfall zones T3A, T3B, T3C, T5A, T5B, T5C, T5D, U1A, U1B, U2D and U8A. The combined extent of the quaternary catchments associated with the HGDM is in the order of 15,292.5 km². The **average** mean annual evaporation (MAE) for the project area is in the order of 1265 mm/yr, **average** mean annual precipitation (MAP) in the order of 893 mm/yr and the **average** mean annual runoff (MAR) for all the quaternary catchments combined is in the order of 193 mm/yr.
- In general, the water associated with the HGDM area and that of the major rivers (Mzimkhulu, Mzimvubu, Mzimtilana and Bisi Rivers and their tributaries) can be considered of good quality, in terms of DWAF (1996) ideal water quality values for potable use, as well as DWAF (1996) ideal water quality for irrigation use. Near urban areas and rural areas where large populations are concentrated, there may be a risk of microbial infection of the surface water stream. This can only be determined via on-site sampling.
- From the nMAR allocations, it is observed that there is a surplus surface water reserve for all rivers and hence the quaternaries associated with the HGDM. The following river systems and quaternaries are, however, considered stressed, and future water supply from the remaining quaternaries mentioned in this Report, which are not strained, should be considered for future water supply projects:

- T32C – 67% (moderate-high stress).
- T32D – 53% (moderate stress).
- T52A – 74% (moderate-high stress).
- T52C – 83% (high stress).
- T52D – 58% (moderate stress).
- T52E – 55% (moderate stress).
- T52F – 59% (moderate stress).
- U10H – 64% (moderate-high stress).
- U10J – 59% (moderate-high stress).
- U10K – 66% (moderate-high stress).
- U60A – 69% (moderate-high stress).
- U80E – 53% (moderate stress).

Water transfers from surplus quaternary units (and associated rivers) could also be considered to supplement the above-mentioned quaternary units, where higher water demands are noted.

The following map shows an overview of the quaternary units mentioned above:

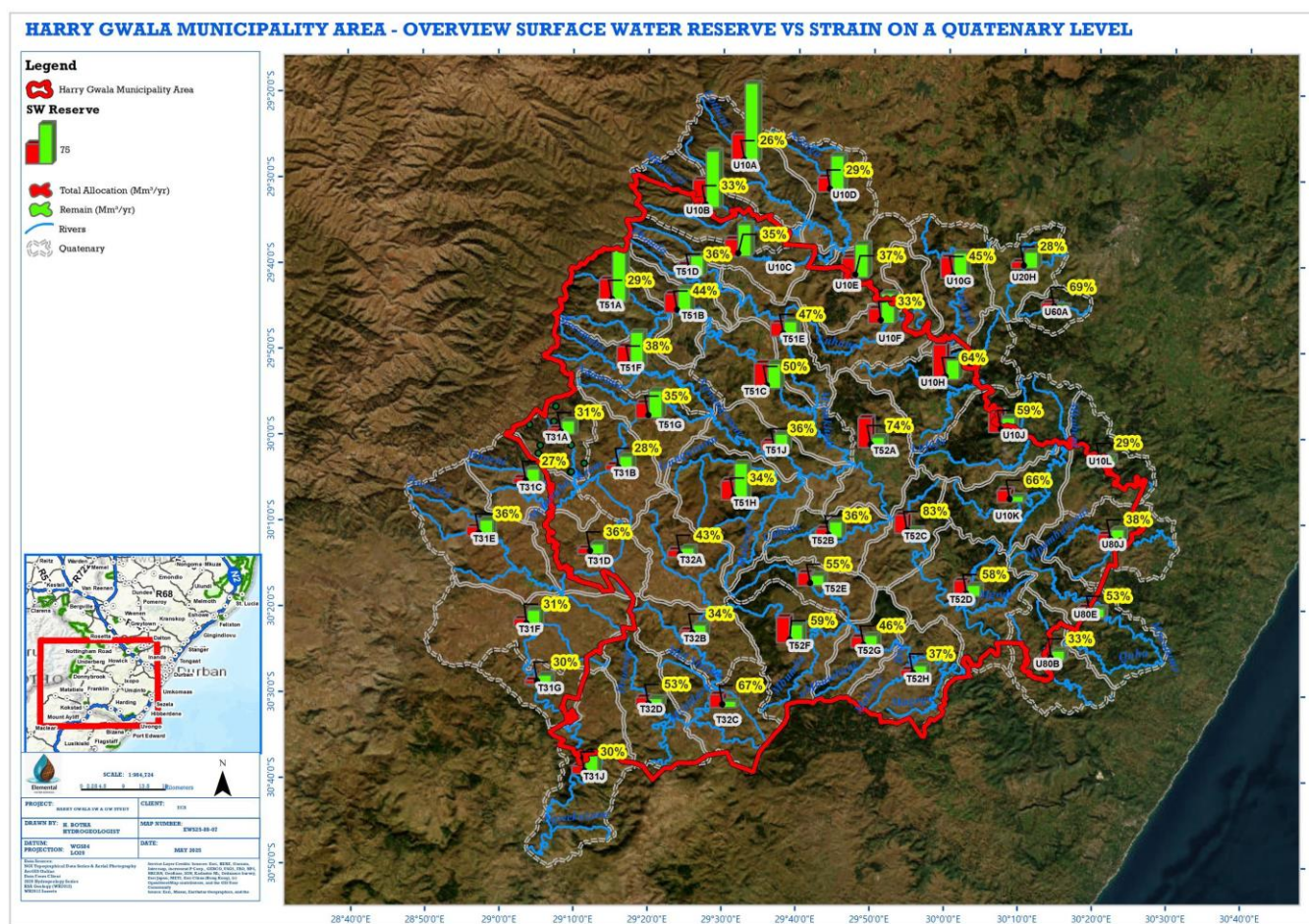


Figure 33: Overview of Surface Water Reserves vs Quarternary Level Strain

There are no large-scale dams within the DM that can be used for regional bulk water supply schemes, only smaller dams supplying water to towns and private use. The previous Water Master Plan of 2012 does however have several proposed locations for future bulk water supply. This will be reviewed and assessed during the current revision of the Water Master Plan.

The following map shows the locations of the proposed dams in the Water Master Plan of 2012:

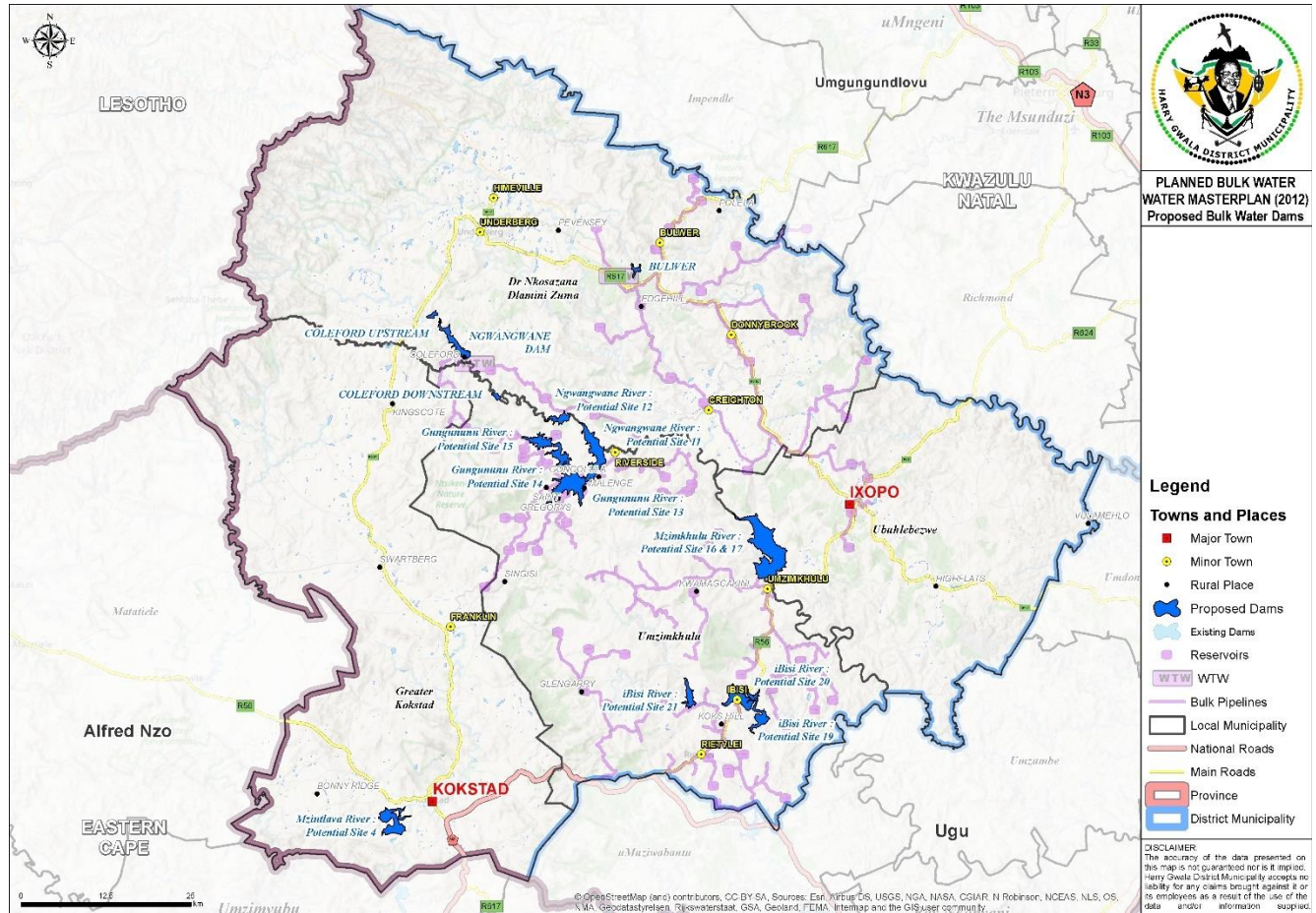


Figure 34: Proposed Dams in HGDM for Surface Water Extraction

Groundwater Assessment

Climatic conditions vary significantly from the north-western Drakensberg region down to the south-eastern region. The Drakensberg region as well as the central area of Dr Nkosazana Dlamini Zuma municipality have an average rainfall of over 1000mm, whereas most of the remaining parts of HGDM have an average rainfall of around 600-800mm per year. The mean annual precipitation for the district can be reviewed in the map below.

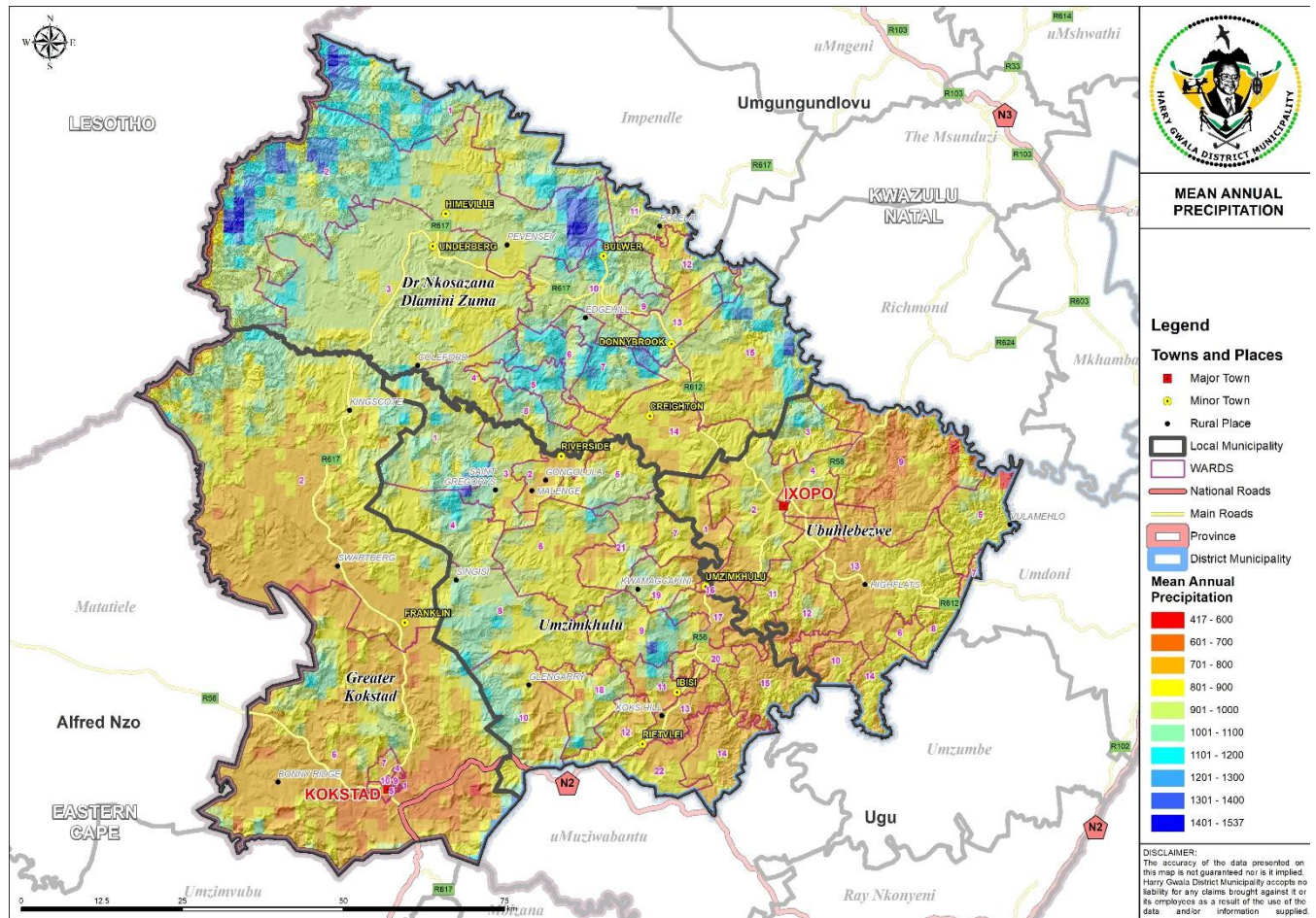


Figure 35: Precipitation map of Harry Gwala District Municipality

There are a total of 184 surface water abstraction points listed on the GIS, with a total of 1 988 borehole abstraction points. The water infrastructure details are however been verified and updated on the GIS and may change accordingly.

The following map indicates the positions of existing boreholes and surface water abstraction points in HGDM.

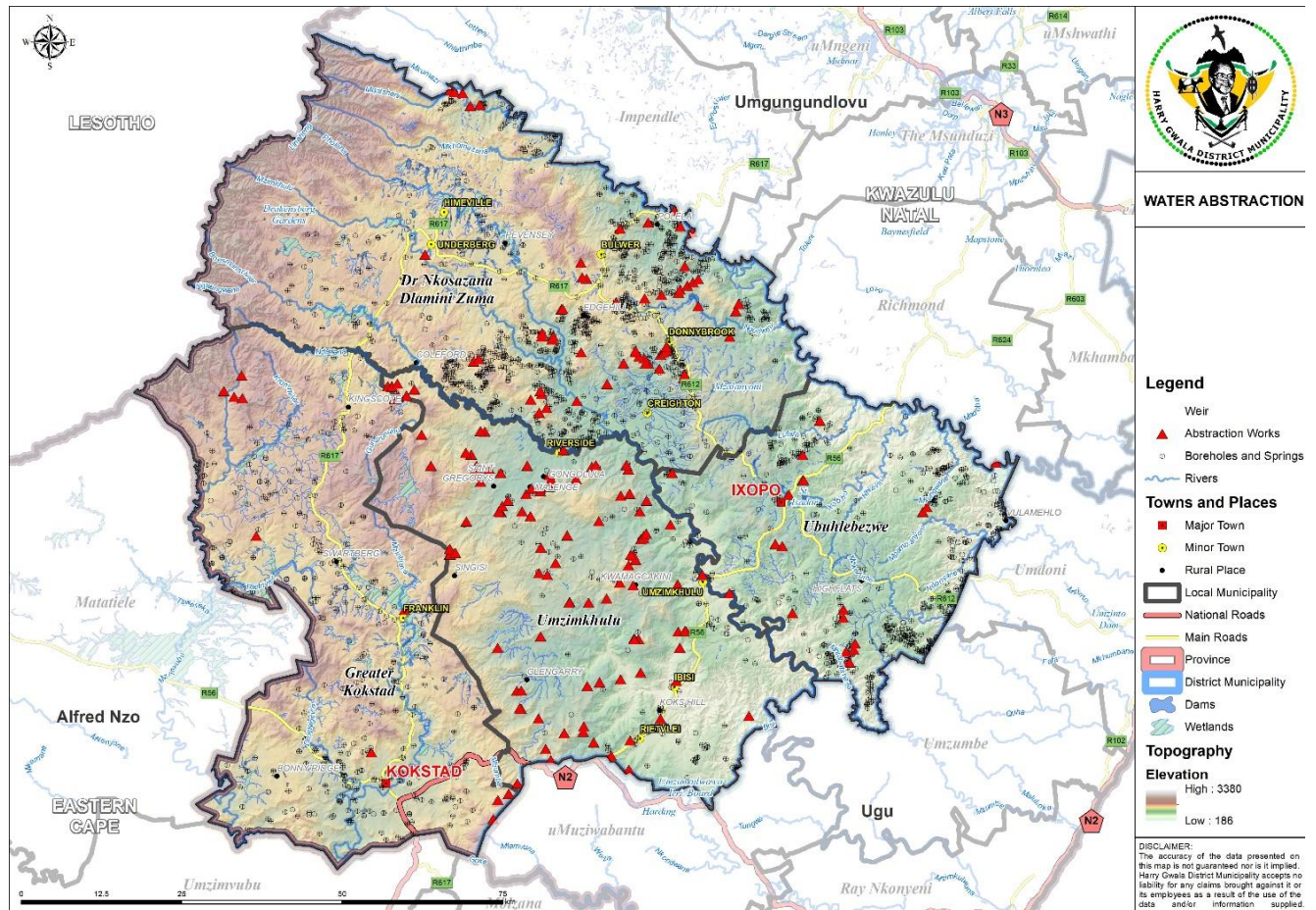


Figure 36: Abstraction Points in HGDM

When water abstraction points are overlaid on the average groundwater depth, it can be noted that shallow water levels are prominent in the norther parts of Dr Nkosazana Dlamini Zuma LM, as well as around Franklin, Donnybrook, Highflats, and north of Umzimkhulu. Deeper water levels are prominent around Bulwer, Riverside, Ixopo and Vulamehlo. Average borehole yield data is not yet available on the GIS, and would be a valuable analysis to perform to determine the likelihood of finding production boreholes suitable for stand-alone schemes where water scarcity is prominent.



The Groundwater Assessment Report of 2025 provides the following high-level analysis on the availability and sustainability of groundwater within HGDM in general:

- Weathered basaltic lava flows, fractures and dolerite contacts.
- Dolerite dyke and sill contacts with argillaceous rock.
- Fractures which are recharge via overlaying weathered dolerite.
- Dolerite dyke contacts with competent rock type.
- Faults and fracture zones.
- Contacts between lithologies or at unconformities.
- Weathered zones of basement rocks and the underlying fractures which are recharged through overlying sands.

permeability or other formations of variable permeability. Aquifer extent and water quality variables may be limited. Although these aquifers seldom produce large quantities of water, they are important both for local supplies and in supplying base flow to rivers.”

- It is predicted that the northern and eastern sections of the HGDM are more vulnerable to groundwater pollution (headwaters), as well as the southern and north-eastern regions. The south-western areas are less vulnerable to pollution based on the aquifer and soil medium types.
- The groundwater in the HGDM region is generally in the pH natural range. The groundwater in the HGM region is generally Ca and Mg-rich and increases in Na content towards the south-western district in HGDM. The groundwater is generally alkaline. The groundwater can be classified as Ca-HCO₃ (headwaters and central areas) and Na-Cl (near the coast and older fractured rock). This is typical of fresh groundwaters as well as deep ancient and marine groundwaters (nearing the coast).
- Groundwater reserve estimates in line with Groundwater Resource Determination Measures (GRDM) were applied to evaluate the status of the groundwater reserve. WARMS data was applied. All of the quaternary catchments appear to have a surplus reserve, based on the allocations as derived from WARMS data.
- The aquifer units within the jurisdiction of the HGDM can be considered under a **low level** of stress based on existing “lawful” and “lawfulness to be determined” groundwater users as captured in WARMS (which include Schedule 1, GA and licensed uses). Use further includes ecological/baseflow requirements.
- Groundwater abstraction for future water supply within the quaternary catchments may be feasible, due to the surplus reserve estimated from the groundwater balance.

The following map depicts a vulnerability index of the groundwater for the HGDM area:

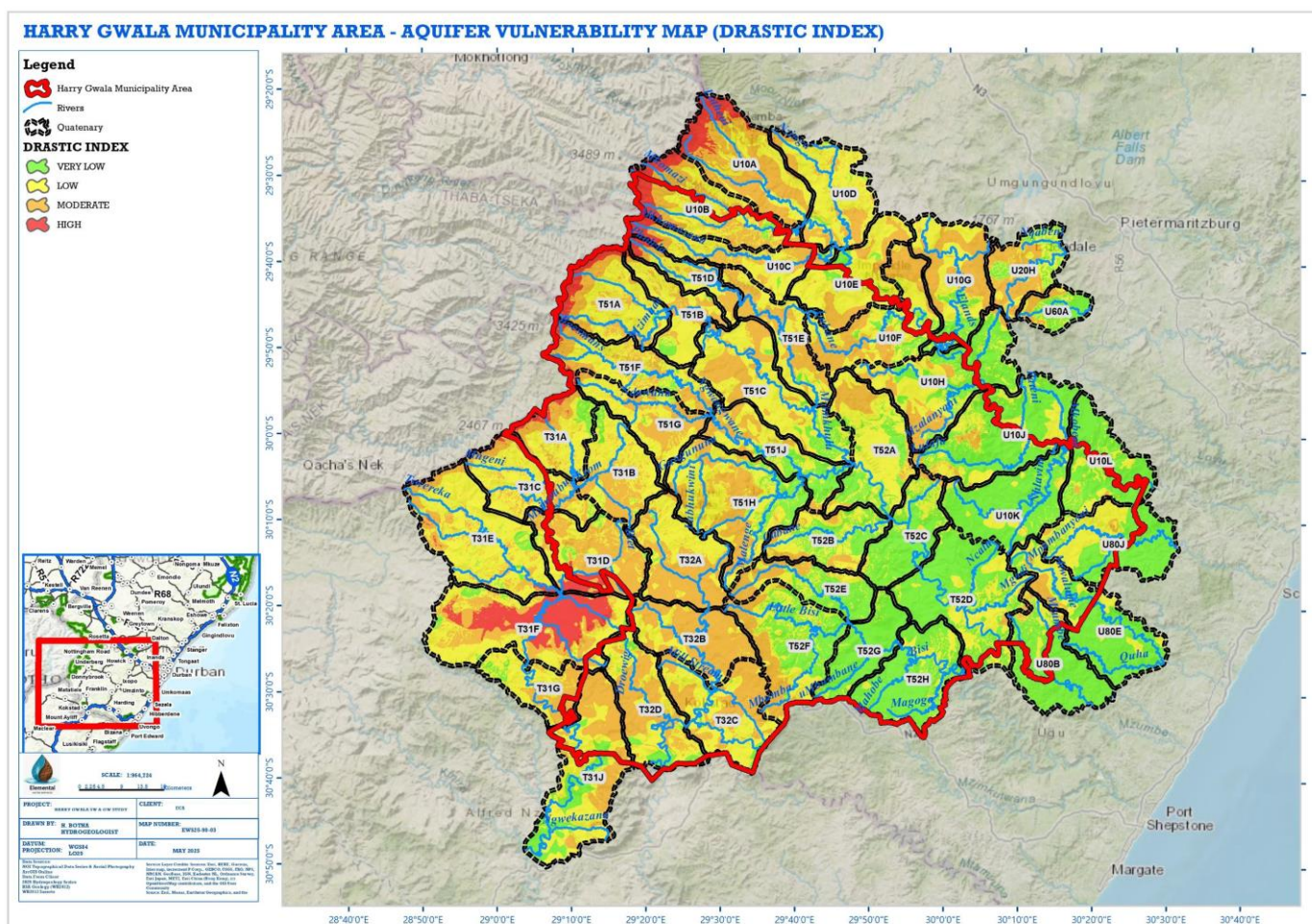


Figure 38: Aquifer Vulnerability Map for HGDM

TOPIC 7: FINANCIAL PROFILE

This chapter deals with two financial issues related to water services infrastructure, namely:

- New capital projects
- Operations and maintenance (O&M) of existing infrastructure

The details contained in this section reviews the total capital requirements that HGDM requires for new infrastructure to cover all backlogs, as well as capital required for existing infrastructure to bring all services to at least 90% reliability. These details are contained in the Master Plan, which is currently under review. There are therefore still many gaps in the data fields to be populated once the Master Plan is completed.

Table 27: Capital requirements: water

WATER	Capital requirements	2022/2023	2023-2024	2024-2025	2025-2026	2026-2027
Regional bulk	TBC (Water Master Plan)				R 115 797 991	R 94 617 027
Reticulation	TBC (Water Master Plan)				R 71 600 660	R 50 868 478
Total capital (new)	R -	R -	R -	R -	R 187 398 651	R 145 485 505
Regional bulk (WTW)	TBC (Water Master Plan)				39 317 301	50 000 000
Reticulation	TBC (Water Master Plan)				-	-
Total capital (refurbishment)	TBC (Water Master Plan)	R -	R -	R -	R 39 317 301	R 50 000 000
Total capital	TBC	R -	R -	R -	R 226 715 951	R 195 485 505

Table 28: Capital requirements: sanitation

SANITATION	Capital requirements	2022/2023	2023-2024	2024-2025	2025-2026	2026-2027
Bulk infrastructure	TBC (Water Master Plan)				R 434 782	R 734 255
Reticulation	TBC (Water Master Plan)				R 5 375 585	R 8 664 067
VIP toilets	TBC (Water Master Plan)					
Total capital (new)	R -	R -	R -	R -	R 5 810 367	R 9 398 322
Bulk infrastructure	TBC (Water Master Plan)				18 910 477	22 552 792
Reticulation	TBC (Water Master Plan)				-	-
Total capital (refurbishment)	R -	R -	R -	R -	R 18 910 477	R 22 552 792
Total capital	TBC	R -	R -	R -	R 24 720 844	R 31 951 114

Table 29: Sources of Capital Income: Water

WATER	Expected Funding	2022/2023	2023-2024	2024-2025	2025-2026	2026-2027
MIG	R -				R 192 943 175	R 114 617 027
DWA (RBIG)	R -				R -	R -
Housing	R -				R -	R -
WSIG	R -				R 86 527 740	R 99 265 745
Loans	R -				R -	R -
TOTAL	R -	R -	R -	R -	R 279 470 915	R 213 882 772
Capital requirements	TBC					
Shortfall up to 2026/2027	TBC					

Table 30: Sources of Capital Income: Sanitation

SANITATION	Expected Funding	2022/2023	2023-2024	2024-2025	2025-2026	2026-2027
MIG	TBC				R 86 527 740	R 31 216 859
DWA	TBC					
Housing	TBC					
WSIG	TBC				R 434 782	R 734 255
Loans	TBC					
TOTAL	R -	R -	R -	R -	R 86 962 522	R 31 951 114
Capital requirements	TBC					
Shortfall up to 2026/2027	TBC					

Table 31: Operational costs and income

Operating costs and income	Total 5yr projected	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027
Operational costs	TBC				R 162 157 700	R 170 214 011
Personnel costs	TBC				R 65 331 257	R 68 250 000
Total O&M costs	R -	R -	R -	R -	R 227 488 957	R 238 464 011
Equitable share: FBS	TBC				R 37 827 883	R 10 000 000
Income: sales (actual payment)	TBC				R 71 779 385	R 71 655 669
Total income	R -	R -	R -	R -	R 109 607 268	R 81 655 669
Deficit/surplus	R -	R -	R -	R -	R 117 881 689	R 156 808 342

TOPIC 8: INSTITUTIONAL ARRANGEMENTS & CUSTOMER SERVICES

HGDM is the WSA as well as the WSP for all 4 local municipalities. HGDM therefore needs to be in a position where it can provide reliable services to all its customers by 2035 according to the KZN PGDS.

The Department of Water and Sanitation has overseen the annual use of the MuSSA to survey and assess the overall “business health” of a Municipality when fulfilling its water services function. The MuSSA asks senior municipal financial and technical managers 5 clear and relatively simple “essence” questions that cover 18 key business health attributes, and thereby generates key strategic flags (as opposed to deep technical detail, which is captured elsewhere). Responses to the questions are reflected in the MuSSA Spider Diagram which illustrates the vulnerability levels across key service areas/business attributes.

The latest MuSSA report dated 2024 for the HGDM indicates a Vulnerability Score of 0.59. This is 0.05% higher than the review of 2023.

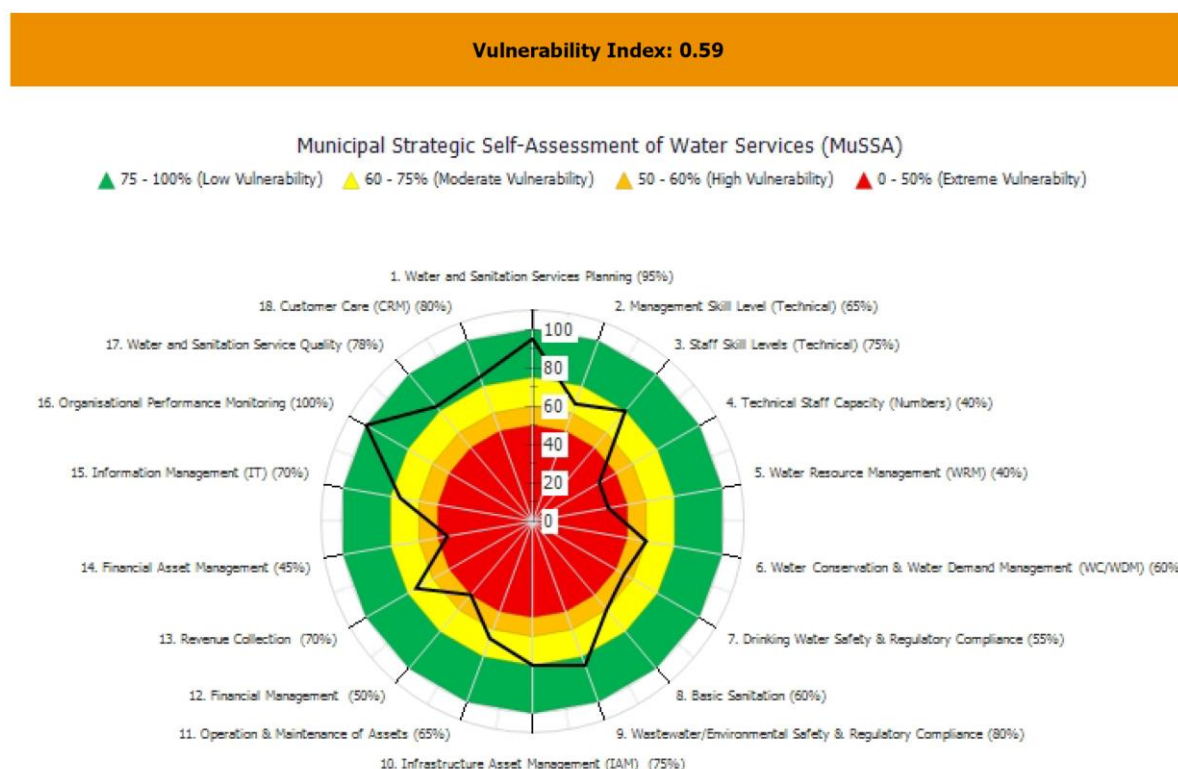


Figure 39: Current MuSSA Assessment Outcomes (2024)

According to DWA, a WSA is required to provide an Action Plan for items in the MuSSA scoring that are below 50%. The 3 most vulnerability areas of concern are:

- Technical Staff Capacity (Numbers) (40.0%)
- Water Resource Management (WRM) (40.0%)
- Financial Asset Management (45%)

The outcome for the 2024 self-assessment can be reviewed in the next two graphs. KPI's can be reviewed in the next table to track progress on each topic in the above graph.

Table 32: Current MPAP Assessment for HGDM (2024)

TOPIC	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1. Water and Sanitation Services Planning	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
2. Management Skill Level (Technical)	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
3. Staff Skill Level (Technical)	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
4. Technical Staff Capacity (Numbers)	40.0%	45.0%	50.0%	55.0%	60.0%	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%
5. Water Resource Management (WRM)	40.0%	45.0%	50.0%	55.0%	60.0%	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%
6. Water Conservation & Water Demand Management (WC/WDM)	60.0%	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%
7. Drinking Water Safety & Regulatory Compliance	55.0%	60.0%	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%
8. Basic Sanitation	60.0%	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%
9. Wastewater / Environmental Safety & Regulatory Compliance	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
10. Infrastructure Asset Management (AIM)	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
11. Operation & Maintenance of Assets	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
12. Financial Management	50.0%	55.0%	60.0%	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%
13. Revenue Collection	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
14. Financial Asset Management	45.0%	50.0%	55.0%	60.0%	65.0%	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%
15. Information Management (IT)	70.0%	75.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
16. Organisation Performance Monitoring	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
17. Water and Sanitation Service Quality	78.0%	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
18. Customer Care (CRM)	80.0%	85.0%	90.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%	95.0%
Vulnerability Index	0.59											

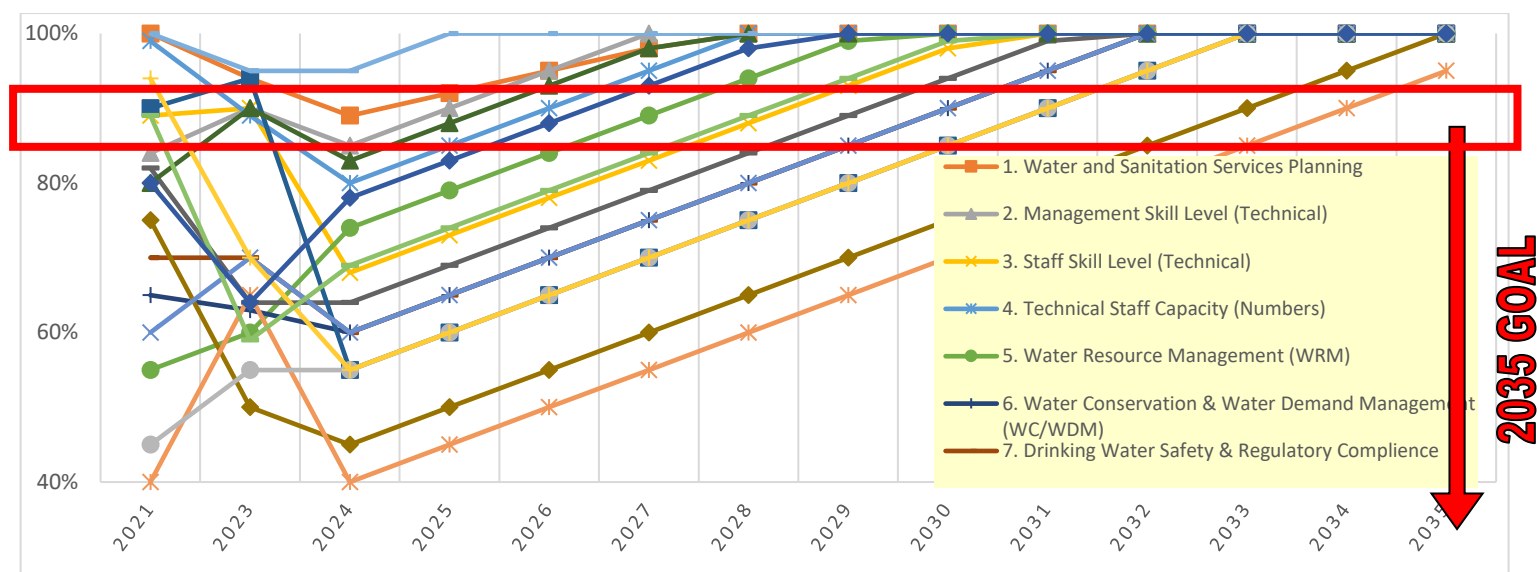


Figure 40: Self-assessment improvement scores for 2025

CHAPTER 3: WATER MASTER PLAN PERSPECTIVE

The Water Master Plan Perspective deals with the total investment that HGDM needs to make in order to reach a 90% reliability service delivery by 2025 to all consumers within its jurisdiction as WSA. Important aspects include both new infrastructure, replacement costs of end-of-life existing infrastructure, as well as refurbishment costs for existing infrastructure.

The latest Water and Sanitation Master Plan (WSMP) is currently being reviewed, and will provide a holistic, comprehensive approach to all of the above aspects. For the current WSDP 5-year cycle, detailed information is provided for project implementation up to 2026/2027. The Master Plan however looks at the total scope of works for providing a 90% reliability service delivery by 2025 to all households.

The following section therefore will focus on future planned implementation of water and sanitation projects to reach this goal.

MASTER PLAN DETAILS

The HGDM WSMP provide details on water resources and demands, new infrastructure requirements, O&M, refurbishments, upgrading, budget requirements to implement all of these requirements, and a comprehensive list of projects with estimated costs to be implemented to achieve a 90% reliable water and sanitation services to all households.

Rollouts of projects are categorised and prioritised according to the following rollout programmes:

NEW WATER INFRASTRUCTURE

- Regional Water Supply Schemes
- Sub-Regional Water Supply Schemes
- Stand-alone Water Supply Schemes
- Rudimentary Water Supply

NEW SANITATION INFRASTRUCTURE

- Urban Waterborne Sewer
- Rural Sanitation (VIPs)

EXISTING INFRASTRUCTURE: WATER & SANITATION RELIABILITY SERVICE DELIVERY

- Infrastructure Reliability
 - O & M
 - Refurbishment
 - Upgrading
 - Replacement

- Water Security
- Water Governance

The above project rollouts need to be prioritized. It is recommended that a Prioritisation Model be compiled and incorporated into the WSMP.

The previous WSMP was compiled in 2012. Implementation was structured around the rollout of projects indicated in this WSMP. However, subsequent to the 2012 WSMP, a Universal Access Plan (UAP Phase III) was compiled in 2021 by Umgeni Water for all DM's in KZN. The purpose of this report was to look beyond the DM boundaries for sustainable water resources and water supply in a holistic approach that is not limited to DM boundaries. In the UAP Report several new proposals were recommended for regional bulk water implementation.

The objective of the current review of the WSMP is to look at the 2012 WSMP as the basis for the new review, but also to look at recommendations that were made in the UAP Phase III report.

The following series of maps provide an overview of what existing services there are in HGDM, the recommendations made in the 2012 WSMP, and lastly the recommendations in the UAP Phase III report.

Figure 41: Existing Water Infrastructure

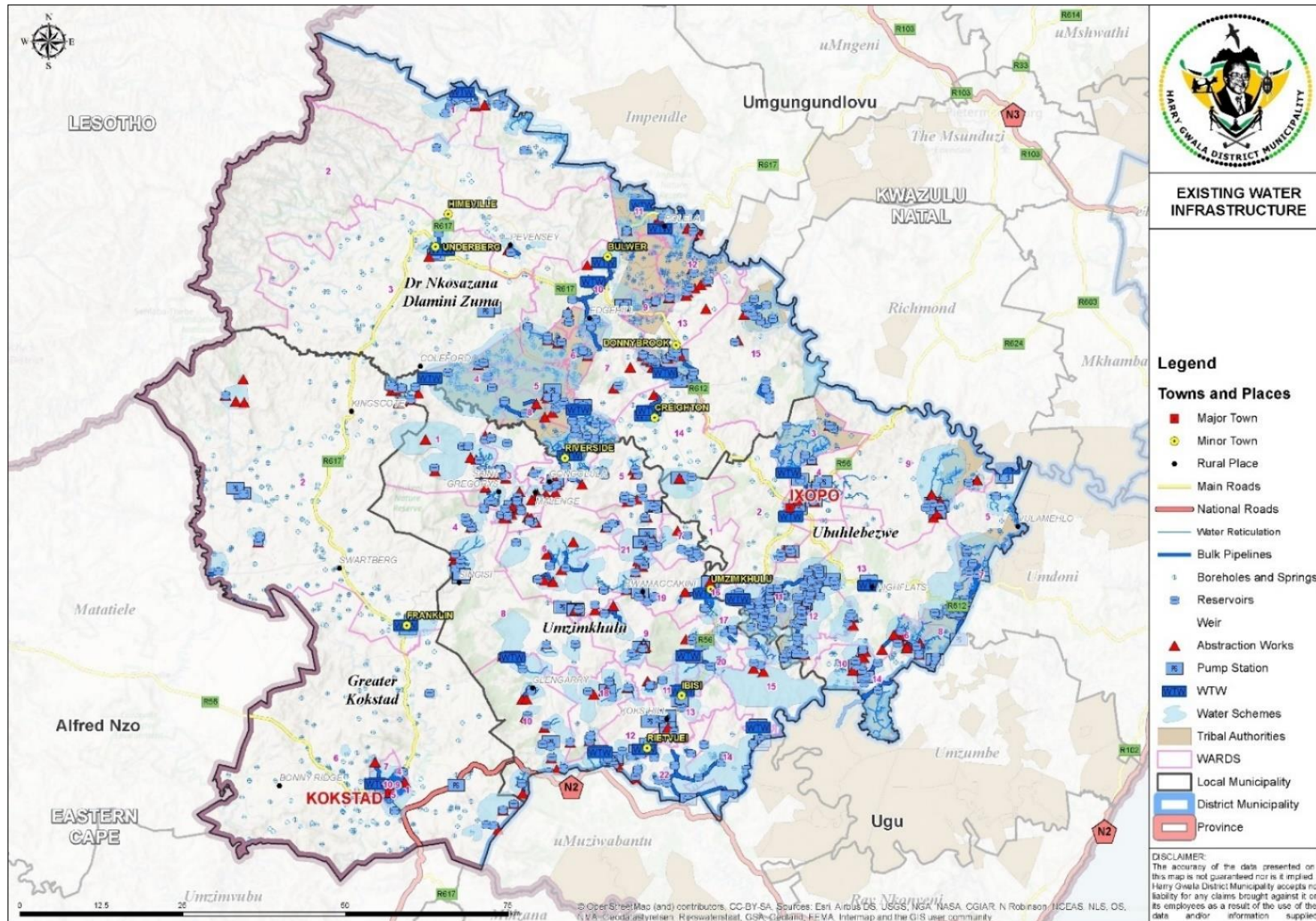


Figure 42: Existing Sanitation Infrastructure

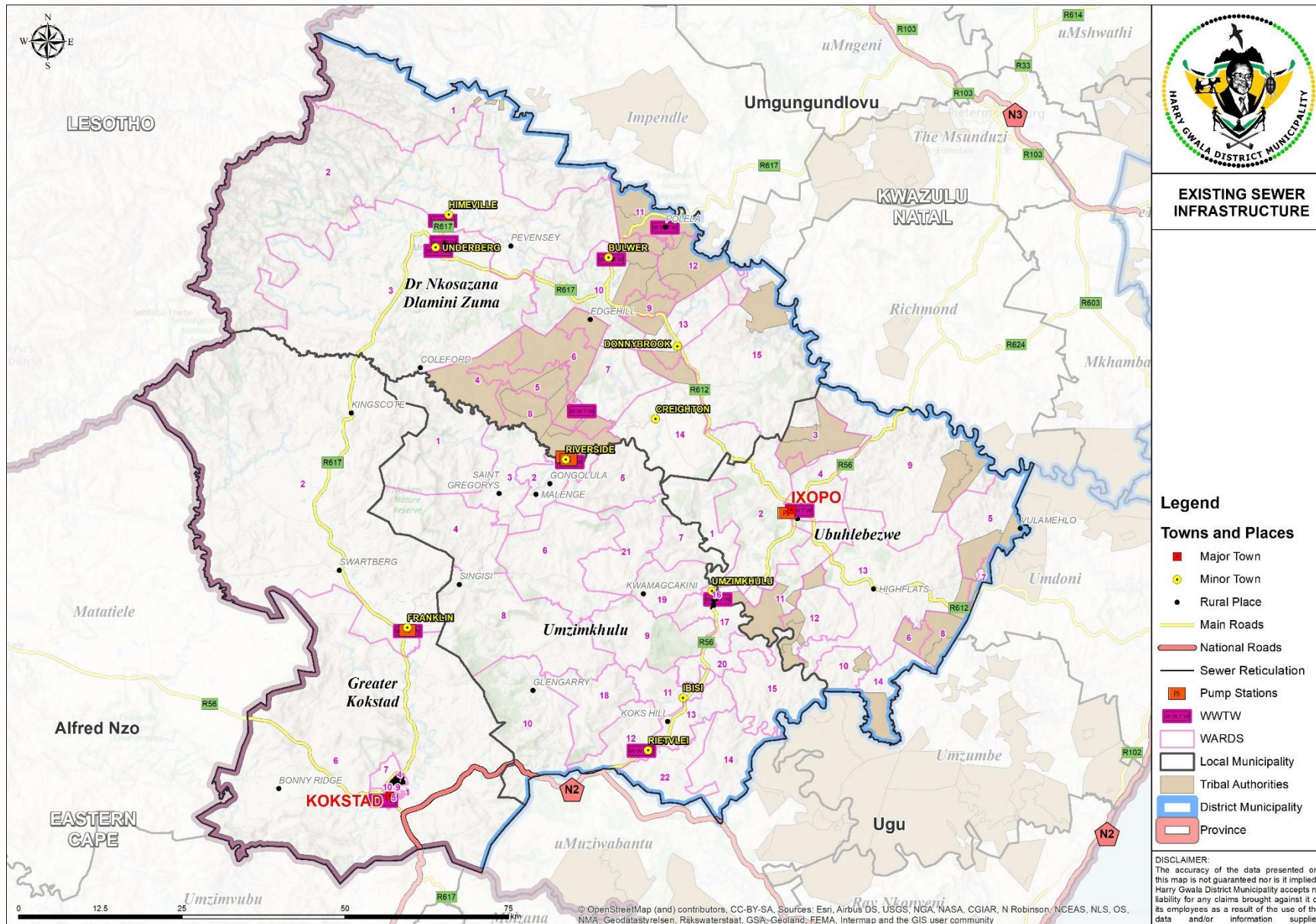


Figure 43: WSMP 2012: Planned Bulk Water Infrastructure (HGDM)

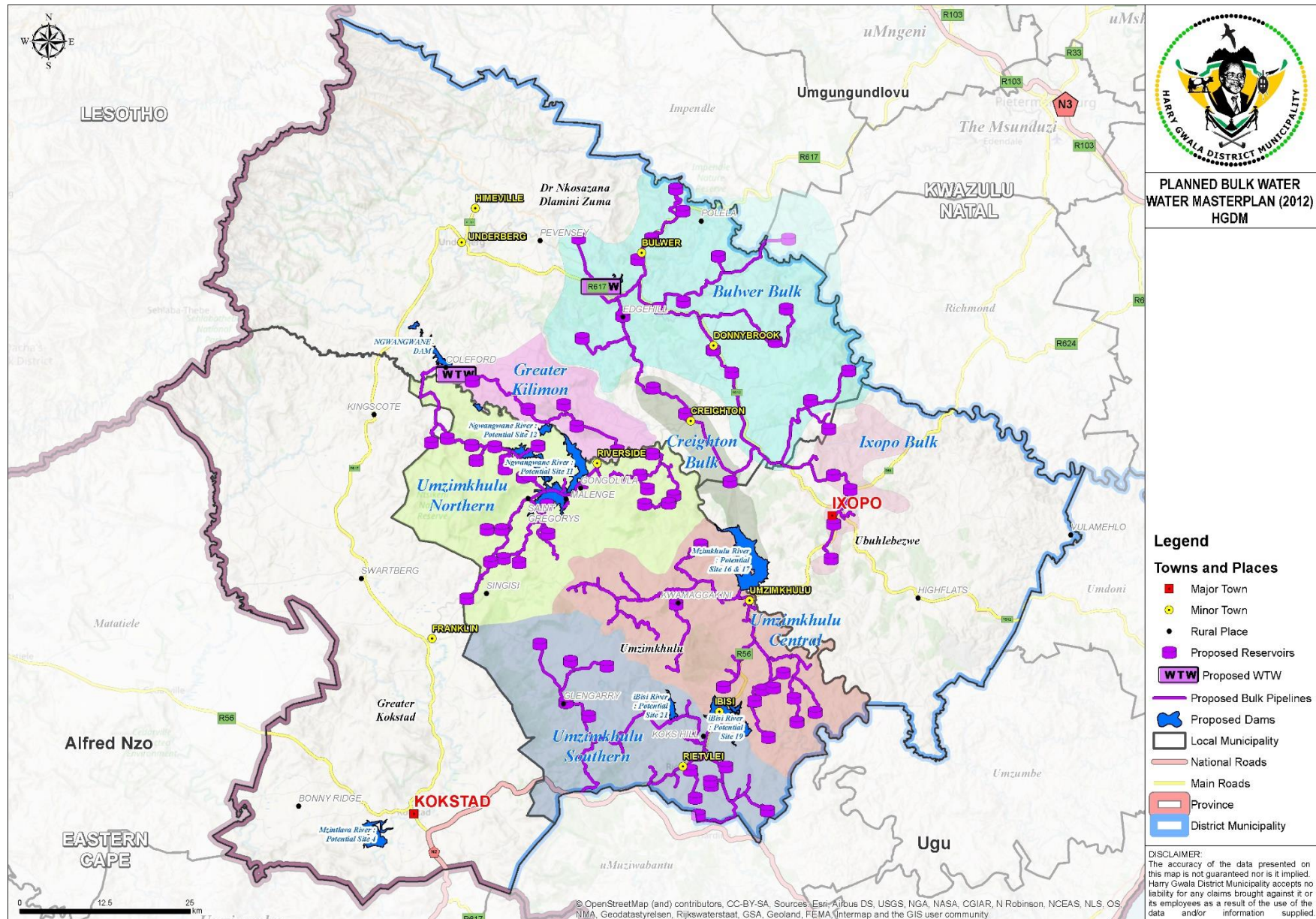


Figure 44: WSMP 2012: Planned Bulk Water Infrastructure (Dr NDZ)

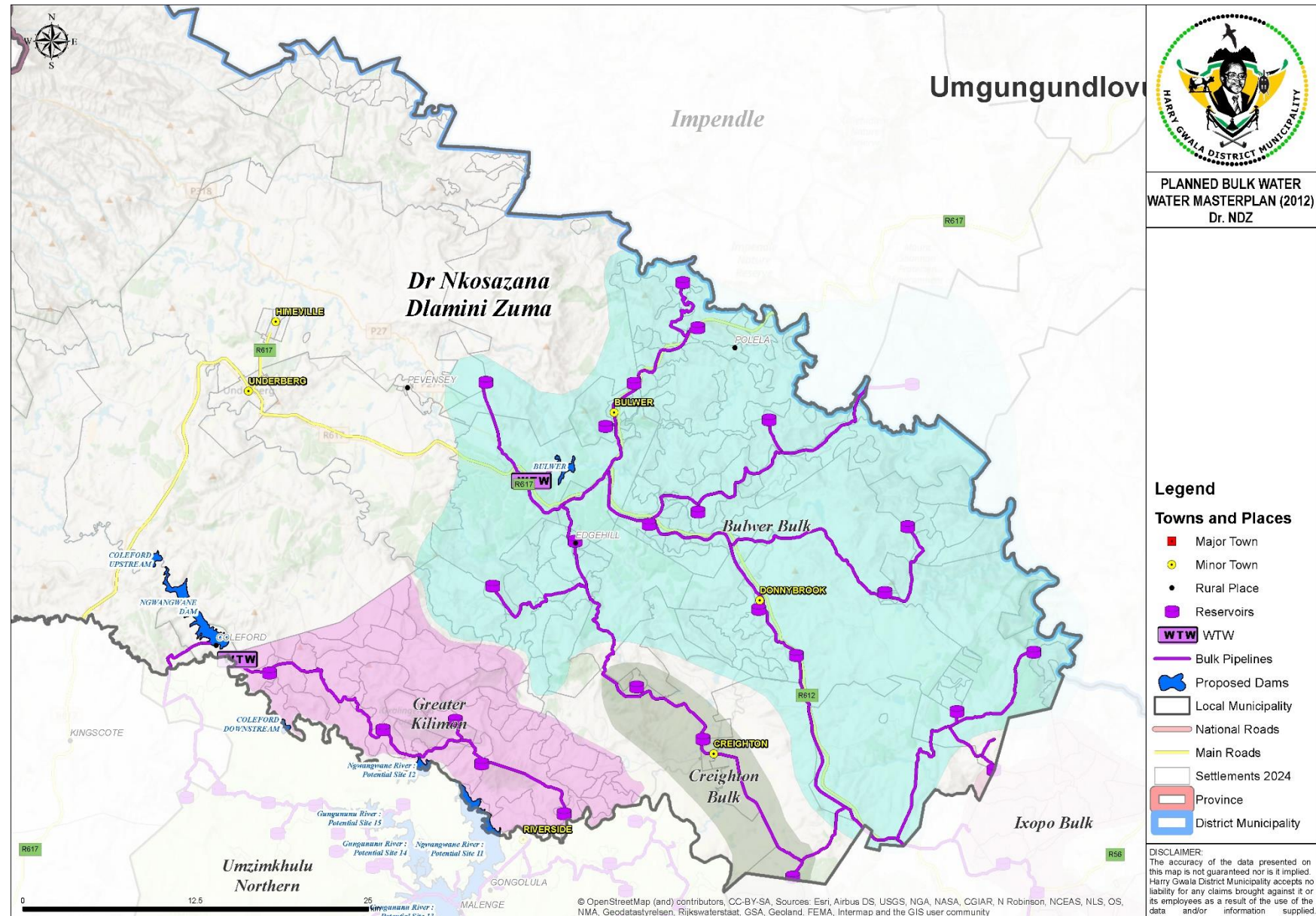


Figure 45: WSMP 2012: Planned Bulk Water Infrastructure (Umzimkhulu)

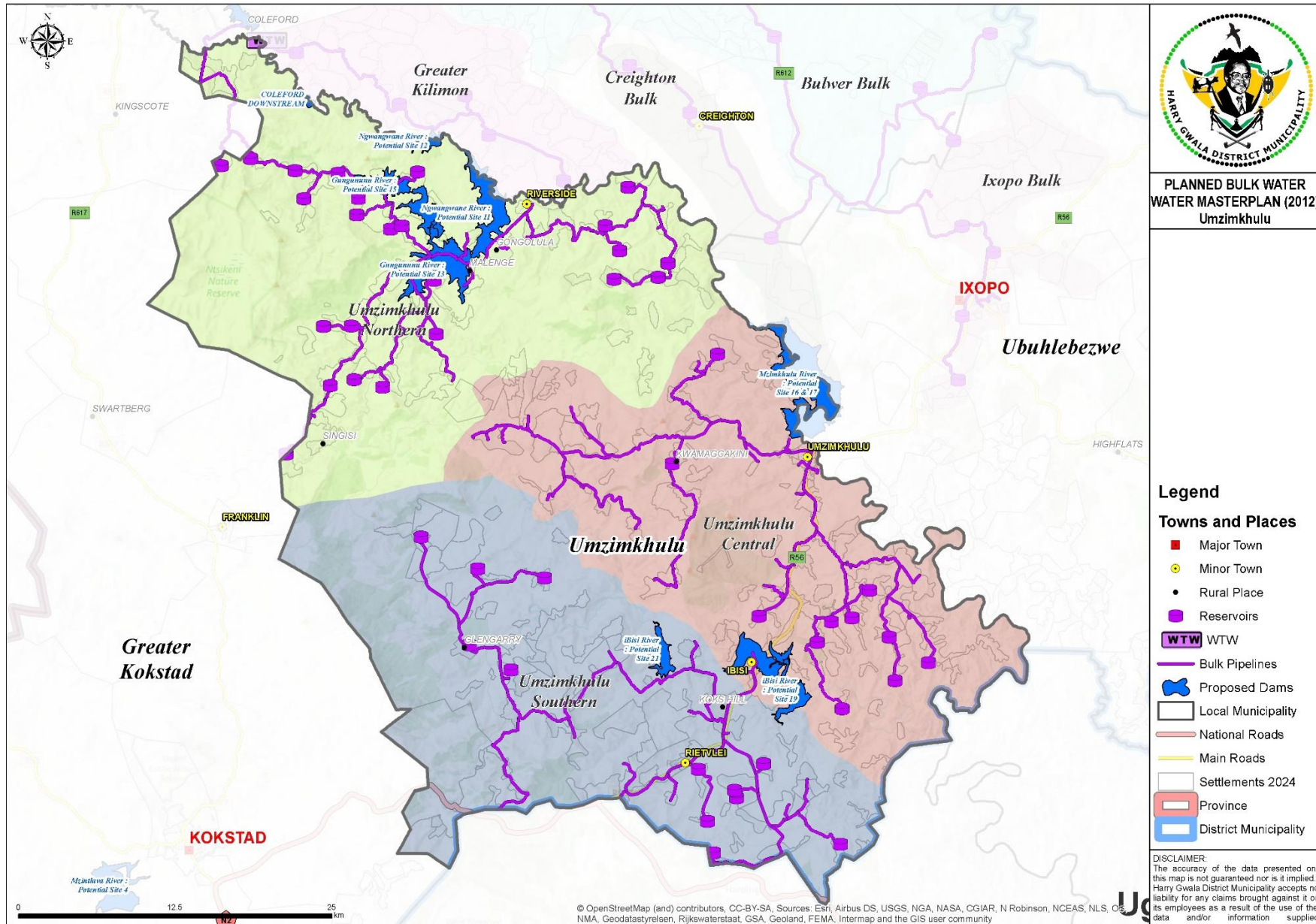


Figure 46: WSMP 2012: Planned Bulk Water Infrastructure (Ubuhlebezwe)

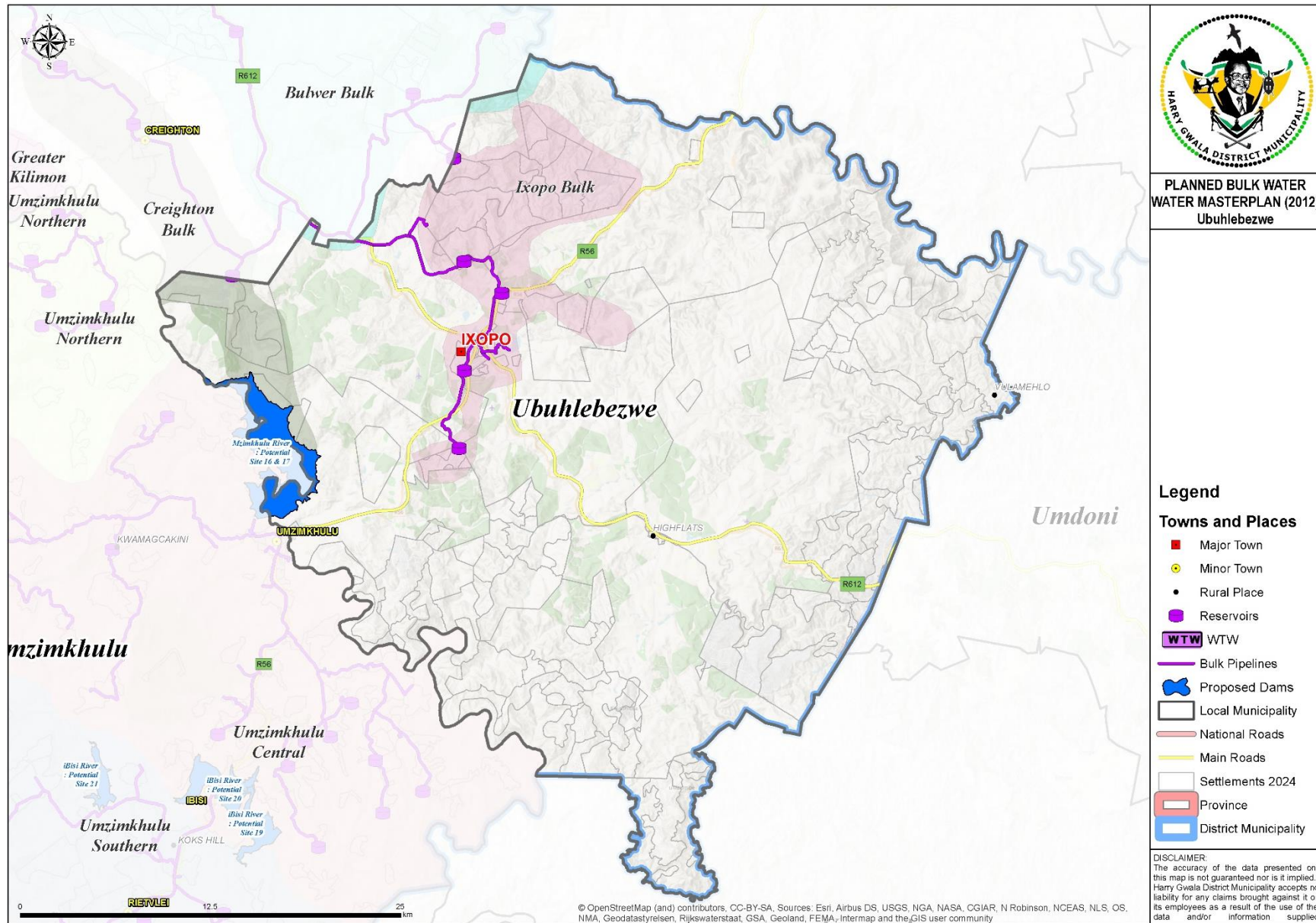


Figure 47: WSMP 2012: Planned Bulk Water Infrastructure (Greater Kokstad)

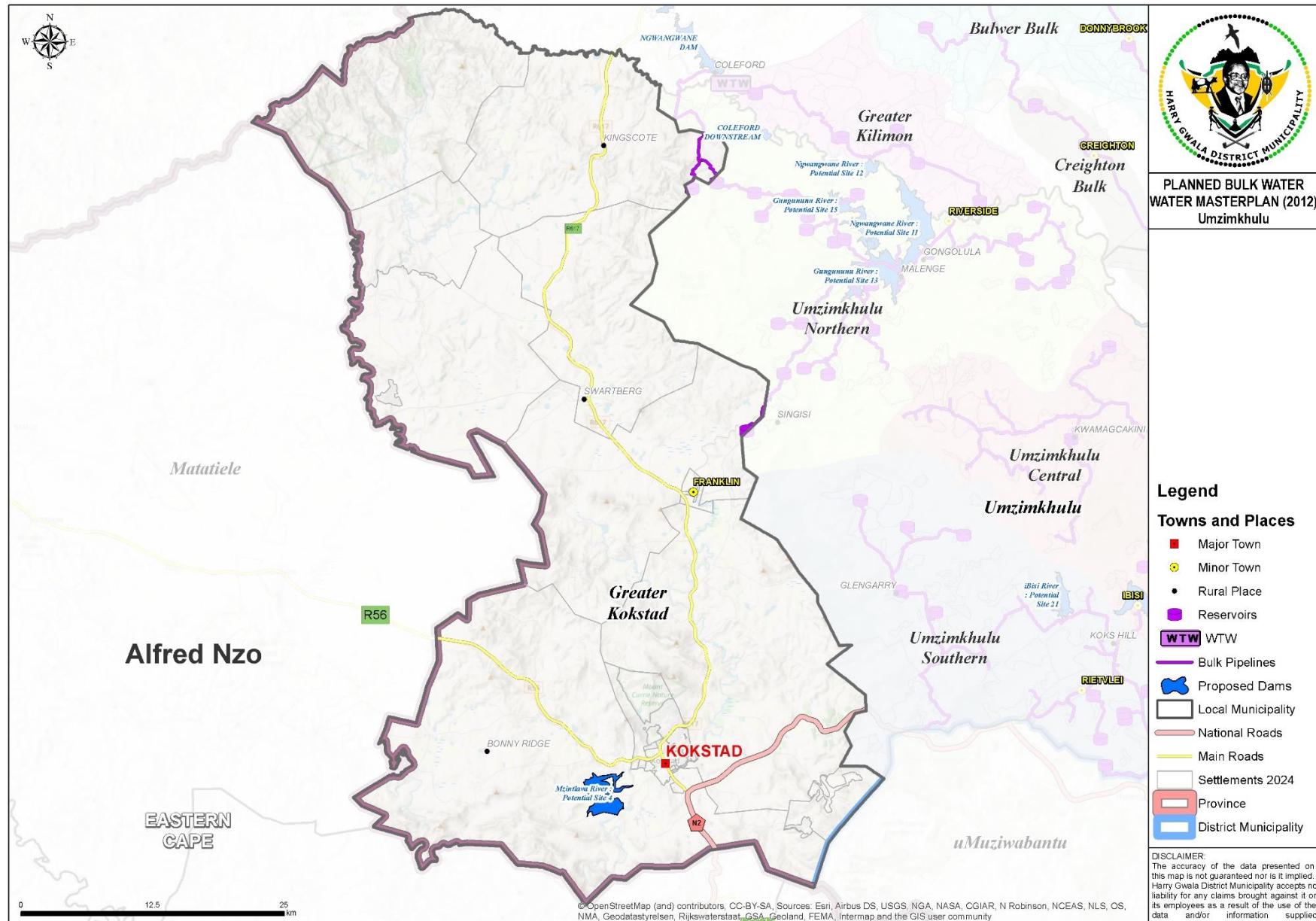


Figure 48: UAP PHASE III: Planned Bulk Water Infrastructure (HGDM)



Figure 49: UAP PHASE III: Planned Bulk Water Infrastructure (Dr NDZ)

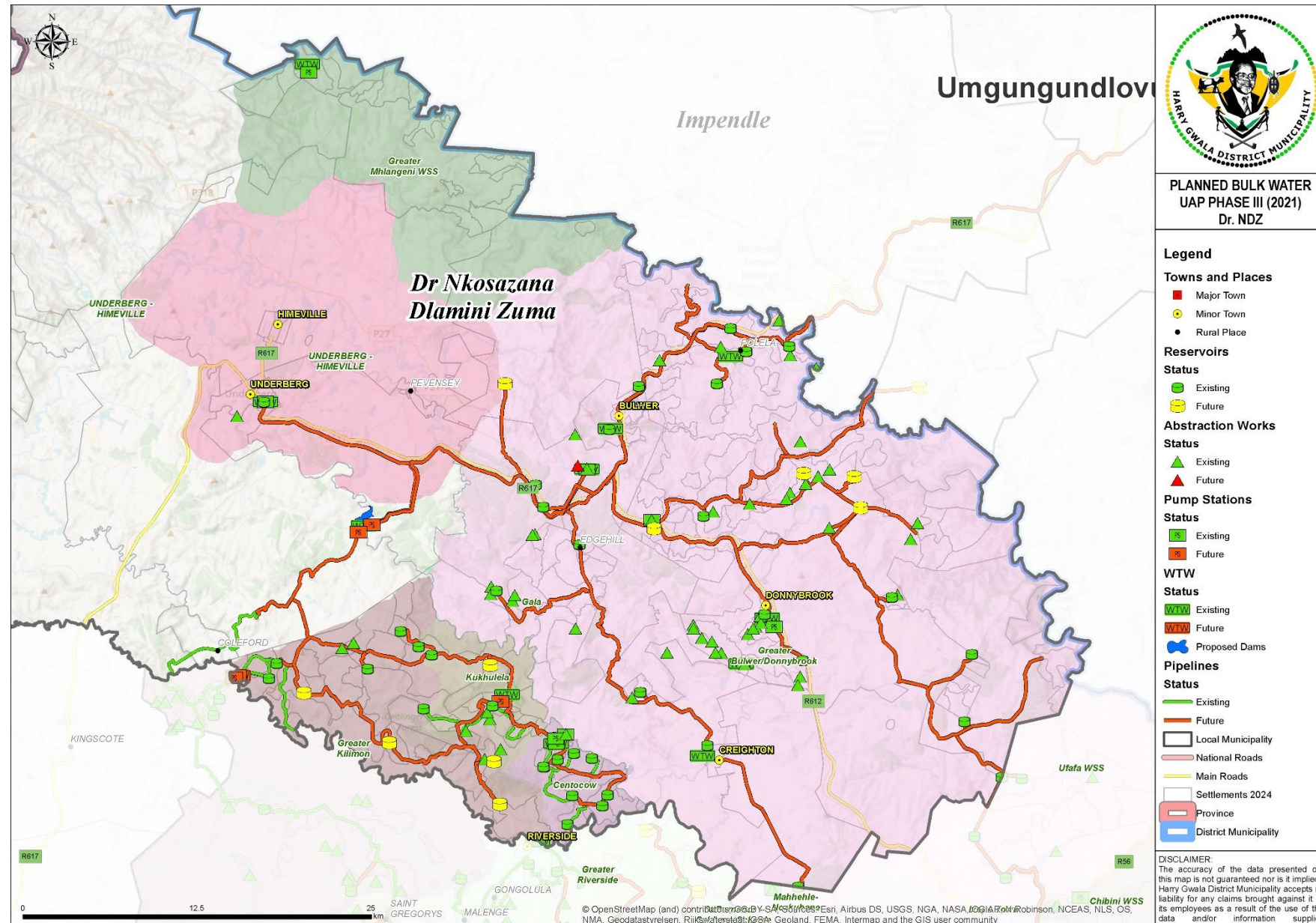


Figure 50: UAP PHASE III: Planned Bulk Water Infrastructure (Umzimkhulu)

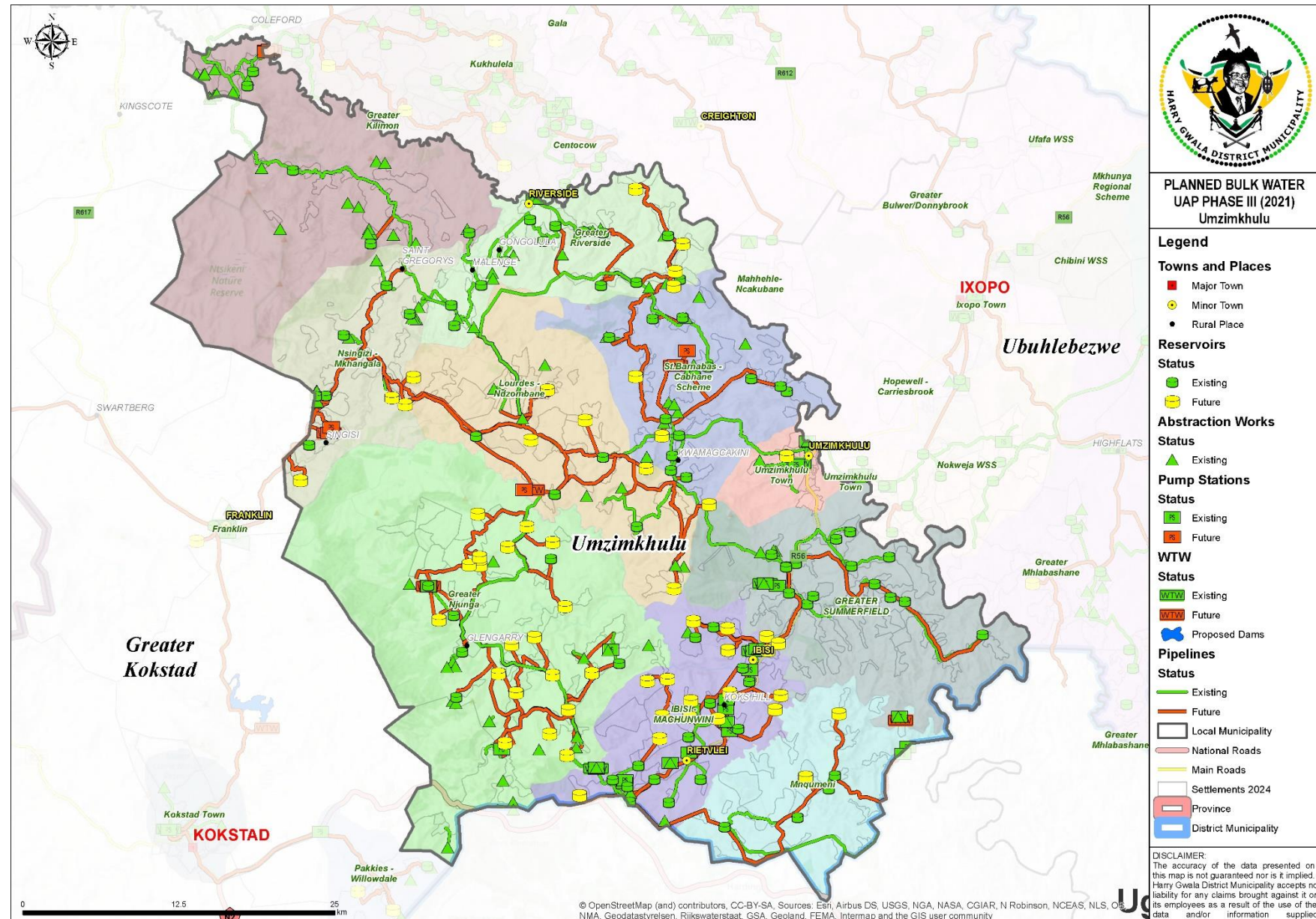


Figure 51: UAP PHASE III: Planned Bulk Water Infrastructure (Ubuhlebezwe)

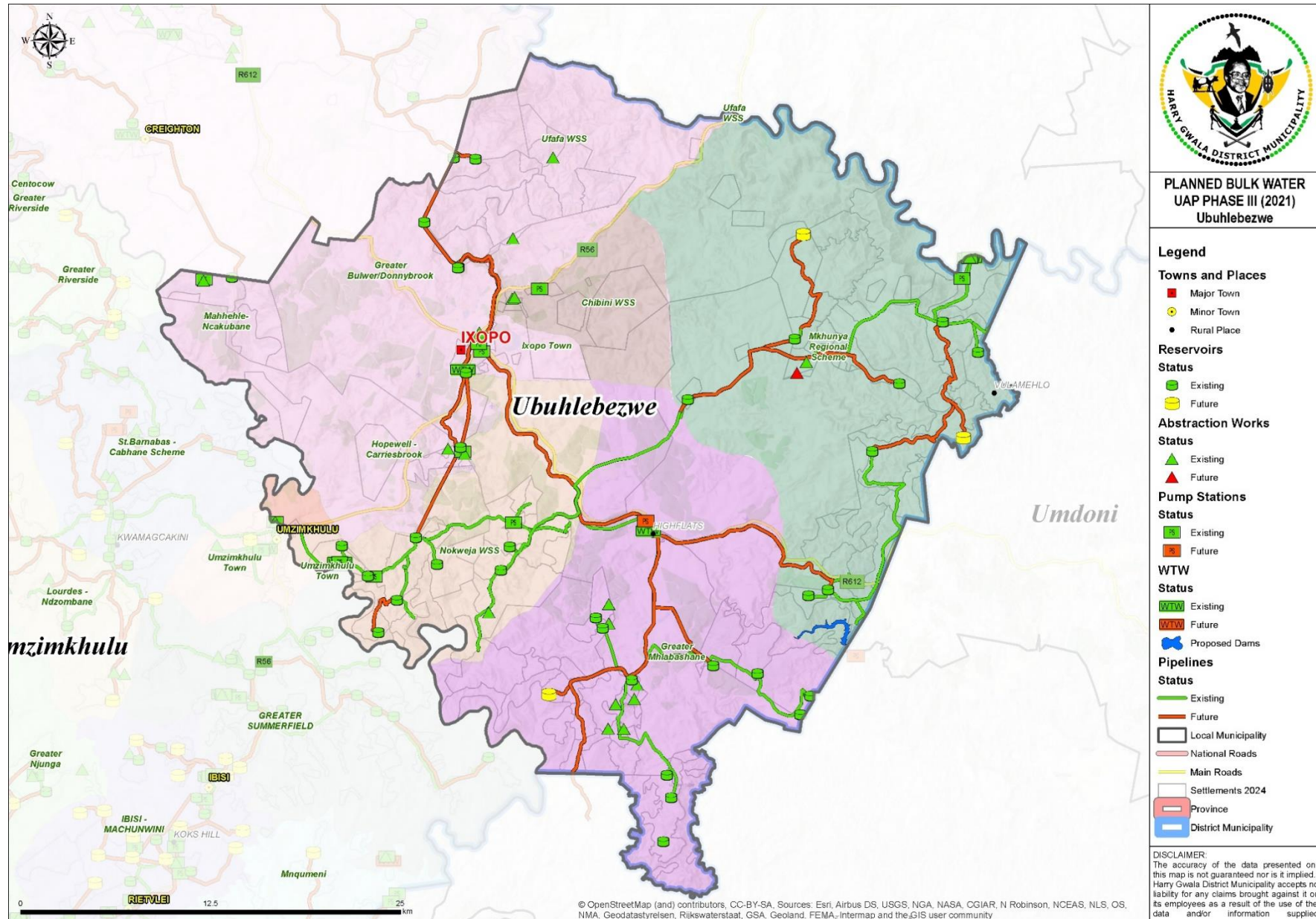
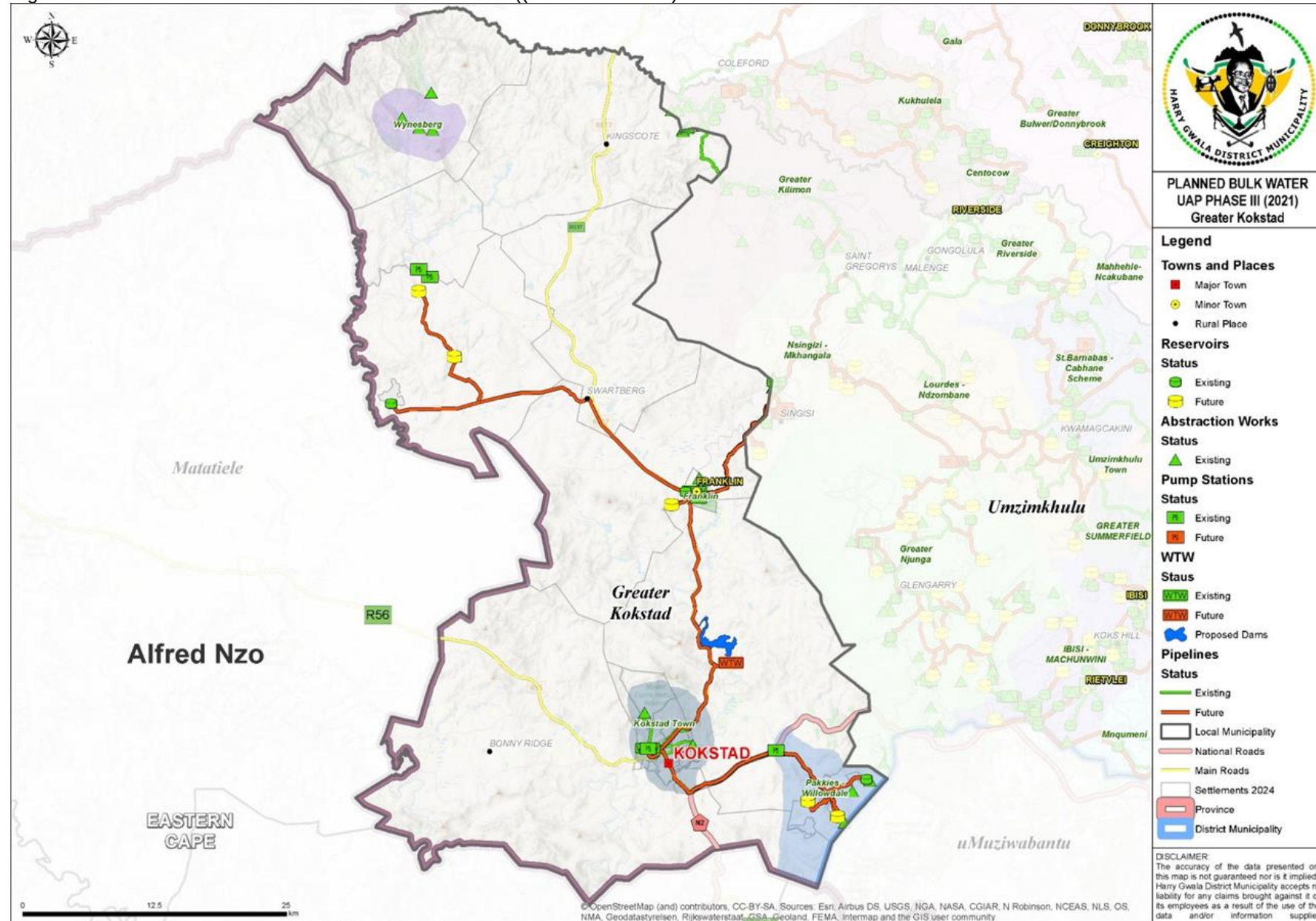


Figure 52: UAP PHASE III: Planned Water Infrastructure ((Greater Kokstad)



CHAPTER 4: INVESTMENT FRAMEWORK

The investment framework deals with the total investment that HGDM needs to make in order to reach a 90% reliability service delivery by 2035 to all consumers within its jurisdiction as WSA. Important aspects include both new infrastructure, replacement costs of end-of-life existing infrastructure, as well as refurbishment costs for existing infrastructure.

This section will be covered in the review of the WSMP, and will be incorporated into the WSDP in proceeding versions.

The following figure is an example that depicts the estimated time it should take to eradicate all water backlogs below RDP standard at current MIG funding allocations. RBIG and WSIG funding allocations fluctuate based on approved funding applications, and future projections will be based on the current financial year's allocations.

The Investment Framework therefore need to depict if HGDM will be able to complete all planned water and sanitation infrastructure, as well as bring all existing infrastructure up to at least 90% reliability by 2035 with current funding streams.

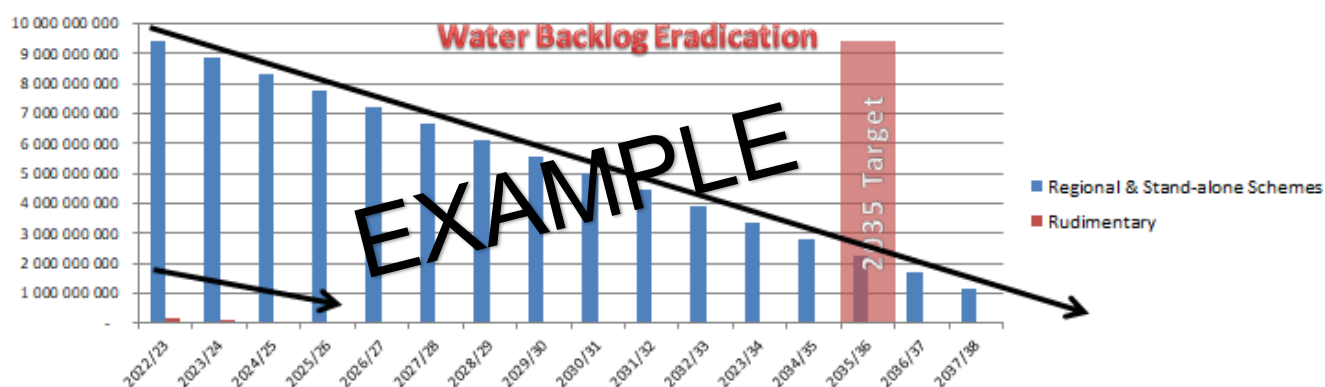


Figure 53: Example of prediction to complete all water-related projects by 2035

The following figure depicts the estimated time it will take to eradicate all sanitation backlogs below RDP standard if current MIG funding allocations remains constant.

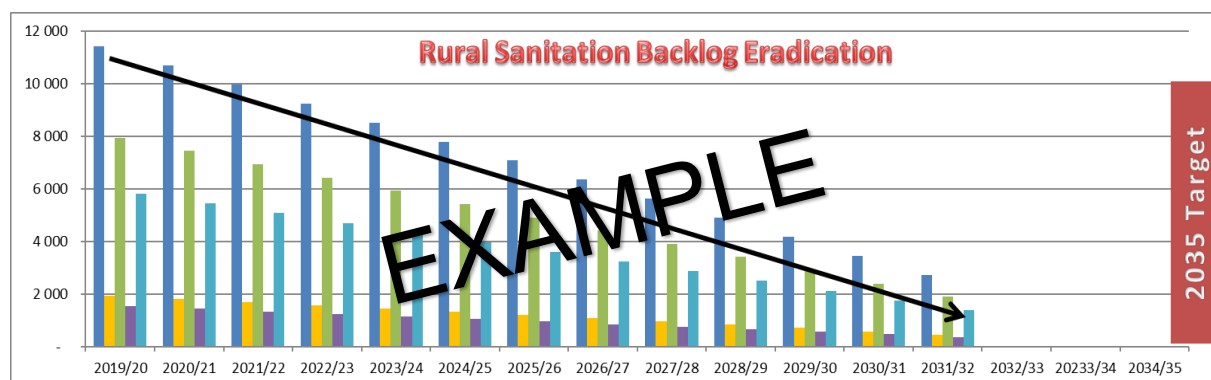


Figure 54: Example of prediction to complete all sanitation-related projects by 2035