

!KHEIS FINAL SDF AMENDMENT REPORT



!KHEIS LOCAL
MUNICIPALITY



!Kheis
Munisipaliteit
Municipality

SDF AMENDMENT 2016

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List of Abbreviations:

List:	Detail of Abbreviation:
CAD	Computer Aided Design
CBD	Central Business District
DAFF	Department of Agriculture Forestry and Fisheries
DEA	Department of Environmental Affairs
DRDLR	Department of Rural Development and Land Reform
DRPW	Department of Roads and Public Works
FEPA	Freshwater Ecosystem Priority Areas
HSP	Housing Sector Plan
I&AP's	Interested and Affected Parties
IDP	Integrated Development Plan
KLM	!Kheis Local Municipality
MSA	Municipal Systems Act, Act 32 of 2000
MSDF	Municipal Spatial Development Framework
NCPDA	Northern Cape Planning and Development Act, Act 7 of 1998
NEMA	National Environmental Management Act, Act 107 of 1998
PMT	Project Management Team
PSC	Project Steering Committee
REDZ	Renewable Energy Development Zones
SACPLAN	South African Council for Planners
SANRAL	South African National Road Agency Limited
SDF	Spatial Development Framework
SLA	Service Level Agreement
SPC	Spatial Planning Category
SPLUMA	Spatial Planning and Land Use Management Act, Act 16 Of 2013
SVM	Spatial Vision Map
WWTW	Waste water Treatment Works

INTRODUCTION

1. FOREWORD 2016

The !Kheis Local Municipality, hence referred to as the KLM, has entered the process of developing their first Spatial Development Framework (SDF) in 2014, which heralded in a new and exciting era of development planning in the Municipality.

The objective of the development of the 2014 SDF has been to allow the Municipality (as outlined in the 2014 SDF) to:

- Manage land use and development.
- Undertake targeted, inclusive, equitable and sustainable social, economic and spatial development.

The objective of the 2014 SDF, further stipulated and maintained by this SDF Amendment, is to allow the !Kheis Local Municipality to:

- Decide on all applications for land development in the municipal area.
- Cluster public land uses in nodes in each of the settlements.
- Assist all of the communities to make use of and benefit from the vast agricultural, beneficiation and tourism potential the municipality offers.

2. VISION

As per the 2014 SDF and shared by this amendment process, the vision of the Municipality is maintained and may be stated as follows:

A diverse, well connected, vibrant, economically integrated and socially cohesive municipality in which all residents enjoy a quality of life.

3. MISSION

As per the 2014 SDF and shared by this amendment process, the mission of the Municipality is maintained and may be stated as follows:

The Municipality seeks to ensure the provision of: (1) a well-functioning, affordable and reliable public transport service to ensure connectivity between the various settlements; (2) basic municipal services in all the settlements in the municipal area, (3) access for all to housing; (4) a logical, efficient and sustainable municipal land use pattern; (5) health, education and early childhood development services that meet the needs of all the people in accessible buildings; (6) safe and maintained recreational facilities in all the settlements in the municipal area; (7) land for grazing of animals and the growing of fruit and vegetables; and (8) land, equipment, technical support and mentoring to assist in the establishment of beneficiation and manufacturing activities in all the settlements in the Municipality.

The Honourable Mayor

Mr Paul Vries

4. EXECUTIVE SUMMARY

As previously mentioned, the !Kheis Local Municipality (KLM) has developed a Spatial Development Framework (SDF) in 2014, to guide land use development in the Municipality in a sustainable and inclusive way.

This SDF has been developed in terms of the Northern Cape Planning and Development Act, Act 7 of 1998 (NCPDA), as well as the 2012 SDF Guidelines, as published by the Department of Rural Development and Land Reform (DRDLR). Since the approval of the KLM SDF of 2014, the enactment of the new planning law, the Spatial Planning and Land Use Management Act, Act 16 of 2013 (SPLUMA) has taken effect, retracting the NCPDA and affecting the legal framework of the 2014 KLM SDF.

In terms of the above mentioned change in the legal framework within which SDF's should be developed, the need arose for the 2014 KLM SDF to be amended in order to comply with SPLUMA. Additional to the matter of SPLUMA compliance, Macroplan were approached by officials of the KLM, who experienced that the 2014 SDF lacks a key component of functionality in decision-making; this in stark contradiction of the municipality's vision for the functionality of the SDF, as envisioned in the foreword of the Honourable Mayor.

The experience of the officials of the KLM has been that the 2014 SDF does not contain the necessary scope in terms of the following objective of an SDF, as set out in 2012 SDF Guidelines:

“Guidance for: developers who want to check whether their proposed development will be supported; interested parties who wish to comment on development applications;...” Furthermore, SPLUMA sets out a clear list of content that must be covered in an SDF. Macroplan has endeavoured to contain these matters in this SDF Amendment document, serving as an alignment of the SDF with SPLUMA.

The project need, as communicated by the KLM, may therefore be simply stated: **Amending the current SDF, while maintaining its integrity, to be SPLUMA compliant, as well as serving as a framework of information and decision-making in development applications.**

Macroplan has consequently been appointed to achieve this objective of SDF Amendment and seeks to address these issues in line with SPLUMA, ensuring an effective SDF, but also realising the value of the 2014 SDF, as is.

4.1. Approval of !Kheis Amendment SDF 2016

The following notice was placed in the Provincial Gazette of 28 November 2016, stating the following:

Revision and Amendment of the Spatial Development Framework (SDF) of the !Kheis Municipality – Final approval of report

Notice is hereby given in terms of Section 20(1) of the Spatial Planning and Land Use Management Act (Act 16 of 2013 - SPLUMA) that the Council of !Kheis Municipality officially adopted and approved their revised and amended Spatial Development Framework (SDF). The approval took place during the Council meeting of 31 October 2016, Item 011 and Resolution 011/31/2016.

The Spatial Development Framework is a strategic document setting out objectives reflecting the desired spatial form of the municipality, as well as identifying strategies and policies through which to achieve such objectives. Further details and complete documentation are now available at the !Kheis Municipality in Groblershoop, on the official website of !Kheis Municipality, as well as on the Spisys website. Further details may be obtained from the !Kheis Municipality (Mr Mbekanyani Ramukosi), Telephone 054 833 9500, during normal office hours (Mondays to Fridays, 08:00 to 13:00 and 14:00 to 16:00).

The Municipal Manager

5. SDF AMENDMENT METHODOLOGY

5.1. Process Phases

The project methodology is informed by the 2014 SDF Guidelines and in these terms, the project is broken down into phases, with each phase being accompanied by stakeholder engagement, monitoring and evaluation:

- Phase 1: Policy Context and Vision Directives.
- Phase 2: Spatial Challenges and Opportunities.
- Phase 3: Spatial Proposals.
- Phase 4: Implementation Framework.
- Phase 5: Final MSDF.

Looking at the objectives of the project, it becomes clear that the bulk of the SDF Amendment process were focussed around Phase 3, but notwithstanding, all other phases are also methodologically addressed in order to ensure a comprehensive and structured amendment document. The other phases has been largely addressed in the KLM SDF 2014 document.

5.2. Limitations of Current Scope

It should be highlighted in the extreme that the objective of this amendment was not to provide a new SDF to the KLM, but rather to supplement the current 2014 SDF with this amendment through SPLUMA, alignment with legislation and a more defined decision-making framework. The segments within the current 2014 SDF which are found to be satisfactory to the KLM, will remain therein as is.

5.3. Summary of Process Phases

5.3.1. Phase 1 – Policy Context and Vision Directives

This phase included the development of a service level agreement between Macroplan and the KLM, coupled with the finalisation and acceptance of an Inception Report (held by the KLM). Upon acceptance of the Inception Report, the Service Level Agreement (SLA) between Macroplan and the KLM was revised in order to ensure 100% alignment between these documents. In this way, the scope of work and all party expectations were solidified.

At such time as the SLA and Inception Report has been finalised and accepted, the synthesis of policy and legislative context were initiated. It was during this phase that it was decided that the current vision and mission of the municipality remains valid and would be maintained without amendment.

In the light of the contents of the current KLM SDF, it became clear that the review of policy and legislative context were to be limited, and that the current SDF vision and mission would be upheld.

5.3.2. Phase 2 – Spatial Challenges & Opportunities

This phase was focussed on the review of the most recent IDP and ascertaining the spatial challenges of the KLM in terms of a socio-economic, biophysical and built environment perspective, as was extensively laid out in the 2014 SDF.

A massive resource of information in this regard exists in Chapter 3 of the KLM 2014 SDF. The 2014 KLM SDF were therefore used as a point of departure in this regard and, where needed, built-upon. Of course, this phase also covers the requirements of stakeholder engagement, as per the 2014 SDF Guidelines.

5.3.3. Phase 3 – Spatial Proposals

This phase represents the bulk of the scope of this SDF Amendment, as it has been found by the KLM that decision-making assistance is lacking in the 2014 KLM SDF. The key idea has been to redevelop Chapter 6 of the current KLM to include a decision making framework, which is coupled with a reworking of the 2014 SDF's Chapter 7, as part of the Implementation Framework developed as part of Phase 4.

Stakeholder engagement was of critical importance in this phase with not only the Project Management Team (PMT) and Project Steering Committee (PSC) being involved, but with the general public also engaged in community open days and meetings.

5.3.4. Phase 4 – Implementation Framework

As with Phase 3, this is a critical component of the SDF Amendment as the findings of the previous phase was translated into measurable implementation procedure during this phase.

This component of the SDF Amendment focusses on the following:

- Developing a set of policies and guidelines that will support the implementation of the spatial proposals of the SDF. This was done with respect to the proposals already made in the 2014 IKheis SDF and new policy proposals were developed to supplement the proposals of Phase 3.
- Within the SDF Guidelines, the development of a Capital Investment Framework is mentioned. This is however already addressed in the current 2014 SDF. The amendment hereof will be open for consideration, but is not at this stage included in this document as funding has not been made available as part of this project of SDF Amendment.
- Compiling the above into a consolidated implementation framework.

5.3.5. Phase 5 – Final MSDF

This phase marks the culmination of the SDF Amendment process and is presented in this SDF Amendment document, including the following:

- Refining of the draft SDF Amendment documentation from Phase 3, based on the stakeholder engagement from the end of Phase 3 and Phase 4.
- Prepare summary documentation of key spatial proposals into this SDF Amendment document (Volume 2).
- Submitting this amendment document to the KLM for Council approval.
- Facilitate follow up meetings with relevant municipal departments in order to ensure understanding and alignment with the SDF Amendment document.
- Identify priority areas for local area plans and precinct plans.
- Ensure that proposals are fed into the next round of IDP Review.
- Attain PSC endorsement.
- Attain Council approval.
- Set up a monitoring and evaluation process for the SDF Amendment.
- Assign a person/department responsible for SDF monitoring.

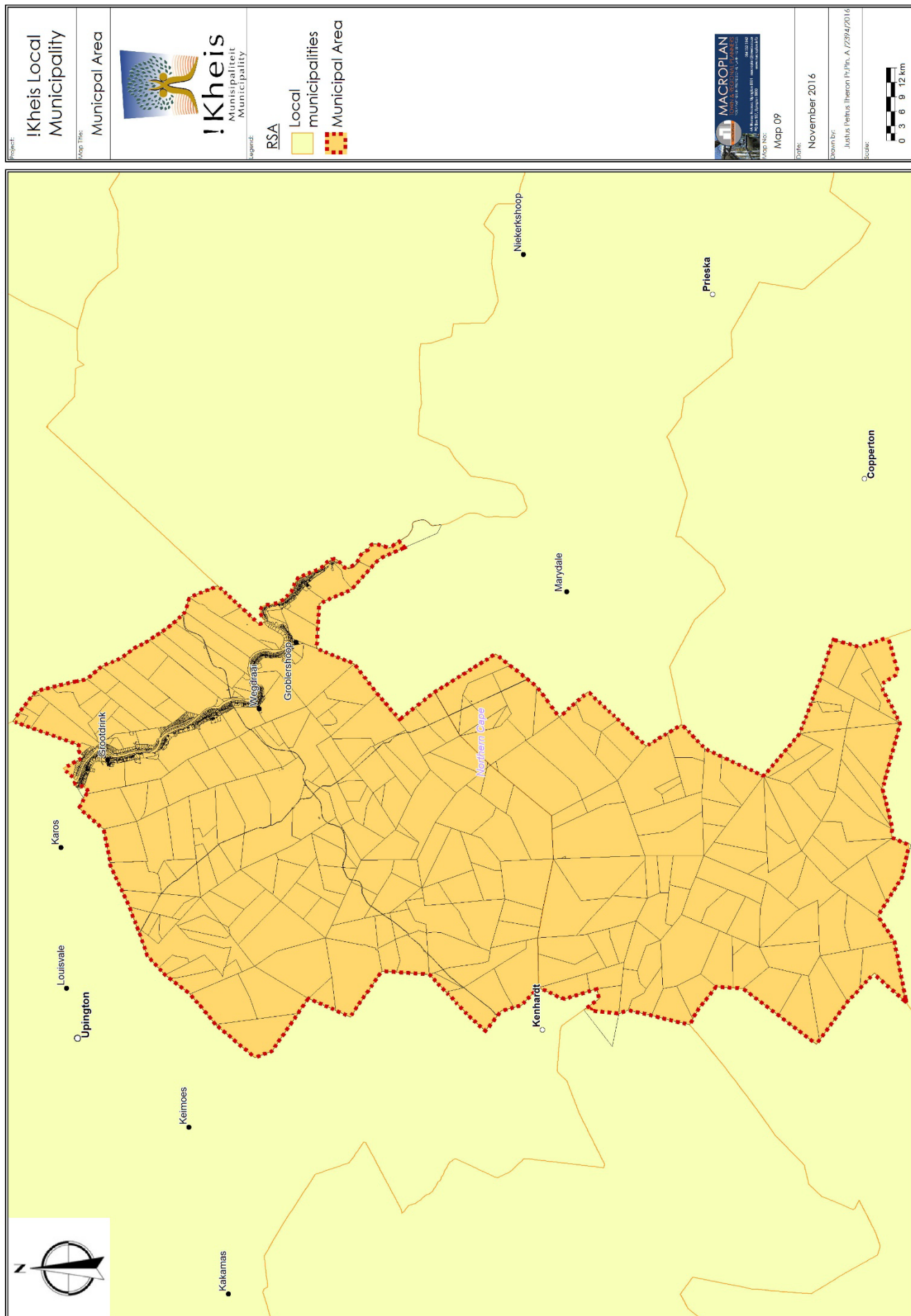


Figure 1: The Municipal border of !Kheis Local Municipality, ZF Mgcau District Municipality

ADDENDUM A – ALIGNMENT

Addendum A is to be read together with Chapter 2 of the 2014 KLM SDF.

6. LEGISLATIVE AND POLICY CONTEXT

In Chapter 2 of the 2014 KLM SDF, the alignment and integration of the SDF with the policy and directives of all spheres of government has been extensively and succinctly addressed. Additional to this, the SDF amendment would like to add the following context in terms of the provisions of SPLUMA and other legislative documents:

6.1. Introduction

A Spatial Development Framework (SDF) may be seen as a core component of a municipality's economic, sectoral, spatial, social, institutional and environmental vision. It may therefore be described as a tool to achieve the desired spatial form of the municipality. According to the Municipal Systems Act (MSA), Act 32 of 2000, all municipalities must draft and adopt an SDF as part of its Integrated Development Plan (IDP).

Section 5 of the MSA provides for the preparation of IDP's, but the following matters contained therein, may be described as being relevant to SDF Development:

- §26(e) lists an SDF as a core component of an IDP and requires that the SDF provide basic guidelines for a Municipal Land Use Management System (LUMS).
- §24(1) requires that municipalities should align their planning with national and provincial planning, as well as those of affected municipalities.

The second point is of particular importance to the KLM, as their 2014 SDF has been developed under the NCPDA. With the introduction of SPLUMA in 2013 and the subsequent enforcement thereof since 2015, it implies that their SDF pertains to redundant legislation. The re-alignment thereof in terms of SPLUMA principles therefore forms part of this SDF Amendment project.

6.2. SPLUMA and the SDF Amendment

Section 21 of SPLUMA contains a very specific list of inclusions which should form part of the SDF. This section therefore forms the main framework within which the SDF Amendment was approached and the adherence to these inclusions through the SDF Amendment imply a movement towards SPLUMA compliance.

The following main concerns from the list contained under §21 of SPLUMA were addressed in this project, in order to achieve the desired project objective, namely:

- Include a spatial representation of a five years spatial development plan for the spatial form of the municipality.
- Identify current and future significant structuring elements of the spatial form of the municipality, including development corridors, activity spines and economic nodes.
- Include estimates of the demand for housing units across different socio-economic categories and the planned location and density of future housing developments.

From the above, the following project **need** can be derived:

Ensure that the amendment is made in such a way to appropriate the SDF in terms of the new planning legislation, i.e. SPLUMA.

6.3. SDF Guidelines

The 2014 KLM SDF has been developed, not only in terms of now dated legislation, but also in terms of now soon to be dated SDF Guidelines. The DRDLR published the final draft SDF Guidelines in September 2014, which was developed as being SPLUMA informed. An extract from these guidelines reads as follows:

“The SDF guidelines takes its point of departure from SPLUMA’s requirements and stipulations for the preparation of SDF’s while aiming to incorporate SPLUMA’s founding spatial principles into the SDF preparation process”.

This SDF Amendment is therefore exclusively informed by the process principles contained in these guidelines, which will ensure a further movement towards SPLUMA compliance.

In summary: the SDF Guidelines of 2014 formed the basis upon which the **Project Methodology (§5)** is based.

6.4. The 2014 KLM SDF

As previously mentioned in this document, the KLM already has an SDF document which has been published in 2014. This document has been developed in terms of the SDF Guidelines applicable during that time and in terms of the NCPDA, which have now been replaced by the 2014 SDF Guidelines and SPLUMA, respectively.

The replacement of the guideline and legislative framework within which the 2014 KLM SDF has been developed, should however not detract from the vast amount of information and resources contained therein. The 2014 KLM SDF is legislatively aligned with the legislation of the time, although it does not address all the matters contained in SPLUMA – an issue which has been explored and addressed throughout this amendment process.

Beyond this legislative complexity, credit should be given to the quality spatial analysis and synthesis that has been contained in the 2014 KLM SDF. In working on further detail to be contained in this SDF Amendment, it was prudent to not reinvent the wheel, so to speak, and to rather build on what was available. This approach avoided the unnecessary diversion of resources into acquiring data that has already been processed in the 2014 KLM SDF document. From this, the ideal of this project was not to redevelop the 2014 KLM SDF, but rather to amend certain chapters and to append it with the components found lacking from a decision-making perspective in the KLM, as discussed under §4 of this report.

7. SPLUMA CONTENT OF A MUNICIPAL SDF

This section of the SDF Amendment focuses on Chapter 4, Section 21 of SPLUMA, where a clear indication is given as to the required contents of SPLUMA compliant SDF. As previously mentioned, the idea of this SDF Amendment is not to reinvent the wheel, but rather to acknowledge that some of the requirements of SPLUMA is addressed in the 2014 KLM SDF, where new additions are addressed in this SDF Amendment, and where future revisions may be required to add detail.

The following table refers:

Section 21: A municipal Spatial Development Framework must:		Adherence in 2016 Amendment Process:
a.	Give effect to the development principles and applicable norms and standards set out in Chapter 2 (of SPLUMA)	Yes
b.	Include a written and spatial representation of a five-year spatial development plan for the spatial form of the municipality.	Yes
c.	Include a longer term spatial development vision statement for the municipal area which indicates a desired spatial growth and development pattern for the next 10 to 20 years.	Yes

Section 21: A municipal Spatial Development Framework must:		Adherence in 2016 Amendment Process:
d.	Identify current and future significant structuring and restructuring elements of the spatial form of the municipality, including development corridors, activity spines and economic nodes where public and private investment will be prioritised and facilitated.	Yes
e.	Include population growth estimates for the next five years.	Yes
f.	Include estimates of the demand for housing units across different socio-economic categories and the planned location and density of future housing developments.	Yes
g.	Include estimates of economic activity and employment trends and location in the municipal area for the next five years.	Yes
h.	Identify, quantify and provide location requirements of engineering infrastructure and services provision for existing and future development needs for the next five years.	To be amended in future
i.	Identify the designated areas where a national or provincial inclusionary housing policy may be applicable.	Yes
j.	Include a strategic assessment of the environmental pressures and opportunities within the municipal area, including the spatial location of environmental sensitivities, high potential agricultural land and coastal access strips, where applicable.	Yes
k.	Identify the designation of areas in the municipality where incremental upgrading approaches to development and regulation will be applicable.	Yes
l.	Identify the designation of areas in which: i. More detailed local plans must be developed. ii. Shortened land use development procedures may be applicable and land use schemes may be so amended.	Yes
m.	Provide the spatial expression of the coordination, alignment and integration of sectoral policies of all municipal departments.	Yes
n.	Determine a capital expenditure framework for the municipality's development programmes, depicted spatially.	To be amended in future
o.	Determine the purpose, desired impact and structure of the land use management scheme to apply in that municipal area.	Yes
p.	Include an implementation plan comprising of: i. Sectoral requirements, including budgets and resources for implementation. ii. Necessary amendments to a land use scheme. iii. Specification of institutional arrangements necessary for implementation. iv. Specification of implementation targets, including dates and monitoring indicators. v. Specification, where necessary, of any arrangements for partnerships in the implementation process.	To be amended in future

Table 1: Section 21 adherence of SDF 2016 amendment.

8. SPLUMA DEVELOPMENT PRINCIPLES

When looking at the table above, considering SPLUMA compliance, the first section consists of consideration of the development principles and applicable norms and standards, as set out in Chapter 2 of SPLUMA.

The mentioned development principles, simplified, may be listed as follows:

- **The principle of spatial justice**

South Africa has a history of spatial imbalances, which must be redressed by improved access to land and an inclusion of persons and communities that were previously excluded through development policies.

This SDF Amendment takes this principle to heart and seeks to address such past imbalances in future. In the Addendum B & C sections of this document, one will see that current informal areas are indicated and proposed as focus areas for housing and tenure upgrading – of course, where necessary (due to possible safety hazards), certain informal areas will have to be relocated. The planned future spatial approach, which may be seen in the spatial vision maps (SVP), is presented in such a way for segregated communities to be integrated with one another and to become one cohesive urban settlement, especially in Groblershoop and Grootdrink.

Specific areas are also earmarked for low cost housing developments, where such persons who do not have access to land may be accommodated in a subsidised manner and tenure thereby secured. This is set as an important move towards the creation of sustainable livelihoods through the principle of spatial justice.

- **The principle of spatial sustainability**

Sustainability is arguably one of the most important aspects that needs to be achieved in any SDF. It should be considered that no unnecessary pressure should be placed on government spheres to provide infrastructure where such investment would not be viable, creating unneeded fiscal pressure. One should also consider the value of natural systems, agriculturally valuable areas and the legislation put in place to protect these systems. Beyond the legislative protection, one should also be able to focus on these components in the SDF and provide guidance in terms of areas to be protected. In order to achieve the above, it is important to note that the functionality of compact settlements are better and more sustainable than sprawling settlements, even in smaller settlements and communities as it is to be found in KLM.

This SDF Amendment seeks to be especially effective in attaining the above goal of spatial sustainability through the effective placement of an urban edge within which urban development, albeit housing, commerce or industry, should be contained and encouraged. The urban edge should be strictly enforced by the local authority without exception, except where there are undeniable site specific circumstances which can be proven through thorough motivation and prescribed public participation processes. The focus is also solely on the existing settlements in the Municipality, as the creation of more and smaller urban hamlets will create pockets of poverty which cannot grow into areas of economic opportunity and sustainable livelihoods for future generations. The only exception to the previous would be the upgrading of the Opwag community, which has a long history of problematic placement and service delivery. This very specific and exceptional community came to light throughout the SDF amendment process and will be included and addressed as part of this document. At an environmental level the SDF amendment acknowledges the location of the !Kheis Municipality within a Freshwater Ecosystem Priority Area (FEPA) and considers the importance of maintaining the integrity of the freshwater system of the Orange River and the non-perineal rivers that feed into it.

- **The principle of efficiency**

In terms of efficiency it is important that developments are considered in terms of the effective use of land and resources – note how this component of efficiency also speaks to the matter of sustainability. Decision-making procedures on land development should be designed in such a way as to not negatively impact finances, social and economic factors, nor on the natural environment. It would also be important that the application procedures relating to land development should be streamlined and managed in an efficient and timeous way, sticking to prescribed timelines and supporting sustainable development procedures. This refers to the LUMS which should be developed after the SDF Amendment approval and is of utmost importance.

This SDF Amendment seeks to attain the goals of efficiency, as set out in SPLUMA, by providing a clear indication of areas where development may be considered and where such development will not lead to the ineffective use of resources or unnecessary infrastructural pressure in isolated locations. The SDF Amendment provides a clear indicative framework for officials and also for members of public, as well as possible investors, to base their land use and development decisions on, thus simplifying the process of development. The framework indicate environmental sensitive areas and areas where development is excluded due to various factors. The SDF Amendment also indicate certain areas where land development applications may be simplified and easily considered, such as commercial nodes and development corridors. This must be considered in the LUMS process and provide special steps and regulations to follow where possible.

- **The principle of spatial resilience**

Spatial resilience refers to the flexibility of the spatial plan to react and adapt to changes in the economy and also the environment. It is a very broad component and not necessarily measurable or foreseeable.

In the SDF Amendment, a very clear indication is given to the direction and placement of development areas in the community. However, adequate space has been given around areas of risk, such as wastewater treatment plants and surface water run-off area, minimising the environmental risks to the communities at hand, e.g. flooding. What is important to consider is the fact that communities often place themselves in risk areas on an informal basis (e.g. erecting informal housing structures in water run-off areas), which may create conflict in terms of having to be relocated in the future – the indication of housing areas in this SDF seeks to avoid this.

Economic changes are often unforeseeable and sudden and is especially present in areas where a local economy is based on the primary sectors of mining and agriculture. KLM is focussed on the latter and seasonal changes may have severe impacts on the lives of the local communities. The SDF therefore provides space for the expansion of the Groblershoop industrial area for development of secondary economic activities and industrial beneficiation as foreseen in the 2014 KLM SDF. Furthermore, the development of renewable energy is also considered, as this may provide opportunity for diverse job opportunities and investment in the Municipality.

- **The principle of good administration**

This principle speaks for itself as there is an increased need for an integrated approach to land development and assistance in achieving development goals, as embodied in SPLUMA. It is of absolute importance that departments from different spheres of government get involved in the development of SDF's and that the public is also involved, ensuring a truly transparent process.

In the SDF Amendment 2016 the matter of good administration has not been taken lightly and was an important factor that were focussed on by both the PMT and the PSC. The core ideal has been a document for all sectors of development, including local government, provincial and national departments to make informed decisions on development. It is however a document that should belong to the general public and wider community of KLM. The public was therefore invited to get involved with the process and open days were held in all communities to get input. The 2014 KLM SDF's development also included a very extensive public participation process to which this amendment will align.

The mentioned 5 principles are the guiding ideals of this SDF Amendment, whereas the amendment seeks to produce a SPLUMA compliant document, enabling the KLM to consider land use application and make informed decisions on land development applications.

ADDENDUM B – SPATIAL DEVELOPMENT

9. OBJECTIVE OF THIS ADDENDUM

The objective of Addendum B of the !Kheis Amendment SDF 2016 is to add to the current the KLM SDF 2014 in a supplementary way and to inform the current and future development trends of the Municipality. The key aspect of the document will be to spatially represent the desired growth pattern of all communities within the borders of KLM.

This SDF Amendment will not limit itself to a just 5 year spatial vision, but would rather provide a spatial representation of a longer term. Of course, this does not preclude a 5 year revision as changing economic and socio-economic indicators may change the spatial landscape of the Municipality.

10. POPULATION AND GROWTH ESTIMATES

The aspect of the status quo of the demographics of the !Kheis local municipality is extensively covered in the 2014 KLM SDF and it is important to note that the patterns identified in the mentioned document is unlikely to have changed significantly between 2014 and 2016. Please refer to section 3.5.2 of the 2014 KLM SDF for population growth estimates. Please note that there are no data to be found for the settlement of Gariep or the informal settlement of Opwag.

10.1. Settlement Analysis

	2001	2011	Exponential Change Rate 2001 to 2011	2020	% Change 2011 and 2020	2030	% Change 2011 and 2030
Grootdrink	2180	2645	0,01933	3028	14,5	3674	38,9
!Kheis NU	6434	3611	-0,0578	2409	-33,3	1352	-62,6
Topline	1166	1398	0,01815	1587	13,5	1903	36,1
Wegdraai	1722	2189	0,024	2589	18,3	3292	50,4
Grobbershoop	3471	4938	0,03525	6320	28,0	8991	82,1
Boegoeberg	1587	1857	0,01571	2073	11,6	2426	30,6
KLM	16560	16638	0,00047	16693	0,3	16772	0,8
ZFM DM	202160	236783	0,0158	264474	11,7	309743	30,8
NCP	991919	1145861	0,01443	1267652	10,6	1464430	27,8

Figure 2: KLM Population Projections (Source: 2014 KLM SDF)

Considering the growth estimates, as was done by the consultants of the 2014 KLM SDF, as well as considering the average household size of 3.9 persons, one may make the following assumptions with regards to housing needs in the future for individual settlements:

	Estimated Population 2020	Estimated Houses required by 2020	Estimated Population 2030	Estimated Houses required by 2030
Grootdrink	3028	776	3674	942
!Kheis Non-Urban	2409	618	1352	347
Topline	1587	407	1903	488
Wegdraai	2589	664	3292	844
Groblershoop	6320	1621	8991	2305
Boegoeberg	2073	532	2426	622
Total !Kheis	16693	4280	16772	4301

Table 2: Estimated future housing need in the !Kheis Municipality.

There is a simple and relatively effective method used in town planning to estimate the amount of land needed to accommodate housing development, with the necessary public amenity included. The formula follows a 60/40, principle where 60% of land can be utilised for actual housing and 40% for public amenities, including public roads, open spaces, etc. One must also accept that there are variations in erf sizes for different economic sections of the housing market. Perusing the !Kheis Housing Sector Plan, drafted in 2015, the largest portion of households in !Kheis fall between the subsidy and GAP/Affordable housing markets. Considering this and the need for a limit on urban sprawl, an average erf size of 400m² is used and the following table may be drawn up:

	Estimated Population 2020	Estimated Houses required by 2020	Estimated land required by 2020 (HA)	Estimated Population 2030	Estimated Houses required by 2030	Estimated land required by 2030 (HA)
Grootdrink	3028	776	52	3674	942	63
!Kheis Non-Urban	2409	618	41	1352	347	23
Topline	1587	407	27	1903	488	33
Wegdraai	2589	664	44	3292	844	56
Groblershoop	6320	1621	108	8991	2305	154
Boegoeberg	2073	532	35	2426	622	41
Total !Kheis	16693	4280	285	16772	4301	287

Table 3: Estimated land requirements

In terms of the above, this SDF Amendment aimed to provide a spatial growth vision that will satisfy the need for housing on municipally owned land in terms of the 2013 estimates. In this light, a table was drawn up comparing the estimated 2013 land requirement with the land provided for in the spatial vision maps. It was found that the SDF Amendment makes ample provision in this regard. Please refer to the following table:

	Estimated Population 2030	Estimated Houses required by 2030	Estimated land required by 2030 (HA)	Land Available per SDF (HA)
Grootdrink	3674	942	63	92
!Kheis Non-Urban	1352	347	23	N/A
Topline	1903	488	33	43
Wegdraai	3292	844	56	76
Groblershoop	8991	2305	154	273
Boegoeberg	2426	622	41	56
Total !Kheis	16772	4301	287	540

Table 4: Land available for housing

PLEASE NOTE: It is extremely important to note that utilisable tracts of land for the expansion of Boegoeberg is currently owned by Provincial government. Negotiations will have to take place in order to release this land for development.

10.2. Opwag & Gariep Analysis

Regardless of the fact that no census data is available for Gariep and the informal community of Opwag, these two settlements cannot be merely ignored. Referring to the 2015 Kheis Housing Sector Plan, the following was found:

- Opwag requires 60 residential stands.
- Gariep requires 140 residential stands.

The Opwag community settlement has not been formalised and this provides a major challenge in terms of service provision. Land has however been identified by the !Kheis Municipality for the formalised resettlement of this community, ensuring future service delivery and a well planned urban environment.

Gariep has since been provided with 147 residential stands, accommodating the 140 stand requirement above, along with certain social amenity. At the time of this document's approval, the stands have however not been registered at the deeds office and no transfer to beneficiaries have begun. This should be seen as a key priority.

10.3. Density

As mentioned under Section 10.1 of this amendment, an average erf size of 400m² was used to calculate the amount and size of land required to meet the housing demands of each settlement. Densification is an extremely important reality if land is to be preserved as a meaningful resource, but settlements in !Kheis have not yet reached a point where high density housing is commonly found, or in fact a necessity.

Some medium density developments are found in Groblershoop in the form of flats and town houses, but nothing in the line of full-scale densification. In the light of Table 3, it may also be argued that densification is not at this stage a major priority. This statement can only hold true as long as the Municipality can align themselves to provide service infrastructure, over time, in the areas indicated for housing in the spatial vision.

Considering a median erf size of 400m², as well as the 60/40 principle (already discussed) of utilisation of land in neighbourhood for residences, a median density of 15 dwelling units per hectare (du/ha) were used for the purpose of this document. Note that this density may increase up to 30du/ha in group housing developments. The SDF will not, at this stage of !Kheis' development, impose density limitations to certain development areas as the establishment of a creative mix of densities should be encouraged in housing developments.

This matter will be considered by decision-making authorities on each application for development on its own merit and can further be guided by detail inclusions of density descriptions within the LUMS. The spatial vision will, however, indicate areas where densification could be encouraged from a town planning perspective.

The matter of density will be covered again under the spatial vision indication for individual towns in the municipal area.

11. ENVIRONMENTAL APPROACH

The environmental status quo is covered in Chapter 3 of the 2014 KLM SDF where fauna, flora and biodiversity is covered extensively. This section will aim to add to the 2014 KLM SDF in providing a spatial expression of the environmental approach taken by the amendment in 2016.

The spatial vision for the municipality is committed to the principles and adherence to, the National Environmental Management Act, Act 107 of 1998 (NEMA). This document will aim to provide guidance in terms of the land development process in harmony with the protection of the environment. Sensitive areas have been indicated spatially where special consideration will have to be given to environmental protection in development.

11.1. Freshwater Ecosystem Priority Areas (FEPA)

11.1.1.Introduction

The National Freshwater Ecosystem Priority Areas (NFEPA) project was a collaborative process led by the CSIR, South African Biodiversity Institute (SANBI), Department of Water Affairs (DWA), the Water Research Commission (DWA), WWF South Africa, SANParks, as well as the South African Institute for Aquatic Biodiversity (SAIAB) and the Department of Environmental Affairs and Tourism. The NFEPA project aimed to identify a national network of freshwater conservation areas and to explore institutional mechanisms for their implementation. Freshwater ecosystems provide a valuable natural resource, with economic, aesthetic, spiritual, cultural and recreational value. The freshwater ecosystems in South Africa is declining at an alarming rate, largely as a consequence of a variety of challenges that are practical, socio-economic and institutional.¹ The !Kheis Municipality, with the Orange River crossing its administrative area, should give special attention to NFEPA, as the Orange River is the largest drainage system in South Africa and forms a very important factor for the livelihood of a lot of its residence. This imposes a certain responsibility onto the Municipality to protect the environmental integrity of freshwater ecosystems under their jurisdiction. There are various categories of FEPA categories across the !Kheis Municipality, which need to be considered when dealing with the development of land and must always be taken into account with any application that is launched for any proposed development. Listed below are the 3 varieties found in !Kheis, as well as excerpts from the NFEPA project implementation manual on how each should be managed.

11.1.2.FEPA & Legislation

FEPA areas do not in themselves have any formal legal status, but some of the processes they inform do. All organs of state are obliged to consider biodiversity in their decision-making and to make use of the most up-to-date information (National Environmental Management Act, Act 107 of 1998). Furthermore, all spheres of government must co-operate with, consult and support one another.

11.1.3.FEPA in !Kheis

In order to understand the sections below, it is important to consider the ecological classification categories of South African rivers and their condition. For the NFEPA project, categories A & B are regarded as river systems in good condition:

Ecological Category	Description
A	Unmodified, natural.
B	Largely natural with few modifications. A small change in natural habitats and biota may have taken place but the ecosystem functions are essentially unchanged.
C	Moderately modified. A loss and change of natural habitat and biota have occurred but the basic ecosystem functions are still predominantly unchanged.
D	Largely modified. A large loss of natural habitat, biota and basic ecosystem functions have occurred.
E	Seriously modified. The loss of natural habitat, biota and basic ecosystem functions are extensive.
F	Critically/Extremely modified. Modifications have reached a critical level and the system has been modified completely with an almost complete loss of natural habitat and biota. In the worst instances the basic ecosystem functions have been destroyed and the changes are irreversible.

Table 5: Ecological classification of South African rivers.

¹ SANBI 2011 National Freshwater Ecosystem Priority Areas (NFEPA)
!Kheis Amendment SDF 2016

11.1.3.1. River FEPA and associated sub-quaternary catchment

River FEPA's achieve biodiversity targets for river ecosystems and threatened/near threatened fish species, and were identified in rivers that are currently in good condition (A or B ecological category). Their FEPA status indicates that they should remain in a good condition in order to contribute to national biodiversity goals and support sustainable use of water resources. Although FEPA status applies to the actual river reach within such a sub-quaternary catchment, the marked area indicates that the surrounding land and smaller stream network needs to be managed in a way that maintains the good condition of the river reach. It is important to note that river FEPA's currently in an A or B category may still require some rehabilitation effort, e.g. clearing of invasive alien plants and/or rehabilitation of river banks.

11.1.3.2. Fish Support Area and associated sub-quaternary catchment

Fish sanctuaries in good condition (A or B ecological category) were identified as FEPA's, and the whole associated sub-quaternary catchment is indicated. The remaining fish sanctuaries in lower than A or B ecological condition were identified as Fish Support Areas, and the sub-quaternary catchment is shown in medium green. Fish Support Areas also include sub-quaternary catchments that are important for migration of threatened or near-threatened fish species.

These are marked with a fish symbol. In the !Kheis Municipality, 8 such Fish Support Areas are earmarked and numbered (SANBI database) as:

- 3089 Fish Support Area Barbus Anoplus
- 3158 Fish Support Area Barbus Anoplus
- 3202 Fish Support Area Barbus Anoplus
- 3234 Fish Support Area Barbus Anoplus
- 3267 Fish Support Area Barbus Anoplus
- 3617 Fish Support Area Barbus Anoplus
- 3630 Fish Support Area Barbus Anoplus

11.1.3.2.1. Barbus Anoplus (Chubbyhead Barb)

The Chubbyhead Barb is listed under the IUCN Red List of Threatened Species and is threatened by ecosystem stresses, wastewater and agricultural effluents.



Figure 3: Barbus Anoplus (Source: Wikipedia)

The need for the protection of this fish species has been identified through the NFEPA project and development in estuaries within the above Fish Support Areas should be closely monitored through environmental assessments.

11.1.3.3. Upstream management area

Upstream management areas are shown in pale green. They are sub-quaternary catchment areas in which human activities need to be managed to prevent degradation of downstream river FEPA's and Fish Support Areas.

11.2. Threatened Ecosystems

In 2009, the Department of Environmental Affairs drafted a list of threatened ecosystems in terms of the National Environmental Management: Biodiversity Act, Act 10 of 2004 (NEMBA). The threatened or protected ecosystems are listed as follows:

Critically Endangered (CR)	Ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation.
Endangered (EN)	Ecosystems that have undergone degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems.
Vulnerable (VU)	Ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems.
Protected	Ecosystems that are of high conservation value or of high national or provincial importance, although they are not listed as critically endangered, endangered or vulnerable.

Table 6: Threatened ecosystem categories

The purpose of listing threatened ecosystems has been identified as being to primarily reduce the rate of ecosystem and species extinction. The idea is to preserve witness sites of exceptionally high conservation value. For both threatened and protected ecosystems, the purpose includes enabling or facilitating proactive management of these ecosystems.

11.2.1. Implications

The four main implications of listing an ecosystem is as follows:

- Planning related implications, linked to the requirement in the Biodiversity Act for listed ecosystems to be taken into account in municipal IDPs and SDFs.
- Environmental Authorisation implications, in terms of NEMA and EIA regulations.
- Proactive management implications, in terms of the Biodiversity Act.
- Monitoring and reporting implications, in terms of the biodiversity Act.

From the above it becomes clear how the inclusion of the listing of ecosystems is a key priority in the SDF. River ecosystem classification has been spatially indicated on Map 21 of the 2014 SDF and procedures for development in proximity of these areas will be explored in the spatial vision and implementation framework.

Notably, the whole of the Orange River stretch through the !Kheis Municipality has been marked with areas being Endangered (EN), which by implication means that any development in these areas will require an EIA process.

12. SPATIAL VISION

In what may be described as one of the key focus areas of this SDF Amendment document, the spatial vision and development vision for the !Kheis Municipality will be laid out for each individual urban settlement and the municipality as a whole. This component of the amendment should be seen as a replacement of Chapter 6 of the 2014 SDF, as the need was identified for a clarified vision statement for each of the settlements in the municipality.

In the light of this proposed spatial representation of the municipal vision for each of its towns, this section will reflect on aspects highlighted in the 2014 SDF and build on it. During this process, the need was identified to clearly align the spatial vision with the spatial planning categories found in the Northern Cape Provincial Spatial Development Framework (NCPsDF), which may eventually also inform the development of a Land Use Management System (LUMS) for the !Kheis Municipality.

SPATIAL PLANNING CATEGORIES

	A CORE	A.a	Statutory Protected Areas
	B BUFFER	B.a B.b B.c	Non-Statutory Conservation Areas Ecological Corridors Urban Green Areas
	C AGRICULTURAL AREAS	C.a C.b	Extensive agricultural areas Intensive agricultural areas
	D URBAN RELATED	D.a D.b D.c D.d D.e D.f D.g D.h D.i D.j D.k D.l D.m D.n D.o D.p D.q D.r	Main Towns Local Towns Rural Settlements Tribal Authority Settlements Communal Settlements Institutional Areas Authority Areas Residential Areas Business Areas Service Related Business Special Business SMME Incubators Mixed Use Development Areas Cemeteries Sports fields & Infrastructure Airport and Infrastructure Resorts & Tourism Related Areas Farmsteads & Outbuildings
	E INDUSTRIAL AREAS	E.a E.b E.c E.d E.e	Agricultural industry Light industry General industry Nuisance industry Extractive industry
	F SURFACE INFRASTRUCTURE & BUILDINGS	F.a F.b F.c F.d F.e F.f F.g F.h F.i F.j F.k F.l	National roads Main roads Minor roads Public Streets Heavy Vehicle Overnight Facilities Railway lines Power lines Telecommunication Infrastructure Renewable Energy Structures Dams & Reservoirs Canals Sewerage Plants and Refuse Areas

Figure 4: SPC categories applicable to the SDF

12.1. Details of Spatial Planning Categories

Due to the scale of development in the !Kheis Municipality, not all SPC's are present in the spatial vision of the Municipality and only those present will be presented and discussed here. This document will however align with the NCPSDF categorisation and listing in order to ensure future alignment (both Provincial and District), should additional categories present themselves in the municipal area. This SPC categorisation will serve as the first basis upon which a development's desirability may be evaluated against the spatial vision of the Municipality.

12.1.1. Category A: Core Areas

A.a.	Statutory Conservation Areas	Areas designated in terms of legislation for biodiversity conservation, defined categories of outdoor recreation and resource use.
A.a.1.		<u>Wilderness Areas (declared in terms of NEMPA 57 of 2003²):</u> Areas characterised by their intrinsically wild and pristine appearance and character, or that are capable of being restored to such, and which are undeveloped, without permanent improvements or human habitation. Such areas are declared to: a) Protect and maintain the natural character of the environment, biodiversity resources, associated natural and cultural resources; b) Provide environmental goods and services; c) Provide outstanding opportunities for solitude and primitive outdoor experiences; and d) Provide controlled access to those who understand and appreciate wilderness, and those who wish to develop such an understanding.
		<u>Decision-making:</u> There are currently no classified Wilderness Areas within the !Kheis Municipality which may be indicated in the SDF as such. However, this should not preclude the placement of such an SDF category in the future, nor the demarcation of Wilderness Areas on a land use change level in the future. SPC C.a.1 may be seen as ideal areas for the future demarcation of Wilderness Areas.
A.a.2.		<u>Special Nature Reserves (declared in terms of NEMPA 57 of 2003):</u> Areas characterised by sensitive, ecologically outstanding ecosystems or natural habitats, natural communities, populations or species, or unique geological or biophysical features conserved primarily for scientific research, educational and limited nature-based recreational purposes.
		<u>Decision-making:</u> There are currently no classified Special Nature Reserves within the !Kheis Municipality which may be indicated in the SDF as such. However, this should not preclude the placement of such an SDF category in the future, nor the demarcation of Special Nature Reserves on a land use change level in the future. SPC C.a.1 may be seen as ideal areas for the future demarcation of Special Nature Reserves.
A.a.3.		<u>National Parks (Declared in terms of NEMPA 57 of 2003):</u> Designated to protect areas of national or international biodiversity importance; or containing a representative sample of South Africa's natural systems, scenic areas or cultural heritage sites; or the ecological integrity of one or more ecosystems. National parks provide spiritual, scientific, educational, recreational and tourism-related opportunities which are mutually and environmentally compatible and can contribute to local and regional economic development.
		<u>Decision-making:</u> There are currently no classified National Parks within the !Kheis Municipality which may be indicated in the SDF as such. However, this should not preclude the placement of such an SDF category in the future, nor the demarcation of National Parks on a land use change level in the future. SPC C.a.1 may be seen as ideal areas for the future demarcation of National Parks. This use should be actively encouraged to reach biodiversity goals.

² National Environmental Management Act: Protected Areas Act 57 of 2003
!Kheis Amendment SDF 2016

A.a.4.	<u>Nature Reserves (including provincial, local authority and registered private nature reserves – declared in terms of NEMPA 57 of 2003):</u> Areas of significant ecological, biophysical, historical, or archaeological interest or that are in need of long-term protection for the maintenance of its biodiversity or for the provision of environmental goods and services. Nature reserves are declared to: Supplement the systems of wilderness areas and national parks in South Africa; a) Sustainably provide natural products and services to local communities; b) Enable the continuation of traditional resource uses; and c) Provide nature-based recreational and tourism opportunities. <u>Decision-making:</u> There are currently no classified Nature Reserves within the !Kheis Municipality which may be indicated in the SDF as such. However, this should not preclude the placement of such an SDF category in the future, nor the demarcation Nature Reserves on a land use change level in the future. SPC C.a.1 may be seen as ideal areas for the future demarcation of Nature Reserves.
A.a.5.	<u>Protected Environments (declared in terms of NEMPA 57 of 2003):</u> Areas may be declared as a protected environment to: a) Conserve the area as a buffer zone for the protection of a wilderness area, special natural reserve, national park, and world heritage site or nature reserve. b) Enable owners of land to take collective action to conserve biodiversity on their land and to seek legal recognition for such actions. c) Protect the area if it is sensitive to development due to its: – Biological diversity; – Natural, cultural, historical, archaeological or geological value; – Scenic and landscape value; or – Provision of environmental goods and services. d) Protect a specific ecosystem outside of a wilderness area, special nature reserve, natural park, world heritage site. e) Ensure that the use of natural resources is sustainable. f) Control change in land use if the area is earmarked for declaration as, or inclusion in, a wilderness area, national park or nature reserve. <u>Decision-making:</u> There are currently no classified Protected Environments within the !Kheis Municipality, but certain areas have been as potential areas for such area classifications in the future. Besides the areas specifically indicated for future Protected Environments, SPC C.a.1 may also be seen as ideal areas for the future demarcation of Nature Reserves. Where an area is marked for potential classification as a future Protected Environment, the following spatial categories may also be considered at the discretion of the responsible authority and any supplementary legislation, e.g. NEMA 107 of 1998: a) A.a.1. to A.a.4. (since these categories may be seen as higher order protection status than A.a.5. b) D.q. may also be considered by a site-specific application merit as tourism related amenities may serve a complimentary purpose to the Protected Environment. Tourism in such areas will have to be developed under strict supervision by environmental authorities.
A.a.6.	<u>Forest Wilderness Areas / Forest Nature Reserves (in terms of Section 8(1) of the National Forests Act 84 of 1998):</u> Declared Forest wilderness areas and forest nature reserves include: a) Natural forests, i.e. tract of indigenous trees whose crowns are largely contiguous and which comprise all other floral and faunal forest elements; b) Woodlands, i.e. a group of indigenous trees which are not a natural forest, but whose crowns cover more than 5% of the area bounded by the trees forming the perimeter of the group; and c) Natural habitats or ecosystem components.

	<u>Decision-making:</u> There are currently no classified Forest Wilderness or Reserves within the !Kheis Municipality which may be indicated in the SDF as such. However, this should not preclude the placement of such an SDF category in the future, however this should be unlikely in terms of the climatic conditions of the municipality.
A.a.7.	<u>World Heritage Sites (declared in terms of the World Heritage Convention Act 49 of 1999):</u> Cultural³ or natural⁴ areas that has been: a) Included on the World Heritage List, or the tentative list of the Republic, and has been proclaimed as a World Heritage Site, or b) Proclaimed to be a special heritage site for management in accordance with the Act (such areas cannot be referred to as a World Heritage Site). <u>Decision-making:</u> There are currently no classified World Heritage Sites within the !Kheis Municipality which may be indicated in the SDF as such. However, this should not preclude the placement of such an SDF category in the future, nor the demarcation of a World Heritage site on a land use change level in the future. This SPC, once it has been proclaimed, may be considered across any other SPC contained in this document.

12.1.2.Category B: Buffer Areas

B.a.	Non-Statutory Conservation Areas	Areas voluntarily set aside by land owners and managed for conservation purposes in terms of the legislation applicable to the current zoning of land and not in terms of dedicated conservation legislation as found under SPC A.
B.a.1.	<u>Contractual Conservation Areas:</u> Areas designated for conservation purposes in terms of an agreement with a conservation agency, or between landowners, a lease agreement, or a servitude. This category includes conservancies and biodiversity stewardship sites. <u>Decision-making:</u> There are currently no classified Contractual Conservation Areas within the !Kheis Municipality which may be indicated in the SDF as such. However, this should not preclude the placement of such an SDF category in the future, nor the demarcation of Contractual Conservation Areas on a land use change level in the future. SPC C.a.1 may be seen as ideal areas for such future demarcation and development.	
B.a.2.	<u>Private Conservation Areas:</u> Areas zoned as private open space zone II in terms of the Scheme Regulations made in terms of §8 of the Land Use Planning Ordinance 15 of 1985 (LUPO), for the primary use of conservation. Also areas unofficially designated and managed for conservation purposes by the relevant land owner. At such time as a new Land Use Management System(LUMS) is established for the !Kheis Municipality, the SPC will pertain to such a zoning as is allocated in such a LUMS for the purpose conservation by the private land owner.	

3 For the purpose of the Convention Concerning the Protection of the World Cultural and Natural Heritage, the following shall be considered as 'cultural heritage': monuments, architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science, groups of buildings, groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science, sites, works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

4 For the purpose of the Convention Concerning the Protection of the World Cultural and Natural Heritage, the following shall be considered as 'natural heritage': natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view, geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation, natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

	<u>Decision-Making:</u> There are currently no classified Contractual Conservation Areas within the !Kheis Municipality which may be indicated in the SDF as such. However, this should not preclude the placement of such an SDF category in the future, nor the demarcation of Contractual Conservation Areas on a land use change level in the future. SPC C.a.1 may be seen as ideal areas for such future demarcation and development. However, since conservation should be encouraged, other SPCs and their potential should not be overseen in terms of placement of this kind of spatial category.
B.b.	Ecological Corridors Linkages between natural habitats or ecosystems that contribute to the connectivity of the latter and to the maintenance of associated natural processes. This SPC is quite prolific in the !Kheis Municipality and should be carefully managed by local government and environmental departments.
B.b.1.	<u>Freshwater Ecosystem Priority Areas (FEPAs) (designated in terms of the National Freshwater Ecosystem Priority Areas Project (NFEPAP) – See Section 11 of this document):</u> Pertains to identified FEPA Rivers and Wetlands identified in the NFEPAP and indicated in the SDF Spatial Vision Maps. <u>Decision-Making:</u> FEPA rivers are categorised in terms of the ecological classification system, as set out in Table 4 of this document. Where any development is to be considered within an area marked with this SPC (rivers indicated in a linear fashion and wetlands indicated as polygons), a generic buffer of 100m (measured from the outer bank of the river or wetland) will apply, and should the said development be within this generic buffer, the inputs from the relevant environmental department will be required. Such relevant environmental department will have to identify whether an environmental assessment will be required prior to a land use change being considered. Special mention is made of the Orange River, where the banks have been largely modified by agriculture. The generic buffer will apply to any new development within 100m of the banks of the river, which includes the riparian zone. Developments should be encouraged to stay clear from these areas or at least consider it in their site layouts.
B.b.2.	<u>Rivers or Riverbeds (in terms of NEMA 107 of 1998):</u> All other perennial or non-perennial rivers and wetlands not marked as FEPA's falls under this category. Since the large portions of the !Kheis Municipality is covered by fish support areas, the management of this category is no less important than B.b.1. albeit more relaxed. This SPC has been marked with a colour category where such areas are present within the urban edge of a settlement. Outside of the urban edge of settlements in !Kheis, the provisions of this SPC will apply to any visible river or stream where a development is considered, e.g. in the case of renewable energy developments. <u>Decision-Making:</u> A generic 32m buffer, as described in in the listing notices of the Environmental Impact Assessment Regulations (2010), will apply to any development considered within the said generic buffer. Should a development proposal be made in such an area, the relevant environmental department should be contacted for inputs and to indicate whether they will require any environmental assessment. Developments should be encouraged to stay clear from these areas or at least consider it in their site layouts.
B.b.3.	<u>Other Natural Areas:</u> This SPC applies where streamflow can be expected within urban areas, but where such stream flow is not considered as being a FEPA River or within the B.b.2. category. Such areas should be left open and considered when a development is done across them, but may be landscaped as part of the urban fabric of a settlement, e.g. as public parks. <u>Decision-Making:</u> If a development is considered across an area that is covered with this category, it should be clearly evaluated if such a development will allow for the free flow of water where this SPC is indicated, but the modification of such a stream is not excluded. These areas may therefore be transformed to the category of B.c. through development.

B.c.	Urban Green Areas	Municipal open spaces, including playgrounds, which form an integral part of the urban structure and includes both private and public open spaces.
B.c.1.	<u>Public Park:</u>	All open areas which have been registered as public open space at the Chief Surveyor General's office. Should preferably be zoned appropriately as per the current scheme of the local authority and may never be used for any other purpose than a park as public amenity.
	<u>Decision-Making:</u>	Very few public parks currently exist within the municipality and it will be of critical importance that, in future neighbourhood developments, more such spaces be created. Where a land units is marked with this SPC and/or registered at the Chief Surveyor General's office, it may be developed for no other purpose than a park, unless the park has been closed through due process at the SG Office. The closure of parks are however highly discouraged and local authorities should be careful to sacrifice such areas in favour of development. Notably, the closure of any park exceeding 1000m ² requires an environmental assessment. In new neighbourhoods being developed (see residential SPCs) the CSIR Guidelines for Human Settlement Planning and Design (Volume 2) should be considered.
B.c.2.	<u>Landscape Areas:</u>	Landscape areas are areas where the potential for aesthetic improvement exists, but where such areas are not necessarily registered as parks. In the instance of !Kheis, the edge between the national and provincial urban settlements proved a great opportunity for aesthetic improvement.
	<u>Decision Making:</u>	Where this SPC apply and a development proposal is made, beautification and green space should form part of the development area impacted by this SPC. This will have to be indicated on a site development plan and enforced on a building plan approval level by the local authority. This principle will apply to all development proposals.

12.1.3. Category C: Agricultural Areas

C.a.	Agricultural Areas	Agricultural areas where agricultural activities are practiced.
C.a.1	<u>General Agriculture:</u>	a. Extensive agricultural areas covered with natural vegetation, used for extensive agricultural purposes, including indigenous plant harvesting, extensive stock farming, game farming and eco-tourism. b. Intensive agricultural areas for uses such as crop cultivation, vineyards, intensive stock farming on pastures. c. Grazing on town commonage. d. Plantations and woodlots where trees are cultivated for exploitation purposes.
	<u>Decision Making:</u>	This SPC covers the largest part of the !Kheis municipal area and contributes to the agricultural economy of the municipality. The protection of intensive agricultural areas, as is found on the banks of the Orange River, should enjoy critical protection from the pressures of urban development. Urban development on any area indicated as C.a.2. should immediately prompt the decision-making authority to request the inputs from the following departments or parastatals, namely: a. Department of Agriculture Forestry and Fisheries (DAFF), except where it may be proven that the involved land unit for development has been excluded from the provisions of Act 70 of 1970. b. Department of Environmental Affairs (DEA) to indicate if the development triggered a listed activity in accordance with NEMA. c. Department of Roads and Public Works (DRPW) stipulation 'No-Objection' regarding the development, access and prescribed building lines, if the property borders or makes use of a road in the jurisdiction of the said department. d. South African National Road Agency Limited (SANRAL) stipulation 'No-Objection' regarding the development, access and prescribed building lines, if the property borders or makes use of a road in the jurisdiction of the said parastatal.

	Urban development on any non-urban SPC should be excluded where such a development is outside of the urban edge, whereas the following SPCs are seen as being both potentially urban and non-urban: C.a.2. Agricultural Industry D.n. Cemeteries D.p. Airport and Infrastructure D.q. Resorts & Tourism Related Areas E.d. Heavy Industry E.e. Extractive Industry F. Surface Infrastructure Special land uses not clearly identified in the land use scheme C.a.1. May also be transformed to any land use within the A.a. and B.a. SPC's, subject to correct land use procedures being followed.
C.a.2.	<u>Agricultural Industry:</u> Agriculture-related industrial development, including uses such as silos, wine cellars, packing facilities (including raisins, fruit, nuts and other perishable agricultural produce), but excluding abattoirs and normal industrial uses. <u>Decision-making:</u> As mentioned under C.a.1. this category may be considered in area marked as C.a.1. subject to all formal land use changes being followed. Where such a land use is considered the decision-making authority should immediately request the inputs from the following departments or parastatals, namely: - Department of Agriculture Forestry and Fisheries (DAFF), except where it may be proven that the involved land unit for development has been excluded from the provisions of Act 70 of 1970. - Department of Environmental Affairs (DEA) to indicate if the development triggered a listed activity in accordance with NEMA. - Department of Roads and Public Works (DRPW) stipulation 'No-Objection' regarding the development, access and prescribed building lines, if the property borders or makes use of a road in the jurisdiction of the said department. - South African National Road Agency Limited (SANRAL) stipulation 'No-Objection' regarding the development, access and prescribed building lines, if the property borders or makes use of a road in the jurisdiction of the said parastatal.

12.1.4. Category D: Urban Areas

12.1.4.1. Town Typology

D.a	Main Town	Towns accommodating Category A Municipalities (i.e. metropolitan areas) and the seat (capital town) of Category C Municipalities (District Municipalities). (No such towns in !Kheis)
D.b.	Local Town	Towns accommodating the seat (capital town) of Category B Municipalities (Local Municipalities). (Groblershoop)
D.c.	Rural Settlements	Smaller towns and rural settlements that fall under the jurisdiction of Category B Municipalities (i.e. towns and rural settlements forming part of a Local Municipality). (Grootdrink, Gariep, Topline, Wegdraai, Opwag, Boegoeberg)
D.d.	Tribal Authority Settlements	Formal and informal residential areas under the ownership of tribal authorities. (No such areas in !Kheis)
D.e.	Communal Settlements	Settlements that have been planned, classified and subdivided in terms of the former Rural Areas Act 9 of 1987 and which, in terms of the Transformation of Certain Rural Areas Act 94 of 1998, can be transferred to a legal entity of the community's choice. (No such settlements in !Kheis)

12.1.4.2. Urban Spatial Planning Categories

D.f.	Institutional Areas	Areas designated for schools, colleges, churches, mosques, detention facilities etc.
D.f.1.	<u>Place of Instruction:</u> This SPC covers all places of education, albeit by private or public incentive. Specifications may be found under Institutional Zone I, as per §8 of LUPO, and should be considered in the development of any new LUMS in terms of this SPC.	
	<u>Decision-Making:</u> In the spatial vision, this SPC has been marked where it was found that such facilities were already developed at the time of the publishing of this document. This does not however preclude its placement in the future in other areas where it is deemed appropriate. This land use should be considered for placement in new neighbourhood developments in terms of the CSIR Guidelines for Human Settlement Planning and Design (Volume 2). In the light thereof, this SPC may also be considered in areas marked under the following categories of the spatial vision: C.a.1. Specifically where the development of farm school or agricultural academy are planned. D.h. Educational facilities may be included in any residential development as a public amenity.	
D.f.2.	<u>Place of Worship:</u> This SPC covers all places of worship, albeit by private or public incentive. Specifications may be found under Institutional Zone II, as per §8 of LUPO, and should be considered in the development of any new LUMS in terms of this SPC.	
	<u>Decision-Making:</u> In the spatial vision, this SPC has been marked where it was found that such facilities were already developed at the time of the publishing of this document. This does not however preclude its placement in the future in other areas where it is deemed appropriate. This land use should be considered for placement in new neighbourhood developments in terms of the CSIR Guidelines for Human Settlement Planning and Design (Volume 2). In the light thereof, this SPC may also be considered in areas marked under the following categories of the spatial vision: D.h. Worshipping facilities may be included in any residential development as a public amenity.	
D.f.3.	<u>Institution:</u> This SPC covers all institutions and may include hospitals, places of detention, welfare facilities etc. albeit by private or public incentive. Specifications may be found under Institutional Zone III, as per §8 of LUPO, and should be considered in the development of any new LUMS in terms of this SPC.	
	<u>Decision-Making:</u> No such facilities were found in the municipality at the time of the publication of this document. This does not however preclude its placement in the future in other areas where it is deemed appropriate. This land use should be considered for placement in new neighbourhood developments in terms of the CSIR Guidelines for Human Settlement Planning and Design (Volume 2). In the light thereof, this SPC may also be considered in areas marked under the following categories of the spatial vision: D.h. Facilities for an institute may be included in any residential development as a public amenity. A development that falls under this SPC may be placed at any appropriate location within the urban edge of a settlement. It may also be considered outside of the urban edge, but only subject to highly site-specific circumstances. Institutions which may be considered outside of the urban edge includes mental health facilities and places of detention, as these are generally not favoured as integrated into community neighbourhoods.	

D.g.	Authority Areas	Areas designated for government uses, parastatals such as Telkom and Eskom, municipal uses such as offices, clinics, community centres etc. This SPC covers specifications which may be found under Authority Zones I & II, as per §8 of LUPO, and should be considered in the development of any new LUMS in terms of this SPC. Developments which may be categorised as being authoritative in nature, may also be considered in areas marked as D.i. as they are often supplementary to business areas. Decision-Making: In the spatial vision, this SPC has been marked where it was found that such facilities were already developed at the time of the publishing of this document. This does not however preclude its placement in the future in other areas where it is deemed appropriate. This land use should be considered for placement in new neighbourhood developments in terms of the CSIR Guidelines for Human Settlement Planning and Design (Volume 2). In the light thereof, this SPC may also be considered in any location within the urban edge of a settlement, but highly appropriate and favoured in areas marked as: D.i. Business Areas Central Business Districts Corridors Nodes This specific land use can be place outside of urban areas if the need to service a community exist and can be clearly motivated to the decision-making authority.
D.h.	Residential Areas	Areas designated for residential purposes, e.g. single title erven, group housing, informal settlements, group housing, flats, accommodation facilities etc. Where an area is marked as such, without any sub-category specification, any of the below sub-categories may be considered for land development.
D.h.1.		Single Residential House: General low density housing areas in a typical individual title format. May include an additional housing unit and other secondary uses, subject to the correct land use procedures being followed to allow it. Decision-Making: This SPC is intended for typical low density housing in the economic and GAP housing categories, where in the latter case, smaller erven is designed to increase affordability to housing market entrants. This SPC does however not preclude other housing typologies and in layout planning, as a mix of typologies should be encouraged where possible. Furthermore, greenfield areas marked with this SPC does not imply a homogenous neighbourhood limited to residency and may also include other uses, which may be seen as complementary to such a neighbourhood. E.g. clinics, places of instruction, places of worship, neighbourhood shops etc. This will be at the discretion of the municipality, as well as the decision-making authority where layout planning is concerned. Where this SPC is applied across existing properties, other land use categories should however not be promoted, unless sufficiently motivated in terms of site-specific circumstances that exist. Where such developments are considered on greenfield-sites, such developments should only be considered where all legal conditions are met and may generally include (except where specifically exempted), but is not limited to: - Environmental Impact Assessment; - Geotechnical Report; - Service Availability Report.

D.h.2.	<u>Group Housing:</u> Typical town-house development at a medium density of 30du/ha, in the form of loose-standing or duet units. This housing typology may also take the form of row housing. Such developments may take the form of secure complexes, or may be integrated in a layout with each land unit enjoying access to a public road. This SPC is also ideal for the development of a town-house format retirement village. May include some secondary uses, subject to the correct land use procedures being followed. <u>Decision-making:</u> This SPC is designed to accommodate group housing, and in the light of mixed housing typologies, may be integrated into any new residential development. Certain considerations should however be applied in making a decision on such development proposals: - Where a group housing development is considered in the enclosed format, the site should be at least 3500m² in size. - Where a group housing development is considered in the enclosed format, the site should not have a dimension rating less than 1:2.5. - Where a group housing development is considered in the enclosed format, the internal roads of the development may not be zoned a zoning which enshrines public access as this will preclude access control to the development. An appropriate zoning for private roads must be found. - A minimum of 10 units must be built. - Group housing will not be considered where the service infrastructure of an area cannot accommodate such housing densities. Any such development application would have to be coupled with a statement from the local authority that services are available for such a development.
D.h.3.	<u>Flats:</u> A SPC for the accommodation of higher density housing development, which may also cater for the GAP market. <u>Decision-Making:</u> In the interest of mixed housing typologies being promoted, this SPC may be incorporated in any new residential layout, but will not be considered where an existing development (as per the spatial vision maps) is marked for another residential SPC. Considerations for decision-making on applications in this SPC: - Flat development should be welcomed coupled with businesses, in central business districts and nodes, as this encourages housing opportunity in proximity to employment opportunity. - Flats will not be considered in areas marked for other housing typologies in existing residential neighbourhoods, unless various erven is consolidated to a suitable size for such a development. - Flats may not be loose-standing. - The appropriate property size for flat development is at least 1000m² with at least 5 flats being developed, except in the CBD's and nodes.
D.h.4.	<u>Accommodation Facilities:</u> This SPC is specifically intended for the development of guesthouses, hotels, motels etc. all with the intention of catering to the hospitality industry and short-term accommodation of visitors to the region.
	<u>Decision-Making:</u> This SPC allows for a broad category of hospitality developments, but are mainly focussed on guest houses as part of the tourism industry that should be promoted in the municipality. The D.h.4. category can be considered across any of the areas marked as D.h. within the spatial vision, as per the discretion of the local and decision-making authority, but especially promoted in areas set out as the hospitality zone and/or within areas marked for business (as a complementary use until such time as the business area develops to its full-fledged potential). Where this category of development is proposed, a site development plan should be a non-negotiable part of the application, with a clear indication of how parking requirements will be met. The technical department of the local authority would also need to confirm that services are sufficient to accommodate the development. This SPC also allows for the development of a hotel and conference facilities. The same principles apply as above.

	Please also refer to the section on urban structuring elements: Hospitality Zone.	
D.h.5.	<u>Low-Cost Housing:</u> Low-cost housing areas are clearly covered in the spatial vision and is indicated where low cost housing already exists, as well as where new developments of this sort is proposed. This SPC covers housing developments in the following categories as per the Housing Sector Plan: a) Subsidised Housing. b) GAP Housing / FLISP Housing. c) Affordable Housing.	
	<u>Decision-Making:</u> Developments of this type may be considered on greenfield areas where this SPC is indicated in the spatial vision, or under any D.h. marked area. Such developments should aim to achieve the objection of integration between previously segregated communities, but cannot be considered outside of the marked urban edges within the spatial vision. Such developments should also only be considered where all legal conditions are met and may generally include (except where specifically exempted), but is not limited to: a) Environmental Impact Assessment. b) Geotechnical Report. c) Service Availability Report. This SPC does however not preclude other housing typologies and in layout planning, it a mix of typologies should be encouraged where possible. Furthermore, greenfield areas marked with this SPC does not imply a homogenous neighbourhood limited to residency and may also include other uses which may be seen as complementary to such a neighbourhood. E.g. clinics, places of instruction, places of worship, neighbourhood shops etc. This will be at the discretion of the municipality, as well as the decision-making authority where layout planning is concerned.	
D.h.6.	<u>Informal Housing:</u> Informal housing is an unfortunate symptom of the housing shortage in South Africa and in the municipality. This SPC does not, within the spatial vision, mark areas where informal settlement should be encouraged. It marks areas where informal housing exist and where upgrading should become a key priority.	
	<u>Decision-Making:</u> Areas marked with this SPC should be formalised to the D.h.5. category, through due legal planning processes to ensure security of tenure to such communities. As per the housing sector plan, the establishment of informal housing areas should be discouraged, but it is understood that this can only be achieved through the provision of formal housing. Where informal housing has been established in areas deemed as unsuitable for human settlement, e.g. within storm water furrows, on unstable soil and within other risk areas, the only measure would be to relocate such residents to formalised areas. In extreme cases, where no other option exist than for people to settle informally, designated areas for such settlement must be identified by the local authority where future upgrading is possible. The invasion of private land is to be considered as totally unacceptable in the interest of the equal protection of the rights of all residents of the !Kheis Municipality.	
D.i.	Business Areas	Areas associated for activities associated with retail and service industries and may include: Sites and buildings, or part thereof used as, or intended to be used as supermarket, shops and/or offices and it includes hotels, licensed hotels, accommodation facilities, flats above ground level, bottle stores, taverns, restaurants, a laundrette, dry-cleaners, arcade games centre, undertakers, place of worship, financial institutions, professional offices, places of assembly, doctors' consulting rooms, stock or product exchanges, conference facilities, authority uses, put-put course and buildings for similar uses.

		Places of entertainment, a casino, adult entertainment, institutional buildings, funeral parlours, service stations, repairing or fitment functions, industrial buildings, offensive industry or any large wholesale business may be considered but only through extensive public participation and the discretion of the local and decision-making authority. Decision-Making: Developments in this planning category should not be considered outside of areas designated for this use (with the exception of nodes and corridors, which have specified policies) in the spatial vision, as these areas have been specifically set out to encourage the development of cohesive settlement structures. Please also refer to the section on urban structuring elements: Central Business District, Corridors & Nodes. Note: Business uses have been identified in certain areas through the SDF process, which do not fall in line with the demarcation of nodes, corridors and CBD's – these areas have been marked for continued business development, but do not remove the responsibility of formalisation through due legal process.
D.m.	Mixed Use Development Areas	Areas designated for innovative combinations of land uses, e.g. residential/business, light industry/business (in terms of various municipal zonings). Decision-Making: Development proposals fitting to this SPC may only be considered within areas earmarked as such within the spatial vision, as well as, with special consideration in areas marked D.i. This type of development will strictly be considered in terms of a defined site development plan.
D.n.	Cemeteries	Cemeteries and formal burial parks, but excluding crematoriums. Decision-Making: Within the spatial vision, this SPC is only indicated where such a use was found during the land use survey that accompanied this SDF process. No means exist to pre-identify particular locations for this type of development, as it is subject to strict environmental process and scrutiny. In the light of this, developments falling under this SPC may be considered across all SPCs indicated in the spatial vision, but strictly subject to all legal processes being followed.
D.o.	Sports Fields & Infrastructure	Dedicated sports fields together with associated infrastructure, parking areas and services. Decision-Making: This SPC has been indicated in the spatial vision where such uses has been identified as currently existing during the land use survey that was done as part of this SDF process. This does however not preclude the placement of this use in any area within the urban edge on any other SPC, complementary to existing and future neighbourhood developments as public amenity. This development type may also be considered within the 1000m² WWTW risk zone, but only on the outer edge of this zone.
D.p.	Airport and Infrastructure	Areas designated for an airport, together with the infrastructure and services associated with the airport and its activities. May be considered outside of the urban edge.
D.q	Resorts and Tourism Related Areas	Resorts and tourism related developments and amenities, which may be located both within and without the urban edge.

12.1.5. Category E: Industrial Areas

E.c.	Light Industry	Areas designated for light industrial activities associated with the service industry, including warehouses and service stations. <u>Decision-Making:</u> Specific areas have been indicated with this SPC within the spatial vision with the intent of focussing industrial growth within Groblershoop as economic core area within the municipality. This type of development should only be considered within the urban edge and where indicated as such. This type of development will also be considered if it can be proven that environmental legislation has been considered, as well as the availability of services. Site-specific circumstances may allow for such developments to be considered outside of the urban edge, but only in extreme circumstance, with sufficient motivation and under the strict scrutiny of the local authority and the decision-making authority.
E.d.	Heavy Industry	Areas designated for robust industrial activities such as chemical works, breweries, manure, processing of hides, abattoirs, stone crushing, crematoriums etc. <u>Decision-Making:</u> This SPC has been indicated in the spatial vision, only where such developments were found during the land use survey conducted during this SDF process. This type of development may be considered in the areas earmarked as E.c. but subject to strict scrutiny of the local and decision-making authority, as well as compliance to all relevant legislation. Due to the fact that noxious industries are subject to strict environmental factors, noise impacts, smells and potential hazardous waste, such development may be considered outside of the urban edge, but only where such site and use specific circumstances can be proven and services sustainably delivered.
E.e.	Extractive Industry	Uses associated with multiple forms of consumptive resource extraction, such as mining. <u>Decision-Making:</u> This SPC is not currently found as marked within the spatial vision, but due to the unique and prolific nature of this type of development, the decision-making parameters need to be included here. Extractive industry cannot, by any means, be considered within the urban edge of a settlement. Furthermore, such a development can only be considered where the developer can prove that prospecting and/or mining rights have been approved. Note that where land has been granted a permit for mining and/or prospecting, proof of Environmental Authorisation does not need to be provided as the process for acquiring such permits already includes environmental studies.

12.1.6. Category F: Surface Infrastructure

ALL F Categories are allowed outside and within the urban edge.

F.a.	National Roads	National roads proclaimed in terms of the National Roads Act, 7 of 1998.
F.c	Minor Roads	Provincial and regional roads proclaimed in terms of the Roads Ordinance, 19 of 1976.
F.d.	Public Streets	Public streets and parking areas within towns and rural settlements.
F.f.	Railway Lines	Railway lines and associated infrastructure.
F.g.	Power Lines & Associated Infrastructure	Power lines and associated sub-stations and infrastructure.
F.h.	Telecommunications Infrastructure	Any part of the infrastructure of a telecommunication network for radio/wireless communication, including voice, data and video telecommunications, which may include antennae, any support structure, equipment room, radio equipment and optical communications equipment provided by cellular network operators or any other telecommunication provider and all ancillary structures needed for the operation of telecommunication infrastructure. Where this type of land use is considered within the urban edge, a clear indication must be provided of what the infrastructure would look like and what measures would be taken to minimise visual impact. This does not by default imply that a visual impact assessment must be undertaken.
F.i.	Renewable Energy Structures	Any wind turbine or solar voltaic or CSP structure or apparatus, or grouping thereof, which captures and converts wind or solar radiation into energy for commercial gain irrespective of whether it feeds into an electricity grid or not. It includes any appurtenant structure or any test facility which may lead to the generation of electricity on a commercial basis. Where such a use is considered, no housing will be allowed as part of the development and housing needs will have to be accommodated within a proximal urban settlement. Developments of this nature should be promoted within the REDZ's within the !Kheis Municipality – Please refer to Policy 2.
F.j.	Dams & Reservoirs	All structures pertaining to the capture and storage of water.
F.j.1.	<u>Minor Dams & Reservoirs:</u> Smaller water storage facilities which generally includes water pressure towers and reservoirs.	
F.j.2.	<u>Major Dams & Reservoirs:</u> Larger water storage facilities which generally include large dams in catchment areas, and includes large man-made dams forming part of irrigation and water infrastructure projects.	
F.k.	Canals	All canals concerned with the transport of water, excluding natural systems.
F.l.	Sewerage Plants & Refuse Areas	All areas concerned with the disposal of human waste and associated infrastructure. This SPC has only been indicated where such infrastructure exist, but does not exclude future placement, regardless of the urban edge, where all legislation and environmental concerns are considered.
Proposal	These areas are indicated where no specific SPCs are proposed and where consideration will be open to any development proposal brought before the local authority. The decision-making in such an area will always be at the discretion of the local and decision-making authority and/or any other legislative body involved and should generally be subject to the provision of a site development plan as part of the application.	

12.2. Details of structuring elements

The following section of the SDF Amendment will introduce the basic structuring elements of all urban settlements, which in turn will inform policy and strategy within the !Kheis Municipality Spatial Vision (see SVP maps as part of this discussion).

In the Northern Cape Provincial SDF (NCPsDF 2012), the purpose of spatial structuring elements are to be used by all stakeholders to shape the individual towns within the Municipality, into settlements that are sustainable and where a high quality of life for the residents is ensured. The key function of the structuring elements are:

- a) Containment of urban sprawl as the mentioned Urban Sprawl implies a higher per capita cost of providing essential services and a loss of valuable agricultural land.
- b) Promotion of urban and social integration by creating compact urban areas, ensuring accessibility to economic, social and recreational opportunities.
- c) Promotion of acceptable higher densities and ultimate utilisation of land within the Urban Edge.
- d) The creation of quality urban environments through urban renewal and landscaping. Priority should be given to the conservation and reuse of buildings, infrastructure and material, as well as the beautification of the urban environment through intensive landscaping.
- e) Reduction of the need for traffic movement and the promotion of pedestrian and non-motorised movement patterns.
- f) Restoration and maintenance of a defined sense of place. Urban areas should reflect the culture-historical character of the area and its people.
- g) Alleviation of poverty and inequality.
- h) Protection and enhancement of properties and investment by preventing inappropriate development or land uses in proximity of one-another, as well as promoting the renewal and upgrading of existing developments that detract from the overall value and integrity of an area.
- i) Enhancing and simplifying decision-making regarding development applications.

This section may be read together with the provisions of spatial structuring elements which may be found in Chapter 7, Section 1 of the 2014 KLM SDF. Some of the structures and policies of the 2014 KLM SDF will be repeated here, as they remain significant in this SDF amendment. The following urban structuring elements are found in the !Kheis SDF Amendment 2016 spatial vision:

12.2.1. Urban Edge

The urban edge is the demarcated outer boundary within which urban expansion can be developed over a defined period of time. Unregulated urban development beyond the urban edge has the following negative impacts:

- a) It results in a settlement pattern that has neither urban, nor rural advantages.
- b) In terms of infrastructure provision, such developments become expensive to service.
- c) Natural environments and high-value agricultural land is compromised.
- d) Development sprawling beyond the urban edge increased the need for transport and consequently, increased energy consumption.

Within the spatial vision, the urban edge is defined as a dotted red line around existing settlements. The urban edge has been defined in such a way to calculate the need for land to accommodate the estimated need for housing provision until 2030, as found in Section 10.1 of this document. In considering the SPC's categories, it will be found that certain uses, by their very nature, are acceptable for placement outside of the urban edge. Examples may be cemeteries, landfill sites, infrastructure, agriculture etc. The placement also considered limitations for public housing development on private land, but also opportunities for development on privately held land.



Figure 5: Example of the urban edge of Wegdraai.

12.2.2.Nodes

As per the NCPSTF, the inter-relationship of settlements or nodes should be recognised and understood. Nodes exist on various levels and will be explained here within the context of the !Kheis spatial vision:

12.2.2.1. Groblershoop as node:

Groblershoop acts as the main town of significance, economic activity, social services and economic opportunity within the !Kheis Municipality. The town may therefore be described as the municipal node of !Kheis, where investment may be concentrated to the benefit of the larger municipality and other settlements (as satellite towns) within the municipality.

The 2014 KLM SDF proposes the following development guidelines for Groblershoop as a municipal node, which will still be upheld in the context of this SDF Amendment:

“Develop Groblershoop into an attractive ‘Kalahari Village’ and regional node for beneficiation of local produce, storage and distribution point for products from the area and raw material to be beneficiated further, coming into the area.” (!Kheis SDF, 2014)

12.2.2.2. Central Business Districts (CBD):

Within all of the towns in the Municipality, there are areas where business development should be stimulated and which may develop into the core business area of each town. These areas should develop in terms of their accessible and central nature to the rest of the settlement, serving as the core economic area of each.

These areas are ideal for the consideration of high impact/ higher order land uses which may not be ideal in any other location, such as bottle stores and places of entertainment.



Figure 6: Example of the central business district around the settlement of Groblershoop.

12.2.2.3. Business nodes:

These nodes are areas of high business potential due to locational factors, but which are found outside of the CBD's of settlements. The locational factors generally include high visibility, high accessibility and strategic locations at road intersections. Higher impact/higher order business developments may still be considered in these areas.



Figure 7: Example of a business node in Groblershoop.

12.2.2.4. Neighbourhood Nodes:

Neighbourhood nodes are identified in areas where, during a survey of the existing land use patterns in the individual settlements, it was found that their natural development has led to clusters of community amenity and business opportunity. In many cases it has been found that these natural clusters included some high impact uses, specifically taverns. Such developments were marked for continued business development as they are found on-site, but the future expansion of these type of developments within the neighbourhood node should be restricted and discouraged.



Figure 8: The relation & location of a neighbourhood node to the CBD of Grootdrink.

12.2.3. Corridors

Corridors take various forms, but the scale of what is found in the !Kheis Municipality is limited to two variations, namely what is described in the NCPSTDF as a General Business Corridor and an Activity Street. These are described as follows;

12.2.3.1. General Business Corridor:

These are medium to high density business orientated development areas, abutting either side of a primary transport route. Secondary land uses, compatible with business-oriented developments, i.e. higher density residential uses, may also be considered in these specific areas. Please refer to SPC's D.i. for detail in this regard.

In the case of !Kheis, such a corridor is only found in Groblershoop and is actually contained within the proposed CBD of the town. Be that as it is, it is important to acknowledge the linear development of the CBD in a corridor format along the N10 as national linkage.

12.2.3.2. Activity Streets:

As per the NCPSTDF an activity street is a local road that displays the same linearity and mixed use development at a lower level of intensity and market threshold. It attracts enough passing trade (predominantly pedestrian in the case of !Kheis settlements) to provide viable opportunities for local business and community facilities.

This type of structural element has also been identified by looking at the existing movement patterns and land uses during a site visit to each settlement. It was found that this pattern predominantly exhibits itself along main movement routes in most settlements, with the exceptions being Topline, Gariep and Opwag.



Figure 9: An activity street forming along the main road of the Sternham neighbourhood of Groblershoop.

12.2.4. Other Structuring Elements

12.2.4.1. WWTW Risk Zones:

These areas pertain to the risk area radius around waste water treatment works in the Municipality. The risk zones play quite a significant role in the spatial vision as, in many cases, the WWTW's are placed in such close proximity to the town that future urban growth patterns are severely affected.



Figure 10: Impact of the WWTW risk zone on the Boegoeberg settlement.

12.2.4.2. Hospitality Zone:

The hospitality zone plays a similar role to the concept of a hospitality corridor, as defined in the NCPSTF, namely: Areas where low to medium density community-based hospitality initiatives and projects are promoted and implemented. However, in the case of this spatial vision, the hospitality zone takes the form of a cluster surrounding the Groblershoop CBD.



Figure 11: The hospitality zone in Groblershoop.

13. SETTLEMENT SPATIAL VISION MAPS (ALL SETTLEMENTS)

This section of the SDF Amendment includes the spatial vision proposal for each of the individual settlements in the !Kheis Municipality. This will provide a visual representation of growth areas in the settlements and their future urban structure. It is the main concern of this SDF Amendment to provide this section as guidance in decision-making on land development applications that are submitted to the local and decision-making authority.

Care has been taken to provide a succinct spatial vision for each settlement that aims to achieve urban coherence, sustainable development and community structures, as well as considering the future land need for housing developments; especially in the affordable and subsidised market.

The communities with defined urban structures and the most detail SPC's are as follows:

- Boegoeberg
- Groblershoop
- Wegdraai
- Topline
- Grootdrink
- Gariep

The community of Opwag is also considered in this section, but it should be noted that this town should be formalised on land made available to them. Therefore, the guidance for urban structure in terms of the SDF is extremely limited and should eventually be guided by town planning layout principles and public participation guided by the land use change process and the applicable by-laws and LUMS.

Furthermore, it should be noted that the Key Spatial Challenges, as found in section 6.5.2 – 6.5.6 of the 2014 KLM SDF, still remains as guiding factors.

Here follows a descriptive vision for the individual towns (A3 maps included as Annexure A for more detail):

13.1. Boegoeberg

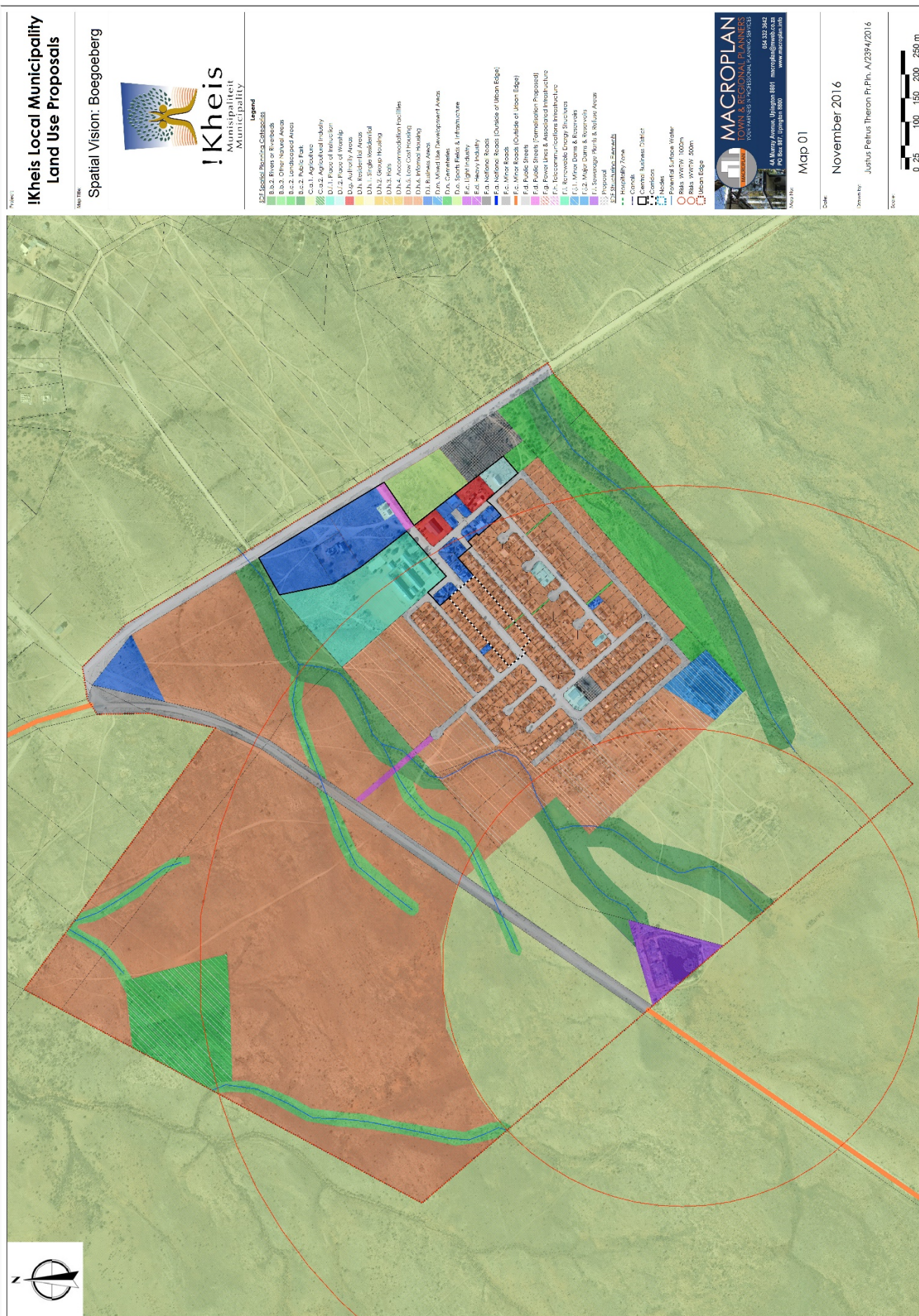


Figure 12: Boegoeberg Spatial Vision - Map 01

13.1.1.Key Spatial Challenges

The following spatial challenges have been identified in the 2014 KLM SDF, through the process of community participation at the time, and has been reiterated in the public participation of the SDF Amendment process of 2016:

- a) Low quality of health services.
- b) Lack of shopping facilities.
- c) Lack of a secondary school.
- d) Lack of a dedicated centre for senior citizens.
- e) Lack of recreational and sport facilities.
- f) Inadequate housing.
- g) Lack of land for housing and farming.
- h) Lack of street lighting.
- i) Water channels pose a danger for children.
- j) Lack of land for crèches.

These challenges can mostly be addressed through the restructuring of the town by the implementation of the spatial vision. However, although space may be provided for the needed facilities, it remains important that funding be acquired for the actual provision of the infrastructure and must be taken into consideration in the IDP process.

13.1.2.Spatial Vision Description & Settlement Specific Policy

The spatial vision maps of the various settlements are in themselves self-explanatory, as well as guiding in terms of decision-making according to the placement of SPC's. However, it remains important that envisioned urban structure of the towns are explained shortly. Here follows a pointed list describing the vision for the Boegoeberg settlement:

- a) The urban edge has been drawn with a regard for the calculated potential need for housing land up to 2030, as discussed under §10 of this document.
- b) The urban edge, different than in the case of other towns, is limited due to the lack of available public land around the settlement. Private land is mostly used for agriculture and this trend is expected to continue.
- c) Due to the lack of public land, the only potential direction for future expansion, considering the difficulty in acquiring private land for commonage, is towards the north and north-west.
- d) Land development should be limited to the southern side of the provincial road, until development options has been exhausted on this section. Only then should development across the northern side of this road be allowed.
- e) Land towards the north-west is largely owned by provincial government and there would have to be negotiations between local and provincial government in acquiring this land for future urban development for the community.

- f) The waste water treatment works (WWTW) has been developed in close proximity to the town and affects urban growth on available land towards the south-west. Although the 1000m risk zone has already been developed in, no further development should be considered beyond the 500m risk zone. This includes the existing informal structures to be found within this radius.
- g) The formalised town is abutted by informal housing on its south-western and north-western built edge. The formalisation and servicing of these areas should be a key priority to the local authority, except where these areas are too close to the 500m risk zone. This will be determined through the NEMA process.
 -
- h) Many formalised properties in the town have not been transferred into the names of the people living on these properties. This should be addressed by the local authority in order to achieve the goal of security of tenure. Some layouts have also not been registered at the SG Office; this needs to be addressed.
- i) Development should steer clear of areas where storm water flow can be expected. These areas should form part of the open space system of the settlement and the municipality at large (MOSS).
- j) The entrance to the town from the north-east should be formalised as a formal road reserve.
- k) An informal entrance exist from the Provincial road on the north-western side of the town. This entrance should be formalised and upgraded to a safe and acceptable standard.
- l) Business opportunity exists at the intersection of roads at the northern-most section of town. This area should be set out for this purpose in future land developments.
- m) Business and community facilities should be clustered around the north-eastern entrance of the town, creating a structured central business district (CBD), as well as providing space for the community facility cluster envisioned in the 2014 KLM SDF. This area should include the development of upgraded health facilities and social amenity.
- n) An activity street should be promoted for low nuisance business developments, extending towards the south-west from the area of CBD development.
- o) Although this may be a long-term process, the need for grazing land on town commonage could be addressed by acquiring private land adjacent to the settlement.
- p) An informal sports field has been established at the north-eastern entrance to the settlement and should be considered for formalisation and upgrading. If this is not possible, the placement of such a development should be considered in the future northward expansion of the settlement.
- q) If space requirements cannot be met for the development of a committed gathering place for the elderly, a crèche, as well as other complementary amenities, such uses may also be considered in the northward expansion of town up to the provincial road. Placement options in the CBD should however be explored first.

These settlement specific policies should be considered in all land development applications and their public participation; read together with §12.1. on spatial planning categories and §14 on urban structuring policies.

13.2. Groblershoop

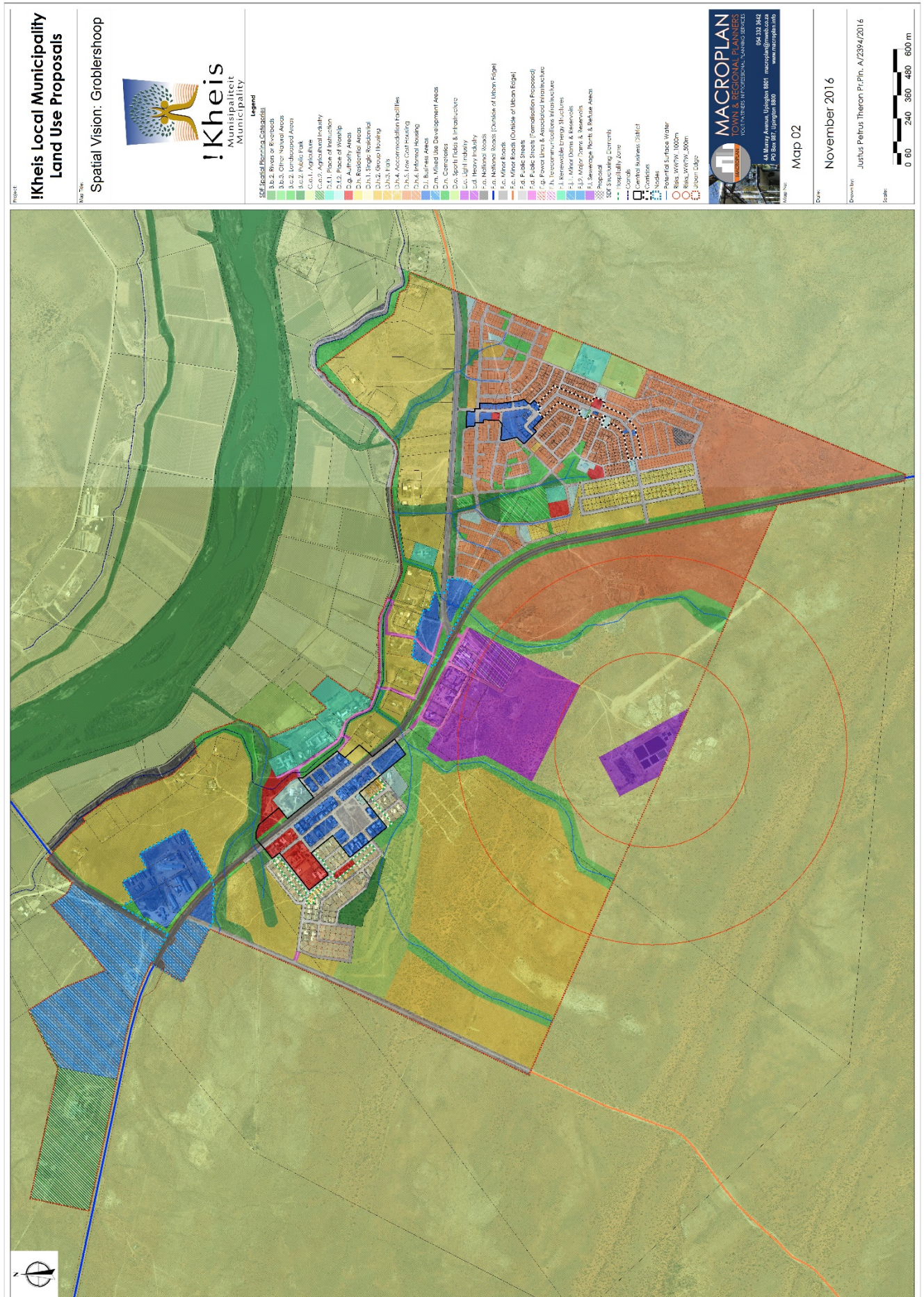


Figure 13: Groblershoop Spatial Vision - Map 02

13.2.1.Key Spatial Challenges

The following spatial challenges have been identified in the 2014 KLM SDF, through the process of community participation at the time, and has been reiterated in the public participation of the SDF Amendment process in 2016:

- a) High level of population growth.
- b) Unhygienic environment due to lack of refuse removal.
- c) Weak quality of roads.
- d) Lack of crèches and other community facilities.
- e) Lack of high mast lighting.
- f) No entertainment facilities for the youth.
- g) Lack of coherent structure to the location of public facilities.
- h) High level of informal dwellings.
- i) Lack of linkage between Groblershoop and Sternham.
- j) Non-optimization with the N10 interface.

These challenges can mostly be addressed through the restructuring of the town by the implementation of the spatial vision. However, although space may be provided for the needed facilities, it remains important that funding be acquired for the actual provision of the infrastructure.

13.2.2.Spatial Vision Description & Settlement Specific Policy

The spatial vision maps of the various settlements are in themselves self-explanatory, as well as guiding in terms of decision-making according to the placement of SPC's. However, it remains important that envisioned urban structure of the towns are explained shortly. Here follows a pointed list describing the vision for Groblershoop:

- a) The urban edge has been drawn with a regard for the calculated potential need for housing land up to 2030, as discussed under §10 of this document. Liberal space could however be given for long term urban expansion, due to available municipal land accommodating the high level of population growth.
- b) The town is bisected by the N10/N8 (national) and a provincial road, leading to Prieska, as well as Kimberley and Boegoeberg respectively, creating a high level of accessibility and visibility, ideal for business development.
- c) The town exhibits a strong CBD structure, but there is room for the strengthening of this main area of economic focus. Developed linearly along the N10, the CBD exhibits the same form as an activity corridor. Inward expansion around a central plaza is proposed.
- d) Municipal and social facilities are clustered around the north-western sections of the CBD and the continued development of this trend is foreseen.
- e) In an attempt to encourage tourism and hospitality development in a central area around the CBD, a hospitality zone is proposed on the fringe of the CBD.

- f) The town experiences strong nodal points of high business potential and business nodes are proposed at the N10/N8 intersection (to Kimberley and Upington), as well as the N10/Provincial Road intersection (to Boegoeberg and Prieska).
- g) A secondary CBD is developing at the northern entrance of the Sternham neighbourhood and it is proposed that the structured growth of this area be promoted.
- h) Integration is a key consideration in the spatial vision for Groblershoop and the previously segregated neighbourhoods should grow towards each other.
- i) The strategic apartheid planning has placed the WWTW between the segregated neighbourhoods, posing a barrier and a risk area to the above mentioned principle of integration. Private housing development to the north of the N10 and an enlarged industrial area to the south of the N10 seeks to rectify this. Long term relocation of the WWTW may be considered in the future.
- j) Storm water furrows and riverbeds should not be developed and will eventually form part of the town's open space system (MOSS).
- k) Mixed use development may be encouraged between the town and the Orange River Cellars, providing space for a creative mix of land uses, especially between commercial, agriculture industry and industrial uses.
- l) Corridor development is proposed along the through-route of Sternham, extending southward from the secondary CBD forming in the neighbourhood.
- m) Community facilities, as in the primary CBD, may be clustered around the secondary Sternham CBD. This should however not disallow the placement of amenities in new neighbourhood developments.
- n) The northern boundary of the town's urban edge is informed by the irrigation canal, protecting high value agricultural land located to the north of town on the banks of the Orange River.
- o) Roads toward the rural north, but within the urban edge, should be formalised, creating a sensible movement structure in this areas, creating viable opportunities for infill housing developments.
- p) The southern tip of the urban area proximal to Sternham, is burdened by illegal dumping. This must be resolved to free up land for future housing development. A municipal dumping site may be considered on municipal land outside of the urban edge.
- q) The upgrading of roads from gravel to paved must be explored in order to improve traffic movement, as well as the town's aesthetic interface.
- r) The open space that should be kept open as a barrier along the N10 creates a unique opportunity for beautification, tree planting and an improved pedestrian environment. Existing pedestrian routes may be improved through trees for shading, as well as items such as bins and seating. Bus/minibus stops may also be considered in partnership with roads authorities.
- s) A formal road linking the CBD with the industrial area in parallel to the N10 should also be considered, creating opportunity for increased access, as well as well as potential pedestrian links outside of the national road reserve.

These settlement specific policies should be considered in all land development applications, read together with §12.1. on spatial planning categories and §14 on urban structuring policies.

13.3. Wegdraai

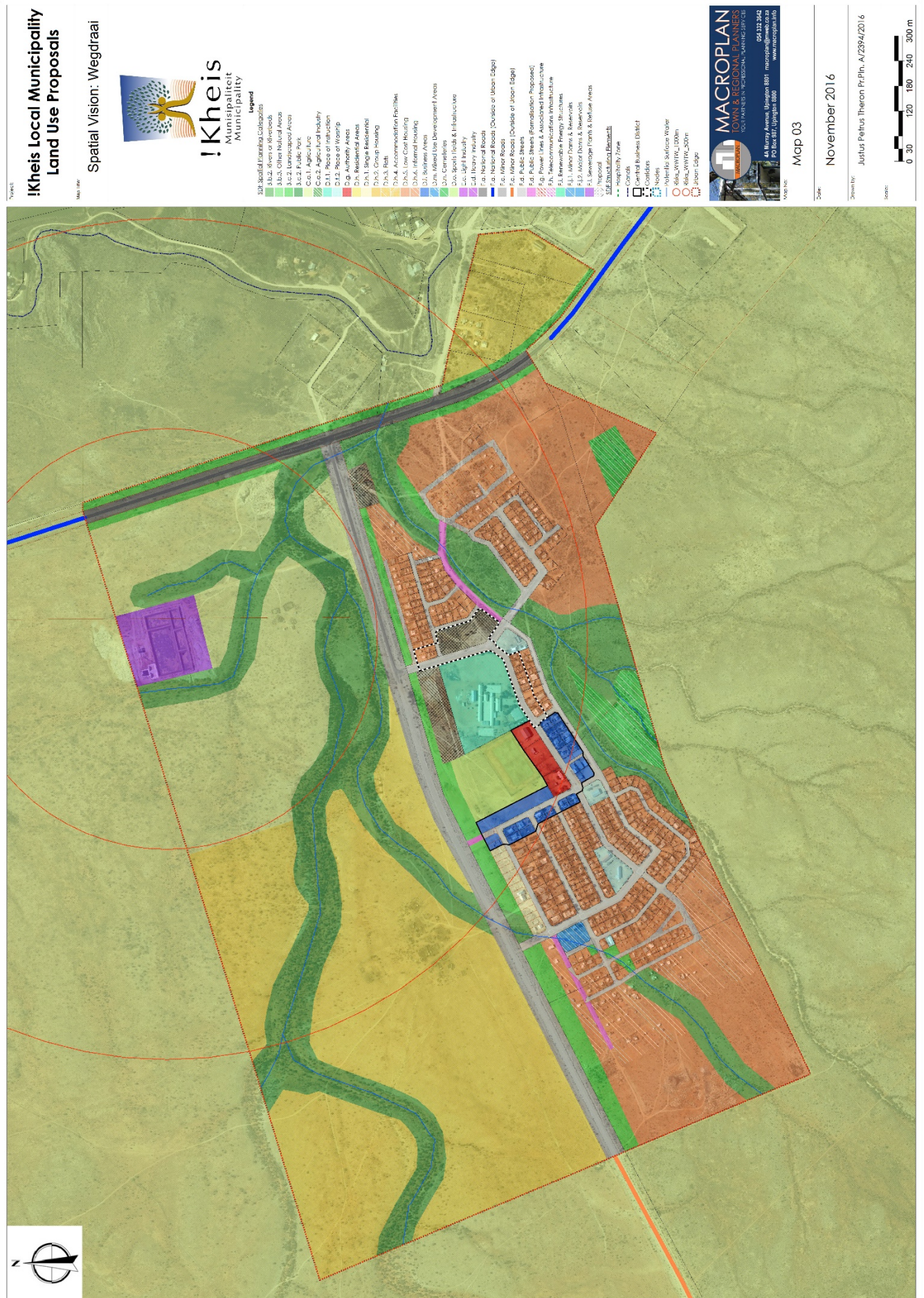


Figure 14: Wegdraai Spatial Vision - Map 03

13.3.1.Key Spatial Challenges

The following spatial challenges have been identified in the 2014 KLM SDF, through the process of community participation at the time, and has been reiterated in the public participation of this SDF Amendment process in 2016:

- a) Low quality of health facilities.
- b) Lack of land for grazing.
- c) Low quality of the living environment.
- d) No library.
- e) No internet services.
- f) Lack of sports facilities.
- g) Large proportion of the community living in informal housing.

These challenges can mostly be addressed through the restructuring of the town by the implementation of the spatial vision. However, although space may be provided for the needed facilities, it remains important that funding be acquired for the actual provision of the infrastructure.

13.3.2.Spatial Vision Description & Settlement Specific Policy

The spatial vision maps of the various settlements are in themselves self-explanatory, as well as guiding in terms of decision-making according to the placement of SPC's. However, it remains important that envisioned urban structure of the towns are explained shortly. Here follows a pointed list describing the vision for Wegdraai:

- a) The urban edge has been drawn with a regard for the calculated potential need for housing land up to 2030, as discussed under §10 of this document. Liberal space could however be given for long term urban expansion due to available municipal land, accommodating the high level of population growth.
- b) The town's proposed urban development area (within the urban edge) is bisected by a provincial road which intersects with the N10, which forms an easterly and northerly development boundary at present. The provincial road has led to linear urban form to the south thereof.
- c) The urban edges is further informed by the fact that land toward the south is privately held, which demands that long term expansion should take place to the north of the provincial road. As in the case of Boegoeberg, the full extent of the areas to the south of the provincial road should first be developed before urban development should cross to the north of the road.
- d) A small section of land is considered for development on the eastern side of the N10, due to potential activity being expected in this area and not seen as problematic. This area is however limited to a small area and should not generally be encouraged any further.
- e) The town core is focussed around a sports field and school with a circle road around it, form the main area of activity and movement.
- f) A community facility cluster is proposed within a CBD area that is offset from the school toward the west, in order to move high intensity development away from the school and drawing it in another direction.

- g) In order for the above objective to be successful, a second formalised link to the provincial road will have to be developed, completing the above-mentioned “loop”.
- h) The potential for development along the main access road in closer proximity of the school is however not overseen and an activity street is proposed. Lower impact businesses, as well as a creative mix of residency and business can be considered in this corridor.
- i) As in most communities, the WWTW creates a risk area where developments should be excluded. The impact varies between the 500m and 1000m risk zone due to general wind direction.
- j) The buffer areas along the N10 and Provincial road provides opportunity for landscaping and beautification in the future.
- k) A large informal housing component is found in the western sections of town and the upgrading and servicing of these informal areas should be seen as a priority.
- l) As in all settlements, areas of surface water run-off should be excluded from development and form part of the town’s open space system (MOSS). The protection of these areas is important to the protection of the larger Orange River ecosystem.
- m) In order to address the concerns of the community with regards to a lack of grazing, the large portions of land owned by the municipality outside of the urban edge may be considered for this purpose.
- n) The issue of sports facilities must be addressed – sports facilities are available, but although it is municipal land, it is access controlled. The control of access should therefore either be renegotiated or additional facilities will have to be erected.

These settlement specific policies should be considered in all land development applications, read together with §12.1. on spatial planning categories and §14 on urban structuring policies.

13.4. Topline

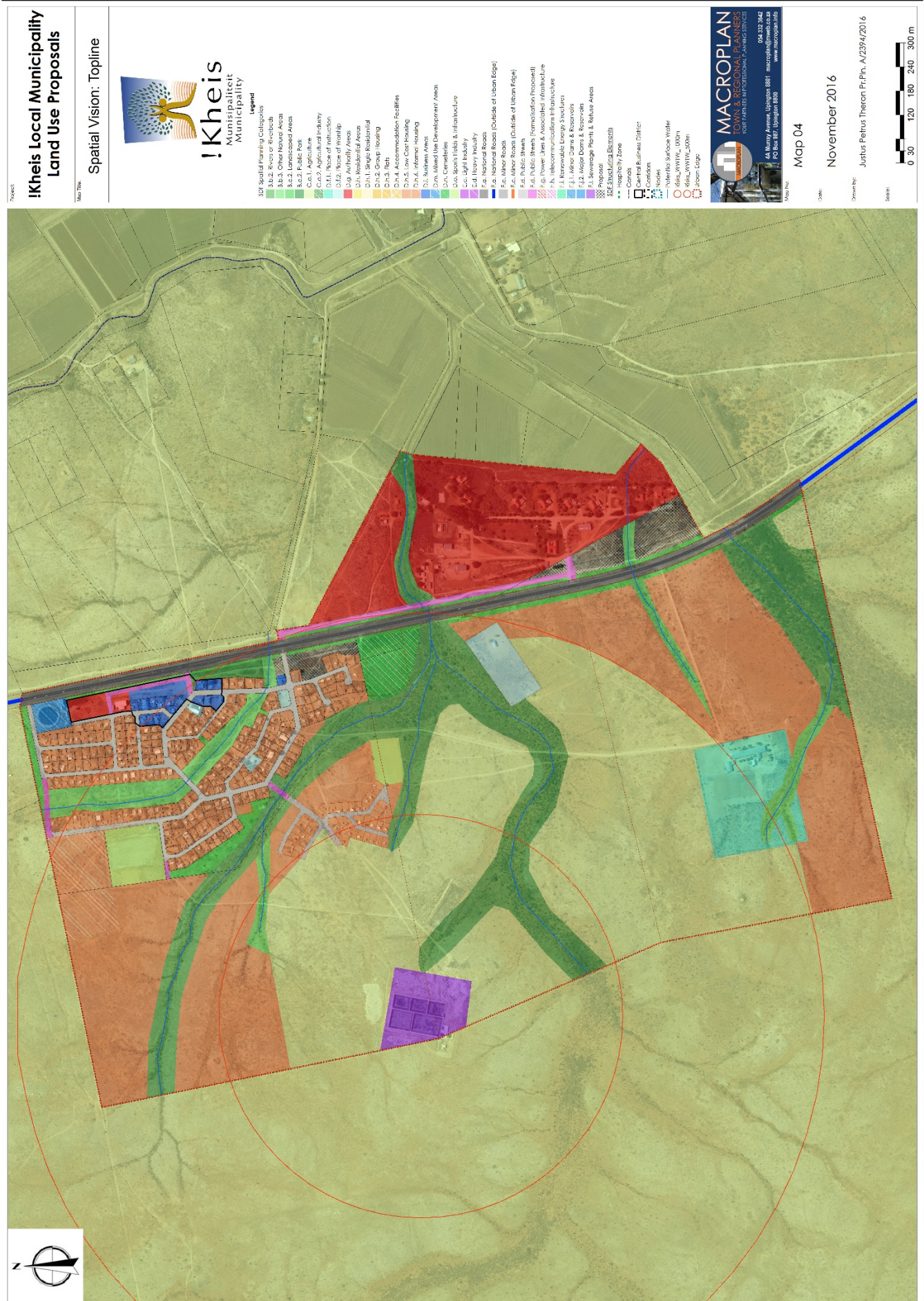


Figure 15: Topline Spatial Vision - Map 04

!Kheis Amendment SDF 2016

13.4.1.Key Spatial Challenges

The following spatial challenges have been identified in the 2014 KLM SDF, through the process of community participation at the time, and has been reiterated in the public participation of this SDF Amendment process in 2016:

- a) Lack of land for development.
- b) Unregulated use of land.
- c) Large proportion of community lives in informal housing.
- d) Lack of land for crèches.
- e) Unsafe trips for children walking to school.
- f) A need to expand the cemetery.
- g) Lack of entertainment and sports facilities.
- h) Low quality health services.
- i) Low quality of services.

These challenges can mostly be addressed through the restructuring of the town through the implementation of the spatial vision. However, although space may be provided for the needed facilities, it remains important that funding be acquired for the actual provision of the infrastructure.

13.4.2.Spatial Vision Description & Settlement Specific Policy

The spatial vision maps of the various settlements are in themselves self-explanatory, as well as guiding in terms of decision-making according to the placement of SPC's. However, it remains important that the envisioned urban structure of the towns are explained shortly. Here follows a pointed list describing the vision for Topline:

- a) The urban edge has been drawn with a regard for the calculated potential need for housing land up to 2030, as discussed under §10 of this document. Liberal space could however be given for long term urban expansion due to available municipal land, accommodating the high level of population growth. However, severe limitations are placed on urban structure by the WWTW.
- b) One of the largest elements of land use in the town is the location of the water use association compound across from the N10.
- c) The N10 forms a significant barrier to eastward development, but the barrier between this road and the town provides opportunity for tree planting and beautification.
- d) An informal housing component is found in the northern sections of town and should prioritised for upgrading and service delivery.
- e) Municipal land can be made available for low cost housing provision towards the west and south, but the WWTW will create a potentially segregated urban structure. The northern sections should therefore be filled in with development before southward development should be considered. Southward development makes sense in the long term, moving community expansion towards the state-owned educational facilities

- f) As in all towns, the areas of storm water run-off should be kept clear and is seen as a potential safety risk. The community also experience the route for children to the school as unsafe and the creation of a formal pedestrian route should be provided.
- g) The community facility cluster and CBD development is proposed around the entrance to the town, as well as where high visibility and accessibility can be enjoyed from the N10.
- h) A small new southern section of development is found at the town where an improved road linkage is required.
- i) The cemetery is reaching its capacity limit and alternative sites should be explored.
- j) The town does not exhibit any strong movement patterns for corridor development and is not provided at present.

These settlement specific policies should be considered in all land development applications, read together with §12.1. on spatial planning categories and §14 on urban structuring policies.

13.5. Grootdrink

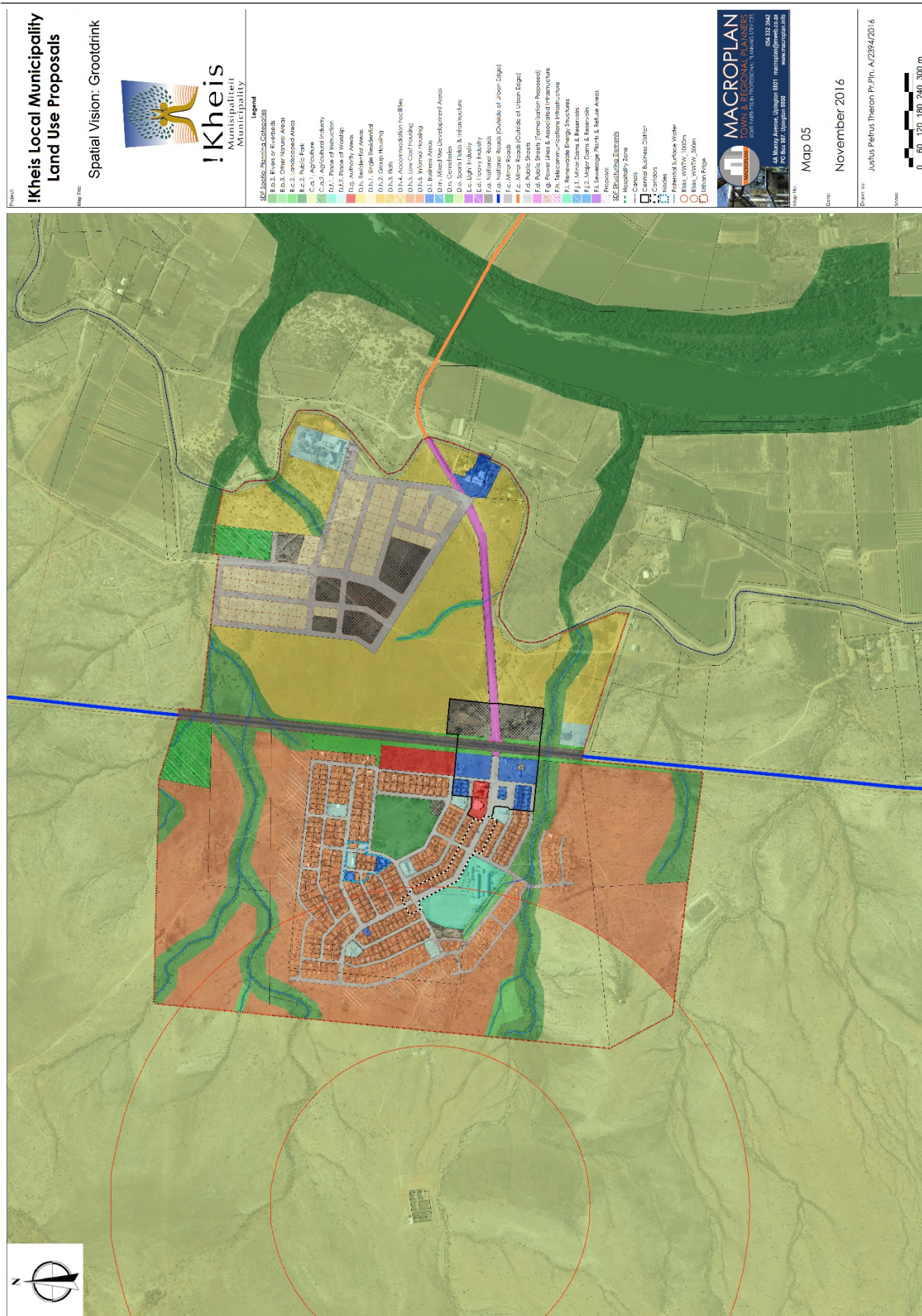


Figure 16: Grootdrink Spatial Vision - Map 05

13.5.1.Key Spatial Challenges

The following spatial challenges have been identified in the 2014 KLM SDF, through the process of community participation at the time, and has been reiterated in the public participation of this SDF Amendment process in 2016:

- a) A shortage of land for churches, business and cemeteries.
- b) A lack of retail facilities.
- c) A lack of expansion opportunity to the west of the settlement.
- d) An unhygienic environment created by animals living and walking freely in the settlement due to a lack of grazing land.
- e) Lack of recreational facilities.
- f) Lack of a dedicated centre for the elderly.

These challenges can mostly be addressed through the restructuring of the town by the implementation of the spatial vision. However, although space may be provided for the needed facilities, it remains important that funding be acquired for the actual provision of the infrastructure.

13.5.2.Spatial Vision Description & Settlement Specific Policy

The spatial vision maps of the various settlements are in themselves self-explanatory, as well as guiding in terms of decision-making according to the placement of SPC's. However, it remains important that envisioned urban structure of the towns are explained shortly. Here follows a pointed list describing the vision for Grootdrink:

- a) The urban edge has been drawn with a regard for the calculated potential need for housing land up to 2030, as discussed under §10 of this document. Liberal space could however be given for long term urban expansion due to available municipal land.
- b) The eastern urban edge is informed by the irrigation canal, with the intent to protect high value agricultural land on the banks of the Orange River.
- c) Westward urban development is limited by the risk zone of the WWTW, but regardless, Grootdrink is least of most of the communities in KLM affected by the placement of this infrastructure.
- d) Large tracks of municipal land is available to the west of the settlement, which may be made available for the grazing of animals of upcoming farmers. This should address this community issue.
- e) The proposed urban area is bisected by the N10, but eastern development is limited by the fact that land in this area is privately held – it may however become a development option in the long-term.
- f) A relatively small informal component is found on the northern and western fringes of the town. These areas should be prioritised for upgrading.
- g) Land is made available for housing development toward the north, the south and to the west. Small sections of land to the north are held in private ownership. These areas may therefore be difficult to acquire for public development, but acquisition may be negotiated with the owner. Private land to the east of the N10 is also privately held and provides opportunity for privately funded development.

- h) There is a cemetery to the north of the settlement, but this is held on private land and options should be explored for the placement of a new cemetery elsewhere. This may even be considered outside of the urban edge, as stipulated under the SPC's of the spatial vision.
- i) The town's road layout, as well as the road towards the Orange River crossing, creates the opportunity for development of a core CBD area. To the west of the N10, CBD development may be prioritised but proposals may be made on the eastern side of the N10.
- j) The CBD area holds the potential to include community services, as well as higher impact business, concentrating this uses into a structured area. Space is also left for further community services to the north of the CBD and this may be a perfect area for the development of a centre for the elderly.
- k) The community has also indicated that they would wish for permanent police presence in the area in the form of an upgraded police station. The above mentioned area for community service development poses an ideal opportunity.
- l) An activity street extends toward the north-west from the CBD and provides the ideal opportunity for lower impact business development. Mixing business and residential uses should also be considered in this corridor.
- m) A large central park is situated in the centre of the settlement, which poses an ideal opportunity for developing sports and recreational facilities. The community would also like to see the development of a public pool, encouraging children not to swim in the river and canals with the safety risks they pose.
- n) Grootdrink has a unique neighbourhood node that has developed adjacent to the central open space. This area has some high impact commercial uses located within it, which includes 2 taverns/liquor outlets – the properties involved with these uses are marked for continued business development, but any other business development in the area should be limited to lower impact uses and developments that mix business and residency.
- o) The road towards the Orange River crossing should be formalised in a formal street reserve and upgrading may also be considered.
- p) A surveyed low density residential area is located on the far north-eastern side of the settlement, but it has never been registered and developed. This area has the potential to be developed in the long term, but the rights may also have lapsed.
- q) Rivers and riverbeds to the north and south of the settlement should be kept in its natural state as far as possible and excluded from urban development.

These settlement specific policies should be considered in all land development applications, read together with §12.1. on spatial planning categories and §14 on urban structuring policies.

13.6. Gariep

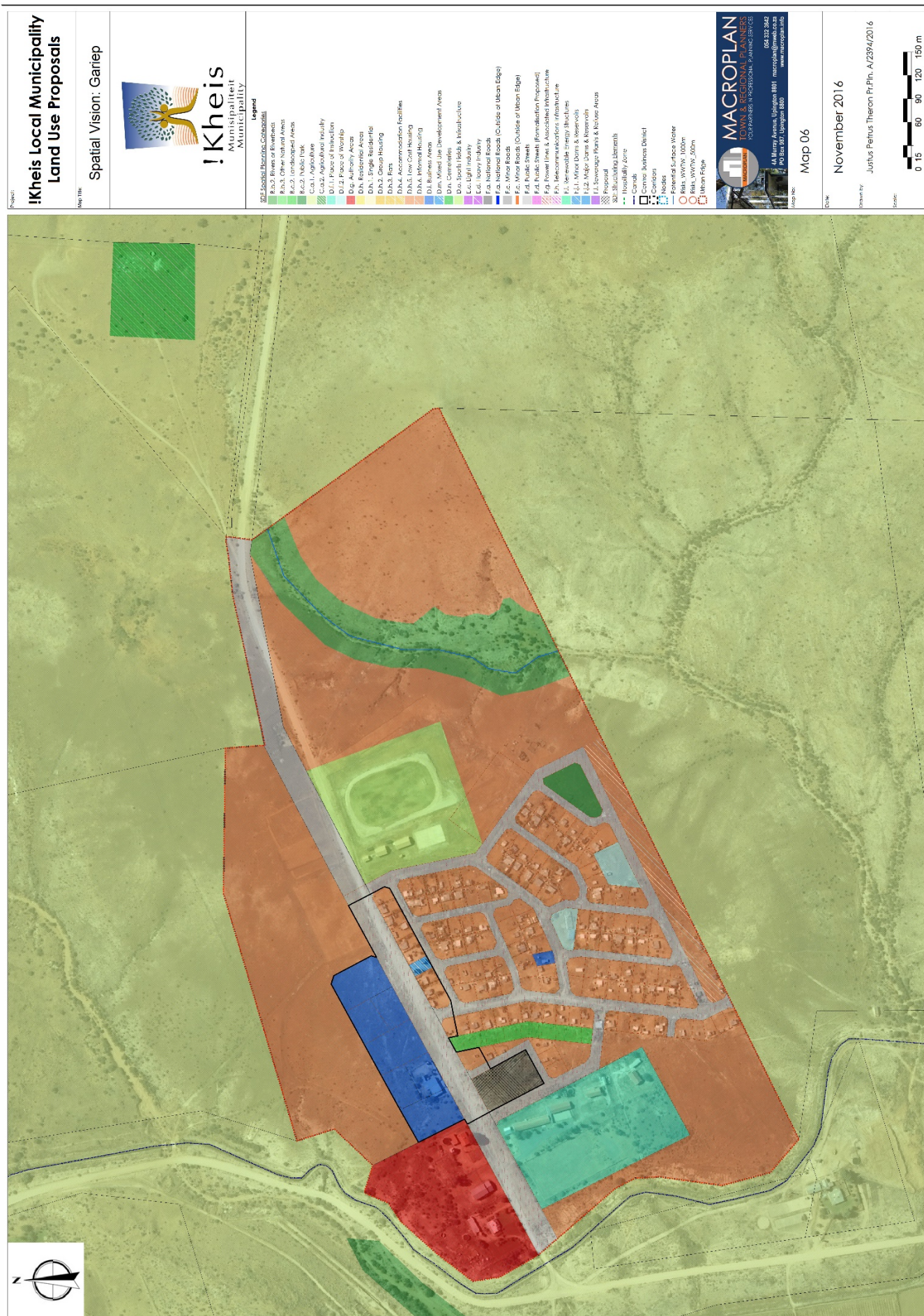


Figure 17: Gariep Spatial Vision - Map 06

13.6.1.Key Spatial Challenges

Key spatial challenges for Gariep were not included in the 2014 KLM SDF and this is seen as lacking component. During the community participation workshop of 2016, the following aspects have been highlighted:

- a) The community wants land to be made available for affordable housing and informal housing needs to be upgraded.
- b) The community urgently needs upgraded services and properties to be registered in their name.
- c) The community is surrounded by private land and has a need for land for grazing; they would wish to see the commonage of the town expanded.
- d) The community wants larger self-build housing areas.
- e) The community is satisfied with the spatial vision plan.

These challenges can mostly be addressed through the restructuring of the town by the implementation of the spatial vision. However, although space may be provided for the needed facilities, it remains important that funding be acquired for the actual provision of the infrastructure.

13.6.2.Spatial Vision Description & Settlement Specific Policy

The spatial vision maps of the various settlements are in themselves self-explanatory, as well as guiding in terms of decision-making according to the placement of SPC's. However, it remains important that envisioned urban structure of the towns are explained shortly. Here follows a pointed list describing the vision for Gariep:

- a) The urban edge has been drawn with a regard for the calculated potential need for housing land up to 2030, as discussed under §10 of this document. The urban edge is however constricted to the available municipal land, which may be an obstacle to long term future development.
- b) The town is bisected by a gravel road linking the N10 and N14, connecting it with the rest of the settlements of the !Kheis Municipality. This road forms a significant structuring element in the settlement.
- c) The settlement is relatively isolated from the rest of the municipality's communities.
- d) A significant issue that would need urgent attention is the provision of services to the town, as well as the registration of surveyed erven, thereby enabling transfer of ownership to beneficiaries.
- e) As mentioned, the expansion of the community is constrained by a lack of municipal land, surrounded by privately held land. This limits the opportunity for grazing by upcoming farmers and it should be investigated whether surrounding land could be acquired for this purpose.
- f) State held land is found in the north-western sections of the town, and development options on this land is limited to state owned facility provision.
- g) Along the main road, some surveyed, but unregistered erven are found, creating the opportunity for the development of a structured CBD in the long term. A place of entertainment is already found here and business, together with community facilities, can be clustered in the area.
- h) A small informal housing area exists in the southern and eastern sections of town where upgrading should be prioritised.

- i) A large furrow is found on the eastern side of town that must be excluded from any urban development and protected.
- j) Sports facilities are provided toward the east and currently accommodates community services such as a gathering hall and payment office. This configuration may be maintained.
- k) A significant issue found in the town is the roads that are in an extremely bad condition. Cleaning and upgrading is proposed.
- l) A graveyard is found to the east of the town's urban expansion area. It seems enough space for expansion exist in this regard.

These settlement specific policies should be considered in all land development applications, read together with §12.1. on spatial planning categories and §14 on urban structuring policies.

13.7. Opwag

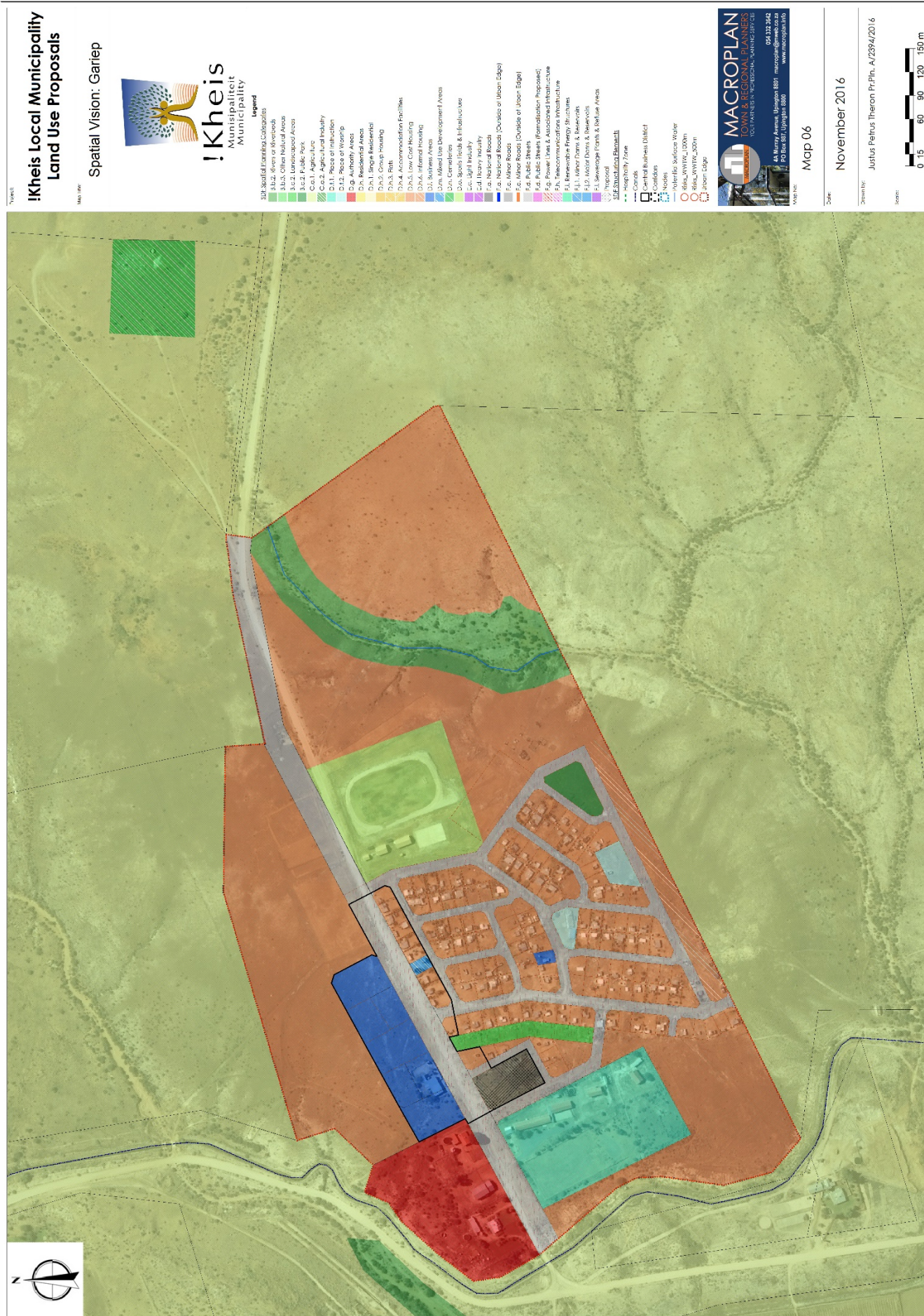


Figure 18: Opwag Spatial Vision - Map 07

13.7.1. Spatial Vision Description & Settlement Specific Policy

There is not a lot to say with regards to the urban structure of Opwag, as it is a wholly informal community. The settlement does not enjoy formal services, but the IDP of the Municipality makes provision for future formalisation on a site to the east of the settlement. The rationale for the movement is to relocate the community closer to the road and school, thereby increasing accessibility. The formalisation in this direction will also provide easier access to the small business and school facilities that are found to the south-east of town.

14. SPATIAL STRUCTURE SPECIFIC POLICY

This section plays a cardinal role in the decision-making of applications brought before the local and decision-making authority. The rationale is to simplify decision-making whilst also contributing to sensible urban structures for each settlement. This section should be read together with §12 and 13 of this document when considering a land development application.

14.1. Policy 1: Urban Edge Policy

14.1.1. Policy 1.1. Barrier provision by Urban Edge

The urban edge provides a barrier within which urban development should be contained. The revision of the urban edge may be considered in 2021, or any formal SDF Amendment process that takes place prior to this date, if circumstances necessitates such a revision.

14.1.2. Policy 1.2. Favourable developments within Urban Edge

Development types to be considered within the urban edge:

- a) Typical urban development such as residential, business and industrial uses, as well as community amenities complementary to them. No mining activity should by any means be considered within the urban edge and heavy/noxious industry should also preferably be excluded.
- b) Infill development to be encouraged.
- c) Resorts (also to be considered outside of the edge on individual development merit), residential estates and golf estates.

14.1.3. Policy 1.3. Development inconsistent with Urban Edge

Development applications inconsistent with the SDF's urban edge would require the applicant to prove, through a strategic environmental assessment and an environmental impact assessment, that the development is consistent with SDF Goals and that services can be provided in a sustainable manner.

14.1.4. Policy 1.4. Legislative Requirements within Urban Edge

Any urban development within the urban edge will have to meet all legislative requirements, as well as a statement from the Municipality that service infrastructure is available to serve the proposed development. In the case of larger developments, the municipality may request an engineering services report.

14.2. Policy 2: Development Outside of the Urban Edge

14.2.1. Policy 2.1. Subdivision of agricultural land

Any subdivision of agricultural land will be subject to approval under the Subdivision of Agricultural Land Act, Act 70 of 1970, from the Department of Agriculture Forestry and Fisheries (DAFF). Please note that some land units within the urban edge may also be listed as agricultural land at DAFF and will also be subject to their approval.

14.2.2. Policy 2.2. Rezoning of agricultural land

Any rezoning of agricultural land will be subject to acquiring a letter of No-Objection from DAFF, SANRAL and DRPW (if applicable). Applications which may be considered outside of the urban edge area:

- a) Any secondary and consent use applications on the agricultural zonings of the relevant Land Use Management System of the Municipality.
- b) Rezoning from one agricultural zone to another.
- c) Developments in the following SPC categories at the discretion of the local and decision-making authority may be considered:
 - SPC A, B & C
 - SPC D.n. ; D.p. & D.q.
 - SPC E.d. & E.e
 - SPC F and Special Zones

14.2.3. Policy 2.3. Special plans to be included for consideration

Developments considered outside of the Urban Edge should include illustrated plans for consideration, including representations of:

- a) Location in context of the surrounding environment.
- b) Design interventions ensuring that the development blends in with the surrounding environment in terms of colour, material and architecture.
- c) Measures to avoid unsightly aspects of the development.
- d) Measures to conserve energy and resources, as well as striving for self-sufficiency in service delivery.
- e) Measures for sustainable service delivery.

14.2.4. Policy 2.4. Visual Impact

Landscaping must be undertaken for any development proposal outside of the urban edge as a measure to maintain aesthetic integrity. These include;

- a) Use of indigenous vegetation in landscaping and to break the harsh lines of erected buildings.
- b) Retaining as much natural flora on the development site, i.e. minimal building footprint.
- c) Where seen as necessary, earthworks, such as berms and mounds should be used to screen the development's visibility, especially from the N10.

14.2.5. Policy 2.5. Renewable Energy Development Zones (REDZ)

A significant portion of the !Kheis Municipality is overlain with what is known as REDZ. The REDZ has the following objectives:

- a) A reduction of negative environmental consequences;
- b) Alignment of authorisation and approval processes;
- c) Attractive incentives; and
- d) Focused expansion of the South African electricity grid.

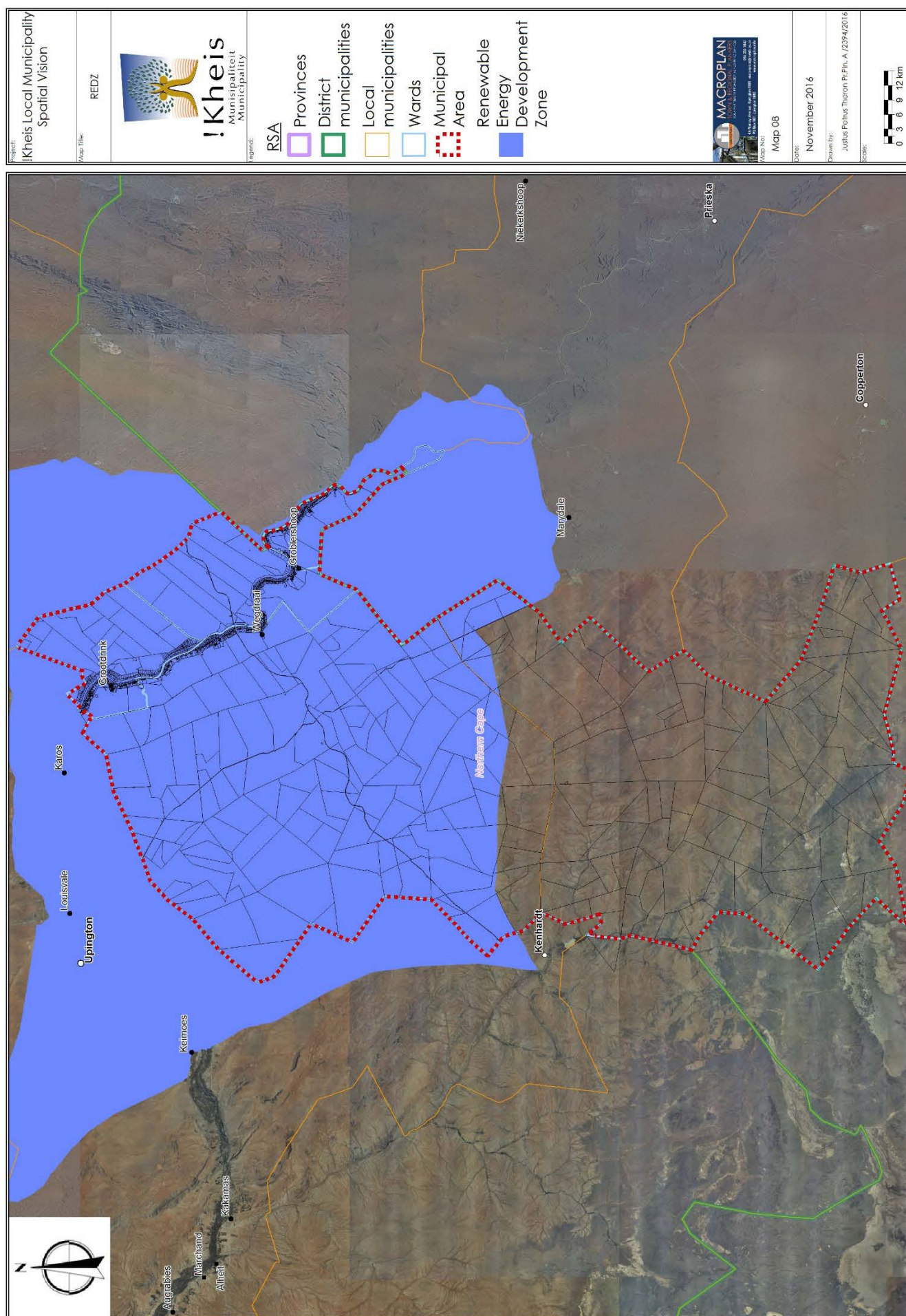


Figure 19: REDZ in relation to the borders of !Kheis Local Municipality - Map 08

The gazetting of these REDZ areas means that projects within these areas will now only be subject to a Basic Assessment and not a full Environmental Impact Assessment (EIA) process. This change will accelerate the assessment process and accordingly save costs, as scoping level pre-assessments would have been undertaken. As such an application for an Environmental Authorisation should be completed in 147 days, instead of 300 days. The policy for the REDZ is a simple one: Renewable Energy Projects may be favourably considered, subject to all other legislative matters having been complied with, as well as service provision clarified.

14.3. Policy 3: Central Business Districts

14.3.1. Policy 3.1. Upgrading and Landscaping

CBD's and nodes should be seen as priority areas for road surface improvement, landscaping (both hard and soft), street lighting and placement of infrastructure such as bins, parking and seating. This should be done to build a strong central business identity for each community.

14.3.2. Policy 3.2. Business and Community development

Business development and community services should be encouraged in the CBD marked areas. Any commercial endeavour in these areas should be seen in a more positive light than outside of it.

14.3.3. Policy 3.3. Higher intensity/impact land uses

High intensity uses can be considered only in CBD demarcated areas, Mixed Use areas and Business Nodes. High intensity uses are:

- a) Liquor/Bottle Stores.
- b) Taverns.
- c) Places of Entertainment such as sports bars & bars.
- d) Slots (limited to Groblershoop, should such a development be proposed).

None of the above will be considered outside of these demarcated areas, without any exception.

14.3.4. Policy 3.4. Residential developments

CBD demarcated areas does not exclude residential development, but where residential development is proposed, it should take the form of group housing, guest houses and flats and densification should be encouraged.

14.4. Policy 4: Business Nodes

14.4.1. Policy 4.1. Proposals and developments to consider

Business nodes are seen as secondary to CBD's where locational and intersection factors create a high potential for business development. All of Policy 3 applies in these areas, however, more scrutiny should be placed for development proposals categorised under Policy 3.3.

14.5. Policy 5: Neighbourhood Nodes

14.5.1. Policy 5.1. Proposals and developments to consider

Where a neighbourhood node is identified, the high intensity uses categorised under Policy 3.3 may only be considered where sites are marked within it as SPC D.i. No further expansion of high intensity uses may be considered beyond these properties. This policy seeks to confirm the potential of sites where business is already being run, but to discourage other properties to follow suit.

14.5.2. Policy 5.2. Nodes and Activity Streets

Neighbourhood nodes, with the exception of sites such as described under Policy 5.1, are governed by the same provisions of Policy 6: Activity Streets.

14.6. Policy 6: Activity Street

14.6.1. Policy 6.1. Proposals and developments to consider

Activity streets are areas where business potential exist due to higher levels of accessibility and traffic movement (pedestrian and vehicular). These streets should be seen as priority areas for roads upgrading, beautification, landscaping, street lighting, as well as placement of infrastructure such as bins, seating and similar amenities.

14.6.2. Policy 6.2. Limitations to allowed activities

No high intensity uses are to be allowed within activity streets.

14.6.3. Policy 6.3. Mixing Business and Residential developments

Activity streets are areas where a mix of residency and business uses may be considered and encouraged, as well as small scale enterprises such as tuck shops, small offices and guest houses.

14.7. Policy 7: Hospitality Zone

The hospitality zone presents itself as a cluster around the Groblershoop CBD, where low to medium density community-based hospitality initiatives and projects are to be promoted and implemented.

Residential uses such as low density housing, group housing and flats are not excluded, but accommodation facilities should be encouraged. Business uses, except that of a hotel and restaurant are not allowed outside of this zone, with the exception of CBD's and business nodes.

15. IMPLEMENTATION

The implementation of the SDF Amendment 2016 is limited to serving as a decision-making framework, as requested by the !Kheis Local Municipality. The framework within which decisions can be made is covered from Section 12 to Section 14, but with due cognisance of the environmental approach set out in Section 11.

Of course, in terms of public projects within the Municipality and their associated funding, the following documents should be considered:

- a) Chapter 8 of the 2014 KLM SDF.
- b) The 2015 to 2020 IDP of the !Kheis Municipality
- c) Chapter 12 of the Housing Sector Plan of the !Kheis Municipality.

16. CONCLUSION

This concludes the 2016 SDF Amendment as an Addendum to the 2014 KLM SDF. The document serving as a decision-making framework to land development applications within the Municipality is a direct result of the monitoring and review component of SDF's, as there will always be constant changes in the development needs across settlements as economic conditions change over time. The alignment with SPLUMA is now complete and the implementation thereof can be tested over the next 5 year timeframe

As highlighted in the 2014 KLM SDF, it remains the responsibility of the officials of !Kheis Municipality and the decision-making authority to pursue the following goals:

- a) Pursue progress with the implementation of the SDF as well as the SDF Amendment 2016 complementary thereto.
- b) Ensure that all land development in the Municipality takes place within the parameters set in this document.
- c) Ensure that the concerns of the community, as well as the key spatial challenges are addressed through the implementation of this document and planned for as public projects in the individual settlements.

Applying the above principles in all planning decisions in the municipality, it is with certainty that the municipality will be able to achieve its vision and mission within the !Kheis Municipality to the benefit of all of its citizens and future investors.

ANNEXURE: SPATIAL VISION MAPS A3 FORMAT