In order to achieve this is it crucial that the document is legally sound and based on a thorough understanding of current issues and future trends that will impact on land use. Thus a comprehensive research exercise was undertaken which covered the following aspects:

- Laws impacting on land use management
- National, provincial and local policies that have a bearing on land use management
- Existing schemes that apply in the municipality with a view to understanding current land use rights
- International and local zoning and land use management tools;
- Issues and trends in the major categories of land use, namely: agriculture; residential; business and manufacturing; and community uses
- The impacts of climate change and changing technology on these land use types
- The role and nature of informality in these major land use types.
- The relationship of aspects such as heritage management, service provision, parking and transportation, administration and environmental issues to land use management.

The findings of this report is summarised below. The complete report can found at: www.drakenstein.gov.za/Pages/Drakenstein_Zoning_Scheme_Phase2_Research_Report.aspx

1. Laws impacting on land use management

The report analysed 13 national, provincial and local statuettes as well as certain repealed laws which have a bearing on land use management. Of these the most pertinent are:

- The South African Constitution (Act 108 of 1996) which lists Municipal Planning as a local government competency (Schedule 4B) and thus in essence allows municipality’s to manage land use in their area of jurisdiction.
- The Spatial Planning and Land Use Management Act (No. 16 of 2013) (SPLUMA) which provides a framework for all provincial and municipal planning legislation, including principles to inform such legislation and the prescribed contents and legal procedures of a “land use scheme” – the term used in this legislation for a zoning scheme.
- The Land Use Planning Act of the Western Cape (No. 3 of 2014) (LUPA) which governs spatial planning and land use management in the Western Cape. Similar to SPLUMA it stipulates the content of a scheme and what it needs to include and provide for, process that is to be followed if a steering committee is convened; how decisions are to be captured in a register, the implementation of a scheme, and the general land use principles which inform schemes. This is the primary legislation which will inform the preparation and content of the Drakenstein Municipality zoning scheme.

The zoning scheme will be adopted as a by-law, by the municipality in accordance with the Municipal Systems Act (No. 32 of 2000) (MSA), which enables municipalities to adopt laws.

- The Drakenstein Land Use Planning By-law (2015) (DLUPB) recently adopted by the municipality. The DLUPB describes the processes and procedures related to land use management whereas the zoning scheme will regulate how land may be used and developed and will include zoning categories, a zoning map, and a zoning register where decisions regarding land use rights are captured.

2. National, provincial and local policies that have a bearing on land use management

There are numerous policy documents which have some bearing on the formulation of the zoning scheme. Of these, the recently adopted Drakenstein Spatial Development Framework (2015) (DSDF) is the most important, as the legislation governing land use management, stipulates that zoning schemes should provide for the implementation of SDFs. The SDF is also the most important document to guide land use decision making by the municipality.

The SDF is formulated around these main themes:
• Environmental Management: Recognise and strengthen the role of natural assets. Manage and reduce natural and man-made disaster risks;
• Agriculture and Rural Development: Promote agricultural production. Strengthen existing agricultural activities to strengthen the agricultural economy. Enable, where possible agrarian reform and rural development. Ensure regional food security;
• Heritage and Cultural Landscape: Recognise and protect the scenic and rural landscape of the region and the historical fabric of the urban rural settlements;
• Connectivity and Green Logistics: Promote the Municipality as a regional agri-processing hub. Recognise the possible adverse impacts of the logistics sector and promote integrated transport solutions;
• Sport and Education: Promote the region as an educational hub. Enhance established educational, sport and outdoor recreational facilities to improve the well-being of the local community (and which in turn create economic opportunities);
• Settlement and Communities: Facilitating smart growth of Drakenstein’s settlements in accordance with their role and potential. Promoting social development, community livelihoods and safety through the sustainable delivery of social facilities, public open space, recreational activities and housing;
• Densification: specific areas are identified for densification and should be investigated for possible inclusion in the scheme.

In addition the SDF provides more detailed proposals for focus areas in the municipality and the land use management implications of these proposals will be investigated during the preparation of the zoning scheme.

3. Existing schemes that apply in the municipality

At present four different zoning schemes are in operation in the municipality:
• The Paarl Zoning Scheme which applies to the old Paarl municipal area
• The Wellington Zoning Scheme which applies to the old Wellington municipal area
• The Mbekweni Town Planning Conditions, which applies to the Mbekweni area
• The Section 8 Scheme, (promulgated i.t.o. S8 of LUPO) which applies to all land that fell outside of these areas, with the exception of Saron, where no scheme currently applies.

The research report includes a detailed comparison of the provisions of these schemes, in order to understand existing land use rights and development controls. In general the schemes are similar when it comes to built-form provisions. The Mbekweni scheme is more lenient with regards to additional uses on residential properties. The schemes are also outdated, some include racially biased provisions and some make provision for uses such as put-put courses which are not prevalent today. In total the municipality currently has 60 different zones to manage throughout its area.

Land use management in Saron is currently administered by the Provincial Department of Human Settlements and all land use applications are referred to this department by the Municipality.

4. International and local zoning and land use management tools

Zoning schemes where first introduced in the early 20th century as a tool to respond to rapid urbanisation, large scale development and unprecedented change people were experiencing in the towns and cities they lived in, largely caused by industrialization. Initially zoning schemes were focused on the separation of land uses and provisions to ensure that the built form created healthy living conditions (e.g. setbacks to ensure natural light penetration) – these types of schemes are known as Euclidean schemes, named after the town of Euclid, which had the supreme court of the USA endorse its right to enforce zoning in 1926.

This type zoning, whilst protecting residents from incompatible uses, also had numerous negative effects such as creating low density mono-functional areas, which resulted in car-reliance and inefficient, dead areas (e.g. inner cities devoid of residential activity after hours). In response a variety of new land use management tools were devised over the years to try to address these problems. These include:

• Inclusionary zoning, designed to allow for an increasing mix of compatible uses, in appropriate areas;
• Performance zoning, which focuses on managing the impact of land uses, rather than land use itself, e.g. noise, heat, odour, smoke, vibration, glare, light pollution, toxic matter and fire hazard are the most common indicators used for specifically industrial type activities. Sophisticated performance criteria and measuring processes and highly skilled staff are required to enforce this type of scheme;
• Incentive zoning, which for instance provides for additional land use rights if developers also provide a certain desirable type of development (e.g. providing affordable housing as part of a larger development);
• Transfer of development rights (TDR) allows an owner of land, where not all the development rights have been taken up with development, to sell the unutilised rights to another developer who owns land elsewhere in the city, where the rights can be used more appropriately;
• Form-based zoning, which focus on built form (and less on controlling land use) and the contribution of a development to the public realm – i.e. driven by urban design considerations, rather than land use;
• Overlay zones which can provide for either stricter or more lenient land use management rules in addition to the underlying zoning parameters. Heritage overlay zones, for instance, provide for additional scrutiny of the impact of a proposed development on heritage resources;
• De-zoning which allows a free mix of land uses to allow the market to respond freely and quickly (and without unnecessary applications and red-tape) to the changes in demand. Land use categories are simplified and a number of land uses are grouped together to create greater flexibility into the future, but design requirements are stringent.

Most local authorities, both internationally and in South Africa, employ hybrid type schemes, which would include elements of Euclidean zoning and other tools aimed at creating desired urban form and mitigating negative impacts.

The challenge in South Africa is to implement a zoning scheme which will achieve the following objectives:

• Address the challenges of spatial fragmentation and exclusion and promote inclusion and integration
• To promote environmental, social and economic sustainability and resilience
• To provide for a diversity of work and leisure opportunities
• To address the capacity challenges of the municipalities by being self-regulatory and focussing in the essential land use management issues.

A simple system is proposed whereby the number of zones is significantly reduced to ease administration and increase flexibility. A large variety of land uses are permitted in each zone and only nuisance or incompatible uses are excluded. Zones are effectively characterised by the level of control required in each zone – i.e wilderness areas require more control, whilst CBD areas can have less control over development. The use of overlay zones has become wide-spread to address issues of heritage management and local area character and will also be employed in the Drakenstein Scheme.

5. The futures workshop

The workshop on the future of the Drakenstein municipality formulated the following scenarios based on the nature and quantum of economic growth:

• STAIRWAY TO HEAVEN with a high rate of inclusive equitable economic growth – desired outcome
A TALE OF TWO CITIES with high economic growth but this growth is unequal and excluding.
HIGHWAY TO HELL with a low level of economic growth (or economic stagnation and/or recession) that is unequal and excluding – seems to be the current trajectory.
HANGING IN THERE with low growth, but at least inclusive and equitable.

Proposals to reach the STAIRWAY TO HEAVEN scenario include:

- Become an excellent protector of biodiversity and ecosystem services whilst promoting ecotourism.
- Prioritise infrastructure service provision that supports STAIRWAY TO HEAVEN.
- Create an integrated public transport system.
- Promote infill development.
- Integrate life / work opportunities in Drakenstein.
- Create an incentive system for developers/land owners to submit STAIRWAY TO HEAVEN proposals/plans, i.e. “they don’t need approval”, or “will get immediate approval”.

6. Issues and trends in agriculture; residential; business and manufacturing; and community uses.

This research included internet research to source academic papers and other articles, interviews with experts as well as workshops with both local and provincial officials who are involved in land use management. In particular the impacts of climate change and new technology on these land uses were investigated.

6.1 Agriculture

- Management of additional uses, especially agri-processing, on farms with a view to allow for additional income, whilst managing negative impacts;
- Management of periodic events on farms such as weddings, mountain bike races;
- How to manage likely changes in crops and farming methods could impact on the landscape and sense of place, such as increased used of crops coverings (tunnels and shade netting) or increased live-stock production, as a result of climate change and market forces;
- Likely continued shedding of employment in agriculture, due to mechanisation and changing production techniques;
- Increased pressure for small scale farming opportunities in the urban fringe to ensure food security and supplement incomes for the poor.

6.2 Residential uses

- Increasing need for subsidised housing, but using different models than the current, e.g. serviced plots and incremental housing schemes;
- Appropriate densification which can be accommodated within the municipal services network;
- The use of residential properties for additional uses, such as work-from-home, small scale manufacturing, house shops and even taverns;
- Trend of local investors in rural areas;
- Impact of developments such as AirBnb and micro housing units and co-housing/shared housing;
- Managing the impact of student housing on residential areas.

6.3 Business and manufacturing

- New types of business and manufacturing such as 3D printing are generally less impactful and does not have to be restricted to industrial areas;
- Facilitation of town centre regeneration through appropriate mix of uses and built form parameters (such as provided for the Wellington CBD Urban Design Framework);
- Provision for informality in its various forms, such as informal trading or home manufacturing to promote economic development;
- Promotion of green technology and industry, including waste to energy projects.

6.4 Community, sport, recreation and environment

- Allow for multi-use and clustering of community facilities, e.g. use churches as crèches during week days;
- Allow limited commercial uses in facilities such as sports clubs to assist with viability;
- Increase in periodic large scale events such as cycle events and trail running events as people are more aware of healthy lifestyles;
- Ensure that ecological infrastructure (such as aquatic networks) are adequately protected;
- Align provision for open spaces and conservation areas with policy.

7. The role and nature of informality in these major land use types

Informality mostly refers to activities and land use outside of legal provisions. However informality is clearly the only way in which a significant percentage of the population can survive and make a living.
Allowances for informality in land use management imply a certain measure of formalisation, which is regarded as appropriate to manage potential negative impacts, without comprising the benefits of informality to individuals and communities. The following is regarded as guiding principles for accommodating informality:

- Allow as much freedom as possible to make a living where people live – control only those activities or land uses that will have a negative impact.
Allow people to trade their produce/products/services wherever reasonable, e.g. at the factory, farm or market garden;
Acknowledge that formal housing standards are beyond the reach of most poor people and many poor people cannot access the formal subsidy system, hence the need to allow people to create and upgrade their own shelters;
Enable lodging in formalised situations and in informal situations (e.g. backyard shacks)

8. The relationship of aspects such as heritage management, service provision, transportation, administration and environmental issues to land use management.

Drakenstein Municipality has already completed a heritage inventory and formulated measures for the management of heritage resources to be included in the zoning scheme, through the use of overlay zones;
Transport patterns are likely to change in future with an anticipated reduction in private car use in the long term future – the zoning scheme should promote public transport (including new forms such as Uber) and non-motorised transport.

Municipal services are likely to come under increased pressure – the new zoning scheme should give certainty about extent of future development in order to allow for more accurate infrastructure planning an implementation, while at the same time recognising the need for new development to pay for use of such services. New technology in off-the-grid services may be enabling development in areas which were previously un-serviced or could be used to augment existing services.
Climate change will impact settlements through inter alia increased temperatures and extreme events such as flooding – the zoning scheme should promote more tree planting to combat heat island effect; assist in ensuring that storm water drainage can cope with flood events; and mitigate against the risk of veld fires;
Finally the new zoning scheme should be easy to administer, with the focus on controlling negative impacts and incentivising development that will contribute to good urban form and economic development.

9. Conclusion
Following on the revision of a vast amount of information, which will inform the formulation of the scheme, the following is a summary of the most pertinent points to be accommodated in the new scheme:

- Protect agricultural land for agricultural purposes;
- Facilitate agri-processing in appropriate areas;
- Allow for additional income streams to people in all zones where appropriate;
- Allow for a diversity of industrial and manufacturing uses where appropriate;
- Facilitate business/economic development where appropriate;
- Protect the cultural landscape from inappropriate development and agricultural practices;
- Protect desirable urban form or landscapes (e.g. vibrant high streets, heritage areas, scenic routes) and ensure future development promotes desirable urban form;
- Ensure appropriate incremental upgrade of informal settlements is facilitated in scheme with minimum red tape and facilitate more flexibility and safety;
- Protect established residential neighbourhoods from inappropriate development, whilst enabling everyone to work from home in a manner which is non-intrusive to neighbours;
- Allow or facilitate activities which attract more visitors to Drakenstein (e.g. markets, outdoor events, tourist accommodation);
- Protect ecological infrastructure where these features are identified and mapped;
- Facilitate densification where indicated in the SDF;
- Take account of infrastructure requirements and need to charge development levies for all additional development (over and above existing primary rights);
- Create diversity on area-by-area basis;
- Make the scheme familiar and easy to use: simplify basic controls, reduce red tape.

10. Draft Scheme Framework
A simplified and streamlined scheme structure is proposed. This structure will remain a draft and is only to be finalised once the by-law document is concluded:

<table>
<thead>
<tr>
<th>PROPOSED OVERLAY ZONES</th>
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<tbody>
<tr>
<td>Heritage Overlay Zone  – will apply to areas identified in Heritage Study.</td>
</tr>
<tr>
<td>Green Core Overlay Zone – will impose alternative parameters on properties abutting the green core in Paarl and Wellington to achieve a more attractive interface with this key central open space;</td>
</tr>
<tr>
<td>Densification Overlay Zone – will apply to CBD areas in Paarl and Wellington where densification is promoted in the SDF;</td>
</tr>
<tr>
<td>Scenic Route Overlay Zones – will apply to land abutting scenic routes as identified in the SDF to protect visual amenity. Existing development rights are not extinguished but municipality may request mitigatory measures and impose setbacks to alleviate adverse impacts;</td>
</tr>
<tr>
<td>Informal and Incremental Overlay Zones – will enable informal structures and incremental development to take place in demarcated areas where needed;</td>
</tr>
<tr>
<td>Local Economic Overlay Zone – to create a zone where a greater mix of small businesses and home based businesses can be undertaken (in line with for example Mbekweni’s current provisions);</td>
</tr>
<tr>
<td>Local Area Overlay zones – to adopt alternative parameters (other than what is in the base zone) for specific areas, possible examples are Wellington CBD, Paarl CBD, Simondium, Paarl South.</td>
</tr>
</tbody>
</table>

How and why should you get involved?
It is important for the public to participate in the process by providing comment at the various stages since the final scheme by-law will impact on how land within the Municipality is used and developed in the future. Should you have any input the approach to the zoning scheme project or the content of this report you are invited to submit your comments to the team for further incorporation.

When submitting your comment, please include your name and contact details (postal address as well as preferred method of communication, e.g. normal post, registered post, email, fax, etc.).

I&APs who are unable to read or write or who otherwise need special assistance to state their views on the proposal, may by appointment (during office hours) request a member of Sakaza to assist them to record their comments or objections.

Closing date for comment: 15 November 2016. Registration as I&AP’s ongoing.

Visit the website: www.sakazaprojects.co.za. Click on Drakenstein Land Use Management System (DLUMS)