

4th Draft
Public Comment

METSIMAHOLO IDP
SPATIAL DEVELOPMENT FRAMEWORK
2016 / 2017
URBAN SPATIAL DEVELOPMENT FRAMEWORKS



REVIEWED SPATIAL DEVELOPMENT FRAMEWORK FOR THE METSIMAHOLO LOCAL MUNICIPALITY IN TERMS OF
SECTION 34 OF THE MUNICIPAL SYSTEMS ACT, 2000 (ACT 32 OF 2000)

Sponsored by the
Fezile Dabi District Municipality



Prepared by the IDP Steering Committee of the Metsimaholo Local Municipality
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GLOSSARY

CARA Conservation of Agricultural Resources Act	SDF Spatial Development Framework
CBD Central Business District	SDT Short Distance Taxi
CSIR Council for Scientific and Industrial Research	SEA Strategic Environmental Assessment
DAFF Department of Agriculture, Forestry and Fisheries	SPC Spatial Planning Category
FS COGTA : Free State Department of Cooperative Governance and Traditional Affairs	SPLUMA Spatial Planning and Land Use Management Act, Act 16 of 2013
DFA Development Facilitation Act	Structure Plan: Vaal River Complex Regional Structure Plan, 1996 (former Vaal River Complex Guide Plan, 1982)
DMR Department of Minerals Resofurces	VDWHS Vredefort Dome World Heritage Site
du/Ha dwelling units per hectare	VDWHS EMF Vredefort Dome World Heritage Site Environmental Management Framework (Including EMFs for the Ngwathe and Moqhaka Municipalities)
EMF Environmental Management Framework	STDl Small Towns Development Initiative
EMZ Environmental Management Zones contained in the VDWHS EMF	TPS Town Planning Scheme
GDP Gross Domestic Product	WPW Water Purification Works
GLA Gross Leasable Area	WWTW Waste Water Treatment Works
GRP Gross Regional Product, i.e. for district or local Municipality	
GVA Gross Value Added	
HDA The Housing Development Agency	
I&AP Interested and Affected Parties	
IDP Integrated Development Plan	
(ITP) Integrated Transport Plan	
LDT Long Distance Taxi	
LFPR Labour Force Participation Rate	
LUMS Land Use Management Schemes	
NGO Non-Governmental Organisations	
NSDP National Spatial Development Perspective	
PGDS Provincial Growth and Development Strategy	
PSDF Provincial Spatial Development Framework	
STATS SA Statistics South Africa	

6.1 Spatial Planning Tools

In preparing the ensuing urban SDFs, the following Spatial Planning Tools were, amongst other, applied.

▪ **Walking distance**

A convenient walking distance to public transport is often interpreted as maximum walking time of 5-10 minutes, and a maximum walking distance of 400-500 metres. There will be exceptions to these principles, particularly in deep rural areas, but these principles become applicable as soon as densities increase and where there is a need for efficient urban settlements and services.

▪ **Integration**

The implementation of the walking distance principle to promote greater access to opportunities for all people will require functional integration. Neighbourhood development should integrate a range of activities and therefore may be better described by its building and design typology. These issues are also resembled in reality where settlements are characterized by segregation of land uses and low-density development that cannot support public transport, or small businesses. To address these issues and achieve better access and integration, appropriate densification will have to be promoted in settlements.

▪ **Densification and infill development**

Densification is the increased use of space both horizontally and vertically within existing areas and new developments, accompanied by an increased number of units and / or population threshold. Development of open stands within existing settlements in order to optimise the use of infrastructure, increase urban densities and promote integration (DRDLR, SDF Guidelines, 2008).

SPATIAL PLANNING TOOLS

- Walking distance
- Integration
- Densification and infill development
- Nodes
- Corridors
- Linkages
- Containment & Delineation
- Protection
- Lost Urban Space and Brownfield Regeneration
- Growth areas
- Commonage & Agricultural Land

STANDARD SPATIAL PLANNING CATEGORIES

- A: Core Conservation Areas
- B: Natural Buffer Areas
- C: Agricultural Areas
- D: Urban Related Areas
- E: Industrial Areas
- F: Surface Infrastructure

- **Nodes**

Nodes are areas where a higher intensity of land uses and activities are supported and promoted. Typically any given municipal area would accommodate a hierarchy of nodes that indicate the relative intensity of development anticipated for the various nodes, their varying sizes, and their dominant nature - (DRDLR, SDF Guidelines, 2008).

- **Corridors**

A corridor features a combination of transport services and supporting infrastructure and denser mixed land use development integrated with the transport system, which includes land uses such as retail, residential, service industries, commercial, activities, social, agricultural related uses and recreation. A corridor not only forms the link between nodes, but also relies on nodes along its length to generate movement and activity - (DRDLR, SDF Guidelines, 2008).

- **Linkages**

Linkages are routes that link urban areas, conservation areas, provinces and countries. These normally do not promote linear development along the route, but support nodal development. Linkages may be on national or international level and are mainly National and Provincial roads.

- **Containment and Delineation**

To control and regulate development.

- **Lost Urban Space and Brownfield Regeneration**

The problem of "lost space," or the inadequate use of space, afflicts most urban centres today¹ and forward planning should attempt to regain shattered cities to establish a public realm that is made of firmly shaped, coherently linked, humanly meaningful urban spaces. Brownfields² are defined as sites that:

- Have been affected by former uses of the site or surrounding land uses
- Are derelict or underutilised
- Are mainly in fully or partly developed urban areas
- Require intervention to bring them back to beneficial use and
- May have real perceived contamination problems

¹ Roger Trancik, 1986

² Tim Dxiion *et al*, 2007

- **Protection:** To conserve, in order to prevent extinction and to ensure the forth growing for future generations.
- **Growth areas:** Growth areas are the combination of the increase in size, number, and extension of a certain area.
- **Commonage Land**
Commonage Land is land which is, or is to be, occupied or used by members of a community subject to the rules or custom of that community (Communal Land Rights Act 11 of 2004).
- **Urban Edge**
A demarcated line and interrelated policy that serves to manage, direct and limit urban expansion and lateral growth of settlements. An urban edge will promote densification and integration and protect valuable natural, agricultural and scenic resources.
- **Standard Planning Categories**
In preparing the Metsimaholo Municipal SDF the Standard Planning Categories, with their subcategories, will be implemented. Implementation will be in alignment with the Free State PSDF by *“facilitating the land use classification of the entire land surface of the province in a standard format in accordance with defined Spatial Planning Categories, which are based on a broad spectrum of environmental parameters and a system of value and ethics”*, including:
 - A: Core Conservation Areas
 - B: Natural Buffer Areas
 - C: Agricultural Areas
 - D: Urban Related Areas
 - E: Industrial Areas
 - F: Surface Infrastructure

6.2 Cross Cutting Issues applicable to all Urban Areas and the Metsimaholo Rural Areas:

A: CORE
Spatial Development Goals
1. <i>All developments must be aligned with, and support environmental legislation and policy,</i> 2. <i>All developments must be cognisant of protecting the environment and the optimisation of natural resources,</i> 3. <i>Tourism opportunities must be enhanced and developments related thereto, supported,</i> 4. <i>Deneysville and Oranjeville will remain the primary tourism focal points of the region.</i>
Cross Cutting Issues
▪ Incessant development adjacent to the Vaal River, the Vaal River Barrage and the Vaal Dam preferably be preceded by a Management Plan, integrating the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and Provincial Policy with the Council's vision and strategy for the area. ▪ To promote the optimal development and utilisation of the unique tourism potential of the Metsimaholo region, whilst not compromising the outstanding universal value of the adjacent Vaal Dam and Vaal Barrage and unduly impairing the safe, undisturbed and quiet enjoyment of the area. ▪ <i>Because of the important role played by the Vaal Dam and the Vaal–Barrage in providing potable water to the economic heartland of the republic, everything possible must be done to restrict the pollution of these sources to the minimum. With this in view it is considered undesirable that large increase in the population concentration takes place in riparian areas. Open spaces must be protected against injudicious use on account of their ecological aesthetic or recreational value (Vaal River Regional Structure Plan, 1996 (Vaal River Complex Guide Plan, 1982)).</i> ▪ The status of existing heritage areas should be upheld and maintained i.e. Highveld Garden (Sasolburg), archaeological remains, related to the <i>Koi San</i> (Deneysville) and "Groot" Island in the Vaal Dam (close to Deneysville). ▪ Development proposed in the interim should, however, meet the existing guidelines pertained in the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and Provincial Policy³. ▪ All development applications have to be assessed in terms of the Free State Province Biodiversity Plan.⁴

³ Free State Province, Department of COGTA's *Development of Rural and Peri-Urban Areas* Guidelines.

⁴ Collins, N.B. 2015. Free State Province Biodiversity Plan: Technical Report v1.0. Free State Department of Economic, Small Business Development, Tourism and Environmental Affairs. Internal Report.

A: CORE	
▪ No activities in environmentally sensitive areas. ▪ Riparian areas are an integral part of the river ecosystem and are regarded as important ecological features, which often experience substantial development pressures. They should be regarded as sensitive to activities that threaten to severely degrade them. ▪ No mining activities without relevant mining permits / rights.	
B: BUFFER	
▪ Although subdivision of farmland adjacent the Vaal Dam will continue, a detailed land audit, in cooperation with the Department of Water Affairs and the Rand Water Board is required determining which properties, since developed, must be included as part of the “housing and property stock” and serve as a source of revenue to the municipality, ▪ Implementation of the objectives in the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and the Free State Province Biodiversity Plan. ▪ The areas within 32 m and 100 m of water courses, as defined in the National Water Act, and within 500 m of wetlands should be regarded as sensitive, further development in these areas will be subject to EIA procedures. ▪ No mining activities without relevant mining permits / rights. ▪ Riparian areas are an integral part of the river ecosystem and are regarded as important ecological features, which often experience substantial development pressures. They should be regarded as sensitive to activities that threaten to severely degrade them. ▪ No mining activities without relevant mining permits / rights.	
C: AGRICULTURAL AREAS	
Spatial Development Goals	
1. Access to agricultural land and commonage and all urban agriculture endeavours must benefit the broader community, 2. Responsible utilisation and control measures (carrying capacity) of commonage and agricultural land must be implemented, 3. High yield agricultural land must at all times be maintained.	
Cross Cutting Issues	
Urban Agriculture: <i>To promote the long-term sustainable use and conservation of natural agricultural resources and the protection and preservation of agricultural land and its productive use in order to ensure long-term national and household food safety and security and profitable agricultural</i>	

C: AGRICULTURAL AREAS

economic output

- Identification of suitable lost open spaces for urban agriculture practises.
- Cattle are continuously brought to the area, exceeding the carrying capacity of the commonages – a bylaw, controlling the influx of cattle and also management of stray cattle in the area, likely through a pound system, is deemed a priority.
- In partnership with the private sector and DAFF, conduct community awareness to promote food production on residential properties.
- Minimum area of smallholdings is 4 ha.
- Subdivision of smallholding in more than 3 portions (remainder and two subdivisions), will necessitate Township Establishment.
- Smallholdings not to be considered for any other form of permanent housing other than single residential purposes.
- The subdivision or development of riparian farmland, where permissible, must allow a minimum 100 m waterfront to the remaining portion thereof.
- Developments in the “Recreation and Tourist Attraction” zone of the structure plan, must procure preference.

Commonage:

- Refer to applicable “Urban Agriculture” cross cutting issues.
- No development on high potential agriculture land.
- Proper planning and management of all commonage land are required.
- Optimal utilisation, apart from current grazing and low intensity farming activities must be investigated.
- Implementation of well-planned and managed food gardens.

Region Agriculture:

- No development must be allowed on high potential agriculture land.
- Development on agriculture land may not commence prior to approval from the Department of Agriculture, Forestry and Fisheries.
- Permission must be obtained from the Department of Agriculture, Forestry and Fisheries regarding land, formally to be excluded from agricultural land, as pertained in the approved SDF.
- Future agricultural growth can primarily be created by value-added supplementary agricultural practices (Hydroponics, Tunnels, and Irrigation Schemes etc.).
- The Free State Department of Agriculture, Forestry and Fisheries (during 2009) in “*A Study to Investigate Opportunities for Value Add Agriculture in the Free State Province*”, identified the following significant agriculture practises for the Northern Free State Region, the most agricultural active

C: AGRICULTURAL AREAS

region in the province.:

- Soya Beans (dairy replacement production / products).
- Sunflower (biofuel, oil and secondary products i.e. margarine, mayonnaise etc. such as the currents refinery at Villiers).
- Cattle Farming (primary production in the north-eastern Free State, feedlots and diversify products).
- Game Farming (venison and biltong products, secondary tourism).
- Limited opportunities for poultry abattoirs (area currently comprises several abattoirs and market deemed saturated).
- Niche Sector, honey production.
- Current restrictions on the alteration of natural veldt into cultivated fields should be adhered to.
- Subdivisions to riparian properties must ensure a minimum waterfront of 100 m for subdivisions and the remainder.
- Subdivisions of agricultural land will be considered for formal development of holiday resorts (non-permanent residing) and *Leisure Residential Developments* according to Free State Province, Department of COGTA's *Development of Rural and Peri-Urban Areas*' Guidelines.
- The principle is, however, accepted to allow for subdivision of agricultural land, where the land is situated directly adjacent the formal town lands of urban areas with the exclusive aim to be utilised as smallholdings or small farms.

D: URBAN RELATED

Spatial Development Goals

1. *The existing "housing and property stock" must accurately be determined and serve as a source of revenue to the municipality,*
2. *Future housing developments must ensure differentiation in typologies and where feasible, provide for densification and infill planning,*
3. *Future developments must safeguard the purposeful provision of social facilities and open space access; especially in high density precincts,*
4. *Current norms and standards must be applied to ensure availability of amenities in existing urban areas; restricting conversion thereof into other land uses⁵,*
5. *Available land for urban extension must timely be acquired; especially considering prevailing challenges with undermined areas, currently enfolding urban areas,*
6. *A municipal based land use management system must timely be implemented, ensuring unhindered progression of the development processes,*

⁵ CSIR Guidelines for the Provision of Social Facilities in South African Settlements – Medium Towns (First Edition: August 2012).

D: URBAN RELATED

7. *Establishment of an industrial related tertiary education facility must timely be investigated and implemented ensuring the prolonged industrial focus of the area.*

Cross Cutting Issues

Land Use Management Scheme:

- Absence of approved TPSs in Deneysville and Oranjeville complicates land use management and “open title deeds” are not conducive for orderly urban development.
- ***Where a Scheme is non-existent, and a title deed not specific, the Sasolburg Scheme will apply.***
- Land use management in Zamdela, Refengkgotso and Metsimaholo (Oranjeville) is conducted in terms of Act 4 of 1984⁶ (‘Annexure F’ of the Township and Land Use Regulation, No 1897 / 1986).
- The Local Municipality embarked on the process of preparing an Integrated Land Use Management System (LUMS). The Draft Town Planning Scheme, although partially prepared, needs to be concluded.
- Funding for completion of the draft Land Use Management Scheme as high priority project.

Residential:

- Where informal settlements, occur in provincial roads reserves, *in situ* upgrading will not be considered due to safety and unhealthy living standards. Relocation will therefore have to be considered. Were feasible, *in situ* upgrading will only be considered as a means of infill planning, but not resulting in the lowering of living standards due to the planning of erven required for normal urban development (i.e. public open spaces, road reserves and social amenities).
- Future high cost residential development options are limited in the Sasolburg precinct and areas further west of Sasolburg (between the Parys Road and the Vaal River up to Sasolburg, including “Millionaires Bend” – Wonderwater Area) should be investigated as a long-term attempt to ensure continuous high cost residential opportunities in the region. Development is subject to the Vaal River Complex Regional Structure Plan.
- Where the aforesaid is proposed on the reparation of the Vaal river, density should not exceed 1 unit per 10 m waterfront at an absolute maximum density of 1 unit per 5 000 m²
- “Notarial Tying” must only be permitted where properties are not adjoining, an all other instances consolidation is required by the municipality.
- Densification relating to subdivision is restricted to the minimum erf sizes determined in the TPS.

⁶ Act 4 of 1984 was since repealed in 1994, regulation dealing with *Township and Land use* were not revoked.

D: URBAN RELATED

- Except for areas proposed for infill planning and where a TPS is implemented, the minimum erf size is 600 m² and in high density precincts, 350 m²
- Apart from boarding house options, “Student Housing” must be permitted in areas in close proximity (radius of 1 Km or areas predetermined for this purpose) of tertiary training facilities in Sasolburg (refer to Sasolburg / Zamdela SDF)
- Densification by means of:
 - Townhouses; unless otherwise indicated (i.e. existing scheme, only on erven larger than 2 000 m² at a ratio of 30 du/Ha);
 - Maisonettes (only on erven larger than 2 000 m² at a ratio of 50 du/Ha);
 - Flats (only on erven larger than 2 000 m² at a ratio of 80 du/Ha);
 - The number of dwelling units per hectare (du/Ha) should proportionally be increased directly adjacent to major streets, although specific streets should be predetermined for this purpose.

Central Business District (CBD) and Development Nodes:

- Due to the absence of a TPS, CBDs of Deneyville and Oranjeville are proposed to be delineated.
- The proposals contained herein should be included in the new LUMS of each area.
- Development in these CBDs is dispersed with open erven available for future business development / densification.
- Long-term development within the Sasolburg CBD must be strictly according to the proposals contained herein, taking care not to establish a future business / mixed use corridor on opposite sides of *Eric Louw* Street.
- Home business should generally be permitted, strictly according to the applicable scheme, excluding high density areas where the provisions of Annexure F will apply, however, illegal business and commercial practices must in all areas be addressed in bylaws and dealt with accordingly.
- Attracting of businesses and commercial activities to Zamdela should procure preference.

Commuting Facilities:

- Recent developments in most residential extensions will necessitate the identification of additional pickup points. Health conditions at the existing nodes are often dire and the necessity for proper infrastructure at existing nodes and future pickup points (at least cover and ablution facilities) is emphasised.

Urban Open Spaces:

- Refer to Core and Buffer areas, also depicting urban open spaces.
- Urban greening is almost non-existent in high density residential precincts and attempts in this regard, in liaison with the DAFF, must be deemed a priority.

D: URBAN RELATED

- Continuous subdivision of functional and formal open spaces to accommodate social amenities and business land uses must be prohibited.
- In supporting the above, several smaller functional open spaces in all urban areas, are not developed and are proposed for levelling and gravel surfacing to establish informal sport areas.
- Provision of open spaces should be maintained according to CSIR Guidelines for the Provision of Social Facilities in South African Settlements – Medium Towns (First Edition: August 2012).
- Total provision of functional and formal open spaces has to be at least 0.5 Ha / 1 000 people, 40% of this allocation is for strategic (regional) and district facilities and 60% for community, urban and neighbourhoods parks, play lots, etc.
- Lost urban space, not being core, buffer or functional open spaces, could be utilised for infill planning purposes.
- Current and old excavated areas do not represent functional open spaces, unless properly rehabilitated and landscaped.
- Maintenance of existing infrastructure in public open spaces is deemed a priority.

Resorts and Tourism:

To promote the optimal development and utilisation of the unique tourism potential of the Metsimaholo region, whilst not compromising the outstanding universal value of the Vaal River, Vaal Barrage and Vaal Dam riparian areas and unduly impairing the safe, undisturbed and quiet enjoyment of the area.

- Similar to the Fezile Dabi District, the region experienced an increase in the tourism industry regarding weekend tourism destinations. Specific reference is made to Vaal River, Vaal Barrage, Vaal Dam, game ranches and guesthouses on farms.
- Support Leisure Residential and Resort developments⁷.

Cemeteries:

- Cleaning, fencing and maintenance of existing and old cemeteries must be done.
- Greening of cemetery premises is long overdue and must be attempted.
- Highly dependent on cultural practices (for instance; the acceptability of cremation, choice of separate sites and the likes of) and other factors such as the incidence of HIV / Aids.
- The site selection of suitable land for burials is critical and requires prior geological and groundwater level (if applicable) studies.
- A by law must timely be prepared relating to the management and establishment of private and public cemeteries.

⁷ Development of holiday resorts (non-permanent residing) and *Leisure Residential Developments* according to Free State Province, Department of COGTA's *Development of Rural and Peri-Urban Areas* Guidelines. No development will, however, be allowed on high potential agriculture land.

D: URBAN RELATED

Social Amenities:

- Development of the Zamdela precincts is problematic since it occurred over two physical barrier; initially the railway line and Sasolburg Station and later the Koppies Road. It creates pertinent safety risks for the community as numerous residents cross these barriers on a regular and daily basis to reach social amenities established in the older Zamdela.
- The importance of the timely provision of social amenities in the precinct between the Koppies Road and railway line and east of the road Koppies Road, is regarded by the community and Council as critical.

E: INDUSTRIAL AREAS

Spatial Development Goals

1. *Sasolburg will remain the primary industrial focal point of the region and the continuous development of its industrial areas must be promoted – duplication of facilities in the other precincts is not proposed; especially in view the proposed tourist related focus in these areas,*
2. *Continual expansion of the industrial zones must procure preference,*
3. *“Clean Air Policy” must also procure preference when considering future development in the region, in an attempt to safeguard the prolonged tourist related development thereof,*
4. *Establishment of an industrial related tertiary education facility (as proposed under “Urban Related” category),*
5. *Neighbouring mining companies must timely be involved in discussions to determine a long-term development scenario for all urban precincts in the Metsimaholo Region, in relation to undermined areas and foreseen undermined areas.*

Cross Cutting Issues

Industries:

To promote new industrial areas that does not threaten the outstanding universal value of the area.

- Provision of new / relocation of existing industrial areas must focus on road accessibility and proximity to the predominant labour forces.

Extractive Industries (Mining):

To promote new mining activities that does not threaten the outstanding universal value of the area.

- Current and old excavated areas do not represent functional open spaces, unless properly rehabilitated and landscaped.
- Old exploited areas located in the urban areas, must be rehabilitated.
- Unless otherwise indicated, gravel is mostly exploited in urban areas for municipal road building, construction and maintenance purposes only.

F: SURFACE INFRASTRUCTURE & BUILDINGS

Spatial Development Goals

1. *Infrastructure and bulk service delivery must continually focus on:*
 - *eradication of backlogs;*
 - *maintenance;*
 - *upgrading; and*
 - *provision to new precincts.*
2. *Access to services must be ensured to the broader community.*
3. *Accessibility to all new extension (road infrastructure) must be deemed a priority.*
4. *Development must continually ensure an appropriate transportation system for goods and people.*

Cross Cutting Issues

Landfill Sites:

Agricultural activities seem to be the biggest potential contributor to water pollution in the study area, followed by faulty sewage treatment facilities and unsafe landfill sites. These activities, and their related activities, should be managed to ensure minimum pollution risk.

- Daily maintenance and operations at landfill sites are not in all instances addressed, resulting in intolerable pollution of the surrounding areas.
- Illegal dumping, especially at exploited rehabilitated excavation pits, located within residential areas is a prominent health risk and cleaning and rehabilitation of the areas to address illegal dumping must be addressed with resolve.
- Clear and caution signage at all illegal dumping areas, prohibiting utilisation as landfill sites / dumping.
- Residential developed is not allowed within 500 m of a landfill site.

Waste Water Treatment Plant

- Residential development is not allowed within 500 m of a waste water treatment plant.

A: CORE

Metsimaholo Riparian Management Plan:

Continuous and existing leisure residential development and urban development:

- in the Oranjeville vicinity, on the Vaal Dam riparian;
- between Oranjeville and Deneysville on the Vaal Dam riparian;
- on the Vaal Barrage riparian between Deneysville and Sasolburg; and
- adjacent to the Vaal Barrage between the Badriff Bridge (Sasolburg) and the N1 National Road,

will necessitate the proper long-term planning regarding land use and bulk- and road infrastructure services to ensure that future demands will be met. Incessant development in the region should preferably be preceded by a Management Plan, integrating the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and Provincial Policy with the Council's vision and strategy for the area. In this respect, the continuous needs of the high income market should not be overlooked.

STATUS QUO

Vaal Barrage and Vaal River:

The Vaal Barrage downstream, is a significant topographical feature in the region and serve as Gauteng's principal source of potable water. It is a popular water sports and water related adventure venue.

Rapid development adjacent the Vaal Dam and Vaal Barrage during the late fifties and early sixties, resulted in a need for development control contiguous to the river. Demands are experienced for the further development of the riparian properties. Tendencies occurred in the area over the past few years demanding effective long-term planning. Higher densities in the form of townhouses and "more than one dwelling" per property are being applied for.

FUTURE SPATIAL FRAMEWORK

Because of the important role played by the Vaal Dam and the Vaal-Barrage in providing potable water to the economic heartland of the republic, everything possible must be done to restrict the pollution of these sources to the minimum. With this in view, it is considered undesirable that large increases in the population concentration takes place in riparian areas. Open spaces must be protected against injudicious use on account of their ecological aesthetic or recreational value (Vaal River Regional Structure Plan, 1996 (Vaal River Complex Guide Plan, 1982)).

- Optimal development and utilisation of the unique tourism potential

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Other Core Related Land Uses: Open areas within Sasolburg were provided according to the “Garden City” concept. Sasolburg is also one of only three “Arbour Towns” in South Africa, which is a testimony of the amount of trees and greenery present in the urban area. ▪ S3: A Highveld Garden of 6 ha in extent with an adjacent bird sanctuary (10 ha), where flora indigenous to the Highveld may be seen, is also located within the area. ▪ Two areas adjacent Vaalpark (S9) and the Sigma Mine are proclaimed protected areas. ▪ A large centrally located Eco-park (S9) will further form part of the new Chem City industrial development site. ▪ Open areas adjacent the Vaal River have a significant environmental status and development along the river is guided by the Vaal River Complex Regional Structure Plan, 1996 (former Vaal River Complex Guide Plan, 1982). ▪ The Molensteen Pan area (S8) is proposed as a conservation area including sport and recreational facilities. The historical value, as main source of sandstone for the union buildings, is also emphasised. The area can also be developed as a bird sanctuary, especially for water birds. The safe use of the area, especially the adjacent ash landfill, should, however, be predetermined. The ash landfill must systematically be removed and the area rehabilitated to guarantee the safe use thereof as a recreation area.	of the Vaal River and Vaal Barrage areas are proposed, but without compromising the outstanding universal value thereof and unduly impairing the safe, undisturbed and quiet enjoyment of the area. ▪ Riparian areas and marshes drain towards the Vaal Barrage and their tributaries are an integral part of the river ecosystem and regarded as important ecological features, experiencing substantial development pressures. ▪ They must be regarded as sensitive to activities that threaten to severely degrade them. Development proposed in the interim, prior to a “wall-to-wall Scheme” must meet the existing guidelines pertained in the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and Provincial Policy⁸. ▪ It is proposed that tree planting should also be extended to Zamdela (at least 20 000 trees per annum). ▪ The Vaal River is finally considered a natural resource of strategic importance. Open areas adjacent the river has important environmental status and development thereof should not occur out of hand. ▪ Areas of ecological significance of the proposed commonage properties must timely be identified and reserved as natural areas (for example upper attributers to Leeuw and Taaibosch Spruit).

⁸ Free State Province, Department of COGTA’s *Development of Rural and Peri-Urban Areas* Guidelines.

B: BUFFER

STATUS QUO	FUTURE SPATIAL FRAMEWORK
The Vaal River and Vaal Barrage riparian properties in the vicinity of Deneysville, have the past few years, increasingly been subdivided. Subdivision is attempted to provide high cost holiday-oriented housing, enabling property owners to use the water surface for recreation purposes. It is uncertain whether the correct licenses under the National Water Act, 1998 (Act No. 36 of 1998) are in force. The properties, however, pose specific management problems for the municipality as they were never incorporated as erven and are neither subject to any meaningful land use control measures nor subject to the establishment of a body corporate, to ensure some control. The provision of services (especially roads) and waste disposal create further problems for the municipality. It will be of great importance, upon implementing a wall-to-wall town planning scheme, to provide proper control and management of these properties. Several shallow pans occur in the Deneysville region, some of which are located closer to Sasolburg. The Sasolburg area additionally comprises two significant attributers to the Vaal River, namely the Leeuw Spruit and Taaibosch Spruit.	Vaal River and Vaal Barrage Riparian Management Plan ▪ Continuous leisure residential development adjacent the Vaal River and Vaal Barrage will necessitate the proper long-term planning of bulk services to ensure that future demands will be met. ▪ Incessant development in the region should preferably be preceded by a Management Plan, integrating the Vaal River Complex Regional Structure Plan with the Council's vision and strategy. ▪ In this respect, the continuous needs of the high income market should not be overlooked. ▪ Although subdivision of farmland adjacent the Vaal River and Vaal Barrage, mostly for leisure residential purposes, will continue, a detailed land audit, in cooperation with the Department of Water Affairs and the Rand Water Board is required determining which properties, since developed, must be included as part of the "housing and property stock" (including numerous villages dispersed throughout the area; especially in the vicinity of Sasolburg). The latter will serve as a source of revenue to the municipality. ▪ Areas within 32 m and 100 m of water courses, as defined in the National Water Act, and within 500 m of wetlands should be regarded as sensitive.

C: AGRICULTURAL AREAS

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
Urban Agriculture	
No agricultural small holdings are situated directly adjacent the Sasolburg urban area. Several small holdings and small farms (468 in total) are, however, located adjacent to Deneysville and between Deneysville and Sasolburg (refer to the Deneysville SDF for more details). Several land parcels, unviable for urban development (undermined and not suitable for residential extension) surrounding the Sasolburg / Zamdela area, however, comprise potential for the purposes of small scale farming and urban agricultural activities. F3: The remaining portion of the Farm Amelia 518 (now known as Subdivision 7), initially owned by the Municipality, is in the process of being alienated – the area is underlain with rich coal deposits.	▪ Land use control on the numerous small holdings and small farms is problematic and exclusion thereof as agricultural land and inclusion in either the Sasolburg or Deneysville scheme boundaries, is deemed inevitable. ▪ A pertinent need for a well-developed communal garden exists in the Zamdela precinct. ▪ Undermined land in close proximity of the urban area, could be utilised for urban agriculture and small scale farming activities, including: - F1: Undermined land adjacent Zamdela (several farms ⁹, mainly commonage at present) - F2: Portions of the Farm Mooidraai 44, opposite the Heilbron Road not occupied by the current urban expansion of Zamdela (Mooidraai Extension). - The Farm Bequest 1548 (council owned), south of the Mooidraai Extension.
Commonage	
F1: Undermined land adjacent Zamdela, not available for residential extension, is at present utilized for grazing and commonage purposes.	▪ F2: Portions of the Farm Mooidraai 44, being undermined and not suitable for residential extension, comprise potential for the purposes of small scale farming and grazing purposes. ▪ F4/R7: Portions of the remainder of the Farms Taaiboschspruit 205 (privately owned and only a limited portion available for residential

⁹ The farms Saltberry Plain 442, Gysbert 1161, Gysberthoek 315, Gorton A/1677, Beltrim 924 and Bequest 1548.

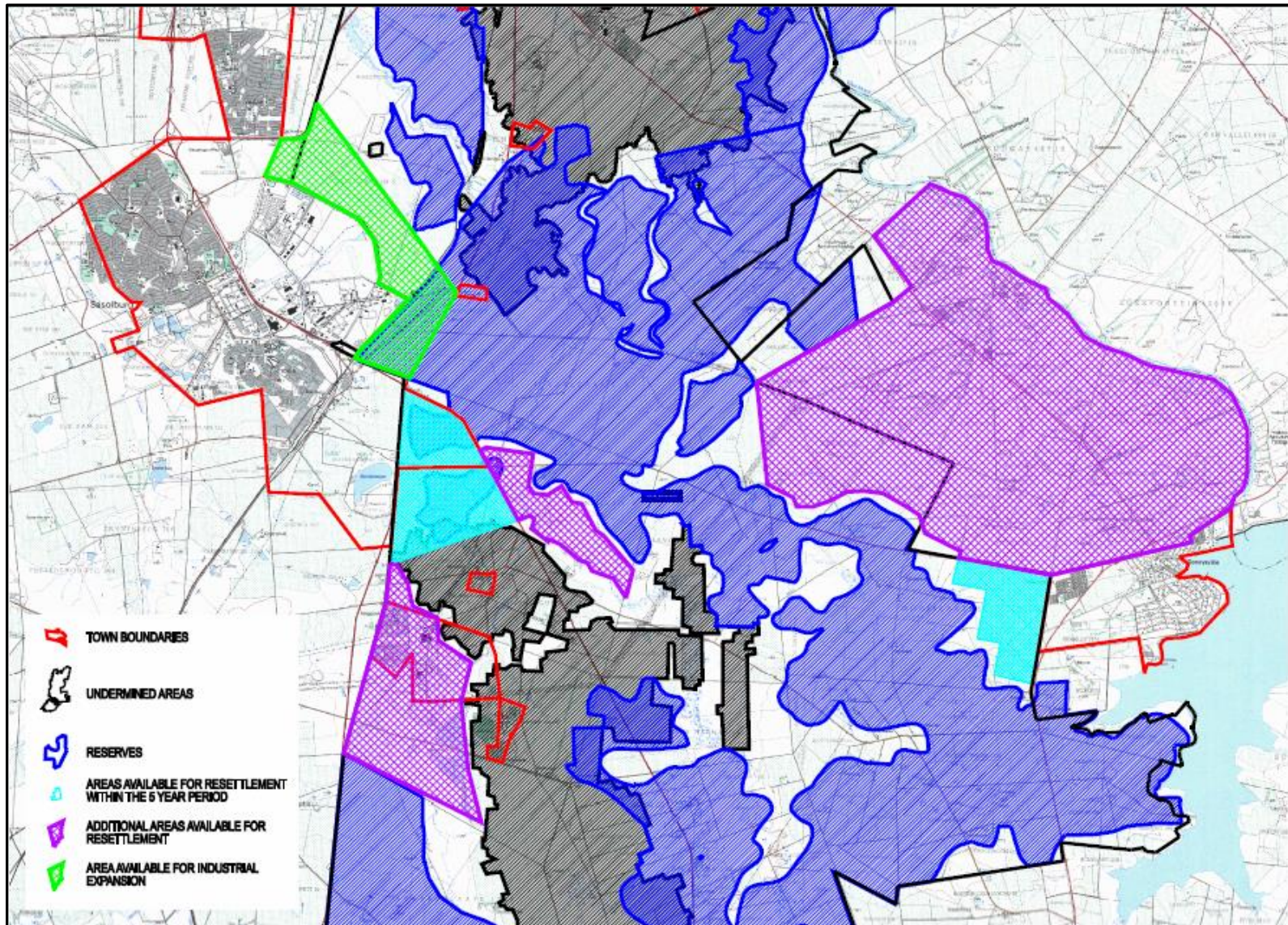
STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
A continuous need is experienced in the community for additional commonage land and appropriate land parcels must timely be identified and purchased to address this specific community need.	extension due to undermining) and Rietfontein 150 (not occupied by slime dams), could be utilised for limited further extension of the Kragbron and Clydesdale villages (at least up to the Wolwehoek Road. Utilisation thereof, in the interim, for grazing purposes is deemed feasible; similar areas not suitable for development. ▪ Stray cattle plague almost all residential precincts and the implementation of a pound system, as a consequence, must be investigated, possibly with the assistance of relevant intuitions such as the SPCA / Veterinarian Services.

D: URBAN RELATED

The Rural Metsimaholo SDF (refer to section 5 above), comprehensively discussed the pertinent long-term expansion dilemma the Sasolburg / Zamdela precincts is confronted with. In summary, a scarcity in developable land, mainly due to open cast mines and undermined areas (due to coal extraction) resulted in limited expansion possibilities of the urban area. Limited possibilities exist for future high cost residential development. Areas further west of Sasolburg (between the Parys Road and the Vaal River) are considered to be ideal for this purpose. High cost residential developments, such as Boschenvaal, have already been established in the said area. The area should be investigated as a long-term attempt to ensure continuous high cost residential opportunities in the region. Apart from the short and medium-term development options discussed in the ensuing section, the following long-term expansion options are proposed for further consideration (refer to Figure 11):

<u>Short-Term Development in the Metsimaholo Region</u>
Limited short and medium-term infill opportunities exist in the Sasolburg / Zamdela urban area, but will not contribute a 20 year solution for urban development. Due to prevalent mining conditions, development opportunities surrounding Zamdela are largely being negated.
Opportunities exist for short and medium-term urban development of Refengkgotso. Development will entail purchasing several small holdings either further south (towards the Vaal Dam, although also limited due to undermine areas) or further north (afflicted by neither prevalent mining condition nor strategic coal reserves).

Figure 11
Land Unavailable for Urban Development resulting from Mining Activities East of Sasolburg
(Source: Sigma Collieries, 2015)



Long-Term Development in the Metsimaholo Region

Long-term urban development in Sasolburg / Zamdela will result in a linear urban form. Small land parcels further northeast or further south (south of Kragbron), afflicted by neither prevalent mining conditions nor strategic coal reserves, are thus available for urban development.

Shortage in developable land will ultimately lead to a larger urban concentration at Deneysville / Refengkgotso on land located between the Sasolburg / Deneysville Road and the Deneysville / Vereeniging Road, north of Deneysville, afflicted by neither prevalent mining conditions nor strategic coal reserves.

Urban Fringe

The urban form of the Sasolburg / Zamdela precincts are far from ideal, gradually adopting a linear form and not an ideal circular form. The current urban form is the result of the area being excessively undermined in the past.

- The linear character and short-term expansion of the urban area will follow this trend, resulting in the urban fringe gradually expanding south adjacent to the Heilbron Road (Road P9/4) up to the Wolwehoek Road (Road P44/3).
- As a result several smaller land parcels, also resulting from previous mining activities (Coalbrook Collieries) in the vicinity of Clydesdale (now ruined) and Holly Country (now known as an extension of Kragbron) areas, will be included within the urban fringe (not necessarily to be purchased by the municipality and mostly owned by private land owners and mining companies).
- F4/R7: Portions of the Farms Taaiboschspruit 205 (privately owned and only a limited portion available for residential extension due to undermining) and Rietfontein 150 (not occupied by slime dams), could be utilised for limited extension of the Kragbron 1 and Kragbron 2 (formerly known as Clydesdale) villages (at least up to the Wolwehoek Road) and will have to be obtained for this.
- The Koppies Sasolburg Road (P30/1) will delineate the western urban fringe – land further west is undermined and not suitable for urban development.
- The northern extension of the above road to Vereeniging, will form the eastern urban fringe up to the Taaibosch Spruit.
- The Vaal River naturally delineates the northern urban fringe.
- The rehabilitated Wonderwater open cast mine, and the existing scheme boundary of Sasolburg and Zamdela, delineate the western boundary of the urban fringe, up to its intersection with the Koppies Sasolburg Road (Road P30/1).

Table 13
Summary of Current Housing Tendencies Sasolburg / Zamdela Urban Area
(Source Municipality, 2015)

<u>RESIDENTIAL AREA</u>	<u>RESIDENTIAL ERVEN</u>			
	<u>OCCUPIED</u>	<u>UNOCCUPIED</u>	<u>TOTAL</u>	<u>REQUIREMENTS</u>
Sasolburg	8 470	697	9 167	-
Sasolburg West (Wonderwater Area – in process)		2 687		
<i>Welgelegen Wes (proposed for replanning into a residential mixed use area)</i>				
Herron Banks		360	360	
Zamdela	7 156	-	7 156	
Harry Gwala (Leitrim)	3 147	-	3 147	
Walter Sisulu (Gortin)	5 307	-	5 307	
Amelia Extension	3 257	-	3 257	-
Mooidraai Extension		2 995	2 995	
Infill Planning in Zamdela (Remainder of the Farm Leitrim 926)		(94, 77, 113) 285	285	
Hostel redevelopments into free hold stands	1 307		1 307	
Hostel 4 in process (2015 – 2016)		420 (Hostel 4)	420	
Kragbron (Phase 1)	612		612	
Kragbron (Phase 2)		1 548	1 548	
Kragbron (previously Holly County)	203	-	203	
Coalbrook (known as Clydesdale)		34 (ruined)	34	
Viljoensdrif	185	-	185	
Bertha Village	117	-	117	
Wolwehoek	25	-	25	
ESCOM Vaal Village	200	-	200	
Hunters Village	40	140	180	
New Vaal Village	574	-	574	
Groenpunt Correctional Services	165	-	165	
Richmond	unknown	-	-	
TOTAL	30 765	9 166	39 931	7 600

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
Residential Sasolburg: There are currently a total of 9 167 residential sites in Sasolburg of which 697 are unoccupied. The unoccupied erven largely refers to the medium income residential erven in the Vaalpark residential area and Welgelegen West (the latter is, however, proposed for replanning to establish a residential mixed use area). The provision of affordable and suitable student accommodation for use by young people currently studying at public higher education institutions remains a key challenge of high demand and short supply which is exacerbated by high rental cost. In addition, the challenges of students who may need to subsist on limited financial capacity creates and increased demand for affordable and suitable student accommodation in the commercial and private sector, given the limited student accommodation on campus (student accommodation is defined under the Sasolburg / Zamdela SDF)¹⁰.	Infill planning (Both Precincts): Several large erven, no longer earmarked for its initial purposes and/ or lost urban space are prosed for infill planning: - Erf 1448 (Sasolburg), - R6/S4: Erf 13155 (Zamdela - subject to detail investigation (due to floodlines, overhead power lines. roads and the like), - Erven 1163 & 1188 Zamdela - former school sites (Subject to infill planning not resulting in the substandard provisions of social amenities¹¹), - Continuous hostel development, converting structures into single residential properties (Hostel 4 currently underway - 420 dwelling units). ▪ Apart from boarding house options, “Student Housing” must be permitted in areas in close proximity (radius of 1 Km or areas predetermined for this purpose) of tertiary training facilities in Sasolburg.

¹⁰ **Student Accommodation / Housing** is defined as a dwelling unit occupied by *bona fide* students of a recognised tertiary institute where the number of students shall be restricted to one (1) student per 50 m² and may only be accomplished through a rezoning application implying, but not restricted to, the following:

- a single room shall be not smaller than 8 m² occupied by a maximum of one (1) student and a double room, not smaller than 16 m², occupied by a maximum of two (2) students.
- students’ rooms must have their own lockable closets and must be equipped with a single bed, cupboard, study desk, chair and a bookshelf.
- suitable food storage, preparation and kitchen space shall be provided.
- one large study / meeting room at least 1,5 m² per student.
- not more than four (4) students must share a bath or shower and toilet.
- all off-campus accommodation facilities must be of a standard that is at least the equivalent of a university residence in terms of quality.

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
Zamdela: Zamdela has a total of 7 156 residential erven of which 2 995 newly planned erven are in the process of being formalised on the Farm Mooidraai 44. The establishment of an additional 7 600 erven on the property appears to also be feasible. A9: Accessibility to the Mooidraai extension may not be feasible as access is proposed over a private property, Subdivision 4 of the Farm Amelia 518 (previously used as a mill) between the extension and the Deneysville Road P85/3. It may result in acquiring the premises by the Municipality. Informal Settlements (Applicable to all Urban Areas): ▪ Informal settlements, mostly in Gortin/ Somers Post, Amelia, and to a lesser extent in Themba Khubeka, occurs on either open erven or in the provincial roads reserves. ▪ In the instance of the latter, <i>in situ</i> upgrading will not be considered due to safety and unhealthy living standards and relocation will have to be considered. ▪ Were feasible, <i>in situ</i> upgrading will be considered as a means of infill planning, but not resulting in the lowering of living standards due to the planning of erven required for normal urban development i.e. public open spaces, road reserves and social amenities.	▪ R1: Refers to the densification option for the already planned Welgelegen West extension (northeast of Sasolburg). Densification, especially a mixed density (residential uses), is motivated in view of the limited land available for residential development (current erf sizes are on average 1 200m²) and an endeavour by council to provide a functional integrated precinct comprising of various residential densities and uses must be supported. ▪ R2: The extension of Vaalpark to the east, on the farms Lauterwater 77 and Voorspoed 361. The area has the potential to develop rapidly should sufficient access be provided at A4, linking Vaalpark with Vereeniging and Vanderbijlpark. ▪ R3: Further high cost residential development of Vaalpark (mainly north of Minnaar Street and a small portion south) will pose difficulty as internal services are not installed and approximately 50% of the erven, apart from services not being installed, are privately owned. ▪ Riparian properties in an area known as “Millionaires Bend” must in future be considered for low density residential extensions. ▪ R4: A residential mixed use precinct, “Sasolburg West” is in process between the Sasolburg/ Vanderbijlpark Road (P9/5) and the rehabilitated Wonderwater Mine. ▪ Bulk services (water and sewer) to benefit the foreseen development, have since been installed. ▪ Future high cost residential development options are limited. Areas further west of Sasolburg (between the Parys Road and the Vaal

- any other conditions that the council may deem necessary.

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
Metsimaholo Riparian Management Plan: - Continuous and existing leisure residential development and urban development between Oranjeville and Deneysville on the Vaal Dam riparian, on the Vaal Barrage riparian between Deneysville and Sasolburg and adjacent to the Vaal Barrage between the Badriff Bridge (Sasolburg) and the N1 National Road will necessitate proper long-term planning regarding land use and bulk and road infrastructure services to ensure that future demands will be met. - Incessant development in the region should preferably be preceded by a Management Plan, integrating the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and Provincial Policy with the Council's vision and strategy for the area. In this respect, the continuous needs of the high income market should not be overlooked. <i>DRDLR Development Potential in Urban Settlements Report (2014) assessment:</i> - Urban Growth Potential – Medium - Economic Potential - High Villages: The vast number of smaller villages dispersed through the Municipality's area of jurisdiction (refer to table above), must be incorporated under the foreseen Integrated Town Planning Land Use Management Scheme and effective land use control, implemented. These villages play a significant	River) should be investigated as a long-term attempt to ensure continuous high cost residential opportunities in the region. - Development in these areas is subject to the Vaal River Complex Regional Structure Plan and, where proposed on the reparation of the Vaal river, density should not exceed 1 unit per 10 m waterfront at an absolute maximum density of 1 unit per 5 000 m². - R5: A portion of land, currently privately owned in the center of the "Larger Zamdela" is in the process of development, and deemed ideal for the provision of a taxi rank (T5). - R7 (F4): Portions of the remainder of the Farms Taaiboschspruit 205 (privately owned and only a limited portion available for residential extension due to undermining) and Rietfontein 150 (not occupied by slime dams, also privately owned), could be utilised for limited further extension of the Kragbron and Clydesdale villages (at least up to the Wolwehoek Road). - Development between Oranjeville and Deneysville on the Vaal Dam riparian, on the Vaal Barrage riparian between Deneysville and Sasolburg and adjacent to the Vaal Barrage between the Badriff Bridge (Sasolburg) and the N1 National Road, require the implementation of a Management Plan, integrating the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and Provincial Policy with the Council's vision and strategy for the area. - R8: Limited possibility exists to extend the Amelia precinct, although accessibility, the presence of an exploited quarry and vleis areas/ may pose difficulties.

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
role in the area since they house a large number of the specialised labour component relating to mining and electricity provision. Although the villages are well planned and developed with a high level of infrastructure, township establishment never occurred that complicates transfer of properties to individual owners. The legal status of the villages must therefore be addressed in the future spatial form of the region.	All villages, irrespective of their ownership, not included in a formal land use control document, must be incorporated under the foreseen Integrated Town Planning Land Use Management Scheme and effective land use control, implemented.

Central Business District

G1: The systematic removal of the ash dumps between Sasolburg and Zamdela, being a physical barrier restricting integration between the two communities will, in the long-term, avail valuable land for development. Although soil conditions first needs to be investigated and all possible effects of pollution negated, the area is deemed ideal for a mixed use area, possibly including high rise density and commercial developments, non-noxious activities and an appropriate transport node, in relation to the existing public transport orientated corridor between Zamdela and Sasolburg.

Sasolburg:

In view of the fact that the Sasolburg CBD expanded more rapidly than was predicted, with the initial planning of the town, an inevitable encroachment of business / commercial activities occurred into adjacent residential areas. Although the initial encroachment was predominantly into a northerly direction, it is foreseen that encroachment will continue in a westerly and southern direction within the boundaries of Cristian de Wet, Eric Louw and President Brand Streets.

Zamdela:

A vast number of small residentially based shops and informal trading occur in Zamdela. Zamdela comprises a well-located CBD although development thereof seems dormant. The latter is, amongst other, attributed to the extent of the informal business sector which is a more viable option to many entrepreneurs. Although Zamdela comprises a well-located CBD (B6), development thereof seems dormant. The tendency to rather develop well-distributed smaller business nodes, attributes to the CBD being dormant. A number of business sites are well distributed within Zamdela and mainly serve as small convenient stores.

Central Business District

Sasolburg CBD and Neighbourhood Intrusion:

- The Sasolburg CBD comprises numerous paved pedestrian walkways, currently indicated as “street” on the respective General Plans. Extension of existing buildings adjacent thereto may be considered under condition that the pedestrian flow is not restricted and aesthetic measures are applied.
- It is inevitable that long-term development of the CBD will result in encroachment of the adjacently located residential area. It has, however, to be contained with the perimeters of Cristian de Wet, Eric Louw and President Brand Streets.
- The Sasolburg CBD must be developed strictly according to the above proposals; with special emphasis not to establish a future business/mixed use corridor on opposite sides of Eric Louw Street.
- Said streets will in future serve as designated public transport corridors with well-placed public transport nodes adjacent thereto.
- Placement of public transport nodes must consider the reduction in walking distances to less than one kilometre (15 minutes to walk 1 km).
- B1: Proposed western expansion of the CBD into adjacent residential areas. Park erf 5328 must, however, not be considered for business development although it could be considered for parking and stormwater drainage purposes.
- B2: As a result of the continuous growth experienced within the Sasolburg Plaza, extension of this business area, similar to the above, will occur on erf 5348. This extension is in line with B1 as an ideal area for neighbourhood intrusion of the Sasolburg CBD.
- B3: The last phase of neighbourhood intrusion will occur between Baddrif and President Brand Streets.
- A precinct plan must ultimately be prepared to guide future development of the CBD, that must:
 - Include a complete assessment of the current and future public transport nodes within the CBD;
 - Make proposals for the revitalisation of the existing CBD;
 - Address the desirability of rezoning of adjacent residential properties to allow for the extension of the CBD;
 - Provide for a detailed urban design framework to facilitate developed;
 - Enhance walkability and restrict private car dominance.
- The Sasolburg CBD comprises numerous paved pedestrian walkways, currently indicated as “street” on the respective General Plans. Extension of existing buildings adjacent thereto may be considered under condition that the pedestrian flow is not restricted and aesthetic measures are applied.
- B4: The existing showgrounds may in future be considered for rezoning for special use purposes, depending specific requirements by developers. The redevelopment thereof is thus foreseen.
- B5: Land Adjacent to the D P De Villiers Stadium (S1) – a portion of subdivision 52 of the Farm Herewarde 409, is considered to be ideal for the

Central Business District

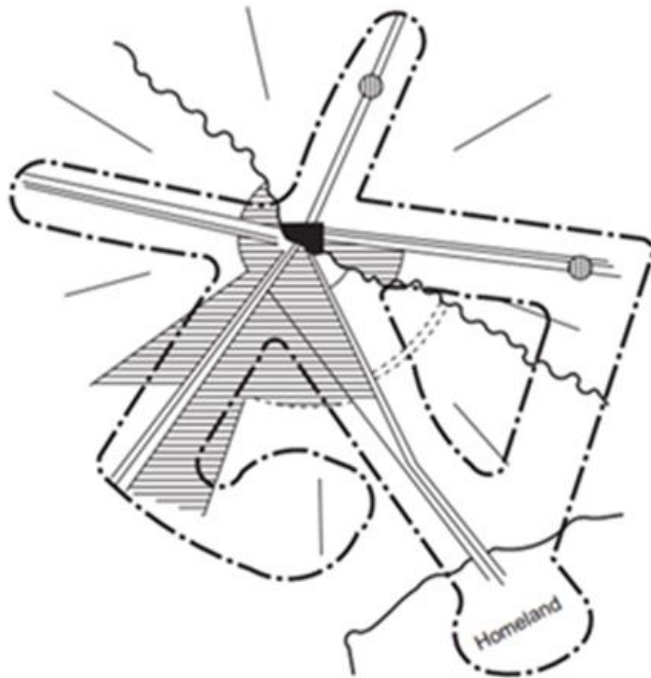
purposes of establishing a large business node (mall).

- Development applications for guest houses and lodges in the residential areas, surrounding the Sasolburg Hospital, must be favourably considered by the Council:
- The following additional business nodes have been identified
 - Checkers Centre – proposed upgrading of the centre should also allow for purposeful upgrading of the public transport node (T5);
 - In the Vaalpark area, to also allow for purposeful upgrading of the public transport node (T6) on the remainder of erf 11.
- B6: Although the Sasolburg CBD will never be duplicated in Zamdela, the initially and historically provided CBD, must similarly be revised with appropriate urban amenities, even if its function is that of well development neighbourhood centre¹². A precinct plan is therefor also deemed essential to reconsider the area and make proposal considering revitalisation thereof.
- B7: A substantially large business node, probably to serve as a typical convenience centre, is proposed in Mooidraai precinct, deemed a necessity due the area's remote location from the Sasolburg CBD and other business nodes located in the Chris Hani, Harry Gwala, Walter Sisulu and Amelia extensions.
- T4: A well located business/ public transport node at the entrance of the Harry Gwala extension, adjacent to the Koppies Road (P30/1), is largely negated by the establishment of an electrical substation. The remaining portions, although no longer located on a main collector road could be utilised as a small business node and merely a pickup point. Several informal businesses are currently established in the area.
- The following additional business nodes (Δ) have been identified:
 - The Zamdela Taxi Rank (T1);
 - Business node in the Chris Hani extension;
 - A partially developed business area in the Harry Gwala extension;
 - A business node provided in the Amelia extension;
 - Erven 16891 – 16897 are proposed for a future business node;
 - An open area east of the Boikotlong Hostel (donated to the Municipality by Sasol) may be considered for a development node.

¹² According to the Shopping Centre Classification of the South African Council of Shopping Centres, a shopping centre between 5 000m² - 12 000m² is classified as a “neighbourhood centre” and between 5 00m² - 5 000m² classified as a “convenience centre”

Development Corridors:

Corridor densification option



The tendency towards continuing decentralization of workplace locations is complicating the creation of “compact cities”. Although compaction may be achievable as a means of increasing density, it is suggested that the predominant pattern in South Africa should be the “corridor city”. Strategies need to be identified to attract decentralising activity towards existing public transport corridors (*CSIR, 2000: Human Settlement Planning and Design, “Red Book” also the source of the ensuing figure: “corridor densification option”*). The rapid development of the Sasolburg and Zamdela precinct the past 15 years, necessitates a complete new approach regarding the current road network. Neglecting the upgrading of the road network and significant land use changes resulted in dramatic increase in traffic flow that is heavily impacting on existing roads.

“Vaal River Minnaar Street” Corridor:

A prominent development corridor is identified namely “Vaal River Minnaar Street” Corridor. This corridor is identified as the planned and unplanned land between Minnaar Street (from its intersection with Road P83/1 to its intersection with Road P9/5) and the Vaal River where it flows through the Greater Sasolburg urban area.

“Naledi Chem City” Corridor:

It is proposed to endeavour a more detailed assessment of the land adjacent to the corridor and its function in the larger urban context to determine the long-term outcome of the corridor. Responsible and continuous development thereof, addressing increasing traffic conflict issues and upzoning in appropriate and related areas is foreseen. Rapid development of the Naledi industrial Area, and a general shortage of well-located and accessibly industrial/ commercial erven in the area, necessitated rethinking of the area as a mono-functional industrial zone. A mixed use area (retail, general business, special business, service and light industries, but excluding heavy and noxious industries) is foreseen in the areas earmarked for mixed use purposes i.e.:

- A single row erven opposite sides of Jupiter Street including erven 24875 & 25990;
- A single row erven adjacent to Jan Haak Road (indicted portion of Mars Street);

Development Corridors:

- A single row erven adjacent to Paardeberg Road (indicated portion of Mars Street);
- A single row erven adjacent to Saturn Road from its intersection with Paardeberg Road, but not further east than erven 24982 and 25056.

“Vaal River Vaal Barrage” Corridor:

It is proposed to endeavour a more detailed assessment of the riparian properties, in both the urban and rural areas, adjacent to the Vaal Barrage and Vaal River corridor and its function in the larger urban and rural context to determine the long-term outcome of the corridor. A holistic environmental approach should be applied with the overarching aim of the corridor to promote the optimal development and utilisation of the unique tourism potential of the Metsimaholo region, whilst not compromising the outstanding universal value of the Vaal River and Vaal Barrage and unduly impairing the safe, undisturbed and quiet enjoyment of the area.

Because of the important role played by the Vaal Dam and the Vaal–Barrage in providing potable water to the economic heartland of the republic, everything possible must be done to restrict the pollution of these sources to the minimum. With this in view it is considered undesirable that large increase in the population concentration takes place in riparian areas. Open spaces must be protected against injudicious use on account of their ecological aesthetic or recreational value (Vaal River Regional Structure Plan, 1996 (Vaal River Complex Guide Plan, 1982)).

A detailed and timely Environmental Framework for the specific riparian and buffer areas must be attempted, taking amongst other, cognisance of:

- *Leisure Residential Developments* according to Free State Province, Department of COGTA’s *Development of Rural and Peri-Urban Areas* Guidelines (2006),
- The Vaal River Regional Structure Plan, 1996 (Vaal River Complex Guide Plan, 1982),
- The Free State Province Biodiversity Plan (2015).

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
Commuting Nodes	
T1: A well planned and strategically located long and short distance taxi rank was built at the entrance of Zamdela. A portion thereof was destroyed by fire and needs to be rebuilt.	Recent rapid developments in the urban and industrial areas, its location in regional context and the vast number of commuters making use of public transport, necessitate the timely preparation of

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
T2: The present short distance taxi rank in the Sasolburg CBD is operating at capacity and an additional rank to alleviate congestion must be provided. <u>The following pick-up points have been identified as of significance:</u> ▪ T6: A formal and sheltered pick-up point in the Vaalpark area (on the remainder of erf 11). ▪ T7: Stormberg Street pick-up point. ▪ T8: Checkers Centre – proposed upgrading of the centre should also allow for purposeful upgrading of the rank. ▪ T9: Rosemary School / Cony Street pick-up point. ▪ T10: Sentra / Zio pick-up point - the pick-up point currently serves as a formal rank although health conditions are appalling and upgrading of the rank should be addressed as a matter of urgency. ▪ T11: Eric Louw Road/ Albany Bakery / Sasol “drop-off”. ▪ The node established itself as a significant public transport node. Appropriate planning thereof is deemed urgent. As it also serves as a main passenger node to Sasol, their involvement, and involvement of the Taxi Associates are inevitable in providing a save node. ▪ T12: Leeuwspruit School pick-up point.	an Integrated Transport Plan (ITP) for the Metsimaholo region. ▪ T1: Rebuilding of a damaged portions of the taxi rank at the entrance of Zamdela. ▪ T2: The possibility for a future rank will have to be investigated urgently. However, the establishment of two ranks will not be suitable. The existing rank should preferably be closed and a new rank identified, closer to the existing CBD. ▪ T3: Since the Zamdela taxi rank is also operating at full capacity, an additional pick-up point is proposed in the Harry Gwala area. ▪ T4: A well located business/ public transport node at the entrance of the Harry Gwala extension, adjacent to the Koppies Road, is largely negated by the establishment of an electrical substation. The remaining portions, although no longer located on a main collector road could be utilised as a small business node and merely a pickup point. Several informal businesses are currently established in the area. ▪ Traffic calming measures must urgently be applied in this vicinity as a consequence of numerous pedestrians, regularly crossing the Koppies Road. The same will apply further south; especially once prospective residents occupy the Mooibraai extension. ▪ Informal activities at the Koppies Road (P30/1) and the Heilbron Road (P9/4) intersection should not be considered for formalisation, especially the informal taxi rank. A large intersection is planned in the area implying that development of any sort should not occur in the present road reserves.

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
	▪ T5/R5: A portion of land, currently privately owned in the centre of the “Larger Zamdela” is in the process of establishment and deemed ideal for the provision of a taxi rank - its excellent location will favour mixed business and commercial uses in the area. ▪ Residential extensions to the south east (Amelia and Mooidraai precincts) of Zamdela are remote from the industrial area and CBD of Sasolburg. The latter will necessitate proper small taxi ranks and pick-up points to ensure the commuting of residents to job opportunities.
Urban Open Space: Sport and Recreation	
Open areas within Sasolburg were provided according to the “Garden City” concept. Sasolburg is also one of only three “Arbour Towns” in South Africa, which is a testimony of the amount of trees and greenery present in the urban area. Ample and functional open spaces are thus provided. ▪ S1 & S2: A well-developed sport stadium and sport complex is respectively located within Sasolburg (D.P. De Villiers Stadium) and Zamdela (Moses Kotane Stadium). Although the latter is largely vandalised, upgrading is now (2015) endeavoured by Sasol. ▪ S3: A Highveld Garden of 6 ha in extent with an adjacent bird sanctuary (10 ha), where flora indigenous to the Highveld may be seen, is also located within the area. ▪ The Vaal River and specifically the Barrage area, is extensively exploited for recreational purposes.	▪ The need exists to develop functional open areas in Zamdela and in doing so prevent illegal settlement and refuse dumping on these premises. ▪ S3: Although the Highveld Garden should remain a conservation area, amenities such as a small restaurant and day visits facilities should be established. The area is in a derelict conditions and maintenance thereof is exceedingly urgent required. ▪ S4/R6: An area ideally located in Harry Gwala (Leitrim) is deemed a wetland and should be protected as such. Further development thereof is not proposed. ▪ S5, S6, S7 & S8: Similar environments occur throughout the urban area and should be maintained as urban open spaces. ▪ S8: The Molensteen Pan and surrounding area is considered to be of significance regarding a sport complex and recreation area that will also fulfil a regional function. The accessibility and scenic location of the area will contribute to its purposeful development. ▪ G3: The ash landfill must systematically be removed and the area

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
Adequate provision was made for open spaces in Zamdela according to modern town planning principles, although all these open areas are not optimally utilised.	- rehabilitated to guarantee the safe use thereof as a recreation area. - S9: The Sasolburg Nature Reserve (privately owned by Sasol), to the west of Vaalpark should be maintained and not considered for any other land use. The area also serve purpose as an emergency evacuation area for the Sasol industries in the event of a disaster.

Resorts and Tourism

The Vaal Dam and the Vaal River Barrage are key recreational areas both for permanent residents and for weekend visitors. Power boating, angling and shoreline recreational activities are of significant economic value and as such may be influenced by water quality changes. Major recreational activities revolving around the Vaal Dam and Vaal Barrage, benefit from a major stable water level of the Vaal Dam as a consequence of a constant inflow of water from the Lesotho Highlands Water Scheme. Although public access to the Vaal River and Vaal Barrage is extremely limited, access is provided at recreational areas such as Riverside Beach Club, Eligwa Boat Club, Emfuleni Park, Abrahamsrust and Clavedel Resorts, and the Riverside Sun, which offers several river-based recreational activities. Emfuleni Park and Abrahamsrust provide very popular public slipways for boat launching. Apart from Abrahamsrust, most of the resorts are situated on the Gauteng side of the Vaal River indicating possibilities for future development to provide for similar facilities on the Free State side.

“Vaal Dam Barrage Tourism Development Corridor”:

- The areas of the region bordering the Vaal Dam and Vaal River Barrage, especially between Deneysville and Oranjeville, are considered as a “tourism development corridor” to enhance tourism development in the region.
- The principle was also specified in the Vaal River Complex Regional Structure Plan.
- Land use changes in this area, relating to tourism, should positively be considered.

Metsimaholo Riparian Management Plan:

- Continuous and existing leisure residential development and urban development:
 - in the Oranjeville vicinity, on the Vaal Dam riparian,
 - between Oranjeville and Deneysville on the Vaal Dam riparian,

Resorts and Tourism

- on the Vaal Barrage riparian between Deneysville and Sasolburg and,
 - adjacent to the Vaal Barrage between the Badriff Bridge (Sasolburg) and the N1 National Road,
- will necessitate proper long-term planning regarding land use and bulk and road infrastructure services to ensure that future demands will be met.
- Incessant development in the region should preferably be preceded by a Management Plan, integrating the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and Provincial Policy with the Council's vision and strategy for the area. In this respect, the continuous needs of the high income market should not be overlooked.

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
Cemeteries	
C1: The current capacity of the cemetery in Sasolburg is adequate for the short-term. C3: The old cemetery of Zamdela will be adequate for short-term use with limited expansion possibilities (C4)	▪ C2: In loco extension of the Sasolburg cemetery is feasible (possibly on erven 1867 and on portions of the remainder of erf 409). Geotechnical investigations done, confirmed the extension possibilities. ▪ Private land owners in the area must timely be approached in order to purchase land in advance. ▪ C5: Although an area has been identified in the Amelia extension, it should preferably be used for infill planning and a long-term solution obtained. ▪ The establishment of a new regional cemetery, for long-term use in the vicinity of the Zamdela residential precincts, is imperative. ▪ C6: Areas further south of the Mooidraai precinct, is not suitable for residential extension, due to undermining. Although it will temporally be utilised for commonage purposes, the area is earmarked for a substantially large cemetery. ▪ The proposal is subject to geotechnical investigation and also confirmation from Sigma Colliers that usage thereof for burial purposes is acceptable (the specific areas have previously been undermined).

Other Social Amenities

Table 14
Provision of Social Amenities in Sasolburg /Zamdela Urban Area

<u>Towns</u>	<u>Urban Schools</u>		<u>Primary Health Clinic</u>	<u>Community Health Centre</u>	<u>Hospitals</u>	<u>Private Hospitals</u>	<u>Police Stations</u>	<u>Rural Police Stations</u>	<u>Magistrate Offices</u>	<u>Prison and places of safety</u>
	<u>P</u>	<u>S</u>								
Sasolburg	6	6	4	1	1		1	1		1
Zamdela	9	3								

Development of the Zamdela precincts is problematic since it occurred over two physical barriers; initially the railway line and Sasolburg Station and later the Koppies Road. It creates pertinent safety risks for the community as numerous residents cross these barriers on a regular and daily basis to reach social amenities established in the older Zamdela. The importance of the timely provision of social amenities in the precinct between the Koppies Road and railway line and east of the road Koppies Road, is regarded by the community and Council as critical.

E: INDUSTRIAL AREAS

Historic Development

Following the establishment of the steel industry in Vanderbijlpark, post World War II, the South African Coal Oil and Gas Corporation (Sasol) was formed during 1950. The company was established due to South Africa's lack of crude oil reserves and dependency on imports. It developed world-leading technology for the conversion of low grade coal into oil. The town of Sasolburg like its neighbouring town of Vanderbijlpark, was established as a planned model town in 1954, providing housing and facilities for its employees. Fuel production ceased in 1990 at the Sasolburg plant (Sasol One) but

continues at its Secunda, Mpumalanga, plants (Sasol Two & Sasol Three) with a capacity of 150,000 barrels per day or 32% of the country's oil consumption. Sasol at present, is a synthetic petrochemical plant producing synthetic rubber, plastics, fertilizers and secondary chemicals. Coal has gradually been replaced by gas piped from fields in Mozambique. Sasolburg is also home two other heavy industries, Dow Sentrachem (plastics) and Omnia (fertilizers). Together with Total SA and the National Iranian Oil Company, South Africa's only inland refinery (Natref) was established in Sasolburg in 1960. Imported petroleum was refined and cracked to produce ethylene for plastics, and pipeline gas was supplied in increasing quantities to industry (Source: Vaal Triangle Info, 2005).

Industries
▪ The industrial land use is by far the most prominent land use in the Sasolburg urban area. ▪ A total of 1053 industrial sites with an area of approximately 2000 ha are present. ▪ A shortage is experienced for new industrial erven, also for smaller specialised industries. ▪ I2: Although smaller service industrial erven were provided in Zamdela, development thereof appears to be latent, largely due to the fact that no infrastructure services are installed. ▪ I1: Industrial extension of the existing noxious industries is proposed further north-east implying a revision of the urban fringe. Thresholds implicated in the National Water Act should be adhered to; especially concerning Taaibosch Spruit. ▪ A2: Any further extension of the industrial area will necessitate the extension of Jan Haak road and also the establishment of a more direct access to the south-eastern precincts of Zamdela. ▪ The recent shortage of industries, especially smaller specialized industries resulted in three new industrial developments, namely Chem City, Naledi Park, and (I2) Zamdela industrial area. The latter appears to be dormant. ▪ A mixed use area (retail, general business, special business, service and light industries, but excluding heavy and noxious industries) is foreseen in Naledi Park, earmarked for mixed use purposes, i.e.: - A single row erven opposite sides of Jupiter Street including erven 24875 & 25990; - A single row erven adjacent to Jan Haak Road (indicted portion of Mars Street); - A single row erven adjacent to Paardeberg Road (indicated portion of Mars Street); - A single row erven adjacent to Saturn Road from its intersection with Paardeberg Road, but not further east than erven 24982 and 25056. ▪ The Vaal University of Technology will be established within the Chem City industrial area, which is ideal when the nature and activities of the University are considered.

Industries

- I5: Portion of the Cargo Carries premises, not developed, could be considered for infill planning with a related land use (only light and service industries, being non-noxious in nature).
- I3: Open land between Zamdela north (Somerspost extension) and Zamdela south (Walter Sisulu extension), opposite sides of the railway line could be utilized for the purposes of a service or light industrial area non-noxious in nature.
- I4: An existing light industrial area (Sasolburg extensions 6, 27, 34, 54), comprises a typical mixed used character and several land uses are encroached upon (erf 23792) and open space 6060. Although rezoning of the latter appears to be imminent, encroachment on erf 6059 and beyond must not occur.
- The current development trends in the specific area necessitate the preparation of a precinct plan to ensure orderly development thereof, in line with council policy.

Extractive Industries (Mining)

G1 - G4: Due to the nature of mining operations, chemical industries an electricity generation, serval ash landfills are dispersed through the urban area. Gradual recycling thereof occurs, mainly for road construction and brick making purposes. As a consequence, valuable land will, over time, become available for future use, subject to investigations regarding soil conditions and possible polluting effects.

- G1: The systematic removal of the ash landfill between Sasolburg and Zamdela may result in an area deemed ideal for a mixed uses, possibly including high rise density and commercial developments, non-noxious activities and an appropriate transport node, in relation to the existing public transport orientated corridor between Zamdela and Sasolburg.
- G3: The Molensteen Pan and surrounding area is considered to be of significance regarding a sport complex and recreation area that will also fulfil a regional function. The ash landfill must systematically be removed and the area rehabilitated to guarantee the safe use thereof as a recreation area.
- G2: Other large ash landfills in the area, should further be exploited for the purposes of road construction and brick making.

Extractive Industries (Mining)

- G4: Future long-term development at the Kragbron precincts is impeded on by large ash landfills.

Two dominant natural resources namely the Vaal River as well as large concentrations of coal are present in the area. Vast deposits of coal are mined that establish the economic base of the urban area.¹³ As a result, the area's economy is predominantly industrial driven, with limited diversification.

F SURFACE INFRASTRUCTURE & BUILDINGS

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
Railway Lines and Stations	
The railway line is predominantly utilised by Sasol for industrial purposes. No commuter service is provided to the Greater Sasolburg community. Continuous problems with pedestrians crossing the railway line between the Somerspost and Harry Gwala extensions are experienced. The station is presently located to the east of Zamdela and accessible via the primary road network.	▪ Proper pedestrian crossings should be provided at safe locations in the form of bridges across the railway line. ▪ The importance of the railway line should not be overlooked and Spoornet should be approached to extend its current Metro Services to Sasolburg. ▪ Illegal occupation of railway line reserves and pipeline servitudes occurs throughout the urban area. The matter clearly requires appropriate measures to be included in a municipal bylaw resulting in land use control in these zones.
Landfill Sites	
The current regional landfill site has reached its capacity and a study is being conducted to identify a new site. There are, in general, two standard alternatives for removing household refuse namely: - To continue with the current option and provide landfill sites to the	▪ Due to continuous development in the urban and rural areas, the Council is considering, as an alternative, the possibility of a regional landfill site to serve the entire area. ▪ Alternatives below¹⁴ are, however, the preferred options, pending the

¹³ The Vereeniging-Sasolburg coalfield ranks third in South Africa in order of importance, while the Free State supplies a saleable output of 10,5 % of the national coal output. (Source: A summarised mineral profile of the Free State Province, CJ Vorster, Council for Geoscience). Two mines are producing, namely the New Vaal Colliery and Sigma Mine, both exploiting bituminous coal.

STATUS QUO	FUTURE DEVELOPMENT FRAMEWORK
all the respective urban areas in the municipality, or - To consider the establishment of an optimally located regional landfill site, with transfer stations at the respective urban areas in the municipal area.	outcome of a current investigation to resolve to long-term treatment of household refuse in the Metsimaholo region. ▪ The options will be discussed and further elaborated on in the foreseen specialist studies and the Environmental Impact Assessment (EIA) process, stemming from investigations by <i>SMEG Consulting Engineers</i>. Financial considerations, transfer distances, the principle urban waste contributor and the like, will duly be examined by them, prior to the designation of a principle site.

Considering the long-term urban growth scenario, the presence of exceedingly strategic coal reserves and the hazards associated with previously mined areas, the SDF Technical Committee made the ensuing proposals. It is assumed that these proposals will not be deemed absolute; rather seen as alternatives that could be investigated within the context of the suggested long-term spatial form of the municipality. Should detailed studies and investigations distinguish more suitable alternatives, these will have to be considered by the Council in ultimately providing optimal cleansing services in the Metsimaholo Municipality.

Alternatives for a Future Landfill Site
▪ Alternative 1: Northeast of the existing Sasolburg industrial area but keeping an innocuous distance from Taaibosch Spruit (unmined area, not affected by future mining). ▪ Alternative 2: South of Kragbron, although proximity to existing and future residential areas should be considered carefully (unmined area, not affected by future mining). ▪ Alternative 3: Adjoining the Sasolburg/Deneysville road at an optimal transfer distance between Deneysville and Sasolburg; the latter being the principle waste contributor (unmined area, not affected by future mining). ▪ Alternative 4: Closer to Deneysville, considering that long-term future urban development will be concentrated in this area (unmined area, not affected by future mining).

Bulk Services

Table 15
Bulk Services Provision Sasolburg /Zamdela Urban Area
(Source Metsimaholo Municipality, 2015)

<u>Water Provision</u>		<u>Sanitation</u>		<u>Electricity</u>
Total reservoir capacity (Mℓ) deemed adequate	55,2 (Sasolburg) 100 from Rand Water/ Suikerbosrand	Sewerage works capacity (Mℓ/day)	45	Although bulk electricity appears to be adequate, the installation of bulk overhead lines is critical to service the various residential precincts of Zamdela (refer to ensuing table).
▪ Adequate waterworks capacity, obtains water from Rand Water Boards. ▪ Periods of high water consumption in Heilbron, results in Rand Water diverting water to the urban area, often resulting in water shortage in Sasolburg/Zamdela¹⁵. ▪ Water pressers and network designs, did not necessarily provide for high rise residential development; the latter will necessitate additional measures to ensure appropriate water pressure.		▪ Adequate capacity at present, upgraded 5 years ago. ▪ Connection of the Mooidraai extension will necessitate upgrading in the foreseeable future.		
Raw water supply: Water is abstracted near Deneysville in the Vaal Dam and piped to the Rand Water Board's Suikerbosrand Water Purification works that, amongst other, supplies Sasolburg.				

¹⁵ A water pipeline from Rand Water Board's purification works at Suikerbosrand, supplies both Sasolburg and Heilbron

Infrastructure Services

All urban areas were analysed in an attempt to identify shortfalls in infrastructure service delivery and to identify areas for eradication of backlogs or upgrading of services, the following categories were thus applied:

- Areas in the process of establishment (green)
- Areas established, unoccupied, without services (red)
- Areas established, occupied, with rudimentary services (brown for sewer, that will imply buckets/suction pit/ French drains and blue for water, that would imply standpipes)
- Areas established, unoccupied, with services, partly or completely (yellow)

<u>Zamdela</u>	<u>Sasolburg</u>
Water Network	
▪ Provided with a water network ▪ Moodraai Extension: Process of establishment	▪ Provided with a water network ▪ Vaalpark Northern Extension: Established, unoccupied, bulk service installed, no reticulation network ▪ Welgelegen Extension: Process of establishment ▪ Naledi new extension: No water network
Sewer Network	
▪ Provided with a sewer network ▪ Walter Sisulu (Gortin) Extension: No sewer network, installation in process, 4 pump stations nearing completion ▪ Moodraai Extension: Process of establishment	▪ Provided with a sewer network ▪ Vaalpark Northern: Extension: Established, unoccupied, bulk service installed, no reticulation network ▪ Welgelegen Extension: Process of establishment ▪ Naledi new extension: Partial sewer network, making use of Sasol sewer lines

<u>Zamdela</u>	<u>Sasolburg</u>
Electricity Network	
▪ Zamdela Extension: Provided with electricity network ▪ Leitrim Extension: Temporary 11kV available, 20 MVA, 88 / 11 kV substation completed, 6,5 km 88 kV overhead line outstanding (project on hold due to inadequate funds) ▪ Walter Sisulu (Gortin) Extension: Temporary 11 kV supply available. Permanent supply is pending on the completion of the 88 kV overhead line ▪ Amelia Extension: Contractor appointed in July 2015. Temporary 11 kV supply is under construction. Permanent supply is pending on the completion of the 88 kV overhead line ▪ Mooidraai Extension: Process of Establishment. Supply will in future be made available from Leitrim substation and is pending on the completion of the 88 kV overhead line.	▪ Provided with electricity network

Regional Road Network and Future Access
Major Roads <i>The necessity of an “Urban Road Network Master Plan” was deliberated with the Provincial Government, Roads Planning Directorate, who indicated that such an investigation is shortly due. The provided information below is a mere indication of current access dilemmas that ought to be addressed in such a Master Plan.</i> Road P85/2: A section of Road P85/2 (A1), where it stretches through Zamdela, was de-proclaimed. It was due to the fact that the road restricted the feasible

Regional Road Network and Future Access

development of the Somerspost extension of Zamdela. It is also no longer used as an access road from the rural areas to the Sasolburg station.

- The recent rapid extension of Zamdela in a southerly direction and the establishment of the Walter Sisulu extension, to the south of the Harry Gwala (Leitrim) extension, on the farms Gortin 281 and Molensteen Pan 129 (Walter Sisulu extension), implied that this section of the road has also been de-proclaimed.
- Although Road P85/2 is proposed for de-proclamation, the intersection of the road with Road P30/1 (Koppies Road) will remain (A8). It will reserve a proper access to the future residential extensions of Zamdela, especially in linking the existing and future precincts with one another.

Road P83/1:

- A provincial road was planned (extension of Jan Haak Road) and reserved by means of proclamation by the Road and Transport Planning Directorate to the east of the industrial area (A2) with the extension of Road P83/1 and ultimately linking up with Road P9/5.
- It is envisaged that the road will ensure adequate access to the current undeveloped industrial sites in the Sasolburg industrial area.
- It will also provide a more direct access to the Vanderbijlpark/Vereeniging industrial complex from the Sasolburg industrial area and the Zamdela residential areas. The road's future function as bypass road is confirmed in this regard.

Road P30/1:

- A6: As previously indicated, the Harry Gwala (Leitrim) and the new Amelia residential extensions resulted in a second access on Road P30/1.
- A10 (a T-junction at present), A12 & A13 (already a T-junction with Road S 829): Continuous developments further south (Kragbron) will necessitate additional accesses unto Road P30/1 (to Koppies).
- Road P30/1 also serves as an important link between the Greater Sasolburg and the Kragbron and Clydesdale residential areas. As a result of the latter, increasing traffic flow is experienced on the road.
- Informal activities at the Koppies Road (P30/1) and the Heilbron Road (P9/4) intersection must not be considered for formalisation; especially the informal taxi rank. A large intersection is planned in the area implying that development of any sort must not occur in the present road reserves.
- Traffic calming measures must be urgently be applied on the road between Harry Gwala (Leitrim) and the Amelia as a consequence of numerous pedestrians, regularly crossing the Koppies Road. The same will apply further south; especially once prospective residents occupy the Mooidraai extension.

Access Roads

Access roads to Zamdela are inadequate and needs to be upgraded. A more direct link to the industrial area is proposed in order to guide industrial

Regional Road Network and Future Access

related traffic away from the Sasolburg residential area. Access from Vaalpark directly on to the Vereeniging road is also proposed.

Zamdela Access:

- It is proposed that a future access road (A2) should link up with Road P83/1 providing more direct access to Zamdela.
- The intersection between Road S70 and P9/5 to Sasolburg is considered to be insufficient and should be addressed should access road A2 be planned. A future access is not planned nor proposed from Zamdela on Road P9/5. Informal access roads should urgently be closed and traffic access prohibited.
- The existing railway line and the current Road S70 divide the Zamdela residential areas causing a physical barrier especially for pedestrian traffic to the Harry Gwala (Leitrim) extension.
- The existing Walter Sisulu extension, situated on the farms Gortin 281 and Molensteen Pan 129 enhances the phenomenon. A farm school currently located on the farm Gortin 281 additionally generates pedestrian traffic across Road S70 and the railway line. Provision will have to be made for primarily pedestrian and also vehicle crossings at intersections identified through a detailed study.
- A7: Provide an important link to the newly established Amelia residential precinct from the Heilbron/Sasolburg Road (P9/4) but will also serve purpose to link the precinct with Sasolburg, its industrial areas and the provincial road network to neighbouring centra.
- A9: Future and significant access from Road P85/3 to the residential precinct on the Farm Mooidraai 44. The road will link the precinct with its neighbouring precincts but also provide a link to Sasolburg, its industrial areas and the provincial road network to neighbouring centra
- Accessibility to the Mooidraai extension may not be feasible as access is proposed over a private property, Subdivision 4 of the Farm Amelia 518 (previously used as a mill) between the extension and the Deneysville Road P85/3. It may result in acquiring the premises by the Municipality.
- A10: Additional future and significant access from Road P30/1 (to Koppies) to the residential precinct on the Farm Mooidraai 44A12, A13, A14: Continuous developments further south (Kragbron) will necessitate additional accesses unto Road P30/1 (to Koppies) and possibly the Wolwehoek Road (P44/3).
- A13: Both Kragbron extensions at present obtains access onto the major road network via Road S829, further linking onto the Heilbron Road (P9/4) and the Koppies Road (P30/1).

Industrial Area Accesses:

- In order to ensure access to the additional vacant industrial sites within the existing industrial area, it is proposed that Jan Haak Street be extended (A5).

Regional Road Network and Future Access

- Jan Haak Street could alternatively be extended through the AECl property to link with A2. The proposed and proclaimed extension of Road P83/1 should in this instance be reconsidered.
- A new access road is proposed (A3) to ensure optimal access to the Naledi Park industrial development and further linking it with the Vanderbijlpark/Vereeniging industrial complex. It is proposed that the access road link directly with Road P83/1.
- The long-term extension of Road P10/2 to Viljoensdrift is no longer considered as a viable short-term proposal although the reservation thereof will be maintained.
- A11: The existing access has been replaced by a road bridge linking Naledi Park and Vaalpark residential area. The access should only be maintained as a left turn exit from Vaalpark on to Road P10/2 until a new access road has been established at A3.

Vaalpark Accesses:

- The extension of Minnaar Street (A4) is proposed to partially address access to Vaalpark from the Vereeniging road (P83/1).
- A11: The existing access has been replaced by a road bridge linking Naledi Park and Vaalpark residential area. The access should only be maintained as a left turn exit from Vaalpark on to Road P10/2 until a new access road has been established at A3.

Sasolburg Accesses:

- It was indicated that various traffic conflict points exist at different locations in the Greater Sasolburg. They are the result of high traffic volumes, deteriorating road infrastructure, an insufficient public transport system and high volumes of heavy vehicles related to the mining and industrial activities, utilising the road network.
- The intersection between the Sasolburg access road (on Road P10/1) and Road S1080 was recently upgraded. A road reserve is proclaimed to the east of both Roads P9/5 and P10/1 for the purposes of a double lane road in future.

DENEYSVILLE /REFENGKGOTSO URBAN AREA 8.

A: CORE

STATUS QUO	FUTURE SPATIAL FRAMEWORK
The Vaal Dam comprises over 800km of riparian (“coast line”) land and covers an area in excess of three hundred square kilometres. It is South Africa’s largest dam by area and the third largest by volume. The Lesotho Highlands Water Project feeds fresh clean water into the system in order to supply potable water to Gauteng and environs. S7: The dam comprises its own island, “Groot” Island (almost 5km long) that was used by the former Intelligence Service of the previous government. The island is located north-east of Deneysville and officially part of the Free State Province. Deneysville was used as a stopover point by the old Britannia Airways flying boats. The dam is unique in that three provinces make up its boundaries. The Free State is the largest by area, Mpumalanga has a beautiful but rural riparian and the most active by far is the Gauteng riparian. The Vaal Barrage downstream, is a significant topographical feature in the region and serve as Gauteng’s principal source of potable water. It is a popular water sports and water related adventure venue. Rapid development adjacent the Vaal Dam and Vaal Barrage during the late fifties and early sixties, resulted in a need for development control contiguous to the river. Demands are experienced for the further	▪ S4: A formal conservation area, Gawie de Beer Nature Reserve, also a proclaimed National Heritage Site, is located in the centre of Deneysville (park erf 965) and should be maintained for that purpose. Archaeological remains, related to the <i>Koi San</i> indigenous tribe, have been excavated on the site <i>Because of the important role played by the Vaal Dam and the Vaal–Barrage in providing potable water to the economic heartland of the republic, everything possible must be done to restrict the pollution of these sources to the minimum. With this in view it is considered undesirable that large increases in the population concentration takes place in riparian areas. Open spaces must be protected against injudicious use on account of their ecological esthetic or recreational value (Vaal River Regional Structure Plan, 1996 (Vaal River Complex Guide Plan, 1982)).</i> ▪ Optimal development and utilisation of the unique tourism potential of the Vaal Dam and Vaal Barrage areas are proposed, but without compromising the outstanding universal value thereof and unduly impairing the safe, undisturbed and quiet enjoyment of the area. ▪ Riparian areas and marshes draining toward the Vaal Dam and Vaal Barrage and their tributaries are an integral part of the river ecosystem and regarded as important ecological features,

STATUS QUO	FUTURE SPATIAL FRAMEWORK
development of the riparian properties. Tendencies occurred in the area over the past few years demanding effective long-term planning. Higher densities in the form of townhouses and “more than one dwelling” per property are being applied for.	experiencing substantial development pressures. ▪ They must be regarded as sensitive to activities that threaten to severely degrade them. ▪ Development proposed in the interim, prior to a “wall-to-wall Scheme” must meet the existing guidelines pertained in the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and Provincial Policy¹⁶.

Gawie de Beer Nature Reserve

Because of the strong flow of the Vaal River and it once teeming with wildlife, the Deneysville environ attracted a variety of indigenous and transient people over a wide time span. They used finely chiselled stone implements, which have been found here. Over a long period of time Tswana speaking people migrated from the north and built and settled in a band of stone igloo structures. They stretch from Thabazimbi in the west to Deneysville in the east, where ruins dating back some 600 years abound. Their arrival in Deneysville displaced hordes of Khoi-Khoi who migrated from the south and settled here as hunters over a period of many of hundreds of years. The Tswana speaking inhabitants hunted, but also planted crops. They in turn were displaced by the roving *Impis* of Chaka Zulu and other warring tribes. With the departure of the Tswanas, the Khoi-Khoi returned and lived in the circular stone buildings that had been abandoned.

They hunted, but now also turned to cultivated crops. They made iron spears and tips, as did the Tswanas, using air bellows to make the metal workable. The coming of the white settlers displaced the Khoi who now became a more nomadic people retreating to semi-desert areas. The construction of the Vaal Dam commenced in 1932 to provide jobs during the depression. The housing of the workers was the start of a populated Deneysville, which was named after Deneys Reitz who built two stone holiday cottages which now constitutes St Peters Church.

There is a full exhibition of artefacts on display at the Deneysville library. The Gawie de Beer Nature Reserve heritage site provides a stunning lookout point over the dam and the town of Deneysville (S4).

¹⁶ Free State Province, Department of COGTA's *Development of Rural and Peri-Urban Areas* Guidelines.

B: BUFFER

STATUS QUO	FUTURE SPATIAL FRAMEWORK
The Vaal Dam and Vaal Barrage riparian properties in the vicinity of Deneysville, have the past few years, increasingly been subdivided. Subdivision is attempted to provide high cost holiday-oriented housing, enabling property owners to use the water surface for recreation purposes. It is uncertain whether the correct licenses under the National Water Act, 1998 (Act No. 36 of 1998) are in force. The properties, however, pose specific management problems for the municipality as they were never incorporated as erven and are neither subject to any meaningful land use control measures nor subject to the establishment of a body corporate, to ensure some control. The provision of services (especially roads) and waste disposal create further problems for the municipality. It will be of great importance, upon implementing a wall-to-wall town planning scheme, to provide proper control and management of these properties. Vaal Dam Zoning Plan: All future developments, not located within the urban area, should take cognisance of the <i>Vaal Dam Zoning Map</i> (refer to Annexure 1) which is being used by the Department of Water Affairs and Forestry to assess development applications adjacent to the dam.	Oranjeville Vaal Dam Riparian Management Plan ▪ Continuous leisure residential development adjacent the Vaal Dam, between Oranjeville and Deneysville, will necessitate the proper long-term planning of bulk services to ensure that future demands will be met. ▪ Incessant development in the region should preferably be preceded by a Management Plan, integrating the Vaal River Complex Regional Structure Plan with the Council's vision and strategy. ▪ In this respect, the continuous needs of the high income market should not be overlooked. ▪ Although subdivision of farmland adjacent the Vaal Dam, mostly for leisure residential purposes will continue, a detailed land audit, in cooperation with the Department of Water Affairs and the Rand Water Board is required, determining which properties since developed, must be included as part of the "housing and property stock". The latter will serve as a source of revenue to the municipality. ▪ Several shallow pans occur in the Deneysville region, some of which are located closer to Sasolburg. Areas within 32 m and 100 m of water courses, as defined in the National Water Act, and within 500 m of wetlands should be regarded as sensitive.

C: AGRICULTURAL AREAS

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Small Scale Farming	
Several small holdings and small farms (468 in total) are located adjacent to Deneysville and between Deneysville and Sasolburg (refer to detailed summary below) namely - Vaal Power small holdings - Veekraal small holdings - Lake Deney's small holdings - Vaal Dam small holdings - Knopjes Fontein 94 small farms	▪ Land use control on the numerous small holdings and small farms is problematic. ▪ Exclusion thereof as agricultural land and inclusion in either the Sasolburg or Deneysville scheme boundaries, is deemed inevitable. ▪ R3: The Housing Development Agency (HDA) purchased and transferred eleven of the Vaal Dam small holdings (Plots 1, 3, 14, 16, 20, 25, 26, 28, 32, 39 & 40, measuring 45 Ha in extent) to the Municipality. ▪ The Council during January 2015, also considered Plots 2, 4, 13, 19, 24, 36, 37, 41, 50, 51 and 52 (measuring 50 Ha in extent) to be obtained for urban extension. ▪ R4: It is likely that the remaining Vaal Dam small holdings (measuring 58 Ha in extent) will be acquired in the foreseeable future.

<u>Property</u>	<u>Type</u>	<u>Units</u>	<u>Comments</u>
Vaal Power	small holdings	135	- Between Deneysville and Sasolburg - Initially 138 small holdings, but Willow Creek Estate was since developed on 3 portions, located on the Vaal River riparian, further north of Deneysville
Veekraal	small holdings	117	- Between Deneysville and Sasolburg
Lake Deney's	small holdings	82	- Immediately north of Deneysville
Vaal Dam	small holdings	117	- Immediately south of Deneysville
Knopjes Fontein 94	small farms	17	- Larger than normal small holdings measuring on average 10 Ha in extent
TOTAL		468	

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Commonage	
F2: Portions of Subdivision 3 of the Farm Mooi-Plaats 581, not suitable for urban development and not proposed for immediate urban extension, are at present utilised for commonage purposes and could be utilised for mixed agriculture and food production activities. The community is, at present, experiencing a critical need for additional commonage.	Care should be taken should structures be established on the existing commonage land, as most of the area is almost entirely undermined. ▪ F1: Subdivision 1 of the Farm Rosendal 1406 is at present utilized for commonage purposes, although it is foreseen to also establish mixed agricultural activities here, in the near future. ▪ F3: Subdivision 4 of the Farm Mooi-Plaats 581 may be used for commonage purposes until such time it will be required for urban extension.

D: URBAN RELATED

Urban Fringe
The Vaal Dam riparian establishes a physical urban fringe, restricting further development in an eastern and southern direction. ▪ F1: Subdivision 1 of the Farm Rosendal 1406, as it is at present utilised for commonage purposes and council owned, should be included in the future urban fringe. ▪ R4: The urban fringe will ultimately include all the Vaal Dam small holdings; an area measuring approximately 153 Ha in extent, to be utilised for short to medium term urban extension of nearly 2 000 new erven. ▪ The recent Themba Khubeka residential precinct (on the Farm Mooi-Plaats) will necessitate the realignment of the Oranjeville/ Sasolburg Road (P44/2) that will probably delineate the long-term western boundary of the Urban Fringe. ▪ Urban expansion further westwards is no longer feasibly as the area has extensively been undermined. Areas further west must be considered for commonage and agricultural activities. ▪ R10: Long-term urban expansion will ultimately, include all the Lake Deneys small holdings and portions of the Farm Pan-dam 587. ▪ R11: The 20 year development plan will ultimately result in a substantial residential precinct further northwest, being the principle long-term urban

spatial form of the Metsimaholo Region (refer to the Metsimaholo Rural Spatial Framework in the preceding section for more detail).

- R12: Long-term development; especially of the Vaal Dam small holdings, resulted in the inclusion of Portions 22, 19, 353, 492, 493 and 494 of the Farm Vaal Dam Settlement 1777 in the Urban Fringe and should timely be excluded as agricultural land. These properties, apart from Farm Helena “A” 1385 (to also be included in the Urban Fringe but only for commonage/ small scale farming purposes due to undermining), comprise specific value to be developed as low density tourist related residential properties (pending the stipulations of the Vaal Dam Zoning Plan).

Table 16
Summary of Current Housing Tendencies Deneysville /Refengkgotso Urban Area
(Source Municipality, 2015)

<u>RESIDENTIAL AREA</u>	<u>RESIDENTIAL ERVEN OCCUPIED</u>	<u>RESIDENTIAL ERVEN UNOCCUPIED</u>	<u>TOTAL RESIDENTIAL ERVEN</u>	<u>ERF REQUIREMENTS</u> <i>(Determined by Council)</i>
Deneysville	494	1 783	2 277	-
Refengkgotso	3 231	-	3 231	2 500
Mooi-Plaats Extension	1 500 ¹⁷	1 026	2 526	
TOTAL	5 225	2 809	8 034	2 500¹⁸

Residential

Rural Housing Developments (Tourist and Recreational Related)

Several subdivisions of agricultural land, especially adjacent the Vaal Dam (refer to Table 11B), allegedly to provide for tourism and recreational purposes, occurred the past few years. Subdivisions ensured a minimum waterfront of 100 m for all subdivisions and the remainder. Several of these subdivisions are developed. However, agricultural land, included in the Structure Plan under the zoning “Recreation and Tourist Attractions”, related to riparian properties, resulted in much higher densities (in the form of sectional title schemes).

¹⁷ Gradual resettlement of families is, at present, occurring on the Mooi-Plaats Extension.

¹⁸ Proposed on the recently acquired Vaal Dam small holdings, south of Refengkgotso.

Residential

Urban Development

The Greater Deneysville comprises a total of 8 034 residential erven of which Refengkgotso comprising 5757 (including the recent Mooi-Plaats extension of 2 526 erven, known as Themba Khubeka; most of which are now occupied.

- Although subject to further investigation and a resulting municipal policy, a continuous need is expressed for mixed used residential uses (limited business activities, excluding sheer business activities, guesthouses, backpackers, small hotels, densification to allow for holiday accommodation and the like); especially on properties facing the water surface of the Vaal Dam.
- It could be considered, subsequent to an investigation, to establish a tourist related “belt” in specific zones, on riparian properties, but without compromising the outstanding universal value thereof and unduly impairing the safe, undisturbed and quiet enjoyment of the area. It would, however, increase access to the riparian for a larger portion of the community, other than merely restricting access in the form of large single residential properties.
- Developments occurring at a former caravan park (remainder of erf 1871) are, however, deemed a “conflicting use”, not in support of the aforesaid.
- R1: A large portion of Deneysville is presently undeveloped, especially adjacent Refengkgotso. The concerned vacant sites of between 1 500m² and 2 000m² can purposefully be subdivided allowing for densification options. Most of the properties are privately owned.
- R2: Further possibilities exist to extend the Deneysville high cost residential areas north, including the development of a business node (B1 – only on the southern side of the road) on the prominent Sasolburg/ Heidelberg/ Vereeniging/ Deneysville crossing.
- Current investigation is underway to establish a resort, on subdivision 3 of Knoppiesfontein 94, downstream from the Vaal Dam wall,
- It is envisaged to also establish a 9-hole golf course to be integrated with the existing golf course of the Department of Water Affairs and Forestry (S6) and a possible estate development.
- An earlier airstrip used to be located in the area and the heritage significance thereof has to be determined prior to any development endeavours.¹⁹

¹⁹ Named after Deneys Reitz, Minister of Water Affairs, the village came into being in 1936 during the construction of the dam which was completed in 1938. The first flying boats which introduced intercontinental flights to Africa landed on the Vaal Dam from whence passengers were ferried to the Deneysville Hotel (since demolished) to overnight. The Flying Boats landed on the dam, flying from England via Lake Victoria to Durban and back. A quite imposing terminal building' was built, (roughly where the Water Affairs Hall is now). There was a 'Luxury Bus Service' which left from the Terminal Building taking passengers to Johannesburg.

Residential

- R3: The Housing Development Agency (HDA) purchased and transferred eleven of the Vaal Dam small holdings (Plots 1, 3, 14, 16, 20, 25, 26, 28, 32, 39 & 40) (measuring 45 ha in extent) to the Municipality.
- The Council during January 2015, also considered Plots 2, 4, 13, 19, 24, 36, 37, 41, 50, 51 and 52 (measuring 50 Ha in extent) to be obtained for urban extension.
R4: It is likely that the remaining Vaal Dam small holdings (measuring 58 Ha in extent) will be acquired in the foreseeable future.
- R5: Future long-term limited opportunities exist to extend the residential areas north onto the Remainder of the Farm Knoppiesfontein 94 and the Lake Deneys Small Holdings.
- Re-alignment of the Heidelberg/ Sasolburg Road (P85/3) will be required to exclude the provincial road from the future residential area.
- A proposal was since made by the Council to timely obtain the Remainder of the Farm Knoppiesfontein 94.
- R6 (Clidette) and R7 (Club 40) are existing private residential areas (Sectional Title Schemes) primarily comprising of holiday homes under administration of a body corporate.
- These areas are zoned (in the Vaal dam Complex Regional Structure Plan) as “Recreation and Tourist Attractions” and amendment of the Structure Plan will have to be addressed prior to the formalisation of the areas as residential areas.
- R8: Large erven, initially established between Refengkgotso and Deneysville (erven 3142-3133 & 3143-3156), earmarked a “mixed zone” (transition zone between the two areas) area now proposed for infill planning, focusing on the provision of residential erven.
- It excludes erf 3160, currently accommodating a reservoir and mechanical workshop, registered as a municipal property.
- R9: Developable land between the Themba Khubeka precinct and the Deneysville/ Sasolburg Road (P85/3), should be identified and the area used for infill planning – development should steer away from two less prominent vlei areas.
- R10: Long-term urban expansion will ultimately, include all the Lake Deneys small holdings and portions of the Farm Pan-dam 587.
- ☒ Development in these areas should timely identify suitable and accessible premises, located in close proximity of the residents of both Refengkgotso and Deneysville for the purposes of inclusionary housing.
- R11: The 20 year development plan will ultimately result in a substantial residential precinct further northwest, being the principle long-term urban spatial form of the Metsimaholo Region (refer to the Metsimaholo Rural Spatial Framework in the preceding section for more detail).
- R12: Long-term development; especially of the Vaal Dam small holdings, resulted in the inclusion of Portions 22, 19, 353, 492, 493 and 494 of the Farm Vaal Dam Settlement 1777 in the Urban Fringe and should timely be excluded as agricultural land.

Residential	
These properties, apart from Farm Helena “A” 1385 (to also be included in the Urban Fringe but only for commonage/ small scale farming purposes due to undermining), comprise specific value to be developed as low density tourist related residential properties (pending the stipulations of the Vaal Dam Zoning Plan).	
STATUS QUO	FUTURE SPATIAL FRAMEWORK
Central Business District (CBD)	
DRDLR <i>Development Potential in Urban Settlements Report</i> (2014) assessment: - Urban Growth Potential – Medium - Economic Potential - High Deneysville: Deneysville has a well-developed CBD and a business node located at the entrance to the town. The CBD in Deneysville shows limited growth potential. Due to the limited growth potential of the CBD, no specific direction for development is indicated. The current CBD is largely occupied by boat related activities and commercial activities supporting thereto. A need has been expressed the past few years to provide for alternative business opportunities and continuous development pressure is experienced at the existing business node at the town entrance and along the main collector road (Main Street) leading to the CBD.	- B1/R2: Further possibilities exist to extend the Deneysville residential areas north, including the development of a business node (B1 – only on the southern side of the road) on the prominent Sasolburg/ Heidelberg/ Vereeniging/ Deneysville crossing. - B2: A business related development corridor is identified within Deneysville from the town entrance on the Sasolburg/Heilbron Road (P85/3) along Main Road. - B3: A business node, further south, along main road will be restricted to the areas earmarked therefore. - B4: Continuous upgrading and development of the existing sport terrain in Refengkgotso, as a business/high density housing area is proposed, mainly due to a lack of business premises in Refengkgotso. - B5: Continuous development of Refengkgotso, further eastward will necessitate at least a neighbourhood centre²⁰, adjacent to the Themba Khubeka precinct. - R8: Large erven, initially established between Refengkgotso and Deneysville (erven 3142-3133 & 3143-3156), earmarked a “mixed zone” (transition zone between the two areas) area now proposed for infill planning, focusing on the provision of residential erven.

²⁰ According to the Shopping Centre Classification of the South African Council of Shopping Centres, a shopping centre between 5 000m² - 12 000m² is classified as a “neighbourhood centre”.

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Refengkgotso: At present, smaller businesses are located adjacent primary roads throughout the area.	▪ B6: A substantially large business node is proposed in Themba Khubeka precinct, deemed a necessity due the area's remote location from the Deneysville CBD and smaller business activities in Refengkgotso.
Commuting Nodes	
T1: Only one formal taxi rank is used in Refengkgotso for long and short distance travel. Pick-up points are located along major collector roads throughout the residential area. The primary commuting activities in Refengkgotso are towards Sasolburg, Vereeniging and Vanderbijlpark.	▪ T1: The existing taxi rank is not developed and the provision of suitable infrastructure and shelter are considered exceedingly urgent.
Urban Open Space: Sport and Recreation	
The Vaal Dam is deemed a major recreation venue resulting water related sports and recreations activities, whereas its riparian offers opportunities for high cost low density residential extension. S7: The dam comprises its own island, "Groot" Island (almost 5km long) that was used by the former Intelligence Service of the previous government. The island is located north-east of Deneysville and officially part of the Free State Province. B4: Refengkgotso has one developed formal sport terrain, although a number of recreational areas (parks) were proposed, but not yet developed.	▪ B4: Continuous upgrading and development of the existing sport terrain, as a business/high density housing area is proposed, mainly due to a lack of business premises in Refengkgotso. ▪ S1: The above site is, however, not of adequate proportions and a more centrally located sport stadium is proposed in the envisaged new residential precincts. ▪ S3: Land included in water storage servitudes (related to the Vaal Dam - 96 formal erven) surrounding Deneysville has been acquired by the Department of Land Affairs and transferred to the Local Municipality. ▪ It resulted in wide green band surrounding the urban area, buffering it from the Vaal Dam's water surface but also serving as flood line or

STATUS QUO	FUTURE SPATIAL FRAMEWORK
S2: Deneysville comprises a developed sport terrain. Other facilities such as a bowling club and three boat clubs²¹ are also established. Developments occurring at a former caravan park (remainder of erf 1871) are, however, deemed a “conflicting use”. S5: The Lake Deney’s Yacht Club, a well-developed site (now erf 2023), comprising of several semi-permanent caravan park structures, is located to the south of Deneysville.	full capacity servitude. ▪ The land was transferred for the exclusive utilisation as recreation areas for the general public. Day visiting facilities must be upgraded to improve utilisation and public access to the dam. ▪ S4: A formal conservation area, Gawie de Beer Nature Reserve, also a proclaimed National Heritage Site, is located in the centre of Deneysville (park erf 965) and should be maintained for that purpose. ▪ Archaeological remains, related to the <i>Koi San</i> indigenous tribe, have been excavated on the site. ▪ R2: Current investigation is underway to establish a resort, on subdivision 3 of Knoppiesfontein 94, downstream from the Vaal Dam wall. ▪ It is envisaged to also establish a 9-hole golf course to be integrated with the existing golf course of the Department of Water Affairs and Forestry (S6) and a possible estate development. ▪ S6: The partial development of a golf course already commenced on land belonging to the Department of Water Affairs (immediately below the dam wall). The possibility exists to, in the end, developed 9 holes in the area, ultimately to be linked to an additional 9-hole course opposite the Deneysville/ Heidelberg Road.
Resorts and Tourism	
The Vaal Dam and the Vaal River Barrage are key recreational areas both for permanent residents and for weekend visitors. Power boating, angling and shoreline recreational activities are of significant economic value and	▪ Deneysville should, in so far as strategic planning is concerned, be earmarked as the tourism hub for the region. ▪ Two scenic roads were identified in the region namely sections of

²¹ Lake Deney’s Yacht Club’s claim to fame is the annual hosting of the ‘Round the Island Race’ in February every year. Established in 1958, it is the largest inland yacht race in the world and sailors compete from all over the country.

STATUS QUO	FUTURE SPATIAL FRAMEWORK
as such may be influenced by water quality changes. Tourism Hub The town of Deneysville is largely dependent on tourism. A number of provincial and regional angling competitions are held at Deneysville throughout the year. Although public access to the Barrage is extremely limited, access is provided at recreational areas such the three boat clubs at Deneysville (Manten Marina, Anchors Creek Marina and Lake Deneys). Continuous development of the town to enhance the tourist related nature thereof, should positively be considered.	roads R716 (north of the Vaal Dam) and R159 (south of the Vaal Dam to Jim Fouché Resort) providing relatively good access to various sections of the Vaal Dam. ▪ The tar road to Oranjeville (R716) , extending to link up with Frankfort (S159) is exceedingly scenic in nature and upgrading thereof will be required to also provide access to the already mentioned numerous leisure residential properties on the Vaal Dam riparian. ▪ Development of the identified scenic routes should be endeavoured to enhance the tourism potential of the area. In a sense, these roads should be considered as "tourism development corridors" and land use changes adjacent thereto, relating to tourism, should favourably be considered.
Cemeteries There are 4 cemeteries located in the urban area, 3 in Refengkgotso precinct, and 1 in Deneysville. C2: Two smaller cemeteries in Refengkgotso are fully occupied. C3: The existing Deneysville cemetery is also fully occupied.	C1: A substantially large regional; cemetery was established adjacent to the Themba Khubeka precinct. Although large areas are still available for usage, limited long-term extension of the regional cemetery is possible.

Other Social Amenities

Table 17

Provision of Social Amenities in Deneysville/ Refengkgotso Urban Area

<u>Towns</u>	<u>Urban Schools</u>		<u>Primary Health Clinic</u>	<u>Community Health Centre</u>	<u>Hospitals</u>	<u>Private Hospitals</u>	<u>Police Stations</u>	<u>Rural Police Stations</u>	<u>Magistrate Offices</u>	<u>Prison and places of safety</u>
	<u>P</u>	<u>S</u>								
Deneysville	1		2				1		1	2
Refengkgotso	3	1								

E: INDUSTRIAL AREAS

The Fezile Dabi District Municipal LED Strategy, 2013, earmarked Oranjeville as a centre for tourism and agriculture. The latter is endorsed in the Deneysville / Metsimaholo SDF, considering industrial development in the area related to the above in the form of light industrial / commercial activities (mixed use character) but not as a centre for industrial development, which Sasolburg / Zamdela, will remain as.

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Industries	
The area currently comprise of no industrial sites. Although the necessity for industrial sites was identified in the 1996 Structure Plan, emphasis in the urban area is preferably placed on tourism, rather than establishing a competing industrial node with the preferred industrial hub (Sasolburg / Zamdela) of the district.	▪ I1: A number of properties, ideally positioned for compatible mixed uses (service and light industries and business activities), are located in the former Deneysville residential precinct. ▪ The vicinity could purposely accommodated inclusionary and higher density housing, establishing a higher density, adjacent to a main

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Due to the fact that the Greater Deneysville has served as a typical satellite residential town for surrounding industrial areas, and a holiday destination, no large-scale industrial development occurred in the town. Erf 3160 (Refengkgotso), currently accommodates a reservoir and mechanical workshop, registered as a municipal property. The property is located between the former Deneysville / Refengkgotso boundary.	collector road and other supporting amenities. ▪ No harmful, toxic or noxious industries or activities, which may detrimentally impact on the surrounding residential areas, will be allowed. ▪ The proposed mixed use area (schools, light industrial activities, higher density residential options, inclusionary housing) will, in future, form the centre and focus of the envisaged larger urban area (R1 & R3 extensions).
Extractive Industries (Mining)	
Apart from gravel exploitation, exploitation of natural resources does not occur, at present, in the area. The area is, however, underlain with exceedingly rich coal deposits. As a result, the area is expansively undermined, thus restriction urban development further to the south and west of Refengkgotso.	▪ G1: The existing gravel pit on subdivision 4 of Mooi-Plaats 581 must immediately be closed and an alternative source be identified. Rehabilitation of the site, to allow for future urban extension, is evident.

F SURFACE INFRASTRUCTURE & BUILDINGS

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Landfill Site	
The present landfill site is not of adequate capacity to serve both communities and the continuous development endeavours adjacent to the Vaal Dam. The timely identification of a new site is evident.	▪ Limited extension possibilities exist to temporarily expand the landfill site, further westward. ▪ Alternative 3 and 4 below²² are, however, the preferred options, pending the outcome of a current investigation to resolve to long-term treatment of household refuse in the Metsimaholo region. ▪ Due to continuous development in the urban and rural areas, the

²² Report Abstract: Interim Report – Metsimaholo Municipality: Long-Term Residential Extension of Urban Precincts, 2015

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Landfill Site	
	Council is considering, as an alternative, the possibility of a regional landfill site to serve the entire area.

Alternative 3

Adjoining the Sasolburg / Deneysville road at an optimal transfer distance between Deneysville and Sasolburg; the latter being the principle waste contributor (unmined area, not affected by future mining).

Alternative 4

Closer to Deneysville, considering that long-term future urban development will be concentrated in this area (unmined area, not affected by future mining).

Bulk Services

Table 18
Bulk Services Provision Deneysville / Refengkgotso Urban Area
 (Source Metsimaholo Municipality, 2015)

<u>Water Provision</u>		<u>Sanitation</u>		<u>Electricity</u>
Total reservoir capacity (Mℓ) – capacity deemed adequate	14,9	Sewerage works capacity (Mℓ/day)	2,4	No bulk electrical supply available for the electrification of 2 537 stands which is also not electrified. Application for funding for bulk supply to service Themba Kubeka has been applied for
Waterworks has adequate purification capacity, upgraded 2 years ago		Sewerage works capacity required	3,6	
Raw water supply: pumped form the Vaal Dam (dam wall) by the Department of Water Affairs		▪ Sewerage works in the process of upgrading ▪ Upon connection of the Themba Khubeka precinct the capacity will have to be upgraded again		

Infrastructure Services

All urban areas were analysed in an attempt to identify shortfalls in infrastructure service delivery and to identify areas for eradication of backlogs or upgrading of services, the following categories were thus applied:

- Areas in the process of establishment (green)
- Areas established, unoccupied, without services (red)
- Areas established, occupied, with rudimentary services (brown for sewer, that will imply buckets / suction pit / French drains and blue for water, that would imply standpipes)
- Areas established, unoccupied, with services, partly or completely (yellow)

<u>Refengkgotso</u>	<u>Deneysville</u>
Water Network	
▪ Provided with a water network ▪ The Themba Khubeka extension is in the process of being serviced by a water network	▪ Provided with a water network
Sewer Network	
▪ Provided with sewer network, excluding the Themba Khubeka extension ▪ The bulk sewer line, to connect the Themba Khubeka extension, was since installed	▪ Area is serviced by means of French drains or septic tanks/ suction pits
Electricity Network	
▪ Refengkgotso provided with electricity maintained by Eskom ▪ Themba Kubeka Extension: Application for funding for the electrification of 2,537 erven in Themba Kubeka has been applied for	▪ Provided with electricity network

Regional Road Network and Future Access

Road & Access Requirements

- Three major roads intersect at Deneysville namely the Sasolburg / Heidelberg road (P85/3), the Vereeniging road (P29/1) and the road to Oranjeville (P44/2) currently stretching through Refengkgotso.
- The extension of Refengkgotso resulted in the existing Oranjeville road (P44/2) being practically reduced to a collector road of the residential extensions of Refengkgotso.
- The alignment of two “bypass” roads, as initially proposed during the mid-nineties, have been amended to better serve the current and future urban form and also the traveling public.
- A section of Road P44/2 stretching through Refengkgotso must be de-proclaimed and utilised as an internal collector road.
- Several re-alignment and closure of street and road sections have been proposed by the Roads planning Directorate (Free State Provincial Government).
- A3, A4, A5, A6 & A7: Several future accesses onto the existing provincial road network have been identified and indicate as such.
- The recent Mooi-Plaats residential precinct will necessitate the realignment of the Oranjeville / Sasolburg Road (P44/2) that delineates the long-term western boundary of the Urban Fringe.
- The gravel road linking Oranjeville with Frankfort (S159) is exceedingly scenic in nature and upgrading thereof will be required to also provide access to the already mentioned numerous leisure residential properties on the Vaal Dam riparian.
- Development of the identified scenic route should be endeavoured to enhance the tourism potential of the area. In a sense, these roads should be considered as "tourism development corridors" and land use changes adjacent thereto, relating to tourism, should favourably be considered.
- Maintenance of significant gravel roads linking Oranjeville with Heilbron (S158) and Frankfort (S159) are neglected, negating the function of these roads, linking the agricultural hinterland with the urban area

ORANJEVILLE / METSIMAHOLO URBAN AREA 9.

A: CORE

STATUS QUO	FUTURE SPATIAL FRAMEWORK
The Oranjeville District comprises a unique nature and environmental asset in the Vaal Dam and its associated riparian. <i>Because of the important role played by the Vaal Dam and the Vaal–Barrage in providing potable water to the economic heartland of the republic, everything possible must be done to restrict the pollution of these sources to the minimum. With this in view it is considered undesirable that large increases in the population concentration takes place in riparian areas. Open spaces must be protected against injudicious use on account of their ecological aesthetic or recreational value (Vaal River Regional Structure Plan, 1996 (Vaal River Complex Guide Plan, 1982)).</i>	- Optimal development and utilisation of the unique tourism potential of the Vaal Dam areas is proposed, but without compromising the outstanding universal value thereof and unduly impairing the safe, undisturbed and quiet enjoyment of the area. - Riparian areas and marshes draining toward the Vaal Dam and their tributaries are an integral part of the river ecosystem and regarded as important ecological features, experiencing substantial development pressures. - They must be regarded as sensitive to activities that threaten to severely degrade them. - Development proposed in the interim, prior to a “wall-to-wall Scheme” must meet the existing guidelines pertained in the Vaal River Complex Regional Structure Plan, the Vaal Dam Zoning Plan and Provincial Policy²³.

B: BUFFER

STATUS QUO	FUTURE SPATIAL FRAMEWORK
The Vaal Dam riparian properties in the vicinity of Oranjeville, have for the past few years increasingly been subdivided. Subdivision is attempted to provide high cost holiday-oriented housing, enabling property owners to use the water surface for recreation purposes. It is	Oranjeville Vaal Dam Riparian Management Plan Continuous leisure residential development adjacent the Vaal Dam, between Oranjeville and Deneysville, will necessitate the proper long-term planning of bulk services to ensure that future demands will be

²³ Free State Province, Department of COGTA's *Development of Rural and Peri-Urban Areas* Guidelines.

STATUS QUO	FUTURE SPATIAL FRAMEWORK
uncertain whether the correct licenses under the National Water Act, 1998 (Act No. 36 of 1998) are in force. The properties, however, pose specific management problems for the municipality as they were never incorporated as erven and are neither subject to any meaningful land use control measures nor subject to the establishment of a body corporate, to ensure some control. The provision of services (especially roads) and waste disposal create further problems for the municipality. It will be of great importance, upon implementing a wall-to-wall town planning scheme, to provide proper control and management of these properties. Vaal Dam Zoning Plan: All future developments, not located within the urban area, should take cognizance of the <i>Vaal Dam Zoning Map</i> (refer to Annexure 1) which is being used by the Department of Water Affairs and Forestry to assess development applications adjacent to the dam.	met. ▪ Incessant development in the region should preferably be preceded by a Management Plan, integrating the Vaal River Complex Regional Structure Plan with the Council's vision and strategy. ▪ In this respect, the continuous needs of the high income market should not be overlooked. ▪ Although subdivision of farmland adjacent the Vaal Dam, mostly for leisure residential purposes, will continue, a detailed land audit, in cooperation with the Department of Water Affairs and the Rand Water Board is required determining which properties since developed, must be included as part of the "housing and property stock" and serve as a source of revenue to the municipality. ▪ Areas within 32 m and 100 m of water courses, as defined in the National Water Act, and within 500 m of wetlands should be regarded as sensitive.

C: AGRICULTURAL AREAS

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Small Scale Farming	
No agricultural small holdings are situated in close proximity of the Oranjeville urban area. Several small holdings, the Vaal Power, Veekraal, Lake Deney's, Knopjes Fontein 94 (small farms) and Vaal Dam Settlement small holdings are,	▪ F3: An area to the west of the urban area, also part of the remaining town lands, is considered for the purposes of communal gardens and intensive small scale farming activities. ▪ In view of present community needs, the prompt identification of farm land for commonage purposes, is evident.

STATUS QUO	FUTURE SPATIAL FRAMEWORK
however, located adjacent and between Deneysville and Sasolburg (refer to table 11A). F1: The remaining town lands, i.e. the Farm Townlands of Oranjeville 1124 and Subdivision 28 of the Farm Vaaldam Settlement 1777 (measuring approximately 236 Ha in extent, owned by the municipality) are utilised for commonage purposes. F2: Subdivisions 14 (also comprising a former runway) & 32 of the Farm Vaaldam Settlement 1777 (measuring, respectively, approximately 42 & 304 Ha in extent), currently registered as the property of the Metsimaholo Communal Property Trust, are also utilised for commonage purposes. Serval leisure residential properties have since been established on Subdivision 14, rendering its agricultural potential, usage of the informal runway and access to the waterfront, void. The community is, none the less, experiencing a critical need for additional commonage.	▪ F4: Subdivisions 10 & 11 of the Farm Vaaldam Settlement 1777 (measuring respectively approximately 145 & 133 Ha in extent) are earmarked for commonage purposes. ▪ F5: Long-term development will include a portion of the Remainder of the Farm Brak Dam 700 and a small portion of the Remainder of the Farm Knopjesfontein 694, opposite (north) of the Deneysville road for commonage purposes (said farms measure respectively approximately 254 Ha and 30 Ha in extent). ▪ R6: Portions of the above properties, located south of the Deneysville road (including a portion of Subdivision 26 of the Farm Vaaldam Settlement 1777, is earmarked for long-term residential extensions. ▪ All the aforesaid properties are privately owned and will have to be obtained in future.

D: URBAN RELATED

Urban Fringe

The Vaal Dam riparian establishes a physical urban fringe, restricting further development in an easterly direction.

Long-term development will require extension of the urban fringe in a general northern an north western direction to include:

- F2: Subdivisions 14 (comprising a former runway) & 32 of the Farm Vaaldam Settlement 1777
- F4: Subdivision 10 and 11 of the Farm Vaaldam Settlement 1777
- F5: Long-term development will include a portion of the remainder of the Farm Brak Dam 700 and a small portion of the Remainder of the Farm Knopjesfontein 694 (north of the Deneysville Road)

Urban Fringe

- R5: Subdivision 27 of the Farm Vaaldam Settlement 1777, since subdivided, comprises a leisure residential development and will in future be included in the urban fringe.
- R6: Portions of the above properties, located south of the Deneysville road, including a portion of Subdivision 26 of the Farm Vaaldam Settlement 1777, earmarked for long-term residential extensions
- S3: A portion of Subdivision 25 of the Farm Vaaldam Settlement 1777 (government owned serving as flood line and full capacity servitude)
- Portion 92 & 395 of the Farm Vaaldam Settlement 1777
- R8: Lizard Point urban development

Table 19
Summary of Current Housing Tendencies Oranjeville / Metsimaholo Urban Area ²⁴
 (Source Municipality, 2015)

<u>RESIDENTIAL AREA</u>	<u>RESIDENTIAL ERVEN OCCUPIED</u>	<u>RESIDENTIAL ERVEN UNOCCUPIED</u>	<u>TOTAL RESIDENTIAL ERVEN</u>	<u>ERF REQUIREMENTS</u> <i>(Determined by Council)</i>
Oranjeville	240	354	594	-
Metsimaholo	959	402	1 361	1 000 ²⁵
Lizard Point Estate	-	685	685	-
TOTAL	1 199	1 441	2 640	1 000

Rural Housing Developments (Tourist and Recreational Related)

Several subdivisions of agricultural land, especially adjacent the Vaal Dam (refer to Table 11B), allegedly to provide for tourism and recreational purposes, occurred the past few years. Subdivisions ensured a minimum waterfront of 100 m for all subdivisions and the remainder. Several of these

²⁴ Excluding numerous subdivisions of the Vaal Dam riparian properties, almost exclusively utilised for high cost leisure residential purposes - (refer to table 11B).

²⁵ A per municipality request of 17 December 2015.

subdivisions are developed. However, agricultural land, included in the Structure Plan under the zoning “Recreation and Tourist Attractions”, related to riparian properties, resulted in much higher densities (in the form of sectional title schemes).

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Residential	
Oranjeville and Metsimaholo comprise a total of 1 955 residential erven of which Metsimaholo has 1 361 and Oranjeville 594. Metsimaholo comprises 402 unoccupied erven and Oranjeville 354. Recently developed erven, in a westerly direction of Metsimaholo, in the Phahameng Extension, will satisfy the medium term housing need. ▪ R4 (F2): Subdivision 14 of the Farm Vaaldam Settlement, registered as the property of the Metsimaholo Communal Property Trust, included several leisure residential properties. The status thereof is, however, uncertain, as it does not appear to be a formal sectional title development. ▪ R8: The Lizard Point development, immediately north of Metsimaholo, is an established town of 685 residential erven. Development thereof was severely restricted due to the recent economic recession. ▪ The continuous need for high cost leisure residential properties in the vicinity, may see the revival of the residential component of the	▪ Densification within the sparsely developed Oranjeville could further provide for medium and high cost housing. ▪ Erven in Oranjeville, with “open” title deeds, must be incorporated in the current integrated Land Use Management Scheme and appropriate land uses assigned thereto. ▪ R1: Extension in a south-easterly direction from Metsimaholo is proposed. Mixed housing opportunities (low to medium cost) must be provided. ▪ R2: Areas surrounding the Vaal Dam comprises of scenic qualities and should be considered for leisure development purposes. ▪ R3: Long-term residential extension should occur in a westerly direction. Housing development should be integrated comprising of low, medium and high cost opportunities. ▪ It is highly likely that a business node (B2), in the form of a neighbourhood centre, will also establish in the area.²⁶ ▪ R5: Subdivision 27 of the Farm Vaaldam Settlement 1777, since subdivided, comprises a leisure residential development and will in future be included in the urban fringe. ▪ R6: Due to its location on a peninsula in the Vaal Dam, growth of Oranjeville further east, west and north, is largely restricted. It is

²⁶ According to the Shopping Centre Classification of the South African Council of Shopping Centres, a shopping centre between 5 000m² - 12 000m² is classified as a “neighbourhood centre”.

STATUS QUO	FUTURE SPATIAL FRAMEWORK
development, although proposed lavish business developments, are not to be realised in the foreseeable future. DRDLR Development <i>Potential in Urban Settlements Report</i> (2014) assessment: ▪ Urban Growth Potential – Low ▪ Economic Potential -Low	foreseen that, in the long run, urban expansion will have to occur in a westerly direction. The specific area is seen as long-term hinterland for urban development. ▪ Portions of the Farm Brak Dam 700, a small portion of the Remainder of the Farm Knopjesfontein 694 and a portion of Subdivision 26 of the Farm Vaaldam Settlement 1777, are earmarked for long-term residential extensions; especially south of the Deneysville Road. ▪ ☒Due to its location in close proximity of the CBD and other urban amenities, erven 181, 183 & 185 could be utilised for inclusionary housing. A location between Oranjeville and Metsimaholo could, however, serve this purpose better. ▪ R7: The unsanctioned use of a former school premises (erf 582) for the purposes of a cemetery must duly be ceased and the remaining area, utilised for residential purposes. ▪ Apart from future residential extension proposed at R1, integration is (and will) successfully achieved and all possible infill opportunities since developed.
Central Business District (CBD)	
Oranjeville comprises a well-defined CBD, which currently experiences limited growth. Metsimaholo does not have a well-defined CBD although a number of businesses are located along main entrance roads, especially at the town entrance.	▪ Due to the limited growth potential of the CBD, no specific direction for development is indicated. ▪ The construction of future provincial road (P44/2) and a new bridge over the Vaal Dam will enhance and stimulate business development

STATUS QUO	FUTURE SPATIAL FRAMEWORK
	of the CBD in a north-eastern direction (B3). ▪ B1: A new smaller, long-term business²⁷ node might establish at the intersection of the access roads to Metsimaholo and Oranjeville at A1. ▪ B2, R3: Long-term residential extension should occur in a westerly direction. A business node (B2), in the form of a neighbourhood centre, might also establish in the area. ▪ B3: Ideal opportunities exist to establish a tourism / recreation node in the vicinity of the proposed new bridge. ▪ As mentioned previously, development should, in the interim, take place within the current CBD and may extend along Malan Street as an identified development corridor.
Commuting Nodes	
T: Only one commuting node is located in Metsimaholo for long and short distance commuting (T). The existing commuting node is adequate and meets the commuting need of the community, although health conditions at the node is in a derelict state.	▪ Additional commuting facilities are not identified. ▪ A need exists to further develop the existing facility by means of a sheltered waiting area and ablution facilities. ▪ Recent development of the Phahameng extension will necessitate the identification of an additional pickup point. (Proper infrastructure at the existing node and future pickup points is emphasized - refer to cross cutting issues).
Urban Open Space: Sport and Recreation	
S1: Metsimaholo comprises an undeveloped sport terrain. Various parks were provided in Metsimaholo with the establishment of new extensions, but are not developed for sport and recreational purposes	▪ S2: An area centrally located between Metsimaholo and Oranjeville is proposed for a communal sport terrain. ▪ S3: Subdivision 25 of the Farm Vaaldam Settlement 1777 (government owned) and the Remainder of the Farm Townlands of

²⁷ According to the Shopping Centre Classification of the South African Council of Shopping Centres, a shopping centre less than 5 000m² is classified as a “Small Convenience Centre” .

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Sport terrains are not provided in Oranjeville. The Vaal Dam is deemed a major recreation venue resulting water related sports and recreational activities, whereas its riparian offers opportunities for high cost low density residential extension.	Oranjeville 1124 (municipal owned) resulted in wide green band surrounding the urban area, buffering it from the Vaal Dam's water surface but also serving as flood line or full capacity servitude. ▪ A portion of the aforesaid (S4) comprises day visiting facilities that must be upgraded to improve utilisation and public access to the dam.
Resorts and Tourism	
Oranjeville, due to its favourable location to Gauteng, is a popular weekend tourist destination rendering the urban area ideal for enhanced tourism development. Tourism Hub The town of Oranjeville is largely dependent on tourism. A number of provincial and regional angling competitions are held at Oranjeville throughout the year. Continuous development of the town, and the newly planned Lizard Point Development, especially to enhance the tourist related nature thereof, should positively be considered. The Council recently agreed that Deneysville (and Oranjeville) should, in so far as strategic planning is concerned, be earmarked as the tourism hub for the region.	▪ Two scenic roads were identified in the region namely sections of roads R716 (north of the Vaal Dam) and R159 (south of the Vaal Dam to Jim Fouché Resort) providing relatively good access to various sections of the Vaal Dam. ▪ The gravel road linking Oranjeville with Frankfort (S159) is exceedingly scenic in nature and upgrading thereof will be required to also provide access to the already mentioned numerous leisure residential properties on the Vaal Dam riparian. ▪ Development of the identified scenic route should be endeavoured to enhance the tourism potential of the area. In a sense, these roads should be considered as "tourism development corridors" and land use changes adjacent thereto, relating to tourism, should favourably be considered. ▪ Maintenance of significant gravel roads linking Oranjeville with Heilbron (S158) and Frankfort (S159) are neglected, negating the function of these roads, linking the agricultural hinterland with the urban area.

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Cemeteries	
C1: The cemetery in Oranjeville is undesirable for future extension due to limited excavation possibilities and a high groundwater level. It is, however, a characteristic of the area and thus not unique to Oranjeville. C2: The site is completely occupied and extension thereof occurred, unofficially, on the adjacent school site. Usage of the site must be ceased and the remaining area preferably used for residential purposes.	▪ C1: The Oranjeville cemetery could be relocated further northwest (C4). ▪ Fencing and the provision of ablution facilities at all the existing sites are deemed a priority. ▪ C2/R7: The unsanctioned use of a former school premises (erf 582) for the purposes of a cemetery must duly be ceased. ▪ Relocation of the cemetery (C2) to a more appropriate location (C3) is foreseen. The latter area is, however, subject to geotechnical investigations determining the usability thereof. ▪ C3: A significantly large area to the west of Metsimaholo is proposed for the new cemetery site. ▪ The site extends up to an envisaged link road from A3 to the secondary provincial road network, providing access to the Lizard Point development and various riparian properties established as holiday homes.

Other Social Amenities

Table 20

Provision of Social Amenities in Oranjeville / Metsimaholo Urban Area

<u>Towns</u>	<u>Urban Schools</u>		<u>Primary Health Clinic</u>	<u>Community Health Centre</u>	<u>Hospitals</u>	<u>Private Hospitals</u>	<u>Police Stations</u>	<u>Rural Police Stations</u>	<u>Magistrate Offices</u>	<u>Prison and places of safety</u>
	<u>P</u>	<u>S</u>								
Oranjeville	1		2				1			
Metsimaholo	1	1								

E: INDUSTRIAL AREAS

The Fezile Dabi District Municipal LED Strategy, 2013, earmarked Oranjeville as a centre for tourism and agriculture. The latter is endorsed in the Oranjeville/ Metsimaholo SDF, considering industrial development in the area related to the above in the form of light industrial/commercial activities (mixed use character) but not as a centre for industrial development, which Sasolburg/ Zamdela, will remain as.

STATUS QUO	FUTURE SPATIAL FRAMEWORK
Industries	
The area currently comprises no industrial sites. Although the necessity for industrial sites was identified in the 1996 Structure Plan, emphasis is preferably placed on tourism, rather than establishing a competing industrial node with the preferred industrial hub (Sasolburg/Zamdela) of	▪ I1: A possible future location for light / service industrial and mixed use purposed (industrial and commercial) is proposed. ▪ The location was identified due to its accessibility to Road R716 to Deneysville, and future residential extensions.

the district.	
Extractive Industries (Mining)	
G1: A former provincial gravel pit, located to the west of the urban area, must appropriately be rehabilitated and the safety of the area ensured, protecting the surrounding urban population. The pit is currently immediately adjacent to the Metsimaholo precinct.	

F SURFACE INFRASTRUCTURE & BUILDINGS

Landfill Site	
The current landfill site is of adequate capacity to serve the greater Oranjeville for the short term. However, the Lizard Point development and numerous leisure residential properties established, of late, adjacent the Vaal Dam, will reduce the lifespan of the site considerably.	▪ The existing landfill site comprises of adequate capacity for short term use although measures should timely be taken to identify a new or suitable extension of the existing site; especially in view of the anticipated growth in rural areas. ▪ Due to continuous development in the urban and rural areas, the Council is considering, as an alternative, the possibility of a regional landfill site to serve the entire area.

Bulk Services

Table 21
Bulk Services Provision Oranjeville / Metsimaholo Urban Area
 (Source Metsimaholo Municipality, 2015)

<u>Water Provision</u>		<u>Sanitation</u>		<u>Electricity</u>
Total reservoir capacity (Mℓ) deemed adequate reservoir capacity	1,7	Sewerage works capacity (Mℓ / day)	0.459	Bulk electricity is adequate for the present, new extensions will require upgrading.
Waterworks has adequate purification capacity, upgraded 5 years ago.		Sewerage works capacity needs to be increased (pending findings of a report in process).		
Raw water supply: pumped form the Vaal Dam.				

Infrastructure Services

All urban areas were analysed in an attempt to identify shortfalls in infrastructure service delivery and to identify areas for eradication of backlogs or upgrading of services, the following categories were thus applied:

- Areas in the process of establishment (green)
- Areas established, unoccupied, without services (red)
- Areas established, occupied, with rudimentary services (brown for sewer, that will imply buckets / suction pit / French drains and blue for water, that would imply standpipes)
- Areas established, unoccupied, with services, partly or completely (yellow)

<u>Metsimaholo</u>	<u>Oranjeville</u>
Water Network	
▪ Provided with a water network	▪ Provided with a water network
Sewer Network	
▪ Provided with a waterborne sewer network	▪ Small portion provided with a waterborne sewer network ▪ Remaining areas serviced by means of French drains or septic tanks / suction pits.
Electricity Network	
▪ Provided with electricity network.	▪ Provided with electricity network partially owned by Eskom and the Municipality.

Regional Road Network and Future Access
<u>Road Requirements</u>
▪ Construction of the future provincial bypass road P44/2 (already proclaimed) is considered a viable option in view of more direct access to Metsimaholo, the enhancing effect it could have on the CBD and development of tourist facilities. ▪ Construction of a new bridge over the Vaal Dam, replacing the current “Magrieta Prinsloo” bridge is similarly important, especially in view of the current bridge’s dilapidated condition.

Regional Road Network and Future Access

- R761: Upgrading of the Deneysville Tar Road.
- Two scenic roads were identified in the region namely sections of roads R716 (north of the Vaal Dam) and R159 (south of the Vaal Dam to Jim Fouché Resort) providing relatively good access to various sections of the Vaal Dam.
- The gravel road linking Oranjeville with Frankfort (S159) is exceedingly scenic in nature and upgrading thereof will be required to also provide access to the already mentioned numerous leisure residential properties on the Vaal Dam riparian
- Development of the identified scenic route should be endeavoured to enhance the tourism potential of the area. In a sense, these roads should be considered as "tourism development corridors" and land use changes adjacent thereto, relating to tourism, should favourably be considered.
- Maintenance of significant gravel roads linking Oranjeville with Heilbron (S158) and Frankfort (S159) are neglected, negating the function of these roads, linking the agricultural hinterland with the urban area

Access Requirements

- Construction of a new bridge and a section of the road up to the foreseen future main access to Metsimaholo and the rural developments (Lizard Point) beyond (A3).
- Construction of the remaining section to link the current road from Deneysville (R716) with the new road at A3.
- For the interim, an urgent need exists to upgrade main and collector roads in Metsimaholo as well as Scott and Van Niekerk Street in Oranjeville with a high volume of *through traffic*.
- A1, A2: Access between Oranjeville and Metsimaholo via the existing access road is adequate for the short term.
- Alternative access on the major road to Deneysville will have to be provided for future residential extension R1, R2 and R3 and the mixed use area (I1).
- A3: Provides access to the future residential extension of Metsimaholo and proposed industrial area. It is also envisaged as a link road to the secondary provincial road network, providing access to the Lizard Point development and various riparian properties established as holiday homes.
- A4: Long-term extension further north will likely necessitate a new access onto the Deneysville Road.