SETSOTO LOCAL MUNICIPALITY

SPATIAL DEVELOPMENT FRAMEWORK 2008/9

404 ANDERSON STREET
MENLO PARK
PRETORIA
TEL: 012 – 346 2526
FAX: 012 – 346 4101

CONTENTS

Page No

1. INTRODUCTION 1

2. LEGAL FRAMEWORK APPLICABLE TO SDF 2

2.1 National Spatial Development Perspective 2

2.2 Legal Framework 3

2.3 Policy Guidelines: DFA Chapter 1 Principles 7

2.4 Development Facilitation Act Principles 8

2.5 Principles and Norms – White Paper on Spatial Planning and Land Use Management 10

2.6 Local Development Principles 14

3. STUDY AREA AND DEMOGRAPHIC PROFILE 16

3.1 Study Area 16

3.2 Demographic Profile 16

4. ENVIRONMENTAL POTENTIAL ATLAS (ENPAT) 20

4.1 Land Cover 20

4.2 Soil Depth and Clay Content 22

4.3 Soil Potential and Vegetation 23

4.4 Geotechnical Assessment 24

5. SPATIAL DEVELOPMENT FRAMEWORK 27

5.1 Rural Developments 27

5.2 Rural Services Centres 34

6. URBAN SPATIAL DEVELOPMENT FRAMEWORKS 53

6.1 Ficksburg/ Meqheleng 53

6.2 Clocolan/ Hloholwane 59

6.3 Marquard/ Moemaneng *63*
6.4 Senekal/ Matwabeng *67*

7. INTEGRATED ENVIRONMENTAL PROGRAMME 73
7.1 Legislative and Policy Framework for Environmental Sustainable Development *73*
7.2 Setsoto Environmental Issues *82*

8. LAND USE GUIDELINES 89

9. CAPITAL INVESTMENT PROGRAMME 90
9.1. Engineering *90*
9.2. Investigations / Planning *90*
9.3. All urban areas *91*

10. AMENDMENT OF THE SPATIAL DEVELOMENT FRAMEWORK 92

11. RECOMMENDATIONS AND CONCLUSION 94

ANNEXURES:

Annexure A : Socio-Economic Profile
Annexure B : Glossary of Terms
Annexure C : Land Use Guidelines
Annexure D : Environmental Guidelines

1. INTRODUCTION

The formulation of an Integrated Spatial Development Framework is a legal requirement in terms of Chapter 5 of the Local Government: Municipal Systems Act, 2000 (No 32 of 2000) and forms an integral part of the Integrated Development Plan ('IDP') for a Local or District Municipality. The purpose of a Spatial Development Framework is to provide general direction to guide decision-making and action over a multi-year period aiming at the creation of integrated and habitable cities, towns and residential areas. More specifically, the Spatial Framework aims at informing the decisions of different organs of State as well as creating a framework for investor confidence that facilitates both public and private sector involvement.

The Setsoto Local Municipality Spatial Development Framework review for 2007/8 is a continous process where the 2006/7 SDF was used as the point of departure. The amendments which was done in the 2006/7 SDF, was informed by the following inputs:

- Comments from the Department of Local Government and Housing on the 2007/8 SDF;
- Inputs from the Officials and Politicians from Setsoto Local Municipality on a during a workshop which was held March 2008; and
- Technical information which was obtained since the submission of the 2006/7 SDF (Comparison between Geotechnical information and Proposed Housing areas).

The Setsoto Local Municipality SDF is part of the IDP process and as such will become integral during the approval of the IDP. During this process a number of Representative Forum's meetings were held where the SDF was presented and approved.

2. LEGAL FRAMEWORK APPLICABLE TO SPATIAL DEVELOPMENT FRAMEWORK

In order to guide spatial development, attention should, amongst others, also be given to national guidelines, as contained in the National Spatial Development Perspective, as well as issue addressed in other legislation applicable to spatial development, including the Development Facilitation Act. The following has been derived in this regard:

2.1 NATIONAL SPATIAL DEVELOPMENT PERSPECTIVE (NSDP)

In the NSDP the government's national spatial development vision is formulated as:

"South Africa will become a nation in which investment in infrastructure and development programmes support government's growth and development objectives:

- By focussing economic growth and employment creation in areas where this is most effective and sustainable;
- By supporting restructuring where feasible to ensure greater competitiveness;
- By fostering development on the basis of local potential; and
- By ensuring that development institutions are able to provide basic needs throughout the country." (NSDP, pp35-36).

In the NSDP attention is also given to intergovernmental planning principles. In this regard it is mentioned that the relationship between the NSDP, provincial plans and IDPs should be determined in the context of a set of intergovernmental planning principles, such as:

- National development guidelines and principles should inform planning for development in all spheres;

- Each sphere has its own distinct development tasks and related planning tasks corresponding to the scale of operations and the area of jurisdiction;
- Integrated development planning by municipalities is a tool to integrate and co-ordinate implementation in terms of geographical space and time in that locality. They have to inform, and be informed by the planning of other spheres of government, including sectoral / departmental planning of line agencies; and
- The necessary mutual alignment between national principles / guidelines, sectoral planning requirements and local needs, conditions and resources must be conducted in the spirit of co-operative governance whereby the plans of one sphere should support those in another.

2.2 LEGAL FRAMEWORK

A Spatial Development Framework is a legally required component of the Integrated Development Plan, which every municipality in South Africa has to produce. Spatial planning should thus form an integral part of strategic planning processes at local government level. Producing a spatial development framework is but one of the challenges that Municipalities face and many municipalities are attempting to meet these challenges with limited spatial and strategic planning capacity within their organizations. Legal requirements for spatial planning emanate from different national and provincial departments and are not always coordinated or aligned.

The Local Government: Municipal Systems Act (2000) requires that a spatial development framework (SDF) be reflected as part of a municipality's Integrated Development Plan (Section 26(e)). In Section 35(2), the Act states that the SDF prevails over plans as defined in section 1 of the Physical Planning Act, 1991 (Act 125 of 1991).

The White Paper on Spatial Planning and Land Use Management (July 2001) spells out the minimum elements that must be included in a spatial development framework. It also proposes that the spatial development framework operate as an indicative plan, whereas the detailed administration of land development and land use changes is dealt with by a land use management scheme. It thus provides a direct legal link between the SDF (with its forward planning focus) and the land use management scheme (which serves development control functions). This link, it is argued in the White Paper, is the key to successful local spatial planning, land use management and land development (Section 2.6.1).

The Local Government: Municipal Planning and Performance Management Regulations (August 2001) provide further detail on what the SDF must achieve and what it must contain. It, however, focuses on detail that is different from that covered in the White Paper on Spatial Planning and Land Use Management. The Regulations highlight that the SDF must give effect to DFA principles. They draw attention to the need for strategies and policies; guidelines for Land Use Management Systems (LUMS); a capital investment framework; strategic assessment of environmental impacts; programmes and projects; a visual representation of the desired spatial form. The maps must, according to the Regulations, show:

- Where private and public land development and infrastructure investment should take place;
- Desired or undesired utilisation of space;
- Delineate an urban edge;
- Identify areas for strategic intervention; and
- Indicate areas of priority spending.

The Land Use Management Bill, 23 June 2003 sets basic principles to guide spatial planning, land use management and land development. It provides for national, regional, provincial and municipal spatial development

frameworks. Section 17(1) says that the SDF of a municipality published in terms of the Bill and included in the municipality's IDP in terms of section 26(e) of the Municipal Systems Act, must:

- Give effect to the directive principles;
- Be consistent with the national spatial development framework;
- Be consistent with the provincial spatial development framework of the province within which the municipality is located;
- Be consistent with any applicable national or provincial legislation on environmental management; and
- Give effect to any national and provincial plans and planning legislation.

The municipal SDF must at least reflect:

- The current state of affairs report on land use in the municipality, including any spatial dysfunctional that exists;
- A conceptual framework of the desired spatial growth patterns in the municipality;
- A multi-sector based spatial plan, at an appropriate scale, sufficiently formulated to achieve the desired spatial development goals, including:
- The correction of past spatial imbalances and the integration of disadvantaged persons;
- Linkage between settlement development and appropriate transport infrastructure and systems;
- Vacant land analysis of strategically located land comprising:
  - Location and size;
  - Ownership;
  - Current zoning;
  - Value;
  - Surrounding land use;

- Geotechnical conditions; and
- Most suitable use (suitability index);

- A multi-sector driven resource plan for implementation of the spatial development framework.

The Bill refers to the need for the District and Local Municipality's SDFs to align with the framework for IDP referred to in section 27 of the Municipal Systems Act, 2002. The issue of spatial frameworks in relation to other spheres is dealt with in Chapter 3. Chapter 4 deals with land use schemes, Chapter 5 with Land Use Regulation and Chapter 6 specifically with Municipal Land Use Regulation.

In the IDP Guide Packs it is stated that a SDF must provide general direction to guide decision-making and action over a multi-year period aiming at the creation of integrated cities, towns and residential areas. Creating a strategic framework for the formulation of an appropriate land-use management system, thereby:

- informing the decisions of development tribunals, housing departments and relevant development committees; and
- creating a framework of investment confidence that facilitates both private and public sector investment.

Minimum requirements for the SDF are set out in Guide III which points to the need for a summary chapter outlining spatial development trends; localised spatial development principles; the location of projects; and a summary of land reform issues and related projects.
It also points to the need for maps that indicate the spatial objectives and strategies and are sufficiently specific to inform land management and investment decisions.

The IDP Guide pack ends off by stating that the SDF is supposed to form a legally binding component of the IDP. That means it needs to be quite specific and precise in cases where it wants to enforce or to prevent certain types of land use. This however, does not imply that it has to be prescriptive with regard to the way each and every piece of land shall be used. There is no need for an area-covering determination of land use zones.

2.3 POLICY GUIDELINES: DFA CHAPTER 1- PRINCIPLES

The relevancy of the principles and norms (namely the DFA principles, as well as the principles and norms contained in the Land-use Bill, 2001) for the purposes of the Setsoto SDF, can best be explained by the following description in the White Paper on Spatial Planning and Land-use Management: " *They constitute a single point of reference, and an overarching coherent set of policy guides to direct and steer land development, planning and decision-making in all spheres of government including other public agencies involved in land-use, so that outcomes thereof are consistent with the national objectives*." It is evident that these principles and norms are applicable to the spatial rationale and is also an important guiding factor with the identification of the settlement hierarchy.

The specific principles, from the Development Facilitation Act and the Land Use Management Bill, with a direct bearing on the outcome of the ISDF are highlighted in the next section.

The overall aim of the principles and norms as described in the White Paper on Spatial Planning and Land-use Management to achieve planning outcomes are directly applicable. The desired outcomes as outlined in the White Paper are as follows:

- Restructure spatially inefficient settlements;
- Promote the sustainable use of the land resources in the country;
- Channel resources to areas of greatest need and development potential, thereby redressing the inequitable historical treatment of marginalized areas;
- Take into account the fiscal, institutional and administrative capacities of role-players, the needs of communities and the environment;
- Stimulate economic development opportunities in rural and urban areas; and
- Support an equitable protection of rights to and in land.

2.4 DEVELOPMENT FACILITATION ACT PRINCIPLES

The following principles, as contained in Chapter 1 of the Development Facilitation Act, 1995 (Act 67 of 1995), supersedes any other principles or policies contained in this document or any other policy documents, and should, therefore be taken into account when any aspect of land development is considered, including the macro spatial development framework for the municipality:

- Principle (a): "Policy administrative policy, administrative practice and laws should provide for urban and rural land development and should facilitate the development of formal and informal, existing and new settlements."
- Principle (b): "Policy, administrative practices and laws should discourage the illegal occupation of land, with due recognition of informal land development processes."
- Principle (c): "Policy, administrative practice and laws should promote efficient and integrated land development in that they…"
    - Promote the integration of social, economic, institutional and physical aspects of land development;
    - Promote integrated land development in rural and urban areas in support of each other;

- Promote the availability of residential and employment opportunities in close proximity to or integrated with each other;
- Optimise the use of existing resources including such resources relating to agriculture, land, minerals, bulk infrastructure, roads, transportation and social facilities;
- Promote a diverse combination of land uses, also at the level of individual erven or subdivisions of land;
- Discourage the phenomenon of "Urban Sprawl" in areas and contribute to the development of more compact towns and cities;
- Contribute to the correction of the historically distorted spatial patterns of settlement in the Republic and to the optimum use of existing infrastructure in excess of current needs; and
- Encourage environmentally sustainable land development practices and processes.

- Principle (d): "members of communities affected by land development should actively participate in the process of land development."
- Principle (e): "the skills and capacities of disadvantaged persons involved in land development should be developed."
- Principle (f): "policy, administrative practice and laws should encourage and optimise the contributions of all sectors of the economy (government and non-government) to development....."
- Principle (g): "laws procedures and administrative practice relating to land development should...be clear and generally available...also provide guidance... be calculated to promote trust and acceptance...give further content to the fundamental rights set out in the constitution."
- Principle (h): "policy, administrative practice and laws should promote sustainable land development at the required scale."
- Principle (i): "policy, administrative and laws should promote speedy land development."
- Principle (j): "each proposed land development area should be judged on its own merits and no particular use of land, such as residential,

commercial, conservation, industrial, community facility, mining, agricultural or public use, should in advance or in general be regarded as being less important or desirable than any other use of land."

- Principle (k): "land development should result in security of tenure, provide for the widest possible range of tenure alternatives, including individual and communal tenure, and in cases where land development takes the form of upgrading an existing settlement, not deprive beneficial occupiers of homes or land or, where it is necessary for land or homes occupied by them to be utilised for other purpose, their interest in such land or homes should be reasonably accommodated in some other manner."
- Principle (l): "A competent authority at national, provincial and local government level shall co-ordinate the interests of the various sectors involved in or affected by land development so as to minimise conflicting demands on scarce resources."
- Principle (m): "Policy, administrative practice and laws relating to land development should stimulate the effective functioning of a land development market based on open competition between suppliers of goods and services."

2.5 PRINCIPLES AND NORMS-WHITE PAPER ON SPATIAL PLANNING AND LAND-USE MANAGEMENT (20 JULY 2001) AND LAND-USE BILL, 2001

A) Principle of sustainability

The principle of sustainability means the sustainable management and use of the resources making up the natural and built environment, and includes the following norms:

- Land may be used or developed only in accordance with the law.
- The general interest as reflected in national, provincial and local policies should enjoy preference over private interests in spatial

planning, land-use management and land development processes and decisions.

- Disaster management, including prevention and mitigation, should be an integral part of all spatial planning, land-use management and land development and a primary concern in all land-use management decisions.
- The protection of natural, environmental and cultural resources should be a primary aim in all spatial planning, land-use management and land development processes and decisions.
- Land used for agricultural purposes may only be reallocated to another use where real need exists, and prime agricultural land should as far as possible remain available for production.

B) The principle of equality

The principle of equality means that everyone affected by spatial planning, land-use management and land development processes and decisions should enjoy equal protection and benefits and that no one should be subjected to unfair discrimination, and includes the following norms:

- Public involvement in spatial planning, land-use management and land development processes and decisions should be inclusive of all persons and communities with an interest in the matter being decided.
- Planning authorities and land-use regulators should ensure that previously disadvantaged communities and areas share in the benefits and opportunities flowing from land development.
- Land-use management decisions should be determined taking into account its impact on society as a whole rather than only the narrow interest of those affected.

C) Principles of efficiency

The principle of efficiency means that the desired result of land-use should be achieved with the minimum consumption of resources, and includes the following norms:

- Spatial planning, land-use management and land development processes and decisions should promote the development of compact human settlements, and low intensity urban sprawl should be combated.
- The areas in which people live and work should be close to each other.
- Spatial planning, land-use management and land development processes and decisions of contiguous municipalities and provinces should relate positively to each other.

D) Principle of integration

The principle of integration, which means that the separate and diverse elements involved in spatial planning, land-use management and land development should be combined and co-ordinated into a more complete or harmonious whole, and includes the following norms:

- Spatial planning, land-use management and land development processes and decisions should be co-ordinated and aligned with the policies of other organs of state in any sphere of government.
- Spatial planning, land-use management and land development processes and decisions should promote efficient, functional and integrated settlements.
- Spatial planning, land-use management and land development decisions should be guided by the availability of appropriate

services and infrastructure, including transportation infrastructure.

- Spatial planning, land-use management and land development processes and decisions should promote racial integration.
- Spatial planning, land-use management and land development processes and decisions should promote mixed land-use development.

E) Principle of fair and good governance

The principle of fair and good governance, which means that spatial planning, land-use management and land development should be democratic, participatory and legitimate in nature, and which includes the following norms:

- Spatial planning, land-use management and land development processes and decisions must be lawful, reasonable and procedurally fair.
- Everyone whose rights are adversely affected by spatial planning, land-use and development decisions have a right to be given written reasons.
- Capacities affected communities should be enhanced to enable them to comprehend and participate meaningfully in spatial planning, land-use management and land development processes affecting them.
- Forums at which land use management and land development decisions are taken should be open to the public.
- The names and contact details of officials with whom the public should communicate in matters relating to spatial planning, land-use management and land development should be publicised.
- Spatial planning, land-use management and land development decisions should be taken within pre-determined time frames.

2.6 LOCAL DEVELOPMENT PRINCIPLES

The general principles for land development as described in terms of Chapter 1 of the DFA, formed the cornerstone of this section. Each one of the principles was made applicable to the local area that not only led to a great deal of debate, but also resulted in the formulation of a number of local development principles. These principles were applied throughout the process and continuously provided direction in formulating the spatial framework, strategies and projects.

In addition to the national development principles that were made specific to the area, the following local development principles were identified:

- Different options and levels of services should be available to the end-user.
- Infrastructure delivery should promote privacy, affordability and sustainability.
- Economic growth should be stimulated while only economically viable projects should be promoted.
- Our natural resources should be protected and deterioration needs to be limited.
- Good urban planning should be encouraged to ensure sustainability and the optimum use of scarce resources.
- Development should be people driven and participation needs to be encouraged.
- Public private partnerships and entrepreneurship needs to be promoted in all land development.
- Development should be demand-driven and needs based.
- Effective and sound administration practices need to be developed within local government to ensure development.
- Development should enhance and contribute to the establishment of a safe community.

- Land development should have a clear administration system that will shorten the time for delivery.
- Land development should promote the integration of agriculture and urban functions.
- Land development should be transparent and people should be encouraged to invest in development.
- All development should be sustainable and efficient.
- Urban and rural should be seen as supportive of each other.
- Active involvement in commonage development should receive attention.
- Land development should ensure that the ecology is preserved for future generations to come.
- Informal settlements should be discouraged.
- Diverse land uses need to be supported.
- A uniform land use control system should be developed for the Greater Setsoto area. Such a system should be flexible, easy and affordable to implement, and should contribute towards the welfare of the people.
- Property values between different levels of development should be protected by means of:
- Differentiating between erf sizes;
- Introducing building clauses with minimum time and value requirements;
- Density clauses.
- Effective utilisation of the spaces between former black and white areas is important to promote integration between communities.
- The policies of banks and building societies in terms of "red lining" areas, is seen as discriminatory and should be lifted.

Another policy document / issue that should be addressed / adhered to are the Free State Province, Department of Local Government and Housing's document 'Zonings applicable to rural and peri-urban areas'. A copy of this is attached hereto as Annexure. The municipality should study this and, where applicable, the respective zonings should be respected and indicated in a LUM for the area.

3. STUDY AREA AND DEMOGRAPHIC PROFILE

3.1 STUDY AREA

The Setsoto Local Municipality is located within the Eastern Free State and falls within the Thabo Mofutsanyane District Municipality. The Municipality is bordered by Lesotho South, Dihlabeng and Nketoana Local Municipality to the east; Moqhaka and Matjihabeng Local Municipality to the north; and Masilonyana and Mantsopa Local Municipality to the west as indicated on Map 1.

The Setsoto Local Municipality comprises of 16 wards and has 31 Councillors. The physical extent of the Municipality is 5,966.36km^2 and is primarily characterized by a rural environment, with the main urban centres located in Ficksburg, Senekal, Marquard and Clocolan.

3.2 DEMOGRAPHIC PROFILE

The population and density of the Municipality is 123,194 persons (2001 Census figures) with a total of 32,746 households with an average density of 3.7 persons per household. (See Map 2). Some of the figures in the next sections are on a broad municipal base, mainly due to the fact that the sources utilised, only indicate it on this level. Although it might be viewed as figures only on a macro level, it also gives an indication of disparities between urban and rural areas and between the different urban areas in the local municipality itself. A detail summary of the socio-economic situation is contained in Annexure A.

3.2.1 Gender and age distribution: The gender distribution in the LM consists of approximately 46% males and 54% females. With reference to the age distribution the highest number of persons, namely 45,613 (±37%) are between 15 and 34 years old. Another factor, which might have an impact on future development in the area, is the large number of persons between 5 and 14 (28,257 / ±23%) and also an almost equal number in the category 35 to 64 years (31,022 / ±25%).

3.2.2 Labour force, industry and occupation figures: Referring to the labour force in the municipality, ±59% of the total labour force is employed, with an unemployed figure of about 41%. The majority of the employed persons are employed in the agricultural / forestry / fishing industry (±37%), whilst the private household industry and the community / social / personal industry contributes 17% and 13% respectively to the labour force. In terms of occupation, ±47% persons are occupied in the elementary sector and ±11% persons in the plant / machine operations sector.

3.2.3 Income distribution: The issues addressed in the age distribution and the labour issues are also reflected in the income distribution figures for the area.

Referring to individual monthly income, approximately 70% of the persons (86,624 persons) have no monthly income. A further 25% of the population earns between R1 and R1, 600 per month.

If reference is made to the annual household income, ±26% of the households has no income, whilst ±59% of the households earn between R1 and R19, 200 per year. These high levels of low income have a direct negative impact on the available funds to be utilised on basic needs by the residents of this area.

3.2.4 Dwelling types: Almost 49% of the households live in formal houses, with ±40% of the households living in informal dwellings. Map 3 gives an indication of the percentage and distribution of households in formal dwellings.

3.2.5 Access to services: It could be expected that there is a correlation between the formal dwelling residents and access to basic services.

- The source of energy for lighting in houses does not correlate with the number of formal houses. Approximately 73% of the households make use of electricity as source of energy for lighting. Only ± 23% of the households make use of candles **(Map 3** gives an indication of the percentage of households with lighting energy source).

- Approximately 52% of the households have access to weekly municipal refuse services and ±23% makes use of their own refuse dumps. A further 12% makes use of other municipal refuse services, ensuring that ±64% of the households have access to municipal refuse services. There is thus still a need for improvement of municipal refuse services.

- The provision of water and sanitation services gives an indication of health conditions in an area. Only ±22% of the households has access to flush toilets, with ±52% of the households making use of bucket latrines. (See **Map 3** for the geographical distribution of households with 'improved' toilet facilities). A concern is the fact that almost 13% of the households do not have access to proper sanitation services.

- With reference to water provision / access to water for domestic purposes less than half of the households (±48%) have access either to a water connection in the house itself (13%) or to a water

connection inside the yard (35%). Approximately 30% of the households get their water from a community stand within 200m and ±18% from a community stand further than 200m**. Map 4** gives an indication of the households with access to piped water.

4. ENVIRONMENTAL POTENTIAL ATLAS (ENPAT)

Based on satellite and other sources of information, a databases for the Setsoto Local Municipality was prepared, which indicated at macro level the following:

- The broad land use analysis;
- Soil depth and Clay Content; and
- Soil Potential and vegetation

The importance of the above surveys is primarily to assist decision-making with regard to rural development and the linkage with adjacent Municipalities.

The assessment of the respective surveys is as follows:

4.1 Land Cover (See Map 5)

The Table below indicates the respective types of land uses and the sensitivity thereof.

LAND COVER	Low sensitivity (ha)	High Sensitivity (ha)	Total Hectares	Percentage
BARE ROCK AND ERODED LAND	9,756	-	9,756	1.63%
BARE ROCK AND SOIL	-	2,856	2,856	0.48%
BUILT-UP LAND: COMMERCIAL	47	-	47	0.01%
BUILT-UP LAND: RESIDENTIAL	1,619	-	1,619	0.27%
CULTIVATED GRASS	90	-	90	0.02%
CULTIVATED LAND: COMMERCIAL	272,372	-	272,372	45.56%
CULTIVATED LAND: SUBSISTENCE	153	-	153	0.03%
DEGRADED: FOREST AND WOODLAND	7	-	7	0.00%
DEGRADED: UNIMPROVED GRASSLAND	8,525	-	8,525	1.43%
EXOTIC PLANTATIONS	446	-	446	0.07%
GRASSLAND	-	277,861	277,861	46.48%
THICKET AND BUSHLAND	-	14,325	14,325	2.40%
WATER BODY	-	4,927	4,927	0.82%
WETLAND	-	4,797	4,797	0.80%
Grand Total	**293,014**	**304,767**	**597,782**	**100.00%**

From the above Table, the following conclusions can be made:

- That the majority of land cover is taken up by grassland (46%), followed by commercially cultivated land (45%). The remainder of uses only occupy ±9% of the total area.
- 51% of the area is characterized by areas of high sensitivity (bare rock, grassland, thicket, waterbodies and wetland).
- The total build-up residential areas only comprise of 0.28% of the total area.

4.2 Soil Depth and Clay Content

The soil depth and the clay content are depicted in the Table below (See **Map 6**).

CLAY CONTENT	**Total Hectares**	**Percentage**
<15%	197,582	33.05%
15%-35%	395,369	66.14%
>35%	1,155	0.19%
NO DATA	3,676	0.61%
Grand Total	**597,781**	**100.00%**
SOIL DEPTH		
<450mm	388,733	65.03%
450mm-750mm	102,871	17.21%
>750mm	102,501	17.15%
NO DATA	3,676	0.61%
Grand Total	**597,781**	**100.00%**

The conclusions from the above Tables are as follows:

- The clay content of the area is low and does not pose a problem for development; and
- The majority (65%) of soils are not deep and could have a negative impact on arable agriculture.

4.3 Soil Potential and Vegetation

According to the Acocks classifications the majority (74%) of the vegetation is categorized by sandy veld. (Cymbopogan- themeda veld) (**Map 7**). With reference to the Table below it is evident that the majority (63%) of the soil is not suitable for arable agriculture.

SOIL POTENTIAL	**Total Hectares**	**Percentage**
No dominant class	80,369	13.51%
Not suitable for agriculture or commercial forestry; suitable for conservation, recreation or water catchments	2,809	0.47%
Soils highly suited to arable agriculture where climate permits	5,551	0.93%
Soils not suitable for arable agriculture; suitable for forestry or grazing where climate permits	27,039	4.54%
Soils of intermediate suitability for arable agriculture where climate permits	102,381	17.21%
Soils of poor suitability for arable agriculture where climate permits	376,501	63.27%
(blank)	397	0.07%
Grand Total	595,047	**100.00%**

ACOCKS VEGETATION	Total Hectares	Percentage
CYMBOPOGAN-THEMEDA VELD (SANDY)	445,920	74.60%
DRY CYMBOPOGAN-THEMEDA VELD	6,505	1.09%
HIGHLAND SOURVELD TO CYMBOPOGAN-THEMEDA VELD TRANSITION (EASTERN FREE STATE HIGHVELD)	68,752	11.50%
TRANSITIONAL CYMBOPOGON-THEMEDA VELD	76,604	12.81%
Grand Total	**597,781**	**100.00%**

4.4. Geotechnical Assessment

Information was obtained from the Council of Geoscience as to geological surveys which have been conducted in the respective urban areas.

The information will be linked to the respective SDF's in order to determine whether there is a conflict of land use proposals.

Areas where no information could be obtained include Ficksburg/ Meqheleng and Clocolan/ Hlohlowane.

The respective assessments are as follows:

4.4.1. Marquard/ Moemaneng

A phase 1 engineering geological investigation of the Marquard and Moemaneng urban area was conducted in October 1996. The aim of the investigation was to assess aspects such as geology, relief and soil conditions to identify and assess constraints and determine their influence on the proposed urban development in the area, and for implementing a municipal structure plan. The area is underlain

by argillaceous and erinaceous sandstones of the Tarkastad Subgroup, of the Beaufort Group, with post Karoo dolerite intrusions. Excavation problems can be expected to occur during the installation of services in some areas, due to the presence of sandstone and dolerite outcrop and sub-outcrop. Expansive material were encountered in the drainage channels and on some of the flat areas (floodplains) that may require specialised founding methods such as modified normal rafts, split construction, founding on unweathered rock and special drainage provisions. Dispersive soils also occurred in alluvial environments. Possible collapsible sand, mainly found as colluvial material transported from the nearby sandstone ridges, were encountered on the site, these should be tested and quantified during more detailed Phase II and Phase III investigations. Special foundation measures on these soils includes raft foundations, compacted soil mattresses (compact soil underneath foundation trenches to a depth of 1,5 times the width of the foundation) and modified split construction. Total removal of this layer can also be considered seeing that it is generally less than 1m thick.

A provisional development zoning map has been compiled to indicate suitable areas for development and also those where unfavourable conditions could be encountered. The need for more detailed phase II and III engineering geological investigations of specific sites prior to development is emphasized.

Zone 1 was identified to be the most suitable for residential development. Refer to the attached maps.

4.4.2. Senekal/ Matwabeng

An extended phase one engineering geological investigation was undertaken by the Council for Geoscience for the town of Senekal/ Matwabeng during 1997.

The site is located in the Free State Province of South Africa, with summer rainfall and savanna type grassveld. The geology of the area is of the Karoo Supergroup,

and more accurately that of the Beaufort Group, with mud rock and dolerite of 'the Molteno Formation.

The stages of the investigation consisted of a desk study, reconnaissance visit and field work. The fieldwork included the drilling of 25 auger holes which was followed by laboratory tests. Fieldwork was also done to determine the extent and character of the study area. Seventeen 17 samples were submitted for laboratory testing.

The area was zoned into three zones namely, developable, development with risk and undevelopable. The availability of construction materials was determined according to the geology of the area and further investigation should be done. As there is existing quarries in the area, it should be mentioned that worked quarries must be rehabilitated according to Minerals Act's 50 of 1991, and Act 103 of 1993.

The sewage disposal sites of Senekal and Matwabeng seem to be in order though small adjustments should be done to ensure that leakage doesn't take place especially on the site at Senekal. Monitoring of the dams at both sites should take place. The waste disposal site of Senekal needs more investigation to assess the impact on the environment.

Zone A was identified to be the most suitable for residential development. Refer to the attached plan.

5. SPATIAL DEVELOPMENT FRAMEWORK

In view of the extensive nature of the Setsoto Local Municipality the spatial development proposals is structured to deal with the rural area and the respective urban areas. Although the planning of the Setsoto Local Municipality should occur in an integrated manner the scale and the detail of development between the rural and urban development is totally different, and for such reason the proposals are dealt with separately.

The Setsoto Local Municipality area comprise of four (4) urban conservation areas with the remainder rural. The area stretches from Senekal in the north to Ficksburg in the south and includes several national and physical features such as the Allemanskraal Dam in the Northwest and the Caledon River in the south. The Setsoto Local Municipality area is strategically located to offer excellent opportunities for growth and development.

5.1 Rural Development (See Map 8)

As stated under the previous sections the rural area comprises of more than 99% of land cover and therefore present various development options (refer to par 4.1 in this regard – land cover).

5.1.1 Roads Network

Roads are an important part of economic development of an area. As part of the Spatial Framework, the Setsoto Local Municipality identified several roads for upgrading and maintenance, which fall outside the urban areas but provide an important link between towns and with surrounding areas.

The proposed roads to be upgraded and maintained are listed below.

a) Roads of national importance

The N5 road between Winburg and Paul Roux requires urgent attention. To simply maintain this road is no longer an option since it has deteriorated to such an extent that it requires complete upgrading. This road is presently being addressed by the National Roads Agency.

b) Roads of provincial importance

The following roads play a very important role inter-provincially as they link Lesotho with various destinations other such as the Districts and Provinces. Consequently these roads need to be properly maintained.

- Road R708 between Winburg, Marquard and Clocolan;
- Road R707 between Senekal and Marquard;
- Road R70 between Senekal and Rosendal;
- Parts of Road S67 between Senekal and Ficksburg.
- Road R703 between Clocolan and Excelsior;
- Road between Ficksburg and Clocolan;
- R26 between Ficksburg and Fouriesburg.

c) Roads to be tarred

Due to the increasing traffic volumes experienced by these roads it is suggested that they be tarred:

- Portion of Road S7 from Clocolan linking with Road S39;
- Road S366 between Clocolan and Reka Bridge border post at Lesotho;
- Portion of Road S67, a 20 km stretch approximately half way between and Senekal and Ficksburg.
- Gravel roads leading to the areas of economic importance should be tarred. Priorities to be determined by the Technical Department.

d) Roads to be graded

Some smaller roads form important links to transport agricultural produce between farming areas and concentration points such as the grain silos at Libertas and Monte Video. These roads have to be graded and maintained on a regular basis.

5.1.2 Environmentally Sensitive Areas

Although most of the natural area is regarded as being environmentally sensitive, some areas need to be emphasised. These include all natural areas along streams, watercourses, rivers, dams, as well as the very scenic mountainous areas in the southern parts of Setsoto. Refer to Chapter 7 for environmental guidelines.

5.1.3 Agriculture

Setsoto forms part of perhaps one of the most fertile agricultural areas in the Free State due to the soil quality and wonderful climate.

Although all types of different farming activities occur throughout the area, it appears as if livestock farming is more evident in the

central and western parts of the study area, whilst crop farming is more evident in the northern and eastern parts. More specialised crop farming as well as fruit and vegetable farming are again concentrated in the southern parts of the study area, mainly around Ficksburg and Clocolan. In view of the different soil and climatologically conditions, often exist to exercise various types of agricultural practices.

Apart from the normal agricultural practices, which continue, the following processes need to be promoted:

- The implementation of the Land Reform process, which will enable historically, disadvantaged farmers to become involved in the production of crops. A process needs to be initiated whereby potential farms are to be identified (willing buyer/willing seller principle). Effective linkages need to be established with the Department of Land Affairs, in order to facilitate speedy reform.

- It is often found that commonage areas are subject to overgrazing. It is proposed that a grazing management plan per commonage be established in order to protect the land from being overgrazed.

5.1.4 Tourism development

As already mentioned, Setsoto forms part of one of the most picturesque and scenic areas in the Free State, mostly along the southern parts bordering with Lesotho.

As a result of this, an eco/agri-tourism corridor has been identified stretching from Marquard and Clocolan to the southern parts including all scenic and mountainous areas. The Willem Pretorius

Game Reserve and Allemanskraal Dam are also seen as an important tourist destination.

A provincial cultural heritage site, the farm Prynns Berg, will also be upgraded and developed into a tourism destination.

The above actions will be subject to required investigations and the legal procedures prior to implementations.

In addition to the above, it will be essential to develop and promote areas of tourism significance such as eco-tourism game farming, extensive recreation, hiking, etc. The intention of any tourism region is to attract the tourism to the area for longer than one day. Thus the focus must be on tourism "value claims".

As the Local Municipality cannot operate in isolation from the adjacent areas, the following primary and secondary tourism corridors were identified:

- Primary corridor – Clarens, Ficksburg, Clocolan, Marquard and Winburg.
- Secondary corridors- Senekal, Marquard, Rosendal, Ficksburg, Senekal, Rosendal apart from the above tourism corridors, it was also proposed that each of the respective towns be earmarked as tourism nodes together with other areas of significance (Alemans- Kraal Dam).

As the Municipal area is extensive of nature, the respective towns, in addition to the identified corridors need to fulfil a strong tourism function by providing higher order activities.

In view of the above tourism elements which were mentioned, the following aspects need to be addressed:

- The establishment of defined "Tourism" corridors;
- **Gateways and Entry Points** – these points need to be well defined when entering the Municipality, parks etc;
- **Routes** – Tourists travel along routes to reach their destinations. They don't necessarily take the shortest and quickest route, but rather tend to balance the effort of getting there with the quality of the experience and safety;
- **Staging Posts** – Staging posts are places where tourists stop to rest or stay overnight for journey ahead;
- **Destinations** – Destinations are usually a cluster of attractions and support infrastructure. A destination needs to have a compelling product, access and viable support infrastructure;
- **Distribution Point** – Tourists need to travel to something in a destination. The distribution point within the destination becomes a critical link within the overall experience as it serves as a major source of information, direction and focus.

With regard to tourism corridor development, the following guidelines need to be taken into consideration in adjudication the application:

- The activity need to focus on tourism or agricultural related activities;
- Approval need to be obtained from the Provincial Roads Department relating to sight distances and accessibility;
- These activities need to be defined and promoted along the major routes; and
- Non-tourism/agricultural activities should not be allowed.

5.1.5 Services Infrastructure

a) Water pipeline

The construction of a water pipeline from the Meulspruit Dam at Ficksburg to Sparta is currently under way. The section between Ficksburg and Clocolan is complete, with the area between Clocolan and Marquard still in process.

The raising of the dam wall at Neulspruit Dam at Ficksburg with 2m to provide for the additional needs at Sparta.

b) Electricity

Improve the network to the disadvantaged people in the rural environment.

c) General

In view of the large demand to increase services to all the residents, it must be noted that the implementation is an incremental process over a period of time. The provision of bulk services will take place in the consultation with the District Municipality.

5.1.6 Economic concentration points

Apart from the four urban units within the study area, some additional areas of concern also occur in the area. Areas worth mentioning include the following:

- Monte Video grain silos
- Libertas grain silos
- Sparta
- Sandstone Estate grain silo's
- Sandstone Mining, cutting and Manufacturing
- Flower export
- Producing of cherries, peaches and asparagus.

Although the above activities are major economic concentration projects, it could also be marketed as tourism nodes.

5.2 RURAL SERVICE CENTRES

5.2.1 Introduction

South Africa is characterised by high levels of poverty, especially in rural areas. Approximately 70% of South Africa's poor people live in rural areas, and about 70% of the rural residents are poor. Their incomes are constrained because the rural economy is not sufficiently vibrant to provide them with remunerative jobs or self-employment opportunities. Their cost of living is high because they spend relatively more on basic social services such as food and water, shelter, energy, health and education, transport and communication services.

Rural people generally do not have access to natural resources to support their subsistence. More than 85% of the countryside is settled by commercial farmers and the population pressure in the former homeland areas has depleted the natural resource base to an extent that only a few communities can provide for their subsistence needs in this way (Integrated Sustainable Rural Development Strategy, 2001).

It is further estimated that 22% of the rural population lives in abject poverty (ISRDS, 2001). In essence the array and complexity of problems facing rural areas include, inter alia, the following:

- Apart from former homelands, agricultural land in South Africa is largely utilised for capital-intensive commercial farming purposes;
- The rural poor are still affected by pre-1994 land ownership and settlement legislation, with specific reference to its impact on geographic settlement patterns and land ownership;
- The sustainability of rural communities is increasingly compromised by rapidly depleting natural resources. This trend is not unique to South Africa. The world is currently experiencing un-scaled population migrations. Millions of people are migrating from the once fertile planes of Asia and Africa to Europe. Poor Mexicans are migrating across the border from Mexico into the USA. The central reason behind these massive migrations: the soil on which they have traditionally made a living has been exhausted and is no longer able to sustain an ever-increasing population. The implications of these trends are two-fold: firstly, agricultural production is decreasing and secondly, the nutritional value of agricultural products is decreasing.
- Farm labourers, in particular, suffer from lack of opportunities and access to some of the most basic services. Activities (social, recreational, economic and transport) are fragmented throughout the area with the result that the rural poor need to travel long distances to reach social and economic facilities, with financial resources, which they do not often have.

It is from the conditions outlined above that the need was born to identify means by which the livelihood of South Africa's rural

communities can be restored. Core issues in this dynamic challenge include the following:

- Land ownership in rural areas;
- Dispersed nature of rural settlement patterns;
- Inherent differences between rural communities and the existence of a typology of settlements;
- The need for an interventionist approach to diversify the rural economy and to introduce measures that will improve community's access to economic opportunities and services.

The solution to these problems lie within the consolidation of different land uses to form a concentration of economic activities in regionally accessible, multi-functional economic nodes in the form of rural service centres. This will provide rural areas with integrated economic centres.

5.2.2 Rural Service Centres as economic catalyst

As in any business opportunity, the principles amongst others, of economy of scale and competitive advantages will form the basis for the development of the rural service centres.

Consumer behaviour, whether in urban or rural areas follow similar patterns where potential clients prefer focussed / concentrated service delivery, as opposed to fragmented service delivery. Where rural areas are characterised by intensive farming and tourism activities, smaller fragmented developments along transport corridors, complemented by focused rural service centres will provide sufficient economic activities at different levels (low, medium and higher order). Within extensive rural areas the primary development focus should be located at rural service centres.

The economic advantages of rural service centres are as follows:

- Economy of scale advantages will be established;
- Higher order catalyst retail and social activities will be established which will promote the establishment of smaller complimentary land uses;
- Integrated land use activities in support of each other will be established;
- Job opportunities will be created;
- The pricing structure of goods will be reduced in view of healthy competition;
- The poor rural occupant will save transportation costs as the majority of goods will be available at rural service centres, thus saving on additional urban destined trips; and
- Poverty levels could be reduced, as beneficiaries will have the opportunity to market and sell their goods at the rural service centre.

5.2.3 Configuration of Rural Service Centres

An optimum network of rural service centres can be developed to generate evenly spread of economic benefits in rural areas. Through this duplicating and over development of rural areas can be controlled and the sustainability and effectively of rural service centres can be optimised.

The rural service centre consists of activities and facilities, which need to be analysed in terms of nature, ideal size and demand drivers. As opposed to urban areas where facilities are provided based on households and population thresholds, these standards can't be applied within the rural context.

Based on various needs assessments that have been conducted within rural areas, the following preferred land uses need to be provided in rural service centres:

A. Residential

Security of tenure within rural areas is a highly contentious issue where farm labourers are more than often the victims of evictions, unfair settlement practices on farms and the lack of settlement options within rural environments.

The above, together with the housing need necessitates that a residential component be included which will be affordable and provide security of tenure.

The demand for housing is related to the population size and economic performance of an area. The demand for housing is complex and differs for each of the different levels of the rural typology. For example, the housing demand in former homelands can be expected to be much higher than in commercial farming areas.

The above-mentioned accentuates the necessity of the housing component to be flexible and comfortable to apply to the context of each different rural area. The nature and the extent of the residential component will differ at every level of the rural typology and will be subject to the availability and nature of natural resources. Although it is difficult to determine the exact number of stands to be provided per rural service centre, the guideline should not be more than 250 stands. The total residential extent will be subject to the characteristics of the rural area (intensive vs. extensive), soil

conditions, the housing need and the availability of water sources.

The intention is not to create large townships in the rural environment, but to provide an option to farm labourers and rural dwellers to obtain security of tenure in the vicinity of the areas where they work.

In providing a housing component within the rural service centre, the following principles should be adhered to:

- The housing projects need to be financed by the Department of Housing and does not replace the initiatives of the Department of Land Affairs;
- The housing areas should exclusively be made available to rural tenants who are presently living and working in the area or who have been displaced actions; and
- The housing component must not be viewed as an opportunity for employers to dispose of their housing responsibilities.

There are advantages and disadvantages related to the inclusion of a residential component in the rural service centre complex. The **advantages** are the following:

- Alternative settlement options are provided to farm workers, informal dwellers and displaced rural families;
- Security of tenure is provided within rural areas;
- It provides access to facilities and services;
- It promotes lower transport costs to reach facilities and services; and

- A linkage between the residential component and the market is provided, providing employment opportunities from home or nearby facilities.

The **disadvantages** are the following:

- Farm workers could be separated from farms and other areas of employment;
- Promotes 'ruralization' versus the process of refocusing the housing policy to deliver affordable housing in the inner cities. The distance from the cities increases transport costs and decreases the efficiency of service delivery. All of these affect the sustainability of the housing component. More valuable agricultural land is used for residential purposes;
- An induced demand for housing will be created in rural areas and can lead to an infiltration of people beyond the catchments area; and
- The reliance on public transport increases to reach employment opportunities on farms. The sufficiency of the rural transport system can create a barrier.

B. Retail

The proposed retail component will be in the form of a small local shopping centre. The product mix of such facilities will focus primarily on convenience goods. A typical anchor tenant is an independent superette or café-greengrocer type of business.

The demand for retail facilities is directly related to disposable household income, indicating that if population income

increases, the demand for retail floor space will increase. Population income is related to the population size of an area.

This indicates that there is a relationship between retail demand, population size and disposable household income.

Several factors must be acknowledged before a retail facility can be developed in a specific area, these include:

- **Nature and extent of the centre** – the nature of the retail facility determines the size of the catchments area and the service radius. Is also determines the size of the facility and the tenant mix;
- **Population characteristics** – the population of the catchment area should be able to sustain the retail facility. The characteristics of this population determine the disposable household income and buying power available in an area. Shopping patterns and lifestyles of the residents determine the shopping need of the residents;
- **Accessibility of retail facility** – the facility must be accessible to commuters using public transport, pedestrians and private vehicle owners. Sufficient parking facilities must be provided. The facility must also be accessible to delivery vehicles. The retail facility must be visible in the area;
- **Competition** – this refers to the existing retail activities in the area and the associated trade areas. The competitive potential of the specific rural area needs to be determined; and
- **Costs** – several costs play a role in the development of the retail facility in a specific area with reference to rates

and taxes payable, maintenance costs, delivery costs, purchase price, leasing terms and building costs.

C. Informal market:

The function of public markets is essentially to provide assistance to the informal sector manufacturers and traders, to improve access to lower income customer's commercial services, to provide a space for community interaction. Public markets enable many unemployed to generate income through small-scale manufacturing, service and retail activities. Markets are very accessible to entrepreneurs.

Markets provide products at lower prices directly to the public. By means of a market the 'retail middle man' is excluded. The capital costs of markets are low, they require low maintenance and the rent is on average very low.

The main benefits of markets are the provision of central trading locations for small operators, creating agglomeration advantages and therefore markets need to be located at accessible points in an area.

The size of a market and the variety of products and services offered, determine the success thereof. Larger markets tend to be more successful than smaller markets due to the greater variety and pull factors. Public market configuration must be such that it will be adequately accessible.

Locating the facility close to the retail component of the service centre can strengthen the demand for the informal market. Due to increased agglomeration advantages, local

markets perform better if located in the vicinity of a formal retail facility.

However, the formal market must not compete with the retail component, concerning products and prices offered. This is essential to ensure the viability of both of these components.

D. Social services

The provision of higher order social services within rural environments does not exist. Rural residents must more often be satisfied with mobile social services, lower educational facilities, informal recreational facilities and unstructured cemetery sites.

The provision of public facilities such as health and education is determined by specific standards specified by government departments, which is often linked to population thresholds. Should one apply the quantitative criteria for service provision in the rural areas, it is understandable that higher order facilities can't be provided throughout.

However, in view of the number and existing fragmented nature of lower order social facilities, which warranties some higher order facilities, limited higher order facilities are provided, for example, one will find a number of primary schools in an area without the provision of a secondary school.

With the identification of rural service centres, the rural areas will be more defined in terms of potential development areas, which will create the opportunity for higher social services to be provided in a focussed manner.

The following social facilities are envisaged at the rural service centres, namely:

Clinic – in addition to the quantitative standards, other demand drivers, which have an impact on the provision of clinics, include the Department of Health's regulations, the medical expenditure of households and existing clinics in the area. The facility at the rural service centre should be a Primary Health Care Centre. A mobile health service could be operated from this clinic to outlying areas.

Pension and Child support payment point – Pension payment points are typically provided within Post Offices. They operate at normal working hours from eight to four on a daily basis. A variety of pension funds and other associated welfare grants exist and each fund has certain dates set for collection.

There are a variety of factors that determine the development of a welfare payment point. A process is followed to determine if the payment point can be provided. In this process several factors are taken into account, including:

- Welfare payment points must be located at accessible points within rural areas;
- Security must be provided at these points;
- The type of payment point influences the size of the facility. The larger the payment points the higher the security required.

Surveys are undertaken to determine whether there is a demand among the population for a welfare payment point. Based on the results of the surveys the Department of Welfare decides if such a payment point will be effective within an area.

It is generally accepted that eight officials are allocated to a welfare point, where three of them work in the field. Although, in areas where there are a limited number of welfare recipients, the post office clerk pays out the funds.

Secondary school – Notwithstanding the large number of primary schools in the rural environment very few secondary schools exist in rural areas. The implication of this is that scholars are forced to attend schools in urban areas, sometimes to the disadvantage of the scholar (cost- and time implication and unreliable scholar transport). The aforementioned, together with some unlawful employment practices on farms force the student to leave the school at an early age. This statement correlates with the level of education in rural areas.

Based on the above, it will be imperative to provide a Secondary School at each of the identified rural service centres. The facilities must also be flexible to provide ABET training, skills transfer courses and launching of awareness programmes.

Cemetery – In view of the lack of formalised cemeteries in rural areas, the deceased's family members are often dependent on the 'mercy' of landowners to allow burials on farms. In addition to the aforementioned, the burial costs within formal cemeteries can more often not be afforded by rural families. For this reason we believe that cemetery sites should be provided within close proximity to rural service centres. Depending on the proximity of the proposed rural service centres centralised cemeteries in order to serve more than one rural service centre could also be investigated.

Sport and recreation – Formalised recreational facilities do not exist in rural areas. With the development of rural service centres, provision will be made for formalised sport areas, which could include as a point of departure, soccer fields and netball courts.

Provision may also be made for the establishment of multi-purpose community centres that could be used for community meetings, church services and smaller indoor sport facilities.

Satellite police station – With the extensive nature of rural areas, the reaction time of the SA Police Service to attend to crime scenes is often very long. Based on the population thresholds and the extensive nature of the rural areas, the establishment of satellite police stations need to be promoted in rural service centres.

The advantage of the satellite police stations within the rural service centre will be to:

- Increase police visibility within the area;
- Reach time scenes sooner; and
- Attend to even minor cases.

E. Light service industries:

In general, manufacturing can be subdivided into three categories, heavy noxious industries, light service industries and high-tech clean industries. Light service industries could be included in the rural service centre development concept. These new industrial developments should not compete with existing industrial nodes. As such, they should focus predominantly on providing a service function.

Industrial demand is a function of; inter alia, population size, market demand and an area's economic base. The following location criteria should be acknowledged prior to the establishment of light service industrial activities in a specific area:

- **Labour** – industries must be located in close proximity to a sufficient labour force with the necessary skills and training;
- **Accessibility** – this refers to forward and backward linkages and the transportation of raw, intermediate and final products, as well as the accessibility of the labour force to the industry. Accessibility also incorporates visibility;
- **Location** – this refers to the availability and location of the input suppliers as well as the availability and location of the market for the final product; and

- **Agglomeration advantages** – this refers to the advantages experienced by economic activities within a geographical area. Linkages refer to the contacts and flows between at least two agents, of various commodities, including products, services, information and goods.

F. Agriculture

As part of the process of land redistribution, the principle of municipal commonage needs to be considered in areas in close proximity to the subsidized housing areas. The objective of the grant for the acquisition of municipal commonage area is to enable municipalities to acquire land. The land so acquired is used to create or extend commonage to establish agricultural or other productive lease schemes, which will involve use of the natural resources by poor and disadvantaged individuals. The grant will not cover the development of the land acquired.

The reasons why municipal commonage areas are proposed are as follows:

- The land is purchased by the Department of Land Affairs and transferred to the municipality;
- These commonage areas should be located adjacent or in walking distance from the housing developments; and
- Unemployed beneficiaries could obtain (rent) portions of the commonage area, which could be cultivated for subsistence farming. The local municipality will manage the allocation of areas within the municipal commonage.

The development of rural service centres and areas adjacent to transport corridors must act as markets where beneficiaries could sell their produce. A large variety of produce is cultivated on an annual basis within rural areas, but the major portion of produce is exported out of the area fro processing. Where processing factories are small in extent, these could be accommodated within the rural service centres.

G. Public transport (taxi rank)

The public transport system in rural areas is characterised by an unreliable frequency of trips, the lack of services to certain areas, the absence of proper taxi loading- and off-loading facilities and the high costs, which passengers have to pay to reach facilities.

A rural service centre must provide for an area to be developed as a Taxi Rank. This facility will contribute towards the establishment of more reliable taxi routes not only between rural service centres, but also between the urban and rural areas. A petrol filling station could also be considered within or in close proximity to the rural service centre.

5.2.4 Further Development Guidelines for Rural Service Centres

In order to further the concept of Rural Service Centres, the following more detailed proposals are made, however, the exact location of such centres should result from a more detailed study for each Local Municipality:

A) Optimum size and threshold requirements: The size determination of rural service centres is derived from existing market data such as population characteristics and economic performances of rural areas. Facilities in rural areas are expected to be smaller than facilities provided in densely populated urban areas due to the lower amount of buying power and population numbers. There is an optimum size and associated minimum population threshold requirement to sustain a centre in a rural area.

The first step in the development of the base model is to discuss the different land uses in relation to the population required in order to sustain each activity, as well as the viable size of the facility. The following comments are applicable to land uses and sizes:

- The retail component of the rural service centre should be in the form of a small local type of shopping centre focussing primarily on convenience goods;
- Examples of the type of industrial activities suitable for rural areas include building material suppliers, engineering workshops such as mechanics and panel beaters, entrepreneurial manufacturing of furniture and craft;
- The size of the pension payment point is influenced by the Department of Welfare's criteria of eight officials per pay point. For each person $20m^2$ of space is required, resulting in an average building size of $200m^2$. However, there is no standard prescribed population size that determines the development of such facilities. As mentioned previously, there are several factors that need to be considered before this service is provided within an area. The Department therefore evaluates each application on its own merits;

- No prescribe size is determined for the informal market. It is accepted that this will vary from area to area and according to the products to be sold. It should be accentuated that the informal market must be linked to the retail component and must not be in competition therewith based on the products sold and the prices offered;
- The size of the residential area and the number of houses are a function of the type of rural area. It must be in line with the minimum standards as provided by the Department of Housing;
- The size of the secondary schools (whole size) is 4,8ha which services between 1,200 and 15,000 families;
- The establishment of satellite police stations is not guided by a set of norms and standards, but depends on certain factors, which are evaluated by the SAPS Management Services;
- The standards pertaining to sport activities vary between 1 per 2,250 (soccer) to 1 per 3,170 (netball);
- Community centres are based on an erf size of 0,5ha and should be provided at a standard of 1 per 10,000 persons;
- Although there is a formula to determine the exact size of a cemetery, the guideline is to plan a cemetery which has adequate space available for a 20-year period; and
- The size of a taxi rank will be determined by the strategic locality of the rural service centre, the nature of activities, number of residential units and the density within the rural environment;
- No direct access to facilities from a Provincial Road will be permitted. Access to Rural Service Centres will be properly planned in line with guidelines; and
- Petrol filling stations will not have direct access from Provincial Roads, but only through service/access roads leading from the main road.

Market size and optimum service radius:

Population density is an essential factor in the equation for determining the catchment areas:

$$\text{Catchment Area (km}^2\text{)} = \text{Population size / Population density}$$

Based on the above-mentioned equation, the next step is to determine the optimum service radius of each land use. The service radius indicates the distance from the service centre to the outskirts of the catchment area. The actual size of the catchment area and service radius is determined by means of the following formula:

$$\text{Catchment area (km}^{2)} = \pi r^2$$

It is envisaged that with the implementation of the rural service concept within the Setsoto Local Municipality's ISDF some of the issues pertaining to sustainable development of the area could be addressed.

5.2.5 Rural service centres in Setsoto Local Municipality

The following Rural Services Centres were identified in Setsoto Local Municipality area:

- Gum tree (between Ficksburg and Clocolan)
- Libertas (between Arlington and Senekal)
- Monte Video (between Senekal and Marquard)
- Harmonia (between Senekal and Ficksburg)
- Middel (between Marquard and Senekal)

6. URBAN SPATIAL DEVELOPMENT FRAMEWORKS (SDF)

6.1 Ficksburg / Meqheleng (Map 9)

6.1.1 Urban Fringe

Prior to the formulation of concrete development proposals, it was essential to determine an urban fringe that will ascertain the boundary up to where urban development can take place.

The urban fringe indicated on the spatial framework was determined in accordance with the development criteria, form-giving elements, development pressures and physical restrictions as discussed below.

The spatial layout of Ficksburg is affected by major topographical and other natural features, which limit growth potential to the east and west. These restrictions include:

- The Caledon River, which forms an international boundary. The Caledon floodplain and valleys are not suited for urban development; and
- Mpherame Hill and Stafford's Hill limits growth potential to the west and north respectively.

In view of the above, development pressure is now focussing on the north-eatern section.

6.1.2 Residential Development

The existing housing situation within Ficksburg / Meqheleng is indicated in the Table below:

Description	Area	Number
Number of sites in Formal area	Meqheleng Caledon Park Ficksburg	9204 500 1679
	Sub-Total	11 383
Number of sites in an informal area	Meqheleng Caledon Park	50 9
Formal Houses Formal House	Meqheleng Caledon Park	5750 485
Formal Houses	Ficksburg	1530
Informal Houses	Meqheleng Caledon Park	3202 15

***(*SETSOTO LM: 2007)**

At present there is a total backlog of 1412 sites and 2252 houses in Meqheleng, which necessitates that areas need to be demarcated for future residential development in line with the principles of infill and classification.

The housing and future urban development vision is as follows:

A) Future Residential Development

- Smaller areas to the south, west and east of Meqheleng up to the Caledon River. The development along the Caledon River

need to be carefully monitored from a design, pollution and serviceability point of view (Priority A);

- An area located to the east of Ficksburg and south of the Golf Course. This area will be earmarked for future subsidized housing in view of the lack of sufficient land adjacent to Meqheleng (Priority B);
- Expansion of the residential area into the "Golf Course Development". A total of 223 stands within the higher income category is proposed (Priority A);
- In view of the large demand for middle to higher income residential development in the area, owing to the establishment of factories in Lesotho and local need, an area to the north of Ficksburg, between the Senekal-and Rosendal Roads have been earmarked. The area can be readily serviced and will provide for middle-to high income development (Priority A).

B) Densification

The densification of the area will focus primarily on 2 (two) areas, namely:

- The area between Ficksburg and Meqheleng ; and
- The subdivision of larger stands in Ficksburg.

Densification should promote the following principles and guidelines:

- The establishment of "BNG" housing on the larger infill areas. This housing typology will encourage different density typologies aimed at various income group;
- With regard to the subdivision of properties, the following is proposed:
  - Erven smaller than 400m^2 (no subdivision);

- Erven between 400m^2 and 800m^2 located within historically disadvantaged area (1 subdivision allowed) – Minimum Erf Size (400m^2);
- Erven larger than 800m^2 (1 subdivision allowed); with a minimum erf size of 800m^2;
- Erven larger than 1850m^2 can apply for a rezoning to medium residential at a density of 30 units/ha (townhouses), or group housing at a minimum erf size of 300m^2.

The densification of these areas will be subject to the availability of sufficient Engineering Services.

6.1.3 Business / commercial

Business expansion will be considered to the south of the existing CBD of Ficksburg, up to Bloem Street, and to the west and north of the CBD along the railway line towards the industrial area. A main activity spine will be formed along Ester Street in Ficksburg to Patric Lekota Street in Meqheleng, and towards the border post. Two commercial nodes are proposed in the activity spine, on the corner of Lang Street & Bloem Street and the second node is located within Meqheleng, as mapped. Two additional commercial nodes is proposed at the border post and the road crossing between roads P75/1 and R26 respectively

6.1.4 Industrial development

Expansion of the existing industrial area located in the southern part of Ficksburg will take place in a northern and eastern direction demarcated by Lang Street to the north and Bosch Street to the east.

6.1.5 Environmental sensitive areas/recreation

The areas that were identified as Environmental Sensitive Areas include the following: (Refer to Annexure B for Guidelines)

- The mountains
- Koppies
- The Caledon River
- Meulspruit Dam and Surrounds
- Moolmanspruit (Snake Valley)

Areas identified that can be developed or upgraded for recreation purposes include the following:

- The existing sport field in Meqheleng
- Areas adjacent to the river
- Meulspruit Dam for self-catering chalets and conference facilities

6.1.6 Social services

A private hospital is currently being planned in Ficksburg located on part of open sports fields.

6.1.7 Commonage

A commonage or small-scale farming project should be launched on the vacant municipal land to the south of Meqheleng. This land is suitable for irrigation. Other areas which are presently being used include the Nature Reserve area and the area along the Senekal Road. To protect the land from overgrazing, a land management plan needs to be established.

6.1.8 Cemetery

A new cemetery has recently been planned and surveyed in the southern most part of Meqheleng, adjacent to the existing cemetery and dumping site. The existing Ficksburg cemetery will be utilized for all people to promote integrated sub-cemeteries additional land need to be identified.

6.1.9 Infrastructure

❖ **Roads**

- Upgrading of the road between Meqheleng and the cemetery;
- Main Bus route need to be tarred;
- Secondary roads need to be paved.

❖ **Sanitation**

- The purification works need to expand.
- The bucket system needs to be eradicated as 6696 households still utilize the system.

❖ **Refuse Removal**

- The existing waste disposal site to the south of Meqheleng is in the process of being closed and will be replaced by the refuse site along the Senekal Road.

6.1.10 Spatial integration

The urban components of Ficksburg, Meqheleng and Caledon Park are situated directly adjacent to one another without any major

topographical or man made division. This greatly simplifies spatial integration of the various neighbourhood components.

The integration is however not complete due to the following elements:

- The industrial area and high-density residential areas are situated at different ends of the urban complex.
- Limited access exists between Ficksburg and Meqheleng.

The main obstacles to spatial integration are addressed in the Integrated Spatial Framework, which makes provision for improved access and the development of light industrial and commercial uses close to and within reach from Meqheleng and Caledon Park.

6.2 Clocolan / Hloholwane

The SDF for Clocolan is indicated on Map 10.

6.2.1 Urban Fringe

The urban fringe is restricted by the river to the west of Hloholwane which restricts natural extensions. For such reason the urban fringe is amended as follows:

- Not to allow for future development to the west of the river; and
- To expand the urban fringe to the north east to allow for future urban development.

6.2.2 Residential

The existing housing situation within Clocolan / Hloholwane is indicated in the Table below:

Description	Area	Number
Number of sites in formal areas	Hlohlowane Clocolan	4398 750
	Sub-Total	**5148**
Number of sites in an informal area	Hlohlowane	150
Formal Houses	Hlohlowane	3010
Formal Houses	Clocolan	672
Informal Houses	Hlohlowane	1398

(SETSOTO LM – 2007)

At present the backlog in sites is 1335 and 1398 in houses.

In view of the above the following future residential expansion areas were identified to address the above needs:

A) Future Residential Development

The future areas identified for urban expansion is as follows:

- Smaller infill developments in Hlohlowane (subdivision of Municipal and Government owned land) (Priority A);
- A smaller infill area to the north of Clocolan between secondary Road 557 and the Marquard Road (Priority A);
- To the south of Clocolan adjacent to the cemetery (Priority A);

- The area south of the industrial area and east of the caravan park. This area was previously earmarked for short term commonage and mixed-use development (Priority A);
- Northeast extension of Hloholwane on the farm areas of FORD, KLEINVLEI and VOORUITZICHT (Prority B).

B) Densification

The following areas have been identified for densification purposes, namely:

- The subdivision of large stands in Clocolan;
- An area on the eastern and western side of Clocolan.

The densification guidelines is similar to the guidelines for Ficksburg / Meqheleng (See Section 6.1.2. (B)).

6.2.3 Open space system

The existing natural open space system of the urban area is well defined and mainly comprises of areas surrounding existing rivers and dams. A relatively large area around the Mopeli Dam should be protected at all costs, but can be developed for more intensive recreation facilities.

6.2.4 Business Development

The CBD of Clocolan serves as the only major business node in the area, but is not within walking distance for residents of Hlohlolwane. Although some informal businesses exist within Hlohlolwane, these are expensive and do not serve all the needs of residents. Consequently, a business node serving the needs of a wider

proportion of the community is required although limited potential exists in terms of available land.

For the interim, it seems appropriate, should there be a need, to allow business development in a westward direction from the CBD along the road link between Clocolan and Hlohlolwane in the form of a business corridor.

6.2.5 Industrial development

Clocolan only has one industrial area situated to the east of town, but which is currently not fully occupied. As a large number of erven are still available, no major expansion is envisaged with the exception of a small area along the western side of the railway line, to the south of the existing industrial area.

6.2.6 Public transport

A large portion of Clocolan and Hlohlolwane's population is dependent on public transport (taxi and bus services) and two taxi ranks exist in each of the two areas respectively. At present the Taxi Rank in Clocolan is being upgraded.

6.2.7 Commonages

One area has been identified as commonages for small-scale farming (Clocalan Townlands). It is proposed that additional commonage areas be obtained by the Local Municipality.

6.2.8 Sanitation

A total number of 3452 households are still dependent on the bucket system which needs to be phased out.

6.3 Marquard / Moemaneng

The SDF for Marquard / Moemaneng is indicated on **Map 11.**

6.3.1 Urban Fringe

The proposed urban fringe of Marquard / Moemaneng was identified to accommodate existing developments and the provision of future development to promote the principles of a compact urban structure.

6.3.2 Residential

The existing housing situation within Marquard / Moemaneng is indicated in the Table below:

Description	**Area**	**Number**
Number of sites in formal areas	Moemaneng Marquard	3808 574
	Sub- Total	**4372**
Number of sites in an informal area	Moemaneng	25
Formal Houses	Moemaneng	1143
Formal Houses	Marquard	498
Informal Houses	Moemaneng	2865

(SETSOTO LM: 2007)

At present the need of erven is 907 and houses 1935 structures.

A) Future Residential Development

The following areas have been identified for future residential development:

- The area north of Marquard (Priority B);
- The area to the northwest of Moemaneng across the P17/2 Road (Priority B);
- The area to the south west of Moemaneng between the passive open space and the new cemetery (Priority A);
- The are to the east of Moemaneng (Priority A); and
- The area across the Clocolan Road (Priority A).

B) Densification

The following areas have been identified for densification purposes, namely:

- The subdivision of large stands in Marquard;
- An area between Marquard and Moemaneng.

The densification guidelines are similar to the guidelines for Ficksburg /Meqheleng (See Section 6.1.2. (B)).

6.3.3 Future transportation network

The two existing primary access roads on the Winburg-Clocolan Road and the one on the Senekal Road provide proper access to the existing town.

6.3.4 Open space system / parks / recreation / sports grounds/ cemeteries

The open space system currently revolves around Laaispruit and the golf course.

Areas within the 1:100 year flood line should be protected against any form of pollution and activities that may cause erosion, due to the environmental sensitivity the areas along Laaispruit.

The existing sports facilities within the two areas need to be upgraded and maintained to an acceptable standard to improve the after-hour entertainment facilities in the town. The show ground needs to be utilised for events like Marqexpo and the arena could also be used for recreational facilities.

A new cemetery was recently planned and surveyed for Moemaneng south of the township on the other side of the Flora Road. This piece of land will provide sufficient space for a cemetery that will suffice for at least ten years.

6.3.5 Development corridors

Features like Laaispruit restrict effective integration of the two areas. The main opportunity for integration lies in the access street over Laaispruit. This street lends itself to the establishment of an activity corridor. This will assist in redirecting investment towards Moemaneng and will change the present CBD's development axis from a north-south direction to an east-west direction.

6.3.6 Central Business District (CBD)

Future business development in Marquard should firstly be directed towards Moemaneng via the access road across Laaispruit.

6.3.7 Activity nodes

Various activity nodes are identified along the major collector roads serving the area. These nodes play an important role in the economic activities in Marquard and Moemaneng due to its even distribution and high level of accessibility.

The existing activity nodes on the major access roads could be extended and additional facilities like taxi ranks or hawker stalls can be developed to enhance these economic activities.

6.3.8 Industrial

The future extension of the industrial area is proposed in an eastern direction. The area earmarked as the existing industrial area should, however, be developed first.

6.3.9 Commonage / small scale farming

The existing town lands should be developed as commonage areas to enable residents of Moemaneng to earn additional income. The area to the south west of Moemaneng needs to be managed properly and pilot projects for communal gardens should be given preference. This area could be extended into a western direction across the Winburg-Clocolan Road. The area to the east of the Clocolan road should also be utilised more intensively and can in future be extended in a northern direction should the need arise.

Small-scale farming should be encouraged on the farms surrounding the town. These should actually remain farmland although smaller units could be developed. Discussions need to be entered into with the Local Municipality and the Department of Agriculture.

6.3.10 Water supply

The bulk water supply to the town is currently being upgraded with a pipeline from the Meulspruit Dam. The relative position of this pipeline will be shown once available.

6.3.11 Water Purification Works / Sanitation

Need to be upgraded at the same locality. The bucket system needs to be replaced by a water-borne system. At present the backlog is 3695 units.

6.3.12 Taxi Rank

To identify new rank in consultation with taxi owners.

6.4 Senekal / Matwabeng

The SDF for Senekal is indicated on **Map 12.**

6.4.1 Urban Fringe

The urban fringe is indicated on the map and makes provision for proposed future residential areas. It further attempts to promote the principle of infill and densification.

6.4.2 Residential development

The existing housing situation within Senekal / Matwabeng is indicated in the Table below:

Description	Area	Number
Number of sites in formal areas	Matwabeng Senekal	5339 1054
	Sub-Total	**6393**
Number of sites in informal area	Matwabeng	650
Formal Houses	Matwabeng	2793
Formal Houses	Senekal	804
Informal Houses	Matwabeng	2264

(SETSOTO LM: 2007)

At present the need for erven calculate to 1128 and the need for housing to 1864 units.

The following areas have been identified for future residential development:

A) Future Residential Development

The following areas have been identified for future urban expansion:

- The southern extension of Matwabeng (Priority A);
- Area to the north of Matwabeng and south of the Railway line (Priority A);
- Area to the south of Senekal (Priority A);
- Area to the north of the industrial area for middle-to high income (Priority B);

- Area to the northeast of Matwabeng on both sides of the railway line (Priority B);
- Area to the north of Senekal (Priority B); and
- There is also a view from the residents of Matwabeng that the area of Marantha (towards the north of Senekal) should be developed as a residential township. The area of Marantha has been vacated during the "apartheid" years and the residents have been relocated to the township of Matwabeng. The topography and soil conditions of this area are of such a nature that the development costs are expected to be high. Conditions are not favourable for urban development due to physical restrictions such as flood lines and existing brick works. This area is approximately 27 ha and will have to be properly investigated before any development takes place.

B) Densification

The densification proposals are as follows:

- Two rows of very large erven to the south of Senekal offer great opportunities to be subdivided into smaller erven.
- A large number of stands in Senekal can be subdivided at higher densities.

The densification guidelines are similar to the guidelines for Ficksburg / Meqheleng (See Section 6.1.2. (B)).

6.4.3 Commonages

The Municipality purchased land (two farms, namely Subdivisions 1 and 2 of Veepost 1172 and Rondebult 497), to the south of the Sandspruit and the Sandsloot a few years ago. These farms are

indicated on the spatial plan and are to be used as commonage for small-scale farming.

6.4.4 Business

The central business district (CBD) of Senekal mainly centres on the N5 road and the road leading to Matwabeng but can be extended towards Boer Street and also towards the industrial area.

Business development in Matwabeng should be directed towards erven planned for such purposes and the development of the neighbourhood centre as planned at the entrance of Matwabeng should get immediate attention. This area is highly accessible and could be developed as a major business node for Senekal/ Matwabeng.

A business node aimed to serve the central parts of Matwabeng should also be planned during the development of new erven to the north of Matwabeng next to the existing neighbourhood.

6.4.5 Industrial

The industrial area of Senekal can be extended towards the northeast should the need arise. Industrial erven can also be planned within Matwabeng between zone 4 and south of the proposed Provincial Road (P57/1).

6.4.6 Open space system and conservation areas

A vast amount of natural open area surrounding Senekal and Matwabeng has been identified to serve as passive open space.

The green belt along the Sandspruit that stretches from the south of Matwabeng and through Senekal could be developed for more intensive recreational or aesthetic purposes.

Thabeng, the hill towards the southern area of Matwabeng and Waterval Koppie should be regarded, as part of the open space system of Senekal and no urban development should be allowed.

6.4.7 Integration

As indicated earlier, spatial integration between Senekal and Matwabeng is difficult due to physical restrictions. Small patches of land between the two areas can be used for integration activities, although the area identified for residential densification is regarded as one of the biggest opportunities for integration. Apart from this the area between the main industrial area and Senekal central business district can also be developed for commercial purposes. This will strengthen the link between the business and industrial area.

6.4.8 Development corridors

The area proposed for linkage between the Senekal industrial area and central business district is identified as development corridor for commercial purposes.

The business corridor along the main road of Senekal (Voortrekker Street) between the Sandspruit and Waterfall Koppie should be stimulated for these businesses to take advantage of vehicle traffic through Senekal.

6.4.9 Sewage treatments work and refuse dump

The location of the sewage treatment works and refuse dump will remain and a no-development radius of 500m will be applicable due to the guidelines of the Department of Health. The backlog of 3755 households which is still linked to the bucket system need to be replaced.

6.4.10 Cemetery

Although there is no immediate need for a cemetery, a future site has been identified north adjacent to proposed Road P57/1 within the 500m radiuses of the sewerage treatment works.

6.4.11 Truck stop

An area was developed within the industrial area for such purposes.

6.4.12 Taxi Rank

Identify a Taxi Rank along the N5 in close proximity to the golf course.

6.4.13 Water reservoirs

The location of the existing facilities will remain but note should be taken of the area reserved for a new storage facility for water south of Matwabeng Extension 4 as will be needed in the near future.

7. THE INTEGRATED ENVIRONMENTAL PROGRAMME

7.1. Legislative and Policy framework for Environmental Sustainable Development

A major component of this environmental programme is an assessment of the legal requirement for sustainable development in Setsoto. This section constitutes an indication of those requirements.

- **The National environment management act principles:**

Section 2 of the National Environmental Act (107 of 1998), or referred to as NEMA, requires all organs of the state to implement and adhere to the principles set out in chapter one of NEMA. All organs of the state also have the responsibility to protect, promote and conserve the needs of the people. NEMA section 2 also stipulates that the organs of the state have to serve as a framework for environmental management and it is their duty to guide the implementation of this Act. It is therefore a prime requisite of the Setsoto Local Municipality to incorporate this wider environmental analysis.

NEMA sets clear principles for guidance in the stipulation of general principles for the environmental programme (Section 2 of NEMA).

These principles are summarized below:

i. Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interest equitably.
ii. Development must be sustainable socially (people), environmentally (planet) and economically (prosperity).
iii. Sustainable development requires the consideration of all the relevant factors, including the following:

- To avoid and minimize:
  - the disturbance of ecosystems and loss of biological diversity;
  - the disturbance of landscapes and sites that constitute the cultural heritage; and
  - pollution and degradation of the environment
    waste (re-use or recycle)
- The responsible and equitable use of renewable and non-renewable resources;
- That a risk prevention approach are taken;
- The prevention of negative impacts on the environment and on people's environmental rights; and
- Environmental justice must be pursued so that adverse environmental effects shall not be disturbed in such manner as to unfairly discriminate against any person.

At the core of the NEMA principles are thus primarily the needs of the people, and social, environmental and economical sustainable development. These core guidelines act as excellent indicators when measuring all potential development.

- **Strategic Environmental Assessment Principles:**

Strategic Environmental Assessment (SEA) aims to ensure that environmental issues are addressed from an early stage in the process of formulation policies, plans and programmes, and incorporated throughout this process. In the development and understanding of SEA will assist in practically implementing sustainability and moving towards a true integration of economic, social and biophysical goals.

Ten principles are proposed for SEA in South Africa. These principles are the fundamental premises underpinning SEA methodologies in South Africa and provide the theoretical base for the development of local SEA processes.
The following are the ten principles of SEA for South Africa:

a) SEA is driven by the concept of sustainability;
b) SEA identifies the opportunities and constraints, which the environment places on the development of plans and programmes;
c) SEA sets the criteria for levels of environmental quality or limits of acceptable change;
d) SEA is a flexible process, which is adaptable to the planning and sectoral development cycle;
e) SEA is a strategic process, which begins with the conceptualization of the plan or programme;
f) SEA is a part of a tiered approach to environmental assessment and management;
g) The scope of an SEA is defined within the wider context of environmental processes;
h) SEA is a participative process;
i) SEA is set within the context of alternative scenarios;
j) SEA includes the concepts of precaution and continuous improvement.

- **The Environmental Conservation Act (Act 73 of 1989)**

The MEC may, through the Environmental Conservation Act (ECA), identify those activities that will have a detrimental effect on the environment, and those activities will be prohibited. The MEC also has the right to identify areas of limited development for any activities relating to infrastructure, land use or resources. This could be areas with red-data species, wetlands or any other environmentally sensitive areas.

The following table is a summary of the environmental management functions of the different departments and the applicable legislation.

Table 7.1: Environmental management function and applicable legislation

RESPONSIBLE DEPARTMENT	ENVIRONMENTAL MANAGEMENT FUNCTION	APPLICABLE LEGISLATION
Department of Tourism, Economic and Environmental Affairs	Nature Conservation, game management, control of alien species.	• Environmental Conservation Act, No 73 of 1989 • Orange Free State Conservation Ordinance No.8 of 1969.
Department of Tourism, Economic and Environmental Affairs	Impact Assessments	• Environmental Conservation Act, No. 73 of 1989 • Minerals Act, No.50 of 1991 • Atmospheric Pollution Prevention Act, No. 45 of 1945 • Conservation of Agricultural Resources Act, No. 43 of 1983 • Hazardous Substance Act, No. 15 of 1973 • Health Act, No. 63 of 1977 • SABS Code of Safe disposal of medical waste

		• National Heritage Resource Act • National Parks Act, No. 57 of 1976 • National Road Act, No. 54 of 1971 • Occupational Health and Safety Act, No. 85 of 1993 • National Water Act, No. 36 of 1998 • Development Facilitation Act, No. 67 of 1995 • National Environmental Management Act, No 107 of 1998
Department of Agriculture	Land care; Soil conservation	• Subdivision of Agricultural land Act,No. 70 of 1970 • Conservation of Agricultural Resources Act, No 43 of 1983
National Department of Agriculture	Public health; Animal health; Veterinary services	• Pest Control Act, No 36 of 1963 • Fencing Act, No. 31 of 1963 • Veld and Forest Fires Act, No.101 of 1998

		• Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, No. 36 of 1947
Department of Health	Integrated Environmental Health; Safe food; Air pollution	• National Water Act, No. 36 of 1998 • Water Services Act, No. 108 of 1997 • Health Act, No. 63 of 1977 • Environmental Conservation Act, No 73 of 1989 • Guidelines on sewerage sludge • Quality of domestic water supplies sampling guides • National sanitation policy • Hazardous Substance Act, No 15 of 1973 • Food Premises Hygiene Regulations R918 of 30 July 1999
Department of Local Government and Housing	Land use control	• Development Facilitation Act, No. 67 of 1995

		• Township Ordinance, No 9 of 1969 • Removable of restrictive conditions, No 84 of 1967 • Physical Planning Act, No 125 of 1991 • Subdivision of agricultural land guidelines • Regulations for the amendment or withdrawal of regional or urban structure plans • Free State LDO Regulations (pg 246 of 14 November 1997) • National Heritage Resource Act of 1999 • Local Government Municipal Systems Act, No 32 of 2000 • Guidelines for human settlement and design
Provincial office of Department of Water Affairs and Forestry	Water resource management; Waste management	• National Water Act, No. 36 of 1998 • Water Services Act, No 108 of 1997

		• Health Act, no 63 of 1977 • Environmental Conservation Act, No. 73 of 1969 • Minerals Act,No. 50 of 1991 • Mountain Catchment Areas Act, No. 63 of 1970
Provincial office of Department of Mineral and Energy Affairs	Mineral resources management; Assessing of EMP'S	• National Water Act, No 36 of 1998 • Water Services Act, No 108 of 1997 • Health Act, No 63 of 1977 • Environmental Conservation Act, No 73 of 1989 • Minerals Act,No. 50 of 1991 • Mountain Catchment Areas Act, No 63 of 1970 • Development Facilitation Act, No 67 of 1995 • National Environmental Management Act, No 107 of 1998

		• Atmospheric Pollution Prevention Act, No 45 of 1945 • National Nuclear Regulator Act, 1999 • Mine health and safety, 1996 • Conservation of Agricultural Resources Act, No. 43 of 1983 • Free State Nature Conservation Ordinance, No 8 of 1969 • National Monument Act, No 28 of 1969 • National Heritage Resource Act, 1999 • Free State Township Ordinance, No 9 of 1969

7.2. Setsoto Environmental Issues

In order to ensure that the negative impacts of the priority environmental issues are minimized there needs to be a sound understanding of the relationship between the causes and the effects of these issues.

In the following Table the various environmental problems associated with the proposed projects, (set out in the analysis phase), are presented, together with the most prominent causes of these environmental problems. The various effects of these environmental problems on the people, as well as the communities/towns being affected by these problems are also presented.

Table 7.2: Environmental problems, causes, effects and people being affected

Project No.	Environmental problems, risks and threats	Causes of the problem	Effects(s) of the problem on the environment	People being affected
7.2.1	The upgrading of the bulk water supply	• Population growth, thus increased demand for water • Improvement of water supply • Will improve the lives of the people	• Decrease in the water resource • More waste water for disposal	Meqheleng

7.1.2	The upgrading of sanitation treatment works	• Population growth, thus increased demand for sanitation systems • Sanitation ponds are too small • Lack of proper infrastructure	• When sanitation ponds are to small there is an outflow • Loss in biodiversity • Positive affect: an enlarged system, thus overflow	Hlohlowane Moemaneng
7.1.3	The establishment of acceptable sanitation works	• Population growth, thus increased demand for sanitation systems • Contamination of underground water through the old sanitation systems	• Increase in water use, which leads to a decrease in the resource	Meqheleng Hlohlowane Moemaneng Matwabeng
7.1.4	Upgrading of stormwater	• Poor infrastructure for stormwater	• Erosion • Pollution	All units in Setsoto
7.1.5	Efficient waste removal	• Insufficient and unfenced waste disposal sites	• Pollution • Creates an unhealthy	All units in Setsoto

		• Not sufficient capacity • Waste management not effective	environment	
7.1.6	Sufficient water purification works	• Population growth, thus increased demand • Not sufficient capacity	• Pollution and contaminatio n of underground water caused by overflows • Creates an unhealthy environment	Clocolan
7.1.7	Water pipeline at Sparta regional water project	• Population growth, thus increased demand for water	• Disturbance of natural resources: trenches will be dug, trees will be cut down • Visual pollution	Marquard Clocolan
7.1.8	Cemetery development	• Shortage in capacity • Increased number of deaths, due to hiv/aids	• Shortage in burial sites • Creates an unhealthy environment • Loss in arable land	All units in Setsoto
7.1.9	Township	• Population	• Increased air	All

	development	growth • Poor planning of human settlements	pollution (increased in greenhouse effect and acid rain) • Loss of biodiversity and depletion of resources • Creates an unhealthy environment • Increased demand of water and sanitation infrastructure	townships in Setsoto
7.1.10	Improved digital telephone system	• For improvement of communication	• Visual pollution: erection of towers or masts • Impact on the biodiversity	Rural areas
7.1.11	Agricultural development and emerging farmers	• Not sufficient land available for emerging farmers	• Agricultural pollution: irresponsible use of fertilizers, unsustainable	All units in Setsoto

			resource utilization • Erosion • Overgrazing	
7.1.12	Product development and marketing	• To establish agri-processing and entreprises • To decrease the outflow of income	• No rehabilitation plans are in place • Lack of proper marketing plans and enterprises	All units in Setsoto
7.1.13	Removal of livestock from residential areas	• Lack of proper infrastructure and training	• Creates an unhealthy environment • loss of biodiversity	All rural areas
7.1.14	The improving of transport system	• Poor infrastructure of roads • Neglect of maintenance of roads	• Increase in air pollution (increased amount of private vehicles on roads) • Increase in accidents • Damage to land alongside roads	Entire Setsoto

The only project foreseen to have a very significant impact on the environment will be the establishment of townships. Townships, if the infrastructure is not properly installed, creates an unhealthy environment and puts great pressure on the services for sanitation, water and waste removal. There should thus be given very careful consideration to these issues when developing townships.

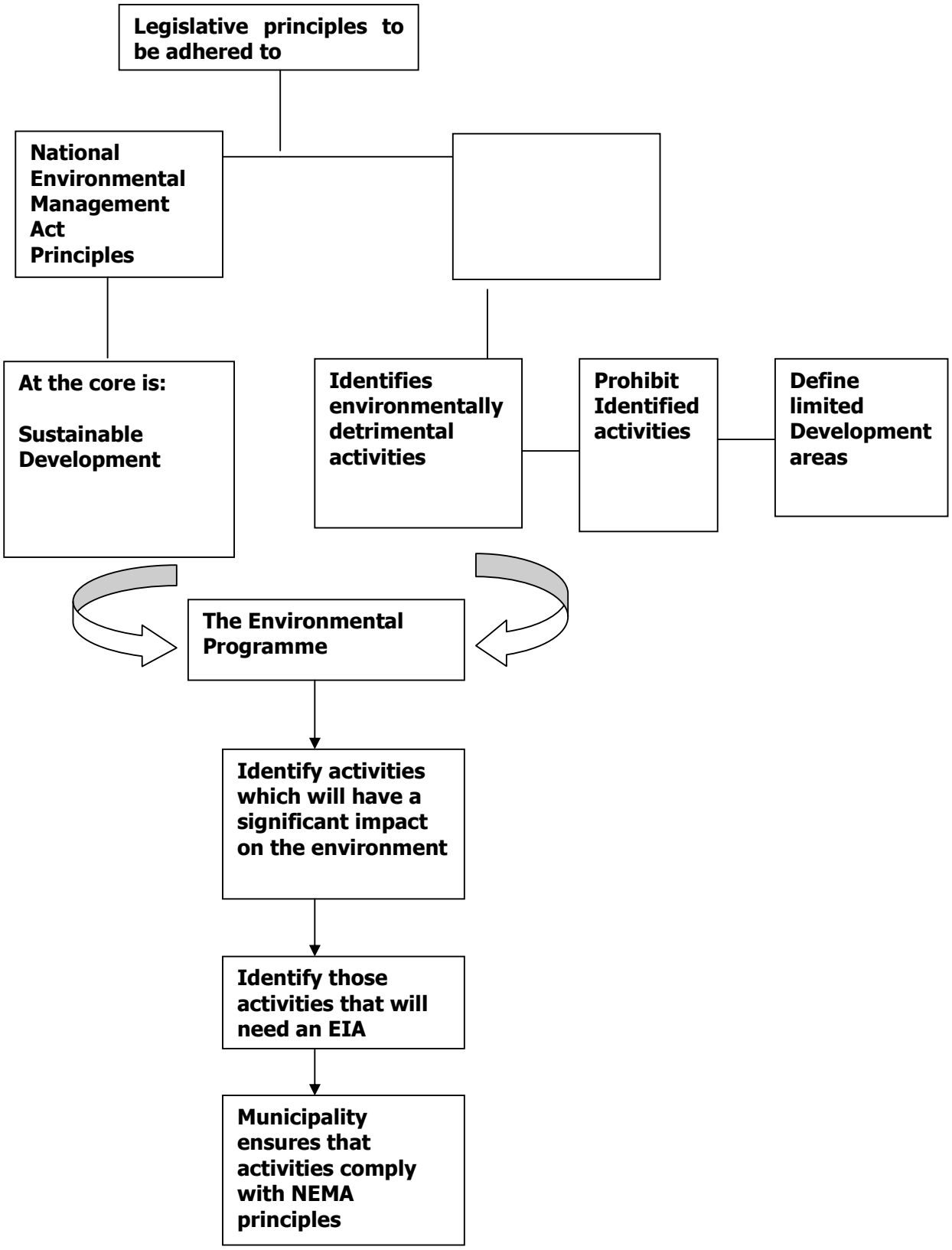
Activities/ projects that will need an environmental impact assessment (EIA), will be mentioned below. The additional activities not mentioned below, would all require scoping reports.

Activities, which will require an environmental impact assessment (EIA), are:

- The construction of proper infrastructure for water, stormwater and sanitation services;
- The new cemetery sites;
- The upgrading of purification works;
- The communication infrastructure;
- The construction and maintenance of new roads;
- The townships developments;
- The agricultural development.

The following flowchart gives an indication of how the principles of the two most relevant acts, namely the National Environmental Management Act (NEMA) and the Environmental Conservation Act (ECA) influences decision-making regarding the proposed projects in the integrated environmental programme.

Figure 7.1: flowchart indicating the influences of legislation on decision-making



8. LANDUSE GUIDELINES

The Spatial Development Framework must not be viewed as a Town Planning Scheme as the Spatial Development Framework focus on future land use trends/proposals as opposed to the Town Planning Scheme which deals with the existing use of land and buildings. Detailed guidelines for the development of rural and peri-urban areas are regularly provided and upgraded / amended by the responsible provincial department. The latest guidelines are attached hereto as Annexure C. Once these have been amended / upgraded the current version will be replaced with the new guidelines.

9. CAPITAL INVESTMENT PROGRAMME

Projects which have been identified in the Spatial Development Framework which need to be included /or are included in the IDP, is as follows:

9.1. Engineering

- Raising of dam wall at Meulspruit with 2m;
- Improvement of electrical network to rural occupants;
- Prepare a prioritization plan for grading of rural roads;
- Tarring of the following roads:
  - Portion of road S7 linking with Road S39;
  - Road S366 between Clocolan and Reka Bridge border post at Lesotho; and
  - Portion of Road S67, a 20km stretch approximately halfway between Senekal and Ficksburg.
- Upgrade of road between Meqheleng and Cemetery;
- Main bus route needs to be tarred (Ficksburg/Meqheleng);
- Secondary roads need to be paved (Ficksburg / Meqheleng);
- Existing upgrade of purification works (Ficksburg / Meqheleng);
- Upgrade of taxi ranks (Clocolan);
- Identification of taxi rank (Marquard and Senekal);
- Water reservoir in Matwabeng Ext 4.

9.2. Investigations / Planning

- Establishment of grazing management plan on commonage land;
- Identification of farms for the process of land reform;
- Investigation into the Provincial Cultural Heritage Site at Prynns Berg.

9.3. All urban areas

- Eradication of the bucket sanitation system (14295 units).

10. AMENDMENT OF THE SPATIAL DEVELOPMENT FRAMEWORK

Unless specifically indicated, the Spatial Development Framework merely indicates **broad spatial patterns**, **functions** and directions for expected expansions. The Spatial Development Framework should not be rigidly interpreted so as to indicate where development should or should not take place, but should serve as a **guiding mechanism** to direct development and decision-making.

In cases where the **relative position** of certain land uses/functions or spatial elements may have been indicated, such relative positions should also not be viewed as fixed positions / allocations / reservations, but can be changed or altered in the discretion of the municipality under the following circumstances:

- When a proposed new land use(s), function or spatial element is of a **lower intensity** than the intended land use, function or spatial element for which a specific area has originally been earmarked;
- When it is found that the **physical conditions** of the indicated area or relative position are not suitable for the intended land use, function or spatial element.
- If the relative position and physical conditions of another area is **more favourable** towards an intended development, and does not negatively affect the environment or pose any form of danger or health risk to society;
- If the overall **objectives and principles** of the Spatial Development Framework / IDP are being met;
- If an intended development, land use, function or spatial element does not have a **detrimental affect** on any surrounding land uses;
- If an intended development, land use, function or spatial element complies with the basic principles for land development as specified in the objectives and strategies of the Land Use Management Bill, 2001

incorporating the principles of Chapter 1 of the Development Facilitation Act, 1995.

In such cases where the relative positions or land use, function or spatial element reservations have been changed by the municipality under the above mentioned specified circumstances, the Municipal Council will condone the proposed adjustments to the SDF by means of a council resolution. Such a resolution will be regarded as an official adjustment to the SDF and should be regarded as such for any development planning or application resulting.

11. RECOMMENDATIONS AND CONCLUSION

Following on issues discussed and raised in the document the following recommendations are made:

10.1 Areas / nodes within certain towns, as well as the Allemanskraal Dam, have been indicated as tourism nodes. In this regard it is recommended that a tourism strategy be compiled for each of these areas, linked to specific Local Economic Development Programmes for these areas / nodes. This is also applicable to the cultural heritage site, namely Prynns Berg;

10.2 With reference to sensitive environmental areas it is recommended that these be identified and demarcated as such. Site specific guidelines in order to manage and control these areas should then be compiled and implemented according to the provisions of the National Environmental Management Act and Regulations. This should also be applicable to all identified sensitive areas;

10.3 When a land use management system is compiled detailed attention should be given to issues in order to utilise the LUM also to promote conservation in identified areas.

10.4 Another policy document / issue that should be addressed / adhered to is the Free State Province, Department of Local Government and Housing's document 'Zonings applicable to rural and peri-urban areas'. The municipality should study this and, where applicable, the respective zonings should be respected and indicated in a LUM for the area.

The Spatial Development Framework will form part of the larger Land Use Management System for Setsoto Municipality. It provides a framework for

the development of the area and should guide the municipal council in decision-making.

Although the Spatial Development Framework is a five-year document, it is required to review the document annually. Certain changes have therefore been incorporated to accommodate development needs that have been identified during 2007/2008.