

Figure 17: Engineering Services

### 3.4.2 Water Supply

#### 3.4.2.1 Water Supply to the East of the Hartbeespoort Dam

The existing water network was previously divided into two separate networks or pressure zones.

The Northern Network is currently supplied from the Local Municipality of Madibeng's 10Ml/day water treatment works in Karel Street and the supply area includes for Schoemansville, Melodie and Melodie Agricultural Holdings. This network functions as an independent pressure zone and Road R511 forms the border between the northern and southern networks.

The Southern Network includes, inter alia, Ifafi, Meerhof and Xanadu Eco Park. This network is supplied directly from the Rand Water H36A Pipeline and functions as an independent pressure zone.

New developments in this area will be supplied with potable water from the existing water network.

#### 3.4.2.2 Water Supply to the Areas North and North West of the Hartbeespoort Dam

Potable water is pumped from the water treatment works in Karel Street to the storage reservoir in Kosmos. Potable water is gravitated to Kosmos and developments directly to the west of Kosmos up to Caribbean Beach Club as well as Magalies Park.

Developments between Caribbean Beach Club and Magaliespark i.e. Leloko are currently supplied from boreholes.

Water to the proposed agricultural uses to the north of the existing estates will be supplied from boreholes. Water supply from the local authority will be too expensive to make agricultural activities feasible.

#### 3.4.2.3 Water Supply to the Areas South and South West of the Hartbeespoort Dam

Developments to the south and the south west of the Hartbeespoort Dam are all supplied with water from existing boreholes.

Rand Water did plan a supply pipeline from the H36A at Xanadu following the railway line and crossing the dam to terminate at Leloko. Due to differences with the Local Municipality of Madibeng it seems as if the construction of this pipeline has been put permanently on hold.

Water to the proposed agricultural uses to the south of the existing estates will be supplied from boreholes.

### 3.4.3 Sewer

#### 3.4.3.1 Handling of Sewerage to the east of the Hartbeespoort Dam

The natural drainage pattern on the eastern side of the Hartbeespoort Dam is from north east and east in a western direction towards the Hartbeespoort Dam.

Currently sewerage drain to various sewerage pump stations from where the sewerage is pumped to the 3Ml/day Rietfontein Waste Water Treatment Works (WWTW).

Sewerage from new developments in this area will either drain directly or will be pumped to the Rietfontein Waste Water Treatment Works.

#### 3.4.3.2 Handling of Sewerage to the areas north and north west of the Hartbeespoort Dam

No municipal sewer services are available in the direct vicinity of the proposed developments.

### 3.4.3.3 Handling of Sewerage to the areas south and south west of the Hartbeespoort Dam

No municipal sewer services are available in the direct vicinity of the proposed developments.

## 3.5 Economy

According to the Madibeng Local Economic Development Strategy, 2008, the Hartbeespoort dam is the second most visited destination after the Waterfront in Cape Town. It is estimated that between 19,000 to 20,000 vehicles drive per weekend over the Hartbeespoort dam wall.<sup>8</sup> According to the Madibeng Tourism Master Plan, 2008 the Hartbeespoort area is the most popular destination in the Municipality, followed by the Magaliesberg. Hartbeespoort has the largest share of all tourism facilities accounting for 71% of tourism facilities in the municipality.<sup>9</sup>

## 3.6 Socio-Economic Profile

The study area comprises a total population of 28,694 people (of which 20,692 are classified as urban) and 11,377 households. This is 6% of the total Madibeng Local Municipality (MLM) population. The average household size is 4.5 people. The area has the following socio-economic profile:

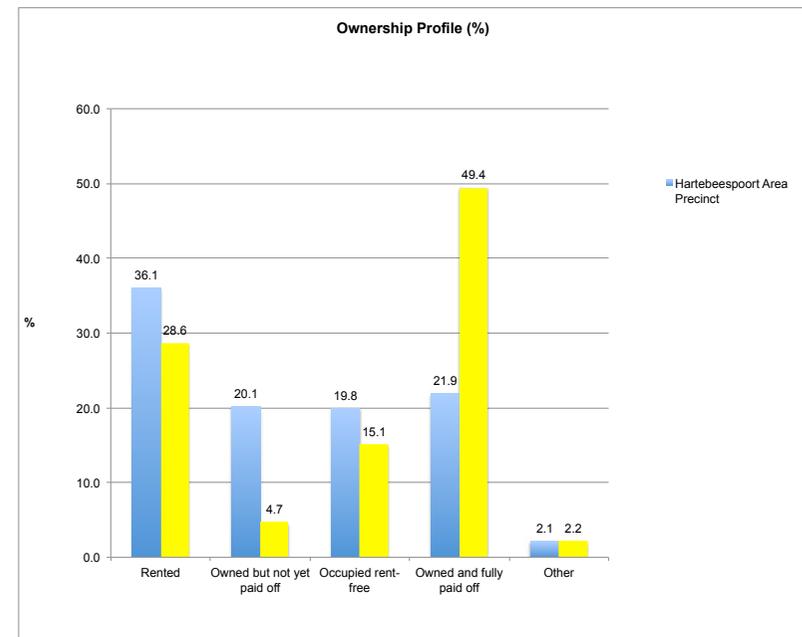
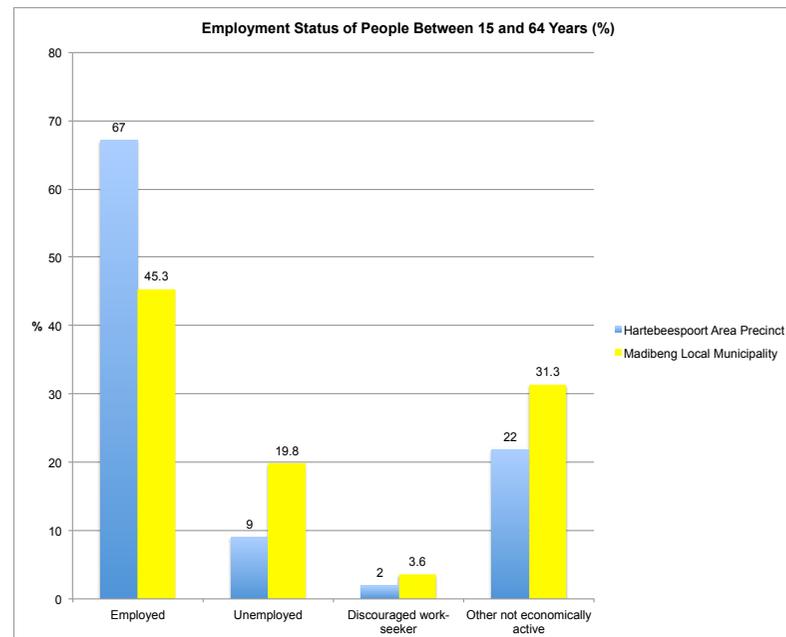
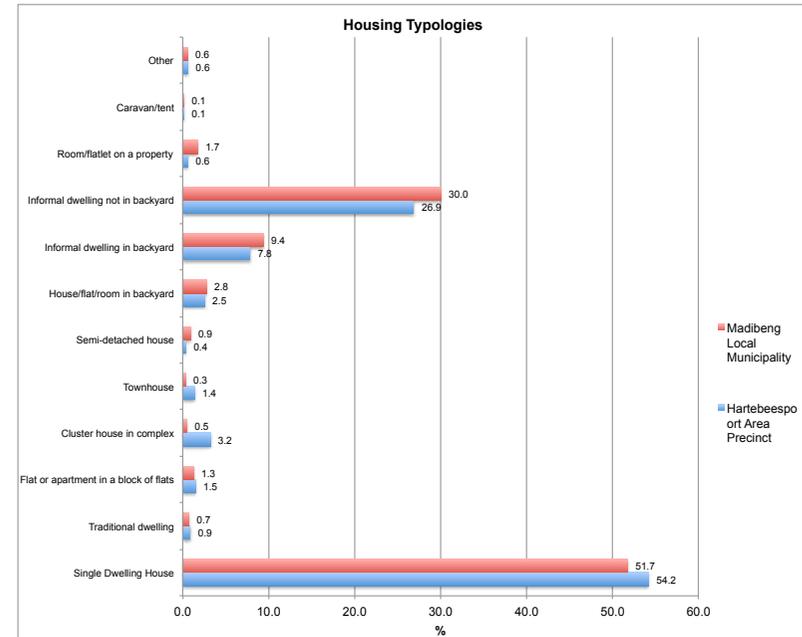
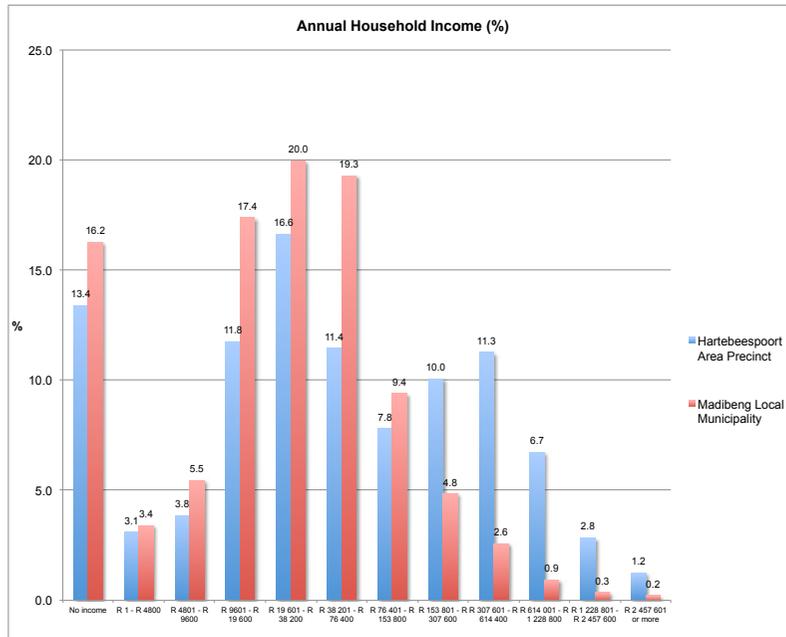
- 9% of the population between the ages of 15 and 64 years are unemployed (20% for MLM);
- ±49% of households have an annual household income of less than R38,500 (62.4% in MLM) while ±4% of households have an annual household income of more than R1,228,801 as opposed to only 0.6% of households in MLM;

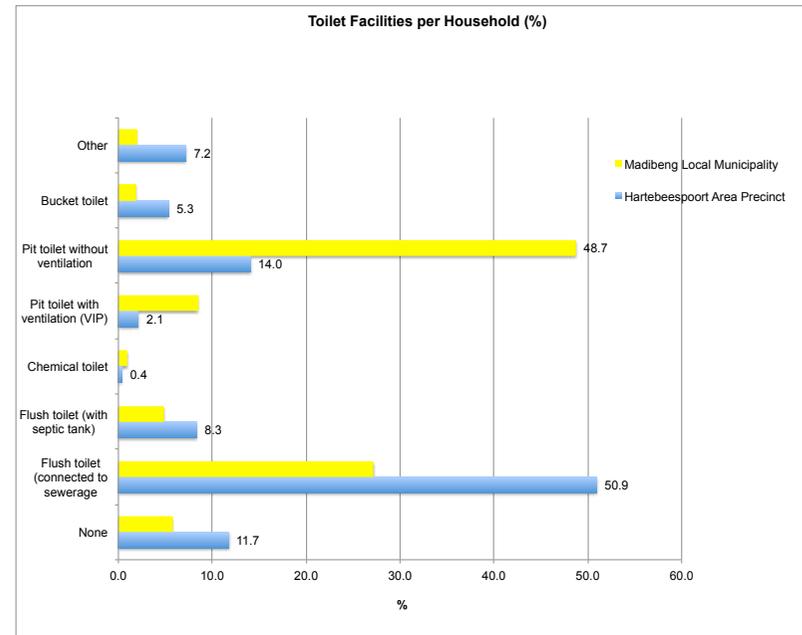
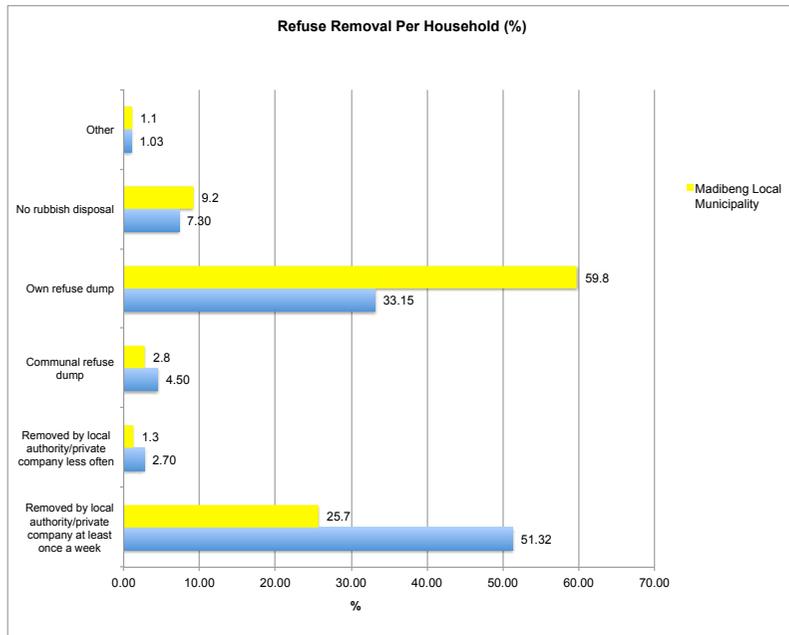
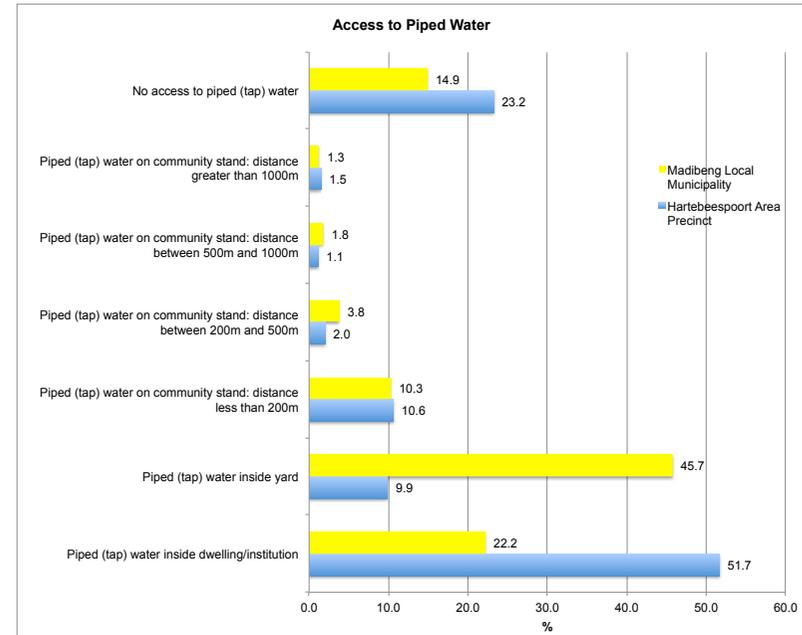
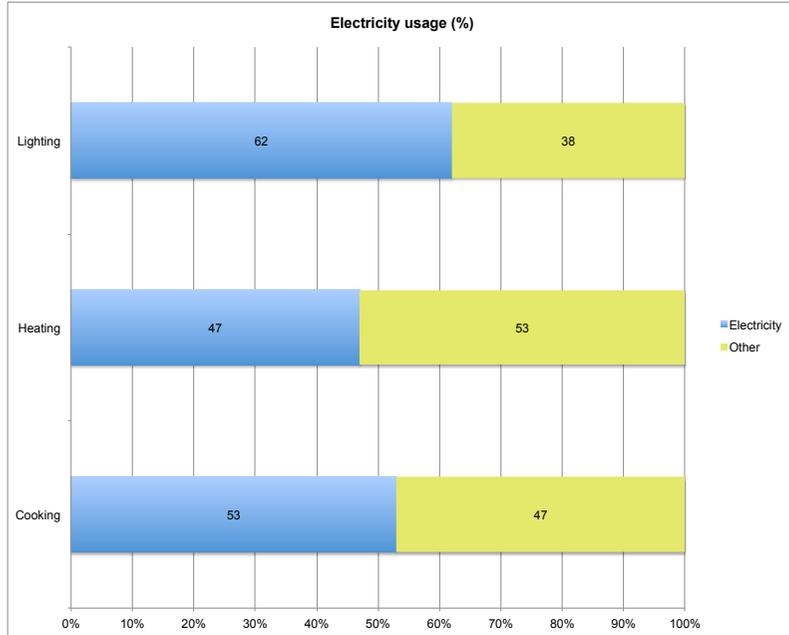
<sup>8</sup> Source: Madibeng Local Economic Development Strategy, 2008

<sup>9</sup> Source: Madibeng Tourism Master Plan, 2008

- 54% of households reside in single dwelling houses, while 27% reside in informal structures in informal settlements;
- 42% of households own their dwellings (either paid off or still being paid off) while 36% rent their properties;
- 62% of households use electricity for lighting, 47% for heating and 53% for cooking;
- 52% of households have piped water inside their dwelling (only 22.2% for MLM), with a further 10% with piped water inside their yard. 23% of households have no access to piped water;
- 51% of households have access to waterborne sewerage (only 27.2% in MLM) while a further 8% have a flush toilet with septic tank. 12% of households have no access to sanitation as opposed to only 5.8% in the whole of MLM; and
- 51% of households receive weakly refuse removal services (only 25.7% in MLM) while 33% utilise their own refuse dumps. 7% of households have no access to refuse removal services.<sup>10</sup>

<sup>10</sup> Source for Socio-Economic Profile: Statistics SA (Census 2011)





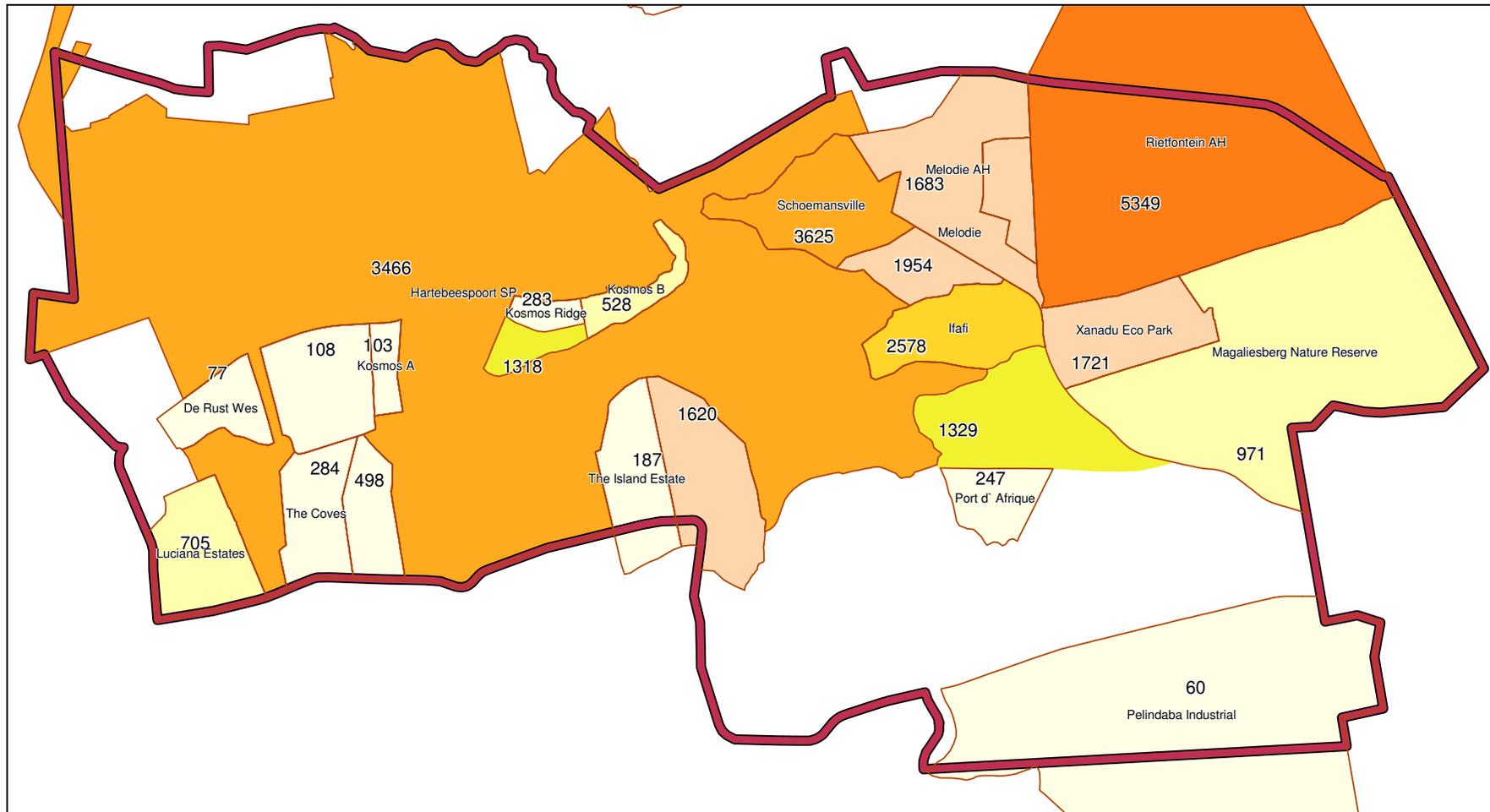


Figure 18: Population Distribution

### 3.7 Cultural Heritage

There are a number of Archaeological and Historical sites situated within the precinct boundary. The Magaliesberg Protected Natural Environment is considered an area of high Archeological value.

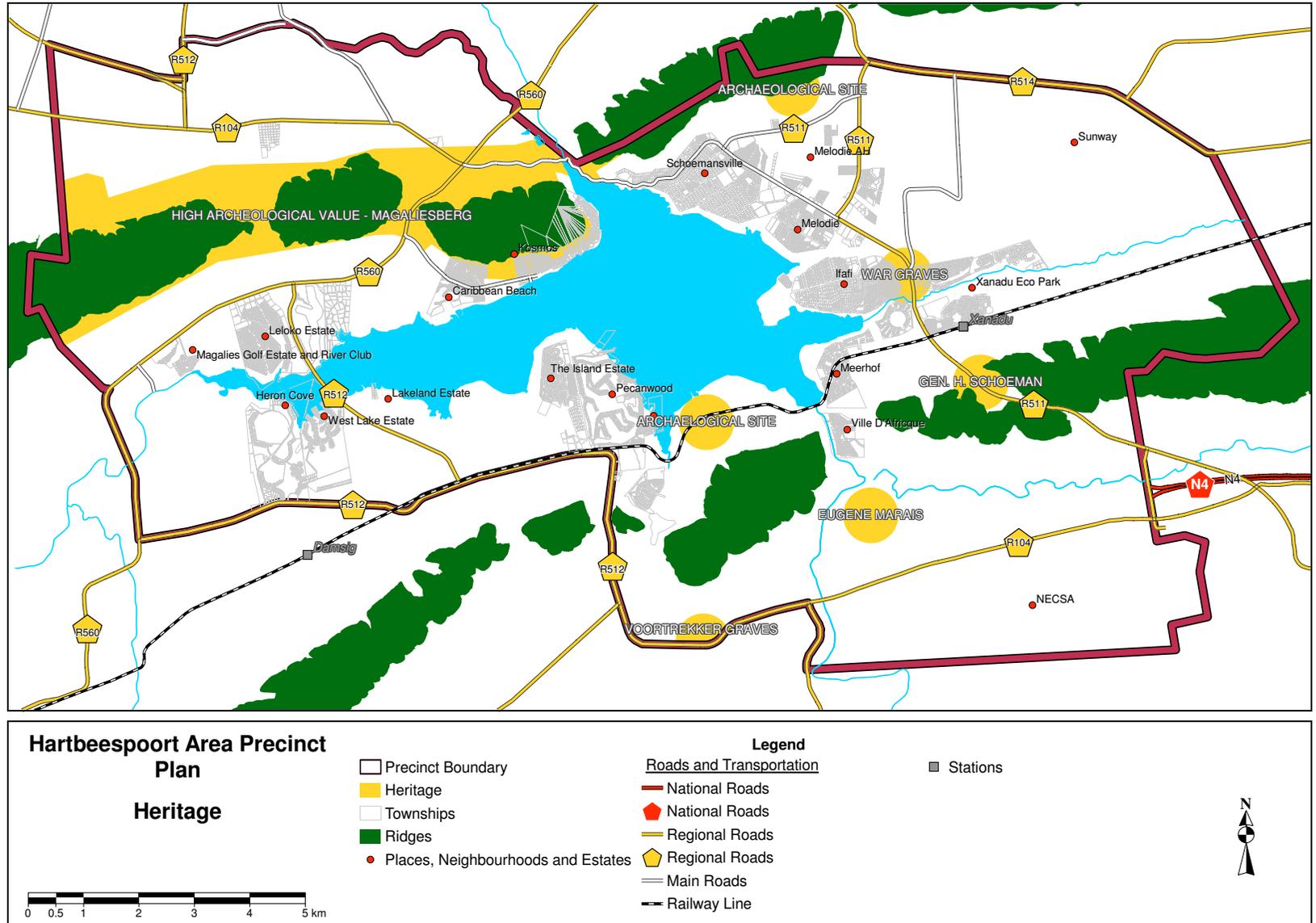


Figure 19: Cultural Heritage



# Chapter 4: Issues

## Chapter 4: Issues

### 4.1 SWOT Analysis

This chapter sets out all the issues that have been identified as part of the situational analysis or have been identified by various stakeholders. The numbers refer to numbers on Figure 20.

#### 4.1.1 Strengths and Opportunities

- The area comprises a number of tourism attraction and facilities that can be improved through:
  - the application of planning principles such as clustering, linkages and integration;
  - improved land use management to ensure efficiency and a better sense of place;
  - the creation of smaller special development zones (e.g. Scott Street, Damdoryn, Sunway Village area, Village Mall and Sediba areas)
- The Madibeng Spatial Development Framework, 2009 has identified the area as a future urban development area.
- The R511 between Saartjesnek along the route towards Sediba Plaza, the Village Mall and ultimately the Damdoryn Area provides an opportunity for the establishment of a business and tourism corridor. Proper planning and development controls should be determined to enhance the development of and along this corridor. ①

- The railway line, although vandalised and not operational, provides an opportunity from a tourism perspective and for commuter transportation between Tshwane and the Magaliesburg/Cradle of Humankind areas. ②
- The establishment of a Public-Private Partnership to manage public land around the dam.
- The development of a cycling route along the dam for tourism and as a means of transportation.
- The Rietfontein area, although subject to a number of township applications, still provides an opportunity for the establishment of integrated settlements. This requires good planning, in particular roads master planning according to which land uses should be structured. ③
- The area to the south of the Harties Cableway provides an opportunity for the development of an urban village with a strong focus on tourism. ④

#### 4.1.2 Weaknesses and Threats

- Illegal developments and land uses are prolific in the area, and developers/owners are also not prosecuted for these developments. These illegal developments have far-reaching consequences in both the short and long term, including:
  - The safety of developments from a structural, fire and traffic safety perspective;
  - The visual quality of development and the degree to which these illegal developments detract from the quality (or potential quality) of the area;
  - The lack of functional integration between different developments, and between developments and the movement network;

- The potential negative environmental impact of illegal developments that did not go through environmental impact processes; and
- A loss of revenue for Madibeng Local Municipality because the municipal values of these developments are not adjusted (as would be the case with legal developments).
- The institutional challenges that Madibeng Local Municipality have to manage development from an environmental, spatial, land use, urban design and building control perspective.
- Sand quarries in the Witwatersberg which threaten fauna and flora in the mountain. 5
- General haphazard development patterns.
- The large number of smaller farm portions/agricultural holdings in the larger Rietfontein area which pose a challenge to the holistic development of this area as an integrated settlement. 6
- The privatisation of the shoreline and the reduced ability of the general public to access the dam for recreation purposes is an issue that has been raised in the Madibeng Spatial Development Framework, 2009 and is still a main concern amongst stakeholders. Land currently still available for public access along the dam (i.e. Kommandonek and Oberon) should be protected from development. 7
- The threat to environmental sustainability and the protection of natural assets such as the Magaliesberg Protected Natural Environment and fauna such as vultures due to ongoing development. 8
- Lack of proper shoreline management by residential estates around the dam. 9
- The informal settlements, living conditions of farm workers and the need for affordable housing opportunities to accommodate people without housing. 10
- Lack of adequate engineering services to support future development.
- Regional roads which are in a bad condition and dangerous. 11
- A lack of sufficient education facilities (in particular a secondary school) that are open to the general public (i.e. not private schools).
- The need for sustainable employment opportunities, including Local Economic Development focusing on local residents. A particular aspect that requires attention is the conditions at the African Market, which was intended to be a community-based economic development project. 12
- The lack of functional integration and cooperation between the Hartbeespoort Dam area and the City of Tshwane.

## 4.2 Issues

- More clarity should be given regarding development densities (including minimum subdivision standards). The current development controls for Zone 5 and 7 in the Madibeng SDF 2009 allow for subdivision up to 5ha. This should however be reviewed to permit the smaller subdivision of land subject to specific development controls as well as a roads master plan for the area.
- The 5km development restriction around NECSA is controversial and should be reviewed based on the health and environmental risks posed by the current and future use of NECSA. 13

- The K16 design of interchanges did not take sufficient cognizance of existing servitudes in Rietfontein. 14
- The protection of important views and vistas from the mountain ranges over the dam and the surrounding landscape. 15
- The classification of the R511 through the developed area of Hartbeespoort should be revisited. The current developments (legal and illegal) and future development needs along this route emphasize the fact that this part of the route, at least, should be de-classified to a lower class to allow for more regular access intervals than is currently the case. This part of the route should also be taken over by either the District Council or the Municipality as their responsibility. 16
- A proper “Roads and Storm Water Drainage Master Plan”, “Electricity Master Plan”, “Sewer Master Plan”, and “Water Master Plan” should be drafted for the precinct area. These plans should address the current capacity vs. the spare capacity vs. the capacity that is needed over the longer term to address the anticipated developments according to the proposed precinct plan.

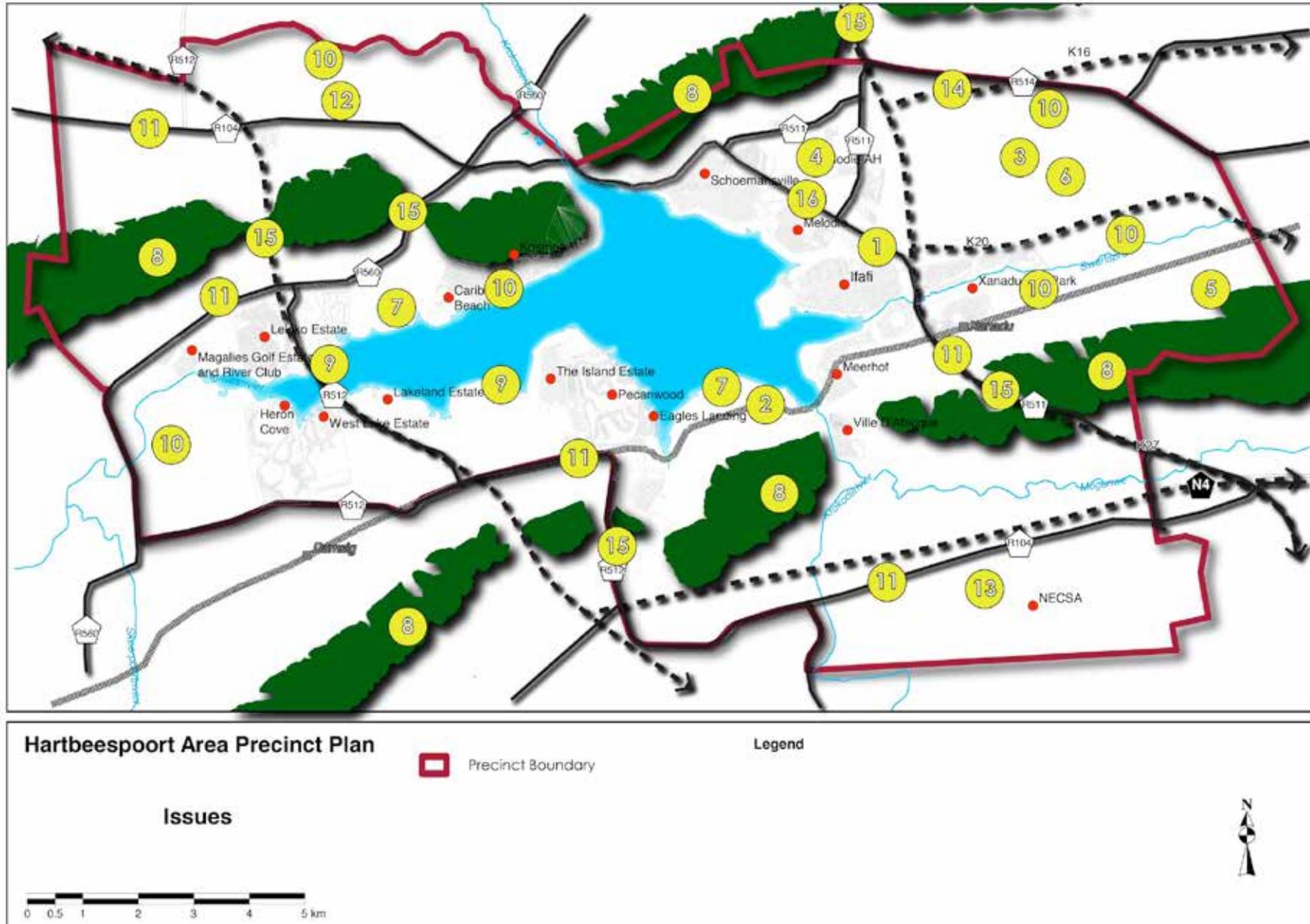


Figure 20: Issues





# Chapter 5: Precinct Plan

## Chapter 5: Precinct Plan

### 5.1 Development Objectives

The objectives for the future development of the Hartbeespoort Dam area are:

- A focussed and well-planned approach to development and infrastructure investment that allows for the creation of sustainable neighbourhoods that are attractive, safe and convenient places for people to live in;
- The facilitation of appropriate economic development;
- The integration of different parts of the precinct internally and with other parts of the region through efficient and affordable movements systems; and
- The protection and enhancement of environmentally sensitive areas.

### 5.2 Development Principles

The specific values and principles that form the basis of the Hartbeespoort Precinct Plan are set out below:

#### Protection of the Environment and Capitalising on Environmental Assets

The Hartbeespoort Area are richly endowed with a number of environmentally sensitive areas that contribute to the development appeal of the area and also form the basis of the tourism potential that is inherent to the area. These natural features (such as the mountains and dam) in fact provide the area with a comparative development advantage in the region and are valuable assets, i.e. as essential ingredients of a unique, attractive, interesting, recognisable, memorable, healthy, liveable and sustainable human habitat.

Because of development pressure in the area, these environmentally sensitive areas are constantly under threat, and the visual and ecological integrity of these places should be protected as a first priority. This is obviously important from an ecological

and environmental sustainability perspective, but also to ensure that the area retains its tourism value and unique selling points.

#### Creation of Integrated and Sustainable Human Settlements

Development patterns in the study area (with the exception of the 'old' residential neighbourhoods around the dam) have taken the form of fragmented, introverted residential estates that have each been developed in isolation of each other and with no relationship to a larger development and planning vision. Non-residential development has subsequently followed the same development pattern. The result is an area with poor connectivity, linkages and integration between different developments, and very little opportunity left to create an efficient urban structure, in particular insofar it relates to the planning and development of community clusters that contain social and community support facilities.

The future focus of the development in the area (in particular the larger Rietfontein area) should therefore be on the creation of a well-structured built environment that allows for functional movement patterns and the development of non-residential activities that can support the residents of the area. The main challenge in this regard is the large number of smaller farm portions in the Rietfontein and Melodie AH areas which are the main contributing factor to the fragmented development patterns in this area.

#### Development Supportive of Public Transport, Pedestrians and Cyclists

The movement network in the area (in particular more local sections of that network) should be planned and designed to accommodate pedestrians, public transport, cycling and other forms of non-motorised movement. The road system must still allow for smooth flow of vehicular traffic, but this should not be the only or the primary objective of the layout. This is necessary to -

- ensure that those who cannot or choose not to drive (primarily the poor, youth, elderly and tourists) are able to move through the area and access all facilities

and opportunities easily, safely and independently;

- enable and stimulate social interaction in public; and
- create healthier environments and stimulate healthier life styles.

### Accommodate a Variety of Lifestyles, Life Stages and Income Groups

The general perception of the area from a social perspective is that it has been designed and developed to accommodate people from higher income groups in estates, while lower income groups who work in the area are mainly accommodated in informal settlements. There is therefore a clear distinction between the accommodation, services and opportunities that are available to different socio-economic groups.

In order to rectify this, the area should be developed as an economically and socially integrated community that does not exclude any group. This means that it should accommodate people from all income and age groups and different family structures. In order to ensure socially integrated communities, the area should embody and incorporate the following aspects:

- equitable and universally affordable access to facilities and opportunities;
- genuinely public places where social interaction and integration are possible;
- a range of housing opportunities, typologies and environments, including affordable housing close to employment and public transport opportunities; and
- supporting services such as public transport, health, education, recreation, entertainment, shopping and other essential facilities and services.

## 5.3 Spatial Development Concept and Strategies

The Spatial Development Concept for the Hartbeespoort Area focuses on the creation of distinct environments with specific characteristics and functions which are mutually supportive of each other. Clear distinction should be made between environments that are intended for rural living and/or agriculture, residential development and mixed-use activity. Future investment and management by the Madibeng Local Municipality should focus on establishing and supporting these development morphologies.

Seven (7) main interventions or strategies form the basis of the spatial development concept, namely:

1. The protection of sensitive environments;
2. The creation of selected higher order nodal areas that will ensure a balanced distribution of non-residential activities throughout the precinct and will also act as key structuring elements, namely -
  - The consolidated of the Damdoryn Node;
  - The consolidation of non-residential activities to the south of the Pecanwood Estate which include the both existing, approved and proposed business developments such as the Mountain Lake Shopping Centre, the proposed The Bay shopping centre and business, education, recreational and leisure developments included as part of the 'Masada' development;
  - The creation of a mixed-use activity corridor along the R511 in the eastern part of the study area;
3. The establishment of a rural tourism area along the R104 in the north-western part of the precinct which is aimed at economic development while protecting the environmental capital of this area;
4. The development of the corridor to the south of NECSA as a light industrial/commercial area;
5. The development of the Melodie Agricultural Holdings area as a mixed-use, urban environment that is distinctly different from the inward-oriented residential development patterns that are characteristic of the area to the east thereof. The core of this development area will be a tourism-related development spine running from the cableway down to Village Mall and onto the Schoemansville Nature Conservation Area;
6. The creation of a sustainable human settlement in the Rietfontein area that

