



CHAPTER

5

# FRAMEWORK

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## 5.1. INTRODUCTION

The framework for the study serves as a guide for the proposed development of the public spaces in and around the project site to respond the challenges and opportunities identified in the last chapter. This chapter will first look at Kevin Lynch's theory on the building blocks of urban design reinterpreted and applied to this study. It will then state the overriding vision and concept for the study area. It will then propose the objectives and planning guidelines to be implemented at the project site.

## 5.2. REGIONAL FRAMEWORK

### 5.2.1. Vision

The proposal envisages a continuous trail along the Pienaar's River for community use as a greenway system that can be a meaningful place connecting and activating the community from both sides of the river (Figure 41). Local cultural values and the environment are both under threat and this greenway can be seen as an active community arena highlighting their value and meaning to society.

*Figure 41: Connecting people (Author, 2011)*



### 5.2.2. Greenway System

Greenways can become places for a community's socio-cultural activities like weddings and churches as well as other rituals. Most importantly they can be places for gatherings of any sort bringing people together and instilling a spirit

of community. According to Flink & Searns (1993: xii), greenways can enrich our everyday lives by providing recreation and access to nature while serving to protect and enhance the remaining natural and cultural resources. The benefits can also ;

- help promote tourism by enhancing an area’s unique natural and cultural attractions
- Provide pathways for people commuting (walk or bike) to and from work by providing an alternative to the automobile therefore
- Easing congestion
- Improving air quality
- serve as movement corridors for wildlife
- Provide buffer against harsh views
- Filter against pollution, sediment and runoff into rivers and streams (Flink & Searns (1993: xii)

These benefits will take advantage of the opportunities as well as deal with the challenges identified in the last chapter. The greenway system will be made up of different parks along river’s open spaces (Figure 42)the as well as linkage to other open spaces nearby. These include the Tsamaya Park, Mthunzini Park, Rondavels Park, Moretele Jazz Park and Vlakfontein Park. The conceptual vision integrates existing parks, CoT’s proposed parks and a Landscape Architecture Masters dissertation proposal done by Andrew Kerrin (2005) from the University of Pretoria to produce the Pienaar’s River regional framework

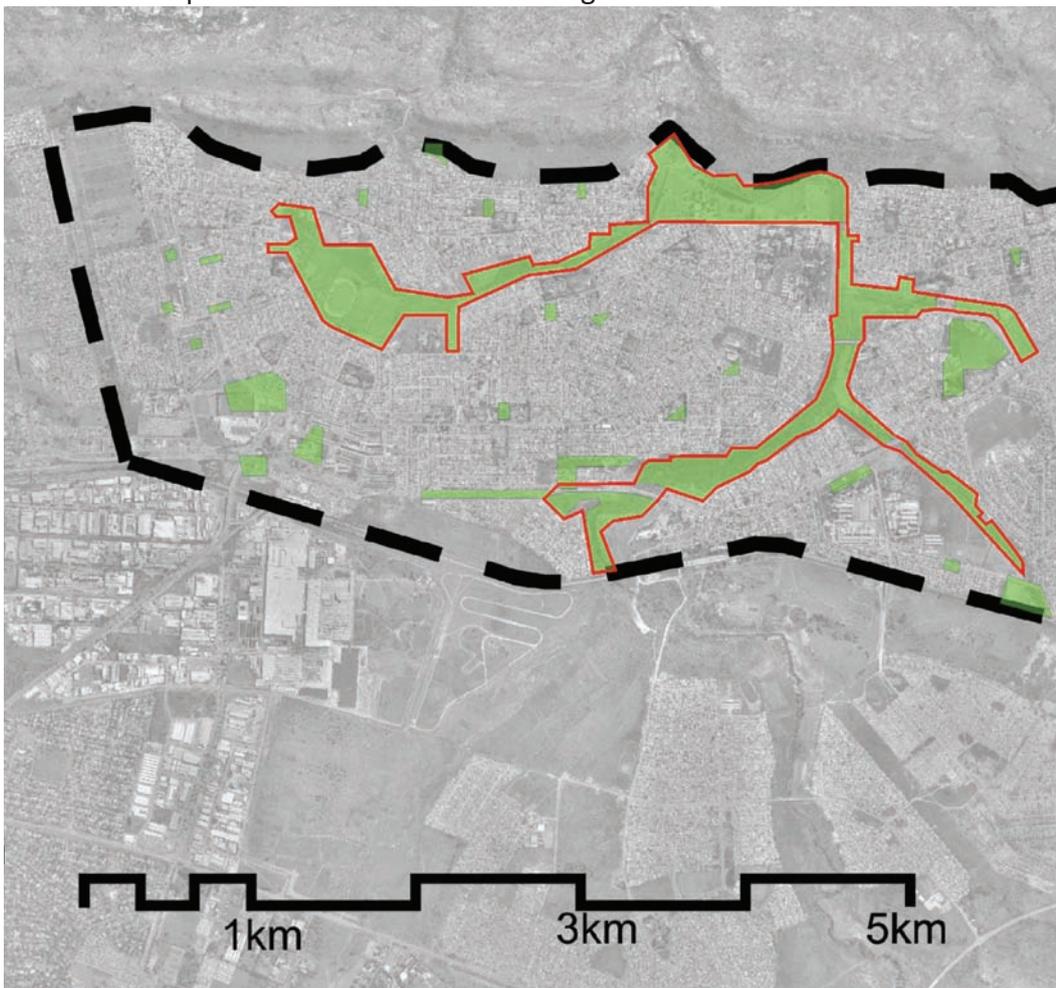


Figure 42: Regional Open Spaces (Author, 2011)

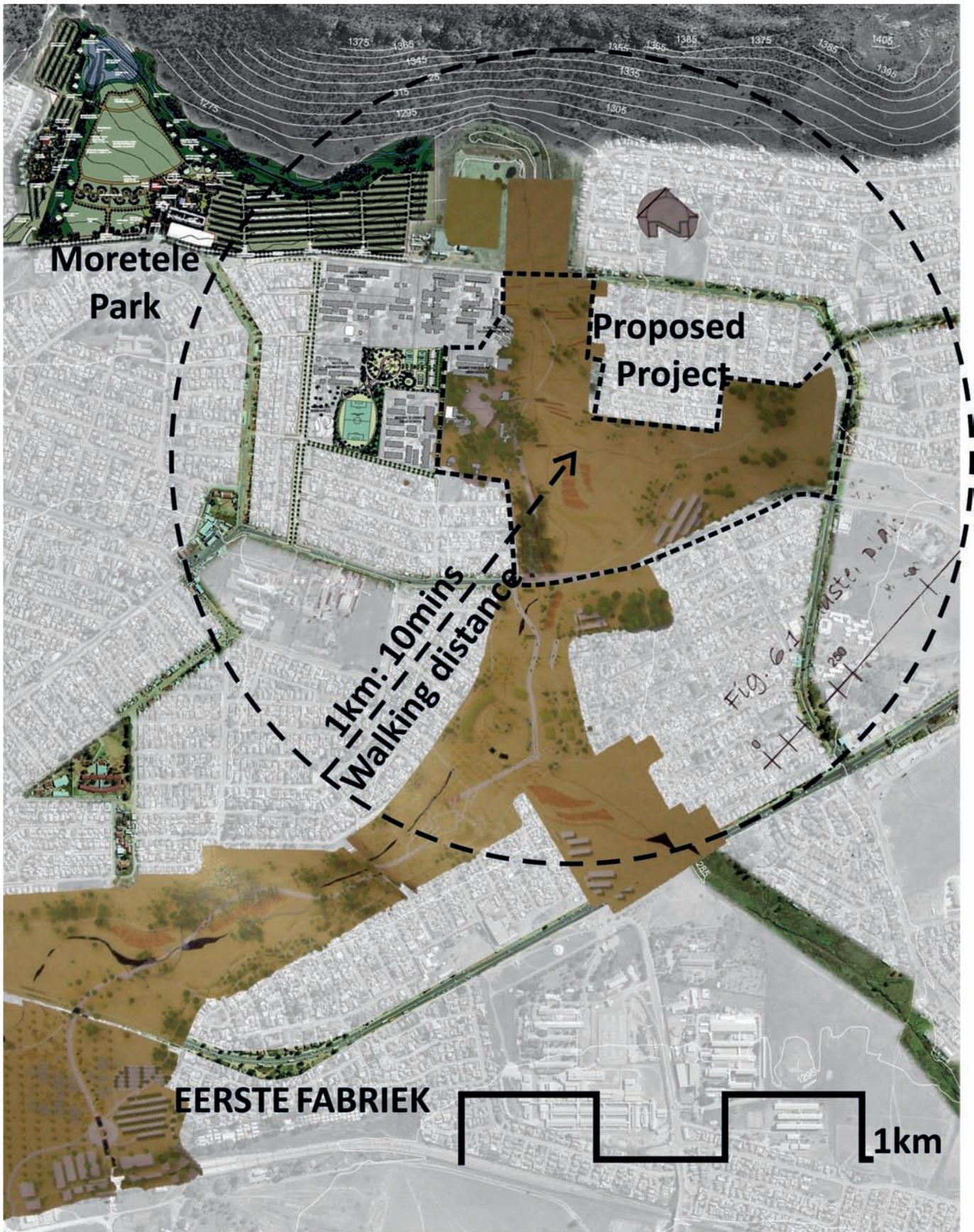


Figure 43: Collage of Regional framework (Author, 2011)

### 5.2.3. Catchment Management Plan

The catchment management plan looks at ecological solutions for the Pienaar’s River catchment area to curb some of the water quality control issues occurring in the township. It also looks at the social aspects of the river system and proposes interventions which are aimed at improving the river’s amenity and equitable use.

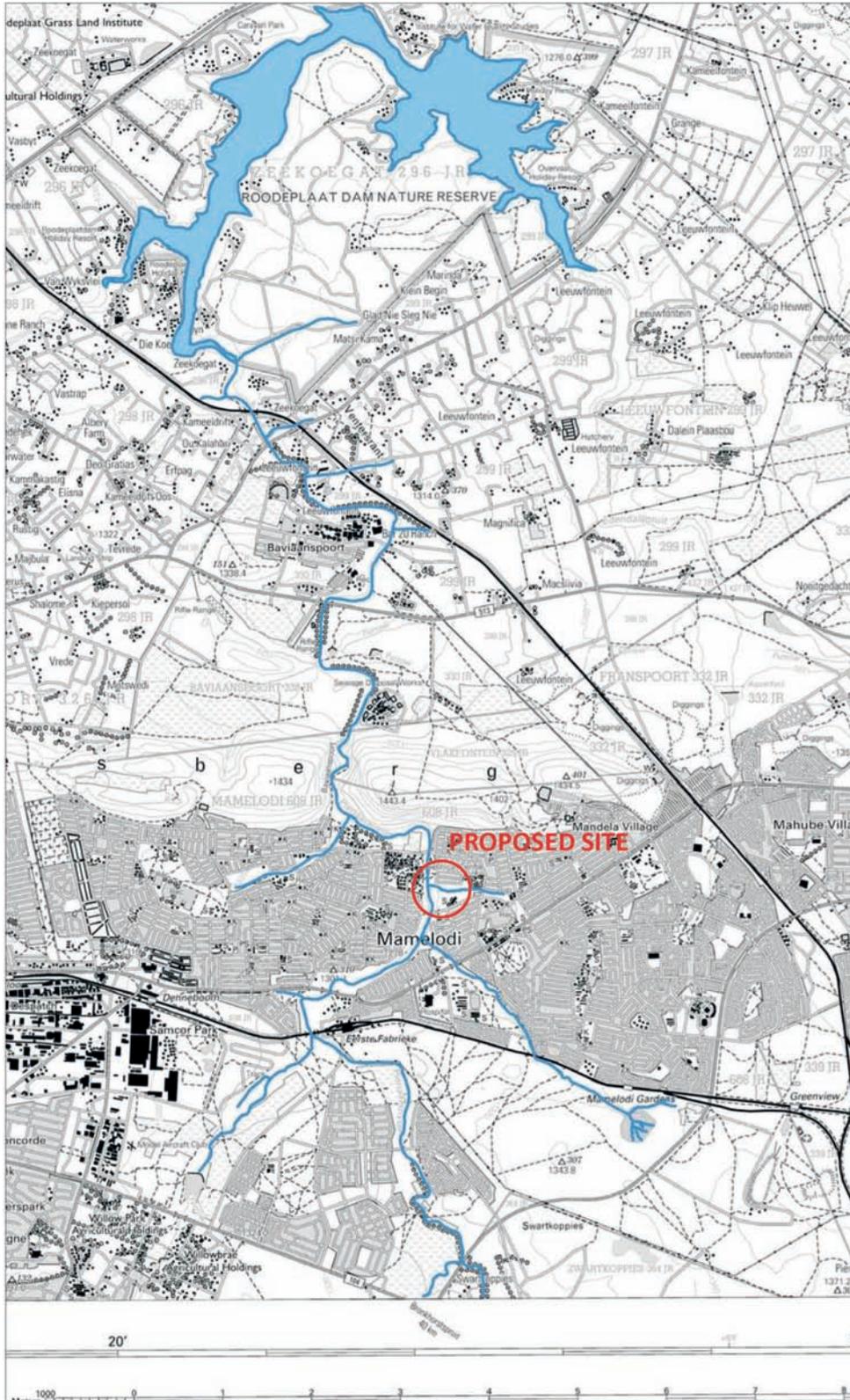


Figure 44: Pienaar’s River Catchment Area (Topographical map modified by Author, 2011).

The landscape becomes a filtering zone for the water flowing from the township. This involves the introduction of wetlands and vegetation to manage excess floodwater, clean stormwater and nurture wildlife habitats. It will also promote plant and animal diversity as reintroduced indigenous planting matures and attracts wildlife. Rehabilitating Pienaar’s River and improving water quality will provide educational and recreational opportunities, and give life to the township.

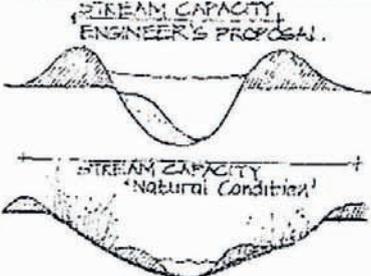
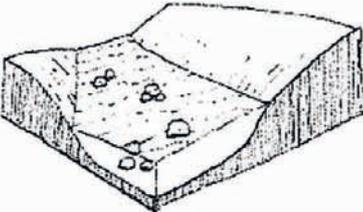
Existing Condition	Proposed Remedy		Benefits
<p>Siltation</p> 	<ul style="list-style-type: none"> <li>• Clean out areas of where excessive siltation becomes a problem.</li> <li>• Clear channel where reeds have blocked the channel</li> <li>• Use soil to build berms adjacent to the stream.</li> </ul>		<ul style="list-style-type: none"> <li>• Moderate siltation allows vegetation growth and establishes habitat, and improve aesthetic appeal of stream.</li> <li>• Excessive siltation prevents flood conditions to pass.</li> </ul>
<p>Lack of life</p>	<ul style="list-style-type: none"> <li>• Implementing the suggested wetland restoration methods</li> <li>• Place large rocks in channel to aerate water</li> </ul>		<ul style="list-style-type: none"> <li>• Improved life in stream.</li> <li>• Improved life along stream due to increase in cover diversity</li> <li>• turbulent flow and cover</li> <li>• Aesthetically more attractive due to increase in habitat diversity.</li> </ul>
<p>Lack of bank vegetation</p>	<ul style="list-style-type: none"> <li>• Establish a mix of indigenous riparian vegetation. Choose the plant for its specific location. The tree list could include:  <i>Combretum erythrophyllum</i>  <i>Celtis africana</i>  <i>Rauvolfia caffra</i>  <i>Ficus ingens</i>  <i>Ficus salicifolia</i>  <i>Acacia galpinii</i>  <i>Acacia robusta</i>  <i>Ilex mitis</i>  <i>Myrica serrata</i>  <i>Rhus lancea</i>,  <i>Rhus pyroides</i>,  <i>Rhus leptodictya</i>  <i>Ziziphus mucronata</i>,  <i>Acacia tortilis</i> </li> </ul>		<ul style="list-style-type: none"> <li>• Provides shade that reduces water temperatures</li> <li>• Cause deposition of sediments and other contaminants</li> <li>• Reduce nutrient load of stream</li> <li>• Stabilize streambanks with vegetation</li> <li>• Reduce erosion caused by uncontrolled runoff</li> <li>• Provide riparian wildlife habitat</li> <li>• Protect fish habitat</li> <li>• Maintain aquatic food webs</li> <li>• Provide a visually appealing greenbelt</li> <li>• Provide recreational opportunities</li> </ul>

Figure 45: Stream Rehabilitation Guidelines (African EPA, 2007: 27).

This study will also accept and apply some of the proposed remedies in African EPA’s Pienaar’s River Rehabilitation Guidelines (Figure 45). The stream rehabilitation guidelines also give the associated benefits of the remedies that this study intends to take advantage of. The propose Catchment Management Plan forms the regional framework for the study area with social and ecological interventions along the stream (Figure 46).

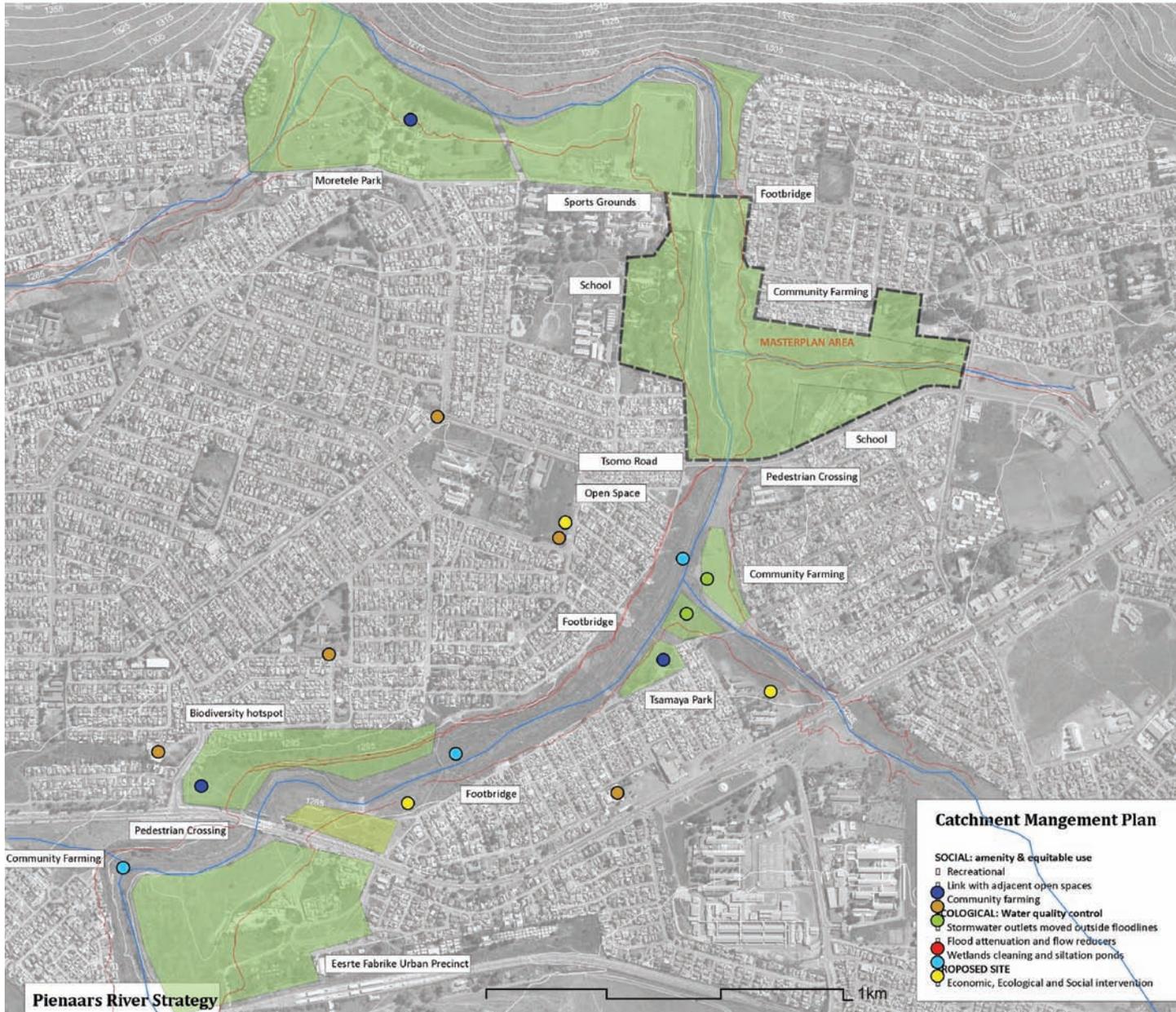


Figure 46: Catchment Management Plan (Author, 2011).

## 5.3. LOCAL FRAMEWORK



### Moretele Jazz Park

An important cultural place for the community renowned for the jazz festivals attracting people from all over South Africa. Local artists get exposure here. It also provides accommodation in the form of chalets. The park needs to be open to the public for continued use throughout the year.

### Rugby Grounds

The grounds need a facelift to attract more users. They also need to be integrated and/or linked with the surrounding environment and the proposed road and bridge will do just that.



### Rondavels

An important heritage node for the community to be redeveloped and integrated with other public facilities in the area.

### Neighbourhood Centre

This very active community node needs landscaping, upgrading of stalls, parking area and taxi rank

### Sibanda road propose bridge

The bridge will link the community while it relieves pressure off Tsomo road bridge. It will also better link different community nodes e.g. Commercial, Rugby fields Moretele



### Commercial node

The school needs to use open spaces better and also be linked with other schools creating an educational node.

### Beer Hall & Mthunzini Park

This cultural and heritage structure and space are to be protected and developed to adding other activities that can encourage community

### Tsomo road bridge

Pedestrian crossing will be widened to make crossing easier. Lighting is also proposed to make area safer at night.

### School

The school needs to use open spaces better and also be linked with other schools creating an educational node.



## LOCAL FRAMEWORK

The local framework (Figure 47) looks at the area surrounding the project site analysed in chapter 4 and briefly states and illustrates the aims and urban design elements that can be used to develop and enhance a sense of place and community.

### 5.3.1. Aims

#### Community activity nodes

This framework aims to create a sense of place in the community by linking the project to the surrounding context to ensure connectivity and interaction of community. It also aims to activate the neighbourhood centres (Figure 48) while preserving the rural character and image of the community in the process. The project proposes development of streets for pedestrians which could include pathways and seating under trees lining the streets creating green fingers that connect the neighbourhood to the river.

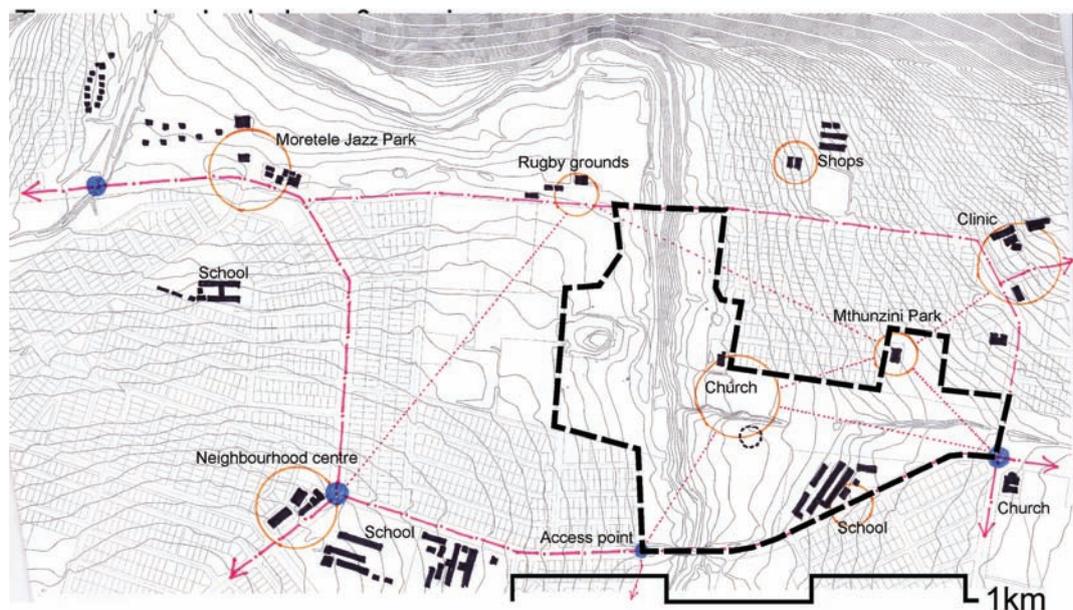
#### Cultural heritage

The project also aims to celebrate and protect the existing historically significant places and structures (Figure 49) to enrich a sense of place for this area of the township which include the first educational precinct in Mamelodi.

#### Ecological system

The local framework ties into the larger regional framework within the proposed guidelines to deal with the river system. It therefore aims at repairing the river's ecological integrity to improve water quality, deal with the issues of stormwater and vegetation cover (Figure 48).

Figure 48: Diagram showing activity nodes (Author, 2011)



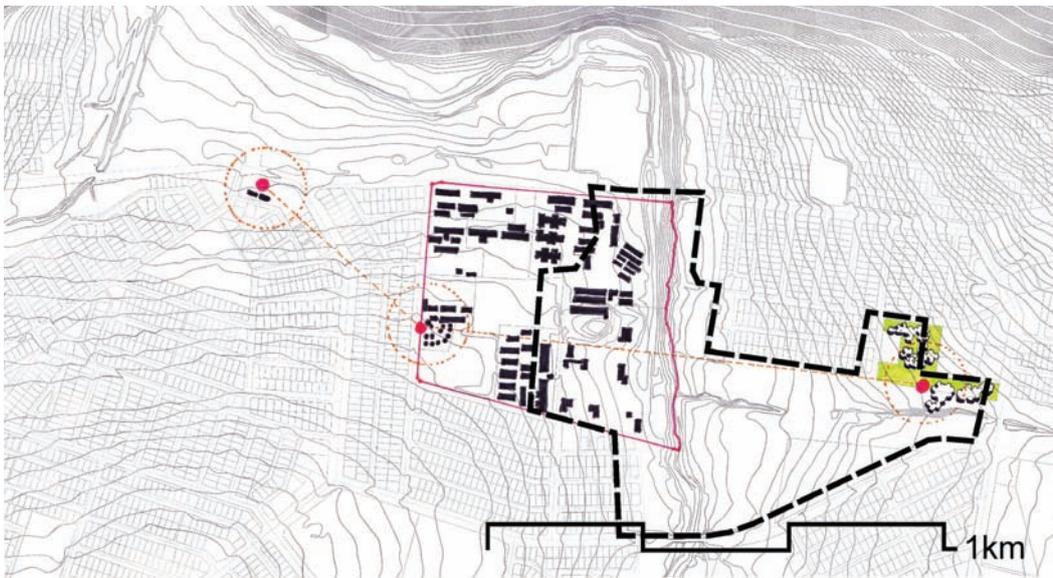


Figure 49: Culturally/  
heritage places 1.  
Moretele Park, 2.  
Rondavels, 3. Mthunzini  
Park (Author, 2011)



Figure 50: Diagrammatic  
response to ecological  
system (Author, 2011)

### 5.3.2. Urban design elements

According to Hall and Porterfield (2001: 11), the building blocks of community design can be borrowed from Lynch's views on edges, paths, districts, nodes and landmarks, in his book *The Image of the City*, (Lynch, 1960). The author believes that at an urban design and framework scale these elements can contribute to planning successful communities and places. Given this, the author will use the following criteria to inform as well as justify decisions taken here and also leading the concept development of the project site.

#### Edges & Paths

Edges are linear elements that form boundaries between neighbouring communities and define the open spaces. The historical development of Mamelodi shows that Pienaar's River was used as the western boundary. This study has also shown that as the township grew beyond the river it continued to be a mental and physical boundary separating people living along this green strip of land. This study sees this 'river edge' as an opportunity to develop it from being a boundary to being a connector or a seam.

Paths are the lifelines along which the majority of activity take place and adjacent to which lie all functions a community depends on; government, industry, commerce and housing (Hall & Porterfield, 2001: 11). In an area like Mamelodi where there is lack of green open spaces, these paths become play areas for children and meeting places for older people sharing the events of the day.

The study proposes a well defined pedestrian path lined with trees (Figure 51) that allow people to pause and contemplate, play or just take a breather. Provision of seating along this pathway will therefore be very important. A bicycle track is also proposed for recreational purposes. These paths will form part of a major pedestrian circulation system linking the HM Pitje Stadium Complex, Moretele Jazz Park and Eerste Fabrieke Station.

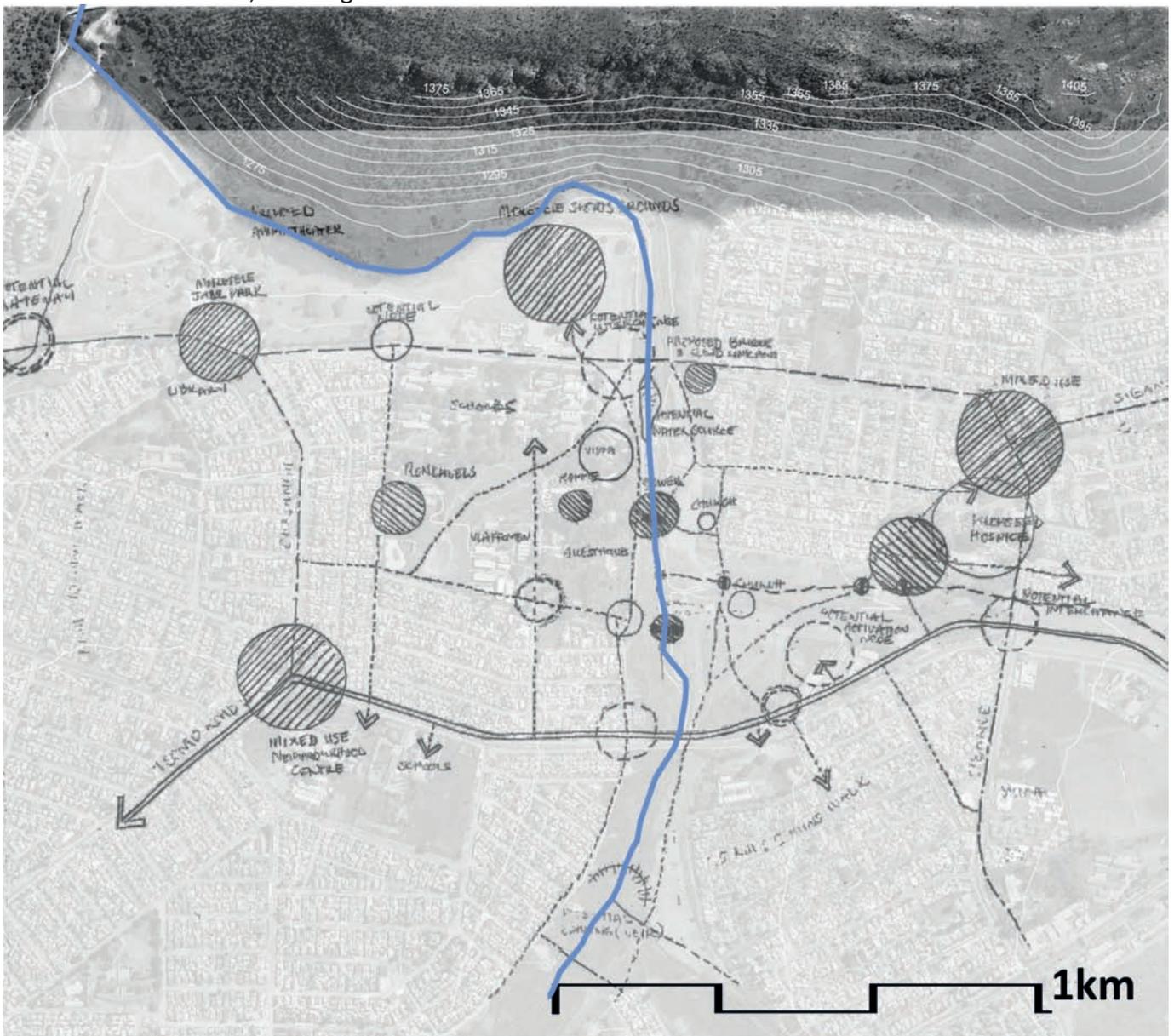
Figure 51: Pedestrian and bicyclist track (Author, 2011)



## Districts & Nodes

Districts are large areas of the city that the user can mentally identify (Lynch, 1960: 66). In Mamelodi some areas are defined by tribal groupings and wards which are difficult to read spatially. They are well known by the locals as they form smaller communities within the larger township. In this area, Pienaar’s River separate two smaller ‘districts’ of the Tswana in the west from the Tsonga in the east. This district has different qualities as one is more residential while the other has lot of community facilities and commercial activity respectively. Whereas the identity of each district needs to be improved, the connection between the two also needs attention as it will contribute to the formation of a larger safer and united community. According to Hall and Porterfield (2001: 11), nodes are points to and from which people travel, and very often they serve as the core or centre of a district. These places are usually easily recognisable by community since they are also usually close to major paths. They are usually mixed use areas or clearly defined places with unique use and character. In the study area, these nodes include Moretele Park, the neighbourhood centre and Mthunzini Park.

Figure 52: Edges, paths districts and nodes  
(Author, 2011)



## Landmarks

Landmarks help in creating an identity and a sense of place as they can form visual and mental reference points used by the community. Magaliesberg Mountains stand majestic forming the northern boundary of Mamelodi. This natural landmark is visible from almost all over the township (Figure 48).

## 5.4. GUIDELINES

Based on the above framework, the vision and the aims generated, in the masterplan area, the following guidelines need to inform design:

- The river should be seen as a place for community connection, linkage and nature experience rather than as a boundary.
- Urban edge; housing densification, facing the river, creating an activity corridor linking hard and soft spaces;
- Residential with business rights (mixed-use).
- Generating a significant mass of people to support community life.
- Streets and walkways should encourage socialisation and insure safety to the users especially pedestrians.
- Planning should encourage access to community facilities and neighbourhood centres that have unique identity and enrich public environment e.g. community centres and shared public facilities; educational, recreational, spiritual, commercial, health facilities.
- The community should be educated on the cultural and ecological values of the river.

## 5.5. CONCLUSION

The framework improves the circulation system which ensures access and connection to places and other people in the community. Whereas the river is the main study area, the open green spaces linked to it improve the river's connection to other activity nodes. The greenway system would help in reducing problems of crime, flooding and pollution while providing community amenities with possible economic value. The activation of nodes and access points to the site as well as clearly defined walkways will ensure visual and physical links to the community and the river system resulting. The landscape acts as both a recreational and movement spine with multitudes of activities that enrich community life. The design of the individual spaces including the project area, would enhance the image of the river in the community and germinate a sense of meaning associated with cultural activities, which consequently bring about a sense of belonging to place and community.