

CHAPTER

# 4

## SITE IN CONTEXT

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## 4.1. INTRODUCTION

For a meaningful placemaking and community design, an understanding of the site in context is necessary to a suitable setting and design of different spaces for different uses and activities. The choice of which attributes to map is dependent largely on the existing conditions and objectives of the study. This chapter first introduces the objectives of the analysis and presents the biophysical and cultural aspects of the project site in context as well as the community needs that must be addressed. It will then synthesize the information by highlighting the opportunities and challenges that the project faces. The chapter will conclude by summarising the analysis and also showing that it can and will be used to inform meaningful and sustainable landscape intervention for the community.

### 4.1.1. Objectives

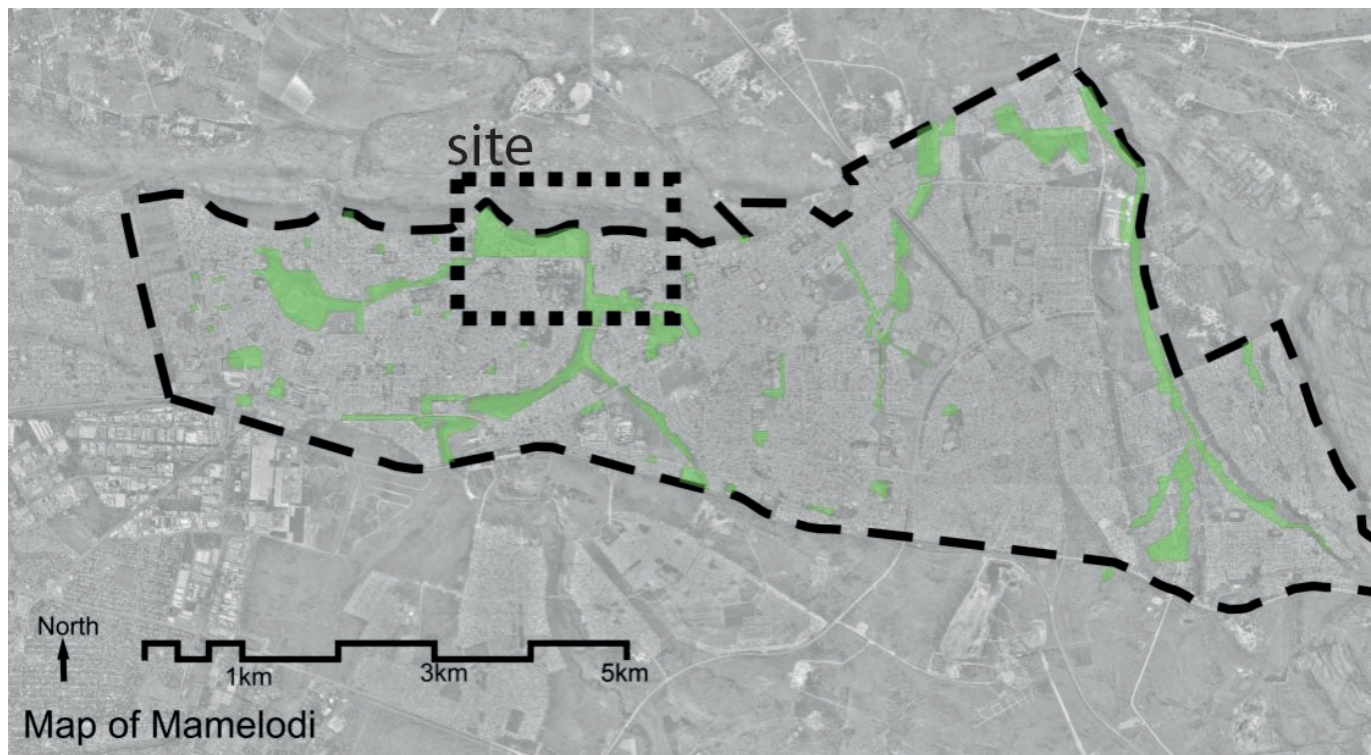
To highlight the challenges and opportunities for the project to be successful:

- integrate the biophysical and cultural attributes of the site in planning and design;
- connect the site to other community activity nodes within Mamelodi;
- link the site to the greater green open space system.

### 4.1.2. Location

The site is located at the foot of the Magaliesberg Mountains at the northern corner of the Pienaar's River bordering and separating Mamelodi West from Central.

*Figure 20: Location plan of site in Mamelodi showing green open spaces (Author, 2011)*



## 4.2. BIOPHYSICAL

### 4.2.1. Climate

Mamelodi is generally characterized by rainy and hot summers in November, December and January as well as dry and cold winters from May to July. According to Holm (1996: 69), summer winds are predominantly east-north-easterly to east-south-easterly while in winter they blow from south-west with a fair amount coming from north-east.

The design should encourage outdoor living in the favourable conditions of summer months. Trees should be utilised to protect people from the sun and winds.

Jan	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
Maximum average monthly temperature (°c)	28,6	28	27	24,1	21,9	19,1	19,6	22,2	25,5	26,6	27,1	28	24,81
Minimum average monthly temperature (°c)	17,4	17,2	16	12,2	7,8	4,5	4,5	7,6	11,7	14,2	15,7	16,8	12,13
Average monthly amplitude (K)	11,2	10,8	11	11,9	14,1	14,6	15,1	14,6	13,8	12,4	11,4	11,2	12,68
Average monthly relative humidity (%)	58,0	59,5	60,0	59,5	55,0	53,0	50,0	46,0	45,0	49,5	54,0	56,5	53,83
Average monthly rainfall (mm)	136	75	82	51	13	7	3	6	22	71	98	110	56,17
Rham 72	74	76	78	76	75	71	64	61	64	68	70	75	70,75
Rhpm 44	45	44	41	34	31	29	28	29	35	40	43	44	36,92

Figure 21: Climatic Data for Pretoria (Holm, 1996: 69)

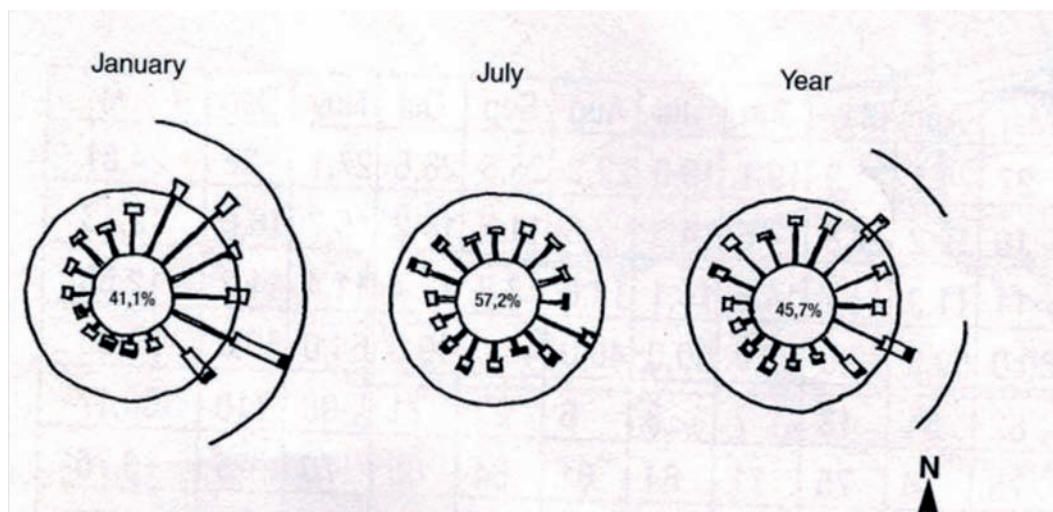


Figure 22: Wind Rose for Pretoria (Holm, 1996: 70)

#### 4.2.2. Vegetation

The site falls within the larger Rocky Highveld Grassland. According to Low & Rebello (1996: 39), this is a transitional type between typical grassland of the high plateau and the bushveld of the lower plateau that includes the southern slopes of the Magaliesberg. The river has deep alluvial soils and an abundant supply of water, hence the trees grow larger than further up the slope.

Plant species found on the study area include:

##### **Indigenous tree species:**

- *Acacia tortilis*, (Figure 25)
- *Rhus lancea*, (Figure 30)
- *Celtis africana*,
- *Ziziphus mucronata* (Figure 29)

##### **Exotic tree species:**

- *Melia azedarach*, (Figure 24)
- *Pinus sp*
- *Platanus x acerifolia* (London plane)

##### **The land is mainly covered with veld grass which can be grazed by livestock:**

- *Cymbopogon plurinodis*,
- *Digitaria eriantha*,
- *Cynodon dactylon*
- *Hyparrhenia hirta*
- *Hyparrhenia tamba*
- *Eragrostis curvula* (African EPA, 2007:7-8)

##### **Alien grasses and forbs:**

- *Pennisetum clandestinum* (Kikuyu)
- *Bidens pilosa*
- *Datura ferox* (African EPA, 2007:7-8)

There are also patches of reeds which attract wildlife including birds and insects. While reeds help in cleaning the heavily polluted river, the leaves are also used for weaving by the community providing economic opportunities which can be supported by new developments:

- *Phragmites australis* (Figure 23)

The largest portion of the project site is comprised of cut grass which could be rehabilitated by re-introducing indigenous planting to the currently open and exposed land. The project area is composed mainly of disturbed grassland. It needs to be rehabilitated by re-introducing indigenous grasses and trees.





Figure 23: *Phragmites australis* (Author, 2011)



Figure 24: *Melia azedarach*, (Author, 2011)



Figure 25: *Acacia tortilis*, (Author, 2011)



Figure 26: Disturbed grassland with alien vegetation (Author, 2011)



Figure 27: Exotic tree providing shade (Author, 2011)



Figure 28: Indigenous grasses and trees (Author, 2011)



Figure 29: *Ziziphus mucronata* and *Melia azedarach* in the foreground (Author, 2011)



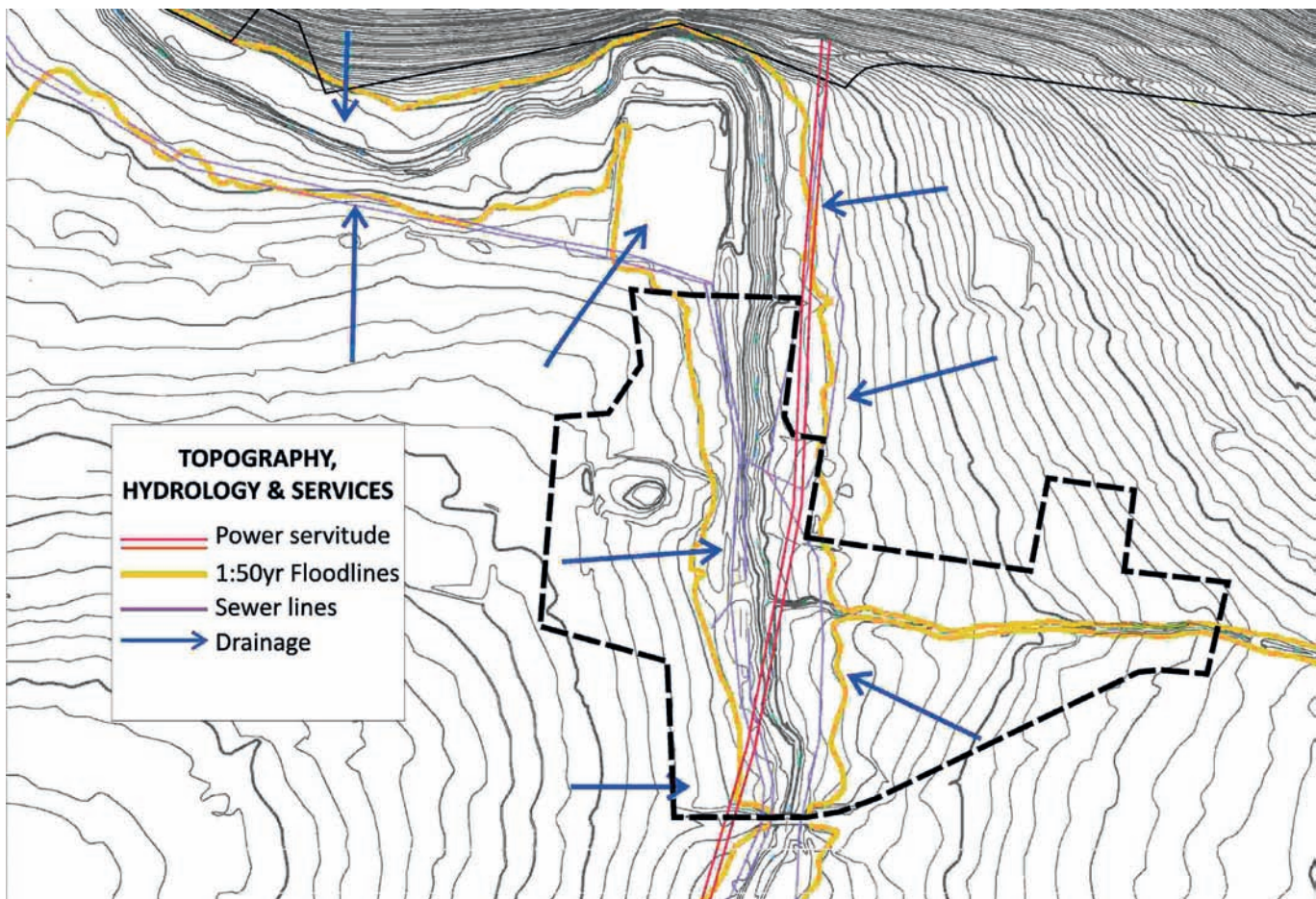
Figure 30: *Rhus lancea*, (Author, 2011)



#### 4.2.3. Servitudes, Topography & Hydrology

The 1:50 yr floodlines (Figure 31) run along the edge of the residential development along the river. No structures are to be built within the floodlines. Servitudes, including sewer and electricity, run along the river further restricting development. Pienaar’s River acts as the catchment for all stormwater in the township which sometimes results in flooding in summer. It also acts as land for servitudes such as sewerage and electricity. According to Bergstan SA (2011: 27), stormwater attenuation facilities will be required at strategic locations to detain stormwater run-off. This could provide opportunities for the cleaning of water through wetlands as well as recreational uses.

Figure 31: Topography, hydrology & services (Author, 2011)



## 4.3. CULTURAL

### 4.3.1. Landuse

The site is surrounded by low density residential land on the north and southwest, Tsomo Road on the southern to southeast edge as well as schools on the north western edge with the latter falling inside the floodlines hence forming part of the proposed site (Figure 32). This offers opportunities for engaging with the schools which can also positively contribute to the health of the river. By involving the community at large children will be taught, able to observe and get involved in issues affecting them and their environment at an early age.

Figure 32: Existing landuse (Author, 2011)





### 4.3.2. Access & Circulation

The site is accessed from several points from the residential area. Tsomo Road, used by taxis, has two bus stops providing major access points to site. Many pedestrians use Tsomo Road connecting the east and west to move around the neighbourhood. Due to the lack of formal pathways, footpaths are observed going across and along the site to places like churches, school, shops and recreational area.

The east and the west sections of the site are connected by bridges, these are:

- Vehicular bridge on Tsomo road;
- Informal pedestrian crossing using sewer pipe; And
- A Formal pedestrian bridge on the north

Unfortunately, these circulation patterns (Figure 33-34) can also be associated with large heaps of beer bottles and other litter found at access points. Recycling of litter when collected and sorted can provide opportunities for employment and skills development if used in art and crafts activities.

Figure 33: Circulation and other activities  
(Author, 2011)

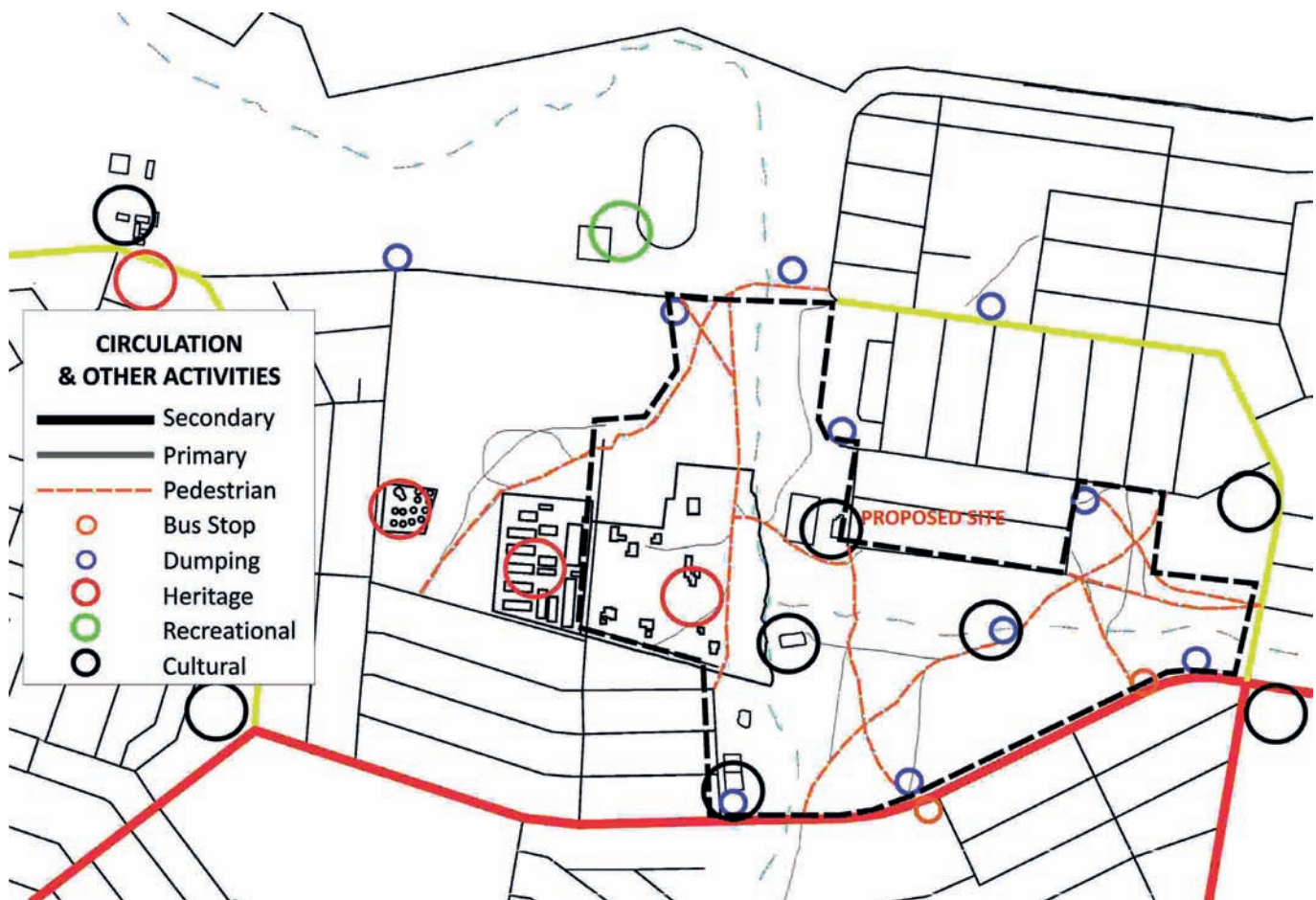






Figure 34: Relationship of circulation to open spaces (Author, 2011)

### 4.3.3. Historical

The following are places of historical importance in the study area (Figure 33):

#### Mthunzini Park and Beer Hall (No. 8a on Fig. 35)

The most active part of the project area, Mthunzini Park, boasts some of the largest pine trees (Figure 36) and one of the oldest Beer Halls in the township giving it a strong sense of place. The now dilapidated park with no structures is a popular place for play as well as picnic and braai activities. Residents visit the Beer hall and sit under this well shaded area to watch their kids playing soccer while they wash their cars and enjoy the music coming from the cars.

#### Old Rondavels (No. 15 on Fig. 35)

Constructed in the late 1940's, just after the residents of Mamelodi rejected similar buildings as part of a housing project, the few buildings served as a tertiary education facility (CoT, 2004: 7). Subsequently they housed some of South Africa's icons like Archbishop Desmond Tutu when they were later used as hostel accommodation. According to Mr Manyama (2011), the rondavels have been restored and developed into guesthouses to provide accommodation for people coming to the jazz festivals at Moretele Park. This also includes the development of the open space adjacent to the rondavels as a neighbourhood park (Figure 38).

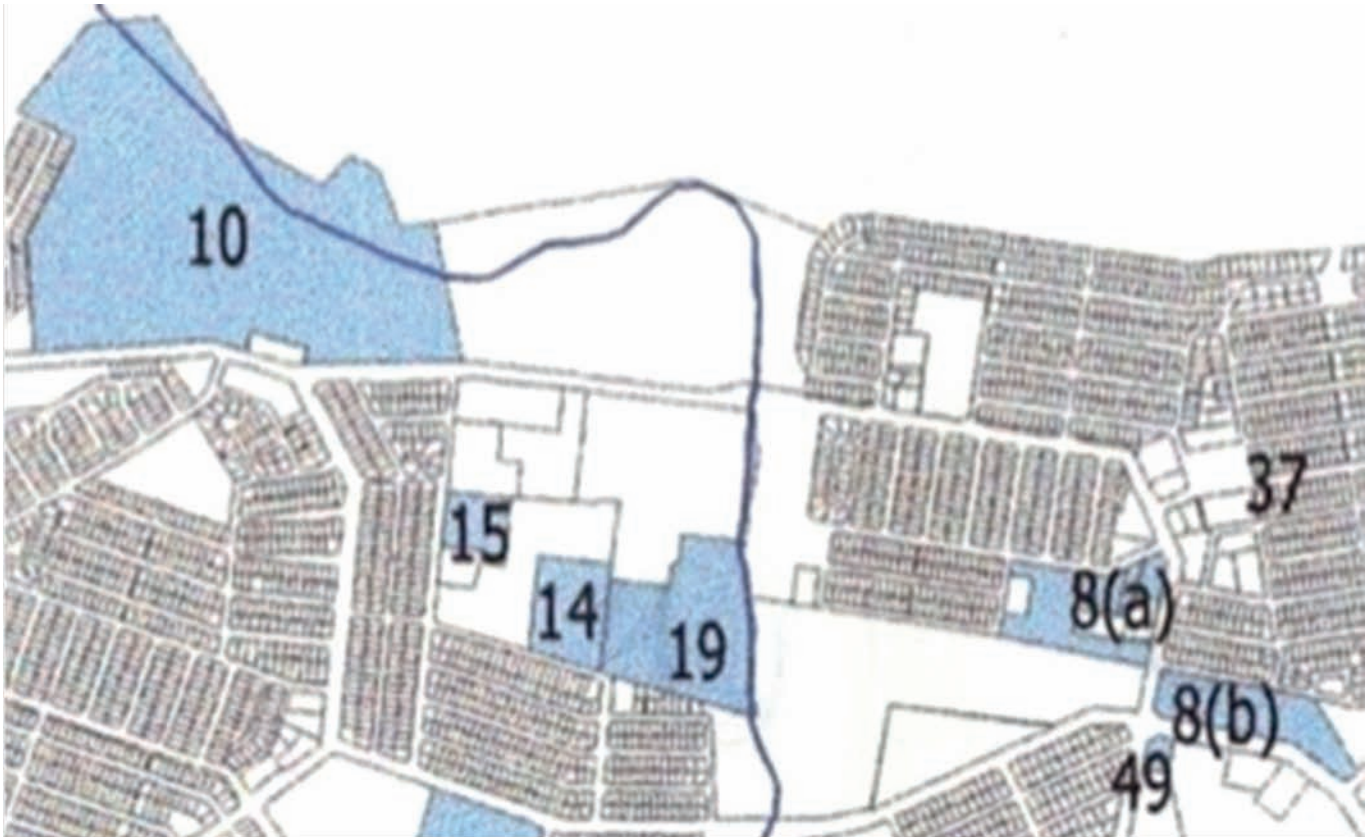


Figure 35: Mamelodi:  
Historical Sites (Cadre  
Plan, 2000)

Figure 36: Seating  
under pine trees at  
Mthunzini Park (Walker  
& Van Der Waal, 1991:  
16)







Figure 37: Proposed design for Mamelodi Rondavel Park (CoT, 2010)



Figure 38: Rondavels in Mamelodi (Author, 2011)

Figure 39: Old guest house in Mamelodi (Author, 2011)

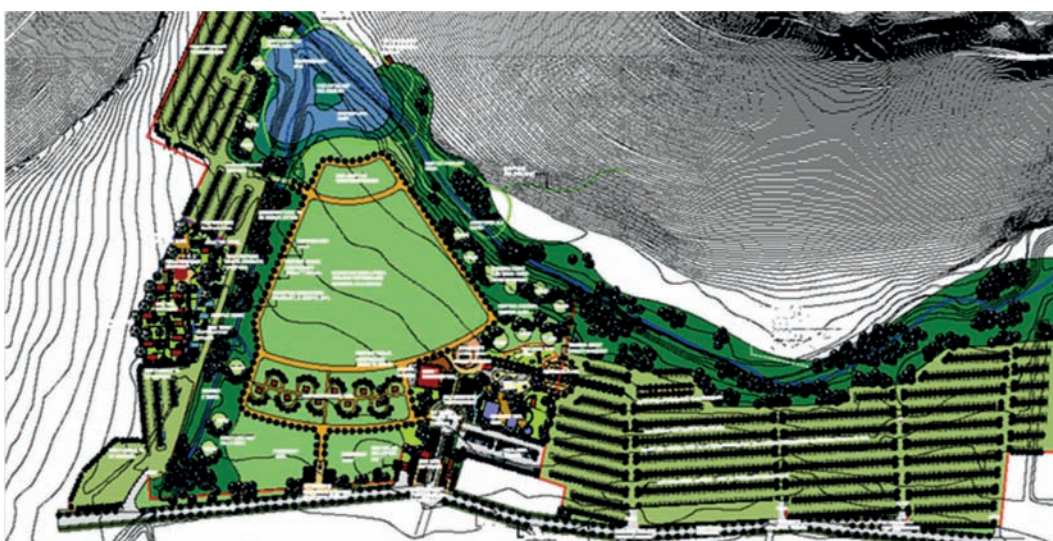


Figure 40: Proposed design for Moretele Resort Park (CoT, 2010)

### **Government Guest houses (No. 19 on Fig. 35)**

Built in 1957 to house visiting black leaders, black people not permitted hotel accommodation in Pretoria (Walker & Van Der Waal, 1991: 41). Buildings are now informally occupied and are in a rundown state. They urgently need attention to preserve the historical significance of the area as well as protecting this greener piece of land from further informal settlement (Figure 39).

### **Moretele Jazz Park (No. 10 on Fig. 35)**

This is a semi-public regional park well known for hosting the renowned jazz festivals, a genre that has been featuring some of the renowned artists like Vusi Mahlasela who proudly grew up in Mamelodi. “The resort currently caters for outdoor recreation in the form of braai, picnics, use of the community hall, and use of the swimming pools. The most significant and known use of the resort is the hosting of regional jazz festivals, which are currently held approximately four times a year (Insite, 2005: 6).” The park is also a popular spot for Christmas and New Year celebrations. There are currently plans to further develop the park (Figure 40) which according to Mr Manyama (2011) includes more chalets and a landscape design.

There is a need for the upliftment and redevelopment of these culturally and historically significant places as well as integration and linkage with each other and the green open space network for an enhanced sense of place and to better contribute to the wellbeing of the community in terms of making them safer, more attractive and equitable to use. This connectedness will also encourage interaction and connection of the community members.

#### **4.3.4. Community needs**

A community needs analysis was conducted on the following levels; consultation with community members including commuters and children using the river.

Community participation plays a significant role in meaningful community design and placemaking because the community members are the users of these public spaces and will in some way be affected by the issues in and around the site while they also add their own spirit, identity and character to the place. According to Ntate Maina, an informal resident of the old Vista University classes, Pienaar’s River is a boundary separating the Sotho on the west from the Tsonga on the east. He also highlighted the hazards that the river presents to the community when flooded especially the helpless school children. He continued to point out that a lot of people get robbed, raped, killed and fights arise along the river. Ntate Maina again stressed the problem of flooding which makes the river impossible to cross while making the only bridge in this part of the township a spot targeted by criminals. He stated that the open space from the river going up to Mthunzini Park used to be a park but because of the afore-mentioned issues the space has been neglected leaving only community farming activities. He also mentioned how the space is normally used by people coming to the events at Moretele Park.



According to Ntate Maina, people who cannot afford to buy the ticket to get into the Park meet here, park their cars and setup braai stands and have their mini-parties which unfortunately usually results in fights and people being killed.

According to the community, the river is primarily being used for:

- Farming (arable and pastoral);
- Recreational at local parks as well as kids who play in the water;
- Dumping (litter);
- Source of water for washing, irrigation;
- Criminal activities; theft, rape and murder;

Above and beyond the polluted river water, the study identified the following negative issues identified by the community which include lack of:

- security;
- community facilities;
- pathways for pedestrian circulation;
- safe access to the river and water;
- housing;

The author submits that there is a need for the rehabilitation of the river including purification of water as well as a revamp of community facilities, promotion of farming and the provision of safe recreational spaces.

## 4.4. SYNTHESIS

From the analysis of the site in context, the following challenges and opportunities have been identified that are to inform the development of the framework for the study area:

### 4.4.1. Challenges

- Servitudes and floodlines - no development within the reserve and 1:50 year floodlines.
- Low densities housing with buildings turning their backs on the green open spaces.
- Lack of vegetation especially trees along the river as well as the whole of Mamelodi.
- Limited river accessibility and crossing.
- High levels of crime.
- Pollution and mismanagement of the river and open spaces.

### 4.4.2. Opportunities

- Concentration of community facilities around the site including shops, clinic, churches, play grounds schools and vacant buildings available for re-use as well as proximity to heritage and culturally significant places.

- Proposed densification of housing in Mamelodi/ Nellmapius Masterplan (GAPP, 2010) will lead to continued growing number of people and improvement of the township.
- Proposed Pienaar’s River Rehabilitation Framework (African EPA, 2007) lays out the proposed interventions
- Large numbers of pedestrians moving along and across the site allow linkage & connection.

## 4.5. CONCLUSION

The synthesis of the baseline data informs community design that responds well to the context by proposing suitable solutions for problem areas while contributing to meaningful placemaking. Context sensitive planning should form the basis for conceptual design and inspire creativity in responding to the needs of the community as well as ecological planning. Ecologically sensitive areas like the Magaliesberg Ridge must be protected with limited access and minimal infrastructural development. Disturbed areas should be rehabilitated. Better use of the tract of land along servitudes to serve the community should be encouraged while at the same time ensuring safe and healthy environments for the people. All things considered, the proposed interventions should try to resolve the challenges at hand and ensure that the available opportunities are optimised while bringing about a sustainable landscape intervention for the community.