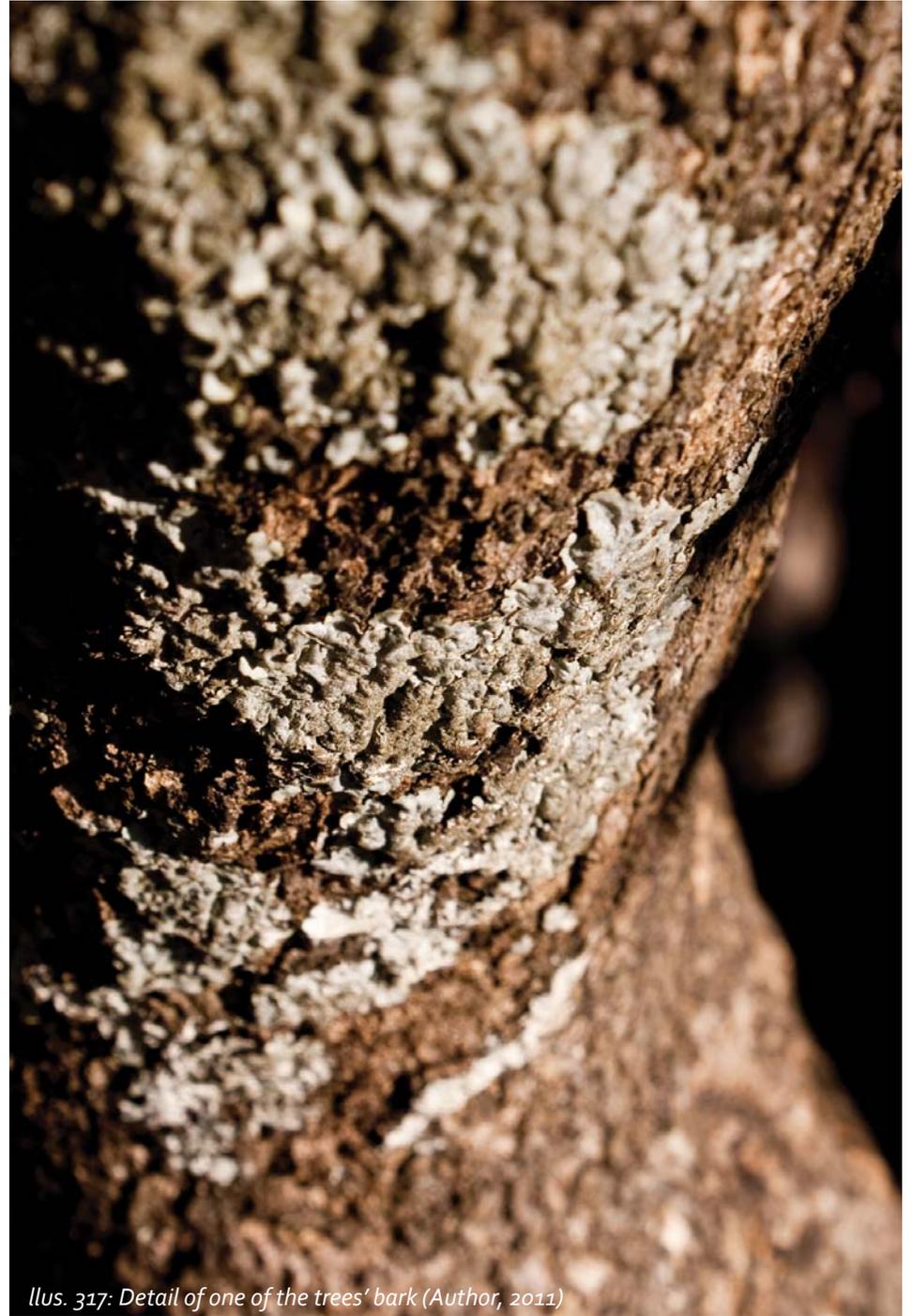




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APPENDIXES

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2. APPENDIX B: QUESTIONNAIRE RESULTS
3. APPENDIX C: TIMELINE
4. APPENDIX D: GEOLOGY AND TOPOGRAPHY OF THE WONDERBOOM NATURE RESERVE
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6. APPENDIX F: ARCHAEOLOGICAL DATA ANALYSIS
7. APPENDIX G: CHARTERS, ACTS AND POLICIES

This chapter include all the research information results, methods and summaries which is extra or to much to include in the dissertationtext body.

APPENDIX A: Questionnaire handout example

Questionnaire about the Wonderboom Nature Reserve						
This questionnaire is conducted as part of a landscape architecture masters thesis at the University of Pretoria to determine the awareness and accessibility of the people in Pretoria of the Wonderboom Nature Reserve, especially the significance of the site, with the Boer fort and Wonderboom tree on the reserve.						
Name					Date	
Surname						
Age						
Region	(mark the following with an x mark)					
Pta North	Pta South	Pta East	Pta West	Pta CPD	Other:	
Please answer the following questions:						
1 How often do you come to Wonderboom Nature Reserve?						
Every day	Once a week	Once a month	Other:			
2 Do you know where Wonderboom Nature Reserve is?						
		Yes	No			
3 Do you know about the fort on top of the mountain at Wonderboom Nature Reserve?						
		Yes	No			
4 If yes, how did you come to know about the Fort?						
5 If you visit Wonderboom Nature Reserve, what do you normally do there/here?						
6 Do you know about the Wonderboom tree?						
		Yes	No			
7 If you know about the tree, what do you know about it?						
8 What does this place mean to you?						

Fig. 37: Questionnaire (Author, 2011)



APPENDIX B: Questionnaire excel spreadsheets results



No.	Name	Surname	Date	Age	Student/ employed	Region	How long have you been in Pta	Do you know where Wonderboom Nature Reserve?	How often do you come to the reserve?	Do you know about the fort on top of the mountain at Wonderboom Nature Reserve?	If yes, how did you come to know about the fort?	If you visit Wonderboom Nature Reserve, what do you normally do there/here?	Do you know about the Wonderboom tree?	If yes, what do you know about it?	What does this place means to you?	comments
1	Ingred	Booyesen	25-05-2011	58	employed	Hatfield (Colbyn)		Yes	Hardly ever	Yes	Internet and other who've been there	Have a picnic	Yes	Fig tree and very old	It needs to be protected - cultural heritage value	
2	Analike	Blom	26-05-2011	20	Student	Hatfield		No	never	No			No			
3	W.J	Van Staden	26-05-2011	20	Student	Hatfield		No	never	No			No			
4	Ida	Breed	27-05-2011	35	employed	Pta east		No	Never	No			Yes	Nothing really	Heritage of Pretoria	
5	Keamogetswe	Mabatle	28-05-2011	16		Hammanskraal		Yes	Once a year	No		Go hiking, see animals, spend time with friends and family	Yes	It is a big tree, evergreen through out the year	Bond with nature	
6	Boitumelo	Mabatle	28-05-2011	19		Hammanskraal		Yes	Once in a decade	Yes	I read the signs	Braai some meat, enjoy time with family and friends and go hiking	Yes	It is evergreen and known for its nature to preserve its greenness throughout the year	It is a great place, makes a person appreciate nature	Get more animals on view
7	Katlego	Mabatle	28-05-2011	23		Hammanskraal		Yes	Once a year	Yes		Go hiking	Yes	The tree is big and nice everytime it's green	Nice big and good place, we reliese the stress	The animals must be there in view
8	Letinegouoto	Mabatle	28-05-2011	22		Hammanskraal		Yes	Once a year	No		Relax with friends and go hiking up the mountain	Yes	It is an evergreen tree and for tourists attraction	It makes me admire the nature and make me realise that our nature is beautiful	
9	Mabatle	Mabatle	28-05-2011	43		Hammanskraal		Yes	Once in 8 years	Yes	History at school level plus informaiton plates	Picnic and hiking	Yes	It is an evergreen tree and this makes it to be the wonder tree	A tourist attraction place which needs to be well -looked after. The proceeds to be shared to the historically disadvantaged people	
10	Phetolo	Mabatle	28-05-2011	21		Hammanskraal		Yes	Once a year	No		Relax with friends	Yes	It is a tree that catches the tourists		
11	Lynette	Roets	28-05-2011	40		Pta North (Montana)		Yes	first time	No		Came for a braai	Yes		heritage of the park	
12	Reuben	Roets	28-05-2011	30		Pta North (Montana)		Yes	first time	Yes	My friend	Braai and raak gesuip	Yes	It's a tree	Don't know yet	
13	Nico	de Lange	28-05-2011	20		Pta North (Montana)		Yes	first time	No		Braai	Yes		Heritage	

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14	Cathering	Grimsell	28-05-2011	18		Pta North (Montana)		Yes	first time	No		Having a braai with my friends and family	Yes	That it is the biggest tree on this nature reserve	It's a very calming place to get closer to nature and nothing should change	
15	Tina	Chalmers	28-05-2011	35		Pta north		Yes	first time	No		Picnic	Yes	That it been there for 1000 years	It is nice	
16	Cindy	Horn	28-05-2011	35		Centurion		Yes	first time	No		Picnic and hiking	Yes	It is big,	Peacefull	
17	Darryn	Botha	30-05-2011	23	Master student	Pta East	In Pta since 20	No	Never	No			No			Never heard of it
18	Tommy	Van Deventer	30-05-2011	29	Master student	Pta East		Yes	Never	No			No			
19	Leon	Grobbelaar	30-05-2011	25	Master student	CBD		No	Never been	Yes	A friend told me about it	Drink wine, relax, picnic	Yes	It is big, it has mystical powers	I like to know it's there and that I could go if I want to	
20	Isabel	Van Wyk	30-05-2011	30	Master student	Moot (waverley)		Yes	Never	No			No		Didn't know there was any heritage value to WNR - thought is was just a nature reserve	
21	Jankel	Nieuwoudt	30-05-2011	27	Master student	Pta South	Been in Pta for 18 months	No	Never	No			No			
22	Juliette	Hart	30-05-2011	25	Master student	Hatfield	In Pta 1.5 years	No	Never	Yes	Heritage quarter in honors architecture year, know it exist but nothing about it		No			
23	Heinrich	Olkers	30-05-2011	25	Master student	Pta east (Weavind park)		No	Never	No			Yes	One of the oldest biggest? I can't remember	Nothing?	I know it is one of the areas which has been inhabited for the longest time span?
24	Anneke	vd Berg	30-05-2011	24	Master student	Pta East		No	Never	No			Yes	Only that it is a tree		Nothing much - I know approxmetly where it is.
25	Catherine	Deacon	30-05-2011	24	Master student	Centurion		No	Never	No			No			
26	Jacobus	Erasmus	30-05-2011	26	Master student	Hatfield		No	Never	Yes	Word of mouth		Yes	Word of mouth	Cultural heritage/ environmental significance	
27	Fransa	van Zyl	30-05-2011	25	Master student	Pta east		No	Never	No			Yes	not much	little	
28	Henry	Boardman	30-05-2011	25	Master student	Pta east		Yes	I've been there once	Yes	Through a range of master's projects	If I visit again I will tell you. Now I feel bad	Yes	There is a band named after the tree. I think it is a wild fig	I can remember it from my childhood but very little else	



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29	Wessel	Oosthuysen	30-05-2011	25	Master student	Pta east		Yes and No	Never	No			Yes	Landmark	Don't know context, facilities etc	
30	Byron	Snow	30-05-2011	24	Master student	Hatfield	Only been in Pta 18 months	Yes	Never	Yes	Architecture/Landscape architecture master's presentations	Never been there	No		Never been, am sure I'd like it if I did.	
31	Natalie	Uys	30-05-2011	25	Master student	Pta east	Only four years in Pta	No	Never	No			No			
32	Elize	Meyer	30-05-2011	22	Master student	Hatfield	I've been in Pta for only	Yes	Never	No	A friend told me about it		Yes	Only that there is a tree, nothing more	Nothing?	
33	Jane	Pretorius	30-05-2011	24	Master student	Pta east		No	Never	Yes	Friends		Yes	That there is a special tree	Not much	
34	Willie	Mothowamodimo	30-05-2011	27	Master student	Pta West		No	Never	No			No		Nothing but would like to know more about it	
35	Gloria	Di Monte	30-05-2011	24	Master student	Pta east (constantia park)		Yes	Never	Yes	Through family	Haven't been there	Yes	I don't know much about it	Nothing at the moment, I would like to visit it and learn about it	
36	Ruben	Schroeder	30-05-2011	30	employed	Johannesburg		Yes	3 times in the last 30 years	Yes	Primary school outing	School outing, kiddies party and research for university	Yes	That is is big (more than 20 yrs ago)	It's a place where children can go to climb the Magaliesber, explore nature and the wonders of the highveld. I think it should be visited more by school children and there must be more guided tours to make visitors and children aware of our biom of the highveld. It is a great bio-diversity in the City of Pretoria. The reserve must also link up with other reserves in Pretoria such as the one in Lynnwood and Mamelodi to give children and other citizens a greater understanding and view of the wonderful biom of the highveld and that of what Pretoria was and is and how to preserve it!	
37	Nanja	van Rooyen	31-05-2011	25	employed	Pta east		Yes	Never (to far from current residence)	Yes	My father went to Boerefort primary school close by and live in the area his whole life.		Yes	That it is regarded as a heritage 'object' and is protected	No significance (because of ignorance)	
38	Pieter	van der Merwe	02-06-2011	60	employed	Moot		Yes	Never	Yes	Reading		Yes	That it's there	Nothing	
39	Yvette	Bevis	02-06-2011	21	Student	Hatfield	Only been living in Pta for 2.5 years	No	Never	No			No			I would like to visit the nature reserve one day.
40	Anali	Blom	03-06-2011	54	employed	Mpumalanga		No	Never	No			Yes	Read about it long ago		
41	Ben	Blom	03-06-2011	56	employed	Mpumalanga		Yes	Once in a lifetime	No			Yes	It is a very big tree	I was as child there with my parents (I was about 7yrs old)	



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42	Louniel	Blom	03-06-2011	27	employed	Pta east		Yes	never	Yes	Friends		Yes	I know it is very big, but I haven't seen it	Nice, part of our history and nature	
43	Anelda	Meyer	03-06-2011	25	employed	Moot		Yes	once	Yes	I've been there once when I was a child		No		Nothing - I don't know its history etc so it has no meaning to me.	
44	Annika	Mouton	06-06-2011	19	Student	Hatfield		No	Never	No			No			
45	Bertin	Jacobs	06-06-2011	25		Pta east		Yes	Once	Yes	On a day hike at Wonderboom	Hike	Yes	It's big and old - think over 1000yrs	Nice place to visit in the middle of Pta apart from nature, I like the historical connection it has with Pta	
46	Nadine	van der Merwe	08-06-2011	25		Pta east (Moreleta park)		Yes	Never	No	Don't know about it	I have never been there	No	Nothing	No meaning	
47	Irma	van Breda	08-06-2011	26		Pta east		Yes	Never	No			No			
48	Ilana	Mouton	09-06-2011	44		Namibie		No	Never	No			No			
49	De Wet	Mouton	09-06-2011	44		Namibie		Yes	A long time ago	No			Yes			
50	Stefan	van Zyl	09-06-2011	27		Centurion		yes	Never	Yes	Internet		Yes	Wild fig tree, approximately 1000 years of age discovered by the Voortrekkers	Not familiar with the place, but seems like one with historical significance	
51	Sean	Kruger	09-06-2011					No	Never	No			No			
52	Hendrikwillem		09-06-2011	26		Moot (waverley)		Yes	Once a long time ago	Yes	By word of mouth	I would like to visit it again	Yes	That it is a significant tree (big and old). Heard that some of the Voortrekker companies set up laager at that specific tree.	A place of sentimental, historical value. Another fine example of natures masterpieces and a reminder that people should value and protect God's creation	
53	Casper	Booyesen	09-06-2011	24		Middelburg (Mpumalanga)		Yes	seldom	Yes	I grew up in Daspoort and people told me about the fort	Mountain climbing to the fort and	Yes	Where the branches touch the ground roots form	Wonder of Nature	
54	Erhar	Prins	09-06-2011			Roodepoort (Jhb)		Yes	Once or twice a year	Yes	Friends	Picnic	Yes	What it looks like	It contains a piece of cultural history	
55	Coen	Jacobs	09-06-2011	24		Jhb south		No	never	No			Yes	it is very old and big	never visited it before	
56	Danica	Odendaal	09-06-2011	23		Pta Central		Yes	Never	Yes	friends told me	I have never been there	Yes	Just that it is one of the oldest and biggest Wonderboom	No specific meaning linked to it. Appreciate it though that it protects the trees and	
57	Willem	Prins	10-06-2011	24		Pta east		No	Never	No			No			



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58	Rachelle	Visser	10-06-2011	24		Pta east		No	Never	No			No			
59	Retha-mari	Bierman	10-06-2011			Pta east (Equestria)	6 years in Pta	Yes	Never	Yes	History books in primary school	Would like to go, was not there yet	Yes	It's a very old fig tree	It is an important nature and history reserve that should be better known, for people to visit. I'm living in Pretoria for 6 years and still didn't went for a visit and I know about it.	
60	Saki	Marais	12-06-2011	20		Hatfield		Yes	4 maal per jaar	Yes	The first time I was there with my parents	Normally we go cycling in the park	No		It is a fun place to hang out and go cycling with my friends	
61	Talita	Hugo	12-06-2011	23		Pta west (sunnyside)		Yes (vaguely)	never	No			Yes	It is apparently very big	Nothing, I think there are bigger trees elsewhere	
62	Stefan	Coetzee	15-06-2011	33		Pta North		Yes	never	No			No			
63	Evette	Kotze	13-06-2011	26		Pta North (Kameeldrift oos)		Yes	Once a year	Yes	Went on a Sunday school excursion to the fort	Picnic, braai, and the Sunday school excursions	Yes	I know that it is a gaint fig tree (Ficus salicifolia) and its 1000 years old	No knowledge of the history behind the tree, therefore the place itself of no significance to me, but the tree is very special.	
64	Werner	Boshoff	13-06-2011	28		Pta East		Yes	Never	Yes	Word of Mouth		Yes	Know the location and existance of the tree but no knowledge of its history		
65	Vaughn	Gryffenberg	18-06-2011	31		Pta East		No	Never	No			No			
66	Nadine	Brookryk	27-06-2011	29		Pta North (Waverley)		Yes	Been there twice	No		Hiking and picnic	Yes	It's the largest and oldest fig tree in the country. National heritage site	Contributes to our countries biodiversity and 'uniqueness'	
67	Human	Buirski	27-06-2011	38		Pta East		Yes	once in my lifetime so far	No	never been there	Wanted to see the fig tree	Yes	It's a fig tree and very big	Would like to see the preservation of forest	
68	Andre	Damuli	27-06-2011	35		Pta East (Silverton)		No	Never	No			No			
69	Natalie	Hausmann	27-06-2011	30		Pta north (Villieria)		No	Never	No			No	It must be wonderfull		
70	Trevor	McIntyre	27-06-2011	31		Pta north (Villieria)		Yes	Never	No			No			
71	Mathew	Masumbuko	27-06-2011	29		CBD		No	Never	No			No			



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72	Birimba	Mwevy	27-06-2011	28		Pta south (Jhb)		Yes	casually	Yes	From friend who ventured me around	For us it is all of recreations and all motives of excursion	No		Not a straight idea beyond recreation	
73	Mothiba	Lebepe	27-06-2011	19		CBD (Hatfield)		No	Never	No			No			
74	Thembelihle	Mabuza	27-06-2011	18		CBD (Hatfield)		Yes	Once a month	Yes	Was told by a landscape architect	To relax and have a picnic	No		Its where you could go and distress after a long hard day at school	
75	Anele	Maseko	27-06-2011	20		CBD (Hatfield)		No	Never	No			No			
76	Donald	Gwambe	27-06-2011	43		CBD (Hatfield)		Yes	Never	Yes	Mystic stories	Never visited	Yes	Just stories and other accounts	Just one of those sacred places that little knowledge exists about	
77	Marinda	Cilliers	27-06-2011	46		CBD (Hatfield)		Yes	Often / once a week	Yes	Old enough to know my heritage and area	calm and preserve	Yes	heritage - parents/nature lovers	To protect for our children	
78	Jane	Olwoch	27-06-2011	45		Pta east		Yes	Never	No		Never visited	Yes	I have heard about it but never known its importance to us		
79	Hannes	Routenbach	27-06-2011	47		Pta east		Yes	was there once as a child	No		Picnic walk	Yes	Biggest tree in country	Historical reserve	
80	Nandipha	Ndabana	27-06-2011	28		Pta south (midrand)		No	never	No			No			
81	Poppy	Mahlangu	27-06-2011	48		Pta north (Soshanguve)		No	Never	No			No			
82	Jason	Sampson	27-06-2011	32		Kromdraai		Yes	Never	Yes	Research internet	I'd love to see the Wonderboom	Yes	Largest clonal forest in south africa	Place of special botanical interest	
83	Derek	Townshend	27-06-2011	38		Pta east		No	Never	Yes			No			
84	Peter	Rathapane	27-06-2011	53		CBD (Hatfield)		NO	Never	No			No			
85	Jenny	Van Rooyen	27-06-2011	35		Pta east		Yes	Never	Yes	Childhood	Braai areas, mountain climbing	Yes	Not much	Not much	
86	Lesiba	Ntsoabe	27-06-2011	30		CBD		No	Never	No			No			
87	Cathy	Nkabinde	27-06-2011	27		Pta east		No	Never	No			No			
88	Sell	Kgasedane	27-06-2011	29		CBD (Hatfield)		No	Never	No			No			
89	Rachel	mahlangu	27-06-2011	47		CBD		No	Never	No			No			
90	Mooki	Gomba	27-06-2011	45		Pta north (soshanguve)		No	Never	No			Yes	Word of mouth, that it has a huge trunk		
91	Lisa-mari	Swanepoel	27-06-2011	25		Pta east		Yes	Never	Yes	Word of Mouth		Yes	That it is a great attraction of wonderboom	Part of the heritage of SA, and of the conservation of nature in general	
92	Sinentokozo	Zviv	27-06-2011	22		Hatfield (CPD)		No	Never	No			No			



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93	Makhanani	Mashaba	27-06-2011	36		Hatfield (CPD)		No	Never	No			No		It is my first time to know it, I cannot tell what does it mean	
94	Gerda	Ewers	27-06-2011	51		Pta east		Yes	Never	No			Yes		General heritage	
95	Elana	van der Wath	27-06-2011	42		Pta east		No	Never	No			No		Nothing I will visit it now	
96	Sipho	Nkabinde	27-06-2011	20		Hatfield (CPD)		No	Never	No			No			
97	Shirley	Mokwape	27-06-2011	35		Pta north		Yes	Once a month	No			No			
98	Lauren	Smith	27-06-2011	20		Pta north (Wonderboom)		Yes	Never	Yes	Told by people that knows about it	Nature walk	Yes	That its some big tree, don't know really a lot about it	Its an heritage site and an environmental safety place	
99	Marina	Janse van Rensburg	27-06-2011	45		Pta West		No	Never	No			No			
100	Jan	Eloff	27-06-2011	48		Pta West		No	Never	No			No			

Table 14: Summary of the hundred questionnaire answers/ results (Author: 2011)

APPENDIX C: Timeline

APPENDIX D: Geology and topography of Wonderboom Nature Reserve.

The range rises to an elevation of some 183 meters above the plain.

According to Visser (1956) the visitor will see fine examples of current-bedded and ripple-marked quartzite displayed at their best as paving stones in the footpaths.

Considering the general geology of the area, a two-fold division is at once apparent from the topography. On the south side of the ridge, the hill slope is smooth and gentle and overgrown with grass and few scattered trees. Near the summit the weather-resisting quartzites form bold krantzies facing southwards while a steep dip slope, rather densely overgrown with bush and trees, faces northwards. This striking difference is brought about by the presence of shales below the succession of thickly-bedded quartzites which determine the ridge. (Visser, 1956: 35-41) The tree growth is encouraged by quartzite boulders. Animals are a major cause of erosion on the slopes. Soil is moderately deep on the lower part. It is sandy and permeable because of the high quartzite content and it supports a good plant cover including some substantial shrubs and trees. (information plates, 2011). Refer to illus. 89.

Visser (1956) mentioned that the one exposure are found in an excavation and in a trench nearby, about half-way up the hill and due south of the old fort. Here the shales show signs of having been baked to a hard black, almost flinty hornfels, which weathers into rounded black boulders. On the south-western flank of the hill, just before one descends on to the alluvial terrace leading towards the Apies River, the hornfels are found exposed again.

The cause for this baking and alteration of the shale to hornfels must evidently be sought in some igneous rock which has been intruded into it and evidence, for the presence of two sheets of diabase has been found according to Visser (1956).

Because the rock weathers so readily, in contrast with the quartzite, its position in the field is marked by a smooth belt below the Krantzies of quartzites, and it occupies the depression west of the fort, leading down to the Apies River. (Visser, 1956: 35-41)

The quartzite is whitish to pale pinkish, thickly bedded as a rule, though individual layers are often less than an 25mm thick. They dip to the north at an average angle of 40°. (Visser, 1956: 35-41)



Illus. 320: Examples of the quartzite rocks, white to pale pinkish and the ripple formation on some of the rocks (Author, 2011)

Mogg (1956) sketches an image that if one approaches the Wonderboom Reserve from the north, one notices, besides comparatively dense, low bush, which covers the mid- and summit slopes, a line of distinctly taller, greener, and more umbrageous trees densely packed at the immediate base of the hill.

The reason for this more luxuriant growth is the following:

1. Erosive effect of weather, root-action and slope-directed drainage which resulted in the accumulation at the base of the northern slopes, of screens, humus and sand to a great depth (\pm 25m deep in some places), providing a well-aerated, deep, rich, sandy loam.
2. The 'buffer' which the ridge provides with its protected angle of 40 degrees on this sunny aspect, from the extremes of the climatic elements (Mogg, 1956: 23-33).
3. According to Mogg (1956) for example; "conservation of heat; high soil and atmospheric moisture; minimised wind effect; maximum rainfall benefit, and you find conditions very favourable to arborescent growth."

The lower south slopes consist of shale which supports very little vegetation except for grass. Across the mid slopes on the south side runs a narrow sill of diabase which supports a fair amount of deep-rooted vegetation, especially thorn trees, and it is on this diabase that *Acacia caffra* and *Rhus lancea* occur. The upper south slope, the summit and the whole northern slope are quartzite with the exception of a second diabase sill running between the summit and the aforementioned sill on the southern mid slopes. This just east of the road going over Voortrekker Nek to the *Acacia caffra* valley going down to the Apies River, supporting trees of this species and of *Rhus* species along its course. (Collett, 1956: 67-87)

Besides the formations on the northern and southern slopes being different, there is

more moisture on the north side. This is for various reasons namely:

1. The North Slope rises at an angle of about 40 degrees from the plain so that the run-off of water is not so considerable on this more gentle dip slope and it has an opportunity to penetrate underground. On the southern slopes on the other hand, the steeper incline carries the water away more rapidly so that it does not have the same opportunity to enter rock gaps and cracks, to go underground.
2. Then the sandstone of the northern dip slopes is hard and well stratified and so controls the circulation of water. The strata dip north, causing the underground water supply to follow the stratification planes and thus it is kept near the surface. Moisture is thus more easily available to the roots of plants whereas on the south slope they must penetrate deeper in their quest for water and thus they encounter rock. (Collett, 1956: 67-87)

The vegetation is denser near the foot of the hill on the north side not only because of its sheltered position but also because this area enjoys a better water supply, both subterranean and above-ground. The underground water is inclined to rise nearer the surface as it approaches the foot of the hill while the area benefits by the run-off from the hill slopes. Besides being more water-receiving the ground is rendered more water-retaining by being relatively full of humus. Thus we find it occupied by the taller bushveld forms while the thorn scrub area just north of the Wonderboom itself is apparently where more diabase comes in, diabase being recorded for this region. North of this is shale and sand again, with a transgression of trees across the geological borders. (Collett, 1956: 67-87)

An interesting feature is the syenite dyke whose position is marked by the strip of dense vegetation it supports. This is clearly visible on approaching the Magaliesberg from the North. The dyke runs from the plain up to Voortrekker Nek over the summit of which its course is followed by the road. Similar in chemical composition to diabase, it is no doubt the presence of this syenite which accounts for the cluster of 'kareebome' on top of the Nek. (Collett, 1956: 67-87)

APPENDIX E: Historical background of the Wonderboom Nature Reserve and important aspects thereof

5.4 Historical background of the Wonderboom Nature Reserve and important aspects thereof

5.4.1 Wonderboom Tree

The age of the tree

Many people have enquired as to the probable age of the Wonderboom. To provide some sort of answer, several foresters a few years ago took slices from where several of the large laterals had been severed, for the purpose of counting the number of annual rings, as to arrive at an estimate. But it was found that this species does not lend itself readily to such a method of computation. However, from general considerations, and the comparison of the determinable growth rates in similar trees of large diameter in a like climate, it could be said that the original main trunk might be 1000 years old, and it could probably be much more.

There are a lot of stories about the Wonderboom tree. Some say that the Matabele chief, Mzilikazi, disturbed the peaceful and tranquil atmosphere of this fertile valley when he pitched his camp in the vicinity of the tree and from there staged his fearful raids in the countryside. (Behrens, 1956: 7-21)

Mr. D.B. Menne, an early European pioneer's father camped under the tree for about four nights or longer while he was constructing a road through the Magaliesberg range. It was around 1843-1850, before the establishment of Pretoria. Mr. Menne's father was, at that time, trading from Pietermaritzburg, which was called 'Black Velt' in that time. As the story goes, Mr Menne made a kraal under the tree for his cattle and the servants slept there. A black rhinoceros broke into the enclosure, stampeded the cattle and charged the servants. The fire in the process scattered. Even though the story sounds far-fetched, some evidence indicates that rhinoceroses were known in the Hartebeespoort area in about 1850 and bones of rhinoceroses were found in the Fountains Valley by Dr. Austin Roberts. (Behrens, 1956: 7-21)

What makes this Wonderboom tree so unique?

But what makes the Wonderboom remarkable is its mode of spreading, and the extent to which this has been achieved in this 'individual', especially one occurring so far south. In fact, no other example of this species has been found which has attained such considerable dimensions. Pretoria is the southernmost limit in which this species has yet been recorded. To find trees of the magnitude of the Wonderboom adopting the same mode of spread as the strawberry plant or climbing shrubs and lianas, is very unusual, if not unique, states Mogg (1956). "A visitor once described the process as 'walking out radially to produce offspring at each step'" (Mogg, 1956: 23-33). According to Mogg (1956) the extent to which this has proceeded in the Wonderboom, in this climate, is surprising. No fewer than 13 'individuals' have arisen from the original trunk.

The wonderboom tree complex originated from a single tree. Over many years the huge branches drooped and where they touched the ground, they rooted and there, new trees have grown. The tree is sometimes referred to as a family-tree consisting of a mother with seven daughter/second generation trees. Three of the daughter trees have subsequently rooted and established three daughter/third generation trees themselves. This vegetative reproduction of the wonderboom specimen is not typical of this species. The original tree stump has been dated by means of radiocarbon dating and it is estimated that the tree dates back 1000 years. (Information plate, 2011)

1000 + yrs ago

1843-1850

n.d



Illus. 321: The Wonderboom tree, long ago. The date can not be determined. (Pretoria archives, 2011)

Why the tree could reach such enormous proportions.

The reason why the Wonderboom group tree could attain such large proportions and persist to such an impressive age in the Pretoria climate, even though there is no other tree like that is explained by late Rev. J. Gerstner, a botanist and he suggests that "the only reason why this tree could develop to these proportions and be preserved for so long a period, was that it had been specially protected. He postulates that, early in its history, most likely when it had already become large and umbrageous, it was used as the burial place of some important chief. Thenceforth it was reserved for the burial place of other chieftains, revered as a Sacred Place, a rendezvous of ghosts, and invested with superstition. Thus it would become guarded and preserved from generation to generation." (Mogg, 1956: 27)

hundred years ago, and the consequent brushing aside of 'sanctuary' for the tree, the tree has been subject to mutilation. (Mogg, 1956: 27)

This seems to be a credible theory, particularly in view of its more recent history. For, ever since the European occupation of these parts over a

n.d

During more than fifty years that Mogg had personally known the tree, all but one of the connecting trunks have been severed. And, during the period following World War I, when the tree was afforded quite inadequate protection, many instances occurred where large and small branches were hacked off—surely a poor kind of firewood and a gross act of vandalism. In the early thirties, too, treasure-seekers after the mythical Kruger millions dug about the roots a large number of holes, which remained unfilled for a long time, occasioning considerable erosion. (Mogg, 1956: 27)

It did some good, according to Mogg (1956: 27) because after that incident the Wonderboom Purchase Committee more energetically took up the matter, and today the Wonderboom is in a proclaimed nature reserve.



Illus. 322: The Wonderboom tree, long ago. The date can not be determined. (Pretoria archives, 2011)

The famous Pretoria Wonderboom was described by Dr. I. B. Pole Evans, the Director of the Botanical Survey of South Africa, as "the most remarkable example of its species in Africa and a National Monument." (Mogg, 1956: 23-33)



Illus. 323: The Wonderboom tree, long ago. The date can not be determined. (Pretoria archives, 2011)

Earliest records of the tree.

The earliest record of the tree is that of Fr. W. G. Atherstone who was the first to preserve a specimen twig gathered from this tree in 1873.

"The boers laager of some twenty wagons was right on the bank of the Apies River at Wonderboom poort and their headquarters further north. 'Voortrekker nek' the boers built a stone breastwork as a means of defence, and occupied it." (Mogg, 1956)



Illus. 324: The Wonderboom tree with some Voortrekkers camping in front of it. No date. (Pretoria, archives)

1873

Cultural History

The Ndebele regard the wonderboom as an important ancestral burial ground. Unfortunately it is not clear who was buried under the trees as various attempts to locate the grave/graves have failed.

It has been alleged that Nyabela Mahlangu, the Ingwenyama ('paramount') of the Ndzundza Ndebele of SA, could be buried under the tree. (Van Vuuren, 2003)

Ndebele occupied the throne between approximately 1879 and 1883 at a stronghold called koNomtjharhelo (near Roosenekal, Mpumalanga). He and his people were involved in the Mapoch ('Mabhoko') war of 1882/3 against the ZAR forces. When the Ndzundza were defeated (by hunger), Nyabela and Mampuru of the Pedi, whom he gave refuge, were trailled in Pretoria for treason. Mampuru was hanged and Nyabela imprisoned. He was released in 1899 and settled with a number of followers in villages on the northern slope of the Magaliesberg on the farm Derdepoort (KwaMkhina or Emlalaganye) at the present Sinoville. Nyabela died in 1902 (or 1903) and was buried at the site of the royal village. The last Ndebele left this site around 1952/3 and settled near Klipgat, better known as KwaMsiza village that attracted many tourists over the years.(ibid)

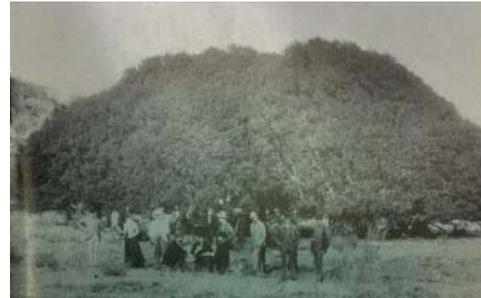
The Ndebele graves at the wonderboom are believed to be those of regional headmen (amakosana or iinduna)and definitely not the royal leader. (Van Vuuren, 2003)

1879-1883

n.d



Illus. 325: The Wonderboom tree, in about 1937 (Pretoria archives, 2011)



Illus. 326: The Wonderboom tree, n.d (Pretoria archives, 2011)



Illus. 327: The Wonderboom tree, n.d (Pretoria archives, 2011)



Illus. 328: The Wonderboom tree, n.d (Pretoria archives, 2011)



Illus. 329: The Wonderboom tree, n.d (Pretoria archives, 2011)

1882

Another reference of the Wonderboom was in the book entitled in the land of misfortune, by lady Florence Dixie, published in 1882.

“Trees and ferns grew everywhere luxuriously, and the gurgling of the river over its rocky bed was a pleasant and soothing sound, which added to the charm of an impressive and awe-inspiring scene. But one of the principle sights we were bent on seeing that day was the great Wonderboom, or Wonderful Tree, which had grown and extended to such a size as to give it this appellation. Under its wondrous canopy several hundred people, it was said, could find shelter, and indeed, when we had threaded the pass and skirted a reedy lake from which the cry of Wild Duck arose, the tree, with its heavy mass of foliage hove in sight, looking like some huge giant amidst the comparatively dwarf vegetation that surrounded it.” (Mogg, 1956: 31)



Illus. 330: The Wonderboom tree, in the 1900. (Pretoria archives, 2011)

“Besides the laager referred to above, I learn on good authority that the Waterberg Commando was quartered beneath the tree. The tree can conceal a regiment of soldiers or accommodate over twenty-two wagons of twenty oxen each.” (Mogg, 1956: 31)

The size of the tree in 1905, recorded by late Prof H. W. F Wager.

Refer to illus.331, illustrating the dimensions of the tree. Its diameter from N.N.E to S.S.W is 55m, and from E. to W. 43m. Its height, as estimated by a certain method, is 20m.

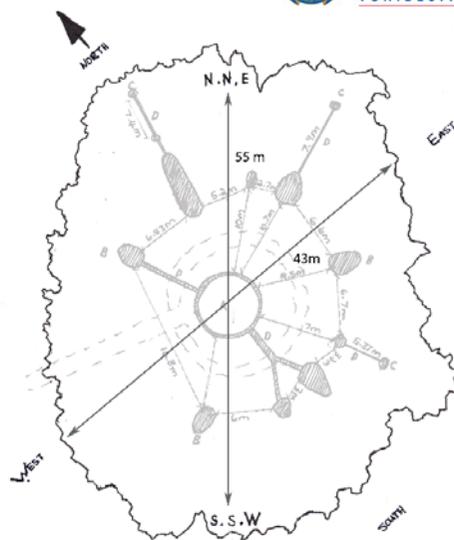
The tree spreads in a peculiar manner. Some of the branches from the centre spread out laterally in a radial direction and gradually droop towards the ground. At a distance of about 9m they come into contact with the ground and send out roots from which new groups of stems arise. From these other branches may be given off, still in the same radial direction, and these, coming in contact with the ground, may in turn become rooted, and send up a third group of stems.

From measurements made on the spot we found an inner ring of nine groups surrounding the main central mass, three of them still connected to it by their drooping branches.

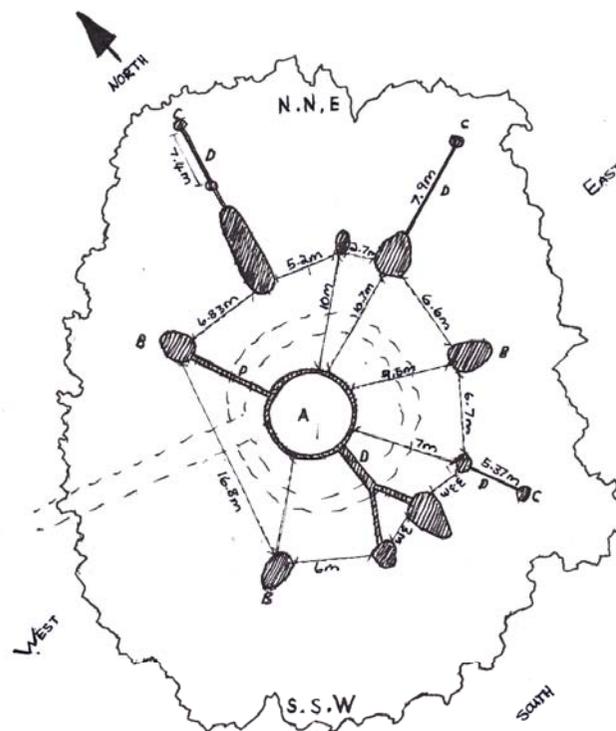
The circumference of the central mass of stem is 24.7m, and the second group forms approximately a circle at an average distance of about 9m. Beyond the ring there were three other groups at a distance of about 7.6m from the outside of the ring. Still connected by the branches from which they had originated."

The tree, of course, covers a slightly larger area of ground today, and the height is at least 23m.

Wager (1905) states that one of the tragedies in connection with this tree is that hardly any of the loop connections remain today. Those from the original or main stem have been chopped off, and only one in the secondary circle is left: even this is badly mutilated. Refer to illus. 332



Illus 331: Dimensions of the Wonderboom tree as stated by Wager (1905). (Author, 2011)



Illus 332: Diagrammatic plan of the Wonderboom. Showing positions of the new growths. (Wager, 1905)

- A. Oldest remaining circle of trunks
- B.B.B Second series of trunks
- C.C.C Third (youngest) series of trunks, just forming
- D.D.D.D Connecting branches still intact

1905

Drought

1984

“Pretoria se Wonderboom deur droogte verdor” reads the heading of one news article from 16 August 1984. It seems that the tree was busy to dry out, because it is said that some parts of the tree’s leaves were changing colour. The parks department had thousands of litres of water pumped to the tree from the Apies river. (Wonderboom management, 2011)

In the meantime Pretoria received the ‘Lowerstad’ award, awarded by the Institute of Parks and Recreation of South Africa (Instituut van Parke en Ontspanning van Suidelike Afrika). (Wonderboom management, 2011)

A national tree plant day was held on the 10th of August 1984. The Wild Fig tree was identified as the tree of the year. The Wonderboom tree also falls under that species. It was known as ‘Ficus cordata’ and then the name was changed to ‘Ficus pretoria’ according to Brutt-Davy. Today it is known as the ‘Ficus salicifolia’ according to Vahl’s reclassification. (Wonderboom management, 2011)

1985-1994

1985 The catastrophe year

Jackson, the Wonderboom ‘veldwagter’ during that time, reported the morning of 7 January 1985 that one of the twelve daughter trees, fell at eight ‘o clock the previous night. (wonderboom mangement, 2011).

An inspection was started and the results showed that the tree on the eastern side of the group trees had fallen down. They found that the root system collapsed and they found that the root secreted a watery secretion (afskieding). (wonderboom mangement, 2011).

Management was notified immediately about the tree’s condition. The photographic department from the city council was called in to take some photos. Specialists on fungi (swamkunde) were contacted from the University of Pretoria and the department of agriculture, to get some insight. Samples were taken to further analyse the data. A press conference was held on Wednesday 9 January at ten o’ clock. After the conference certain measures were decided upon, namely;

- The disposal of all the infected material
- Sealment of all the open wounds
- Quarantine precautions were established
- Sanitary prevention

A fence of 1.8m was erected to protect the tree, and to limit the access of anyone. Only authorised personel could enter. (Wonderboom mangement, 2011).

The loss of part of this historically old tree, made the authorities and public aware of how fragile the tree really was. Photos were taken every three months to monitor the growth of the tree. (Wonderboom mangement, 2011). All the rules and the fence, will ensure the trees’ health and the return of wildlife. The fence ensures that kids who would previously climb onto the lower branches cannot get close now. (Wonderboom mangement, 2011).

The Magaliesberg west of Derdepoot was proclaimed a Protected Natural Environment in 1994. (Wonderboom mangement, 2011). The Wonderboom tree is a National Monument.



Illus. 333: The National Monument sign on a large rock near the Wonderboom tree. (Author, 2011)

The ecological value of the Wonderboom tree

Food:

The fruit is taken by a number of birds and mammals.

The following have been recorded:

Animals and birds:

Numerous insects also visit the tree. A range of insectivorous birds that feed on the insects that live off the decaying plant matter, are therefore also attracted.

Habitat:

The tree provides shelter for a host of animals ranging from rock hyrax, numerous birds and a multitude of insects. This microclimate is favoured by numerous animals.

Microclimatic influence:

The tree plays an important role in controlling climate by having a moderating effect. It is also of significance in controlling soil moisture content. This is demonstrated by the comparatively large trees that surround the wonderboom. (Information plate, 2011)



Illus. 334: The Wonderboom tree in 2006. (Built Architects, 2006)



Illus. 335: The Wonderboom tree in 2011. (Author, 2011)

2006

2011

Wat is die Wonderboom?
 Pretoria se Wonderboom is bekend om die hoë kwaliteit van sy natuursonne, die berovende Wonderboom. Hierdie boom is een van die oudste en grootste boomsoorte in die wêreld. Dit is 'n unieke boomsoort wat in die wêreld slegs in Pretoria voorkom.

Contesta/Inhoud

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Wonderboom - een van die oudste boomsoorte in die wêreld.

A true conservationist...

- loves people as much as nature;
- is selflessly serving the cause;
- resists the temptations of power and prejudice;
- is a humble learner, a searcher for scientific truth;
- persuaded with knowledge and modesty;
- is fair, forgiving and helpful.

onderboom is een 'dogter' kwyl

Wanneer die Wonderboom in die wêreld bekend is, is dit omdat dit 'n unieke boomsoort is. Dit is 'n boom wat in die wêreld slegs in Pretoria voorkom. Dit is 'n boom wat in die wêreld slegs in Pretoria voorkom. Dit is 'n boom wat in die wêreld slegs in Pretoria voorkom.

Swam bedreig historiese boom

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Die Wonderboom se status

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Pretoria se Wonderboom

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Wonderboom saved with little TLC

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5.4.2 The two caves

In the Wonderboom Nature Reserve, overlooking the Wonderboom Poort, are two caves, one below the other. These caves occur in the Magaliesberg quartzite of which the hill is formed. According to Maynard (1956: 47-51) the quartzite dips at a fairly steep angle, and a weak brecciated stratum between two stronger strata has worn away. In this way the caves have been formed.

According to Maynard (ibid) The most striking feature of the upper cave is its situation. Standing in front of the cave entrance, one has a wonderful view of the valley on either side of the Magaliesberg, as well as of the Wonderboom Poort through which the Apies River flows. For this reason alone, it is no wonder that the cave bears evidence of habitation from the earliest times.



Illus.337: Small cave (Author, 2011)

The cave had one large main entrance chamber and a subsidiary entrance chamber at one side. Beside this subsidiary entrance chamber is a small rock shelter. According to Maynard (ibid) the cave probably extends a long way back into the hillside, but the roof makes parts of the entrance chambers damp, especially in summer, and it is quite probable that there is water further inside the cave. The river below provided water for cave-dwellers a long time ago. (Maynard, 1956: 47-51)

The Early Stone Age hunters, are represented in the Wonderboom Cave by implements which have been found there. The Middle Stone Age people and Later Stone Age people were also sheltered by the caves in later years. (ibid)

Maynard (1956: 47-51) states that the most typical of the stone tools which they left in the cave are the spherical bored stoes which were used as clubheads or as make-weights for digging-sticks. The Bushmen also used these stones, so it is not improbable that they, too, inhabited the cave. The Stone Age people, including the Bushmen, were all hunters. According to Maynard (ibid) the valleys around the present site of Pretoria teemed with game, and the Wonderboom Cave was an ideal vantage-point as well as being a shelter from the weather.

At the same time as Van Riebeeck landed at the Cape (1652 A.D) Bantu tribes were migrating into South Africa from the North. These newcomers, who were cattle-keepers, tillers of the soil and knew the use of iron, either killed off the local inhabitants or intermarried with them. Those who escaped, fled to the Kalahari where they still live out their existence. In course of time, the various Bantu tribes settled throughout the Transvaal and seem to have led a fairly peaceful existence, until the beginning of the nineteenth century with the rise of the Zulu tribe in Zululand. Shortly before the first Voortrekkers arrived in the Transvaal (\pm 1838 A.D.), the Zulu Chief Chaka, was terrorizing his neighbours, slaughtering whole tribes and scattering others far and wide. One of Chaka's generals, Mzilikazi by name, broke away with his army and marched into the Transvaal, plundering and killing as he went. The terrified local tribes, hid, sometimes for years, in the numerous caves scattered over the South-Western Transvaal. Potsherds of typical Bantu manufacture have been found in the Wonderboom Cave, so the place was undoubtedly used as a refuge in recent times. (ibid)



Illus. 338: The large cave (Author, 2011)

n.d

5.4.3 Wonderboompoort

n.d - 1896

The photos below illustrate the Wonderboompoort over a period of time. No dates are available. (Pretoria archives, 2011)



Illus. 339-344: Old photographs of Wonderboompoort (Pretoria Archives, 2011)

1896-1898

According to Hettie Cilliers in the Pretoria newsletter (Swanepoel, 2003) the wonderboompoort only closed once in her lifetime and it was during the second Anglo Boer War after Lord Roberts' annexation of Pretoria. It was said that after a few months they opened the poort for some boers to enter, but they had to show a permit in order to enter the town. At Wonderboompoort two guards were stationed, one in front of the poort on the side of Pretoria and one in the poort, with orders to look at each passenger's pass and to be on the lookout for any suspicious looking persons.

The story goes that Margaretha Malan from Haartbeeshoek, situated at the back of the Magaliesberg, — the same farm where brother Danie Malan started his tree nursery and where the Malan brothers still have their nursery — made use of her pass twice a week to take some fruit to the market and do some shopping herself. She used a 'molwaentjie' and oxes because all the horses were taken for the army (Swanepoel, 2003).

Rosal Swanepoel mentioned the article written in the *Ou Pretoriana*. Hettie Cilliers wrote about her experience of Wonderboompoort at the age of 96. She was a child when they went through the poort, in 1892. She talks about the wild nature, and magnificent mysterious character of the poort. It was rare to find someone else on that route on the same day. The Apies river would overflow the pass during the rainy seasons, and then the water would fill the wagons. She talks about the large mountain ridges on both sides of the poort. (Swanepoel, 2003)

Margaretha Malan also helped poet Jan Cilliers to escape through the Wonderboompoort in August 1900.



Illus. 345: A photo of Wonderboompoort out of the Tom Andrews collection. This photo was taken before 1900. (Swanepoel, 2003)



Illus. 346: The apies river was dammed up more than a century ago at Wonderboompoort. Only a small trail crossed the dam wall through the poort (1882) (die weg, vol 44)

1882

1918



Illus. 347: Boating at the Wonderboompoort in 1918. (Pretoria archives, 2011)

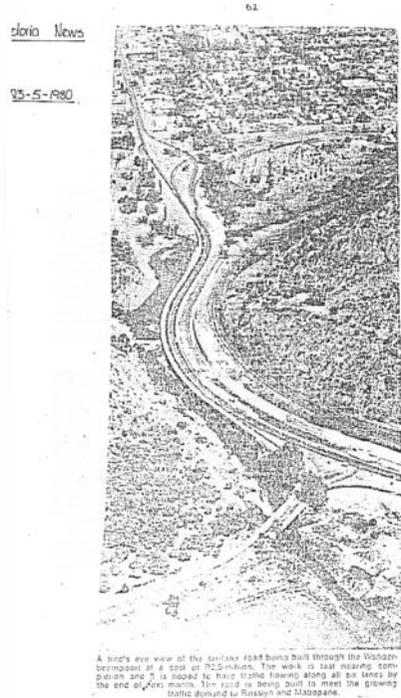
1979 -1980



Illus. 348: The Pretoria-Polokwane route goes through the poort from the previous century. The railway was the most important reason for the development of Pretoria (1980) (Die Weg, vol 44)

In January 1979 the new freeway through Wonderboompoort has progressed immensely. To avoid any damage to the nature reserve, the freeway was built on the western side of the Apies river. The freeway was implemented in the winter of 1980. This road greatly improved the traffic flow to the north. The road construction costs were R2.5 million. (Wonderboom management, 2011)

There were some rumors of a ringroad, which meant that there was the possibility of a tunnel through Magaliesberg, or the cutting of a part of the eastern side of the ridge, which would have been highly problematic for the animal biodiversity in the reserve. The third option was to build a bridge system over the Apies river. (Wonderboom management, 2011)



Illus.349: Newspaper articles on the new highway system going through the poort. (Management, 2011)



5.4.4 The Wonderboom Fort

At the top of the Wonderboom Hill are the ruins of the Wonderboom Fort, one of four forts built by the former South African Republic at the end of the 19th century to defend Pretoria against the British forces. (Brochure, 2010)

Shortly before the Anglo Boer War (1899-1902) the Government of the Zuid Afrikaan Republiek (ZAR) decided to fortify Pretoria in order to protect the capital. A defence plan was drawn up by a former French artillery officer and military engineer, Leon Grunberg. He identified eight strategic places around Pretoria and suggested that armoured revolving dome towers, equipped with heavy artillery be erected at these places. The eight positions that he had in mind were Klapperkop, Schanskop, Kwagga-spoot, Daspoortrand (west), Magaliesberg west (possibly at hartebeeshoek or Hornsnek), Wonderboompoort, Derdepoort and Strubenkop. By doing this, Pretoria would have been turned into a virtually impregnable fortified town. (Van Vollenhoven, 1998)

Since his plan could not provide sufficient shelter and accommodation for a large number of soldiers, it was rejected, and as an alternative the plan of two German engineers, Otto. Albert Adolph van Dewitz and Heinrich C. Werner to build forts was accepted. It was decided to build a fort at each of the places referred to, and a building commission under chairmanship of Commandant General Piet Joubert was established to manage the activities. (Van Vollenhoven, 1998)

Owing to a shortage of money only four forts were completed and the commission was dissolved in 1899. The forts completed were those at Klapperkop, Schanskop, Daspoortrand and Wonderboompoort. (Van Vollenhoven, 1998)

Fort Wonderboompoort was built by the German Krupp firm, and was completed on 4 September 1897. The costs of erecting this fort amounted to £49 000. It had the same type of entrance gateway as fort Schanskop. Ramparts were erected around the fort to improve its defences. (Van Vollenhoven, 1998)

Initially, members of the Rijdende Artillery were on duty in the forts. Later a special division of the staatsartillerie namely the Corps Vesting Artillerie, consisting of 100 men, was established to man the forts. Although the German forts were built for a garrison of 30 men, they were never fully manned. Lieutenant J. Wolmarans was commander of fort Wonderboompoort. (Van Vollenhoven, 1998)

This fort was also provided with electricity generated by a paraffin engine, and lightning conductors were erected. An underground telegraph connection was installed. The fort was also connected by telephone with the office of the commandant general. Water was pumped from the Apies River in the poort to the fort where it was stored in a reservoir under the ammunition room. (Van Vollenhoven, 1998)

On 23 October 1899 18 men were stationed there along with the 3 canons that were planned for the fort; a Long Tom, a 37mm-Maxim-Nordenfelt and a Martini-Henri- hand maxim. The Wonderboom fort was very modern for its day as it had telegraphic and telephone equipment. (Pamflet, 2011)

It was never used. It was blown up, probably on the instruction of Prime Minister Jan Smuts, in the early days of the Second World War, lest it be used by anti-government dissidents as a springboard for an attack on the state. (Brochure, 2010)

1897

1899

1900-1951

When the British troops advanced on Pretoria, it was quite obvious that the forts were useless for the purpose for which they were built according to Behrens (1956: 43-45). Behrens states that General Louis Botha, Commandant General of the Republican forces, had all the ammunition and guns removed from the forts with the result that when Lord Roberts's troops entered Pretoria on 7 June 1900, not a single shot was fired from these forts. The fort was handed over to the British.

On 7 July 1904 it was opened to the public as it was not under military possession anymore. (Pamflet, 2011)

In 1936 the Skanskop and Klapperkop Forts were declared national monuments and entrusted to the care of the municipality. When the Second World War broke out these two forts were up to January 1951 used by the military authorities. They are now again maintained by the municipality. (Behrens, 1956: 43-45)

Wonderboom Fort was not proclaimed a national monument, and as the photographs show, it was damaged not only by human hands but there is also luxuriant vegetation within the area that formerly constituted the fort. The damage to one of the entrance pillars was caused by fortune hunters who thought that the imaginary Kruger millions might possibly be hidden in it. (ibid)

5.4.4.1 Historic images of the four Boer fortifications of Pretoria and their uses (1896 - 1898)

5.4.4.1.1 Fort Schanskop

1896 - 1900's



Illus. 350: Fort Schanskop in use during the second Anglo Boer War. Notice the corrugated buildings and bell tent in the courtyard. (International Archives, 2011)



Illus. 351: Fort Schanskop in 1938 (Pretoria Archives, 2011)

5.4.4.1.2 Fort Klapperkop

1896 - 1900's



Illus.352: Fort Klapperkop in use. Notice the wagons. (International Archives, 2011)



Illus. 353: Fort Klapperkop during in use during the Anglo Boer War. Notice the corrugated buildings and activities in the courtyard.(International Archives, 2011)



Illus. 354: Fort Klapperkop in use. Notice the water furrows (International Archives, 2011)

5.4.4.1.3 Wonderboomfort

1896 - 1900's



Illus. 355: Fort Wonderboompoort in use during the second Anglo Boer War. Notice the corrugated buildings and wagons (International Archives, 2011)



Illus.356: Fort Wonderboompoort in use during the second Anglo Boer War. Notice the corrugated buildings and wagons (International Archives, 2011)

5.4.4.1.4 West fort

1896 - 1900's



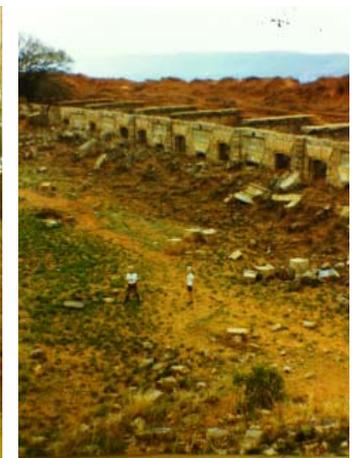
Illus.357: Fort Daspoostrand (Westfort) in the time when it was still in use. (International Archives, 2011)



Illus.358: Fort Daspoostrand (Westfort) in the time when it was still in use. Notice the corrugated building and tent. (International Archives, 2011)



Illus. 359: The entrance gate of Westfort at Daspoostrand in 1984 (Pretoria Archives, 2011)



Illus. 360: Ruins of Westfort at Daspoostrand in 1984 (Pretoria Archives, 2011)

5.4.5 Wonderboom Nature Reserve

According to the oldest deeds office entry found relating to the farm Wonderboom, the beacons were erected and pointed out on 10th August 1847, before the establishment of Pretoria and L.A. and T.C.J Erasmus were the first owners. (Fauna & Flora, 1956: 3)

According to H.P. Behrens 'Wonderboom' is most likely one of the oldest European place names found in the Pretoria area. It is said that historians traced its origin back to the days prior to the first white men settling in this part of the Transvaal—when the Magaliesberg was still known by its original name, the 'Cashan Mountains'. (Behrens, 1956: 7)

The tree and its surrounding area most likely played an important role in the life of the native people inhabiting this part of the country before Europeans made their appearance.

The exact age of the tree is unknown, but according to Behrens (1956) the tree dates back to when Stone Age people roamed this area. Their camp was discovered to the east of the tree, and they might have used the tree as an ideal feasting spot after their hunt along the Apies River.

Illus. 361: Aerial photo of Wonderboom Nature Reserve in 1947. Notice the minimum urbanization. The tree is clearly visible. Note the Wonderboom fort on top. (Tshwane, 1947)



1947

2006



Illus. 362: Aerial photo of Wonderboom Nature Reserve in 2006. Note the development at the foot of the mountain (Built Architects, 2006)

2011



Illus. 363: Aerial photo of Wonderboom Nature Reserve in 2011. Note the new Wonderboom junction development opposite the resort area. (Geology Dept. University of Pretoria, 2011)

5.4.5.1 The establishment of the nature reserve

For many years the Dingaan's Day (also known as the Day of the Covenant 'Geloftefees', and today it is known as Reconciliation Day) celebrations were held at the Wonderboom. The festivities were organised by the Wonderboom Dingaan's Day Celebrations Committee (the committee during that time), and it was this committee which seriously concerned itself with the future of the Wonderboom. This committee requested and approved the establishment of a committee which would collect funds for the purchase of a piece of the Wonderboom farm, with the tree on. They needed to acquire the entire property eventually. The committee would also be in control of the maintenance and improvements. The tree would then be transferred to the Commission for the Preservation of Natural and Historical Monuments, Relics and Antiques. This committee was called the Wonderboom Purchase Committee. (Behrens, 1956: 7-21)

At the first meeting of the committee on 7 August 1931, Mr. van Gass, representing the Wonderboom Dingaan's Day Committee, explained the reasons that prompted his committee to support the purchase of the Wonderboom. His committee obtained the option to purchase an area of about 44 morgen surrounding the Tree. These options will then be given to an approved body, such as the National Monuments Commission, provided that his committee was authorised to continue holding Dingaan's Day celebrations at the Wonderboom. The Purchase Committee agreed upon everything and that there should be a place where national celebrations can be held. At this meeting it was decided that this area could also serve for recreational purposes and that it could be developed as a botanical garden. (Behrens, 1956: 7-21)

According to Behrens (1956), the committee decided that every effort should be made to acquire the tree in the view of its historical and scientific value for the nation so that it could serve as a permanent meeting place for Dingaan's Day and other national celebrations. Should sufficient funds be collected, the Wonderboom area should be developed as a botanical garden and recreational centre. Another decision was to collect funds from the public, the Government, the Provincial Administration and municipal councils.

The options that had been obtained to purchase the wonderboom area were transferred to the Purchase committee in February 1934 and in April 1934 the committee's activities aroused considerable interest in Johannesburg, according to Behrens (1956) which resulted into the establishment of a sub-committee.

The committee decided that a brochure would help in the advertisement to raise funds, but it never happened even though the Travel Department of the South African Railways had offered to bear half of the costs of publishing such a brochure.

Representations made to the City Council of Pretoria received full sympathy from the council in regards with the development of the Wonderboom. Five or six years after the representation of the alternative outlet from Pretoria to the North were brought about with the co-operation between the Province and the Council. This new outlet—the road via Voortrekker Nek which skirts the Wonderboom terrain on its eastern side was made a reality. (Behrens, 1956: 7-21)

1931

1934

1935

In September 1935, the committee came to the conclusion that there is still not enough funds collected from the private sector, they decided then to approach the City Council of Pretoria, the Provincial Administration and the Union Government with a suggestion that each of them should accept the principle of paying one-third of the purchase price of about 60 Morgan around the Tree.

The City Council responded positively and agreed upon paying one third and even suggested that they will play guardian should the Tree be acquired and be transferred to the Historical Monuments Commission. It was intimated that as the area south of the Tree, which the Council was proposed to buy was already municipal property, the possibility of incorporating this with the proposed nature reserve, would be considered favourably. The hope was expressed that the Board of Trustees of the National Zoological Gardens would assist in stocking the area with suitable animals.

The province did not respond that positively to the negotiations, of agreeing to pay the same amount as the City Council (£1.100) as well as the Government turned them down in November 1935, because according to them this is not a national matter. (Behrens, 1956: 7-21)

1936

The Purchase Committee did not give up and in February 1936, they sent a deputation to the City Council's General Purposes Committee and suggested that the City Council should be the sole owner of the proposed reserve.

The City Council agreed on 28th September 1936 to purchase the Wonderboom area with the tree. The area bought by the Council was subsequently incorporated into the municipal area.

In December 1936, at the last meeting of the Purchase Committee, they suggested to the Council that a similar Committee should remain in being to act in an advisory capacity in assisting the City Council in the achievement of its other objective, namely, the development of the area around the Wonderboom as a nature reserve. This committee would be called the Wonderboom Advisory Committee. The Committee also suggested that the Council should be urged to take immediate steps to preserve the tree. The need to appoint a caretaker was considered.

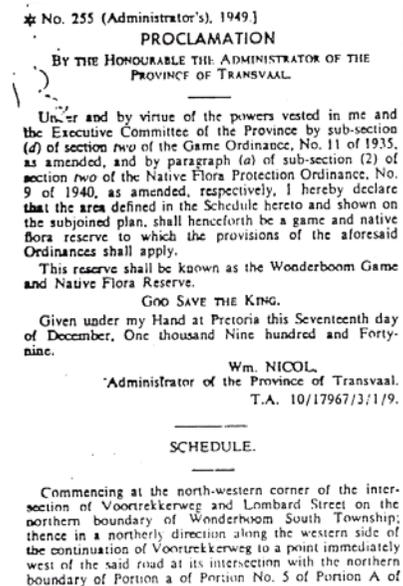
The decision was made that the area around the tree should be fenced, because some damage can be done to the tree by picnickers, casual visitors and animals which now had unrestricted access to the Tree. This measure was taken for the time until the entire area could be developed and managed. (Behrens, 1956: 7-21)

The Advisory Committee held its first meeting in February, 1937, and shortly thereafter submitted a number of suggestions to the Council. The Committee was then informed that the area around the tree was already fenced, they renewed their former pleas that the whole area should be proclaimed as a nature reserve, and added that the area already acquired should be enlarged by the acquisition of about 60 acres on the southern slope of the mountain.

The Council agreed in principle that the area around the tree should be proclaimed a game and nature reserve to be known as the 'Wonderboom Reserve'.

The Council learned that the National Roads Board proposed that the Great North Road pass through the Wonderboom Poort east of the river. This meant that any game in the proposed reserve would be cut off from the water. Many suggestions were made to the Road Board, but in the late 1938 they persisted in proposing the road on the eastern side of the reserve. The Second World War broke out and no road construction work was done. (Behrens, 1956: 7-21)

1937 - 1938



The Advisory Committee requested the Council to agree to the establishment of a Pretoria Reserves Advisory Committee. The Council announces the Pretoria Reserves Advisory Committee in March 1940.

In July 1941, Mr Abercrombie offered to sell his portion of the Wonderboom farm to the Council. This property adjoining the Council's portion, stretches from the north to south along the Apies River. The property was then bought by the Council from Mr Abercrombie for £6000.

Towards the end of 1943, the Reserves Advisory Committee urged the Council to apply to the Administrator to have the Wonderboom Reserve proclaimed as a nature, game and bird sanctuary and such an application was submitted in due course to the Provincial Administration. In May, 1949, the Provincial Secretary informed the Council that the Administrator-in-Executive Committee had agreed to the Wonderboom area being declared a game and native flora reserve.

After the war in January 1947, the Advisory Committee protested against the proposed location of the road. In March 1949, at a General Purpose Committee meeting, the Town Clerk reported that a new proposal was submitted to the National Roads Board, with the new road running on the western side of the Apies River.

The Advisory Committee made frequent suggestions for the development of the nature reserve but due to funding the Council could not agree to any of them. There was a little progress and various improvements were made, such as new latrines and native quarters in early 1947 and the provision of water in March 1952.

1940 - 1952

Illus. 364: The proclamation of Wonderboom Nature Reserve in 1949, as game and native flora reserve article. (Wonderboom management, 2011)

Although several suggestions for developing this area on lines similar to the Fountains Valley were made from time to time by the Director of Parks, lack of funds has thus far prevented the Council from giving effect to these schemes.

In addition to the proposed Wonderboom Reserve, the City Council had reserves at Rietvlei and Fountains Valley, and it was possible that more would be established through the course of time. (Behrens, 1956: 7-21)



THE remains of the Wonderboom Fort — one of four fortresses built around Pretoria before the South African War — have been cleaned out by the city council.

Perched high on the Magaliesberg to the north of the city, the fort's weathered walls offer visitors an interesting look into the past.

Although built for the defence of Pretoria, it was captured during the war by the Wonderboom Fort and its three counterparts — Westfort, Skanskop Fort and Klapperkop Fort — would be useless to stop the advancing British troops at bay.

General Louis Botha, commandant general of the Boer forces, had all ammunition and stores removed from the fort. As a result not a single shot was fired from there when Lord Roberts' troops entered the city in June 1900.

Visitors to the Wonderboom Nature Reserve can reach the fort at the top of the mountain by way of three hiking trails, starting near the entrance gate.

According to a spokesman for the city council's parks department, Mr Dirk van Heerden, the middle path going straight uphill is well recommended for the way in. Hikers interested in a more luxurious walk can reach the fort by any of the other two paths in about an hour.

The nature reserve is open to the public from 8 a.m. to 5 p.m. throughout the week, with an entrance fee of R1 a car being charged on Saturdays, Sundays and public holidays.

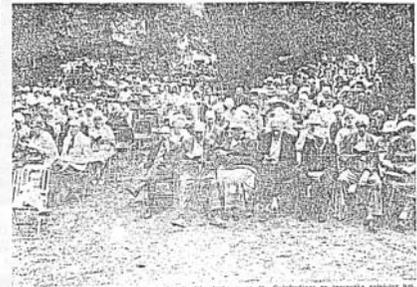


Below: Miss Alta Oberholzer, of the city council's public relations department, points to an enormous underground water storage tank. Now empty.

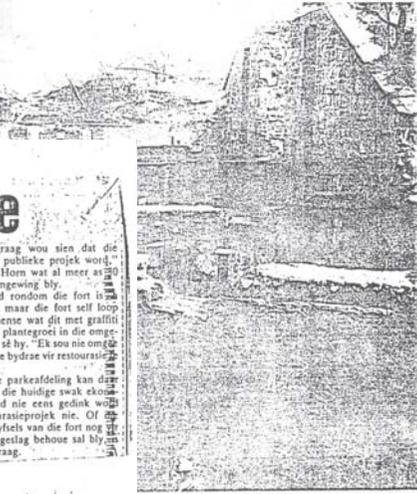
VOL. 2 BYLAE 2
PRETORIA NEWS Thursday July 10 1986

Opknappingskuur vir die park

DIE Wonderboom natuurwekkende Wonderboomreservaat tuisle van 'n opknappingskuur ondergaan. Die Leerlinge van die Hoërskool Overruin, het onlangs toestemming gekry om 'n skema oor natuurbewaring in die park te loods. Hulle sal die terrein skoonhou, ekologiese opnames van die plante en diere maak, 'n lys van al die bome, klein soogdiere en voëls opstel, en nommers op die bome aanbring, sodat besoekers sal weet wat hulle sien. Die leerlinge sal ook gedurende naweke as gidse diens doen; wanneer hulle eers met die park vertrou is. Die doel van die skema is om die bewaringsgedagte by leerlinge aan te wakker en die bydrae aan besoekers van die park oort te dra.



Viewed through an embrasure, Pretoria lies far down below.



Like ancient Roman ruins the old fort's weather-beaten walls are set to become another historic landmark in Pretoria. (Pictures: Morris Legoabe.)

Die Transvaler
19 Desember 1941

Stadsraad ondervind las met mense in natuurreservaat

Die STADSRAAD ondervind las met mense wat nie die beperkings van die Wonderboom-natuurreservaat opheem nie, het 'n woordvoerder van die park-afdeling gister gesê.

Daar is vroeër reeds aan die reservaat wat nie ag staan om die stadsraad se voorskrifte, die natuur en wild te bewaar. Dit wil voorskyn dat verskeie mense die reservaat misbruik vir vermaak en om te gaan. Die woordvoerder het gesê dat die stadsraad se voorskrifte nie opgeheem is nie. Die stadsraad se voorskrifte is dat mense nie in die reservaat moet gaan nie. Die woordvoerder het gesê dat die stadsraad se voorskrifte nie opgeheem is nie. Die stadsraad se voorskrifte is dat mense nie in die reservaat moet gaan nie.

PRETORIA — Wonderboompoortfort sal moes tot die oorspronklike vorm getoer word nie, teeny miljoene daaraan spandeer word. Sê sê mnr. Tom Andrews van die Skanskop Oud-Pretoria, hoewel die hoop om die reël as nasionale monument te gebruik te neem altyd sal bly. "Watter kans bestaan daar om die fort sonder geld na die oorspronklike vorm te herstel?", wil hy weet. Deur die jare is beperkte restaurasie onderneem, maar die meeste van die projekte is beplan te klein om 'n besliddende verskil te maak. In die stadium is leerlinge van Pretoria-Noord Hoërskool ook op die ter-

rein doernig. Hulle het onderneem om die kelder- en troepkamer asook die perdelstal te maak. Die ingang is reeds oopgemaak en die hekke sal eersdaags weer hang. Hulle beplan ook om die voetlaanpad tot by die ingang uit te herstel en boomspees in die omgewing te identifiseer met die oog op besoekers wat daar 'n draai kom maak. Sodra dit afgehandel is, word 'n bronspaat met die geskiedenis ook opgestel. Mnr. Johann Dreyer, aandragskondosent wat by die projek betrokke is, sê hoewel hulle geen geld het nie probeer hul om met "handarbeid en kennis" 'n bydrae te lewer, in die beperkte restaurasie wat saam met die

parkeafdeling van die stadsraad van Pretoria onderneem word. Die fort is op die stadsraad se grond geleë en was een van die vier forte wat in 1965 deur die Weermag vir restaurasie oorweeg is. Klapperkop en Skanskop kon teen die minste koste gerestoureer word, maar Wonderboompoort en Westfort moes laat vaar word. "Vandag dra Skanskop om land te geskiedenis van die Groot Trek tot met die Tweede Vryheidsoorlog, terwyl Klapperkop van daar tot met ons geskiedenis is," sê mnr. Andrews. Inwoners in die omgewing wat sedert hul kinderdae by Wonderboompoort rondgespeel het, sou graag wou sien dat daar iets aan gedoen word.

"Ek sou graag wou sien dat die restaurasie 'n publieke projek word," sê mnr. Peet Horn wat al meer as 20 jaar in die omgewing bly. "Die gebied rondom die fort is 'n wildreservaat, maar die fort self loop deur onder mense wat dit met graffiti bekrap en die plantegroei in die omgewing verniel," sê hy. "Ek sou nie omgee om 'n geldelike bydrae vir restaurasie te maak nie." Volgens die parkeafdeling kan daar in die lig van die huidige swak ekonomiese toestand nie eens gedink word aan 'n restaurasieprojek nie. Of die huidige oorhulsel van die fort nog vir die volgende geslag behoue sal bly, is 'n ope vraag.

Ou fort gaan ten gronde

PRETORIA — Die Transvaler woensdag 24 APRIL 1985

Fort to the north gives peek into the past

COR UYS
THE remains of the Wonderboom Fort — one of four fortresses built around Pretoria before the South African War — have been cleaned out by the city council.

Viewed through an embrasure, Pretoria lies far down below.

Illus. 365: Newspaper articles on Wonderboom Nature Reserve and the Wonderboom fort (Management, 2011)

5.4.6 The man-made waterfall



Illus. 366: The man-made waterfall view from the wonderboompoort highway (Author, 2011)

For the 50 year anniversary of Pretoria, it was decided to build a waterfall as a permanent reminder of the union festivities, of 4 November 1910.

Within a few months the waterfall already stopped working due to blockages in the pump and pipes. With the five year anniversary of the republic, money was taken out of the funds to double the waterflow of the waterfall. The water comes from a local water distribution network, and not from the Apies river. (Wonderboom management, 2011)



Illus. 367: Man-made waterfall, view from the side. (Author, 2011)

1960.

12-1-61
Die Vaderland
Waterval Weer In Aksie

POORT se nagemaakte waterval is vir altyd vir Pretorianers verlore.

Die pype en ander toerusting wat die waterval voorsien het, gaan deur die parke-afdeling, verwyder word om plek te maak vir die padwysingskema in die Poort.

Die mensgemaakte waterval is met Republiekvoording in 1961 geskep uit 'n Jubileumfonds wat die stadsraad gestig het. Die fonds is vermoedelik deur die Staat gesubsidieer.

Sedert die ontstaan van die waterval het dit uiteenlopende kommentaar uitgelok — deels omdat die standhoudingskoste daarvan taamlik hoog was.

Met die vyftiende herdenking van Republiekvoording is geld uit die fonds voorsien om die waterval na die waterval te verduubel.

Die elektries-angedrewe pompe het jaarliks 'n hoër herstelkoste en, kraagverbruik getoon — nagenoeg R2 500 — weens die hoër ring per dag.

Daarby was die waterstelsel aan die plaaslike voorsieningsnetwerk gekoppel. Die water is nie uit die Apiesrivier gepomp soos die meeste mense gedink het nie.

Die pompe is sedert Desember 1976 buite werking en dit sal nagenoeg R5 000 kos om dit te herstel. Om die redes het die bestuurskomitee aanbeveel dat dit liefst heeltemal verwyder word.

Oggendblad
9-8-1918

Waterval medisyne in betonwond

G. M. OOSTHUIZEN, Eastlynn, Pretoria.

Dit maak my hartseer dat een van die stad se mooiste kenmerke ook nou daarmee heen is.

Ek verwys na die kunswatervalletjie wat al die jare 'n lus vir die oog in die Poort was.

Kan daar dan nie 'n plan gemaak word om dit weer terug te bring nie? In 'n stad is daar so baie onaantreklike betoneplekke dat 'n bietjie water op die berg, soos medisyne vir die seer oë werk.

Oggendblad
18-7-1918

Illus. ? : Articles on the waterfall at Wonderboom Nature Reserve-highway (Management, 2011)

Illus. 368: Old articles on the Wonderboom Nature Reserve's waterfall (Management, 2011)

APPENDIX F: Archaeological data analysis



Illus. 369: The landscape at Wonderboom Nature Reserve (Author, 2011)

5.5 Archaeological data analysis

5.5.1 Historical sites on the reserve with cultural and archaeological significance

5.5.1.1 Stone Age

2 mill yrs ago - 1850 A.D.



Illus. 370: Locations of Stone Age artefacts (Author, 2011)

According to Hanisch (1956) men of the Old Stone Age used the hardest material they could find for making their implements such as the quartzites. Hanisch (1956) suggest that this area was an excellent location for settlement and hunting. The valley which was most probably densely wooded in Old Stone Age times which provide excellent shelter against the cold winter winds blowing from the Eastern Transvaal Highveld and from the Witwatersrand in the south. A fountain from which water could be obtained was within easy walking distance to the east of the site. (Hanisch, 1956)

One has a magnificent view over the plains on which northern suburbs of Pretoria now stands. A perennial stream crossed the plain, and must have attracted a lot of game. Huge migrations of game which early European travellers in southern Africa still witnessed, probably also took place 100,000 or 200,000 years ago when men of the Old Stone Age roamed the Transvaal. (ibid)

The Magaliesberg ridge must have acted as a barrier to these game migrations, and in the whole range there are only six gaps through which the antelopes could pass. One is at the near-by Wonderboom Poort. According to Hanisch (1956) thousands of antelopes probably left the sourveld of the Vaal River area at the beginning of winter to find better pastures and a less rigid climate in the Bushveld of the Central Transvaal. Life must have been easy for these ancient hunters and the ample meat supplies seem to have encouraged a measure of indolence, as is evidenced by the fact that many waste flakes on the site show signs of usage. Those Stone Age men did not always take the trouble of making well-shaped tools for cutting up their prey.

Site 1:

Refer to illus.370 . The site on the righthand side was a Middle Stone Age site against the southeastern slope of the mountain. According to van Vollenhoven (2008) it is possible that the stone tools may have been washed down from somewhere higher up the slope.

Location: GPS: 25°41'40"S
28°11'52"E
1304m

Cultural significance:

Medium cultural significance as it may only be loose stone tools. The importance thereof is that it indicates that Middle Stone Age people were present in this environment. (Van Vollenhoven, 2008)

Management guidelines from an archaeologist:

1. The position of the site should be taken note of, but no action is necessary.
2. Should any developments be planned here it should be re-evaluated.

Site 2:

According to Van Vollenhoven (2008) the well-known cave just above the waterfall against the western rock face of the mountain as well as at a secondary cave south of the main one, some Middle Stone Age tools were identified. Undecorated potsherds here indicate that the cave might also have been used during the Iron Age. Potshards are also found in abundance in the area around the cave, both above and down slope .

location: GPS: 25°41'16"S
 28°11'23"E
 1012m

Cultural significance:

According to Van Vollenhoven (2008) the site is of a high cultural significance as it may contain many layers of cultural deposit below the top layer which mostly consist of soil mixed with rodent dung. These layers most probably are undisturbed and therefore may contain valuable information on past people.

Management guidelines from an archaeologist:

1. The fence should be replaced by a more suitable one. The position of the fence also should be moved a few metres further from the cave entrance as this will enhance the natural beauty of the area. It will also include and therefore protect cultural material contained just outside of the cave. The fence should have a gate giving access to visitors and researchers, but this should be kept under lock.
2. The recent material inside of the cave should be removed.
3. Archaeological excavation inside of the cave and just outside should be considered. Information obtained from this and even a display of artifacts can be used in a visitor's centre to be placed close to the entrance gate. Information signs on site may be considered.
4. Visitors should be monitored. No visits inside the cave should be allowed without supervision of trained guides.



Illus. 371: Middle Stone Age tools (Van Vollenhoven, 2008)



Illus. 372: The large cave (Van Vollenhoven, 2008)



Illus. 373: Middle Stone Age tools found at the cave (Van Vollenhoven, 2008)



Illus. 374: Decorated potsherds (Van Vollenhoven, 2008)

5.5.1.2 Iron Age

250 A.D. - 1840 A.D..



Illus. 375: Locations of Iron Age artefacts (Author, 2011)

regarding the time Mzilikazi spent in the Wonderboom area. No archaeological proof for this has ever been presented. It is also possible that the site is linked to Musi or one of his sons and therefore it may present evidence regarding the possible existence of Tshwane, who has yet to be scientifically proven.

Management guidelines from an archaeologist:

1. The site should be documented by drawing a plan thereof. Clear the area of vegetation.
2. Archaeological excavation of the site should be considered in order to elucidate the questions posed above. The cleaning of the site will make it possible to get a clearer understanding of the site.
3. The site should be kept clean and included in the interpretation of the reserve.
4. Information obtained from the research and even a display of artifacts can be used in a visitor's centre to be placed close to the entrance gate.
5. Visitors to the site should be monitored.
6. The pathways may continue through the site, but should research determine it to have a negative effect on the Iron Age site, it should be re-routed.

Site 3:

According to Van Vollenhoven (2008) this is a large Late Iron Age site consisting of various stone packed walls and other stone enclosures, such as circular enclosures which links to smaller circles (it might have been use as a gathering space 'Kgoro'), large circular enclosures under trees, terrace stone walls, Stone walling including different circular and semi-circular enclosures and scalloped walls.

The site almost stretched from east to west, almost across the entire crest of the mountain.

According to Van Vollenhoven (2008) the site is too overgrown to make any further interpretations. It does seem as if stones from these walls may have been used for later structures such as the pathways for visitors and some fortification walls. There even is a slight possibility that stones from this site may have been used in the building of the fort. The stone paved pathways for visitors leading up the mountain cut through the site.(Van Vollenhoven, 2008)

Cultural significance:

Van Vollenhoven (2008) states that this site is of a high cultural significance. Not only is it a substantial site, but it may contain information



Illus. 376: Stone walls, part of the large enclosure and a circular stone enclosure at site 3 (Van Vollenhoven, 2008)

Site 4:

Site 4 consists of possible low stone walling and undecorated potshards. The area clearly shows signs of having been disturbed. According to Van Vollenhoven (2008) it possibly dates to the Late Iron Age.

Location: GPS: 25°41'45"S
 28°11'27"E
 1385m

Cultural significance:

According to Van Vollenhoven (2008) the site is of a medium cultural significance as it does not seem to be very large and does not seem to contain cultural deposit.

Management guidelines from an archaeologist:

1. As long as no development is planned here, the site should just be left as it is.
2. Should any developments be planned here, it should be re-evaluated.

Site 5:

The site is located in the resort area. It consists of different features related to the Late Iron Age. The information signs at the Wonderboom tree indicate that people may have lived around the tree and that they also may have buried some of their ancestors here. However, it is also indicated that this could not be proved yet. (Van Vollenhoven, 2008)

Due to the developments in the resort, this area has been disturbed extensively. In accordance the cultural features here are in a bad state and almost non-existent. According to Van Vollenhoven (2008) potshards are found almost anywhere within the resort area, but these may have washed down from up the mountain as potsherds are also found on different spots against the northern slope of the mountain.

Location:

GPS: 25°41'11"S
28°11'29"E
1234m

This is an area with iron slag and potshards. Some stones within the grass may be the remains of walls, but this is very uncertain.

GPS: 25°41'17"S
28°11'21"E
1230m

At least three circular stone features are vaguely visible in this area. It may be the remains of Late Iron Age stone walling.

Cultural significance:

According to Van Vollenhoven (2008) the site is of a medium to high cultural significance. It may contain very important information regarding either Mzilikazi or Musi and his sons (including Tshwane). If this could be proven the site will increase in significance. However the state of preservation of the site is very poor and it is possible that not much remains thereof.

Management guidelines from an archaeologist:

1. Archaeological excavation by means of test trenches should be considered in order to elucidate the questions posed above.
2. From the research a re-evaluation of the site can be made.
3. Useful information obtained from the test excavations and even a display of artifacts can be used in a visitor's centre to be placed close to the entrance gate. Information signs on site may be considered, but it is always difficult to maintain.
4. Should any new developments that may impact on the site be planned, the area should be carefully monitored for more signs of cultural material being unearthed. Should that be the case an archaeologist should immediately be contacted to investigate the find. As the site is in the developed part of the reserve it may indeed be impacted upon frequently and it should therefore be monitored constantly.

Site 6:

This is a Late Iron Age site and consists of a number of stone walled features. Firstly there is a circular stone wall of 0,40m high and 6m in diameter. It is placed on top of a rock outcrop at the mountain slope in the northeast of the reserve. Access to the site is very difficult because of a rock face above and below it. The stone wall is basically built on the edges of a small terrace between the rock faces. (Van Vollenhoven, 2008)

According to Van Vollenhoven (2008) such a feature found in isolation may indicate a place where someone stayed while in hiding (perhaps during the Difaquane) or where livestock (only goats would have been able to reach this location) may have been hidden. It also may indicate an outpost linked to the large site mentioned earlier (site 3).

Above this wall another oval shaped one is situated. It is 0,40m high and has a diameter of 4m. Access to this is also very difficult. Another two walls are found a few meters higher up against the rock face.

Location:	GPS: 25°41'22"S 28°11'48"E 1341m First circular wall	25°41'23"S 28°11'48"E 1344m Oval shaped wall
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Cultural significance:

According to Van Vollenhoven (2008) the site is of a medium cultural significance on its own, but if it is contemporary with site no 3, it would be of high cultural significance. In such a case it could indeed contain valuable information that may shed light on lifestyle during times of turmoil.

Management guidelines from an archaeologist:

1. Test excavation of the features may indicate its link to site no 3 and should therefore be considered.
2. From the research a re-evaluation of the site can be made.
3. Useful information obtained from the test excavations and even a display of artifacts can be used in a visitor's centre to be placed close to the entrance gate.

Site 7:

According to Van Vollenhoven (2008) this site probably dates to the Late Iron Age. It consists of two circular stone walls close together on a level area on the southern slope of the mountain. It could have been an outpost for livestock

Location:	GPS: 25°41'40"S 28°11'45"E 1337m
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Cultural significance:

On its own the site is of a medium cultural significance, but if it is contemporary with other sites, it would be of a higher cultural significance.

Management guidelines:

1. see above mentioned guidelines.

Site 8:

This site consists of a large circular stone walled enclosure of more or less 30 m in diameter. It may have been used as a cattle enclosure according to Van Vollenhoven (2008)

Cultural significance:

Medium cultural significance, but if it is contemporary with other sites, it would be of a higher cultural significance.

5.5.1.3 Other cultural features

1827 - 1988



Illus. 377: Locations of other cultural features (Author, 2011)

Site 11:

This feature consists of a man-made hole in the ground. It is one of many similar holes found on the site as indicated in fig. 379. This particular one has a diameter of approximately 8m.

According to Van Vollenhoven (2008) it is impossible to determine what the purpose of the hole was and when it was dug. It may have been created by prospecting activities both during the Iron Age or the historical era, but it may also have been created when stones were cut to build the fort. Other possibilities are that it was dug to serve as water cistern or for the purpose of a toilet or refuse hole. The one farm boundary ends in this particular hole and it therefore is possible that the stones used for that purpose came from this hole.

Location: GPS: 25°41'35"S
28°11'30"E
1386m

Site 10:

Many different indications of the old farm and camp boundaries and fences were identified. Although these are not necessarily linked together, they are all numbered feature 10 and only indicate where such fences existed in the past.

Cultural significance:

The indications of old fences are of low cultural significance. However the indication of a boundary wall and piece of heavy machinery may increase the cultural significance if more could be learned about it.

Management guidelines:

1. As long as no development is planned here the features should just be left as it is.
2. The stone packed boundary should be preserved.
3. Should any developments be planned here it should be re-evaluated.



Illus. 378: Large cement block with remains of an old farm boundary. (Author, 2011)



Illus. 379: One of four man-made holes in the ground close together. (Van Vollenhoven, 2008)

Cultural significance:

The feature is of a low cultural significance as it has no contextual information. It also is not unique.

Management guidelines:

1. As long as no development is planned here the site should just be left as it is.
2. Should any developments be planned here it should be re-evaluated.

Site 12:

According to Van Vollenhoven (2008) this site consists of the vague remains of a structure build from stone. It is associated with potsherds, pieces of glass, parts of a metal cooking pot (driepootpot) and other artifacts. Iron slag was also identified, but no clear indication of a smelting furnace could be identified. It may be a chance find. Middle Stone Age artifacts were also found here.

Location: GPS: 25°41'45"S
28°11'29"E
1267m

The site is on both sides of the gravel road at the foot of the mountain on its southern side.

Cultural significance:

The site is of a medium cultural significance as it most probably is associated with other features. Should remains of smelting furnaces be identified later the site which is unlikely it will change to a high cultural significance. (Van Vollenhoven, 2008)

Management guidelines:

1. As long as no development is planned here the site should just be left as it is.
2. Archaeological research should be considered, but it should not be a priority at this stage.
3. Any developments here should rather not be on this specific spot.
4. The site should be re-evaluated if more information is gathered.

Site 13:

According to Van Vollenhoven (2008) this is a possible refuse midden and includes potsherds, porcelain, metal, concrete and glass pieces. A ceramic inkpot and ginger pot from the late 19th – early 20th century was also found here as well as the inside parts of an accordion. These artifacts are similar to what has been found at other sites dated to the Anglo Boer War. It seems as if the midden was covered with stones at some stage.

Cultural significance:

The site is of a high cultural significance as it most probably is associated with the fort. It may be the original refuse midden of the fort.



*Illus. 380: Artefacts found at site 12
(Van Vollenhoven, 2008)*



*Illus. 381: Man-made waterfall.
(Van Vollenhoven, 2008)*



*Illus. 382: Catchment of the waterfall.
(Van Vollenhoven, 2008)*



*Illus. 383: Pillar to keep water pipe serving the waterfall in place.
(Van Vollenhoven, 2008)*

Management guidelines:

1. As long as no development is planned here the site should just be left as it is.
2. The site should be excavated to determine its age and the depth of the deposit.
3. No developments should be allowed here.
4. The site should be re-evaluated after research has been completed.

Site 14

This site includes the waterfall and the features associated with the waterfall.

The man-made waterfall is located on the western side of the mountain.

Location: GPS: 25°41'23"S
 28°11'18"E
 1012m

Cultural significance:

The feature is of a high cultural significance as it was made as a monument to the 50 years celebrations of the Union of South Africa in 1960. Today it also is a well known feature in the city. (Van Vollenhoven, 2008)

Management guidelines:

1. As long as no development is planned here the site should just be left as it is.
2. No developments should be allowed here except if it is done to enhance the waterfall and associated features.

The catchment dam of the waterfall is of medium cultural significance.

Management guidelines:

1. As long as no development is planned here the site should just be left as it is.
2. Should developments be planned here the dam should not be demolished, but if it is replaced by another system serving the same purpose, it may be left to deteriorate naturally.

Site 15:

According to Van Vollenhoven (2008) this site consists of a U-shaped flowerbed and small pedestal as well as a stage, all made from stones and concrete with slate cladding. It is the old stage used for the Day of the Vow (Geloftedag) commemorations, nowadays called Day of Reconciliation.

Day of the Vow is the commemoration of the Battle of Blood River which took place on 16 December 1838 where the Voortrekkers

had a victory over the impi of Dingane in what is seen as the final battle to break the power of the Zulu king. Before the battle the Voortrekker made a vow to God that they would commemorate this day should they be successful in battle. (Van Vollenhoven, 2008)

Location: GPS: 25°41'13"S
 28°11'30"E
 1249m

Cultural significance:

The site is of a high cultural significance as it is regarded a central focus point of the yearly commemorations on the 16th of December of an important chapter in the history of this country.

Management guidelines:

1. As long as no development is planned here the site should just be left as it is.
2. No developments should be allowed here if it is harmful to the site. However it would be possible to incorporate it within a development plan.
3. The site should be re-evaluated should such developments be planned

Site 16:

This is a small cement dam and trough made as water drinking place for the wild animals on the reserve. It was found in the south-east of the property next to the gravel road.

Cultural significance:

This is of low cultural significance, because it is not very unique.



Illus. 384: Day of the Vow podium, flower bed and stage. (Built Architects, 2006)



Illus. 385: Pedestal used as part of the Day of the Vow celebrations. (Van Vollenhoven, 2008)



Illus. 386: Drinking place for the animals (Author, 2011)

5.5.1.4 Military features

1897 - 1902



- Sites indicated with the light grey arrows are other features such as furrows and stone cement structure and circular shaped walls.
- Sites indicated with the dark grey arrow are fortification walls
- Sites indicated with the white arrows are block houses
- Sites indicated with darkest grey arrows are man-made holes
- And lastly the red arrow indicates the Wonderboom fort

The circular packed stone structures are probably according to Van Vollenhoven (2008) the remains of the British block houses build during the Anglo-Boer War (1899-1902).

Location: GPS: 25°41'30"S
28°11'45"E
1415m

Cultural Significance:

As not many remains of blockhouses from the Anglo-Boer remains, the site is of a high cultural significance.

Illus. 387: Locations of military features (Author, 2011)

Management guidelines:

1. Test excavation of the site may be considered, but it would not be a priority.
2. From the research a re-evaluation of the site can be made.
3. Useful information obtained from the test excavations and even a display of artifacts can be used in a visitor's centre to be placed close to the entrance gate.
4. If any developments are planned where the site is located, it should be re-evaluated within the context of such plans.

The man-made holes, refer to the explanation under heading 5.5.1.3, but these holes are close to the fort and it seems that it was filled up at some stage to contain its contents. Because it is associated with the fort, it becomes of high cultural significance.

The fortification walls according to Van Vollenhoven (2008) gave cover for one or two persons. Some fortification walls are very long to protect access to the fort via the valley. It is of high cultural significance, as it falls within the context of the fort.

Management guidelines for the fortification walls:

1. As long as no development is planned here the site should just be left as it is.
2. Should any developments be planned here it should be re-evaluated, but within the context of being part of the defence system around the fort, it should be left in situ and may be utilized as tourist destination.
3. Visitors to the site should be monitored.

The furrow at the back and northwest of the fort, it may have something to do with the draining of water away from the fort. It is of high cultural significance as it has an association with the fort.

The cement structure behind the fort near the furrow has remnants of large bolts, which may indicate that some kind of machine was fixed on this structure. It may have been a pump for water which was pumped from the Apies River to the fort. This is also of high cultural significance.

This is the remains of a corrugated iron blockhouses that was built by the British during the Anglo Boer War (1899-1902). It is situated to the west of the fort and to the north of the large radio tower on the mountain crest.

According to Van Vollenhoven (2008), what remains to be seen on site includes a circular wall made from medium to small sized stones. South and east of this other wall remains can be seen. Some corrugated iron is also left on the site. The blockhouse would have been placed inside of the mentioned stone walls.

Location: GPS: 25°41'28"S
 28°11'36"E
 1412m

Cultural significance:

The feature is of a high cultural significance as it is connected with the fort and the Anglo Boer War.

Management guidelines:

1. As long as no development is planned here the site should just be left as it is.
2. No developments should be allowed here except if it is done to enhance the historical fort and associated features.
3. In the event of any such developments be planned here the feature should be re-evaluated and incorporated within such a development plan.
4. The feature should be interpreted within the context of the fort.
5. Archaeological excavation of the site may be considered, but should not be a priority. Information obtained from this and even a display of artifacts can be used in a visitor's centre to be placed close to the entrance gate. Information signs on site may be considered, but it is always difficult to maintain.
6. Visitors to the site should be monitored. No visits to the fort and associated features should be allowed without supervision of trained guides.

The remains of two circular shaped stone walls of more or less 0,20m high is found near the fort. According to Van Vollenhoven (2008) it may have been used for a flag staff or to place a heliograph on during the Anglo Boer War (1899-1902). A heliograph is an instrument used to send signals via mirrors.

Location: GPS: 25°41'31"S
 28°11'44"E
 1411m

The site is of high cultural significance as it is connected with the fort and Anglo Boer War. The guidelines is the same as above.



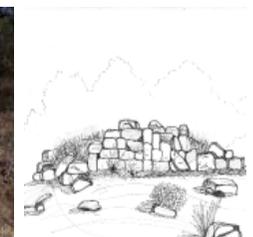
Illus. 388: Remains of a blockhouse from the Anglo Boer War (Van Vollenhoven, 2008)



Illus. 389: Half moon shape fortification wall (Van Vollenhoven, 2008)



Illus. 390: Concrete construction behind the fort which was probably used to fixed large machinery on. (Van Vollenhoven, 2008)



Illus. 391-392: Fortification walls (Author, 2011)

The last site under military features, the Wonderboom fort.



Illus. 393: Entrance to fort wonderboompoort (Author, 2011)



Illus. 394: View of the fort from the top (Author, 2011)



Illus. 395: View from the side of the fort (Author, 2011)



Illus. 396: View from inside of the fort looking through all the openings (Author, 2011)

The fort was built by the ZAR Government prior to the Anglo Boer War (1899-1902). The fort was completed in 1897 as part of the fortification plan for Pretoria. What remains to be seen on site is the walls and floors of the building. No roof, doors or windows are left inside, but the entrance doors are still in tact. The fort also includes smaller features contributing to the importance thereof. refer to heading 4.4 for more information regarding the fort. For more information with regards to the archaeological aspects of the fort refer to 'Van Vollenhoven, 1999, The military fortifications of Pretoria: a study in historical archaeology'.

Location: GPS: 25°41'33"S
 28°11'39"E
 1422m

Cultural significance:

The feature is of a very high cultural significance as it is connected with the Anglo Boer War. It is one of only five built during this time and one of only three built by a German company. It is the only one that can still be studied in its original form. It therefore is of the utmost importance in studying this chapter in the history of South Africa. (Van Vollenhoven, 2008)

Management guidelines:

1. No developments should be allowed here except if it is done to enhance the historical fort and associated features.
2. In the event of any such developments be planned here, the site should be re-evaluated and incorporated within such a development plan.
3. The site should be interpreted within the context of all other fortifications and associated features.
4. The recent graffiti at the fort should be cleaned with a substance that will not damage the building.
5. Continuous research especially with regards to detail aspects should be supported. Information obtained from this and even a display of artifacts can be used in a visitor's centre to be placed close to the entrance gate. Information signs on site may be considered, but it is always difficult to maintain.
6. The fort does not need to be restored. In fact it is the only one of the forts where the original fabric is in such a good condition and this is what improves the value of this fort.
7. Visitors to the site should be monitored. No visits to the fort and associated features should be allowed without supervision of trained guides.

5.5.1.5. Remains, icons not from a specific period in time

Site 22:

This is a cave below the waterfall and to the south thereof. It is much smaller than the other one mentioned previously. According to Van Vollenhoven (2008) no cultural remains could be identified, but it may be concealed under ground as Stone Age people would undoubtedly have utilized this cave. It also may have been used during later periods.

Location: GPS: 25°41'24"S
 28°11'18"E
 1309m

Cultural significance:

According to Van Vollenhoven (2008) the site is of a medium cultural significance as it may contain many layers of cultural deposit below the top layer. Should this be determined the cultural significance will be increased to high. These layers most probably are undisturbed and therefore may contain valuable information on past people.



Illus. 397: Locations of remains, icons not from a specific period in time (Author, 2011)

Management guidelines:

1. The cave does not need to be fenced off as it holds no danger to people. However, once it has been established that it indeed holds valuable historical information, such an option may be considered.
2. Recent material inside of the cave should be removed.
3. Archaeological test excavation inside of the cave and just outside should be considered in order to determine whether there is a cultural deposit. After excavation the site should be re-evaluated. Possible information obtained from this and even a display of artifacts can be used in a visitor's centre to be placed close to the entrance gate. Information signs on site may be considered, but it is always difficult to maintain.
4. Visitors should be monitored.
5. An addition to this management plan can be done once a decision regarding the above mentioned has been taken.

Site 23:

This is the famous and well known Wonderboom tree (*Ficus salicifolia* vahl). Although it is a natural resource it had meaning for many people in the past and present and therefore also is considered a cultural resource. It was declared a national monument in 1980.

n.d



Illus. 398: Small cave below the waterfall (Author, 2011)



Illus. 399: Large cave near the waterfall (Author, 2011)



Illus. 400: The Wonderboom tree (Author, 2011)

Due to the uniqueness of the tree it even received its own scientific name, being *Ficus Pretoriae* as indicated on an old information board on the site. This name is not used much nowadays as the correct scientific name, indicated above, is rather used. The tree consists of a mother tree with daughters and even granddaughters.

The tree has been dated by C14 method and proved to be older than 1000 years. Unfortunately it has been damaged many times and has therefore lost some of its beauty and splendor (Wiese n.d. : 7-10).

It is said that ancestors of the Ndebele people are buried underneath the tree, although this could not be proved yet. Without any indication of grave dressings it would indeed be almost impossible to determine whether there is any truth in these allegations.

The tree also has been used by the white farmers and first inhabitants of the town for picnics and outings. It is still being used for the commemoration of the Day of the Vow (Geloftedag) each year on 16 December.

The tree and other aspects of the nature reserve are interpreted with information panels close to the tree. This is called the Wonderboom Interpretive Trail.

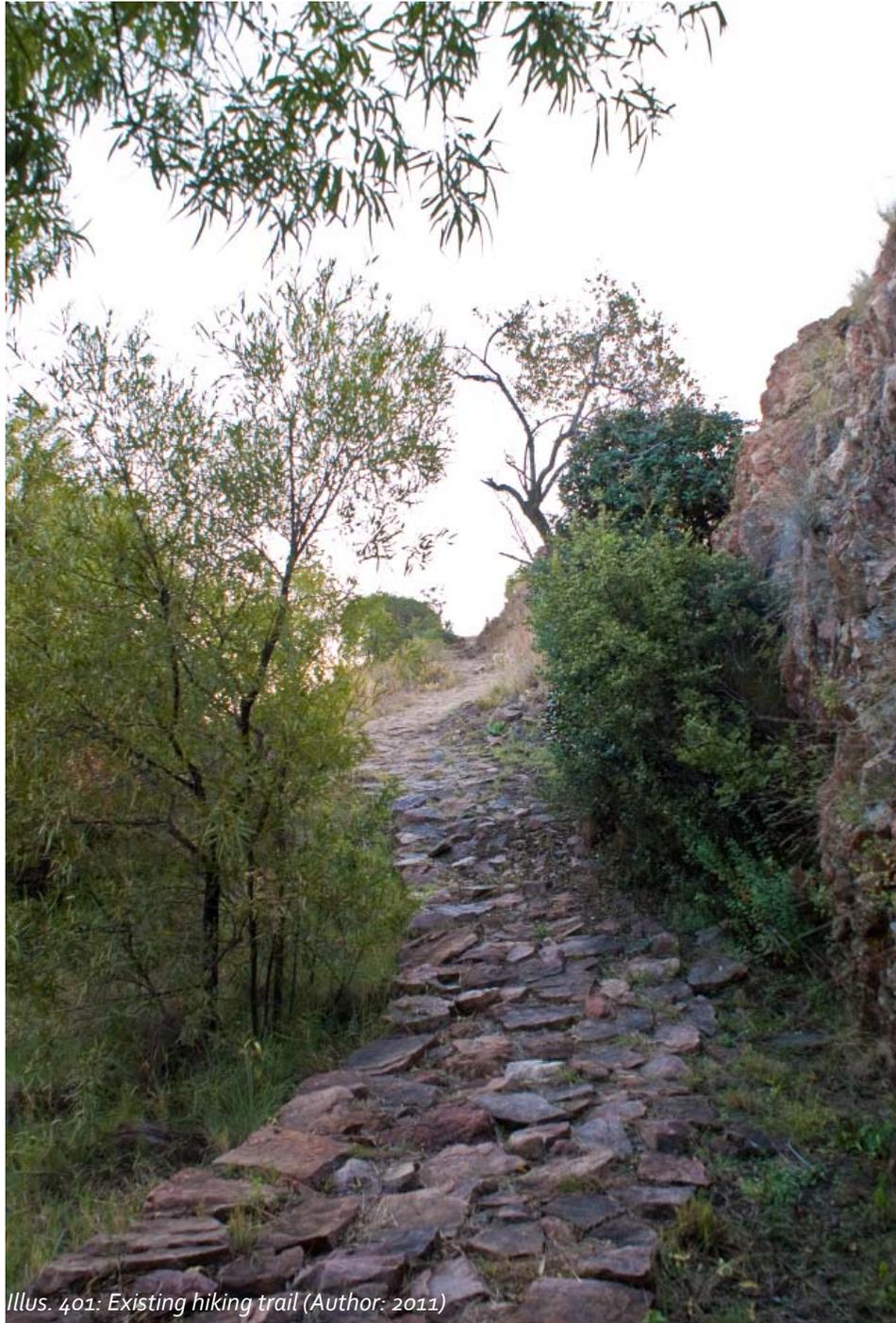
Location: GPS: 25°41'14"S
 28°11'30"E
 1015m

Cultural significance:

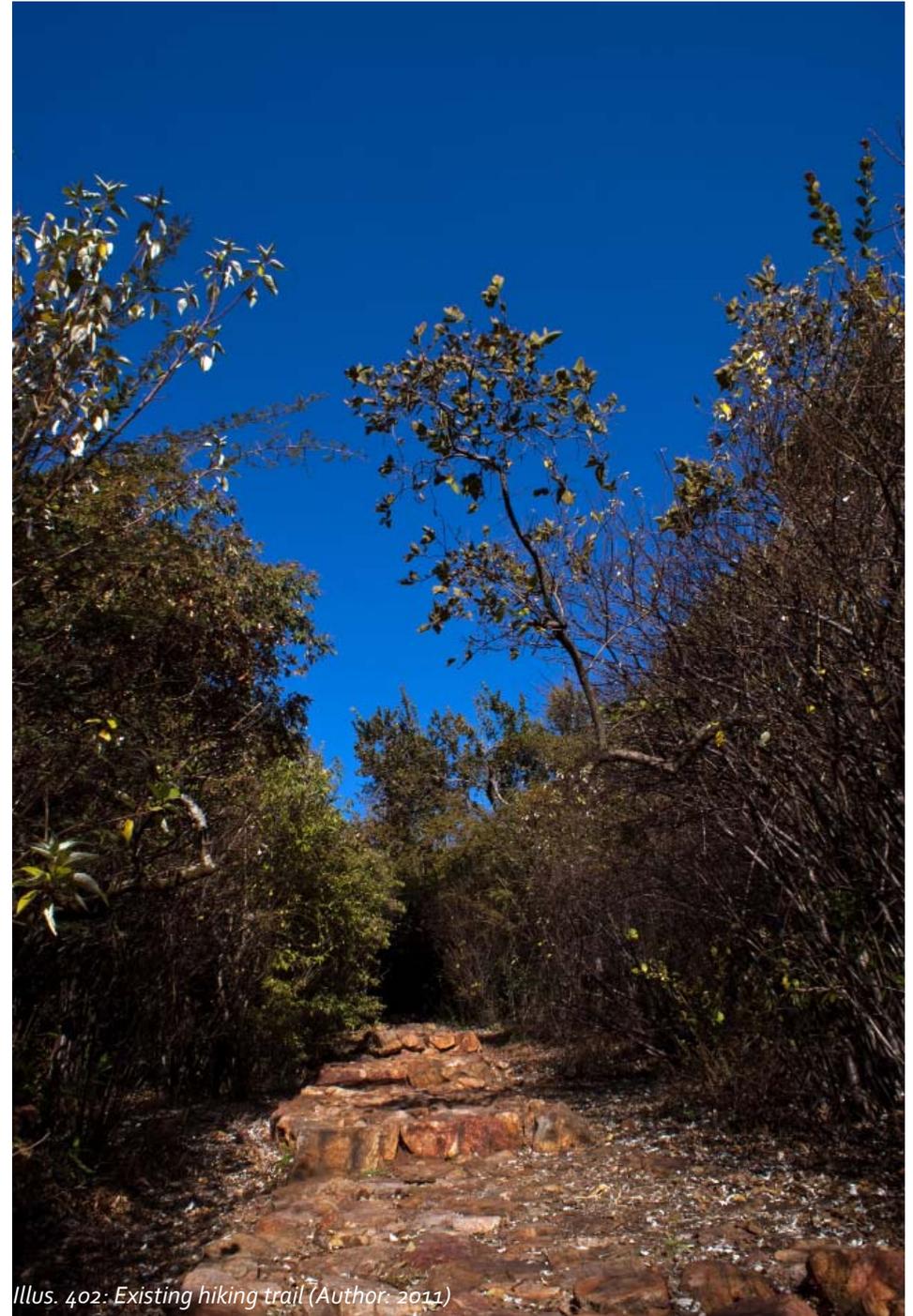
The feature is of a high cultural significance.

Management guidelines:

1. The tree should be fenced off as is currently the case in order to protect it.
2. The information panels should be maintained, but it should at least be replaced once every five years as it is not durable for a longer period. This would allow the opportunity to add and update information from recent research projects.
3. Archaeological test excavation may be considered in order to determine whether indeed graves can be found. However it should not be a priority and should not damage the tree as the tree on its own is important enough.
4. After excavation the site should be re-evaluated, but the tree will always remain of high cultural importance.
5. Visitors should be monitored.
6. An addition to this management plan can be done once a decision regarding the above mentioned has been taken.



Illus. 401: Existing hiking trail (Author: 2011)



Illus. 402: Existing hiking trail (Author: 2011)

APPENDIX G: Charters, policies and acts summary

Legislation, Acts and Charters influencing the design development of Wonderboom Nature Reserve

Legislation/Act/ Charter:	1972, UNESCO Convention (World Heritage): Convention concerning the protection of the World Cultural and Natural Heritage, adopted in Paris, 16 November 1972
Influences on the studied area:	Wonderboom Nature Reserve can be seen as cultural heritage according to this charter, because it contains monumental structures of archaeological nature and can bring value. The state must ensure that this heritage be protected, conserve and presented intellectually.
Legislation/Act/ Charter:	1975, Council of Europe Charter (Architectural heritage): European Charter of the Architectural Heritage, adopted by the Council of Europe in Amsterdam, 21-25 October 1975.
Influences on the studied area:	The surroundings of a monumental or heritage site is important, if not taken in consideration, the monuments or heritage sites can lose their character.
Legislation/Act/ Charter:	1976 UNESCO Recommendation (historic Areas): Recommendation concerning the safeguarding and contemporary role of historic areas, adopted by UNESCO in Nairobi, 26 November 1976
Influences on the studied area:	Views from and to monuments and historic areas should not be spoilt and historic areas should be integrated harmoniously into contemporary life.
Legislation/Act/ Charter:	1990, ICOMOS Charter (Archaeology): International Charter for Archaeological Heritage Management
Influences on the studied area:	Living traditions of indigenous peoples are part of the site - and for such sites and monuments the participation of local cultural groups is essential to their protection and preservation. Knowledge of the public about the archaeological heritage site is important for its protection. Heritage site or monument should remain in its original site. It is important to promote understanding of the public through presentation. Reconstruction should only be considered if really needed, and the old must be clearly distinguished from the new.
Legislation/Act/ Charter:	1995, Council of Europe (Cultural landscapes): Recommendation No. R (95)9 of the Committee of Ministers to Member States on the Integrated Conservation of Cultural Landscape Areas as Part of Landscape Policies
Influences on the studied area:	Conservation by application of appropriate legal, economic and operational measures to preserve specific assets from destruction or deterioration and to safeguard their future. Managing the cultural landscape's evolution and its enhancement, in accordance with the wishes of society as a whole. Prevent any visual pollution, such as the accumulation of installations or technical equipment (pylons, advertising boards, signs and other publicity material) or from the presence of inappropriate or badly sited tree planting, forestry or building projects.
Legislation/Act/ Charter:	2001, UNESCO (Cultural diversity): Universal Declaration on Cultural Diversity
Influences on the studied area:	It is very important to present and preserve culturally diversity remains, examples, because it is important for the common heritage of humanity and should be recognized and affirmed for the benefit of present and future generations.
Legislation/Act/ Charter:	The National Environmental Management: Biodiversity Act, 2004 (Act No.10 of 2004)
Influences on the studied area:	This Act is relevant because it provides for integrated and coordinated biodiversity planning and monitoring, the protection of threatened or protected species as well as the prevention, management and control of alien and invasive species.
Legislation/Act/ Charter:	2003, UNESCO Convention (Intangible Cultural Heritage): Convention for the Safeguarding of the Intangible Cultural Heritage
Legislation/Act/ Charter:	UNESCO convention concerning the protection of the World Cultural and natural Heritage (1972)
Influences on the studied area:	Places a duty on parties to ensure that the identification, protection, conservation, presentation and transmission to future generations of both cultural heritage and natural heritage.

Legislation/Act/ Charter:	The National Environmental Management: Protected Areas Act (Act No. 57 of 2003)
Influences on the studied area:	The protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes
Legislation/Act/ Charter:	2003, UNESCO Convention (Intangible Cultural Heritage): Convention for the Safeguarding of the Intangible Cultural Heritage
Influences on the studied area:	<p>The "intangible cultural heritage" means the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible heritage transmitted from generation to generation, is constantly recreated by communities responding to their environment and history = identity and continuity - promoting respect for cultural diversity and human creativity.</p> <p>Intangible heritage can manifest in:</p> <ul style="list-style-type: none"> (a) Oral traditions and expressions, including language as a vehicle of the intangible cultural heritage; (b) Performing arts; (c) Social practices, rituals and festive events; (d) Knowledge and practices concerning nature and the universe; (e) Traditional craftsmanship. <p>Ensuring the viability of the intangible cultural heritage, including the identification, documentation, research, preservation, protection, promotion, enhancement, transmission, particularly through formal and non-formal education, as well as the revitalization of the various aspects of such heritage.</p>

<p>Legislation/Act/ Charter:</p>	<p>The National Heritage Resources Act, 1999 (Act No. 25 of 1999)</p>
<p>Influences on the studied area:</p>	<p>General principles:</p> <ul style="list-style-type: none"> • Persons and communities involved in heritage resources management’s skills and capabilities must be developed • Laws, procedures and administrative practices must be clear and generally available to those affected thereby; in addition to serving as regulatory measures, also provide guidance and information to those affected thereby • Heritage resources contribute significantly to research, education and tourism and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values • The identification, assessment and management of the heritage resources of South • Africa must— take account of all relevant cultural values and indigenous knowledge systems; take account of material or cultural heritage value and involve the least possible alteration or loss of it; promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs; contribute to social and economic development; safeguard the options of present and future generations <p>Structures:</p> <p>Act 34: No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.</p> <p>Archaeology, palaeontology and meteorites:</p> <p>Act 35:</p> <ul style="list-style-type: none"> • Protection of archaeological and paleontological sites and material is the responsibility of a provincial heritage resources authority • The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects. • No person may, without a permit issued by the responsible heritage resources • authority—destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite; <p>Presentation of protected resources:</p> <p>Act 44:</p> <ul style="list-style-type: none"> • Heritage resources authorities and local authorities must, wherever appropriate, co-ordinate and promote the presentation and use of places of cultural significance and heritage resources which form part of the national estate and for which they are responsible in terms of section 5 for public enjoyment, education, research and tourism, including— <ul style="list-style-type: none"> (a) The erection of explanatory plaques and interpretive facilities, including interpretive centres and visitor facilities; (b) The training and provision of guides; (c) The mounting of exhibitions; (d) The erection of memorials; and (e) Any other means necessary for the effective presentation of the national estate. • A person may only erect a plaque or other permanent display or structure associated with such presentation in the vicinity of a place protected in terms of this Act in consultation with the heritage resources authority responsible for the protection of the place.

<p>Legislation/Act/ Charter:</p>	<p>ICOMOS Ename Charter: for the interpretation of cultural heritage sites (23 August 2004)</p>
<p>Influences on the studied area:</p>	<p>Just as the Venice Charter established the principle that the protection of the extant fabric of a cultural heritage site is essential to its conservation, it is now equally acknowledged that Interpretation of the meaning of sites is an integral part of the conservation process and fundamental to positive conservation outcomes.</p> <p>The aim of this Charter is to define the basic objectives and principles of site interpretation in relation to authenticity, intellectual integrity, social responsibility, and respect for cultural significance and context. The Charter seeks to encourage a wide public appreciation of cultural heritage sites as places and sources of learning and reflection about the past, as well as valuable resources for sustainable community development and intercultural and intergenerational dialogue.</p> <p>Principles:</p> <p>Principle 1: Access and understanding - In regards with principle 1, the Wonderboom Nature Reserve is to communicate the values of the cultural heritage site(s), and conservation importance thereof. To enhance the visitor’s experience, increase public respect and understanding of the significance of the site(s). The Wonderboom Nature Reserve project aim to encourage the visitors to reflect on their own perceptions of the site and their relationship to it. An effective interpretation should establish emotional connection to the site and provide insights as well as facts, to stimulate further learning and interest. Interpretation of a cultural site is a dynamic, on-going activity, in which all multiple perspectives should be included. All associated communities and stakeholders should be included in the interpretation development process. Interpretation of the cultural site should insure that it meets the needs of the varied audiences and is accessible to a wide range of public.</p> <p>Principle 2: Information Sources - The Interpretation of heritage sites must be based on evidence gathered through accepted scientific and scholarly methods as well as from living cultural traditions. Interpretation should show the range of oral and written information, material remains, traditions, and meanings attributed to a site. It should also clearly identify the sources of this information. Interpretation should be based on a multidisciplinary study of the site and its surroundings, and should indicate clearly and honestly where conjecture, hypothesis or philosophical reflection begin</p> <p>Principle 3: Context and setting - The Interpretation of cultural heritage sites should relate to their wider social, cultural, historical, and natural contexts and settings.</p> <ul style="list-style-type: none"> • Interpretation should explore the significance of a site in its multi-faceted historical, social, political, spiritual, and artistic contexts. It should consider all aspects of the site’s cultural and environmental significance. • The contributions of all periods to the significance of a site should be respected. Although particular eras and themes may be highlighted, all periods of the site’s history as well as its contemporary context and significance should be considered in the interpretation process. • Interpretation should also take into account the cultural contributions of all communities associated with the site, including minority groups. • The surrounding landscape, natural environment and the overall cultural and geographical settings are all integral parts of a site’s significance, and, as such, should be taken into account in its interpretation. • Intangible elements of a site’s heritage such as cultural and spiritual traditions, stories, music, dance, theatre, literature, visual arts, personal customs and cuisine should be noted and included in its interpretation.

- The cross-cultural significance of heritage sites, as well as co-existing or contested viewpoints, should become part of the interpretation, providing outside visitors as well as local residents and associated communities with a sense of personal connection.

Principle 4: Authenticity - The Interpretation of cultural heritage sites must respect their authenticity, in the spirit of the Nara Document (1994).

- Authenticity is a concern relevant to human communities as well as material remains. The design of a heritage interpretation programme should respect and safeguard the traditional social functions of the site and the cultural practices and dignity of local residents and associated communities.
- Interpretation should contribute to the conservation of the authenticity of a cultural heritage site by communicating its significance without adversely impacting its cultural values or having recourse to irreversible alteration of its fabric or the installation of irreversible interpretive infrastructure. Physical reconstruction that permanently changes the character of the site should not be undertaken for the purpose of interpretation alone.
- The public interpretation of a cultural heritage site should always clearly distinguish and date the successive phases and influences in its evolution, and clearly identify additional interpretive interventions.
- At cultural heritage sites where traditional storytelling or memories of historical participants provide an important source of information about the significance of the site, interpretive programmes should incorporate these oral testimonies—either indirectly, through the facilities of the interpretive infrastructure, or directly, through the active participation of members of the associated communities as on-site interpreters.

Principle 5: Sustainability - The interpretive plan for a cultural heritage site must be sensitive to its natural and cultural environment. Social, financial and environmental sustainability in the long term must be among the central goals.

- The development and implementation of interpretive programmes must be an integral part of the overall management and planning process for a cultural heritage site. The potential effect of interpretive infrastructure and visitor numbers on the cultural value, physical characteristics, integrity, and natural environment of the site must be fully considered in heritage impact assessment studies.
- A wide range of interpretive strategies should be discussed early in the site planning process, to assess their cultural appropriateness as well as their economic and technical feasibility. The scale, expense and technology of interpretive programmes must be appropriate to the location and available facilities.
- A site's interpretive infrastructure should be well designed, soundly constructed, safe, responsibly maintained, and kept in good repair.
- All visible interpretive programmes and infrastructure (such as kiosks, walking paths, and information panels) must be sensitive to the character, the setting and the cultural and natural significance of the site, while remaining easily identifiable. The light and sound from concerts, dramatic performances, screens and speakers must be restricted to their immediate area, so as not to affect adversely the surroundings or disturb nearby residents.

	<p>Principle 6: Inclusiveness - The Interpretation of cultural heritage sites must actively involve the participation of associated communities and other stakeholders.</p> <ul style="list-style-type: none"> • The efforts and interests of associated communities, property owners, governmental authorities, site managers, scholars, tourism operators, private investors, employees, and volunteers should be integrated into the development of interpretive programmes. • Interpretation should serve a wide range of educational and cultural objectives. The success of an interpretive programme should not be judged solely on the basis of visitor attendance figures or revenue. • The traditional rights, responsibilities, and interests of the host community, property owners, and associated communities should be respected. These groups should be consulted and have a major role in the planning process of the interpretive programme and in its subsequent development. • Interpretation activities and subsequent plans for expansion or revision of the interpretive programme should be open for public comment and involvement. It is the right and responsibility of all to make their opinions and perspectives known. • Interpretive activities should aim to provide equitable economic, social, and cultural benefits to the host community at all levels, through education, training, and the creation of economic opportunities. To that end, the training and employment of site interpreters from the host community should be encouraged. • Every interpretation programme should be seen as an educational resource and its design should take into account its possible use in school curricula, communications media including the internet, special activities, events, and seasonal volunteer involvement. • Because the question of intellectual property and traditional cultural rights is especially relevant to the interpretation process and its expression in various communication media (such as onsite multimedia presentations, digital media, and printed materials), legal ownership and right to use images, texts, and other interpretive materials should be taken into account in the planning process. <p>Principle 7: Research, Evaluation and Training - The Interpretation of a cultural heritage site is an on-going, evolving process of explanation and understanding that includes continuing research, training, and evaluation.</p>
Legislation/Act/ Charter:	ICOMOS. International cultural tourism charter - managing tourism at places of heritage significance (1999)
Influences on the studied area:	<p>Principles of the cultural tourism charter:</p> <p>Principle 1: Encourage Public Awareness of Heritage - Since domestic and international tourism is among the foremost vehicles for cultural exchange, conservation should provide responsible and well managed opportunities for members of the host community and visitors to experience and understand that community's heritage and culture at first hand.</p> <p>Principle 2: Manage the Dynamic Relationship - The relationship between Heritage Places and Tourism is dynamic and may involve conflicting values. It should be managed in a sustainable way for present and future generations.</p> <p>Principle 3: Ensure a Worthwhile Visitor Experience - Conservation and Tourism Planning for Heritage Places should ensure that the Visitor Experience will be worthwhile, satisfying and enjoyable.</p> <p>Principle 4: Involve Host and Indigenous Communities - Host communities and indigenous peoples should be involved in planning for conservation and tourism.</p> <p>Principle 5: Provide Benefit for the Local community - Tourism and conservation activities should benefit the host community.</p> <p>Principle 6: Responsible Promotion Programmes - Tourism promotion programmes should protect and enhance Natural and Cultural Heritage characteristics.</p>

Legislation/Act/ Charter:	The Venice charter (1964) - International charter for the conservation and restoration of monuments sites, ICOMOS
Influences on the studied area:	<p>Conservation: Article 4. It is essential to the conservation of monuments that they be maintained on a permanent basis.</p> <p>Article 5. The conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is therefore desirable but it must not change the lay-out or decoration of the building. It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted.</p> <p>Restoration: Article 9. The process of restoration is a highly specialized operation. Its aim is to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic documents. It must stop at the point where conjecture begins, and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp. The restoration in any case must be preceded and followed by an archaeological and historical study of the monument.</p> <p>Article 12. Replacements of missing parts must integrate harmoniously with the whole, but at the same time must be distinguishable from the original so that restoration does not falsify the artistic or historic evidence.</p> <p>Article 13. Additions cannot be allowed except in so far as they do not detract from the interesting parts of the building, its traditional setting, the balance of its composition and its relation with its surroundings.</p>

<p>Legislation/Act/ Charter:</p>	<p>ICOMOS. Principles for the conservation of heritage sites in China</p>
<p>Influences on the studied area:</p>	<p>Public education should be enhanced to ensure the general public's support and participation in the protection of heritage sites.</p> <p>Conservation Principles:</p> <p>Article 19 Intervention should be minimal. Apart from routine maintenance, there should be no intervention on parts of a building or site that are not at imminent risk of serious damage. Intervention should only be undertaken when absolutely necessary and then should be kept to a minimum. The main goals of conservation and management measures are to preserve the site's existing condition and to slow deterioration.</p> <p>Article 23 Appropriate aesthetic criteria should be observed. The aesthetic value of a site derives from its historic authenticity. Alterations to the historic condition may not be made for enhancing purposes or to attain completeness.</p> <p>Article 24 The setting of a heritage site must be conserved. Natural and cultural landscapes that form part of a site's setting contribute to its significance and should be integrated with its conservation. Elements in the setting that are potentially hazardous or that may adversely affect the landscape must be addressed. Oversight and management of the setting should be improved and appropriate conservation and management measures proposed when needs are identified.</p> <p>On Retaining the Historic Condition of Heritage Sites - It is a legal requirement in the conservation of heritage sites that the historic condition must not be changed. The principle of retaining historic condition involves either preserving existing condition or reinstating historic condition.</p> <p>The existing condition of the following must be preserved.</p> <ul style="list-style-type: none"> i Archaeological sites and ruins, particularly those with aboveground remnants. ii The overall design and layout of architectural ensembles within a site. iii Individual components of significance from different periods within architectural ensembles. iv Components and artisan techniques from different periods that have significance for a site. v Works of art, either independent or associated with a building. vi Damaged remnants of a site resulting from natural disasters, that retain research value. vii Damaged remnants resulting from important historical events, that have acquired commemorative significance. viii Historic settings that have not undergone major change. <p>On the Social and Economic Benefits of Heritage Sites - An important part of heritage conservation is the proper protection and display of the values of a site through rational use.</p> <p>4.2 The social benefits of heritage sites are maximized through the following uses:</p> <ul style="list-style-type: none"> 4.2.1 Scientific research function. 4.2.2 Social function. Sites may also become <ul style="list-style-type: none"> i Places for the commemoration of significant events or important historic figures. ii Foci of education by providing knowledge of history, the arts, and the sciences.

	<p>iii Tourist venues where history and culture are the main themes. iv Recreational places that provide healthy activities for the mind and body. v Places of traditional custom and continuing religious practice.</p> <p>4.2.3 The aesthetic function of heritage sites includes: i Fostering love for and interest in higher cultural and aesthetic values among the public through the influence of the site’s artistic values. ii Enhancing the public’s artistic appreciation through enjoyment and study of the site. iii Enhancing artistic creativity and techniques by providing arenas in which the public may learn through direct experience of the art and in which it may gain greater understanding of the past.</p> <p>In order to open heritage sites to the public and use them appropriately, additions or alterations for the purpose of providing necessary facilities should be restricted and conform to the following principles.</p> <p>4.4.1 Changes may only be made to buildings or parts of buildings that are not of major significance. In cases in which it is necessary to build facilities at a site that does not have aboveground remains, the archaeological resource should be protected and the setting should not be adversely affected. 4.4.2 Harm to the original structure or artistic components of a site is not permitted. 4.4.3 Physical interventions should not result in permanent structures and should be reversible, allowing a site to be restored to its historic condition when necessary.</p>
<p>Legislation/Act/ Charter:</p>	<p>The Burra Charter (1999) - The Australia ICOMOS charter for the conservation of places of cultural significance</p>
<p>Influences on the studied area:</p>	<p>Conservation principles:</p> <p>Article 2: Conservation and management of cultural significant places Article 3: Cautious approach - Conservation is based on a respect for the existing fabric, use, associations and meanings. It requires a cautious approach of changing as much as necessary but as little as possible. Changes to a place should not distort the physical or other evidence it provides, nor be based on conjecture. Article 4: Knowledge, skills and techniques- 4.1 Conservation should make use of all the knowledge, skills and disciplines which can contribute to the study and care of the place. 4.2 Traditional techniques and materials are preferred for the conservation of significant fabric. In some circumstances modern techniques and materials which offer substantial conservation benefits may be appropriate. Article 7: use 7.1 Where the use of a place is of cultural significance it should be retained. 7.2 A place should have a compatible use. (The policy should identify a use or combination of uses or constraints on uses that retain the cultural significance of the place. New use of a place should involve minimal change, to significant fabric and use; should respect associations and meanings; and where appropriate should provide for continuation of practices which contribute to the cultural significance of the place.) Article 8: Setting Conservation requires the retention of an appropriate visual setting and other relationships that contribute to the cultural significance of the place.</p>

New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate. (Aspects of the visual setting may include use, siting, bulk, form, scale, character, colour, texture and materials. Other relationships, such as historical connections, may contribute to interpretation, appreciation, enjoyment or experience of the place.)

Article 9: Location

The physical location of a place is part of its cultural significance. A building, work or other component of a place should remain in its historical location. Relocation is generally unacceptable unless this is the sole practical means of ensuring its survival. Some buildings, works or other components of places were designed to be readily removable or already have a history of relocation. Provided such buildings, works or other components do not have significant links with their present location, removal may be appropriate. If any building, work or other component is moved, it should be moved to an appropriate location and given an appropriate use. Such action should not be to the detriment of any place of cultural significance.

Article 12: Participation

Conservation, interpretation and management of a place should provide for the participation of people for whom the place has special associations and meanings, or who have social, spiritual or other cultural responsibilities for the place.

Conservation Processes:

Article 14: Conservation processes

Conservation may, according to circumstance, include the processes of: retention or reintroduction of a use; retention of associations and meanings; maintenance, preservation, restoration, reconstruction, adaptation and interpretation; and will commonly include a combination of more than one of these. (There may be circumstances where no action is required to achieve conservation.)

Article 15: Change

15.1 Change may be necessary to retain cultural significance, but is undesirable where it reduces cultural significance. The amount of change to a place should be guided by the cultural significance of the place and its appropriate interpretation.

15.2 Changes which reduce cultural significance should be reversible, and be reversed when circumstances permit.

15.3 Demolition of significant fabric of a place is generally not acceptable. However, in some cases minor demolition may be appropriate as part of conservation. Removed significant fabric should be reinstated when circumstances permit.

15.4 The contributions of all aspects of cultural significance of a place should be respected. If a place includes fabric, uses, associations or meanings of different periods, or different aspects of cultural significance, emphasising or interpreting one period or aspect at the expense of another can only be justified when what is left out, removed or diminished is of slight cultural significance and that which is emphasised or interpreted is of much greater cultural significance.

Article 17: Preservation

Preservation is appropriate where the existing fabric or its condition constitutes evidence of cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out. (Preservation protects fabric without obscuring the evidence of its construction and use. The process should always be applied:

- where the evidence of the fabric is of such significance that it should not be altered;
- where insufficient investigation has been carried out to permit policy decisions to be taken in accord with Articles 26 to 28.

New work (e.g. stabilisation) may be carried out in association with preservation when its purpose is the physical protection of the fabric and when it is consistent with Article 22.)

Article 21: Adaptation

Adaptation must be limited to that which is essential to a use for the place determined in accordance with Articles 6 and 7.

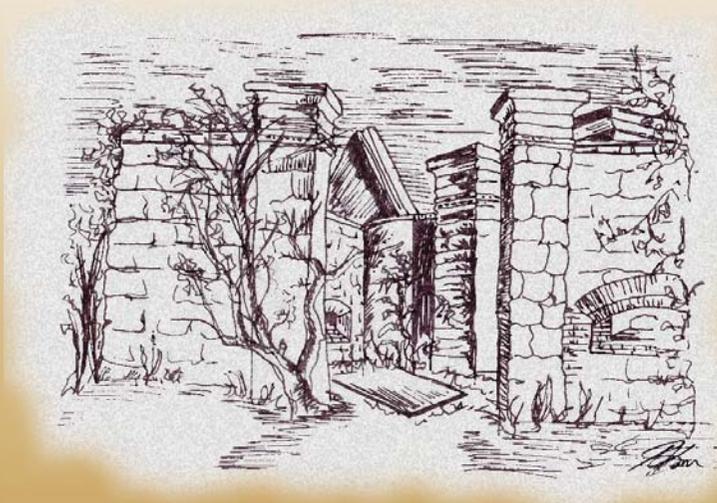
	<p>Adaptation is acceptable only where the adaptation has minimal impact on the cultural significance of the place. Adaptation should involve minimal change to significant fabric, achieved only after considering alternatives.</p> <p>Article 22: New work</p> <p>22.1 New work such as additions to the place may be acceptable where it does not distort or obscure the cultural significance of the place, or detract from its interpretation and appreciation.</p> <p>22.2 New work should be readily identifiable as such. (New work may be sympathetic if its siting, bulk, form, scale, character, colour, texture and material are similar to the existing fabric, but imitation should be avoided.)</p> <p>Article 23: Conserving use</p> <p>Continuing, modifying or reinstating a significant use may be appropriate and preferred forms of conservation. (These may require changes to significant fabric but they should be minimised. In some cases, continuing a significant use or practice may involve substantial new work.)</p> <p>Article 24: Retaining associations and meanings</p> <p>24.1 Significant associations between people and a place should be respected, retained and not obscured. Opportunities for the interpretation, commemoration and celebration of these associations should be investigated and implemented.</p> <p>24.2 Significant meanings, including spiritual values, of a place should be respected. Opportunities for the continuation or revival of these meanings should be investigated and implemented. (For many places associations will be linked to use.)</p> <p>Article 25: Interpretation</p> <p>The cultural significance of many places is not readily apparent, and should be explained by interpretation. Interpretation should enhance understanding and enjoyment, and be culturally appropriate.</p>
Policy	Gauteng Ridge Policy: (Department of agriculture, conservation, environment and landaffairs. Directorate of nature conservation - Development guidelines for ridges. Compiled by Michele PFAB scientific services. 19 April 2001)
Influences on the studied area:	<p>The Magaliesberg ridge are classified as class 2 (5-35% transformed), this means that:</p> <p>No further subdivisions will be allowed and consolidation of subdivisions will be encouraged. No-go development policy; low impact (e.g. tourism developments) will be considered requiring full EIA (including public participation exercise) with full set of specialist reports including.</p> <p>All specialist studies to examine cumulative impacts. Ecological footprint² of low impact developments to cover no more than 5% of a property. All impacts for these developments must be sufficiently mitigated. A management plan to maintain the ecological integrity of remaining property is required and implementation is the responsibility of the developer.</p> <p>A 200m buffer zone of low impact development is required around class 2 ridges.</p> <p>Development proposals within the buffer zone should proceed at least to the mini EIA stage. DACEL undertakes to conduct Strategic Environmental Assessments for these ridge systems</p>

Table 15: Summary of all the heritage charters, acts and legislation the author has researched to formulate the heritage principles used in the design (Author: 2011)



ADDENDUMS 12

1. ADDENDUM A: PRESENTATION PHOTO'S
2. ADDENDUM B: MODEL
3. ADDENDUM C: MOVIE DVD



Addendum A: Presentation photo's





Addendum B: Model (images and photo's)



