



Illus. 18o: The Wonderboom fort through the eyes and pen of the author, highlighting the quality, character and identity of place (Author: 2011)

SKETCHPLAN DEVELOPMENT 07



1. INTRODUCTION
2. ANALYSIS
3. FINAL SKETCHPLAN - ROOF AND BUILDING PLAN
4. COHERENCE
5. COMPLEXITY
6. THE THREE NARRATIVES
7. SECTIONS
8. ZONING OF THE SKETCHPLAN
9. DISCUSSION OF THE DIFFERENT SPACES
10. SITE EXPLORATION
11. CONCLUSION

This chapter will focus on the sketchplan (fort) development and the design clarification thereof.

7.1 Introduction

The author decided to focussing in on the wonderboom fort as sketchplan site. Situated on the Magaliesberg plateau of the Wonderboom Nature Reserve. The fort is chosen as sketchplan site because all of the principles and approaches set out in the beginning of this dissertation can be accommodated and accomplished in some way.

The sketchplan will aim to:

1. Integrate the contemporary uses and facilities - this includes the new proposed intervention and the general catering of peoples needs - with the historic site/artefact.
2. The old will be clearly distinguishable from the new
3. The intervention will be sensitive to the genuis loci of the place and its setting, but identifiable.
4. The introduction of a new use for the fort should be compatible with the existing.
5. The display of the historic artefact and history layers will be done in such a way to educate and create awareness.
6. Every intervention should be reversible with minimum demolition.
7. The tangible and intangible aspects will be explored in the design.
8. The design aim for meaning, experience and identity creation of the visitors subconscious reading of the site and
9. Interest and discovery (complexity and coherence), access and awareness of the visitors conscious mind through,
10. Semiotics, narrative and a didactic approach to the design.

The sketchplan will be explained under the following 14 subheadingse and will include:

1. The sketchplan site location in context
2. Analysis
3. The three narratives
4. The zoning, program and
5. Discussion of the different spaces
6. Exploration of existing structure and new intervention
7. Final sketchplans
8. Sections

7.2 Analysis summary

Wonderboom fort was built in 1897 in the Second Anglo Boer War. There was never a shot fired from this fort. 18 Men was stationed at the fort during that time. (See chapter 2 and appendix E).

The fort was cut into the landscape. A ramp leads to the top part. The ramp was built for the cannons. The fort is a heavy structure constructed from hard shale, and sandstone walls with cement. Raw brick was used around the door and windows. Steel was used as doors and windows and column structures. Refer to heading 7.7 (exploration of existing structure and new intervention) to see how the old fort was constructed. Refer to ilus 181 for a plan of the existing site as seen today.

The fort consists of the following rooms:

1. Stable
2. Officer's room
3. Proviand
4. Garrison quarters
5. Machine room. Parrafin tanks are located under the concrete floor
6. Telegraph room
7. Hospital
8. Kitchen
9. Ammunition store. The water reservoir is located underneath the room and accessed from a manhole just outside
10. Two cannon rooms on top with first ammunition racks

These were the permanent structure with a heavy concrete roof with steel columns and beams. The roof has been blown up by Jan Smuts. The walls are in ruin and all the windows and doors are broken out. The fort is in a high state of deterioration.

There was also lookout towers and communication posts as well as a vegetable garden. Temporary corrugated iron buildings were erected for multifunctional purposes and amongst other things were used as a school.

The following are structures and elements that formed part of the fort, but are not present anymore:

1. Water furrows
2. lookout berms
3. Fort roof
4. Staircase leading to the roof (near the stables)
5. A 'pre-fabricate concrete' wall with aiming holes enclosed the the fort on the northern side

Existing site - analysis

Below is the existing site as in 2011. The fort rooms is ruined walls without a roof.

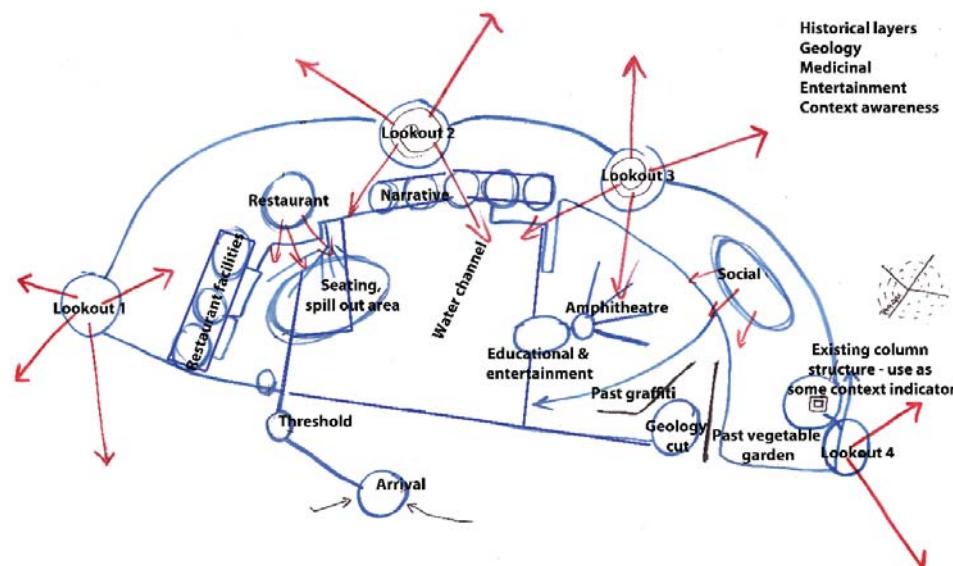


Illus. 181: Existing plan in 2011. (Author: 2011)

Scale 1:200

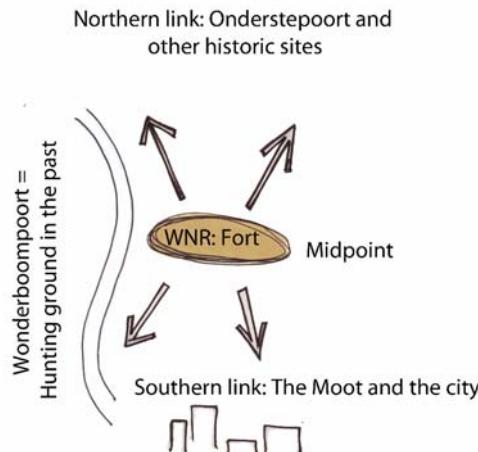
Identified lookout points and nodes

Analysis of viewpoints and nodes where something should happen, and some proposals of activities.

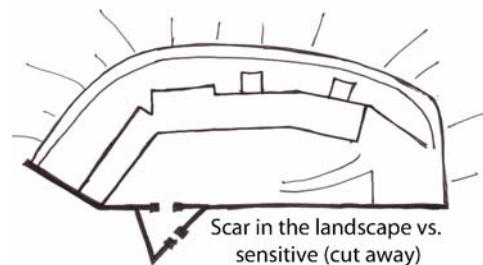


Illus. 182: The different viewpoints identified and certain proposed nodes. (Author: 2011)

Wonderboom Nature Reserve, the Wonderboom fort is the midpoint in the larger urban context.



Illus. 183: Wonderboom Nature Reserve linking the heritage/history of the north and the south. (Author: 2011)



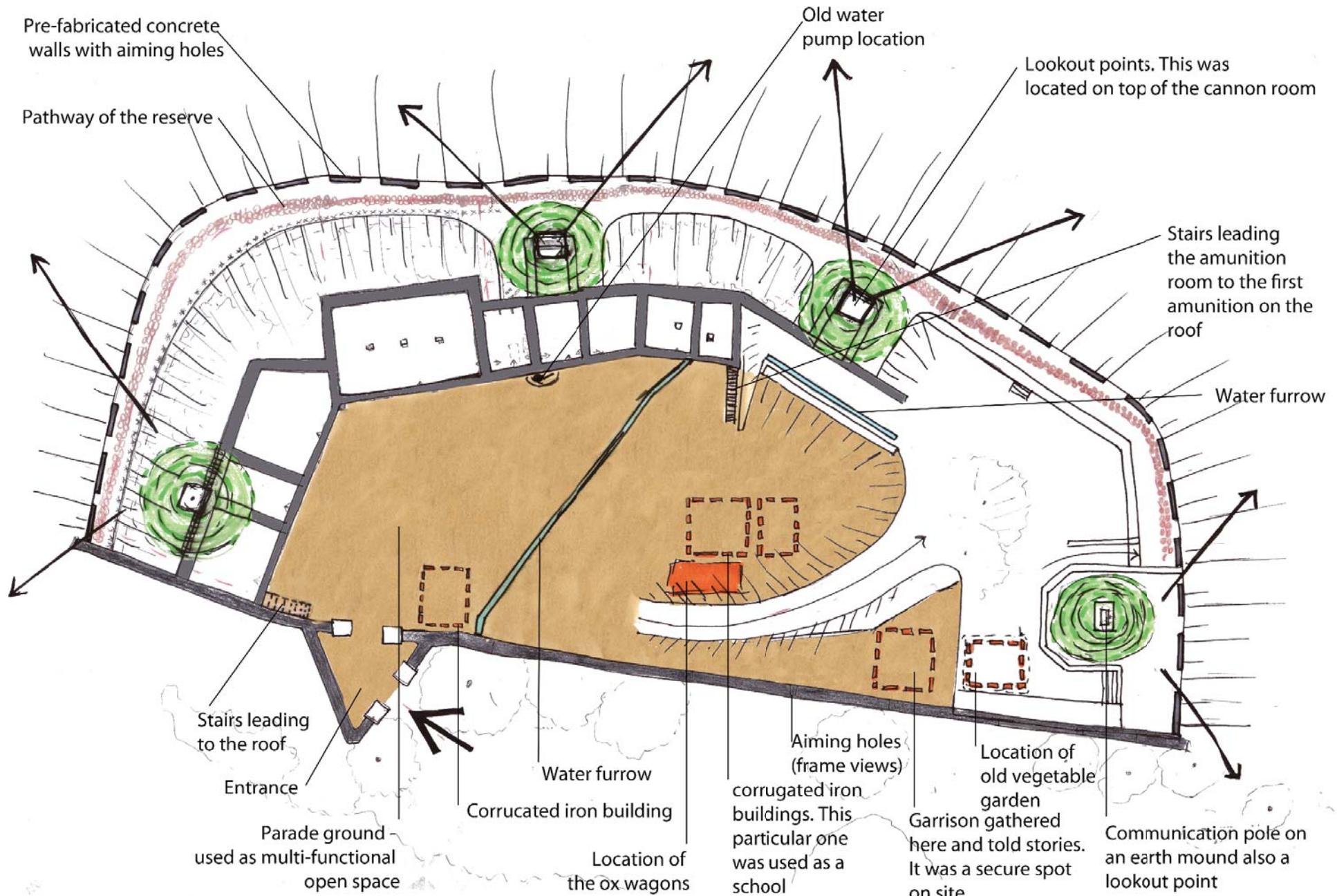
The fort can be seen as a scar in the landscape, but it is not a scar because you can never perceive it as such until you visit it yourself. Nobody knows about the fort. In this way it is sensitive to the landscape because it is sunken in to the landscape.

Illus. 184: The Wonderboom fort, a scar in the landscape. (Author: 2011)

Refer to illus. 185. The plan indicate past elements which was part of the fort during its operation. Most of these elements is no longer present but can function as semiotic resources. These semiotic resources can be used to stimulate meaning, memory and education. These elements can be celebrated and highlighted in the design to create awareness of these past activities and operations.

The following can be regarded as semiotic resources:

1. The old steps to the first ammunition (It is in a state of deterioration but present)
2. Parade ground - multi-functional (now overgrown with veld grass)
3. Entrance (present)
4. The earth mound lookout points - with aiming holes (not present)
5. Remnant of the communication post
6. Location of the vegetable garden (not present)
7. Locations of the temporary corrugated iron buildings, especially the school (not present)
8. The water furrows (remnants)
9. The idea of the old water pump (not present)
10. Pre-fabricated concrete wall with aiming holes at the northern side of the fort for protection from that side (not present anymore)
11. Old graffiti against the cannon ramp (present)
12. Garrison gathering area (where they told stories etc)
13. The idea of the roof - accessibility to the roof and the view from there. As was the case in the past. (The roof is not present anymore)

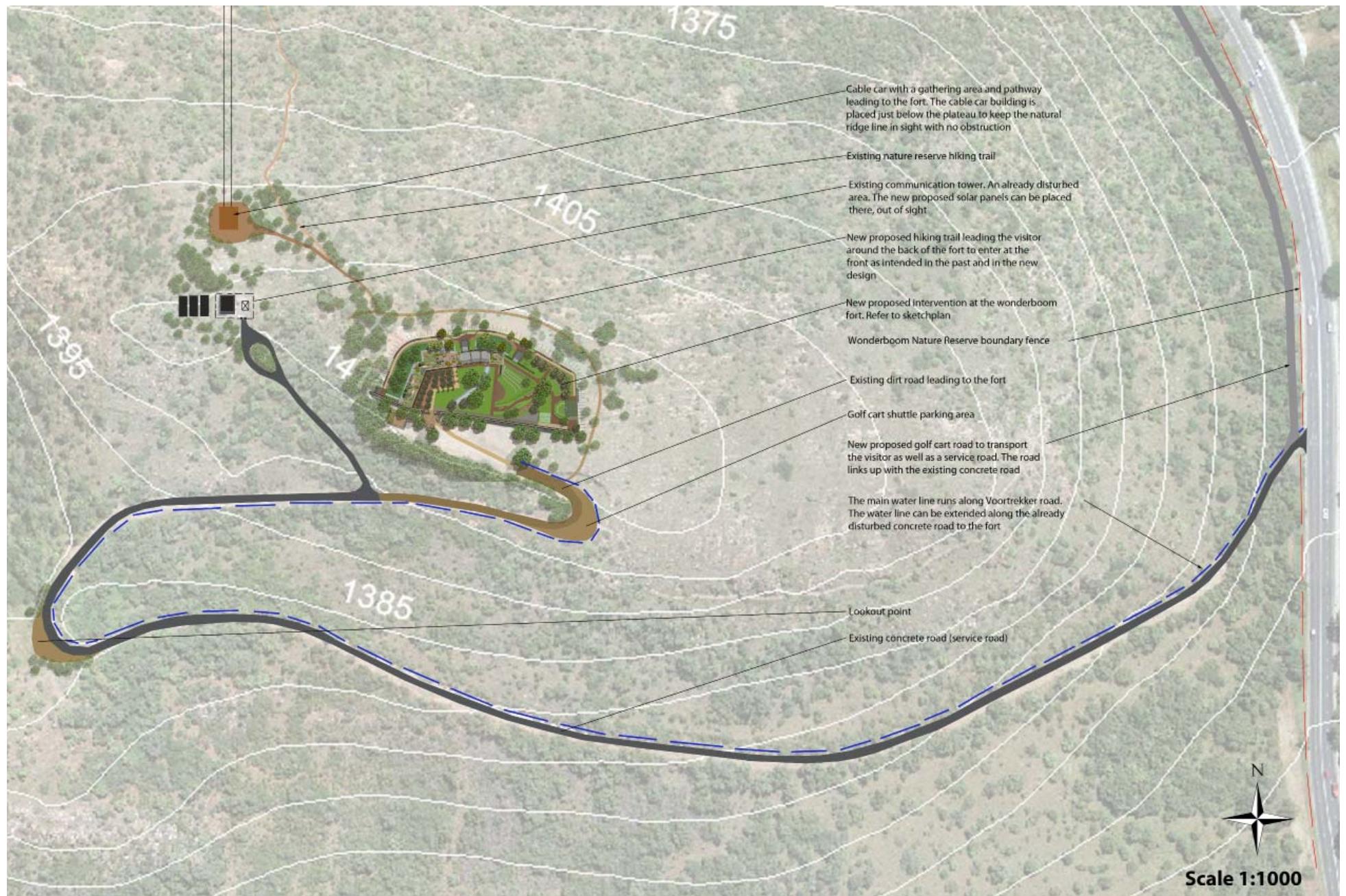


Illus. 185: The plan indicate some of the elements which was part of the fort during its operation. These can now be seen as semiotic resources which can be used to stimulate memory or celebrae which was there. Educate the visitor of the past opperations in the fort. (Author: 2011)



Illus. 186: The fort ruin as can be seen from the outside with its windows and doors broken out. (Author: 2011)

The site location in context



Illus. 187: Site (sketchplan) location in context (Author: 2011)

7.3 Final sketchplan: roof plan

The plan indicates the final roof plan of the design proposal.



Illus. 188: Final sketchplan - roof plan (Author: 2011)

7.4 Final sketchplan: building plan

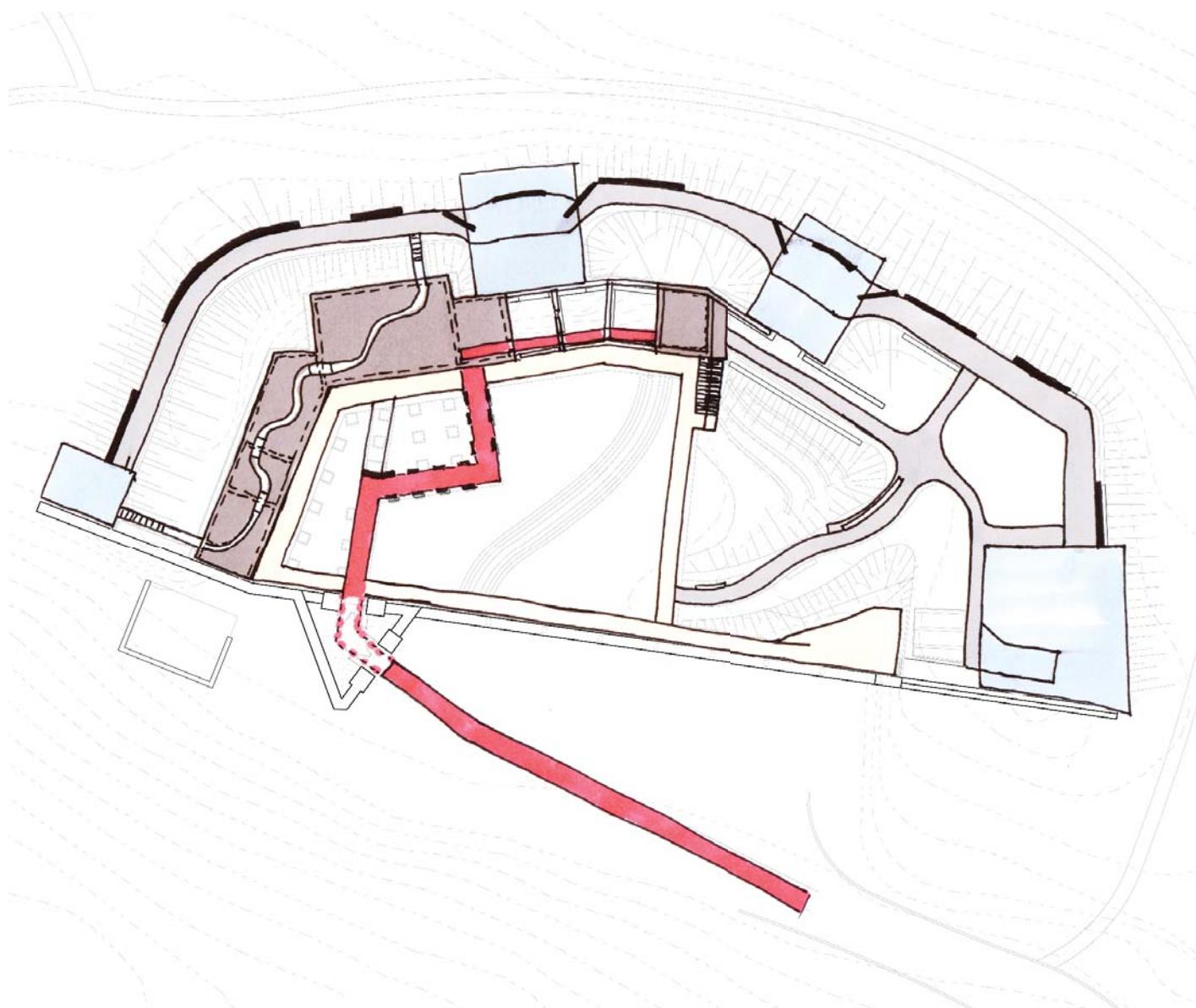
The plan indicates the final building plan of the design proposal.



Illus. 189: Final sketchplan - building plan (Author: 2011)

7.5 Coherence

This plan indicates the notion of coherence, one of the design principles set out at the beginning of this dissertation.



Illus. 190: plan indicating the principle of coherence in the design. (Author: 2011)

One can clearly see the unity of the whole and order of place. The site is legible and easy to understand. There is a clear hierarchy in the pathways through colour, texture and position.

The narrative which runs through the site creates coherence and order. The narrative ensures legibility and follows a sequence of events. It links everything together. It links the aspects of the site's history, context, medicinal connotation, social and lookouts.

Form and detail - visual characteristics ensure the capture of the visitor's interest and provide experience.

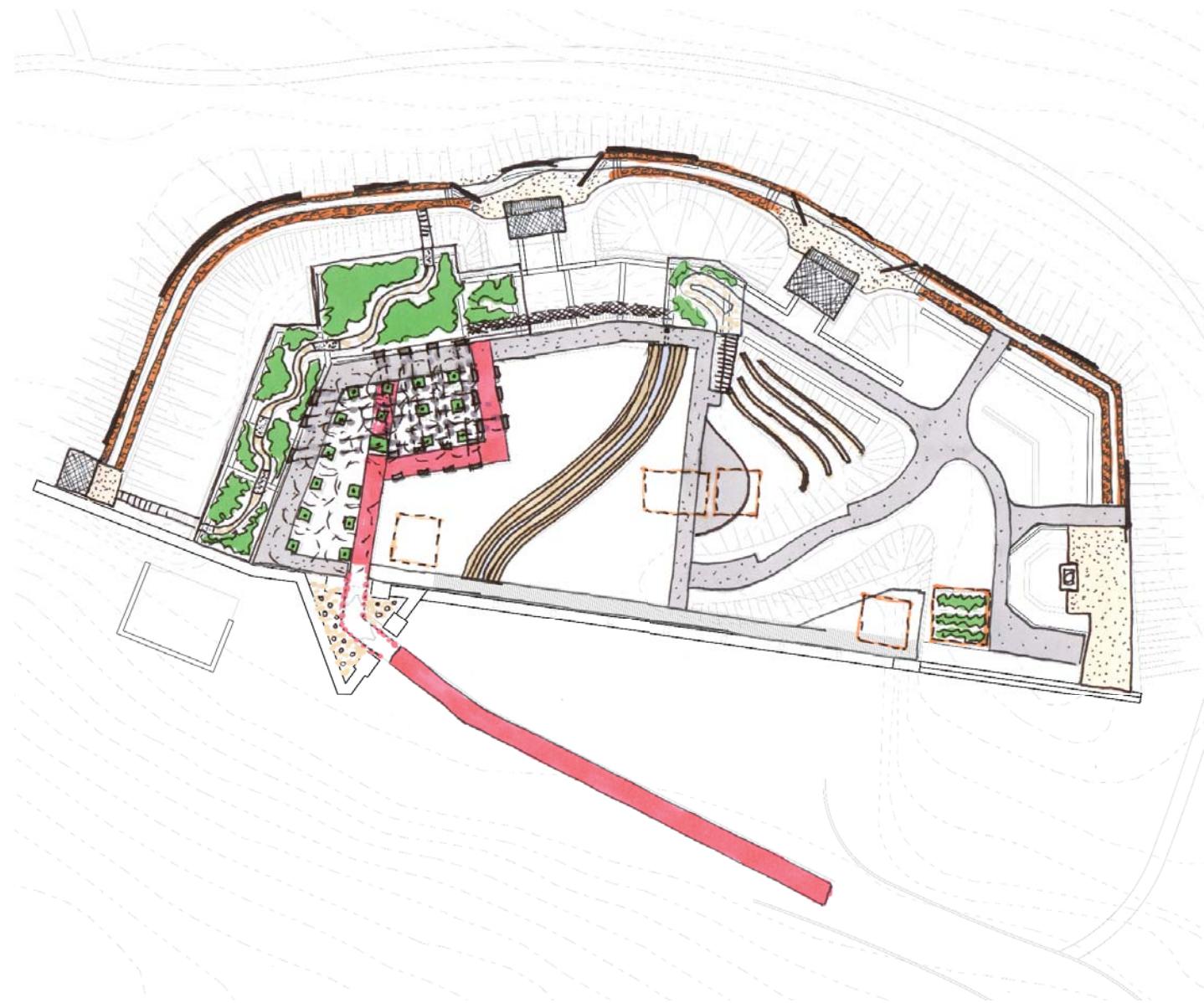
Unity was acquired through:

- A geometry of square and straight lines
- Repetition of wall structures (steel mesh baskets)
- A limited pallet of materials namely; concrete, steel, glass and timber

Unity in form, elements and detail.

7.6 Complexity

The plan indicates the notion of complexity; also one of the design principles.



Illus. 191: plan indicating the principle of complexity in the design. (Author: 2011)

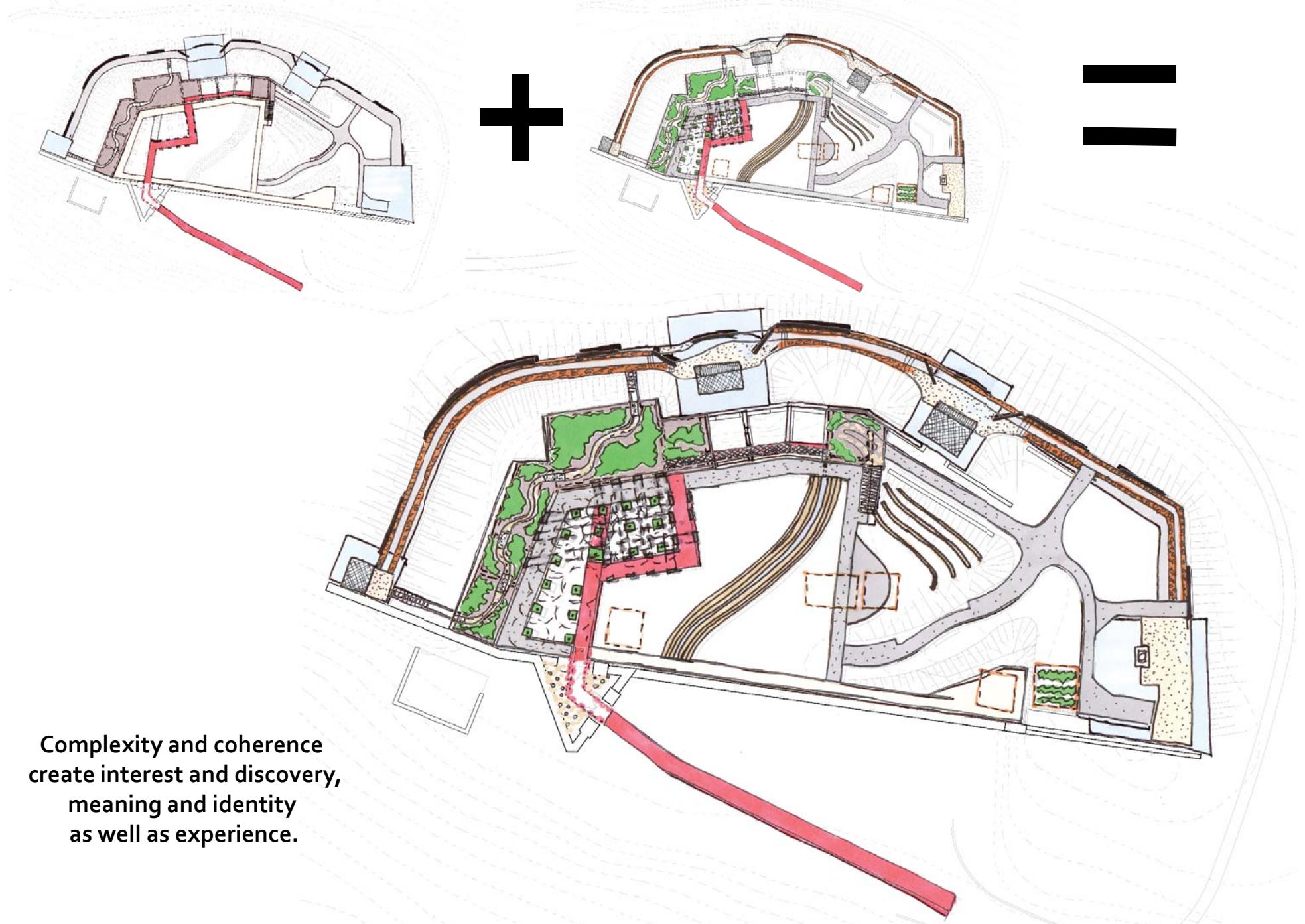
One can clearly see how the different elements were used as semiotic resources to create meaning and complexity.

Complexity is acquired through:

- Diversity and richness in elements within the place.
- The narrative that links the events. These events create mystery through the arrangement of activities and the different approaches the visitor will experience walking through the landscape. These are: linear approach, obscured view, revelation, simultaneously.
- Difference in:
 - Form (rectangular form which changes in some areas to a simple curve),
 - Elements (steel mesh, walls, vegetable garden, direction indicator, paving patterns and texture, water channel feature, medicinal roof garden, 18 trees in the spill-out area, stainless steel rods and narrative trails etc.)
 - Detail (pathway surface texture and colour, the steel mesh elements etc.)



Illus. 192: The Wonderboom fort entrance seen from the inside (Author: 2011)

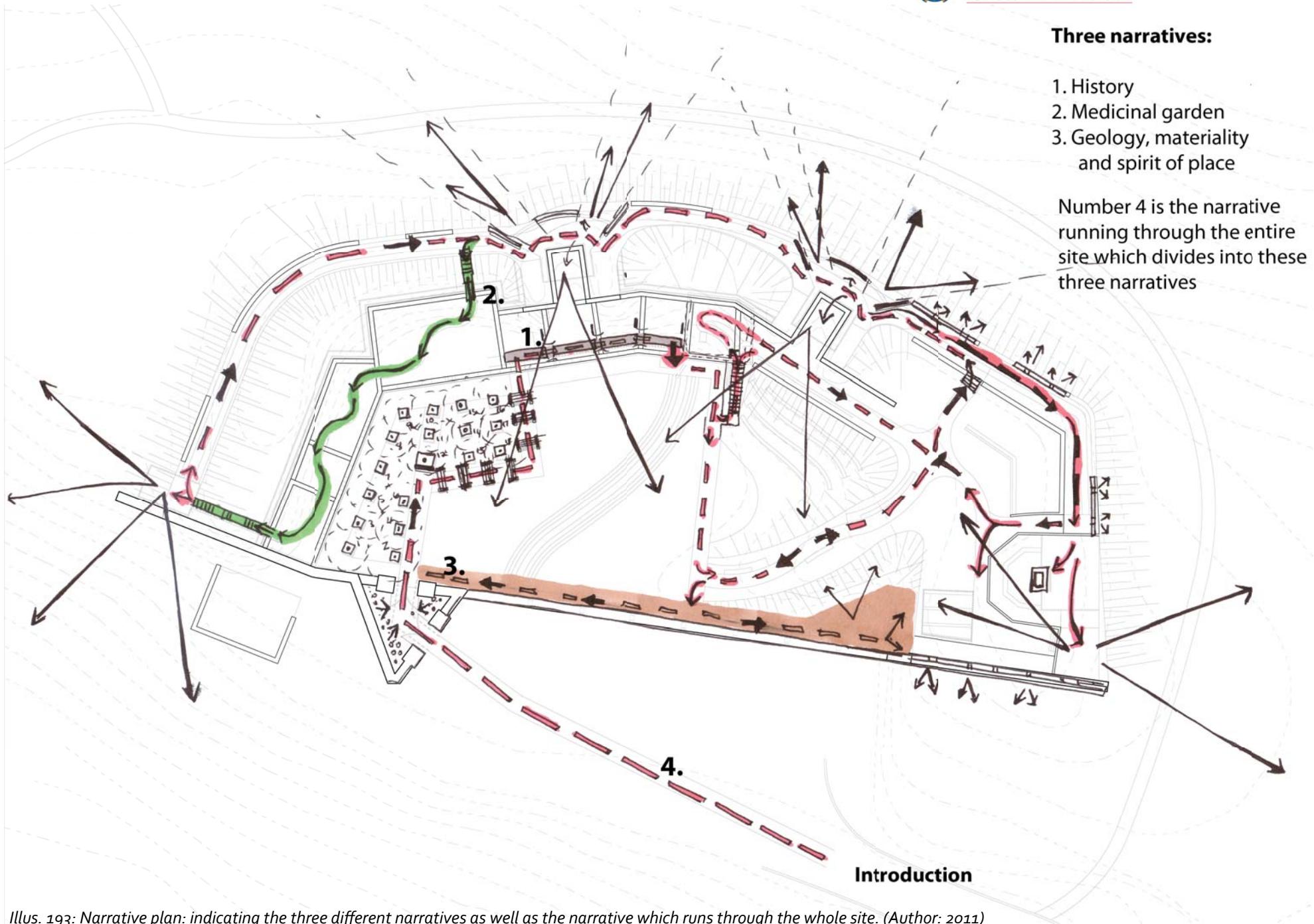


**Complexity and coherence
create interest and discovery,
meaning and identity
as well as experience.**

Three narratives:

1. History
2. Medicinal garden
3. Geology, materiality and spirit of place

Number 4 is the narrative running through the entire site which divides into these three narratives



Illus. 193: Narrative plan: indicating the three different narratives as well as the narrative which runs through the whole site. (Author: 2011)

7.7 The three narratives

The site inspired three narratives. This caters for education on three levels:

1. History of the site (area) and fort:

- An elevated walkway will extend through all the arches in the ruin, providing an exciting experience for the visitor. The visitor can see the structural significance of the ruin, experience the different rooms and be informed of the different uses of the rooms via signage. Glass information boards will be fixed against the walls – information is clearly visible, but one can still see the wall behind it. This walkway takes the visitor through the history of the site (fort) and everything that relates to it. (see heading 7.6.4 Narrative (history) walkway (space 4) on page 164)
- A 'directional indicator of nearby historic landmarks'-element is placed in the landscape to ensure that the visitor will be placed in context, and back into the past when they made use of landmarks indicating distances in miles, for example 'Pretoria 2 miles'. This element will be a steel plate with the information engraved on it at lookout 4. (See heading 7.6.5 on page 171) It will indicate the direction and distance to Pretoria, the other forts, landmarks and historically important areas in Pretoria.
- Other elements were used in the landscape to tell the story of history aspects. It also refers to the semiotic resources used to stimulate memories of the past. Mnemotectonics is another term used to express this method. The following elements were implemented: (Refer to page 159-181 of the discussion of the different spaces.)
- Water furrow – a water channel. A slightly curved water channel is proposed. It states/creates awareness of the location and existence of the old water furrows and, at the same time, serves as aesthetic element in the landscape and stormwater management;
- Stainless steel rods at the entrance – enclose and dwarf the visitor; demanding a certain military order and respect. The visitor should be made aware of the atmosphere and emotions of the past. The visitor should also realise what this heritage structure is - a magnificent war artefact;
- Steel elements used in the landscape, for example the light posts along the main pathway, were made from a hollow steel pipe with holes (openings) to symbolise bullet marks - this plays on the notion of war;
- 18 trees are planted in the courtyard spill-out area of the restaurant to celebrate the 18 men stationed at the fort during its operation (garrison);

- View points located above the cannon rooms – providing the same view 'aim' to celebrate what was there, and direct the visitor's view towards important historic sites around Wonderboom Nature Reserve;
- View points are also designed at the two far ends of the fort (west and east) where previous watch towers and communication poles were - Placing the new proposed viewpoints at the historic locations takes the visitor back to the war time when the fort was in use.
- An amphi/educational area (for informal small shows, stargazing, school groups can be informed here, etc) is proposed in the courtyard area where the old corrugated iron structure was, which was used as a school;
- Footprints of the temporary old structures are paved with a paving edge to highlight what was there and to create awareness of that;
- The same paving edge is laid at the location of the past vegetable garden of the fort.

These elements in the landscape and materials used can inform the visitor of the history and historic uses of the place as well as stimulate the memory of the visitor of past events or feelings. In turn it has the potential to create meaning.

2. Medicinal plants roof garden: (Refer to page 174-175)

According to Prof. Chris van Vuuren (during an interview). Wonderboom Nature Reserve was seen by the Ndebeles and other indigenous people as 'the place of medicine'. The Ndebele settlements were mainly near Bon Accord dam at the 'swartkoppies'. This forms a very strong link between the 'swartkoppies' mountain ridge and the Magaliesberg range. This new intervention links back to the place's original meaning and association, namely a 'place of medicine' and from there came the idea of the medicinal roof garden. Refer to fig. 21

The medicinal roof garden stimulates the memory of the indigenous people's use of this site and at the same time educates the visitor on plants with medicinal value. The visitor is also taken on a journey on top of the new proposed restaurant roof, experiencing a similar view and atmosphere as that of the past garrison, but with a contemporary view (development).

It will be an exhibit of endemic/local indigenous medicinal plants. Some plants were used by the indigenous people, and the rest are plants with general medicinal value.

The visitors will be able to walk on the roof garden and experience all the different medicinal plants. Information can be provided via brochure, phone applications and information plates – to ensure everyone can access the information.

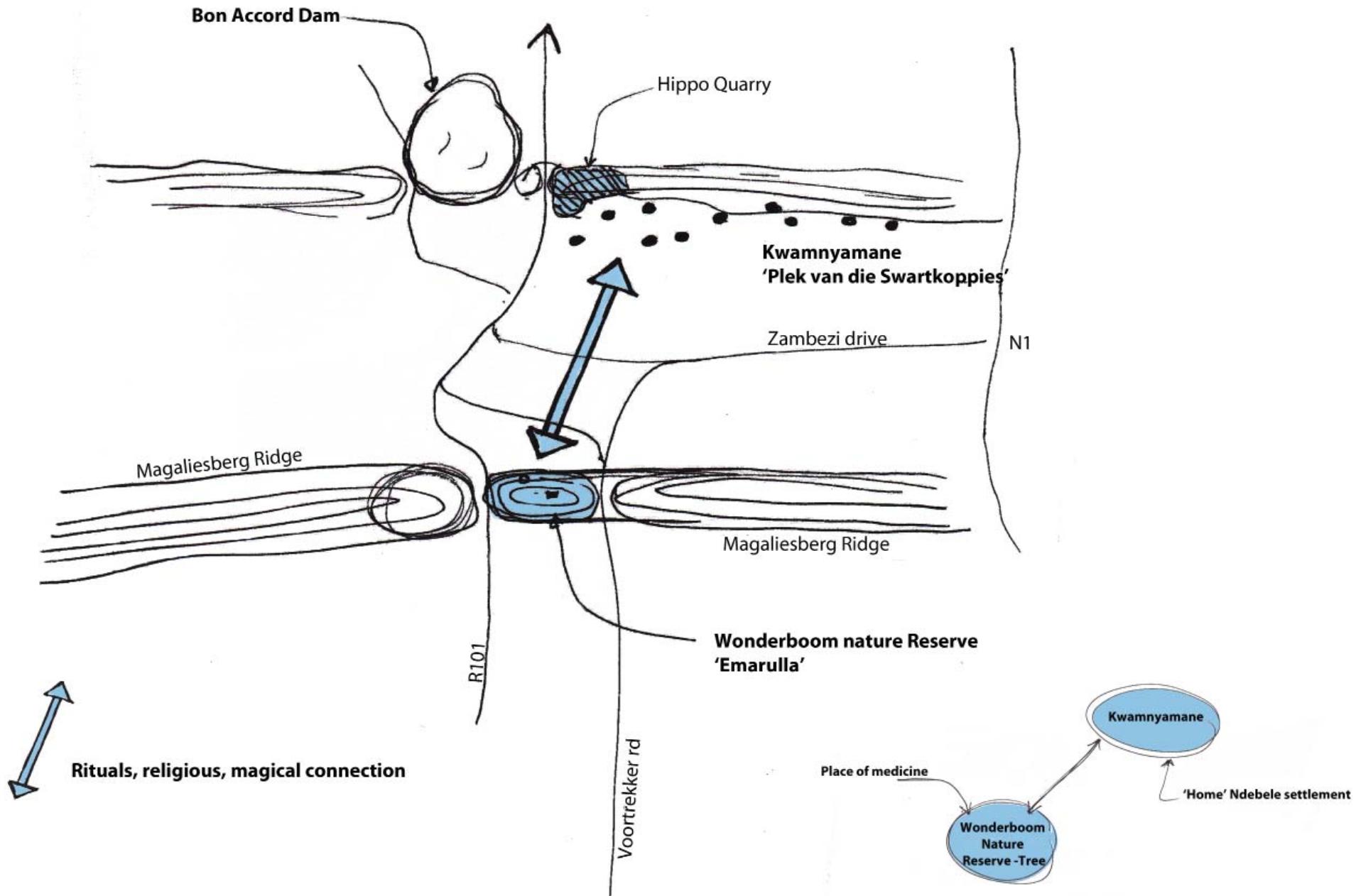


Fig. 21: Explaining the concept of the medicinal roof garden. The Wonderboom Nature reserve was once seen as 'the place of medicine' (Author: 2011)

3. Geology, materiality and spirit of place

The main focus is to present the different rock layers to teach the visitor. The historic graffiti can be found in this same space and dates back to the operational period of the fort. This in itself is a narrative. It creates meaning and identity. For this reason the visitor should be made aware of it. This space is also located in a location on site which in itself creates the feeling of refuge. This can then be reinforced in the design. (Refer to heading 7.6.9 on page 176-177.)

This narrative:

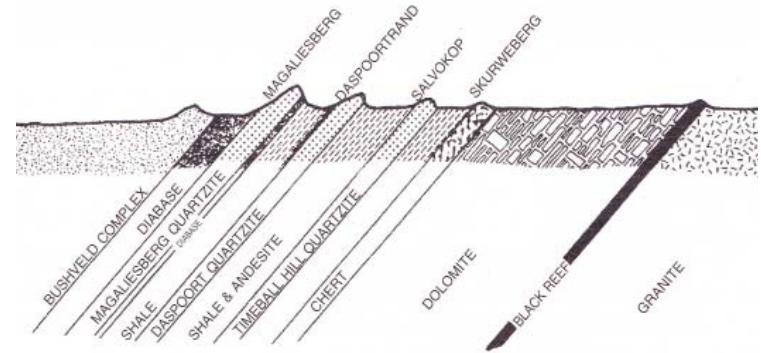
- Teaching the visitor about the different rock layers of the Magaliesberg. The existing cutting in the soil at the fort will be used to show the different layers of the Magaliesberg. (representation if necessary, with glass panel in front with the information) This is a didactic approach to the design. Refer to chapter 2 illus 13-16 of the four stages in the formation of the Magaliesberg and illus. 304.
- The visitor can become aware of the historic graffiti on the rock side of the old cannon ramp. The place becomes a node.
- This space becomes a strong refuge vs. prospect example. The visitor is surrounded by rock walls behind him but to the front a view towards the entrance and courtyard stretches out. He can feel safe and secure with a framed view.



Illus. 194: Historical graffiti rock (Author: 2011)



Illus. 196: The cut in the landscape showing the rock layers clearly (Author: 2011)

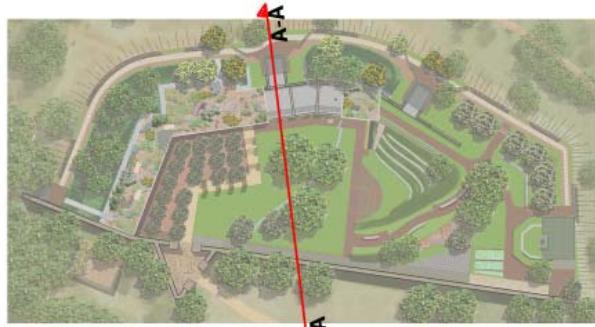


Illus. 197: Stage 4 in the formation of the Magaliesberg: The exposed edges of the tilted rocks are weathered by ice and other elements, the more resistant quartzite forming ridges (Carruthers, 2000: 14)

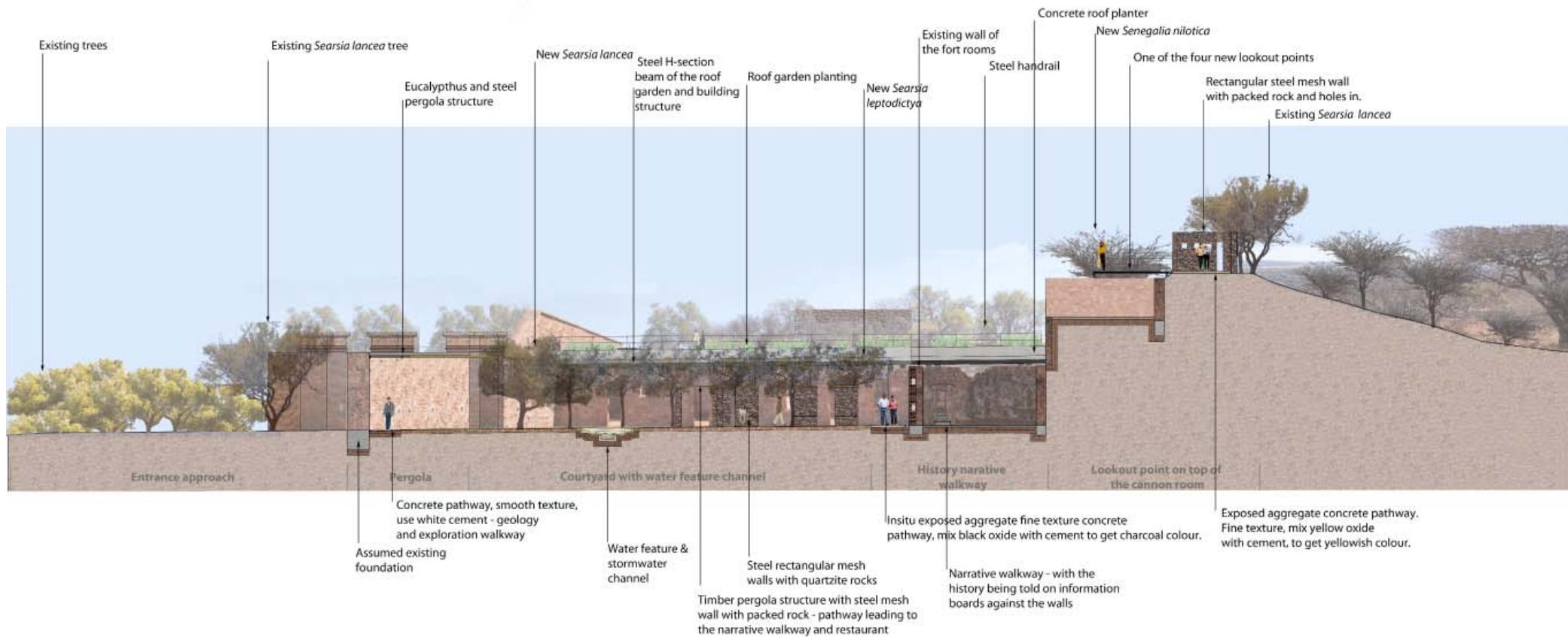


Illus. 195: This engraving indicates the person's force number, surname and the date (Author: 2011)

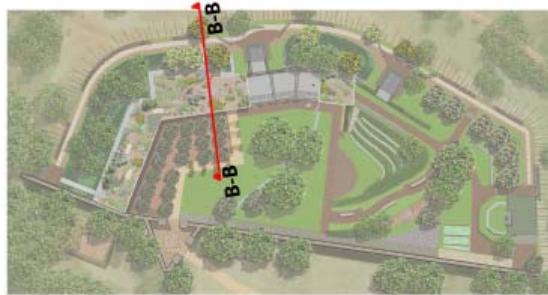
7.8 Sections



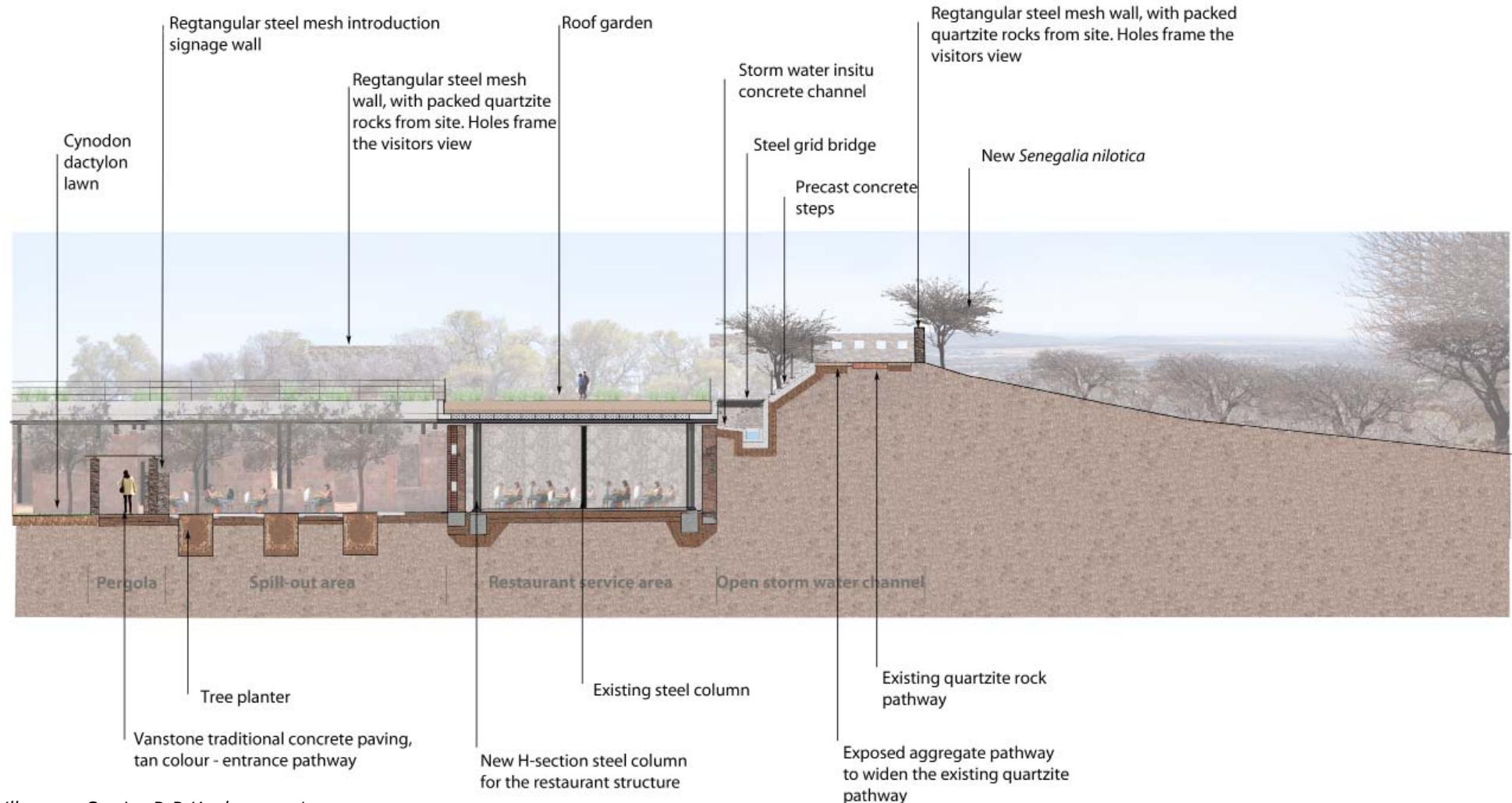
Reference plan (NTS)



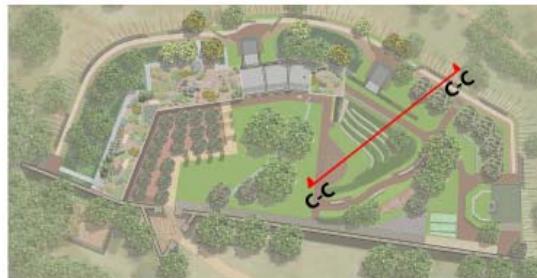
Illus. 198: Section A-A (Author: 2011)



Reference plan (NTS)

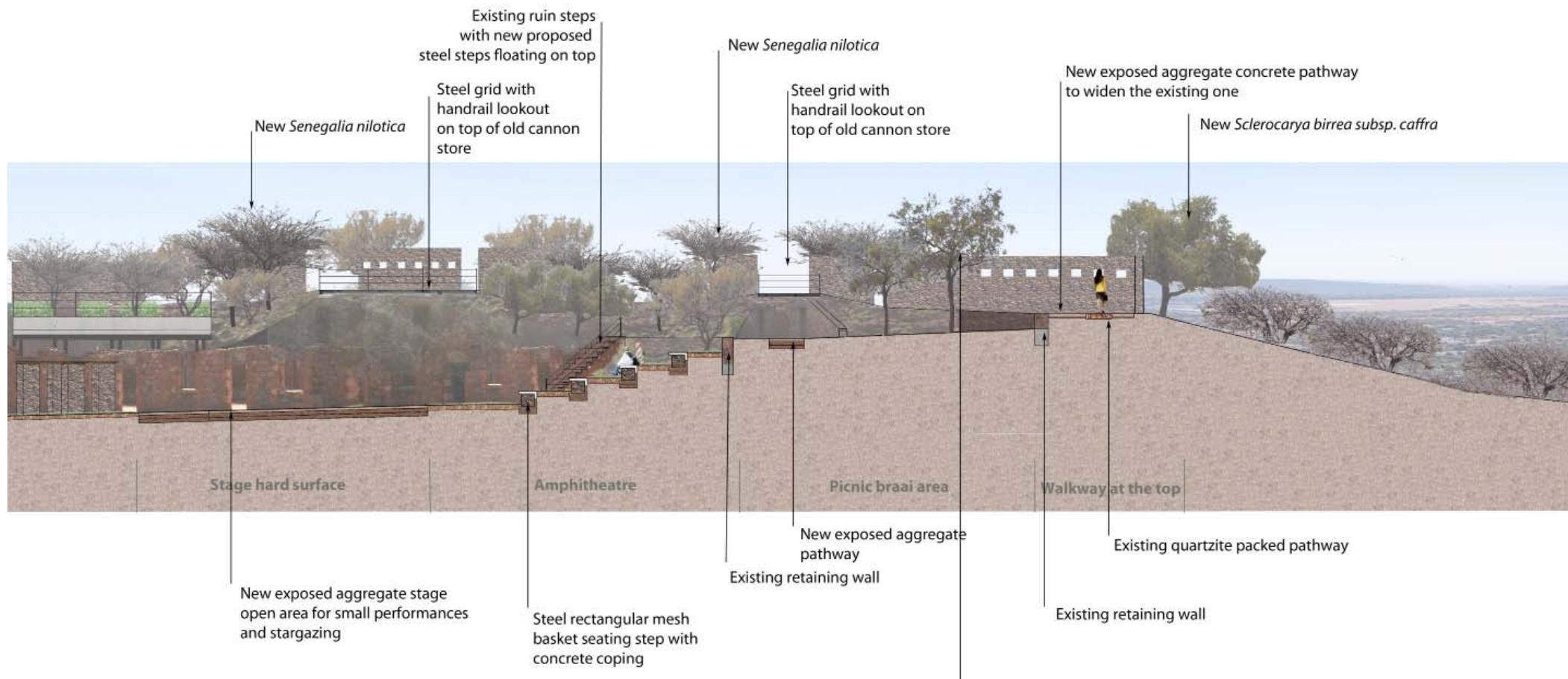


Illus. 199: Section B-B (Author: 2011)



Reference plan (NTS)

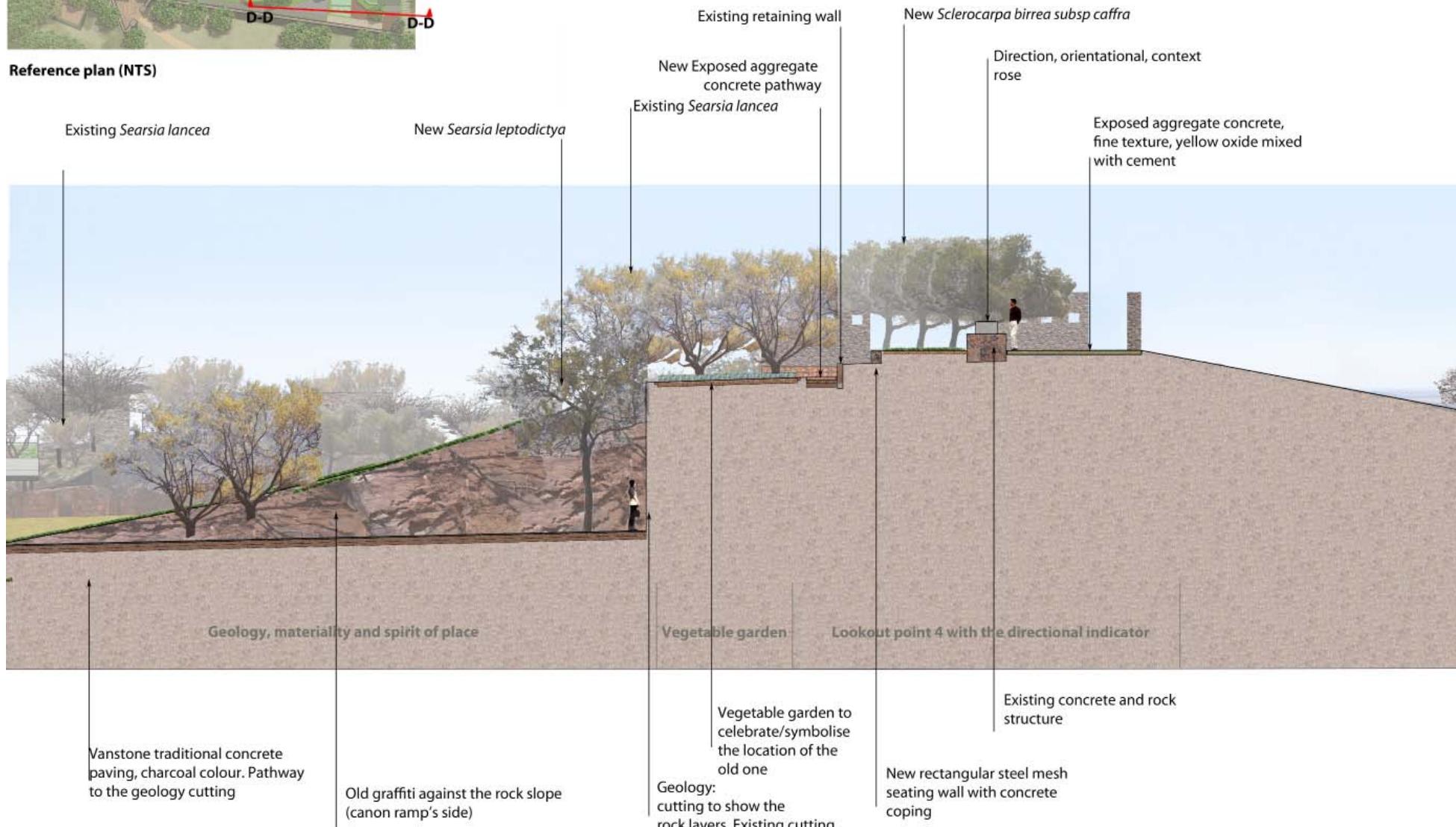
Section C-C cuts through the amphitheatre, the open area for picnics and the pathway around the back on the earth mound with the steel mesh basket walls.



Illus. 200: Section C-C (Author: 2011)



Reference plan (NTS)

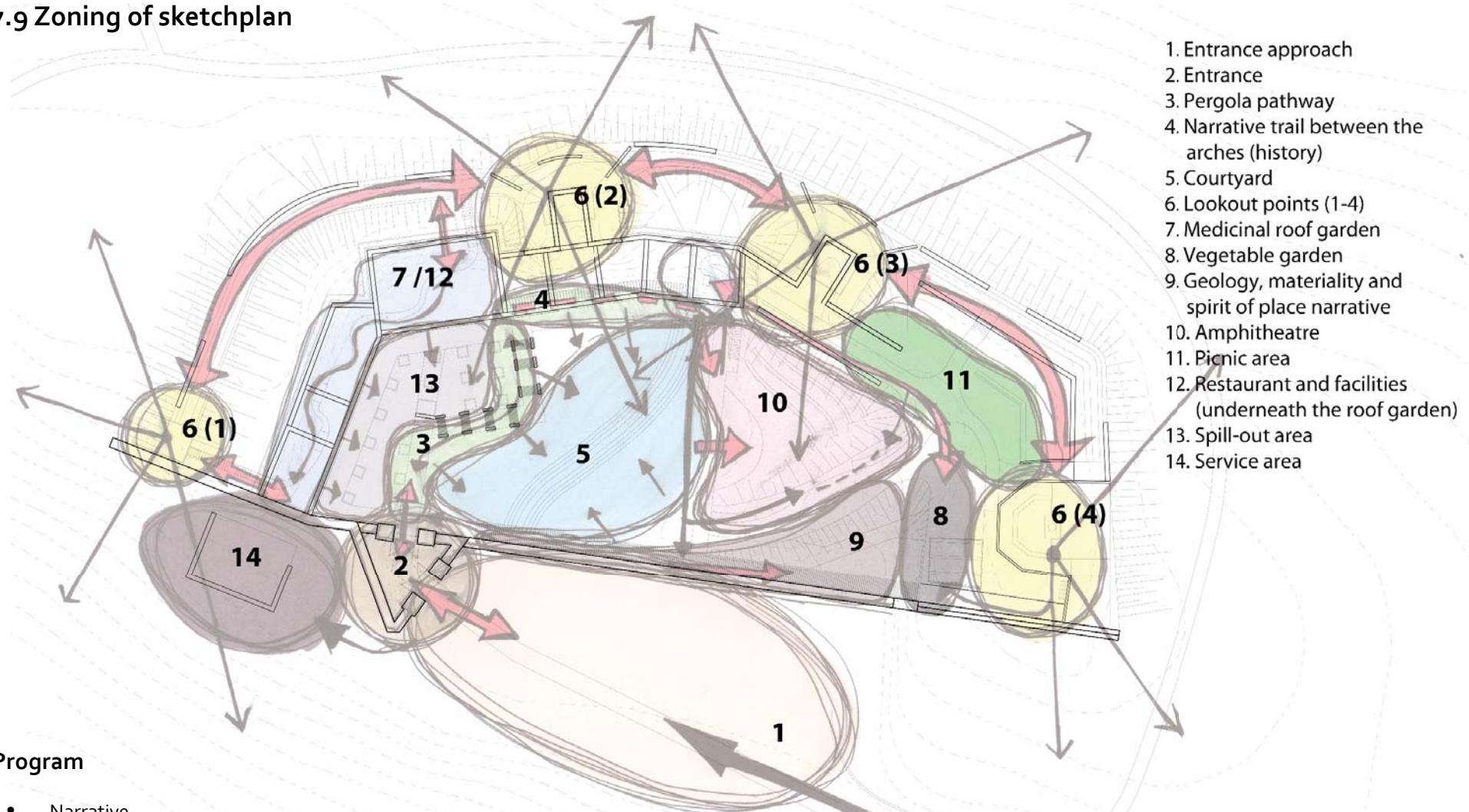


Illus. 201: Section D-D (Author: 2011)



Illus. 202: Another characteristic detail of the Wonderboom Nature Reserve (Author: 2011)

7.9 Zoning of sketchplan



Program

- Narrative
- Restaurant
- Amphi-theatre (small shows, story telling place, stargazing, education)
- Medicinal roof garden (narrative)
- Geology - make use of the existing cutting to represent the rock/soil layers of the Magaliesberg (narrative)
- Four view points (highest point in Pretoria)
- Picnic space
- Contemplation
- Education (signage) - history walkway within the fort along the arches (narrative)
- Water channel (which functions as water feature, symbol and storm water catchment)
- Ablutions
- Monthly events (stargazing, moonwalk, moon theatre and picnic)
- Yearly events - the lights (or green lasers) which shines from all the fortifications once a year to create awareness
- Vegetable garden

Illus. 203: Zoning plan (Author: 2011)

7.10 The discussion of the different spaces (zones)

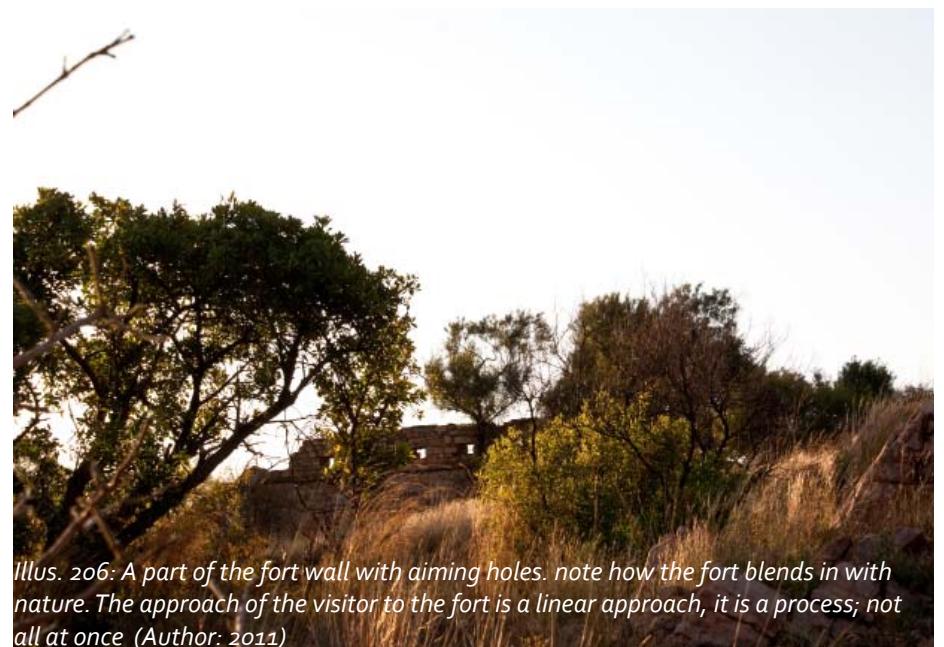
The site is divided into different zones. Each zone/space will be explained according to the following: The existing, intervention, experience, reasons, rationale (rationale & symbolic meaning) and materials. It is discussed in the same order as how the visitor is likely to experience the different spaces as intended by the author. This series of spaces will form the site's narrative. (number 4 on the narrative map, illus. 193)



Illus. 204: The approach to the fort entrance (Author: 2011)



Illus. 205: The fort outer wall. This wall was used as part of the approach with the wall on the one side and the vegetation on the other. The visitor is almost forced to move only to the entrance without any deviations. (Author: 2011)

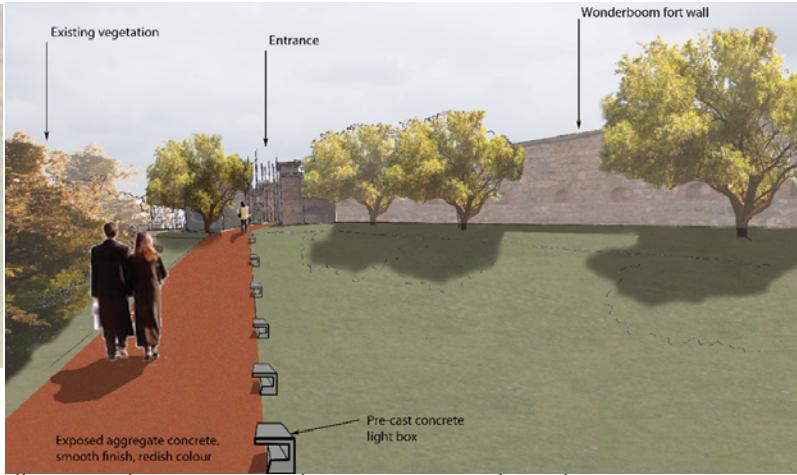


Illus. 206: A part of the fort wall with aiming holes. note how the fort blends in with nature. The approach of the visitor to the fort is a linear approach, it is a process; not all at once (Author: 2011)

7.10.1 Entrance approach (Space 1)



Illus. 207: Location of space one, the entrance approach. (Author: 2011)

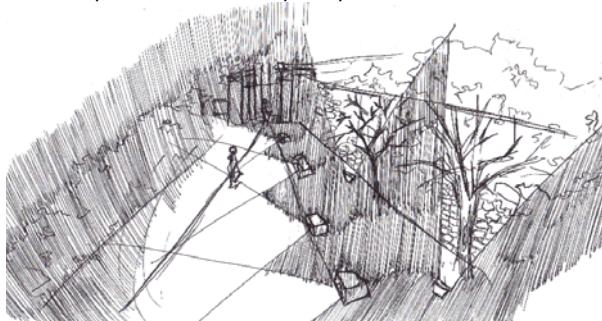


Illus. 208: The new proposed entrance approach (Author: 2011)

Design intervention and materials:

The design approach to the original entrance approach to the fort was simple and discreet. An exposed aggregate concrete pathway, with a smooth finish was used. The aggregate came from hippo quarry mixed with cement and red oxide to get a reddish-pink pathway leading to the entrance. The pathway is clear and legible. It is clearly distinguishable from the surrounding material and the green grass. Light boxes (made of pre-cast concrete and Beka LED lights) are placed repeatedly on the one side of the pathway. Cynodon dactylon is kept short. The green grass with the light-redish-brown shale rock wall of the fort creates a beautiful contrast in colour and texture. The reddish smooth pathway enhances the contrasts. Existing trees create shade along the wall, softening the harsh landscape.

Lighting is used at night time (during special events) to create awareness, focus attention to specific elements and serves to guide the visitor along the main pathway. The lights give atmosphere and reveals some aspects of an element and not everything at once. It provides some mystery.



Awareness

Illus. 209: Lighting along the entrance approach (Author: 2011)

Experience:

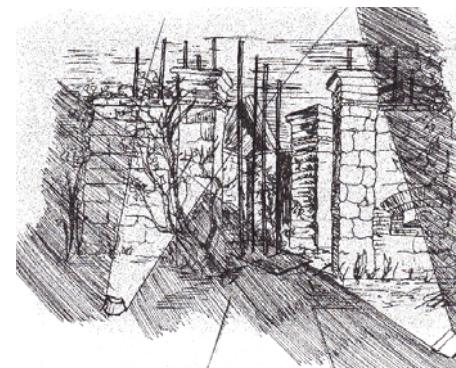
- Create anticipation
- Stimulate interest
- Journey to a destination (place of refuge)

Semiotic

Reason rationale - Symbolic:

- This was the approach long ago when the fort was in use.
- It is the approach to this heritage artefact (monument)
- The high security wall leads the visitor's eye to the entrance
- The fort is cut into the landscape, hidden and the visitor comes to make the discovery of its existence
- The landscape is discreet and no attention is taken away from the fort itself and its high walls.
- The shale and sandstone materials - heavy and permanent in contrast with the exposed concrete pathway (reversible).
- The pathway leads the visitor to his destination, with the focus on the entrance and threshold. The visitor is unaware of the amazing view from this point, because one has a high wall on the one side and high vegetation on the other, with the main focus being the entrance - the fort.

Interest & discovery



Illus. 210: Spot lighting to light up the fort entrance at night time during an event. (Author: 2011)

7.10.2 Entrance (Space 2)



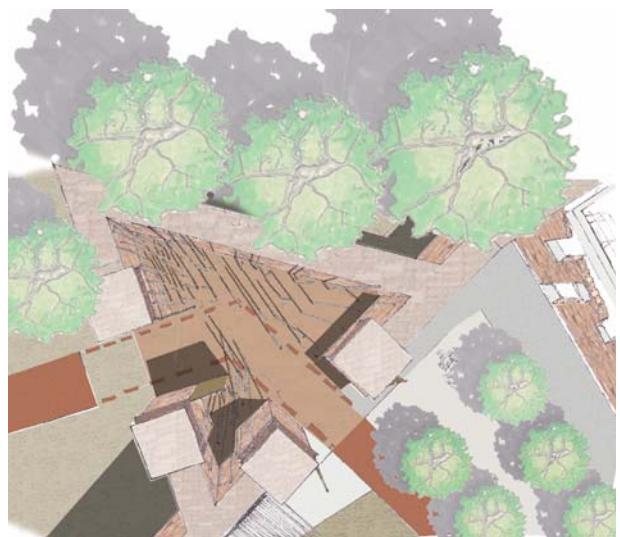
Illus. 211: The fort entrance as you approach it. (Author: 2011)



Illus. 212: Detail of the wall as seen from inside the entrance (threshold) (Author: 2011)



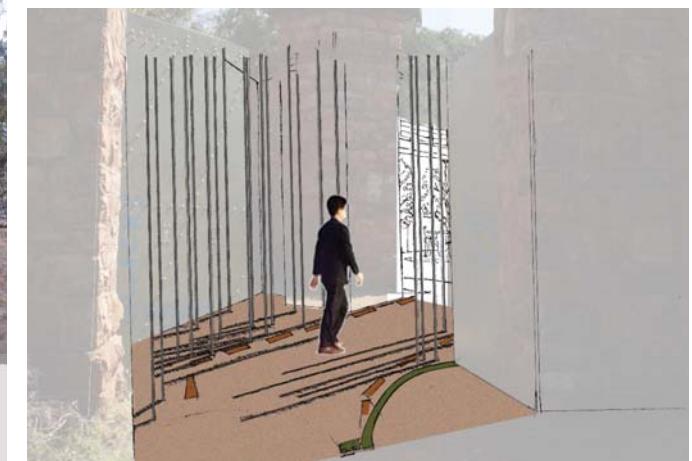
Illus. 213: Detail of the steel fort door. Notice the round head bolts. (Author: 2011)



Illus. 214: The fort entrance top view (Author: 2011)



Illus. 215: The fort entrance from inside the courtyard (Author: 2011)



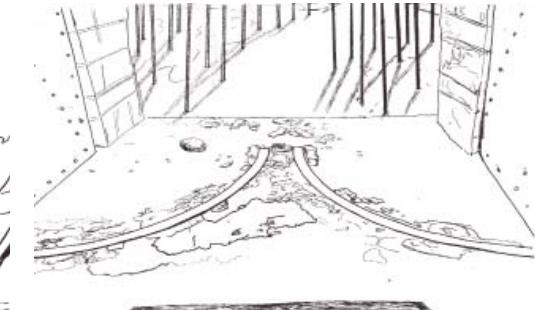
Illus. 216: The fort entrance with the new proposed stainless steel rods which demand respect from the visitor. (Author: 2011)



Illus. 217: Location of space two, the entrance (threshold between the inside and outside). (Author: 2011)



Illus. 218 The fort entrance with the new proposed stainless steel rods which enclose the visitor. Create awareness of the small space and it also highlight the threshold of moving from one space to the next. (Author: 2011)



Illus. 219: The threshold at the fort entrance. The existing was left to emphasise the difference between the old and new as well as moving into a new space (Author: 2011)

Design intervention and materials:

The threshold space (entrance) is surfaced with compacted soil with stainless steel rods planted into the soil so that these 2.5m high rods fill the space. These posts symbolise an army accumulated into a small space. It enforces the feeling of enclosure. It becomes imposing and dwarfs the visitor so that he is forced to be disciplined. This space, filled with stainless steel rods, creates anticipation and interest.

The author uses stainless steel rods to create the wanted experience and emotion, but also a material which does not detract from the view and wall inside the entrance. The visitor can still experience the high intimidating walls and see the aiming holes. Visually it does not obscure the views, but physically it brings about the experience.

Awareness is created by accentuating the entrance and that which is old. The visitor is clearly aware that he enters a new space and moves over old ruins. The exposed aggregate concrete pathway ends right before the old steel door rails and continues with paving edges to lead the visitor inside and through the rods.

Awareness

Reason rationale - Symbolic:

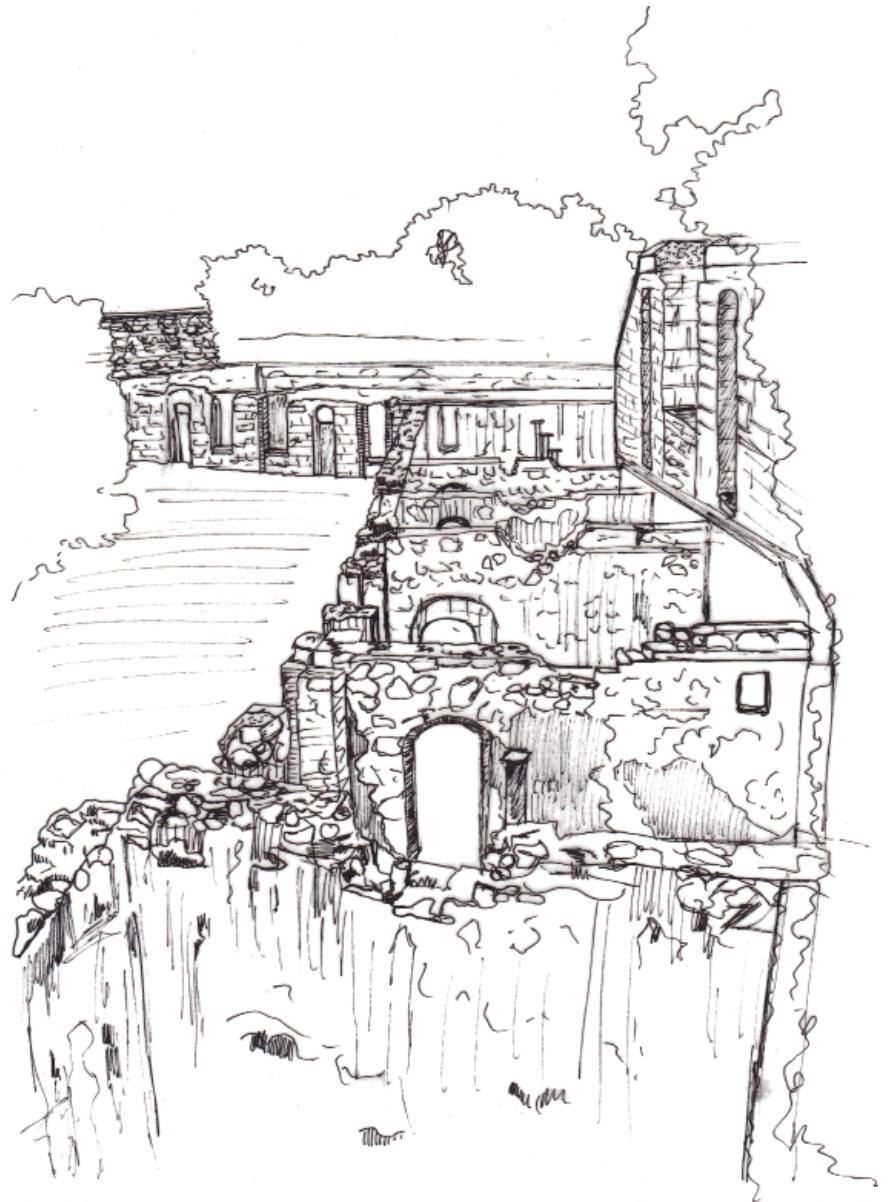
Semiotics

- Experience anticipation
 - The visitor is dwarfed to impose the feeling of respect, discipline and anticipation.
 - Enclosure - trapped
 - Experience discomfort
 - You feel intimidated by the entrance threshold
- The garrison would be bundled up during war and crowded in this entrance space, the threshold between the outside of the fort and the inside.
 - The entrance gate with the high walls and columns impose respect and awe onto the onlooker.
 - If the doors were to close, the only contact with the outside would be the aiming holes - as in the past.
 - It is a small space, which encloses you
 - It is intimidating, and in some way, disciplines you
 - Upon your first visit, one experiences the sense of anticipation

7.10.3 Narrative (history) - walkway (pergola & arches) (Space 3 & 4)



Illus. 220: The existing arch structures linking the different rooms. (Author: 2011)



Illus. 221: A graphic representation of the existing fort rooms with the arches which links the different rooms. (Author: 2011)



Illus. 222: Location of space three and four - the history narrative. (Author: 2011)



Design intervention and materials:

Reversible

The pathway is constructed from the same material used at the entrance. Red-pink exposed aggregate with a smooth finish concrete pathway. The red pathway is intended to read as the main route and an important pathway, because it takes the visitor on a narrative history journey.

Rectangular steel mesh walls filled with shale rocks from site was chosen as a main material element in the landscape; it suggests a temporary structure, it is reversible and can be clearly distinguished from the old structure.

Eucalyptus lathes are used as pergola roof. The timber is a temporary material and creates a nostalgic atmosphere with the shade lines on the ground and against the wall.

Steel is mainly used to contrast the heavy stone fort structure. Steel structures are more delicate (smaller/thinner) and appears like a lighter structure. It is clearly distinguishable as new.

The walkway between the arches inside the fort is slightly raised to accentuate that this is not part of the ruin, it creates awareness of the route and guides the visitor along the intended route.

Glass is used for the information boards and signage so that the visitor can clearly see through it so none of the existing walls' significance is lost and it can be clearly distinguished from the old. The signage is fixed to the walls by using round head bolts to mimic the round head bolts used in the fort's construction. This is used as a semiotic resource to stimulate memory and create awareness as well as aiming for coherence. It takes into consideration the aesthetics of the old fort fixings and accentuates it.



Illus. 223: The narrative trail (history) - elevated steel profile frame with steel grid surface, and glass information boards on either side of the walls. (Author: 2011)



Illus. 224: The main pathway to the narrative trail and restaurant (Author: 2011)

Experience:

- Informative
- Educational
- Discovery and interest

Semiotics & didactics

Reason rationale - Symbolic:

- The narrative starts at the entrance and moves along the main pathway which forms a strong axis leading to the historic information and restaurant.
- The pergola wall structures are set out from the fort ruin openings to create an outdoor room.
- The narrative takes you on a journey through the fort and informs you of the history.
- The raised steel grid walkway within the ruin runs along the arches.
- Glass information boards are fixed against the existing ruin wall. The visitor is constantly informed while exploring through the fort walls.

7.10.4 Courtyard (Space 5)



Illus. 225: The existing courtyard toward one of the cannon and first ammunition store. And the one below. (Author: 2011)



Illus. 226: The existing ammunition store room (now proposed to be the visitor ablution facilities with a medicinal roof garden on top. The existing stairs lead to the top (now proposed to install steel treads which seem to float on top of the existing. This is also a semiotic resource - it stimulates the memory of the past when the soldiers would run up these steps. It celebrates the existing. And above image. (Author: 2011)

Experience:

- Openness
- Freedom
- Stimulated memory of some historic aspects (fort element remnants) - semiotic resources



*Illus. 227: Location of space five, the courtyard.
(Author: 2011)*



Illus. 228: View towards the new proposed courtyard. (Author: 2011)

Awareness

Design intervention and materials:

The courtyard is kept open, but with a directed pathway to the narrative trail and restaurant. Paving is laid in the location of the old corrugated iron buildings, to stimulate the memory of those past buildings and also to create awareness of the history. The imprint in the landscape also serves to create interest and curiosity.

The water channel has an organic flow, different from the original furrows, but this channel celebrates the location and existence of the water furrows in the past. It stimulates the memory of the visitor.

The water channel is laid out with rocks and on the edges, a concrete strip and some steps indicate its position. Children can play there and people can sit close by the water which has a calming effect on a person.

Reason rationale - Symbolic:

- The old parade field
- This was open and used for multiple purposes. It was also the place where corrugated iron buildings were erected to serve as a school etc.
- The courtyard is kept open, the visitor can experience openness and freedom especially after the threshold entrance with the intimidating closeness.
- The footprints of the corrugated iron buildings are celebrated at their locations with paving in the grass.
- The courtyard holds remnants of the old water furrows.
- A water channel celebrates the historic existence of a water furrow. It also serves as a water feature and stormwater catchment.
- Water feature creates atmosphere

Semiotics & didactics

7.10.5 Lookout points 1-4 (Space 6)



Illus. 229: A 360 degree view of and from lookout point 1 (Author: 2011)



Illus. 230: A 360 degree view of and from lookout point 2 (Author: 2011)



Illus. 231: A 360 degree view of and from lookout point 3 (Author: 2011)



Illus. 232: A 360 degree view of and from lookout point 4 (Author: 2011)



Illus. 233: Location of space six, the four viewpoints. (Author: 2011)



Illus. 234: Lookout point 2 (Author: 2011)



Illus. 235: Lookout point 4 (Author: 2011)

Design intervention and materials:

Semiotic & Didactic

Lookout points 2 and 3 has an exposed aggregate concrete, fine texture surface. Yellow oxide is mixed with cement to give a yellowish colour to the surface. The part crossing the cannon room (without a roof) of the lookout point is constructed from steel channel frame with steel grid over it. A part of the grid is also made of checker plate to make it easier for some people to walk. Steel grid is used with large openings (50mm x 50mm) to ensure the visitor is able to see the ground or in this case the cannon room floor and walls (visual access). Steel is used to construct a light structure, reversible and clearly distinguishable as a new intervention. Lookout point 1 is the same except for the steel checker plate surface.

The existing quartzite pathway is kept, but exposed concrete pathway strips are laid on both sides of the existing pathway to widen it. The concrete has a rough finish with large dark aggregate mixed with cement and brown (red + yellow + black) oxide. The old pathway can be clearly distinguished from the new concrete path extension.

The benches consist of steel mesh baskets with shale rocks from site and a smooth in-situ concrete seating surface. Lighting is also incorporated into the bench for night time events.

The surface colour differs from the rest of the pathway leading around the top at the back of the fort to accentuate that this is a different space and something else is happening.

At lookout point 1, precast concrete stairs lead down to the roof garden. The visitor can enter or exit the roof garden at this point.

The 2m high steel mesh walls with shale rocks from site, are placed in segments along the northern side of the fort. Holes are designed on different levels to improve access for everyone. The holes frame the intended views. The steel mesh walls with shale rocks from site are placed in flanking positions to direct the visitor's view and to create a more intimate space.

New *Senegalia niloticae*, *Searsia lanceae* and *Searsia leptodictyae* are planted and the existing *Searsia lanceae* are used to create shaded areas and help in directing views.

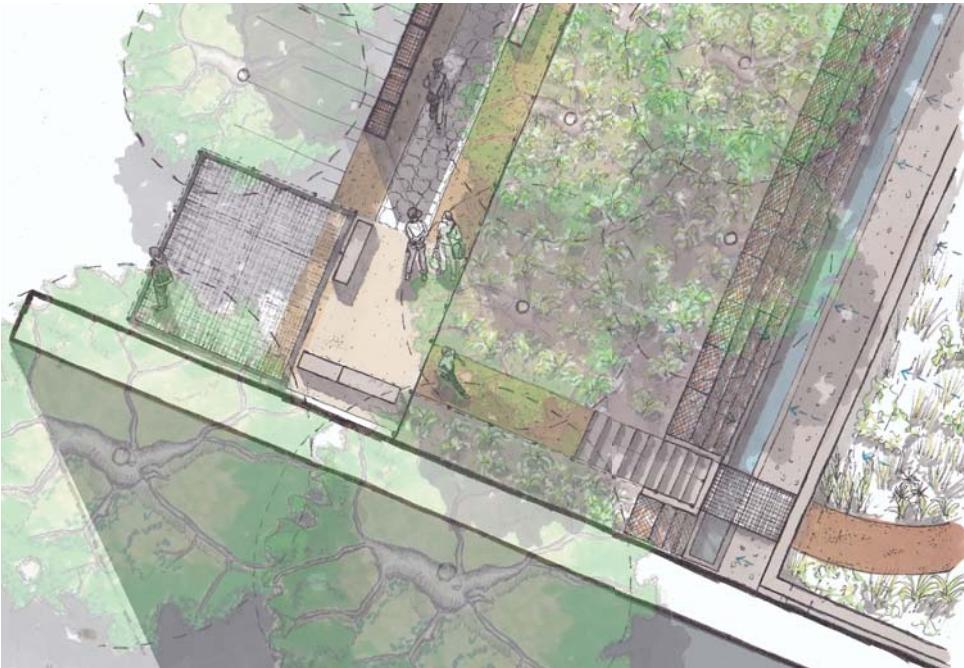
People can either sit, relax and enjoy the view or do it standing or just pass by.

At lookout 4 one can clearly see where the old earthmound lookouts were with the low retaining wall remnant. The grass slopes slightly upwards towards the existing column structure. This informed the design decision to place a landscape seating step. The seating wall is constructed from rectangular steel mesh baskets with shale rocks from site and a smooth in-situ concrete seat (coping).

The existing column structure at lookout 4 is given a new use as mentioned earlier. This creates awareness for the visitor of his surroundings and the historic context he is in.

The directional indicator is made of galvanised steel plate onto which the information is engraved. This steel plate would then be bolted onto the existing column structure made from a rock and cement base with concrete column on top. It doesn't damage the heritage element at all, but provides a new compatible use. The old can clearly be distinguished from the new.

No balustrades are needed at lookout 4, because the slope on the eastern side is very gradual and no one will fall.



Illus. 236: Lookout point 1: plan (Author: 2011)



Illus. 237: Lookout point 2: plan (Author: 2011)



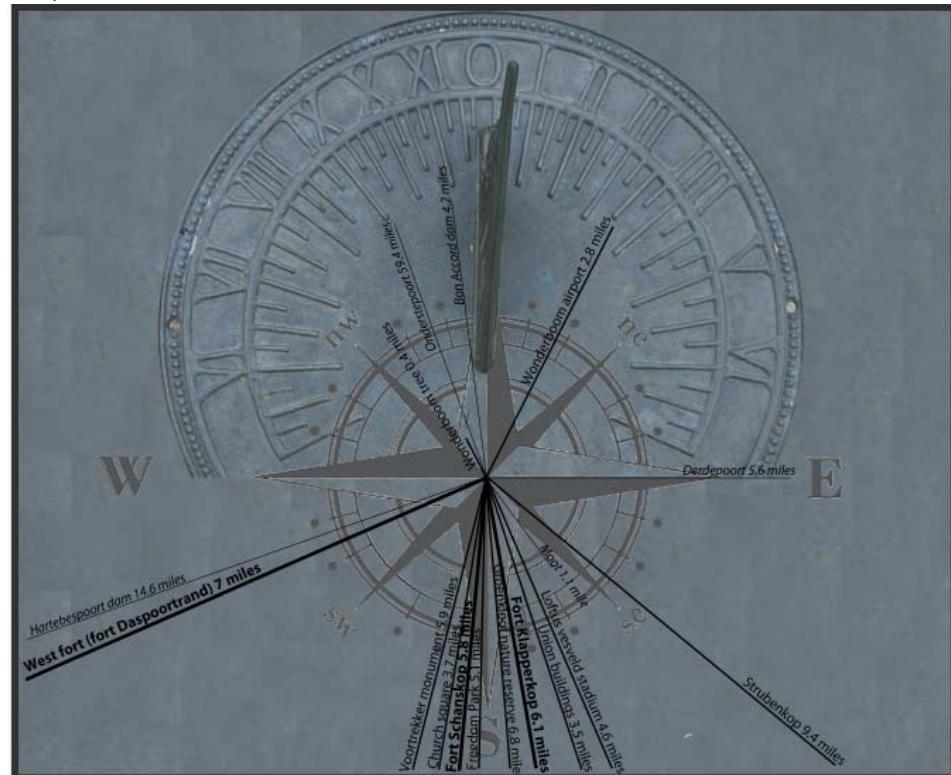
Illus. 238: Lookout point 3: plan (Author: 2011)



Illus. 239: Lookout point 4: plan (Author: 2011)



Illus. 240: Existing remnant of the old communication mast onto which the directional indicator element to all the historic landmarks and fortifications will be constructed (Author: 2011)



Illus. 241: Directional indicator element to all the historic landmarks and fortifications (Author: 2011)

Experience:

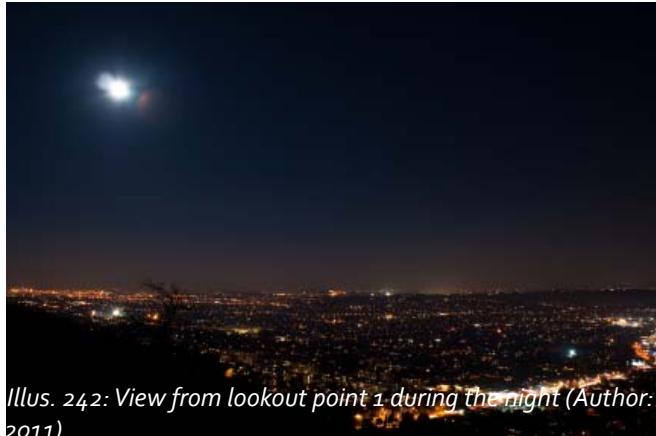
- Framed views
- Direct views to historic elements and areas
- Celebrate what was there
- Interest and discovery
- Relaxing/contemplating
- Educational
- Memory

Reason rationale - Symbolic:

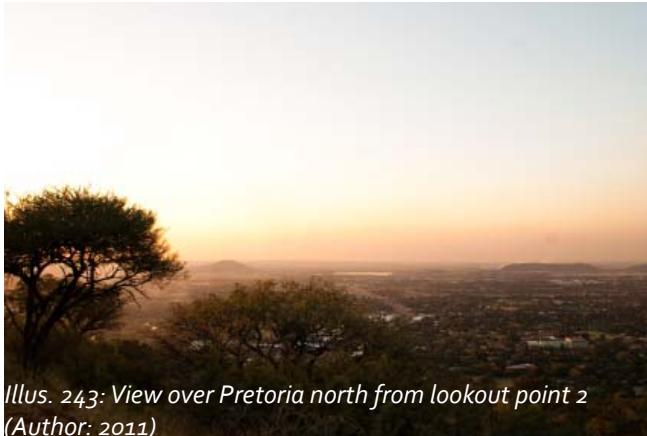
Semiotics

- The Wonderboompoort can be seen from lookout point 1.
- The visitor's view is directed to the poort.
- An information plate informs the visitor about what he is seeing or should be seeing.
- Lookout points 2 & 3 are both located on the old positions of lookout points. It was always an earth mound with a walled structure with aiming holes.
- There was a wall all around the northern side of the fort with aiming holes - the new proposed design proposes wall segments all around the northern side to symbolise what was there and create awareness of the historic uses. These wall segments have holes in them to once again aim the visitor's view to the intended historic element or area as well as to frame different views.
- At lookout 2 the visitor's view is directed to Onderste poort, Bon Accord dam and surrounding area.
- At lookout 2 & 3: The visitors can experience a fantastic view of Pretoria central, historic areas such as the Moot as well as see the three other forts, monuments and landmarks to the south.
- At lookout 3, the visitor's view is directed to Wonderboom airport, the agricultural piece of land, 'Swartkoppies', Pyramid hills and surrounding area.
- At lookout 4, the visitor's view is directed over Voortrekker weg where the largest Stone Age site is located.
- At lookout 4, the holes in the existing fort wall provide for framed views of the city
- The existing column structure at lookout 4 is given a new function by fixing a steel plate on top. This element is a 'directional/contextual indicator' of the direction and distance of the other forts and historical landmarks. Refer to illus. 241
- The distance is provided in miles to stimulate the memory of the visitor of the past when distances were given in miles. Takes the visitor back into the past. (semiotic resource - to create meaning)

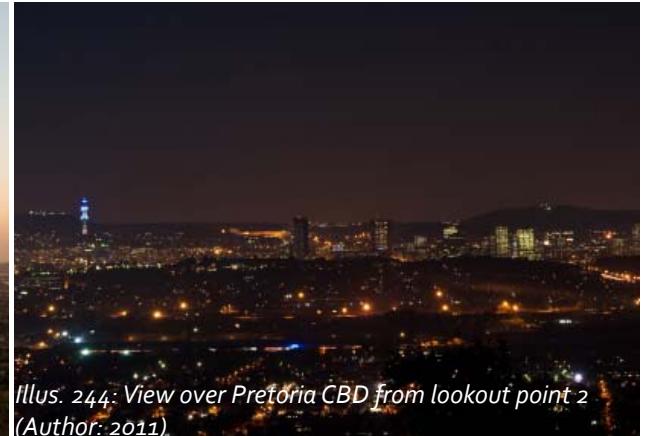
The different views one can experience from the different lookout points



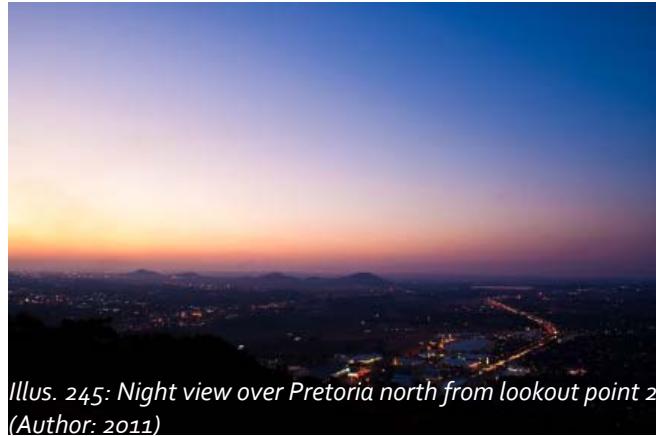
Illus. 242: View from lookout point 1 during the night (Author: 2011)



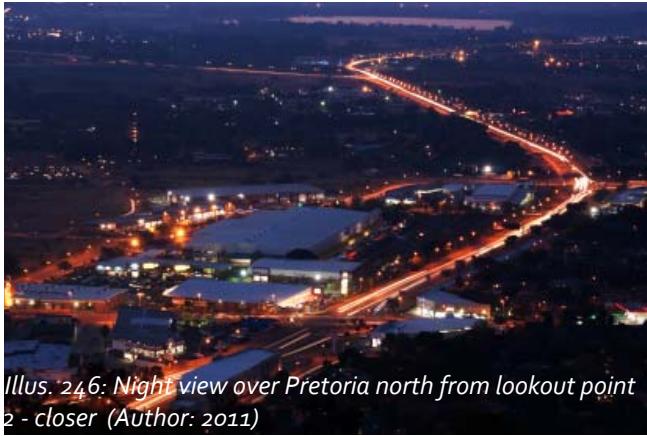
Illus. 243: View over Pretoria north from lookout point 2 (Author: 2011)



Illus. 244: View over Pretoria CBD from lookout point 2 (Author: 2011).



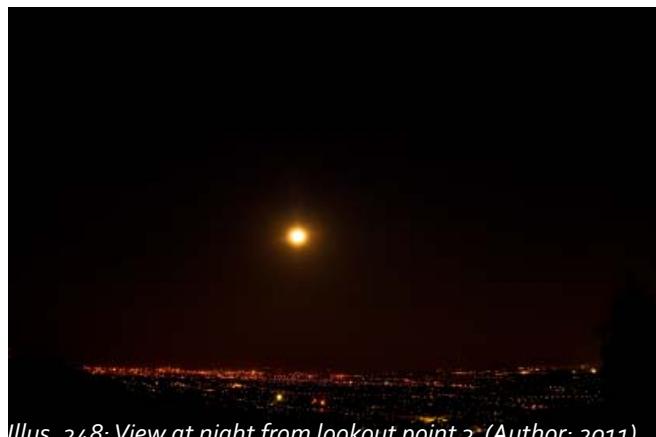
Illus. 245: Night view over Pretoria north from lookout point 2 (Author: 2011)



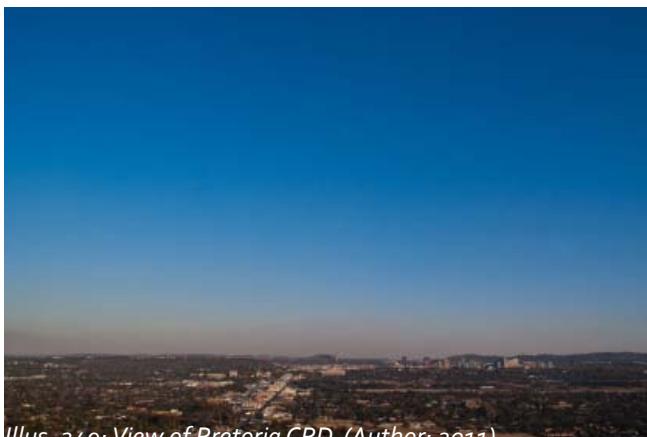
Illus. 246: Night view over Pretoria north from lookout point 2 - closer (Author: 2011)



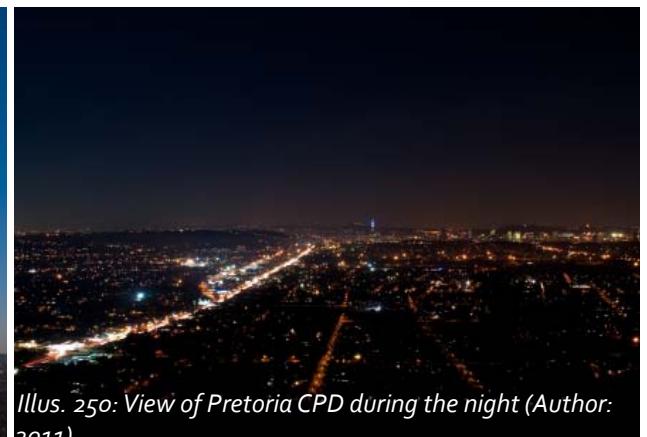
Illus. 247: Sunset from lookout point 3 (Author: 2011)



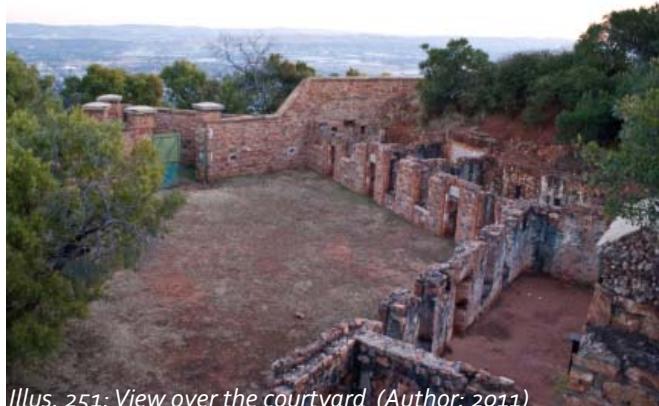
Illus. 248: View at night from lookout point 3 (Author: 2011)



Illus. 249: View of Pretoria CPD (Author: 2011)



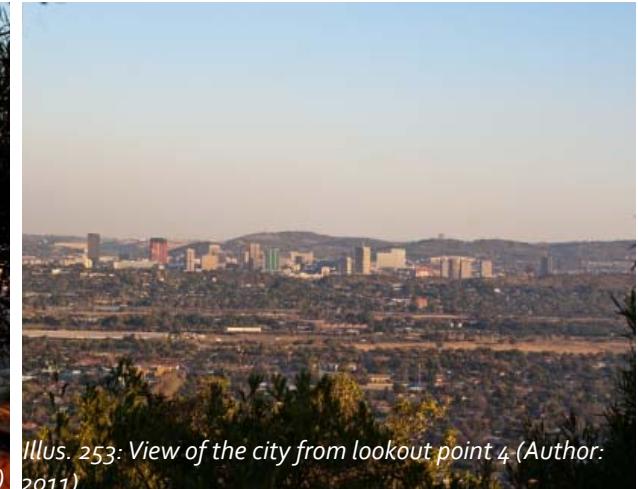
Illus. 250: View of Pretoria CPD during the night (Author: 2011)



Illus. 251: View over the courtyard (Author: 2011)



Illus. 252: View of the city from lookout point 4 (Author: 2011)



Illus. 253: View of the city from lookout point 4 (Author: 2011)



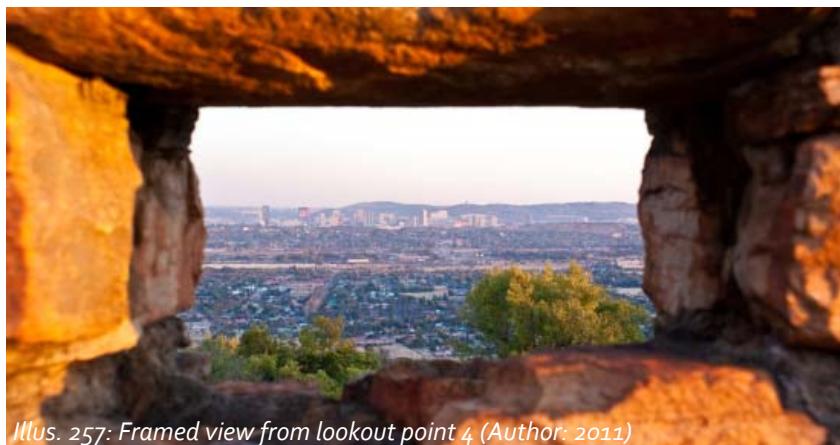
Illus. 254: Photograph at lookout point 4 (Author: 2011)



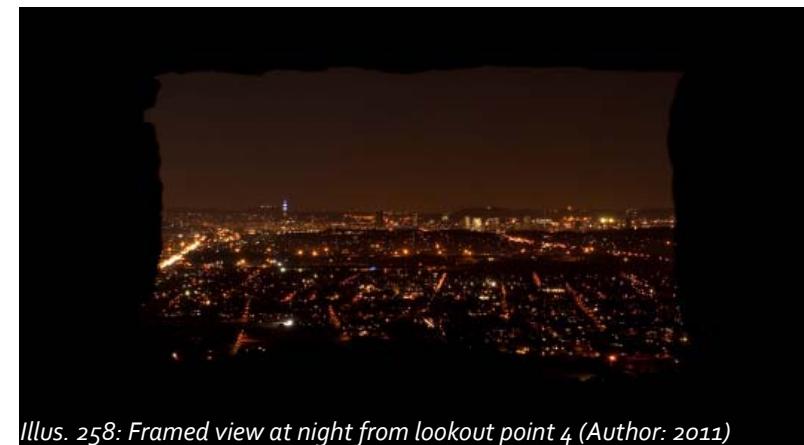
Illus. 255: Moonlight through the tree (Author: 2011)



Illus. 256: View of the city in moonlight from lookout point 4 (Author: 2011)



Illus. 257: Framed view from lookout point 4 (Author: 2011)



Illus. 258: Framed view at night from lookout point 4 (Author: 2011)

7.10.6 Medicinal roof garden (Space 7)



Illus. 259: Medicinal roof garden plan view (Author: 2011)

Illus. 260: Medicinal roof garden sketch to indicate the colour, texture and atmosphere (Author: 2011)



Illus. 261: Location of space 7 - Medicinal roof garden (Author: 2011)



Illus. 262: Medicinal roof garden bird view (Author: 2011)

Semiotic & Didactic

Design intervention and materials:

Locally indigenous medicinal plants are used. Some plants occur on site. This serves as a medicinal plant exhibit of plants occurring in Pretoria. The visitor is made aware of the different species and their uses.

It provides for an exciting experience as one strolls through the garden, smells, touches and sees the different scents, textures and colours. The visitor is also confronted with a spectacular view of the city. One experiences Pretoria on a different level.

A steel balustrade is placed inward from the edge to minimize the visual impact from the courtyard.

The pathway is laid out with compacted soil with exposed aggregate pieces at the location where the visitor would cross the existing room walls. This creates awareness of the existing ruin walls underneath the roof garden.

Narrative

Experience:

- Educational
- Discovery
- Interesting
- Narrative
- Experiencing different textures and colours

Reason rationale - Symbolic:

- The medicinal garden refers back to the site's past association with the indigenous people - as the 'place of medicine'
- Local indigenous medicinal plants are used

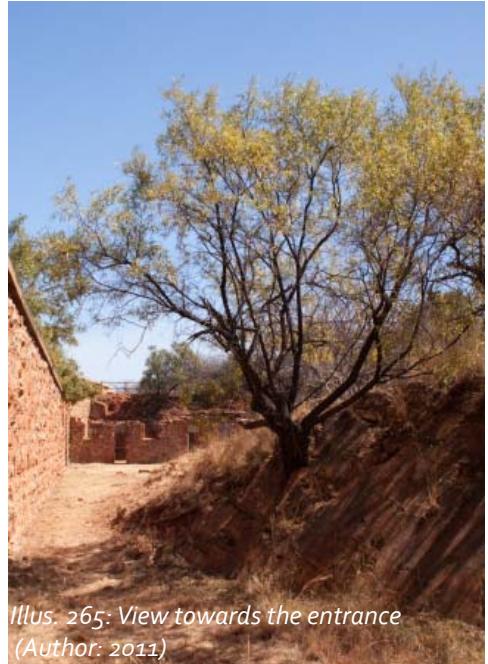
7.10.7 Geology, materiality and spirit of place (Space 9)



Illus. 263: Existing fort wall with aiming holes. (Author: 2011)



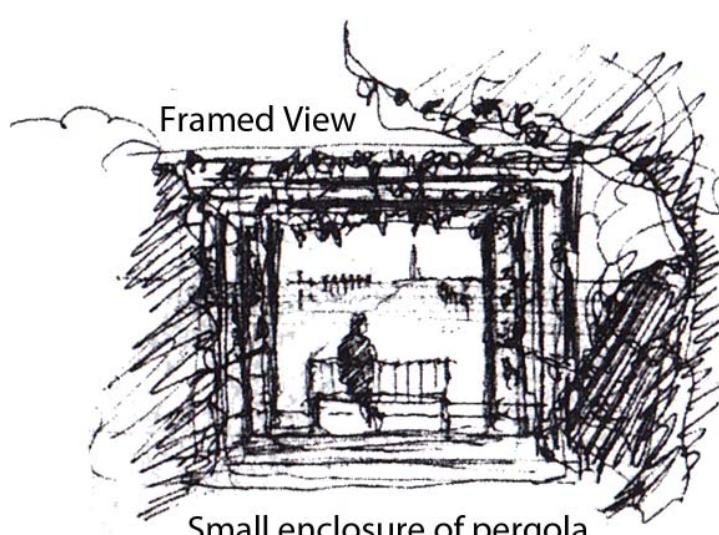
Illus. 264: Existing geology exposure. (Author: 2011)



Illus. 265: View towards the entrance
(Author: 2011)



Illus. 266: Aiming hole (Author: 2011)



Small enclosure of pergola
creates refuge with prospect
of vista

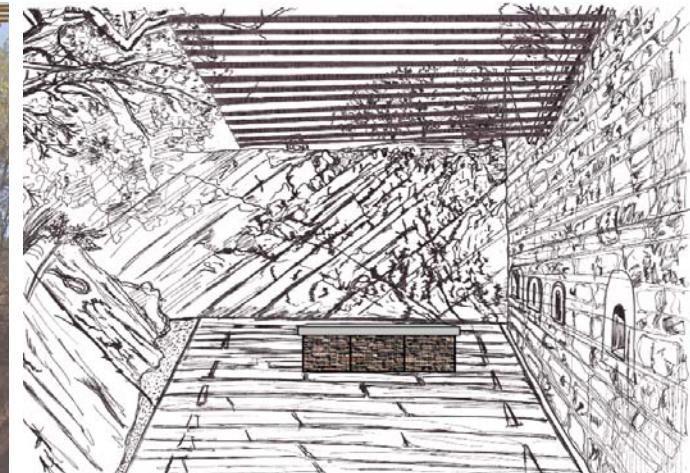
Illus. 267: Dee's explanation of a refuge vs.
prospect. (Dee, 2001:23)



Location of space 9 - Geology, materiality and spirit of place narrative (Author: 2011)



Illus. 268: View towards the entrance - refuge vs. prospect theory. Spirit of place. (Author: 2011)



Illus. 269: Geology, materiality and spirit of place narrative. View towards the cut with the different rock layers. The aiming holes on the one side and the graffiti wall to the left. (Author: 2011)

Experience:

- Refuge
- Education
- Memory
- Relaxation

Didactic & Refuge

Design intervention and materials:

This narrative of the geology layers was approached with the notion of teaching and to create some interest and discovery once the visitor finds the graffiti.

This route starts at the entrance. The visitor is attracted by the pergola timber roof structure stretching from the existing fort wall leading to the cut in the landscape. To create an even more emphasised pathway the author decided to construct this pathway from in situ smooth concrete and use a very light colour cement to create a very light walkway. This contrasts the shale and sandstone walls and can be clearly distinguished as such. The existing aiming holes in the fort wall further directs the visitor to move in that direction, creating awareness of the geology and historic graffiti.

Steel, timber and concrete are used. A bench is placed as seating if the visitor would like to enjoy the silence and refuge atmosphere.

A representation or presentation of the rock layers is provided.

Reason rationale - Symbolic:

- This space is secluded/concealed from the rest of the site.
- It forms a secure niche for the visitor and was likely used by the garrison to gather and socialise, tell stories etc.
- The refuge vs. prospect theory comes through very strongly at this space, where the visitor can feel secure but with a clear view of the entrance and courtyard activities.
- Historic graffiti is found on the rock gradient of the ramp. This graffiti dates back to when the fort was in use. The men carved their force number, surname and date on the rock. To see this touches ones interest and heart to actually realise that these men were at this site so long ago, fighting.
- The existing cut in the landscape is part of the ramp construction during the fort construction. Here you can clearly see the different rock layers. The visitor can be educated with regards to the Magaliesberg geology.

7.10.8 Amphitheatre (Space 10)



Illus. 270: View towards the existing gradient. This is the location for the proposed amphitheatre. (Author: 2011)



Moonlight theatre and -walks are part of future events that might be held here.



Illus. 271: The new proposed amphitheatre and ramp (Author: 2011)

Experience:

- Excitement (during a show)
- Interest (If educational value is provided)
- Relaxing seating
- Educational
- Socializing



Illus. 272: Location of space 10 - Amphitheatre and ramp (Author: 2011)



Illus. 273: Amphitheatre and ramp (Author: 2011)

Design intervention and materials:

The steps are constructed along the existing contours. Less cutting and filling is therefore needed. The steps will be constructed with rectangular steel mesh baskets filled with shale rocks from site. An in situ concrete coping will be constructed on top for seating. This method and material used is reversible and clearly distinguishable from the old (existing).

The benches along the cannon ramp pathway is constructed in the same manner and is designed to be used as extra seating during an event if needed.

The stage is an open extension of the pathway which links all the spaces together. This hard open space can be used to set up a temporary structure (such as a tent) if required.

The small intimate amphitheatre has a clear view over the activities in the courtyard.

Reason rationale - Symbolic:

- The steps are cut into the existing gradient following the existing contours
- The amphitheatre is located next to the location of the corrugated iron school building. Thus the amphi symbolises education and the fact that the garrison received it here
- This space is also given a new function which is compatible with the existing heritage site.
- Intimate shows can be held here, stargazing, school education and general seating. (Monthly events)

Semiotic & Didactic

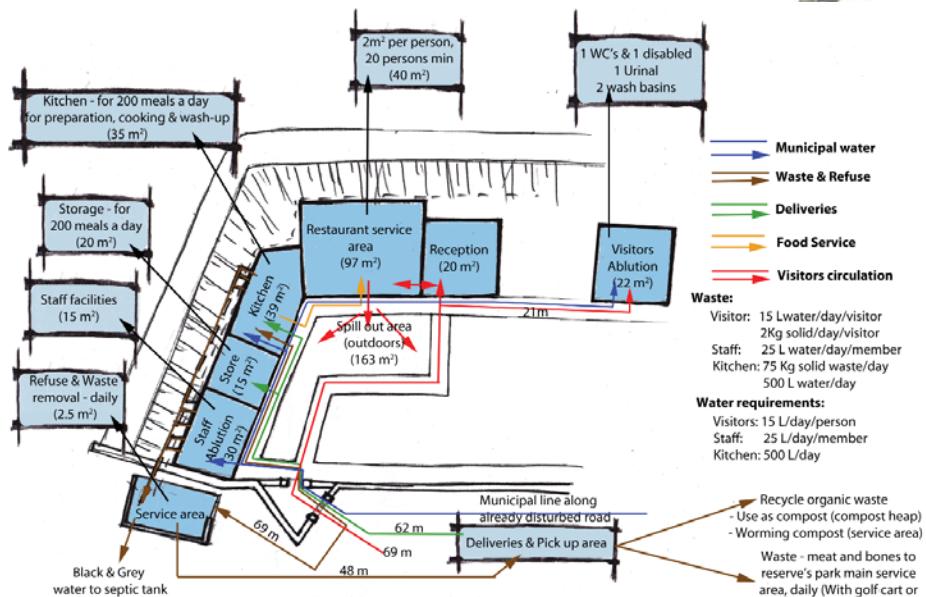
7.10.9 Restaurant & spillout area (Space 12 & 13)



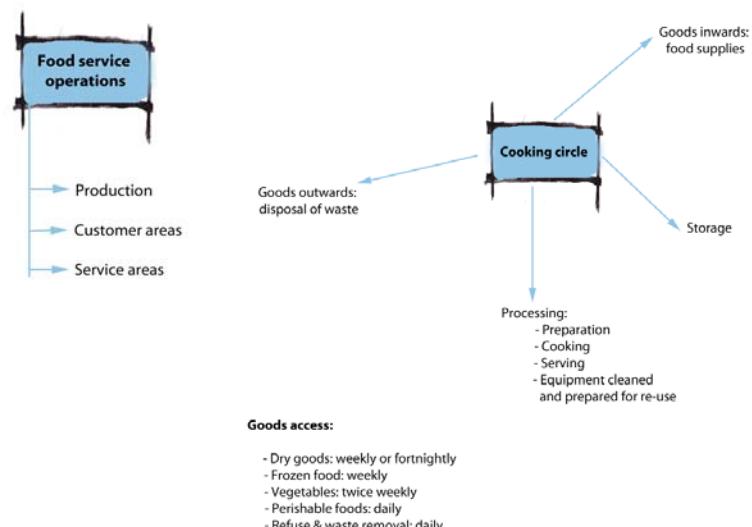
Illus. 274: Courtyard and location of the proposed restaurant spill-out area (Author: 2011)



Illus. 275: Bird view of the restaurant spill-out area, entrance and main pathway. (Author: 2011)



Illus.276: Restaurant cycle. (Author: 2011)



Illus. 277: Diagrams of operations in a reataurant. (Author: 2011)



Illus. 278: Location of space 12 & 13 - Restaurant and spill-out area. (Author: 2011)

Design intervention and materials:

Semiotics

Restaurant and services:

The restaurant is constructed using steel H-section columns and I-beams with hollow core concrete slabs which forms the roof.

The surfaces within the restaurant will be a concrete layer with clear epoxy. New concrete surfaces will be poured because the existing concrete floor of the fort is breaking up in some areas. If a ruin becomes a public space certain precautions should be made, and concrete which deteriorates cannot be used in a restaurant configuration where people work with food. Some fort room floors are left unchanged to illustrate how the old structure looked.

Aluminium and glass stacking doors are used to enclose the restaurant. This ensures that the existing walls can be seen through the glass. The visitor is constantly aware of being in the fort - the historic structure. Stacking glass doors are used to ensure that the glass can be cleaned on both sides.

Refer to illus. 276-277 to see the reataurant cycle and operation.

Spill-out area:

The surface of the spill-out area is a polished concrete surface with a white finish. White cement is used to get the lighter colour.

Eighteen *Searsia leptodictya* trees are planted whithin this space. This can be seen as a semiotic resource to create meaning.



Illus. 279: The restaurant spill-out area underneath the 18 trees which symbolise the men stationed at the fort during the second Anglo Boer War. (Author: 2011)

Experience:

- Relaxing
- Educational
- Socializing

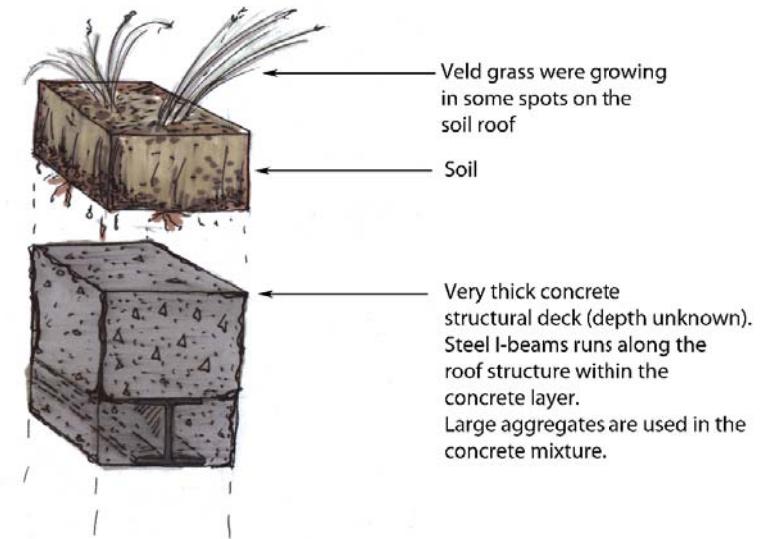
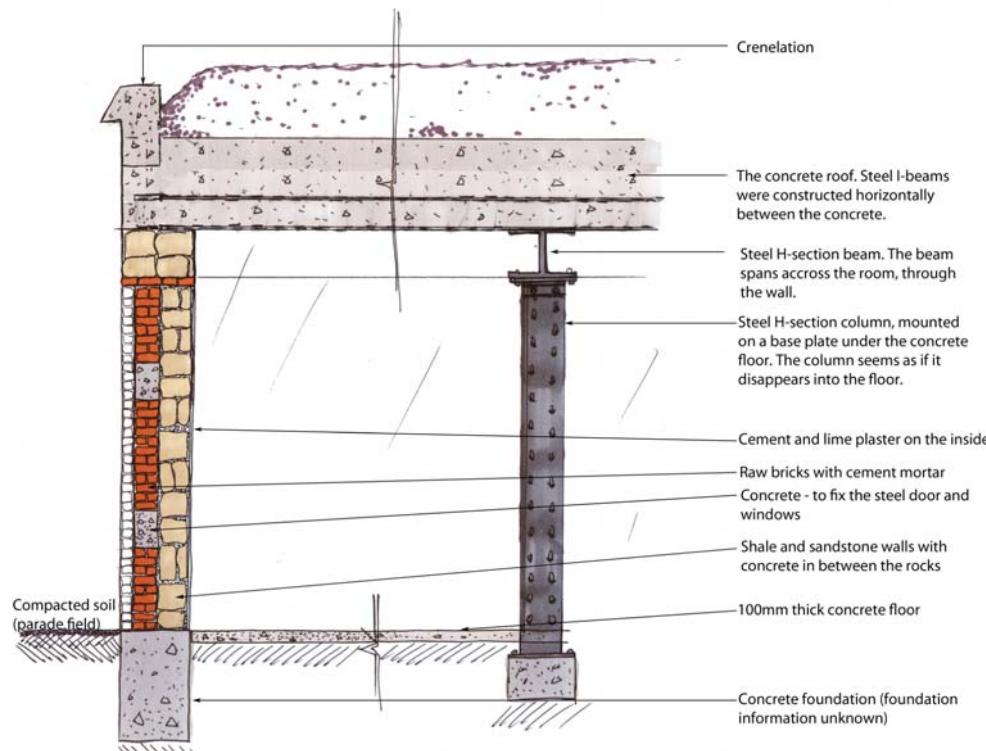
Reason rationale - Symbolic:

Awareness

- The fort needs to have a compatible new use to attract people who, in turn, protect the heritage site.
- A restaurant is a compatible use. The new proposed structure with the medicinal garden on the roof will use 6 of the 9 fort rooms. The other rooms are left as they are with only the elevated steel walkway that runs through the arches. The visitor can clearly see and identify the old structure.
- The roof of the proposed restaurant floats on top of the existing walls, protecting it from futher deterioration.
- The restaurant will bring some life back into the fort ruin.
- Visitors are educated in the old structure and some aspects and past experiences can be experienced. For example: the visitor can walk on the roof as in the past and experienc the contemporary (development).
- Steel profiles are mainly used to be clearly identified as new. It is a lighter structure than the existing.
- Aluminium and glass stacking doors are used to keep the existing walls as backdrop in the restaurant. Create awareness of the existing ruin walls.
- 18 Trees are planted in the spill-out area to symbolise the men (garrison) which was stationed at the fort during its operation (during the Second Anglo Boer War).

7.11 Exploration of existing structure and new intervention

Section through the old fort structure foundation, wall, and roof



Illus. 280: Original roof layers (Author: 2011)

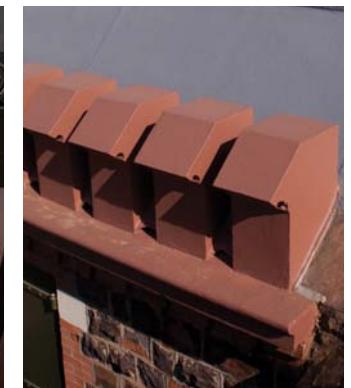
Fort Klapperkop as example of the old construction methods (A restored site to refer to):



Illus. 281: Detail of the wall of fort Kapperkop how it is restored to the original. This gives a clear indication of how Wonderboom fort was constructed. Note the different wall layers.

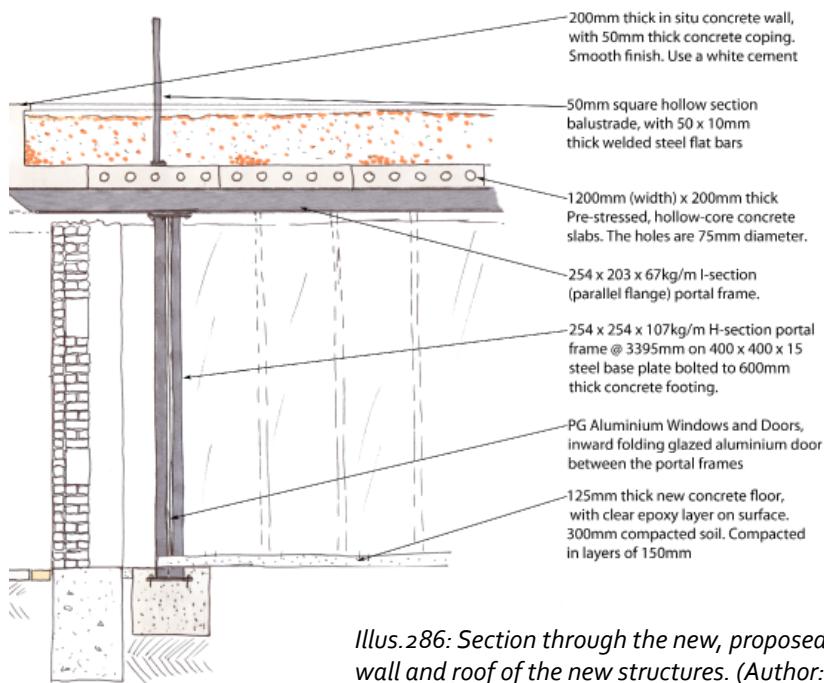


Illus. 282-284: View of the large steel beams and columns used as main structure with smaller steel beams crossing the middle beam. These smaller beams are built into concrete so that the steel strips and concrete are visible. Note the bolts with round heads. These are also photos taken from fort Klapperkop during research. Fort wonderboom seems to have black steel columns and not green like the ones at fort Klapperkop.



Illus. 285: The crenelation on top of fort Klapperkop. Wonderboom fort also had crenelated roof edges like these.

Section through the new proposed structure foundation, wall, and roof



Illus. 286: Section through the new, proposed foundation, wall and roof of the new structures. (Author: 2011)

Examples of Wonderboom fort remnants of the old construction methods:



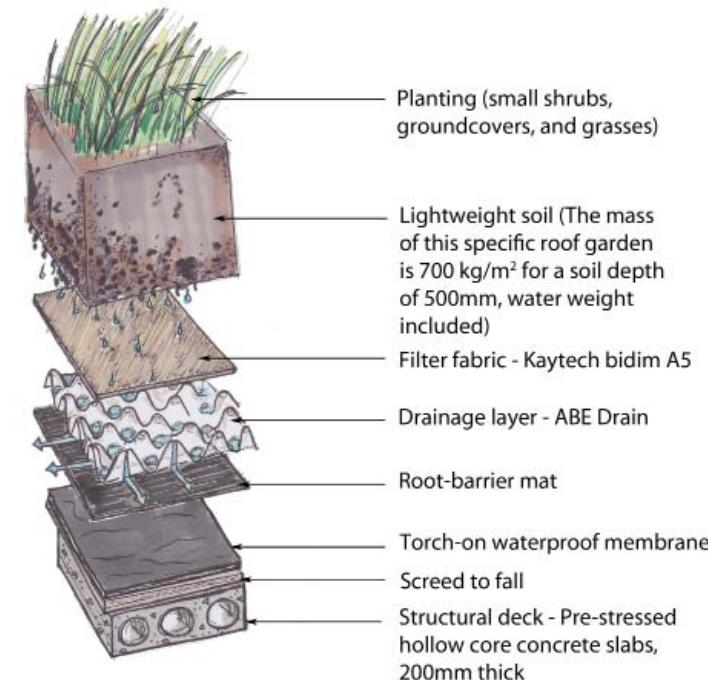
Illus. 288: Part of the ruined wall at Wonderboom fort. Clearly shows how the walls were constructed.



Illus. 289: Close-up of the wall at Wonderboom fort ruin.



Illus. 290: Close up of the steel column at Wonderboom fort. Deteriorated, but one can clearly see how it was fixed etc.



The green roof layers (NTS)

Illus. 287: Layers of the new proposed medicinal roof garden. (Author: 2011)



Illus. 291: Remnant of Wonderboom fort's roof. One can see that they used large aggregates in their concrete mix. Note the pinkish colour of the lime on the officer's wall



Illus. 292: Close-up of the wall plaster at Wonderboom fort. They made use of a cement plaster over the shale rocks. Tinted with white, beige and pink lime

7.12 Conclusion

The following matrix indicates the different spaces discussed and where the design principles, approaches and heritage principles were applied.

Sketchplan - fort													
	Guidelines	Space 1: Entrance approach	Space 2: Entrance	Space 3: Pergola_Narrative (history)	Space 4: Arches_Narrative (history)	Space 5: Courtyard	Space 6: Lookout point 1-4	Space 7: Medicinal roof garden	Space 8: Vegetable garden	Space 9: Geology, materiality and spirit of	Space 10: Amphitheatre	Space 11: Picnic areas	Space 12 & 13: Restaurant & spill out area
Design & theory Principles													
1	Create awareness												
2	Create access												
3	Prospect vs. refuge												
4	Interest & discovery: Complexity vs. coherence												
Theory approach													
5	Narrative												
6	Didactic												
7	Semiotic												
Design (Heritage) Principles from charters													
1	Integrate historic areas harmoniously into contemporary life												
2	In any intervention – the old must be clearly distinguished from the new												
3	Any intervention must be sensitive to the character, the setting and the cultural and natural significance of the site, while remaining easily identifiable												
4	New use - a socially useful purpose (compatible use)												
5	Display – communication, education and understanding of the heritage site												
6	No damage to heritage structures – reversible (temporary) interventions												
7	Tangible and intangible exploration												

The aims mentioned in the beginning of the chapter were accomplished in the following ways:

The author attempted to integrate the contemporary uses and facilities with the historic artifact (fort ruin). This was done by finding a compatible use for the fort site which will cater for the needs of the people and at the same time protects the heritage site. A restaurant was proposed with a medicinal garden on the roof as the new use for the site. This new intervention will ensure the attraction of visitors and by doing so, protect the ruin from further deterioration. The new restaurant structure was placed within the ruin rooms. The overlapping protects a large part of the ruin for future generations. The new structure is made of steel, glass and concrete. Steel are mainly used on site to emphasise the new structures. Steel is a more elegant and light structure and can be perceived as reversible. Every addition to the site is reversible.

The intervention is aimed at retaining the genius loci of the place and its setting. This was achieved by creating spaces for the visitor which reads as a refuge (secure, an escape, with a prospect). The entire site (fort) becomes a place people can escape to and get away from the city. This fort gives the visitor amazing views towards the city and surrounding areas and history.

Meaning, experience and identity creation was done by means of semiotic resources (discussed in chapter 3 and 7) as design elements in the landscape to stimulate the visitor's memory or educate the visitor to create awareness. Elements such as a water channel feature presents and symbolises the water furrows of the fort. New steel stairs running on top (floating) of the existing stairs lead to the top. Steel mesh baskets with shale rocks and aiming holes symbolise the pre-cast wall at the back of the fort. The holes frame the views of the visitor and directs them into certain directions. They are educated about historic areas and landmarks in context. An existing column was used to introduce a new use namely, a directional indicator (this is a steel plate which indicates the direction and distances to different landmarks and monuments) to give context to the visitor. By indicating distances in miles the visitor is taken back to the past. The medicinal garden is also used as semiotic resource to symbolise and educate the visitor about what Wonderboom Nature Reserve was known for in the past, namely: 'a place of medicine'. The eighteen trees in the spill-out area is also a semiotic resource to symbolise the eighteen men who were stationed at the fort during its operation. The spill-out area's shape and size were informed by the size of the garrison room. The walls of the pergola structure are repetitions of the door and window openings of the fort – creating an outdoor room.

Interest and discovery was created by means of complexity and coherence. Complexity was created by the different semiotic elements used on site and the diversity of them. Different textures, shapes and forms in the landscape provided for complexity. Coherence was created by means of the narratives, which link the different events (nodes)

and elements together. Unity was created through the repetition of the steel mesh wall structure and by means of a minimum material pallet of steel, concrete, glass and timber. Mostly steel was used for the new elements and concrete for the pathways.

Access to and knowledge about the different elements was provided. Awareness of the different historic layers was given by means of the narrative trails, their information plates and the use of the semiotic resources. Awareness of and distinction between the old and the new is created through the use of steel to act as thresholds.

The following chapter will take this design sketchplan intervention further into technical clarification.