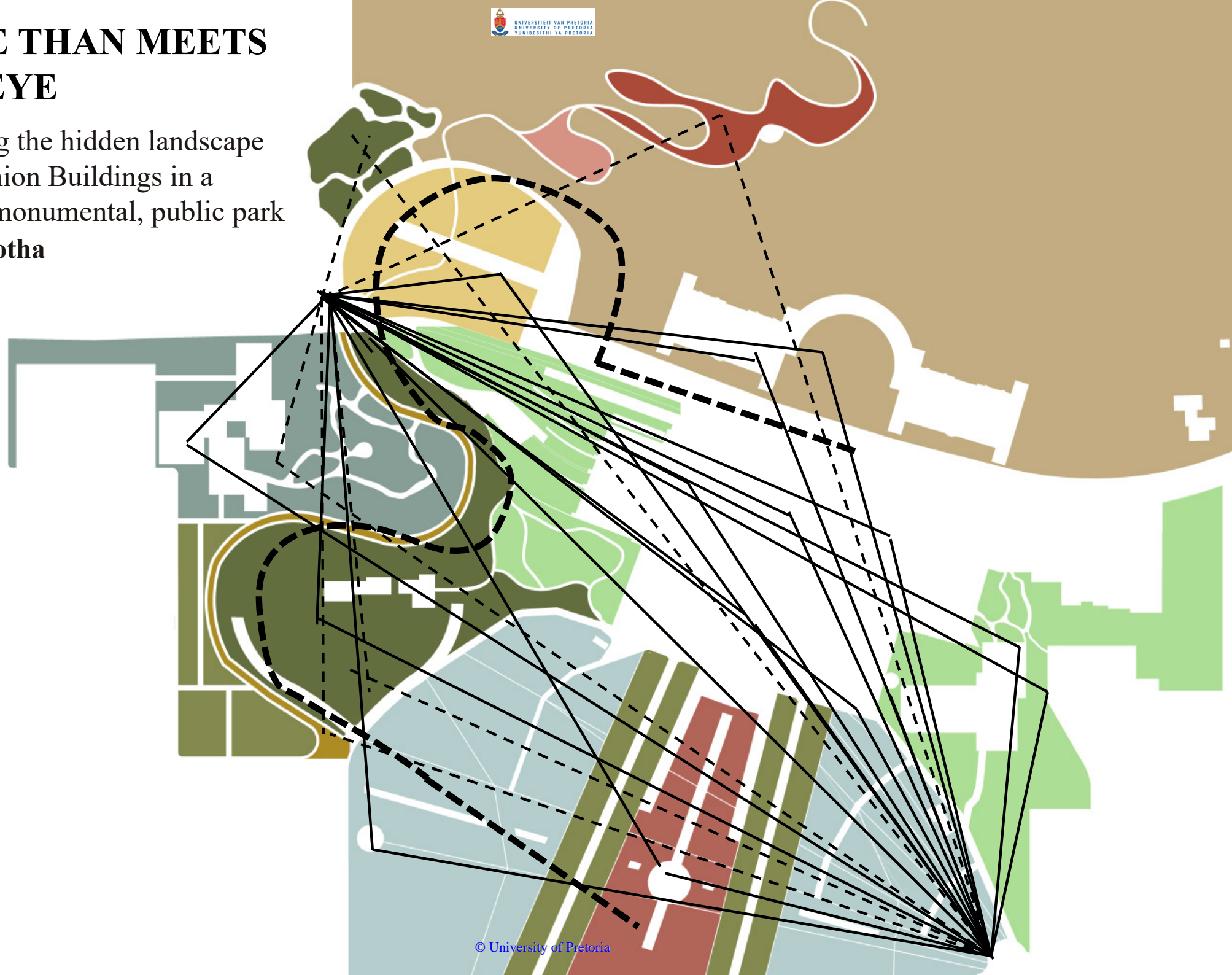


MORE THAN MEETS THE EYE

Unveiling the hidden landscape
of the Union Buildings in a
counter-monumental, public park
Jolene Botha



Project data

Figure 1. (Cover page) The Union Buildings memorylines and lost narratives (Author 2021)

Dissertation title:

More than meets the eye: Unveiling the hidden landscape of the Union Buildings in a counter-monumental, public park

Submitted by:

Jolene Botha

Submitted in fulfilment of part of the requirements for the degree Masters of Landscape Architecture (Professional) within the Department of Architecture, in the Faculty of Engineering, Built Environment and Information Technology at the University of Pretoria
2021

Study leader: Johan N. Prinsloo

Studio master: Johan N. Prinsloo

Course co-ordinator: Professor Arthur Barker

Site Location: Erf 357-JR, Elandspoord, Arcadia, Pretoria (Gauteng, South Africa)

GPS coordinates: 25°44'24.72"S, 28°12'43.199"E

Site description: The heritage gardens of the Union Buildings

Client: The Department of Public Works and the City of Tshwane Metropolitan Municipality

Users: The residents of Pretoria & Tshwane, The politicians that work on site, everyday visitors from the city and country, visiting tourists

Proposed landscape typology: Counter monumental public park

Research field: Heritage and Cultural landscapes & Environmental Potential (HCL & EP)

Theoretical premise: Developing a public programmed, landscape architectural intervention at the Union Buildings, using contemporary heritage approaches as a celebration of the cultural and natural heritage of the site and ridge

Jolene Botha: 15 November 2021

Student declaration

UNIVERSITY OF PRETORIA

Faculty of Engineering, Built Environment and Information Technology
Department of Architecture

In accordance with Regulation 4(e) of the General Regulations (G.57) for dissertations and theses, I declare that this dissertation, which I hereby submit for the degree Master of Landscape Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

I further state that no part of my dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification. I further declare that this dissertation is substantially my own work. Where reference is made to other works of other, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

I, Jolene Botha, student number 13040929, for the subject CPD 810 in the Department of Architecture at the University of Pretoria.

1. understand what plagiarism entails and I am aware of the University's policy in this regard.
2. declare that this dissertation is my own, original work. Where someone else's work was used (whether from a printed source, the internet or any other source) due acknowledgement was given and reference was made according to departmental requirements.
3. did not make use of another student's previous work and submitted it as my own.
4. did not allow and will not allow anyone to copy my work with the intention of presenting it as his or her own work.



Jolene Botha: 15 November 2021



Erkenning / Acknowledgements

Eerstens gaan my dank aan my ouers vir die liefde en opvoeding wat jare se opoffering, toewyding, bloed, sweet en tranes gekos het. Dankie vir die voorreg om te kon studeer en dankie vir al die bydrae, raad en ondersteuning wat soveel waarde by my verhandeling gevoeg het. Dankie aan my kleinsus, Lené vir al jou liefde en aanmoediging deur die jare. Verally aan my Ma, baie dankie dat Mamma my elke dag van my studies bygestaan, aangemoedig en ondersteun het.

Dankie aan Johan N. Prinsloo, my studieleier, vir sy deurlopende insig, wysheid, leiding en aanmoediging deur die jaar dit het my so baie help groei as ontwerper. Dankie vir al jou geduld en raad, dit het die projek na groter hoogtes gehelp en soveel ryker gemaak as wat ek gedink het dit kon wees.

Dankie aan my Hemelse Vader, vir die geskenk van lewe, vir my ouers en die voorreg van my opvoeding. U is my sterkte, my rots, my kalmte en ondersteuning, elke sekonde van elke dag. Sonder U genade sou ek nooit so ver kon kom nie.

Laastens, baie dankie aan Ouma Joey, wat my altyd aangemoedig het om ons naam hoog te hou. Ek het vir die maan gemik en met die Here se genade en Mamma-hulle se liefde en ondersteuning, het ek tussen die sterre geland, ek hoop dit maak Ouma trots.

Abstract

Landscape Transformation

On the southern slope of Meintjieskop lies a Renaissance garden, a remnant of the past at the foot of what is described by SA History Online (2011) as a South African architectural masterpiece – the Union Buildings. These terraced gardens are arguably one of the most important designed heritage landscapes in South Africa. The site, designed by Sir Herbert Baker in collaboration with Sir Edwin Lutyens and Gordon Leith was constructed between 1910-1913, as a memorial to reconciliation, and a national icon of the custodianship of collective good governance (Bakker 2003). It was envisioned to be a grand, ordered and symmetrical landscape of formalistic terraced gardens. Between 1913-1919 during the construction of the gardens, Baker’s original vision was adapted in his absence and more than half of the site which was intended to be formal parterres ended up as a large unsustainable lawn that has been appropriated as an informal public park.



Figure 2. Drone photograph of Jacob Zuma’s inauguration at the Union Buildings in 2009 (The Presidency 2009)

Over the past 26 years of democracy, there have been numerous calls for change at the Union Buildings, ranging between options of preserving it to changing its name or the removal of the monuments and sculptures, even as far as proposals of building a completely new seat of government (Mabin 2019:20-23). For this reason, the Union Buildings is the ideal testing ground for the much-debated heritage transformation that is proposed by the South African government (Mthethwa 2015 & Dhlamini 2020).

The aim of the dissertation is to create a landscape design proposal for the Union Buildings site that re-imagines the site as a living democratic monument, whilst reintroducing the public to naturalistic environments by establishing natural plants and planting communities from the region as a means to create place identity unique to Meintjieskop and the Daspoortrand. A successful public park typology is established on the site, to allow for contemporary uses whilst representing a number of forgotten narratives integral to the site’s identity.



Figure 3. Photograph of the bad condition of the southern lawn of the Union Buildings (Richman 2016)

Landscape architecture is thus presented as a medium for heritage transformation through which the project will investigate the potential of landscape architecture to restore and conserve a heritage site as a living monument used every day by city dwellers & residents. Furthermore, the designer aims to create an inviting site that will respect the site’s history, whilst celebrating its regional environment and create an all inclusive public space that will prevent the call for further heritage transformation.

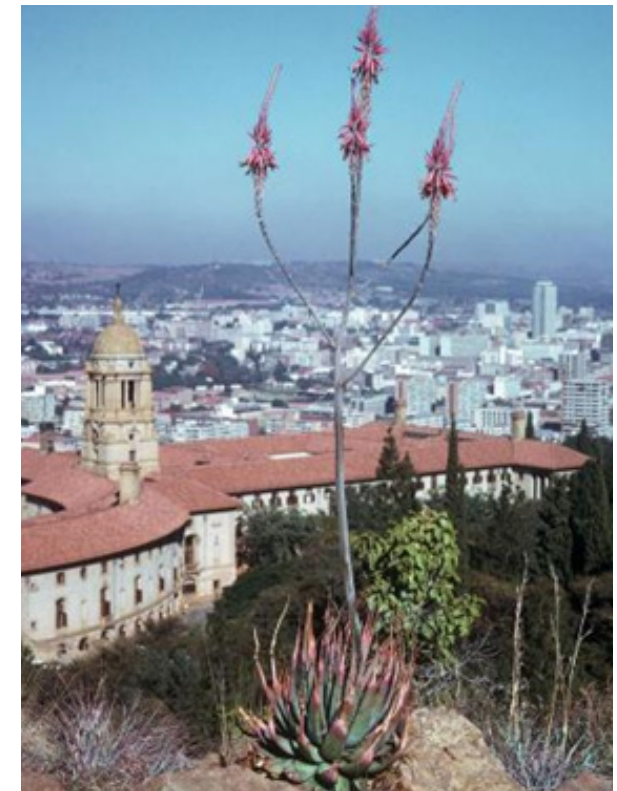


Figure 4. Aloe Pretoriensis photographed on Meintjieskop behind the Union Buildings (Plantzafrica 2012)



Figure 5. Sketch of the Union Buildings gardens (1919) by K.A. Lausdell as frontispiece of the Memoir of the First Botanical survey of S.A. K.A. Lausdell (Memoirs 1919)

List of Figures

- Figure 1. (Cover page) The Union Buildings memorylines and lost narratives (Author 2021)
- Figure 2. Drone photograph of Jacob Zuma’s inauguration at the Union Buildings in 2009 (The Presidency 2009)
- Figure 3. Photograph of the bad condition of the southern lawn of the Union Buildings 2016 by Steven Richman (Online: pixels 2016)
- Figure 4. Aloe Pretoriensis photographed on Meintjieskop behind the Union Buildings (Plantzafrica 2012)
- Figure 5. Sketch of the Union Buildings gardens (1919) by K.A. Lausdell as frontispiece of the Memoir of the First Botanical survey of S.A. K.A. Lausdell (Memoirs 1919)
- Figure 6. Union Buildings artworks and photographs layered (varies)
- Figure 6.1. Capital of Transvaal, painting showing a kraal on Meintjieskop, 1877 by S Crane (London times 1877)
- Figure 6.2. Meintjieskop n.d. by Anton van Wouw (1862-1945) (Artsy 2019)
- Figure 6.3. The birth of the Union Buildings 1920 (Heritage portal 2016)
- Figure 6.4. Union Buildings, 1938 by J.H. Pierneef (1886-1957). Commissioned by the City Council of Pretoria for the Union Castle ship “Pretoria Castle” (Duffey 2010)
- Figure 6.5. Photograph of the Union Buildings (Author 2021)
- Figure 7. Watercolour of a grotto in the gardens of the Union Buildings 1928, by Sydney Carter (1874-1945) (Heritage portal 2021)
- Figure 8. Plan showing the original design for the site of the Union Buildings (1909), by Herbert Baker (Manchesterhive 2017)
- Figure 9. Union Buildings under construction 1913 by Eric Meyer (1876-1960) (Heritage portal & Arcadian 2021)
- Figure 10. Panorama of Pretoria William Martinson (The City of Pretoria and Districts 1913)
- Figure 11. Contested heritage defined (Author 2021)
- Figure 12. Site location (Author 2021)
- Figure 13. Binary heritage approaches (Author 2021)
- Figure 14. Vredeshuis & Craighlelea (Andrew 1999 & Verwey & Sonderling 1995)
- Figure 15. Baker’s design 1909 (Muller, L. & Young, G. 2005)
- Figure 16. Union Buildings after construction 1913(Cultmatrix 2001)
- Figure 17. Union Building Estate, Diagram of Elandspoort357-JR. (Honiball 2010)
- Figure 18. Site timeline Monuments and art (Author 2021)
- Figure 19. Union Buildings photograph (Alan Yates 1908)
- Figure 20. Union Buildings (1938) by J.H. Pierneef (1886-1957). Commissioned by the City Council of Pretoria for the Union Castle ship “Pretoria Castle” (Duffey 2010)
- Figure 21. Reported photograph of one of the Union Buildings’ greenhouses (Arcadian 2016)
- Figure 22. Pretoria: Union Buildings Arthur English 1978 (Artefacts Dorothy Adendorff)
- Figure 23. Union Buildings Preotira oil painting 1945 by W. Goosen (Online auction 2010)
- Figure 24. Union Buildings garden photograph scan (Marie Bester 2021)
- Figure 25-27. Dealing with existing Monuments (Author 2021)
- Figure 28. Site development, events and monuments timeline (Author 2021)
- Figure 29. Khoisan at Union Buildings (IOL, Mahlokwane 2021)
- Figure 30. Rhodes must fall protest 2015 (East coast radio)
- Figure 31. Wedding photography (EBphotography)
- Figure 32. Soccer at Union Buildings (Al alhy twitter account)
- Figure 33. No camp chairs – poetry reading (Vangi Gantsho 2012)
- Figure 34. 60 Iconic women (Mail & guardian 2016)
- Figure 35. Khoisan camp (IOL, Mahlokwane 2021)
- Figure 36. Khoisan kraal (IOL, Mahlokwane 2021)

List of Figures

- Figure 37. The Apiesriver with Meintjieskop (Pierneef n.d.)
- Figure 38. The Apiesriver with Meintjieskop (Pierneef n.d.)
- Figure 39. Meintjieskop dam (Yates, A. 1910.)
- Figure 40. Union Buildings post-construction (Hansen, F. 2016)
- Figure 41. Aloe Pretoriensis (Plantzafrica 2012) Figure 42. Union Buildings construction (Hansen, F. 2016)
- Figure 43. Union Buildings garden paintings (N Coetzee n.d.)
- Figure 44. Union Buildings photo by Stoffel (Online:Adobe stock)
- Figure 45-48. Masonry (Author 2021)
- Figure 49-52. Protected structures (Author 2021)
- Figure 53-58. Counter monument (Author 2021)
- Figure 59. Project strategies (Author 2021)
- Figure 60. Site axonometric (Author 2021)
- Figure 61. Programs (Author 2021)
- Figure 62-71. Site activities (See Figures 29-36)
- Figure 72-73. Pretoria's ridges and monuments (Author 2021)
- Figure 74. Union Buildings context (Author 2021)
- Figure 75. Union Buildings axis & orientation (Author 2021)
- Figure 76. Union Buildings surrounding environment (Author 2021)
- Figure 77. Existing plan vs Baker's design Intention (Author 2021)
- Figure 78-79. Site analysis - Union Buildings site conditions (Author 2021)
- Figure 80. Site and surrounding region's heritage connections (Author 2021) Figure 81. Heritage routes and structures with possible approaches to their continued existence (Author 2021)
- Figure 82. Identifying tangible and intangible heritage (Author 2021)
- Figure 83. Tangible heritage timeline (Author 2021)
- Figure 84. A new approach envisioned (Author 2021)
- Figure 85. Capital of Transvaal showing a kraal on Meintjieskop - S Crane Painting (London times 1877)
- Figure 86. Meintjieskop blockhouse n.d. (Pretoriana 1999)
- Figure 87. 1915 Women's march to the Union Buildings (Kraaluitgewers online 2020)
- Figure 88. 1915 Women's march approaching the Union Buildings '*die vroueoptog in aantog*' (Afrikaner geskiedenis - fak online)
- Figure 89. 1940 Women's march to the Union Buildings - 9800 women on the Union Buildings' lawn (Vryheidsfront plus online)
- Figure 90. 1940 Women's march - the protesting women gathered at Church square before marching to the Union Buildings (Huisgenoot 1940)
- Figure 91. 1956 Women's march - Women of the Black Sash march to the Union Buildings (Special collections University of Cape Town 2015 - 60 years of Black Sash exhibition)
- Figure 92. 1956 Women's march - The crowd in the amphitheater at the Union Buildings (Mail & Guardian 2016)
- Figure 93. Binary solutions to heritage transformation - The Cecil John Rhodes statue was removed at the University of Cape Town (NBC news 2020)
- Figure 94. Binary solutions to heritage transformation - Paul Kruger statue recently targeted by unknown people (Pretoria Rekord 2020)
- Figure 95. Spontaneous use of site, but not adapted for possible destructive activities - Wedding photography (EBphotography)
- Figure 96. Spontaneous use of site, but not adapted for possible destructive activities - poetry reading (Vangi Gantsho 2012)
- Figure 97. Spontaneous use of site, but not adapted for possible destructive activities - Khoisan camp (IOL, Mahlokwane 2021)

List of Figures

- Figure 98. Thousands of university students protested at the Union Buildings in Pretoria, with some setting fires (New York Times 2015)
- Figure 99. Capital of Transvaal, painting showing a kraal on Meintjieskop, 1877 by S Crane (London times 1877)
- Figure 100. Women of the Black Sash march to the Union Buildings (Special collections University of Cape Town 2015 - 60 years of Black Sash exhibition)
- Figure 101. Quantifying the heritage structures' ages (Author 2021)
- Figure 102. Tangible heritage locations (Author 2021)
- Figure 103. Quantifying the heritage structures' significance (Author 2021)
- Figure 104. Opposing the existing binary approaches with alternative heritage proposals (Author 2021)
- Figure 105. Spatial explorations of with contested monuments (Author 2021)
- Figure 106-117. Existing monuments & typologies scale (Author 2021)
- Figure 118-119. 2146 Stones 1993 by Jochen Gerz (JochenGerz 2021)
- Figure 120. 911 Memorial 2011 by PWP landscape architecture (Dezeen 2011)
- Figure 121-122. Jardin de Luxembourg, Paris, restored in 1865 by Gabriel Davioud, under the leadership of Adolphe Alphand (The history hub online 2021)
- Figure 123-124. Battery Park, New York City (1998-2018) by Quennell Rothschild Partners and Starr Whitehouse (landezine 2017)
- Figure 125. Washington Mall, 1791 by Pierre L'Enfant (Wikipedia 2008)
- Figure 126. Engaging hollowed ground, 2019 by A. Ton (ASLA awards 2019)
- Figure 127-128. Landscaping of the Acropolis, Athens, 1954 by Dimitri Pikionis (Divisare 1989, & Dimitris Rigopoulos, Greece-is 2017)
- Figure 129-130. 2146 Stones, Germany, 1990-1993 by Jochen Gerz (JochenGerz 2021)
- Figure 131-132. Freedom park Isivivane, Pretoria, 2007 by Greeninc & Newla & Mashabane Rose (MMA architects website & Young & Vosloo 2020)
- Figure 133-134. Nelson Mandela capture site memorial, Kwa-Zulu Natal, 2014, by Mashabane Rose (Yakha online Mandela capture site 2015)
- Figure 135-138. Program explorations and development (Author 2021)
- Figure 139-140. Concept development (Author 2021)
- Figure 141. Geometric explorations (Author 2021)
- Figure 142-145. Geometric explorations (Author 2021)
- Figure 146. Geometric explorations (Author 2021)
- Figure 147. Geometric explorations (Author 2021)
- Figure 148-153. Design and topographic exploration (Author 2021)
- Figure 154-159. Topographic exploration (Author 2021)
- Figure 160-163. Design iterations (Author 2021)
- Figure 164-169. Masterplan exploration (Author 2021)
- Figure 170-175. Masterplan exploration (Author 2021)
- Figure 176. Early model exploration (Author 2021)
- Figure 177-182. Early model exploration (Author 2021)
- Figure 183-188. Early spatial exploration (Author 2021)
- Figure 189-193. Early spatial exploration in sketchup (Author 2021)
- Figure 194-196. Early spatial exploration (Author 2021)
- Figure 197. 9 factors of atmosphere (Zumphthor 2006) Figure 198-199. Protest ground and women's memorial spatial exploration collages (Author 2021)
- Figure 200-201. Kraal and concentration camp spatial exploration collages (Author 2021)
- Figure 202. Placing the articulated narratives (Author 2021)

List of Figures

- Figure 203. Final design CAD masterplan 1-1500 @ A1 (Author 2021)
Figure 204. Masterplan 1-1500 @ A1 (Author 2021)
Figure 205. Masterplan programming (Author 2021)
Figure 206. Masterplan path systems 1-1500 @ A1 (Author 2021)
Figure 207. Masterplan programming (Author 2021)
Figure 208-211. Technical issues defined (Author 2021)
Figure 212. Kraal on Meinjieskop (Crane 1877)
Figure 213. Concentration camp(Alberton record 2016 from www.angloboerwar.com)
Figure 214. 1956 women's march (Mail & Guardian 2016)
Figure 215-217. Inclusive design (Author 2021)
Figure 218-222. Inclusive design ramp calculations and design (Author 2021)
Figure 223-227. Inclusive design ramp placement and materiality (Author 2021)
Figure 228-231. Inclusive design ramp design and materiality explorations (Varies)
Figure 232-235. Ramp placement against ruined terrace wall (Author 2021)
Figure 236-239. Ramp model explorations(Author 2021)
Figure 240-241. Ramp design(Author 2021)
Figure 242. Bruder Klaus field chappel (Archdaily 2016)
Figure 243. Bruder Klaus field chappel (CJS Research & teaching anthology n.d.)
Figure 244. Bruder Klaus field chappel (Moodydesigns 2019)
Figure 245. Kraal remembrance collage (Author 2021)
Figure 246. Fire experiments - combustible materials and formwork (Author 2021)
Figure 247. Fire experiments - Curing and burning
Figure 248. Fire experiments - After curing fires
Figure 249. After cooling, wash and cleaning (Author 2021)
Figure 250. Fire experiments - post wash colour and textures (Author 2021)
Figure 251. Fire experiments - Final colour and texture (Author 2021)
Figure 252. Kraal on Meintjieskop (Crane 1877)
Figure 253-257. Kraal memorial space design inspiration and design development (Author 2021)
Figure 258-259. Kraal and concentration camp memorial route plan and section (Author 2021)
Figure 260. Kraal and concentration camp memorial route plan and section (Author 2021)
Figure 261. Kraal and concentration camp memorial route plan and section (Author 2021)
Figure 262. Kraal and concentration camp memorial route details (Author 2021)
Figure 263. Kraal and concentration camp memorial route Axonometric (Author 2021)
Figure 264-265. Early Water system strategies (Author 2021)
Figure 266. Water systems explained (Author 2021)
Figure 267-268. Masterplan Water systems (Author 2021)
Figure 269. Water calculations (Author 2021)
Figure 270-271. Water system bioswale (Author 2021)
Figure 271. Water accumulation on site (Author 2021)

List of Figures

- Figure 272. Dam on site before 1910 (Hansen 2016)
- Figure 273. Water systems - water feature storage (Author 2021)
- Figure 274-275. Water systems - Ground water recharge / detention ponds (Author 2021)
- Figure 276. Union Buildings gardens from the Polica Memorial Photo by Elzbieta Sekowska n.d.(Online Adobe stock)
- Figure 277. Remembering the original (Union Buildings drawing by K.A. Lausdell 1919) (Laudell)
- Figure 278. Union Buildings gardens Photo by Lisa S. Engelbrecht n.d.(Online Adobe stock)
- Figure 279. Union buildings painting (Goosen 1944)
- Figure 280. Union buildings garden (Author 2021)
- Figure 281. Union Buildings painting (N. Coetzee n.d.)
- Figure 282. Early plant zoning (Author 2021)
- Figure 283. Planting areas (Author 2021)
- Figure 284. Existing species colour calendar (Author 2021)
- Figure 285-287. Identifying existing species on site. (Author 2021)
- Figure 288. Planting on Masterplan. (Author 2021)
- Figure 289. Circle planting. (Author 2021)
- Figure 290. Circle planting. (Author 2021)
- Figure 291. Circle planting perspective. (Author 2021)
- Figure 292. Meadow paths planting perspective. (Author 2021)
- Figure 293. Main paths planting perspective. (Author 2021)
- Figure 294. Proposed sensory garden species (Author 2021)
- Figure 295-296. Proposed sensory on plan (Author 2021)
- Figure 297. Terrace planting design (Author 2021)
- Figure 298. Terrace planting design (Author 2021)
- Figure 299. Terrace planting design sections (Author 2021)
- Figure 300. Terrace planting design sections (Author 2021)
- Figure 300-302. Proposed women's memorial route species and section (Author 2021)
- Figure 303-304. Proposed women's memorial route sections (Author 2021)
- Figure 305-309. Proposed concentration camp plant species, design informant and design form and materiality development (SA History online & Author 2021)
- Figure 306-307. Proposed concentration camp remembrance route model(Author 2021)
- Figure 308. Concentration camp route design seasonal planting changes with fire stimulation- Seasonal changes in planting in concentration camp remembrance route – summer growth conditions (Author 2021)
- Figure 309. Concentration camp route design seasonal planting changes with fire stimulation- After the beds have been burnt under controlled fire conditions (Author 2021)
- Figure 310. Concentration camp route design seasonal planting changes with fire stimulation- Blooming and new growth stimulated by fire (Author 2021)
- Figure 311. Proposed concentration camp route perspective (Author 2021)
- Figure 312. Proposed concentration camp route plants(Author 2021)
- Figure 313-318. Existing site material photographs (Author 2021)
- Figure 319. Furniture design (Author 2021)

Definition of terms

Terminology applicable to this project appropriated from the SAHRA (n.d.) conservation principles document are:

ADAPTATION: to modify a place for a compatible use. Adaptation is appropriate where the original use cannot be maintained, and where the adaptation does not substantially remove from its cultural significance (SAHRA n.d.).

COMPATIBLE USE: to use a place other than that for which it was designed for, to allow for the least intervention in the fabric (SAHRA n.d.).

CONSERVATION: all the processes included to look after a place to retain its cultural significance (SAHRA n.d.).

CONTESTED: When something is argued over or questioned.

CULTURAL SIGNIFICANCE: is a site's aesthetic, historical, scientific, and social contribution to past, present, and future generations (SAHRA n.d.).

HERITAGE: Our inherited traditions, monuments, objects, and culture.

DPW - The Department of Public Works

HISTORICAL: to belong to the past (SAHRA n.d.).

PRESERVATION: the protection and maintenance of the fabric of a space in its existing state and the prevention or slow in deterioration or change, may also include to stabilise structures. Preservation is appropriate where the existing state of the fabric itself constitutes evidence of specific cultural significance (SAHRA n.d.).

RECYCLING: to modify or adapt a place to suit a use other than that for which it was designed (SAHRA n.d.).

REHABILITATION: to return a place to a state of utility through repair or alteration while preserving those features of the place which are significant to its historical, architectural, and cultural values (SAHRA n.d.).

ICCOMOS - The International Council on Monuments and Sites

ICCROM -The International Centre for the Study of the Preservation and Restoration of Cultural Property

RESTORATION: to return the existing fabric of a place to a known earlier state by removing accretions or by re-assembling existing components. It is based on respect for all the physical, documentary, and other evidence and stops at the point where conjecture begins. Restoration is limited to the completion of a depleted entity and should not constitute the major part of the fabric. Restoration is appropriate only if there is sufficient evidence of an earlier state of the fabric and if returning the fabric to that state recovers the cultural significance of the place. Restoration is appropriate where it recovers the cultural significance of the place (SAHRA n.d.).

REUSE: to use a building or place for a use other than that for which it was designed (SAHRA n.d.).

STAGNANT: Showing no, dull or slow activity.

SAHO - South African Heritage Organization

SAHRA - South African Heritage Resource Agency

NHA - National Heritage Act

“The glory of the garden lies in more than meets the eye...” Rudyard Kipling (1911)



Figure 6. Union Buildings artworks
and photographs layered
(Sources varies)

Prologue

Our Union Buildings is a garden that is full of stately views,
Of borders, beds and shrubberies and lawns and avenues,
With statues on the terraces and peacocks strutting by;
But the Glory of the Garden lies in more than meets the eye.



For where umbrella pine trees grow, along the rocky ridge,
You'll find the remnants, rocks, and shards of kraals and "voetpadjies",
the grasses and redoubts, and memories of tented camps,
and countless protest marches that took place along these lamps.

And there you'll see the culture, the places, children, women,
forgotten and neglected, few remember them;
For, our history is told with monuments of politics and men,
but the true Glory of this Garden lies not with them.

And here I am a simple gardener, who hopes to remind thee,
that the glory of this garden lies in more than meets the eye.
So when my work is finished, I hope to wash my hands and pray
For the Glory of this Garden that it may not pass away!
And the Glory of the Garden it will never pass away!

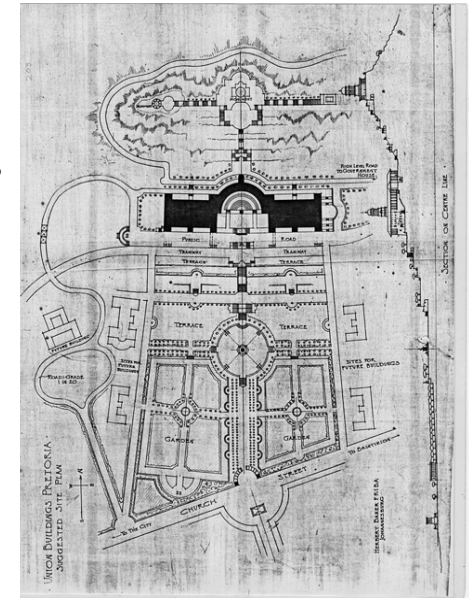


Figure 7. Watercolour of a grotto in the gardens of the Union Buildings (1928), by Sydney Carter (Heritage portal 2021)

Poem adapted for the site and dissertation
(Author 2021)
Original poem by Rudyard Kipling
The Glory of the Garden (1911)

Figure 8. Plan showing the original design for the site of the Union Buildings (1909), by Herbert Baker. (Manchesterhive 2017)

Introduction -Change is inevitable

Sir Herbert Baker, the architect of the Union Buildings, intended for the terraced gardens, to be a grand display and act as a threshold to the natural landscape of Meintjieskop. The aim was to juxtapose the stability and autonomy of the Union Buildings against the wild preserved ridge that rose behind it and the unimproved, yet to be tamed nature of the veld that lay below it (Foster 2008:160). Besides wishing to preserve the ridge in its natural state, and allow access to it, he further intended for the rich dark coloured masonry walls of the terraces to act as a background in contrast with the bright orange, yellow and scarlet flowers of ‘African, sun-loving plants’ and aloes that would thrive on the hot terraces (Baker 1927:67) and this beautiful display was intended to add to the beauty and influence of the building.

However, as a developing country, South Africa has been subject to multiple changes over the past century on the urban, political and environmental fronts - as one of the capital cities of South Africa, Tshwane has been in the limelight of these changes. Similarly, landscape architecture and designed public spaces change over time. The site has adapted quite successfully over the years to new functions and to allow continued public displays of protest, but the original splendour of the gardens and intentions of its designer, as displayed in paintings by Pierneef and other artists have somewhat been lost. It can be argued that some of these intentions strongly contrasts the opinion of Foster (2008) and many other that the Union Buildings and its gardens are a crude import of “colonial nationalism” or by Kruger (1999:1) as a ‘monument to the British Empire’.



Figure 9. Union Buildings under construction 1913 by Eric Meyer (1876-1960) (Heritage portal & Arca-



Figure 10. Panorama of Pretoria William Martinson (The City of Pretoria and Districts 1913)

Background - Debated heritage transformation: contested iconography

Debated heritage transformation: contested iconography

Almost thirty years into democracy, there is still a palpable need for change, a cry for decolonisation which not only manifests in the renaming of heritage structures and sites but also in their destruction and removal. Heritage sites often focus on specific events, individuals, and cultural groups and for this reason, the sites become underutilised as they only interest those who wish to participate in the commemorative function of the site. The cultural exclusiveness of such sites often draws negative attention and leads to contestation: multiple heritage sites and monuments have been destroyed, vandalised or desecrated, worldwide over the past decade (Segobye 2015). Locally, the Rhodes Must Fall protests of 2015 at the University of Cape Town, which also included acts of defacing colonial heritage monuments, relit the nationwide debate of heritage transformation. During these debates, the EFF political party strongly advocated for the removal of all Apartheid and colonial heritage. However, Buthelezi (2020), former leader of the IFP, advocated against the destruction of statues, stating: “if we must have a record of our saints, I think we must have a record of our villains as well”, paraphrasing Santayana (1905), who wrote, “those who cannot remember the past are condemned to repeat it”. The South African Government promotes a transformative national agenda but accepts that history can and should not be destroyed or removed, and that transformation needs to be guided by heritage law (Mthethwa 2015; Dhlamini 2020).

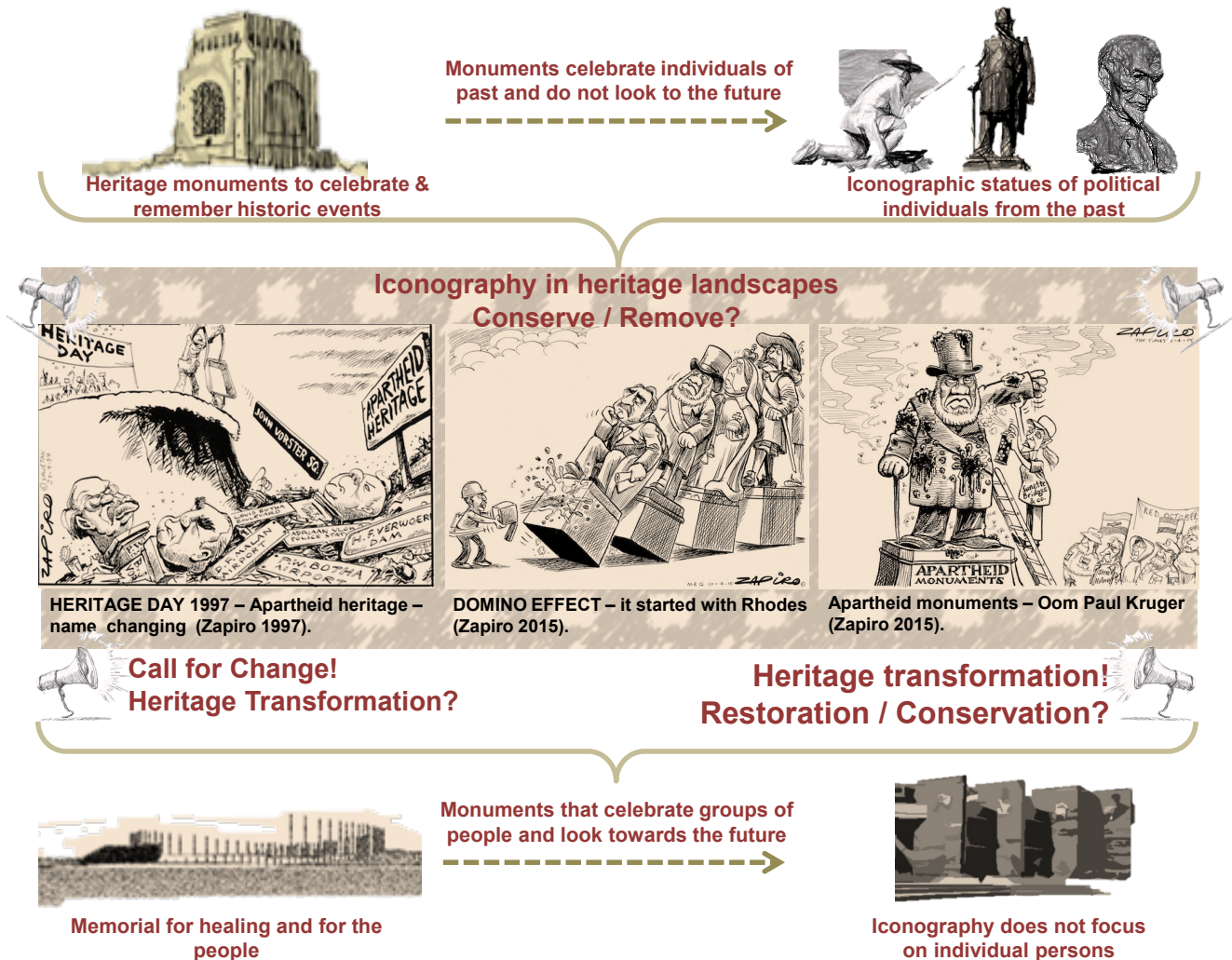


Figure 11. Contested heritage defined (Author 2021)

Statement of significance

On the southern slope of Meintjieskop lies such a heritage landscape, a neo-Renaissance garden, with an Arts and Crafts approach to materiality and planting. These terraced gardens, layered with remnants of the past lie at the foot of the Union Buildings, described by SAHO (2011) as a South African architectural masterpiece. The building and gardens were designed during the last year of the colonial period in South Africa (1909), and construction started on 1 November 1910 following the union of the four colonies on 31 May 1910. It is arguably one of the most important heritage landscapes in South Africa. However, the attempt to preserve the architecture, the spontaneous

adaptation of the site, the neglect of the gardens and increasing security protocols, have allowed the connection to its natural landscape and some valuable aspects of the site's history to be lost over time. It represents memorable periods in the history of South Africa and Pretoria, but the focus is on specific events and individuals associated with politics and war - frozen plaques and statues. Over the past 26 years during the process of transformation, there have been numerous calls for change at the Union Building (Mabin 2019:21). These range from preserving the site as a national treasure, to debating name changes, such as the 2010 renaming of the amphitheatre to the Nelson

Mandela Amphitheatre. There are also the more extreme EFF proposals to destroy and remove all pre-democracy heritage and monuments (ANA 2015) and has even escalated all the way up to proposing the construction of a completely new seat of government (Mabin 2019:20-21). Thus, the Union Buildings is the ideal testing ground to explore the role of landscape architecture in the much-debated proposal for the transformation of heritage sites in South Africa.

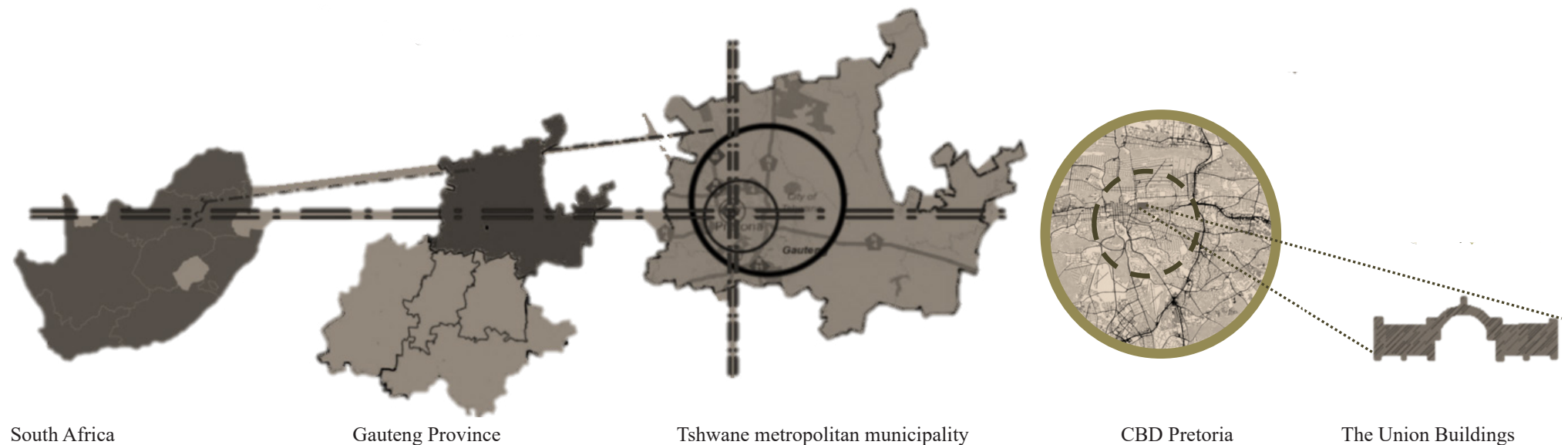


Figure 12. Site location (Author 2021)

Defining the first heritage issue and its research question

Binary solutions to heritage transformation.

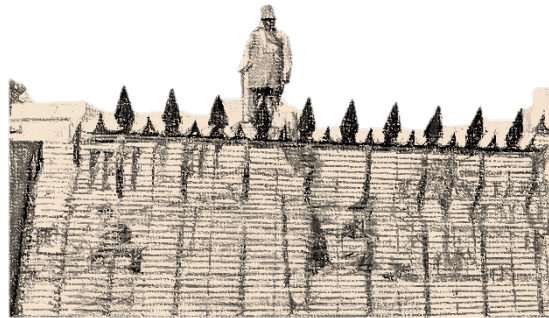
Heritage sites and urban historical contexts are often perceived as static resources that do not adapt to, or allow for contemporary use, furthermore due to isolated representation, their heritage, value, and use are contested and threatened with protests and destruction. Contemporary design solutions for such stagnant and contested heritage sites are mostly binary responses (Barker 2020) and often these heritage responses and their political debates only consider the two polar opposites of preservation or destruction. As important as it is to remember and protect our past, the Union Buildings

and South Africa at large consist of multiple rich, complex layers of heritage and narratives that were interwoven over time. It lacks a more inclusive representation of the rich heritage that makes up its historic fabric which might have been addressed with less binary heritage approaches.

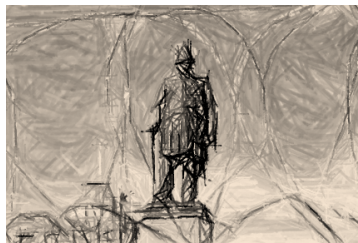
Local examples of heritage celebration in Pretoria and South Africa, very often focus on monolithic, ideological monuments that celebrate singular narratives and lack the inclusive celebration of the multitude of different narratives, individuals, cultures, and historic events that do not fall under political ideologies and those who were lost in

the pursuit of war and political ideals. Some of these sites of historic and cultural importance are the Voortrekker Monument, the Afrikaanse Taal monument, and the larger site of the Union Buildings.

1. What theoretical approach in landscape design can be applied in the Union Buildings gardens to oppose the future application of the existing binary heritage approaches and to prevent the realisation of the politically debated extremes of pure preservation or destruction?

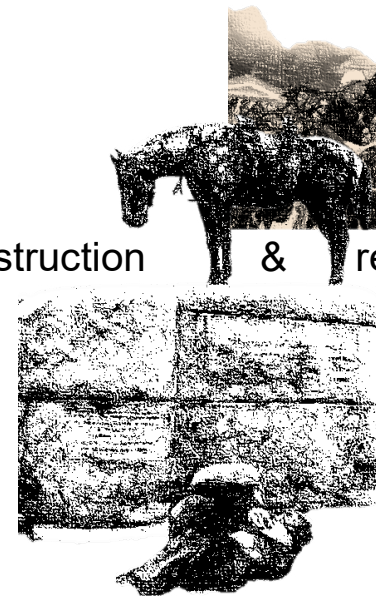


Either Conservation & Preservation



Binary Heritage solutions

Or Destruction



& removal!!

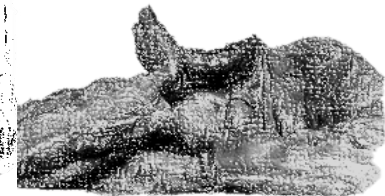


Figure 13. Binary heritage approaches (Author 2021)

Defining the second heritage issue

Lost and forgotten narratives and heritage layers

Although the gardens were originally meant to be enjoyed during lunchtime by the original 1500 governmental employees of the Union Buildings (Rencken 1989:38) it is also used by the general public and tourists. The Union Buildings is arguably one of the most important heritage sites in Pretoria, and the site analysis and historic documents indicate a much richer heritage than what ‘meets the eye’.

The investigations and analyses of the site and its history have uncovered the meaning of the tangible monuments, buildings, and gardens of the site, but also indicated that Meintjieskop has a very rich history that pre-dates the construction of the Union Buildings in 1910 and the founding of Pretoria in 1855.

Paintings and written sources (Swanepoel 2006a,b & Crane 1877) revealed that one of Mzilikazi’s military kraals was situated on Meintjieskop between 1823 and 1835 and possibly the same structures were later used for herding. The site was also used for recreation before the construction of the Union Buildings: a few examples include the 1887 Anglican community sports on

the site after thanksgiving celebrations, the 1889 picnic for 450 schoolchildren on the site, and the Pretoria citizens who reportedly often swam in the natural pool at the foot of the site, dubbed as the Meintjies swimming pool or Meintjies’ hole (Swanepoel 2006a). The ridge was also fortified with a blockhouse and redoubt during the Anglo Boer war and there was also a 1902 Anglo-Boer war concentration camp that is believed to have been on the same ridge less than 1.5 km west of where the Union Buildings stand today, in the location of the presentday Bryntirion estate and presidential residence Mahlamba Ndlopfu (Hattingh 1967; Swanepoel 2006a,c). Archeological excavations and investigations were done in this area in 2007 after a midden was found, believed to have been related to the use of the koppie for a blockhouse and redoubt during the Anglo-Boer War (Van Vollenhoven & Pelsers 2007, Otto 2005 & Van Vollenhoven 1992).

As a private estate this area is inaccessible to the public and since the camp did not exist very long and had no church or churchyard to bury the dead, there is no monument or memorial to honour the victims of the camp (Swanepoel 2006).

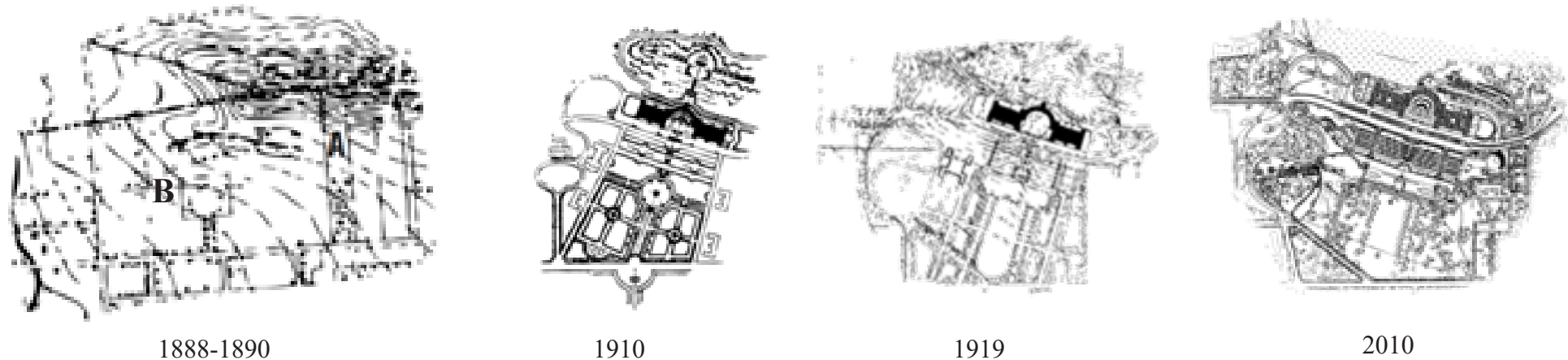


Figure 14-17. Site development (Varies)

Lost and forgotten narratives and heritage layers



Figure 18. Site timeline Monuments and art (Author 2021)

Defining the second research question

Furthermore, there is also little to no trace of the different ceremonies and protests that took place over the last 111 years at the Union Buildings.

Historically the site always acted as a protest ground, with the first protests to the Union Buildings taking place in 1915, very soon after its construction, followed by protests in 1940 and the famous 1956, Black Sash, Women’s March, all three of these being women’s protests (Spies 1971), however, the site is not necessarily robust enough for these protests and has led to makeshift solutions to the threats posed by more volatile protests such as protest fences and access prohibited to the top terrace, amphitheatre and koppie.

Many of these layers of heritage and the narratives of these groups and places have been lost and forgotten over time.

2. How can a landscape intervention be applied as a medium for heritage transformation to oppose the current limited iconographic programming of the Union Buildings gardens, and allow the site to act as an all-inclusive park that reflects the broader society and democratic spirit of South Africa?

Figure 20. Union Buildings (1938) by J.H. Pierneef (1886-1957). Commissioned by the City Council of Pretoria for the Union Castle ship “Pretoria Castle” (Duffey 2010)



Figure 19. Union Buildings photograph (Alan Yates 1908)



Defining the third heritage issue and its research question

Natural heritage vs cultural heritage
Herbert Baker originally intended for Meintjieskop to be accessible, but today the site offers little connection to its natural heritage and environment and originally wished to showcase African sun-loving plants on the terraces. However, the Renaissance styled gardens with principles borrowed from the Arts and Craft movement, was designed for visual appeal and passive recreation and eventually turned into manicured, clipped gardens with a number of invasive exotic

species being protected for their heritage status. Artists such as Lausdell, Carter, Mayer, Pierneef and Goosen (See figure 5, 7, 9 20, 22) tried to capture the original essence of the site and gardens but over time some of the original beauty and intentions were lost. Despite the high number of visitors drawn to the terrace gardens each year, they are seldom aware of the rich botanical heritage of the site, the old botanical garden, old herbarium, Flanagan arboretum and natural koppie, which are mostly neglected, inaccessible to the public and

hidden away. As a possible result of the public's ignorance of these aspects and their importance and need for protection, they can be lost forever. In August of 2016, it was reported that the beautiful 1920's glass and iron greenhouses, that once stood in the herbarium portion of the site and was believed to have been imported from Scotland, was demolished to make way for parking (Arcadian 2016).



3. How can a contemporary landscape intervention revitalise Baker's original intentions for the site and realise his wishes to represent South Africa, its character and plants within this formal landscape.

Figure 22. Pretoria: Union Buildings Arthur English 1978 (Artefacts Dorothy Adendorff)



Figure 21. Reported photograph of one of the Union Buildings' greenhouses (Arcadian 2016)



Figure 23. Union Buildings Pretoria oil painting 1945 by W. Goosen



Figure 24. Union Buildings garden photograph scan (Marie Bester 2021)

Thesis statement

In response to the research questions, using the information and design strategies available, the following solutions and approaches to the design were developed.

1. What theoretical approach in landscape design can be applied in the Union Buildings gardens to oppose the future application of the existing binary heritage approaches and to prevent the realisation of the politically debated extremes of pure preservation or destruction?

In order to prevent the destruction of heritage structures and to counteract pure preservation and restoration, a more inclusive heritage representation is considered. However, a post-modern, pluralistic approach is taken that will mean more than one heritage approach being taken in different areas on site. It will result in both the retention of the existing layers where they are deemed important to the site's narrative, but in addition, also to add new layers that are deemed important to articulate on site. This will mean, representing and celebrating the lost and forgotten narratives and layers of the site's heritage. The intervention thus acts as a living monument that keeps both an eye on the past and becomes a design of the present.

2. How can a landscape intervention oppose the limited iconographic programming of the Union Buildings gardens, and allow the site to act as an all-inclusive park that reflects the broader society and democratic spirit of South Africa?

Not only will a more inclusive representation on site, oppose the existing heritage representation on site but the design will further counteract the current monolithic, monumental approach with a counter-monumental approach to the design.

3. How can a contemporary landscape intervention revitalise Baker's original intentions for the site and realise his wishes to represent South Africa, its character and plants within this formal landscape.

Lastly, the post-modern pluralistic approach to design is applied to the natural heritage of the site, by re-establishing the link between the natural koppie and designed landscape. A non-binary approach is maintained with regards to planting design, which might remedy the indigenous vs exotic planting debates and somewhat restore the original intentions of the garden. A middle ground is proposed between manicured and "wild" landscapes.

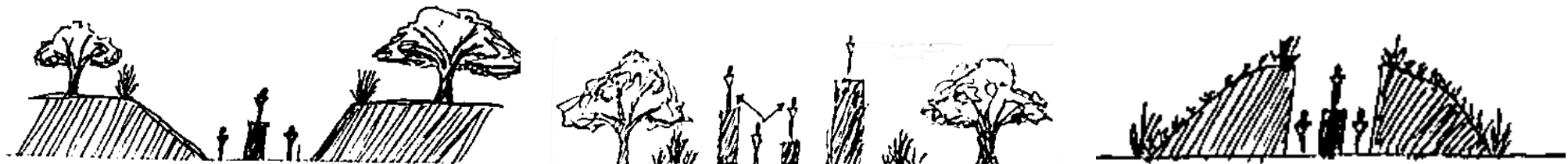
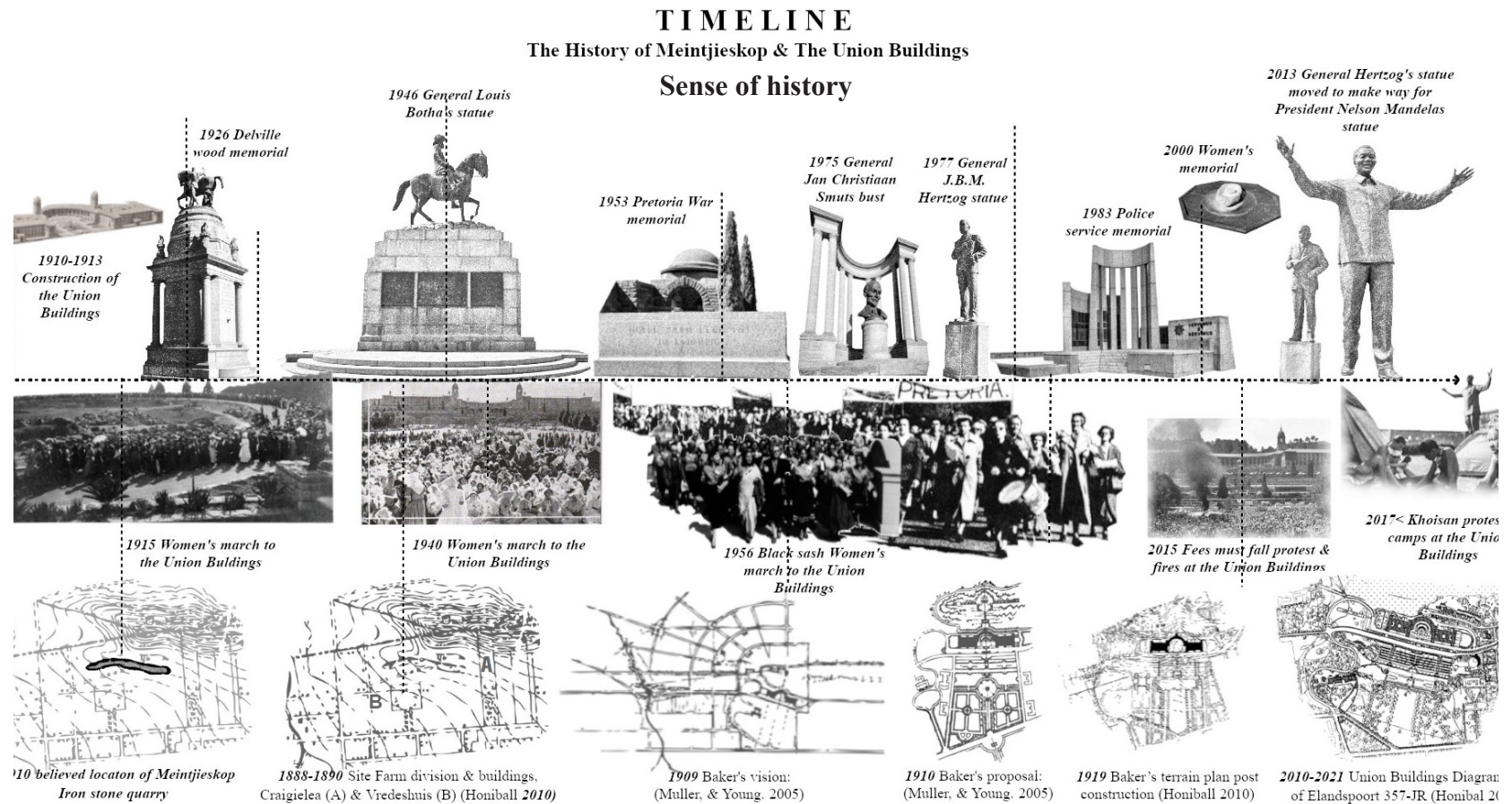


Figure 25-27. Dealing with existing Monuments
(Author 2021)

Theoretical framework

Critical regionalism

As the project has a very place-based approach in terms of understanding the site, its history, and narratives, critical regionalism was identified as the primary theory for the research and analysis phase of the project. Kelbaugh (2012) identified five characteristics of critical regionalism as a means to study a site and create architecture, specific to the spirit of a place, his work was based on the critical regionalism theories of Frampton (1981). The five characteristics that will be used to study this project is summarised on the following pages:



Display of architectural magnificence, grandeur splendour and political power through sculptures, but there is a lack of representation of the intangible heritage and a number of lost narratives on the site.

Figure 28. Site development, events and monuments timeline (Author 2021)

Spontaneous public park, active recreation, passive recreation, protest & celebration, ceremony.

Sense of place



Figure 29-36. Site activities (Varies)

Transition and change from a wilderness (natural koppie) to formal gardens as a threshold to the city and cultivated landscape.

Sense of nature

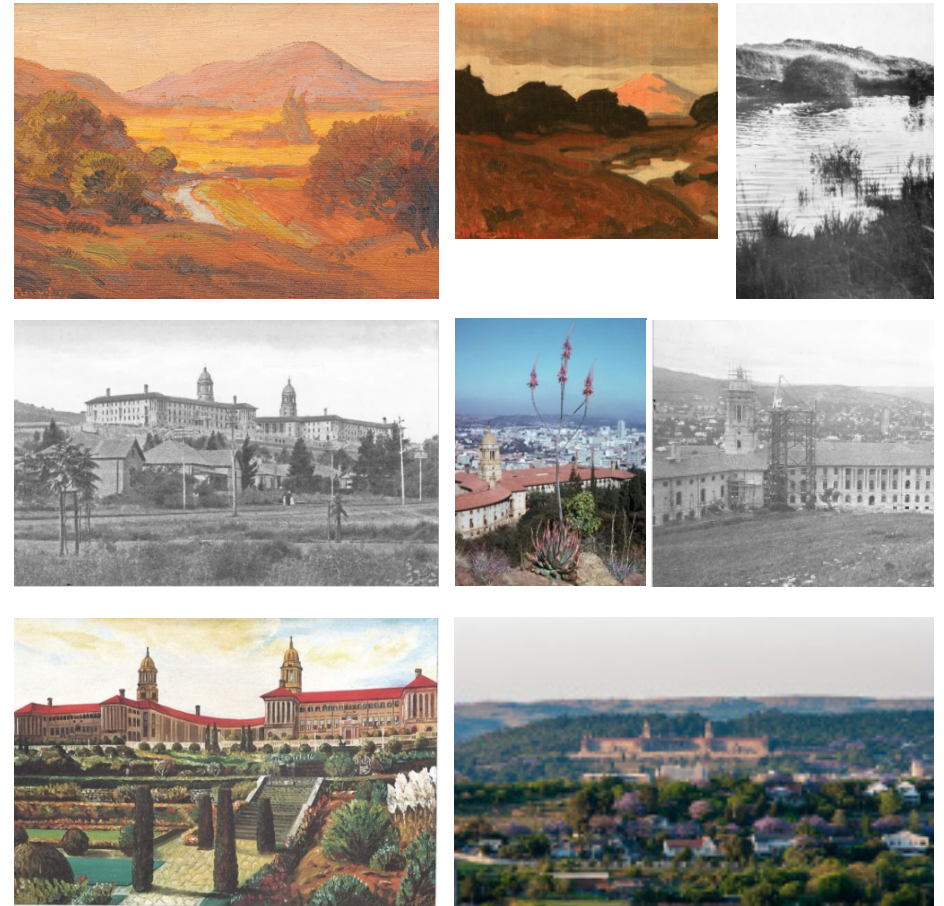


Figure 37-44. Change in nature (Varies)

Arts and Craft styles gardens with a Renaissance layout with terraces, niches, sculptures, water features, formal gardens and stone craftsmanship.

Sense of craft



Figure 45-48. Masonry (Author 2021)

Heritage legislation protecting architecture & monuments & the power play between private political space and public space.

Sense of limitations



Figure 49-52. Protected structures (Author 2021)

The following three problems were used to determine an appropriate approach to the design.

First the need to represent the rich layers of the forgotten history of the site, that is not adequately being represented (or not at all),

Secondly, to deal with the contested heritage of the existing monuments,

lastly, to avoid the current binary approaches to only protect or destroy the heritage.

Counter-monumentalism was identified as the best theory to guide the design as it denies the presence of an imposing, authoritative social force in public places (Stevens, Franck & Fazakerley 2012:952). It typically opposes monumentalism whereby, usually, the government or politicians establish monuments in public spaces to symbolise themselves or their ideology to influence the historical narrative of the place (Stevens et al.2012:961), similar to the current conditions at the Union Buildings. Principles taken from this theory is:

1 To contrast the existing monuments - such as the contested statues of generals Botha, Hertzog and Smuts.

2 To address the forgotten and painful history - such as the kraal, concentration camp, and protests.

3 To focus on multiple narratives, cultures, periods, and people, not only specific isolated ones and to not idolise them.

4 These narratives are often represented in unexpected ways, such as through art along a route that blends with its environment.

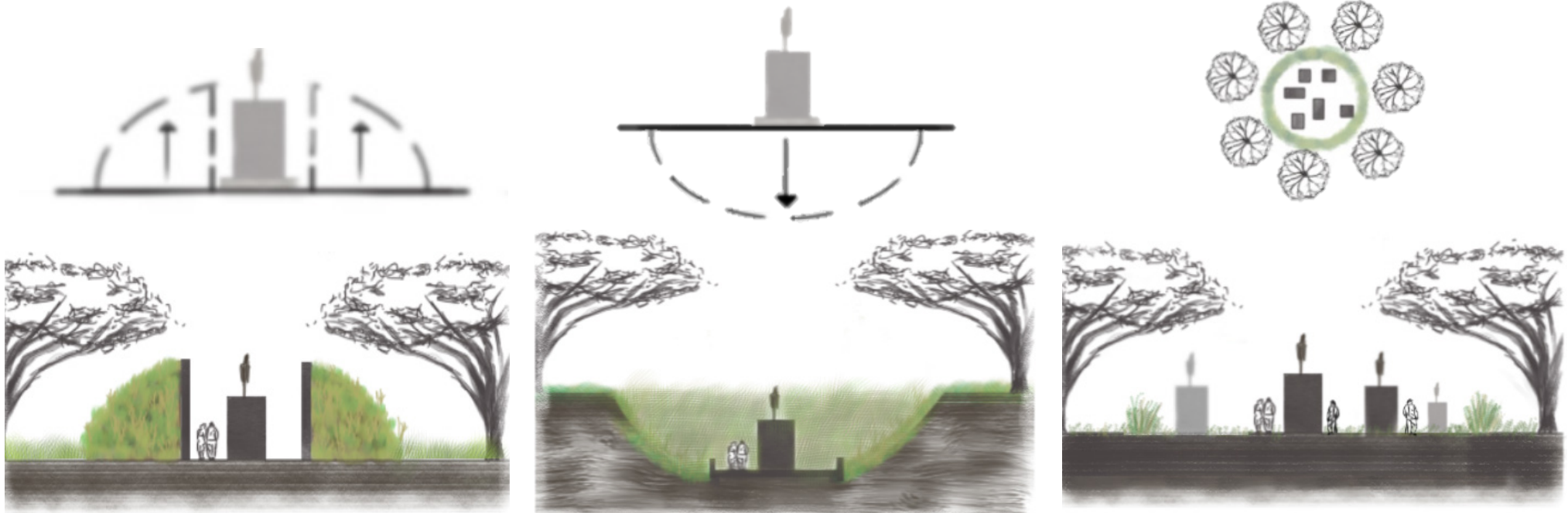
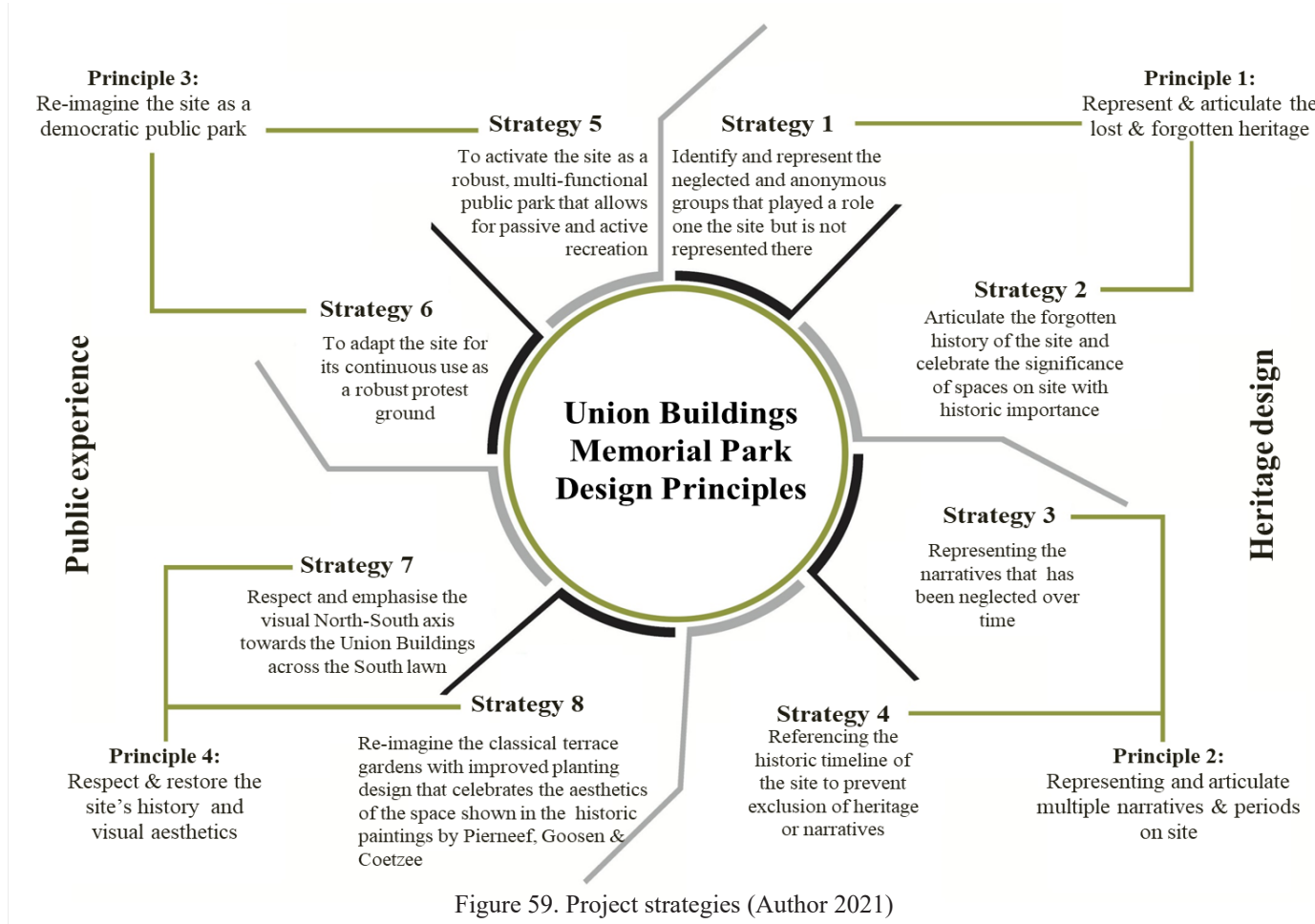


Figure 53-58. Counter monument (Author 2021)

Project intention

Project intention

- The aim of this dissertation is to generate a renewed landscape design proposal for the Union Buildings gardens that ensures continued use and celebrates the uncovered layers of heritage.
- The ideal is to find a balance between the past, present, and future use of the site, to remedy the inappropriate use of designed spaces and to restore the neglected historic areas and prevents future loss of heritage fabric.
- The project aims to counteract the isolated representation of specific past events and political individuals. And also aims to identify and represent the series of historic events that took place over time and their associated narratives of the neglected and anonymous groups that were once part of the site.



Normative position

My normative stance echoes that of the South African architect, Professor Derek Japha (1986), who argued, that all heritage projects can not be based on a single aesthetic approach. He stated that there is no single correct answer to these projects, or for that matter a simple solution that can be applied to all heritage projects. He believed that both a traditional, vernacular solution and a very aesthetic, contemporary solution can be acceptable, as long as every decision during the designer's approach was underpinned by respect for the site's heritage significance.

Based on the study and work done to date, the normative stance is taken, that the solution to the heritage transformation issues of the Union Buildings, should not be simplified and reduced to the typical binary heritage approaches of pure preservation or restoration. According to Barker (2020), heritage projects and sites should not purely be conceived as static resources, and these projects should ensure processes that allow for critical architectural solutions and avoid your typical binary responses. It is therefore my stance that a site as complex as the Union Buildings can't be expected to have one sole solution to solve every single heritage-related issue that occurs. A single binary approach applied to all the different aspects of the site is set up to fail from the start. Complex sites such as these require a post-modernist approach of pluralities that embraces multiple uses and contexts on a site whilst accommodating diverse layers of viewpoints and histories. Each layer is dealt with individually to celebrate its identity and its part played in the formation of the site, but also to express these layers to become evident to unaware visitors.

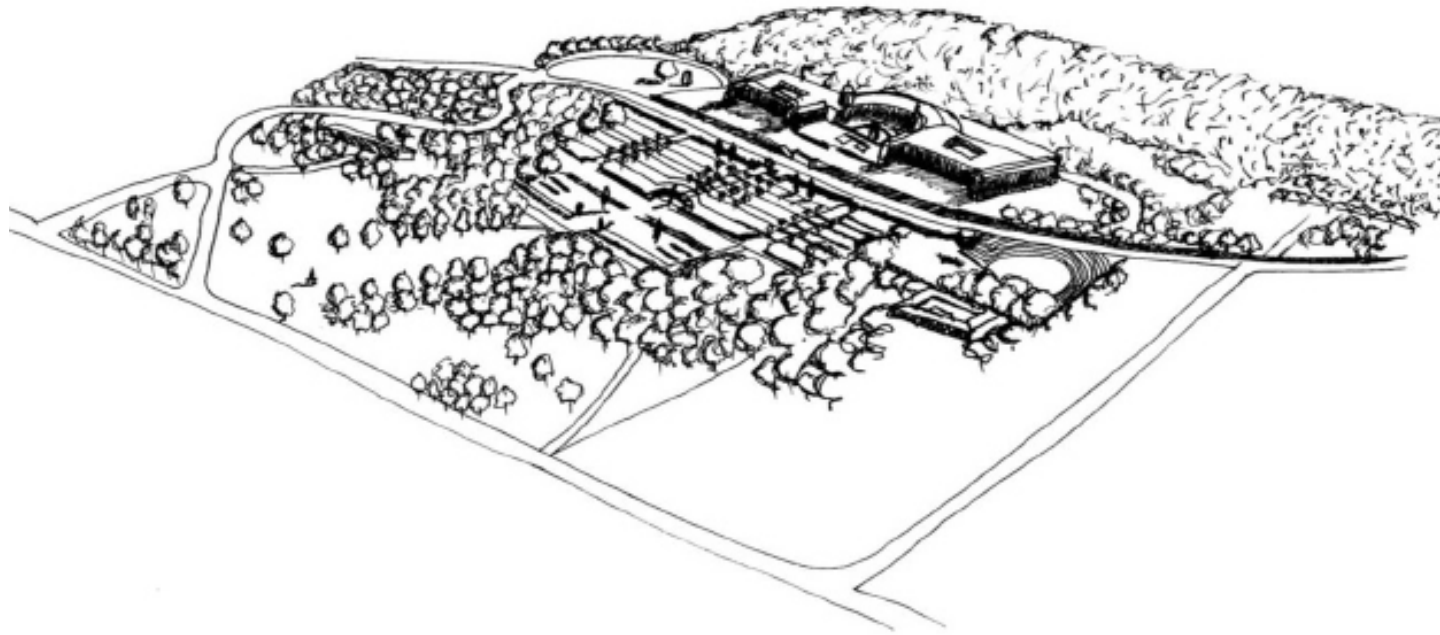


Figure 60. Site axonometric (Author 2021)

Proposed program

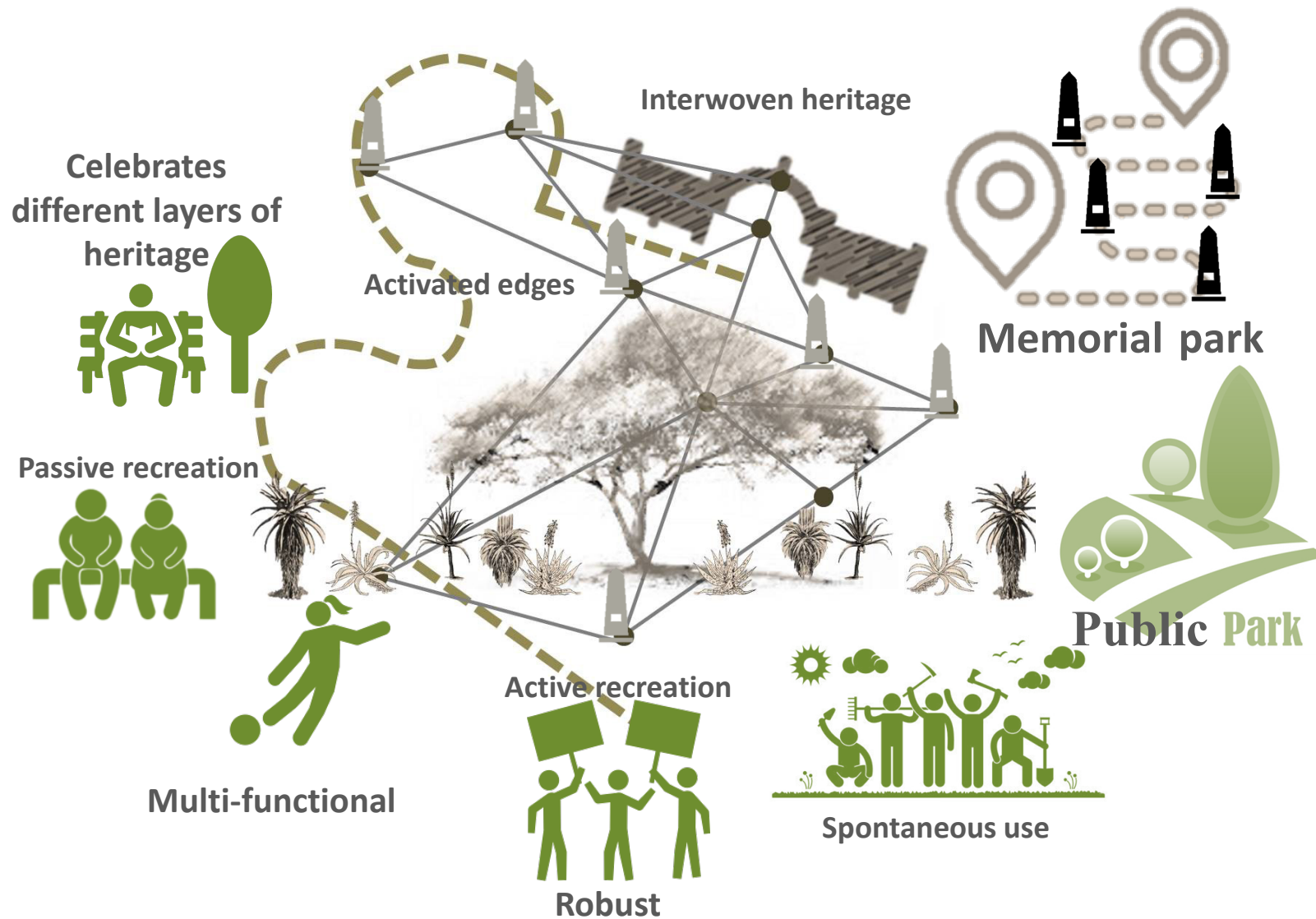


Figure 61. Programs (Author 2021)

Research methodology

Based on the research questions that deal with finding a contemporary pluralistic approach to heritage transformation, the design methodology will entail studying the site and generating its design from two perspectives: first, and most importantly, as a heritage site and secondly as a public park that offers passive and active recreation.

Pre-design research phase: Mapping the tangible and intangible

Existing historic maps, published research and aerial photographs will be used to identify areas and elements of heritage importance and then to map the tangible aspects of the site to create an Autocad base map, as there is not one that I was able to obtain from any of my sources.

A study of the site based on Heritage Impact Assessment principles will have to be done with regards to the location and condition of the tangible heritage of the site and to categorise them according to heritage legislation.

A limited literature review will be used to study the history of the Union Buildings, to identify and map the intangible heritage and possible lost or forgotten narratives that the users are unaware of. A timeline will be made of the site's history and its existing heritage iconography.

For this, the chosen methodology is based on the deductive paradigm which will focus on a limited literature review and an analysis of existing heritage approaches and critical regionalism and counter monumentalism theories. This study will focus on how principles of critical regionalism can best be applied to study the site and during the design process to create a design that is suitable in its regional context and on how counter-monumentality principles can best be applied to create a living monument. The information gathered from the study will be used to determine the design criteria, concept, and design language or principles most suitable for a contemporary design creating a living monument on the site.

Existing maps published information and research will be used to study the different structures and areas of cultural and natural importance on the site and to determine their age and heritage significance and to use these with two scales proposed by Barker (2020:129) to value the significance and age of the areas on a heritage site in order to determine the appropriate approach and attitude to take with regards to transforming these areas and whether it requires restoration, conservation, rehabilitation or can be adapted for other uses.

For the research-by-design phase - I identified a number of different important steps and strategies.

First, to understand the legal parameters of the design project as a heritage site.

Second, to study counter monumentalism theory and how it can be applied to the project.

Followed by a number of design strategies or experiments relating to the existing site, to inform the contemporary design. These design strategies include:

1. Programming the site
2. Finding a new geometry
3. Unveiling the unseen nature
4. How to represent forgotten narratives

Lastly, during the technical development phase, the planting of the site will be studied along with Baker's original intentions, and how a contemporary planting design can be approached in a non-binary way that may include natural landscape and manicured gardens as well as the combination of indigenous and exotic species to maximise the existing visual effect of the gardens.

Summary of Site Analysis - Programs

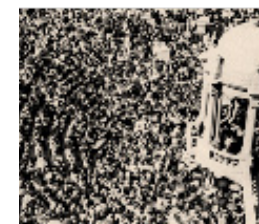
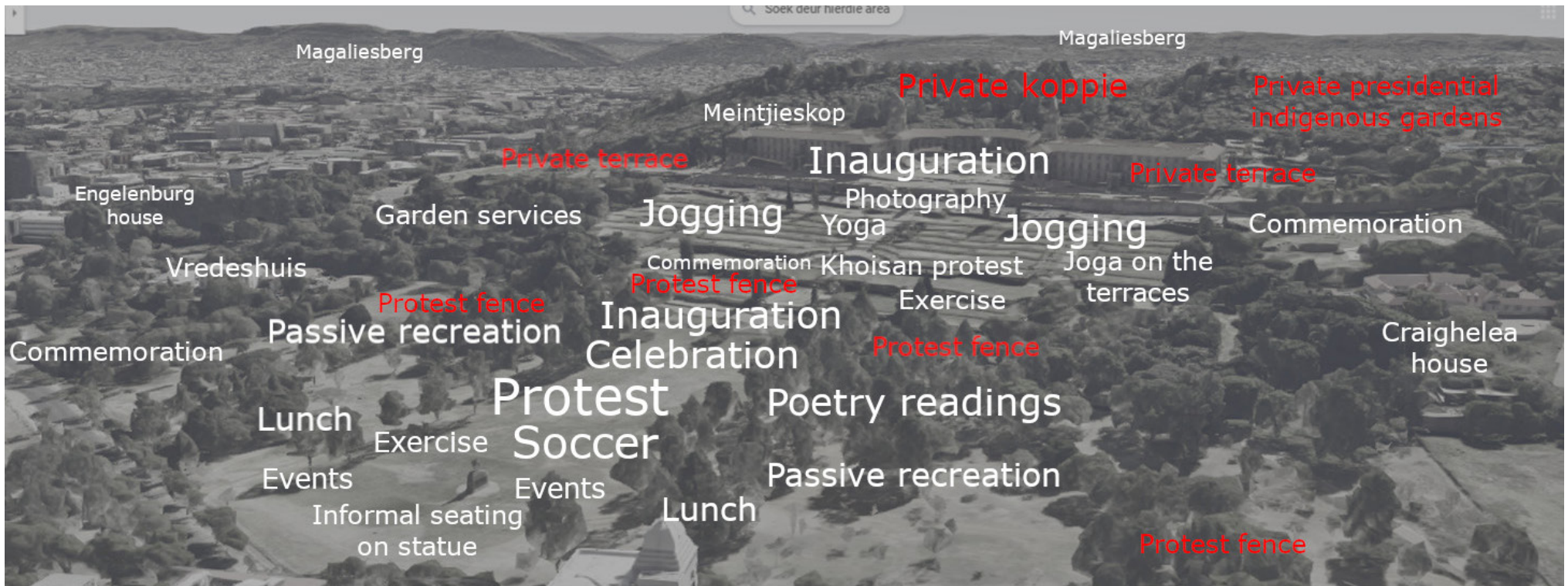


Figure 62-71. Site activities (Various)

Summary of site analysis

The original mapping looked at the region and ridges of Pretoria and the role that they played in the development of Pretoria, first for the fortification of the city during the Anglo-Boer War, then for the construction of monumental visual icons such as the Voortrekker Monument and the Union Buildings and lastly as environmental reserves and recreational escapes. However, I concluded that the heritage of these sites are often contested and that the natural environments are not easily accessible to the citizens of this area as they are surrounded by highways and charge a pricy entrance fee, and furthermore are private in the case of large portions of the Magaliesberg and also Meintjieskop. This created an opportunity to allow access to the natural environment of Meintjieskop as was intended by Sir Herbert Baker and also to deal with the contested heritage problem at the UB.

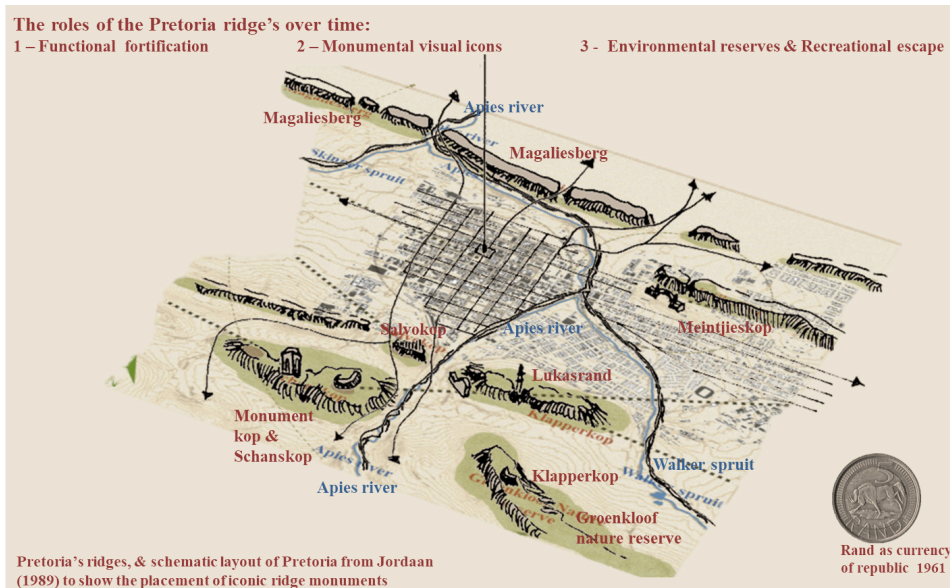


Figure 72-73. Pretoria's ridges and monuments (Author 2021)

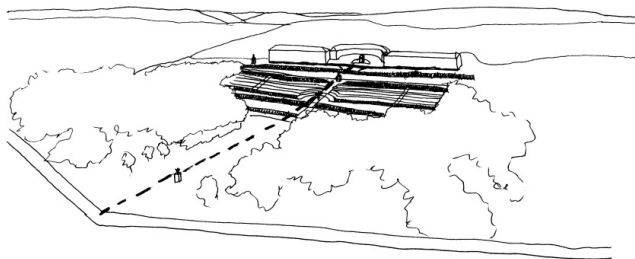


Figure 74. Union Buildings' context (Author 2021)

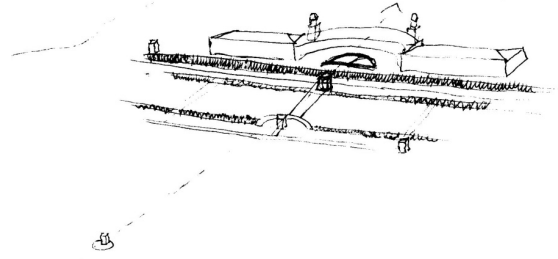


Figure 75
 Union Buildings' axis & orientation (Author 2021)

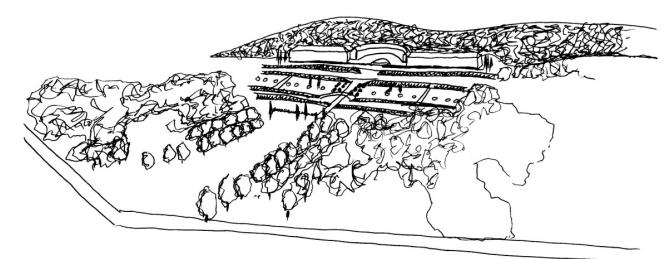


Figure 76. Union Buildings' surrounding environment (Author 2021)

The heritage mapping concluded that in accordance with SAHRA legislation, the monuments and sculptures are protected as part of the national heritage site, all structures, trees, and architecture older than 60 years are protected and that sculptures can only be moved with permission from SAHRA after a long application process and only in extreme cases. Thus, the design had to be approached in a way that would not change the structures, statues, and many of the trees on the site but also that would not change the visual quality of the site.

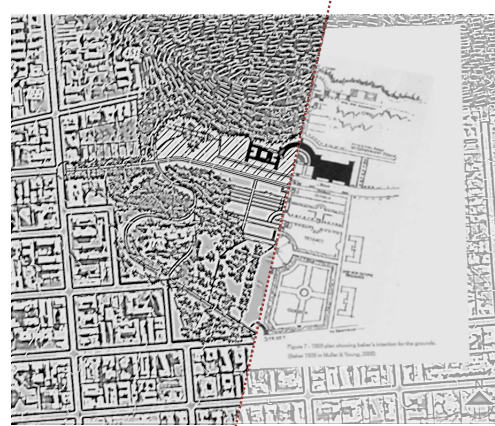


Figure 77. Existing plan vs Baker's design Intention (Author 2021)

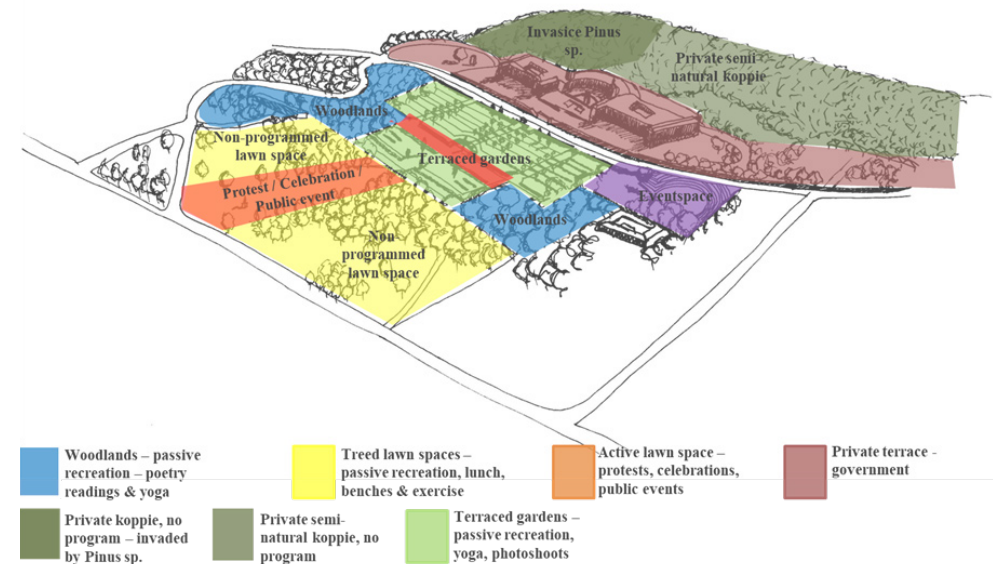
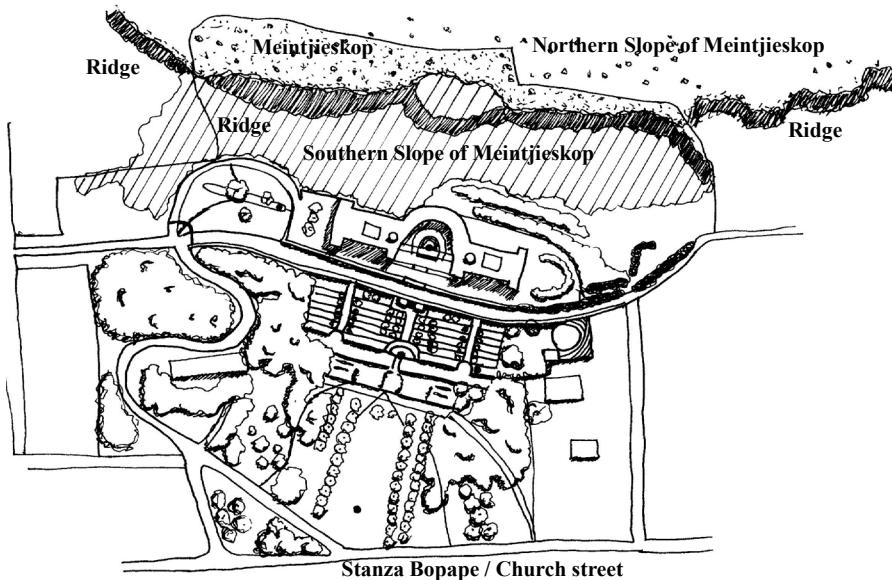


Figure 78-79. Site analysis - Union Buildings site conditions(Author 2021)



Figure 80. Site and surrounding region's heritage connections (Author 2021)

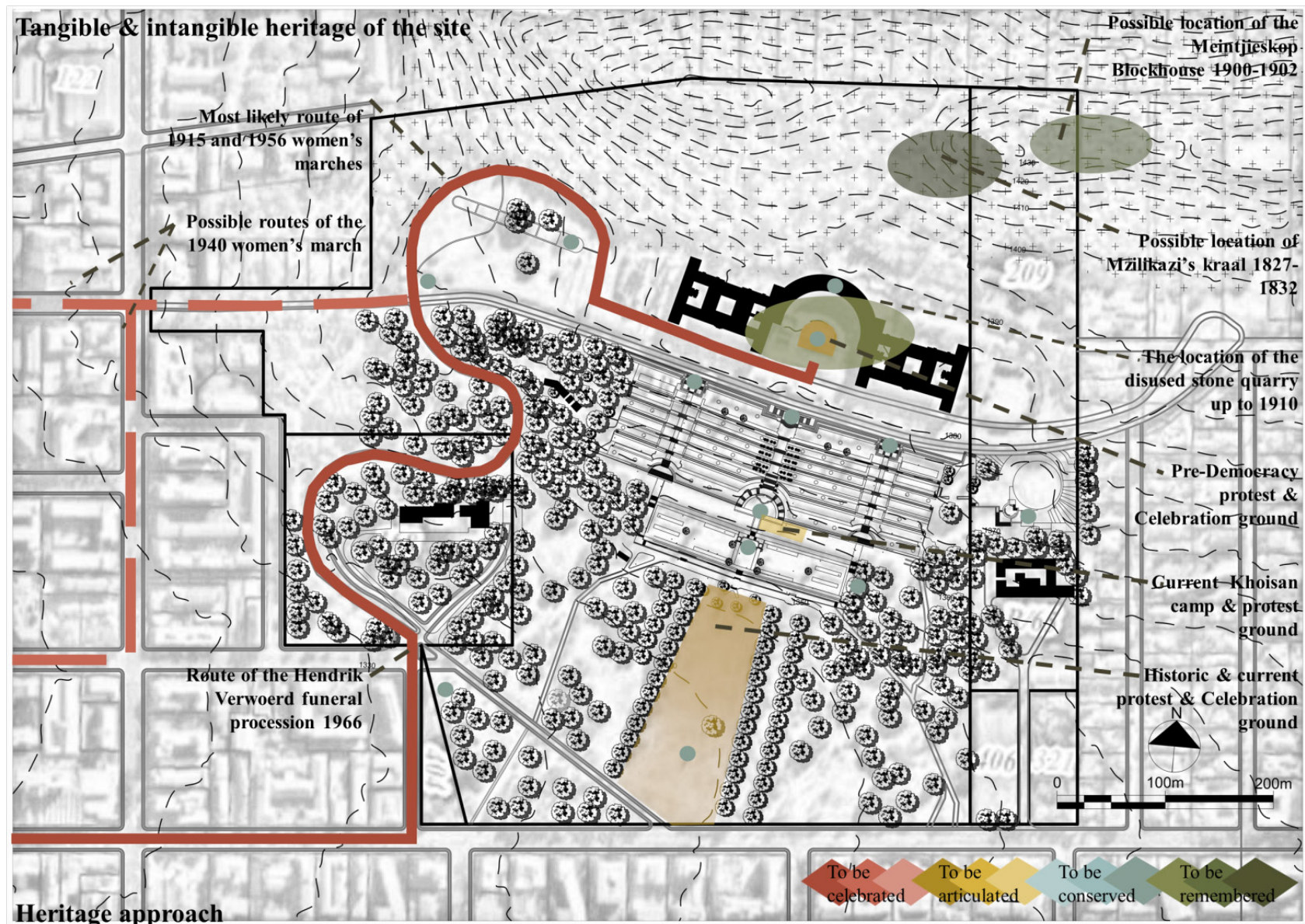


Figure 81. Heritage routes and structures with possible approaches to their continued existence (Author 2021)

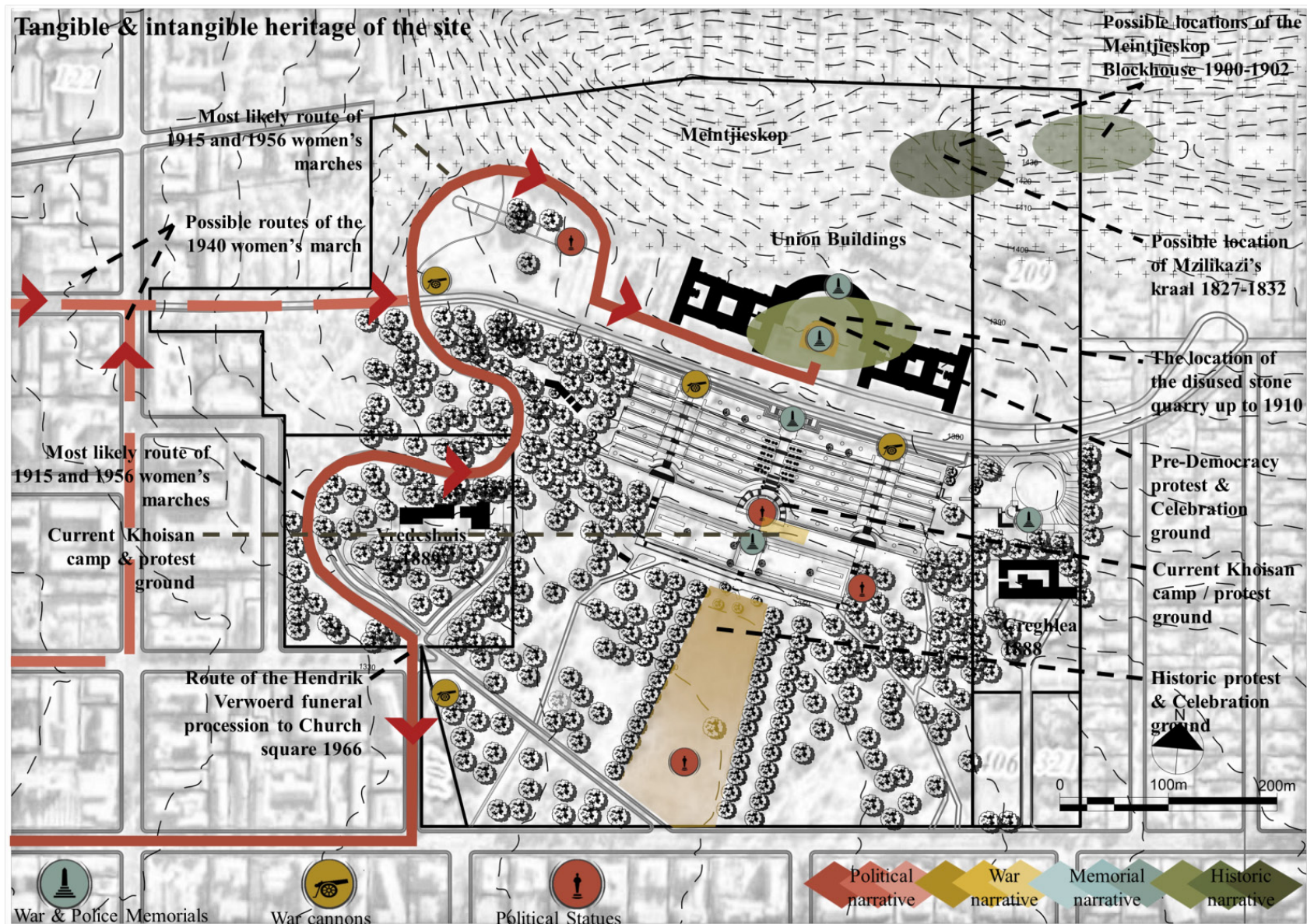


Figure 82. Identifying tangible and intangible heritage (Author 2021)

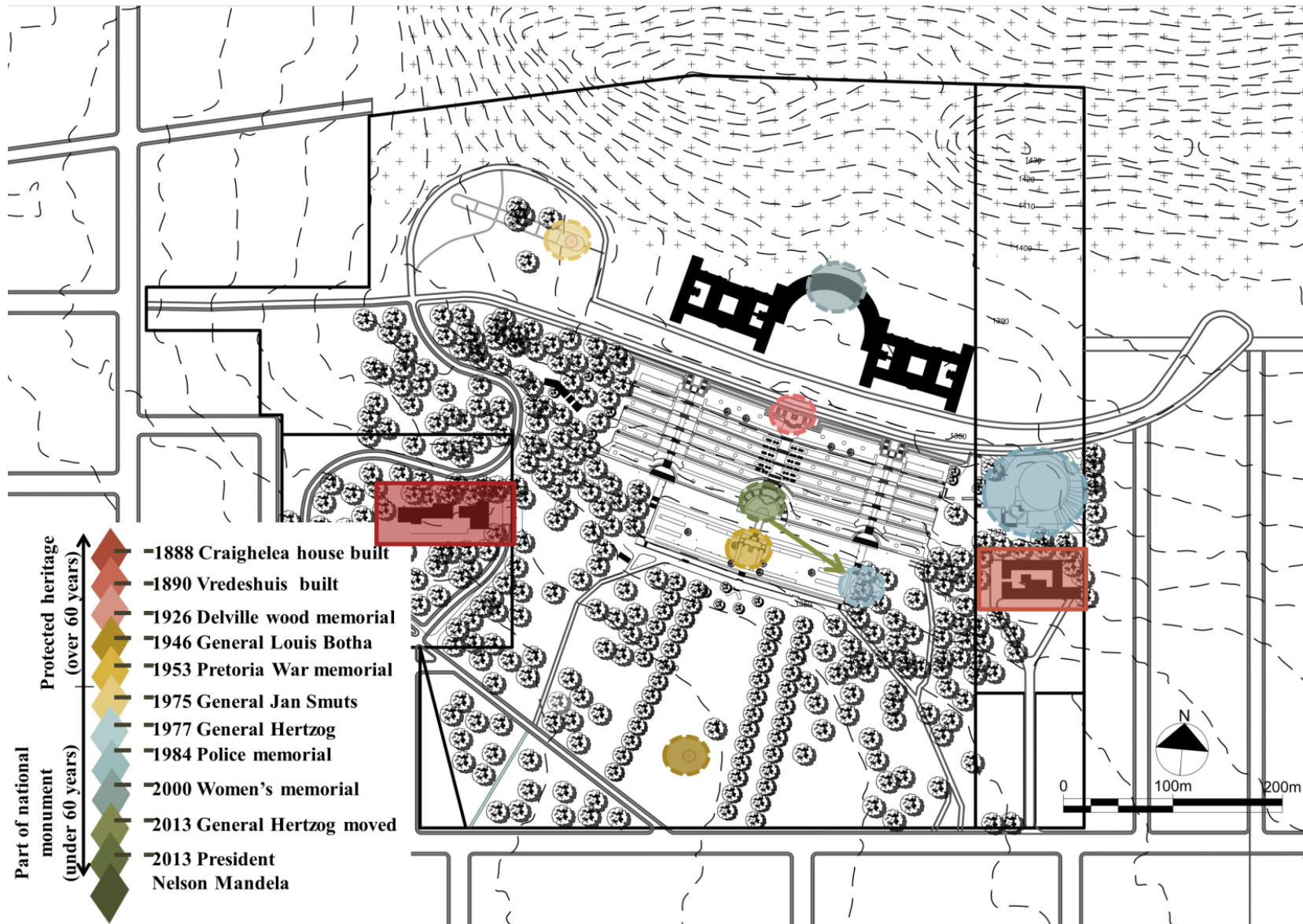


Figure 83. Tangible heritage timeline (Author 2021)

Conclusion

The initial approach to the project was place-specific and was primarily focused on gaining knowledge and an understanding of the Union Buildings' history, narratives, and on-site situation. This revealed the rich multi-layered history and narratives of the site. The binary approaches of preservation or destruction of specific contested heritage sites and structures were identified as prejudiced responses, that chose to focus on specific narratives and exclude others. It was concluded that the continued sole preservation and representation of specific narratives on-site, as well as the pure restoration of it would lead to further contestation, just like the destruction of the existing heritage would.

By identifying areas with forgotten narratives, a new approach to the site became evident. The landscape will be re-programmed to accommodate these narratives and then the design is used to connect these portions of the site along a single line of movement. The design thus becomes a palimpsestic journey, leading the visitors to multiple areas with different heritage values and narratives (previously unknown to the visitors). The pluralistic approach to the design reveals these areas of forgotten and neglected narratives but also aims to retain, complement and activate the existing heritage rather than to move, destroy or replace it.



Figure 84. A new approach envisioned (Author 2021)

Contesting the monumental approach

Landscape architecture is presented as a medium for heritage transformation through which the landscape design for the Union Buildings' site, re-imagines it as a living monument.

The project investigates the potential of landscape architecture to restore and conserve existing heritage but rejects the monumental and purely sculptural, passive celebration of our past (currently seen on site) as the only means for representation. It rather proposes expressing the intangible heritage, making the invisible layers of heritage visible, and celebrating these narratives in a counter-monumental design. This will create a sensory experience, allowing spontaneous use of the site and will activate the areas of commemoration. The design aims to create multi-functional, robust, socio-economic spaces that will allow for various forms of passive and active recreation instead of

creating a sterile environment where the users feel that they have to keep a distance to respect the monuments.

The Anti-monumental approach will address the more obscure and intangible layers of history, opposing the traditional monument in the form of a sensory journey across the site revealing the hidden layers in materiality, spatial utilisation, and sensory experience. Instead of the traditional typologies that insist on sobriety and respect from the spectator, the anti-monumental approach would entail questioning, surprising, and engaging the visitor instead of distancing them from the monument. The design would ultimately create multifunctional spaces that represent and respect the past but also allow for current and future use of the site to prevent stagnation.



Figure 85. Capital of Transvaal showing a kraal on Meintjieskop - S Crane Paintinng (London times 1877)



Figure 86. Meintjieskop blockhouse n.d. (Pretoriana1999)

Stance on the existing approach

The site has historically always acted as a protest ground, with the first protests to the Union Buildings, taking place in 1915, 1940, and 1956 which were all women's protests (Grobler 2009 & Mabin 2019:5). Although many of these protests instigated positive change in our country the site has neglected to adapt to its continued use as protest ground to allow the everyday citizens of the country to state their pleas and cases. The current approach to heritage representation predominantly

focuses on ideological, monolithic monuments and memorials that purely relate to specific narratives of war and powerful political individuals of the past (some of which currently form part of the contested heritage debates). Consequently, visitors to the site are oblivious of the rich depth of its historic layers. The narratives of war and politics are fitting within the gardens that surround the seat of government, as it portrays the country's political history. However, it is important to

ensure continued use and to prevent stagnation of the site whilst avoiding further homogenous and ideological presentation of selected narratives. It is thus important to recognise all these places of cultural identity and to articulate the layers of intangible and natural heritage that were neglected over time. Also to still allow current and future visitors to continue to use the space both as a multi-functional public park and robust protest ground.



Figure 87-88. 1915 Women's march
(Varies)



Figure 89-90 1940 Women's march
(Varies)



Figure 91-92 1956 Women's march
(Varies)

Defining a new approach

In order to prevent a binary and homogenised solution when dealing with the looming heritage transformation, that is bound to happen due to the continuous contestation of the heritage, it is important to contrast the current monumental manner with which heritage is represented. The

project aims to counteract the isolated representation of past events and individuals (which is often taken out of context) as well as the consequential loss of heritage fabric. This will be done by celebrating the existing tangible heritage currently on-site, whilst articulating the forgotten and intangible heritage.

The forgotten and marginalised events and groups that played a part in the site's history will be represented within their own commemorative spaces linked together as a memorial route or journey.

Removal and the destruction of contested heritage...



Conservation & preservation of heritage, sometimes with extreme measures...



Figures 93-94. Binary solutions to heritage transformation (varies)

Passive recreation



Protest - peaceful & passive



Protest destructive & violent



Figure 95-98. Spontaneous use of site, but not adapted for possible destructive activities (varies)

Natural heritage of Meintjieskop and historic use for Mzilikazi's kraal,



1915, 1940 & 1956 Women's protests



Figure 99-100. Lost and forgotten narratives and heritage layers (varies)

Theoretical analysis & Literature review

However, before additional layers of heritage can be represented it is important to first understand the heritage legislation that is used to provide a framework to categorise the existing heritage on the site in terms of Heritage Impact Assessment principles. Currently, the heritage management of the site, managed by the Department of Public Works, leans towards a binary heritage approach that mainly considers pure conservation of the existing architecture, structures, and all plants older than 60 years. They protect the structures against vandalism, destruction and removal, but have not considered or applied adaptive re-use or proper restoration. Current protection and conservation of the site is based on national and provincial heritage conservation legislation as it is stipulated in the National Heritage Resource Act (Act no 25 of 1999).

Theoretical analysis – Heritage transformation:

This section's aim is to find ways to address the current heritage contestation, limited access to natural environments, and selective heritage representation on the site. This will be done by reviewing relevant literature and theory. Furthermore, this essay intends to explore ways to answer the research questions by firstly using the National Heritage Resources Act (Act 25 of 1999) to set the legal parameters for the design explorations.

It is the duty, mandate, and legislation of the South African Heritage Resources Agency (SAHRA) to recognise, appraise, advertise, preserve, control, and protect our country's heritage resources (NHRA 1999).

Their four main goals are:

1. To identify places and objects with cultural and natural significance
2. To conserve these places and objects for future generations
3. To safeguard and preserve the heritage fabric and physical status of these resources
4. To promote and teach about the country's heritage resources in order to unite the nation

On 12 August 2013, the SAHRA declared the Union Buildings on the farm Elandspoord 357-JR, in the city of Tshwane, Gauteng, a national heritage site (NHRA 2013), in accordance with section 27 of the National Heritage Resources act, based on its political, cultural and social past and values. In section 3(3) of the National Heritage Resources Act (Act 25 of 1999) (NHRA, 1999) the criteria for a site to be valued to be of national heritage status are: Historical Value, Aesthetic Value, Scientific Value, Social Value, Rarity and Representivity, which according to their documents, the Union buildings have met every criterion (Sibayi 2013).

According to the International Council on Monuments and Sites (ICOMOS) (2008), there are seven guiding principles upon which the interpretation and presentation of heritage should be based.

1. Access and Understanding
2. Information Sources
3. Attention to Setting and Context
4. Preservation of Authenticity
5. Planning for Sustainability
6. Concern for Inclusiveness
7. The importance of Research, Training, and Evaluation

There are numerous agencies, guidelines, charters, and principles that guide the sensitive and effective interpretation and approach to heritage conservation. This includes the Burra Charter (1999), the Venice charter (1964) The International council on monuments and sites Charter for the Interpretation and Presentation of Cultural Heritage Sites - ICOMOS (2008), the International Centre for the study of the Preservation and Restoration of Cultural property - ICCROM and the Nara Document on Authenticity (1994). However, for this project, only the most relevant principles from these documents, identified as applicable to the project, will be discussed, but the focus will predominantly be on the legislation of the National Heritage Resources act (Act 25 of 1999).

According to the Venice charter's aim articulated within article 3 the prerequisite of every preservation project or concept is that the intent with the conservation and restoration of monuments is to protect them not only as works of art but as historic evidence of past events (Petzet 2004). I believe this principle is important in terms of all the statues of political figures on the site, old and new, they act as evidence of the beginning, and changes in South Africa's political history, away from colonialism and apartheid.

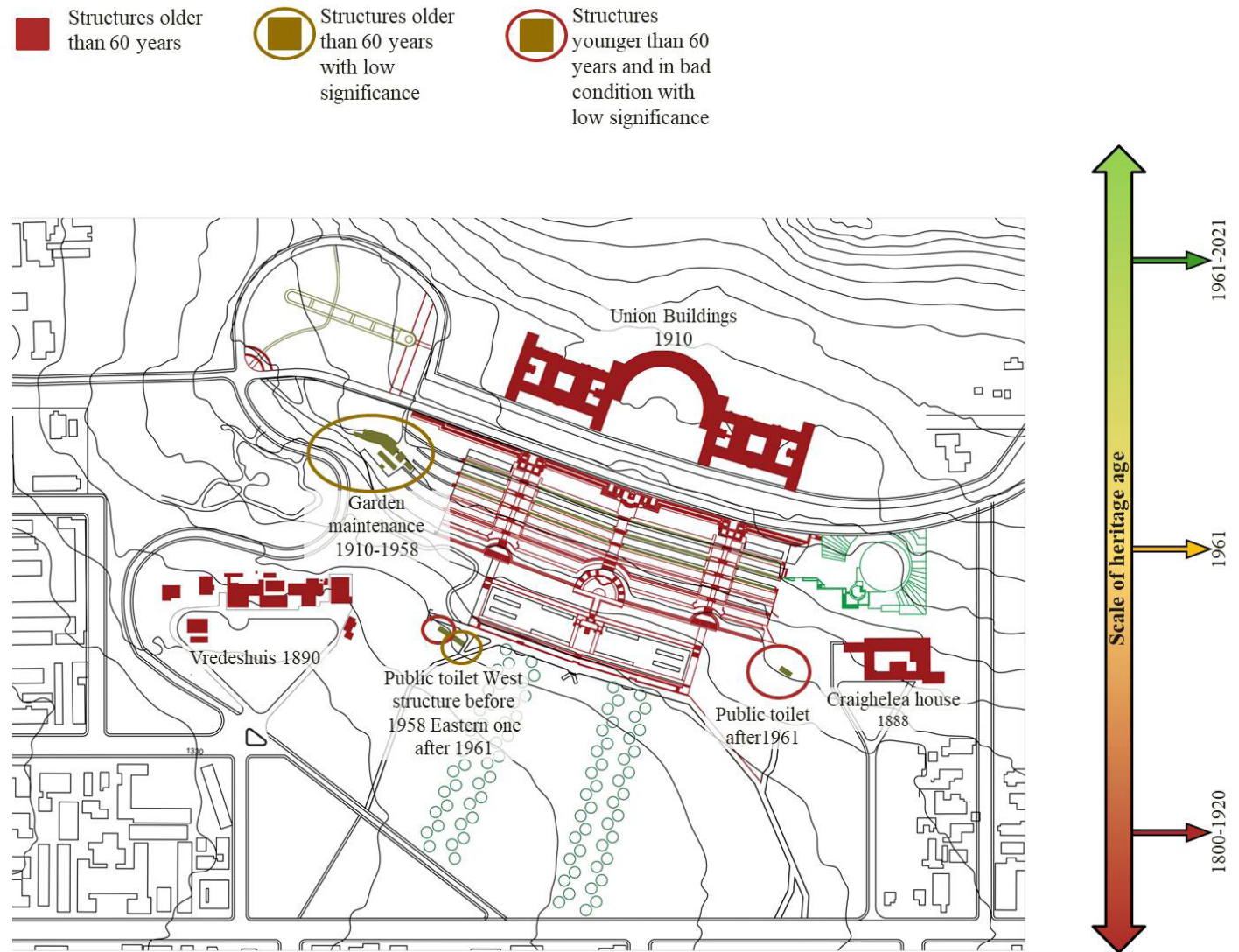


Figure 101. Quantifying the heritage structures' ages (Author 2021)

Legislative parameters

In order to achieve the four goals of SAHRA, all South African heritage sites and heritage resources have to be dealt with in accordance with the legislation set out within the National Heritage Resource act of 1999 (Act no 25). Furthermore, in order to develop and align the management of South African heritage with international standards, a set of conservation principles applicable to all local heritage sites and resources have been compiled by SAHRA. These conservation principles are based on internationally acceptable principles along with the use of precise, internationally standardised terminology, both identified in a number of international conservation charters. The applicable principles that were identified for this project from the SAHRA (n.d.) conservation principles document and their adaption for this project are discussed below.

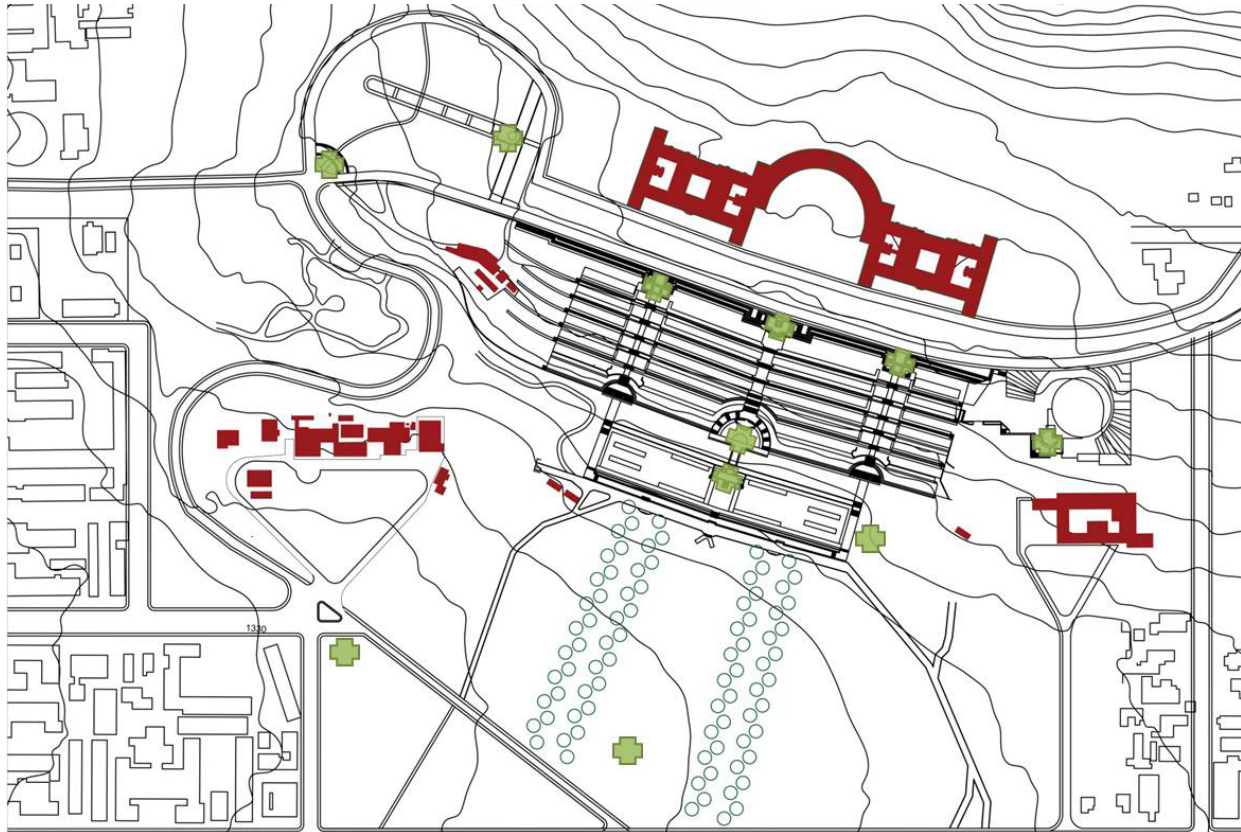


Figure 102. Tangible heritage locations (Author 2021)

1. The aim of conservation:

To preserve and retain the existing heritage structures of the Union Buildings, but also to recover the cultural interest of the site within its lost and intangible heritage to ensure their maintenance and future.

2. Education:

To educate the community regarding the value of the natural and cultural heritage specific to the Union Buildings, beyond its political narrative.

3. Aspects of cultural significance:

The conservation of all of the sites narratives, not only those of war and politics. “Conservation of a place should take into consideration all aspects of its cultural significance without unwarranted emphasis on specific elements” (SAHRA n.d.:2)

4. Continuous historical development:

All the buildings and the surrounding environment of the Union Buildings’ site should be recognised as products of their own time and as evidence of continuous historical development. Work of different periods and the contribution to the place of all periods must be respected (SAHRA n.d.).

5. Context:

The historical value of the Union Buildings does not consist of its buildings alone. The conservation of the site also requires maintaining the visual setting and context such as Meintjieskop and the gardens.

6. Minimal intervention:

Conservation is based on respect for the existing fabric and should involve the least possible intervention that will not distort the evidence revealed in the fabric of the site (SAHRA n.d.).

7. Reversible intervention:

As far as possible, any additions and alterations to the site should be reversible, if they were to be dismantled in the future, the original fabric should be unchanged and be visible.

8. Contemporary design:

Contemporary designs in a historical setting are encouraged if it does not disfigure valuable historical and architectural fabric. At the Union Buildings, this point is encouraged to prevent stagnation of the site and to ensure future use.

9. Contents and location:

The contents of historical places, forming part of their cultural significance, should not be removed and should remain in their historical location unless this is the sole means of ensuring their survival – this pertains to the existing monuments and statues at the Union Buildings in terms of the continuous debates about the removal of statues across South Africa.

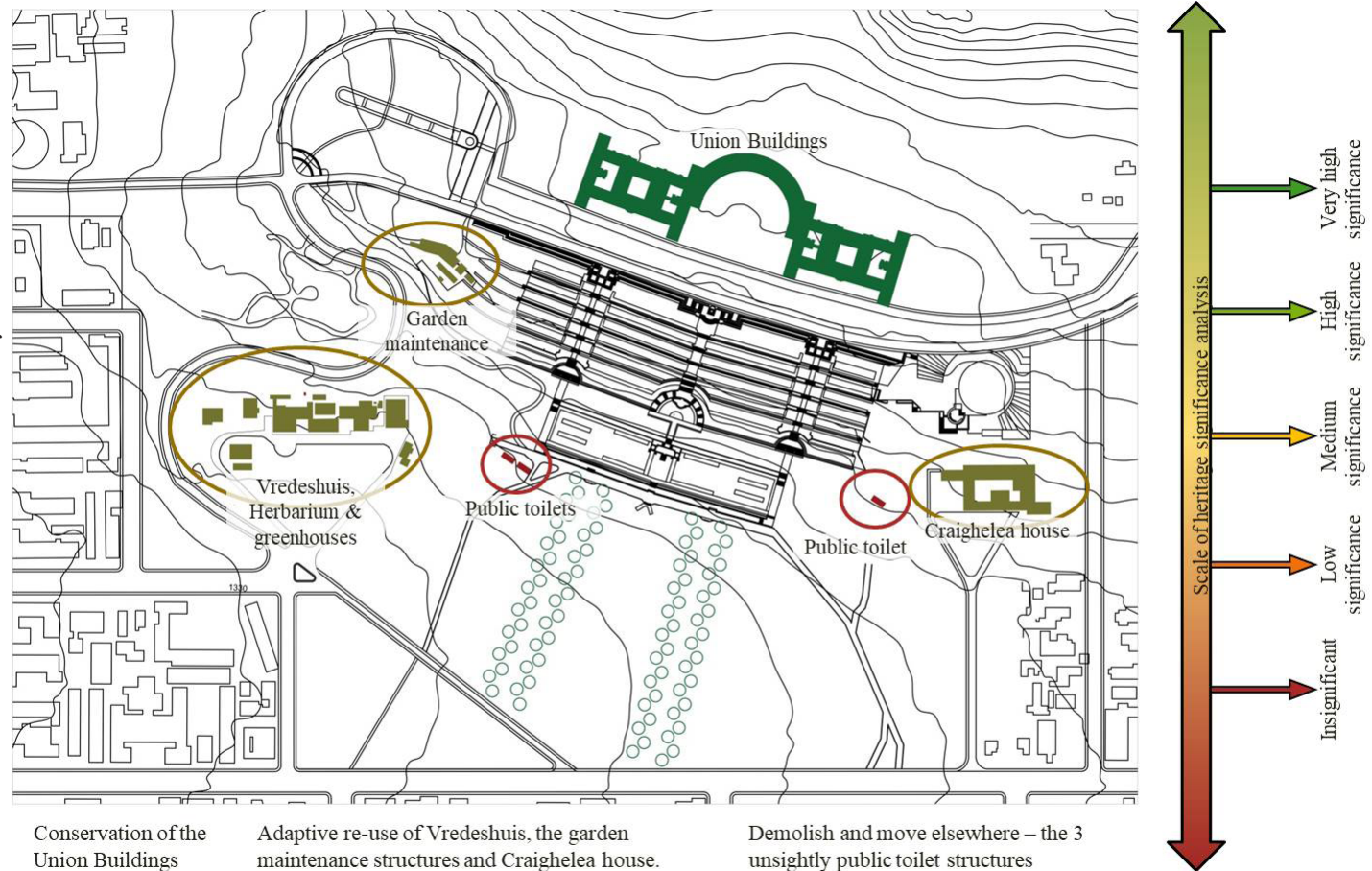


Figure 103. Quantifying the heritage structures' significance (Author 2021)

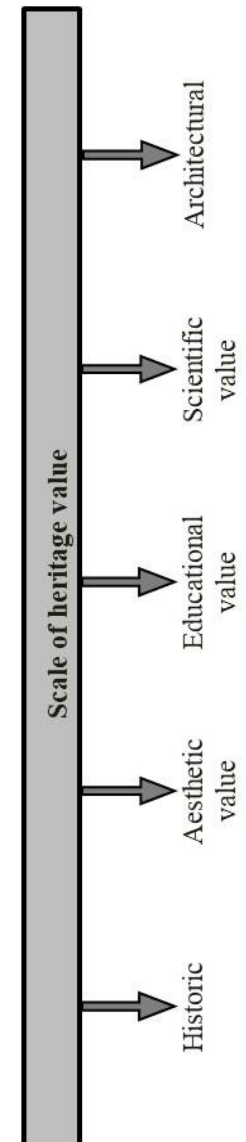
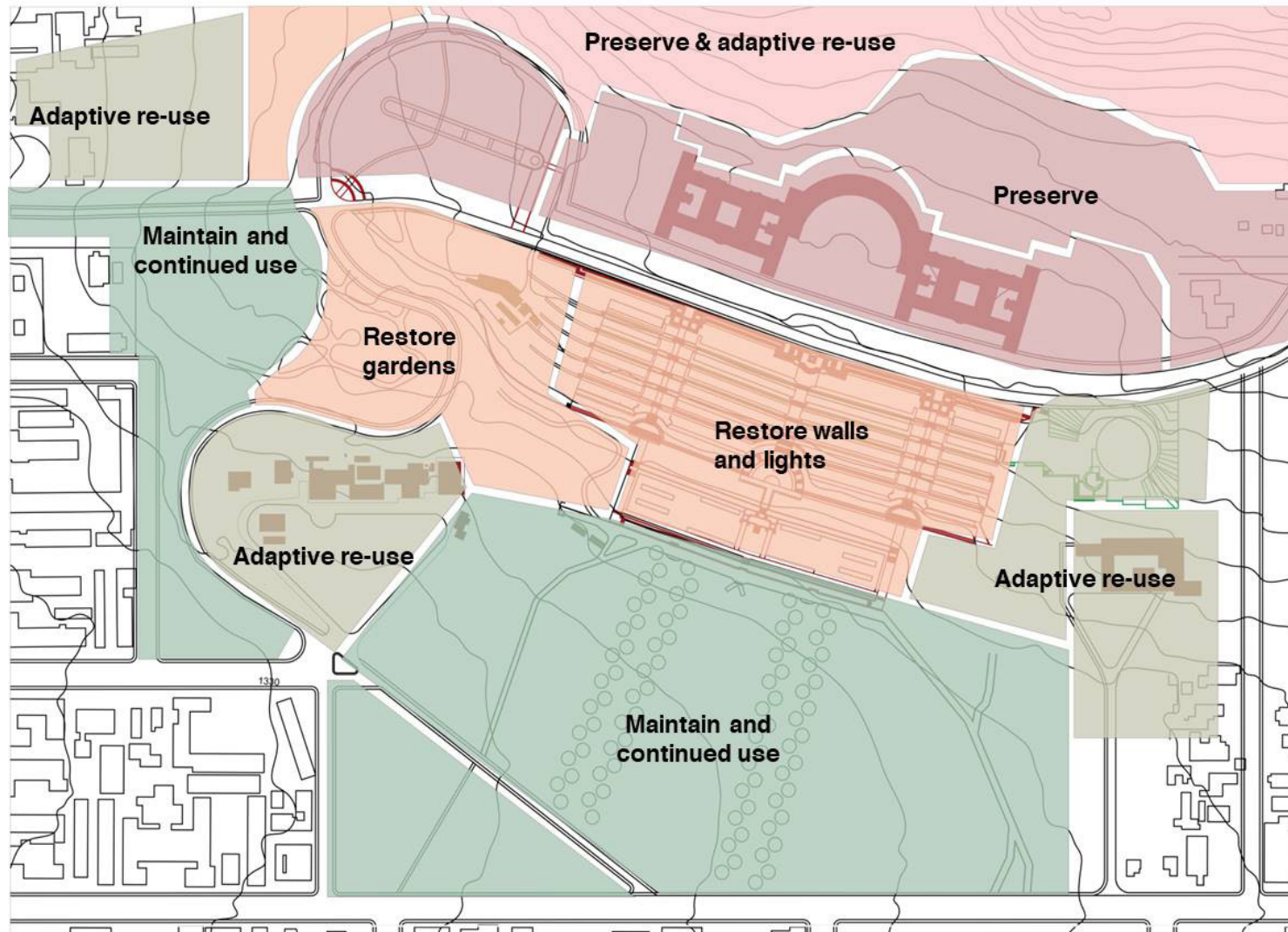


Figure 104. Opposing the existing binary approaches with alternative heritage proposals(Author 2021)

Approaching the counter monument

Although the above-mentioned principles lead the design in terms of legislation and setting legal parameters for the design, this project has yet to express its design informants in terms of architectural theory.

In architecture, the three most applicable approaches to working with heritage sites are conservation, restoration, and adaptive reuse. These theories will be defined below as well as some applicable precedents.

Conservation:

To conserve (conservare) means to keep, to preserve. Thus the basic attitude of preservation comes most purely to expression in conservation: to conserve is the supreme preservation principle. For a historic building, conservation includes all measures that prevent further decay and preserve the historic fabric. For certain categories of monuments, conservation is the first and only measure (Petzet 2004).

Restoration:

The Venice Charter says the aim of restoration is to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic documents (Petzet 2004). Violet le Duc wrote: to restore a building is not to preserve it, to repair or rebuild it, it is to reinstate it in a condition of completeness, that could never have existed at any given time (Petzet 2004).

Adaptive re-use:

Adapting the use of heritage buildings for an alternative program than what it was originally intended for - Bullen & Love 2014

Initial design investigations explored how existing heritage representation in the form of contested monuments and memorials can be transformed into spatial experiences rather than monolithic isolated environments. Exploring changes in the landscape to remove the focus and prominence of the contested heritage structures without removing them from the site.

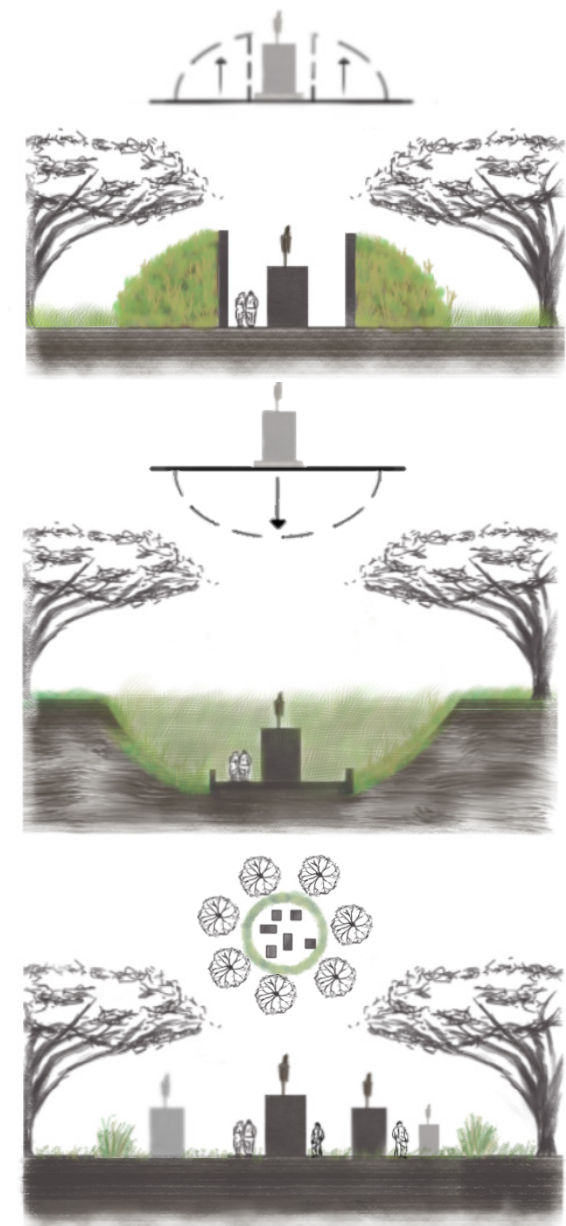


Figure 105. Spatial explorations of with contested monuments (Author 2021)

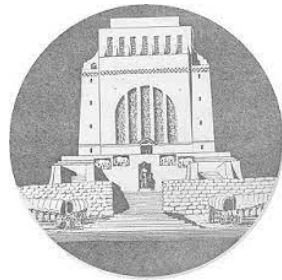
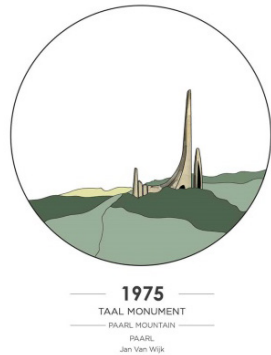
The research, theories, principles, and precedent studies will all be used to develop appropriate design strategies and an appropriate approach to the heritage transformation of the larger context of the Union Buildings site, which includes the gardens, monuments, architecture surrounding historical buildings and Meintjieskop. The analysed theory and site information will be used in order to re-imagine the relationship between the past, present, and future in terms of representing, articulating, and conserving the past, but engaging and educating the visitors of the site and increasing the social-economic value of the site for future generations.

In contrast to the current monumental, passive approach and also because of the very rich narrative of layered heritage and history at the Union Buildings and Meintjieskop -which have been neglected- I, as a designer has chosen to take a non-binary approach in terms of the heritage transformation. This approach categorises the different structures and areas of cultural and natural importance separately (using heritage legislation) and approaches each individually, determining whether it requires restoration, conservation, rehabilitation or can be appropriated. Principles derived from a counter-monumental design is used to contrast the existing manner of representation on site.

In order to create a contemporary design for the Union Buildings, I identified and applied 5 design strategies as a means to unveil the hidden layers of the site.

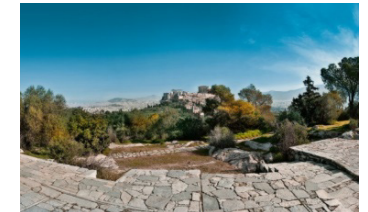
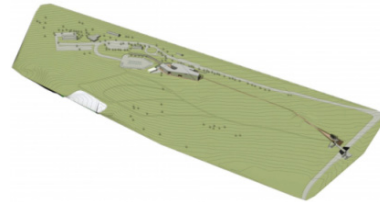
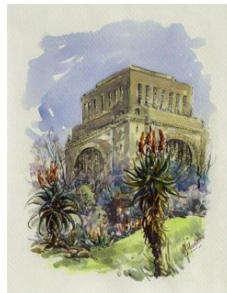
1. A countermonumental approach to the design-application of principles identified in the theory of the counter-monumental design approach and precedent studies, applicable to this theory.
2. Programming the site-re-activating the site, by programming areas to stress certain aspects of the site's history and forgotten narratives or to activate edges for the surrounding sites.
3. Finding a new geometry - studying existing geometries on the site and creating a contemporary geometry that relates to but also contrasts the existing geometries.
4. Unveiling the unseen nature - Topographic and ecological explorations to reveal the unseen natural aspect of the site.
5. Phenomenology and atmospheres - Spatial explorations in the form of collages that interpreted historic narratives, into a sensory, spatial experience.

From Monumentality to counter-monumentality



Monumentality

Counter - Monumentality



1. Afrikaanse Taalmonument – Paarl 1975
2. Voortrekker monument – Pretoria 1949
3. Nelson Mandela Capture site – Narrative history to honour Nelson Mandela - 2014

1. Freedom Park Isivivane – NLA 2004
2. Landscaping of the Acropolis – Athens Dimitri Pikionis , 1954
3. 2146 Stones, Germany –Jochen Gerz Saarbrucken Palace – the seat of parliament.

Figure 106-117. Existing monuments & typologies scale (Author 2021)

The counter monument

A counter monumental approach differs from the monumental approach in terms of addressing the often concealed, forgotten, and painful aspects of history that represent ideologies that were contested later on. It contrasts to the monumental approach that attempts to honor and praise specific historic events, cultures, periods, and people, often monumentalising or idolising them (Stevens & Franck & Fazakerley 2018). These counter monuments are often designed in spaces where they are in contrast to the existing monuments and heritage representation (The Wallrus 2004). Traditional monuments are often placed centrally in a space that emphasises the monument and glorifies the event or person in question, whereas counter monumental designs attempt to be less obvious and blend with its environment, often in the form of art. These anti-monuments are placed along routes that are often used on a site. The movement attempts to engage and surprise the users instead of the traditional approach that demands passive contemplation around the monument (Stevens & Franck & Fazakerley 2018). Furthermore, traditional monuments and memorials are often clear in their message, memorialising those lost in battles such as the Union Buildings' Delville Wood Memorial, Police Memorial, and the Pretoria War Memorial. It honours prominent individuals who acted courageously in war or played important roles in politics such as the statues of the first three prime ministers of South Africa, General Louis Botha, General Jan Smuts, and General Hertzog. As well as President Nelson Mandela who is honoured for fighting for change through his role in politics and striving and fighting for freedom and democracy in South Africa. Prominent examples of counter monumental approaches are 2146 Stones, designed by Jochen Gerz at the Saarbrücken Palace in Germany, at the seat of parliament, as an anti-racism memorial for the holocaust and the 911 Memorial designed by architect Michael Arad and landscape architect Peter Walker that honours the 2983 lives lost during the attacks of 11 September 2001 on the World Trade Centre (Dezeen 2011). These examples explore the abstract representation of loss in the form of spatial experience and atmosphere created through design in the form of a textured route and massive voids.



Figure 118-119. 2146 Stones 1993 by Jochen Gerz (JochenGerz 2021)

Figure 120. 911 Memorial 2011 by PWP landscape architecture (Dezeen 2011)

Precedent studies

In terms of precedent studies, I have identified and studied a number of projects in different categories. First, heritage projects that were restored in some manner and form and secondly projects with political, public, and international importance, and lastly projects that dealt with the articulation of intangible and lost heritage.

International Restoration projects

Jardin de Luxembourg Paris & Battery Park, New York

These projects make use of a memorial route or path. In both of these projects, they chose to honour and respect the number of different statues of political figures on the sites by either placing them in the most prominent position on the site surrounding the central lawn at Jardin de Luxembourg or arranged along a prominent route around the site at Battery Park.

However, most of the statues at the Union Buildings are already placed on the central axis and in the case of General Hertzog has been moved away from the axis. Thus the fact that the statues are contested argues for a less prominent position in the landscape.

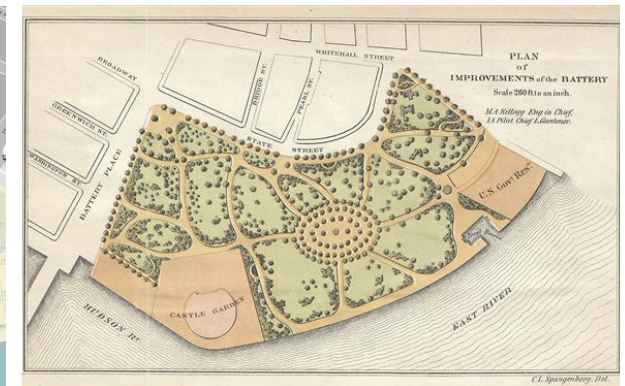
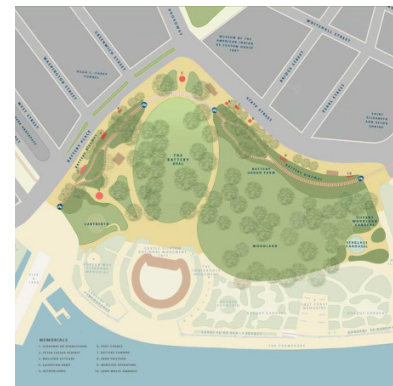
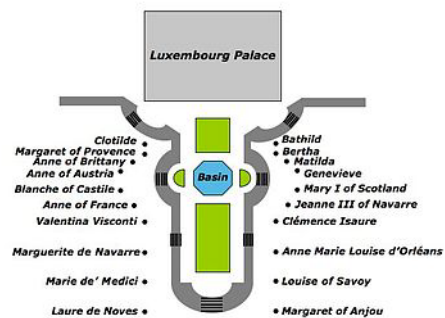


Figure 121-122. Jardin de Luxembourg, Paris restored in 1865 by Gabriel Davioud, under the leadership of Adolphe Alphand (Lane 2016)

Figure 123-124. Battery Park, New York City (1998-2018) by Quennell Rothschild Partners and Starr Whitehouse (landezine 2017)

International public sites with political narratives

Washington Mall & Arlington cemetery (Engaging hollowed ground ASLA student project)

Both of these projects have strong political and war connotations. What I found valuable at the Washington Mall was the idea of the site functioning as an exhibit of a number of different places and narratives on one large site. It is not just an arrangement of monuments to narrate history but offers many different activities from museums to monuments to war memorials to passive recreation in nature and allows for large gatherings and inaugurations on its expansive lawn. With the project Engaging hollowed ground at the Arlington cemetery, I appreciated the balance between respecting the historic axis and creating a contemporary design and also found the use of elevation changes and vertical separation a valuable tool in the articulation of public and sacred space or to make a place more prominent and that it could translate to the possible application at the Union Buildings, of making a contested statue less prominent.

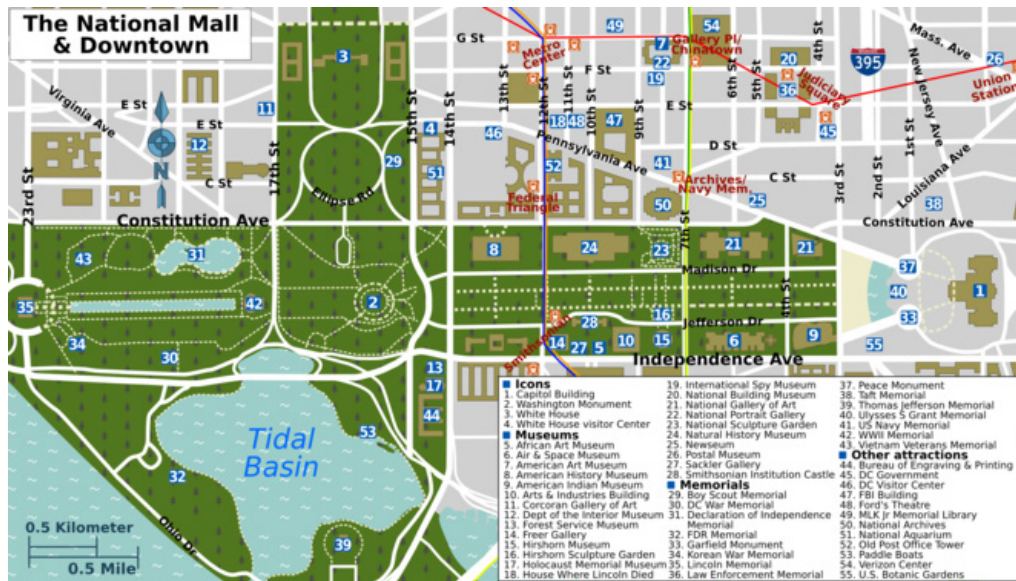


Figure 125. Washington Mall, 1791 by Pierre L'Enfant (Wikipedia 2008)

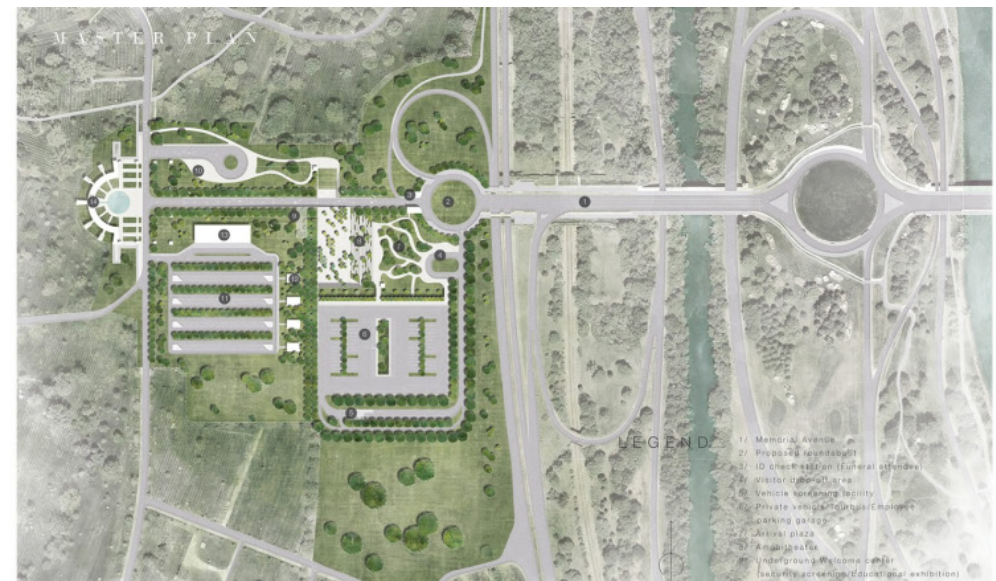


Figure 126. Engaging hollowed ground, 2019 by A. Ton (ASLA 2019)

International projects that dealt with the articulation of intangible and lost heritage

Landscaping of the Acropolis, Athens & 2146 Stones, Germany Saarbrucken Palace – parliament.

I found both of these projects valuable in terms of how they treated heritage and a historic site in terms of the landscaping of the Acropolis, and secondly the loss of the Second World War concentration camps, in the form of routes or paths simply by using a single material and plants in the case of the Acropolis project. By creating a very simple sensory experience and conveying their message through active participation of the users on the site by walking these paths.



Figure 127-128. Landscaping of the Acropolis, Athens, 1954 by Dimitri Pikionis (landezine 2017)



Figure 129-130. 2146 Stones, Germany, 1990-1993 by Jochen Gerz (JochenGerz 2021)

Local projects that dealt with the articulation of intangible and lost heritage as well as political narratives

Freedom Park, Isivivane & the Nelson Mandela capture site memorial

Both of these projects in my opinion count as local examples of counter monuments where their message in the landscape design is conveyed without monolithic monuments, using routes to allow the user to actively participate on the site. Even with the final image of President Nelson Mandela, the abstract nature of the image makes it less of a monument and more of an artwork to end the journey and convey a personal message about his life. Whereas Isivivane almost acts as the end to the journey at Freedom park and as a resting place, in the form of a garden of healing, where the message is conveyed through materiality, water and plants.



Figure 4: A sketch of *Isivivane* showing its relationship to the site's topography
Source: Young, 2011: Slide 30

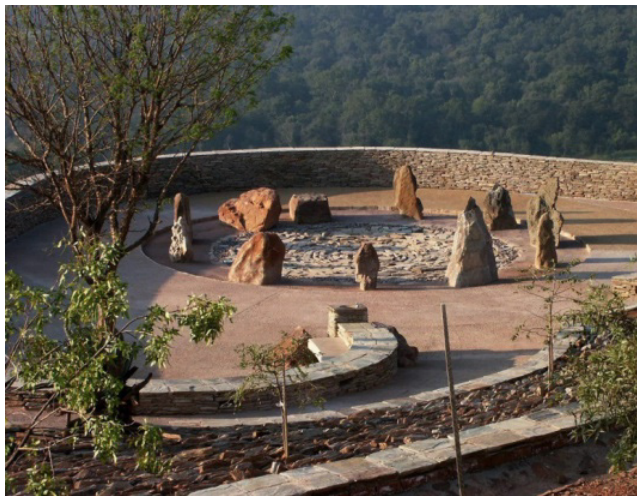
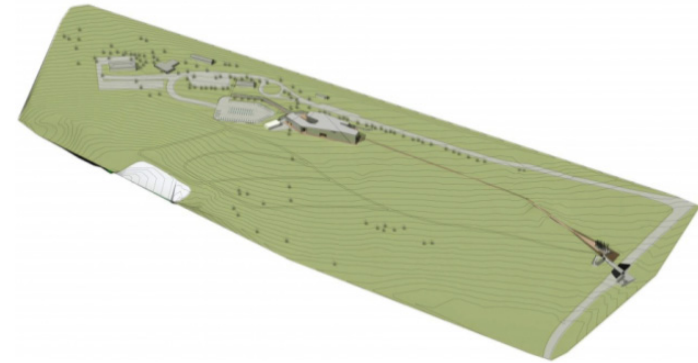


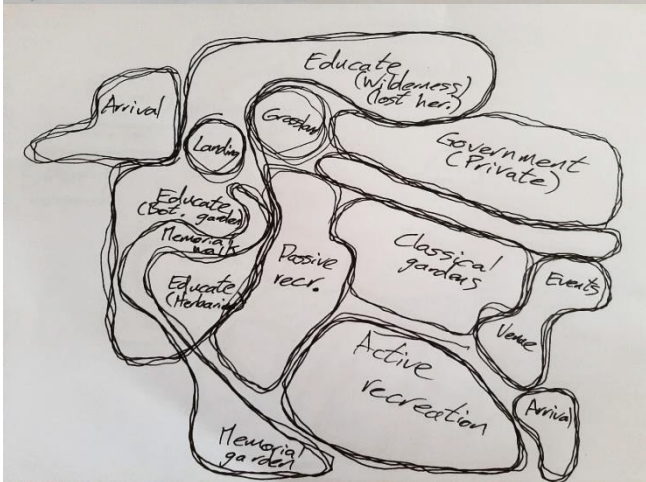
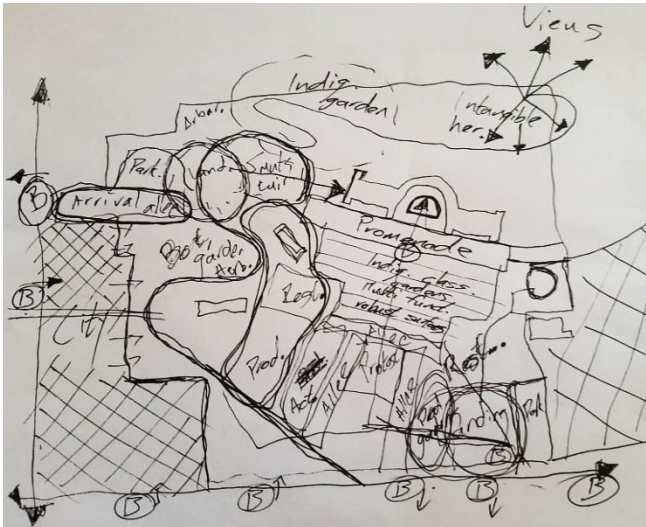
Figure 131-132. Freedom park Isivivane, Pretoria, 2007 by Greeninc & Newla & Mashabane Rose (landezine 2017)



Figure 133-134. Nelson Mandela capture site memorial, Kwa-Zulu Natal, 2014, by Mashabane Rose (landezine 2017)

Programming lost narratives

The current program of the site as a public park was reconsidered to include the lost narratives, where the entire site acts as a memorial park that celebrates the different layers of tangible and intangible heritage of the site while creating multi-functional robust spaces for protest, passive and active recreation. Where these areas of commemoration (both existing and new) will not only be passive spaces with monolithic monuments but actively engage the user and allow for multiple activities to take place.



Focused programming

- Private Union Buildings terrace
- Wilderness rehabilitation
- Meintjieskop lost heritage walkway – kraal & concentration camp remembrance
- Semi-public Union Buildings Amphitheater – once a month
- North-western & south-eastern parking & bus stop
- Arrival & landing plaza
- Smuts grassland garden & Western View of Union Buildings
- Flanagan arboretum didactic garden
- Vredhuis Restaurant & herbarium
- Tea garden at current maintenance facilities (to be moved)
- Women's Memorial route
- Pinus Allees along Southern lawn
- Protest ground
- Sunken statue court
- Active recreation play areas (sport)
- Public park and indigenous meadow gardens
- Multi-functional semi-indigenous terrace gardens

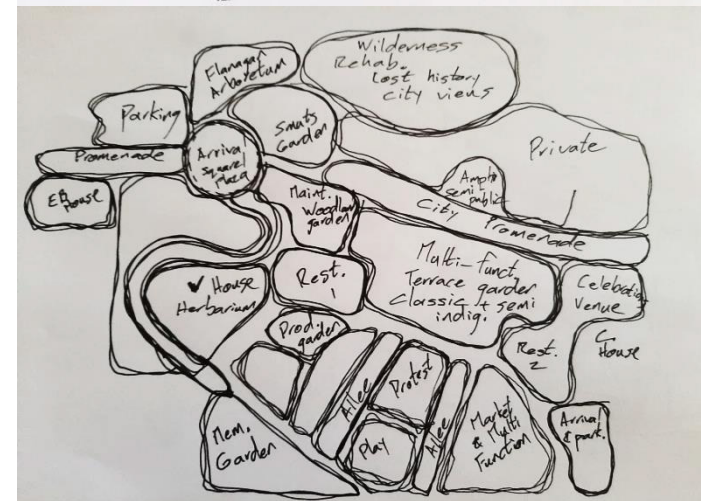
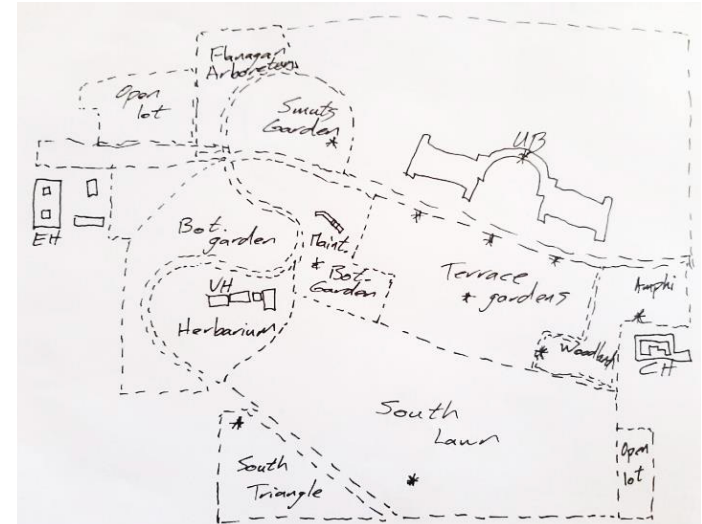


Figure 135-138. Program explorations and development (Author 2021)

Program and movement

Two vacant lots that form part of the site or sit directly adjacent to its boundary, was identified as new proposed landing and parking places for the project, rather than valuable space on the site. These two landing places were connected to the different existing areas of tangible heritage and newly identified areas of intangible heritage using “memorylines” which created a new diagonal line of movement across the site in contrast with the existing north-south axis.

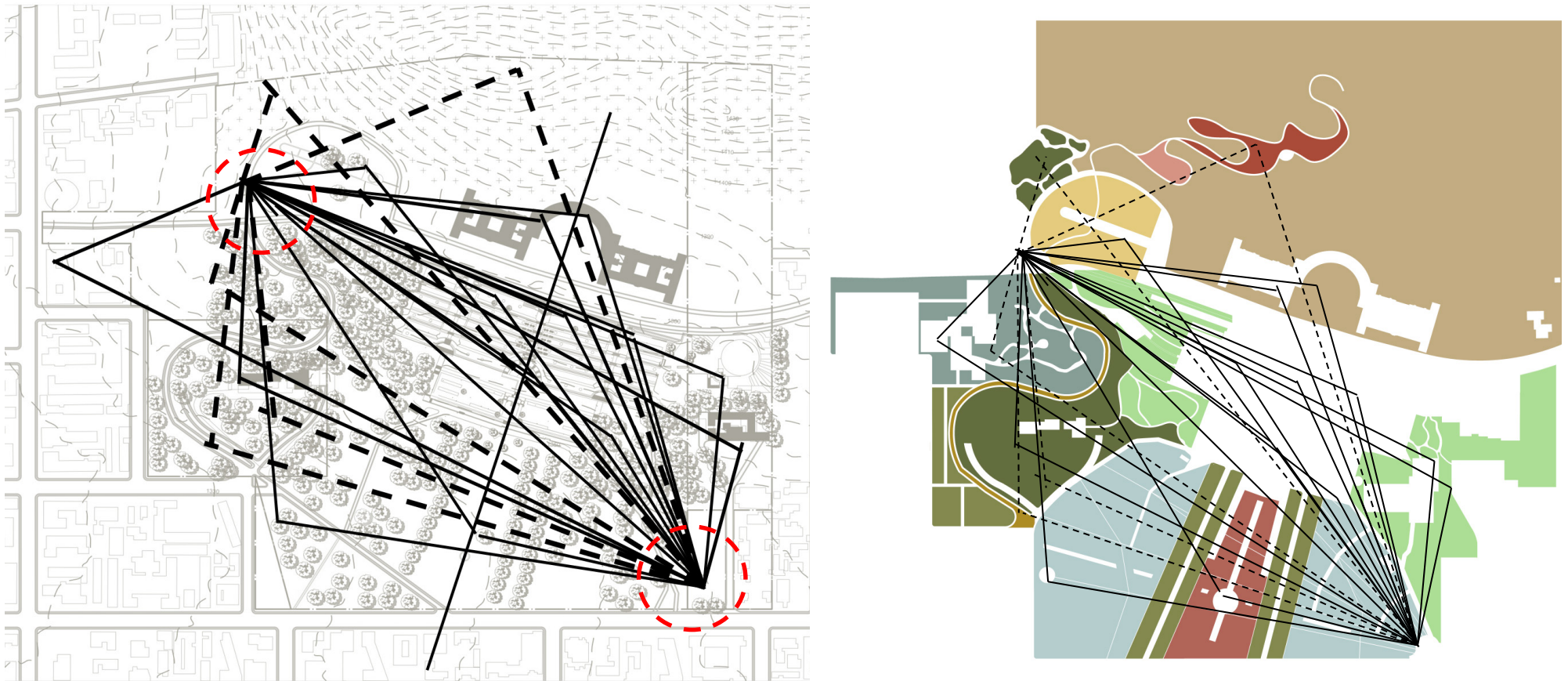


Figure 139-140. Concept development (Author 2021)

Finding a new geometry

The initial approach to design explorations in order to derive a design language looked at the existing site and how geometry, tectonics and typologies can be explored to derive a design language. The following explorations looked at geometry, extending historic and existing geometries as a means to create a unified design language on the site. Alternative geometries or less conspicuous ones were also explored such as the curvilinear and circular geometries on the site, to juxtapose the original perpendicular and rectilinear geometry. In the end, a combination was used to find a new geometry that still somewhat relates to the old. The hidden geometry of the existing circles in the landscape, and movement of paths in the veld and on the koppie played an important role in the new design.

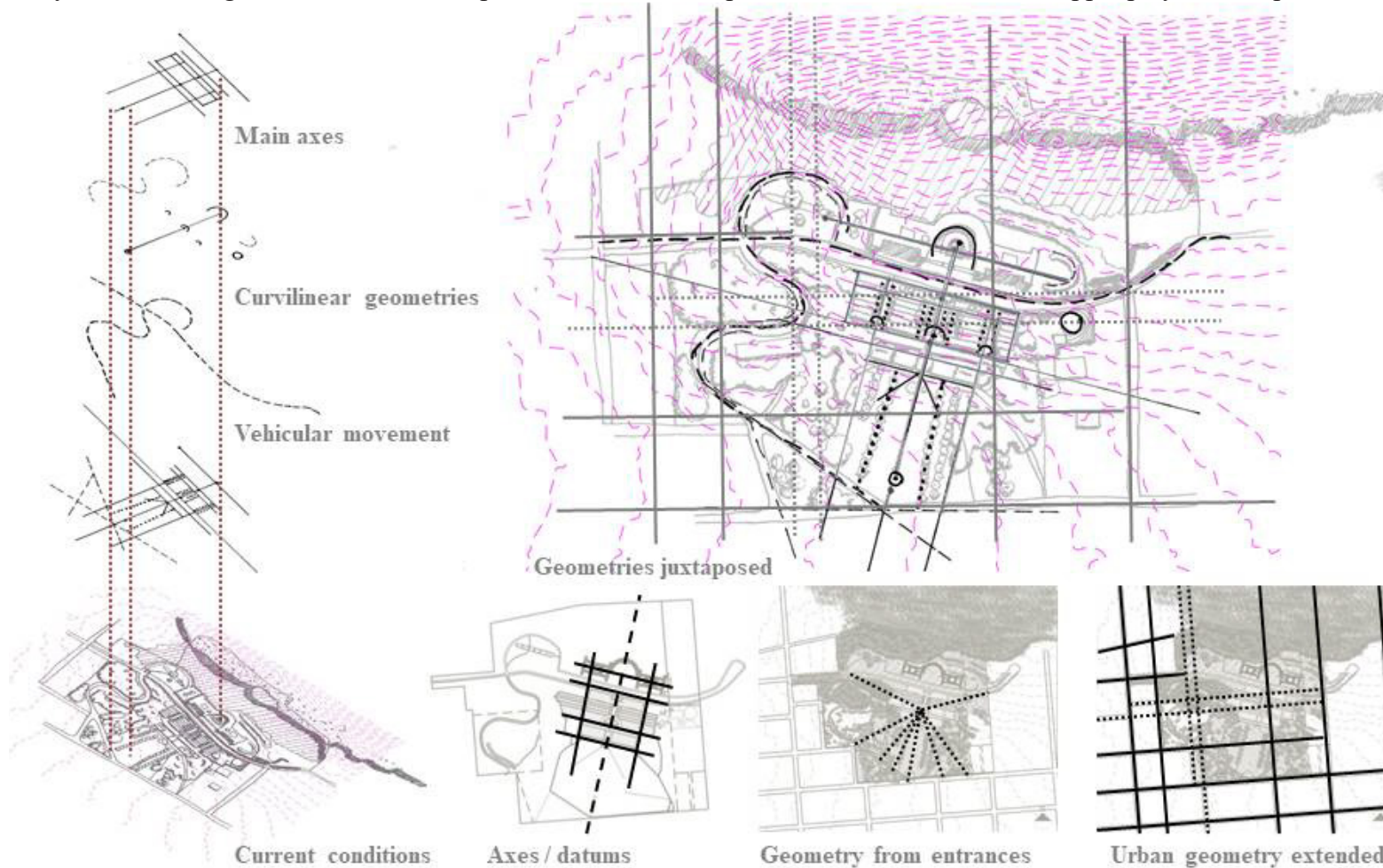


Figure 141. Geometric explorations (Author 2021)

Repeating the rectilinear geometries of the terraces in the landscape

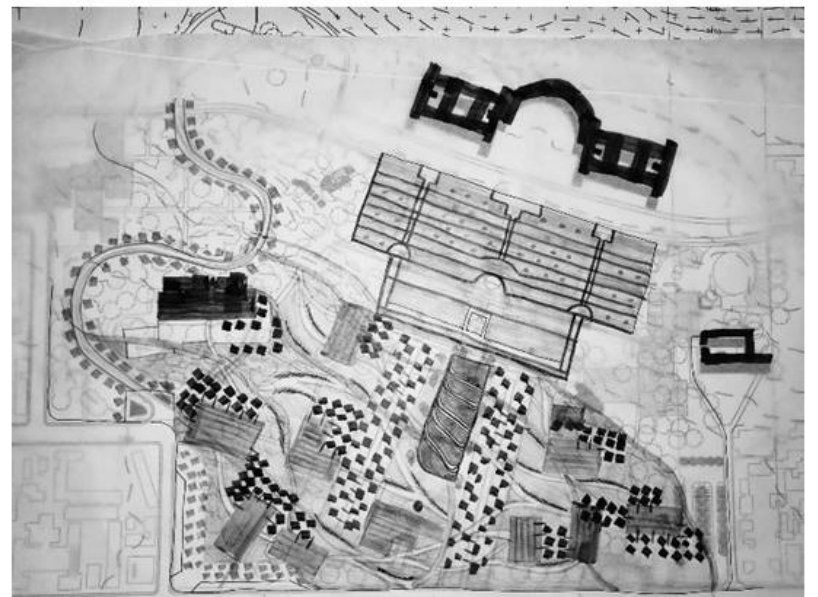
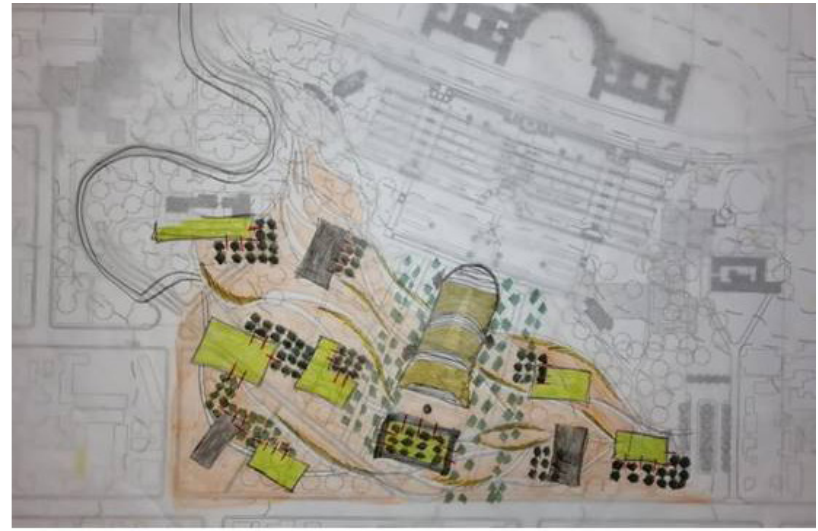
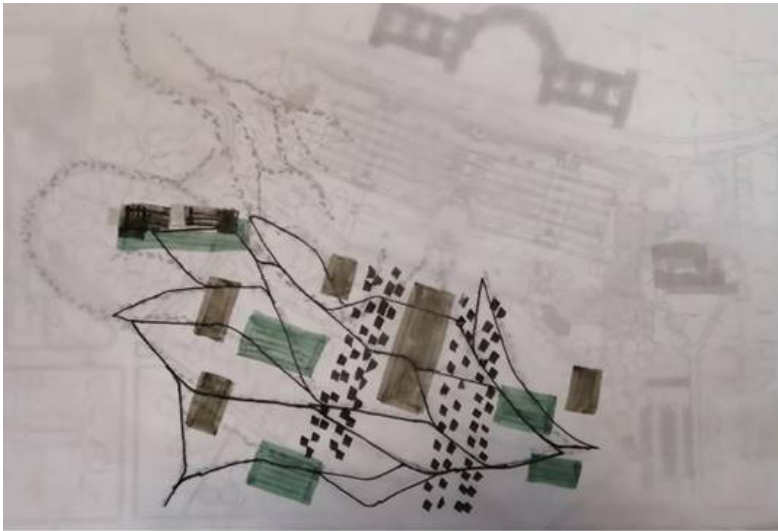


Figure 142-145. Geometric explorations (Author 2021)

Extending the less conspicuous geometries into the landscape



Figure 146. Geometric explorations (Author 2021)

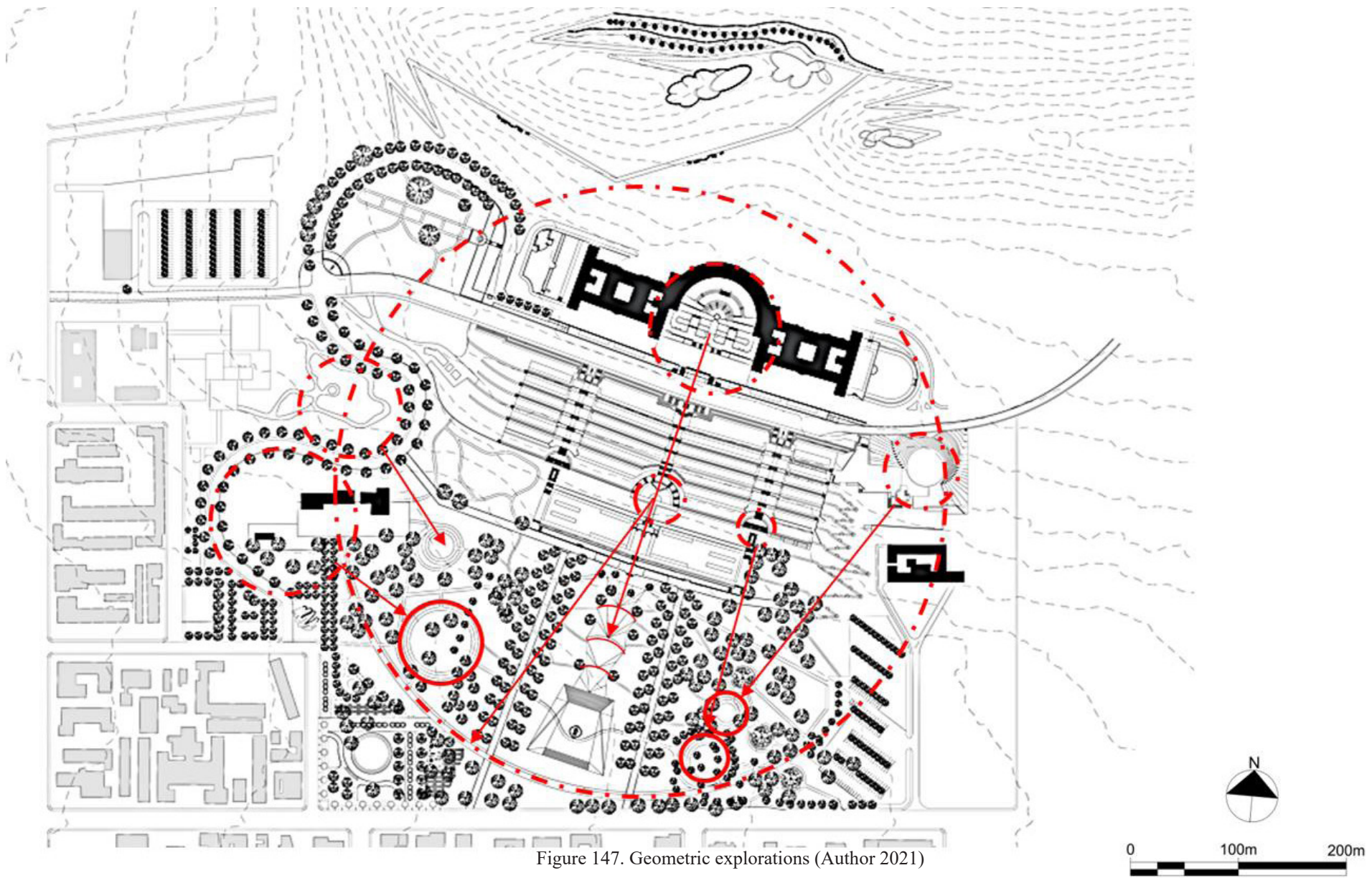


Figure 147. Geometric explorations (Author 2021)

Unveiling the unseen nature

The following explorations looked at the unseen nature of the site in the form of topography and drainage patterns. Exploring the water flow patterns from Meintjieskop and how the landscape can be moulded using mounds to direct flow through the site, but these explorations delivered a fragmented landscape that did not consider the heritage. The best outcomes from each series of previous explorations were taken and iterated using the idea of folding the landscape to obscure the existing heritage structures that are contested and to maintain a sense of the original design's symmetry and axis. Although these explorations looked at heritage, the outcomes seemed superficial and did not consider current and future use of the site as a public park. However, the drainage patterns played a role on some of the paths in the final design and the idea of topographic manipulation was iterated in berms in the final design.

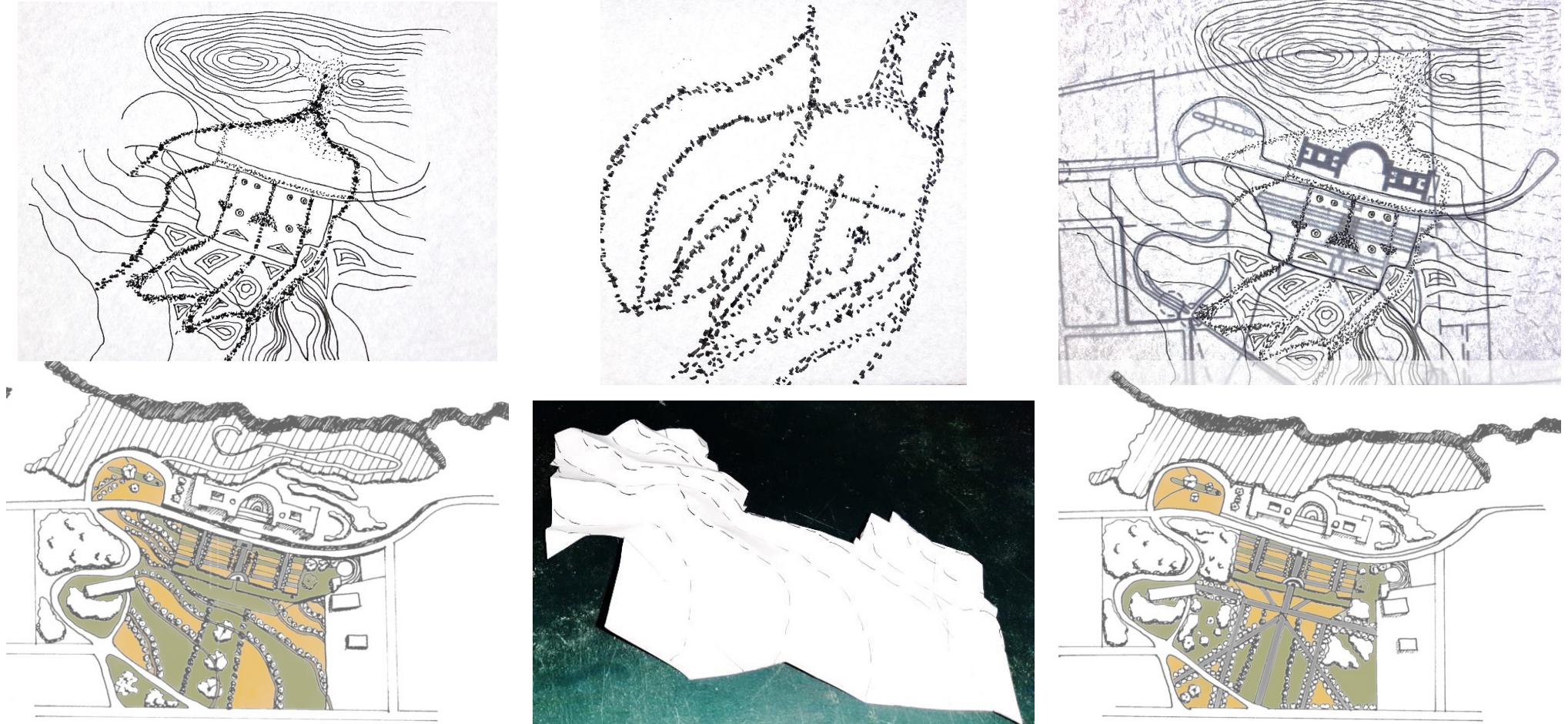


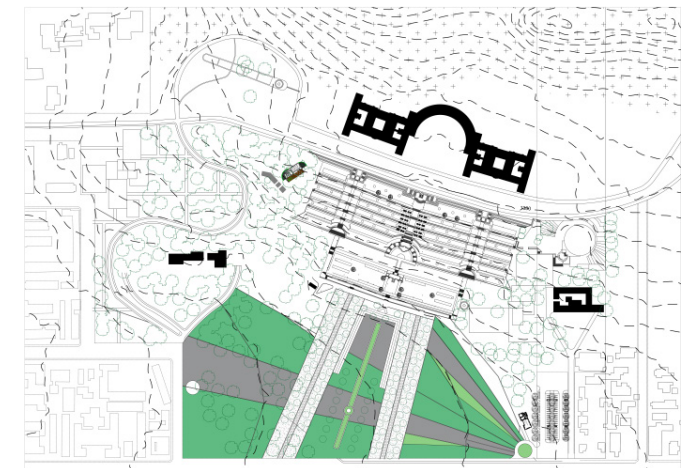
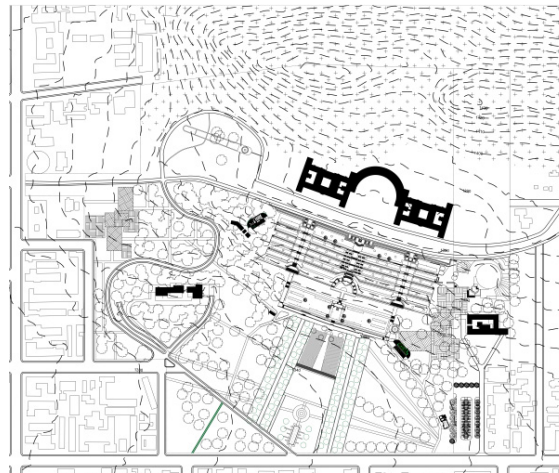
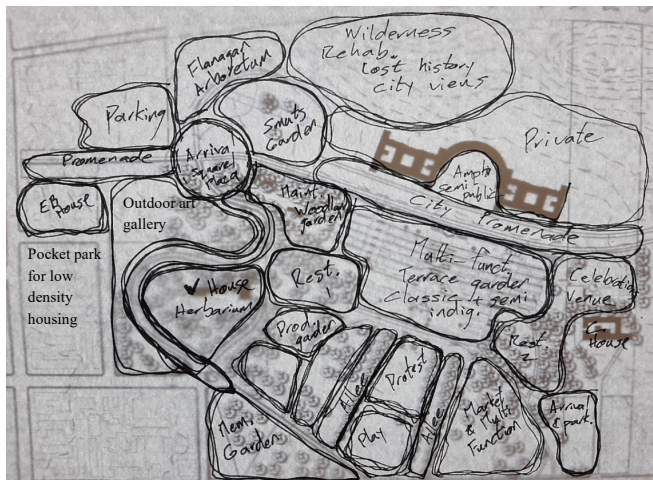
Figure 148-153. Design and topographic exploration (Author 2021)

Alternative topographic explorations



Figure 154-159. Topographic exploration (Author 2021)

Design curation & critique



Design development - The historic ceremonial / protest route acts as memorial journey connecting points of heritage importance. Programmes were further developed to accommodate the existing uses of the site, surrounding environment and the level of heritage protection necessary. The memory lines were initially used as the main form giver, but the lines were imagined only as pathways through the site and not to inform the form of topographic manipulation of the design. The lines also divided the Southern lawn into three portions acting as a passive landing space, active recreation area and protest ground. Next, the memory lines were combined with the contours of the site to manipulate the topography by “folding” the landscape and creating terraces that respect the existing design language of the gardens. These lines were then used to determine the placement of the terraces for the south-western portion of the design and sub-division for soft and hard landscaping. Thirdly, the memory lines were used in combination with the proposed programmes and heritage areas to create newly allocated areas for the programmes and to define the plazas, terraces, gardens and new movement routes. Although the memory lines create a new diagonal axis across the southern portion that acts as the main contrasting element against the existing north-south axis, the central lawn mostly retains its form and spatial quality. The memory lines determine the division of soft and hard landscaping in the central lawn, but it is not changed spatially with terraces in order to retain its identity as protest ground.

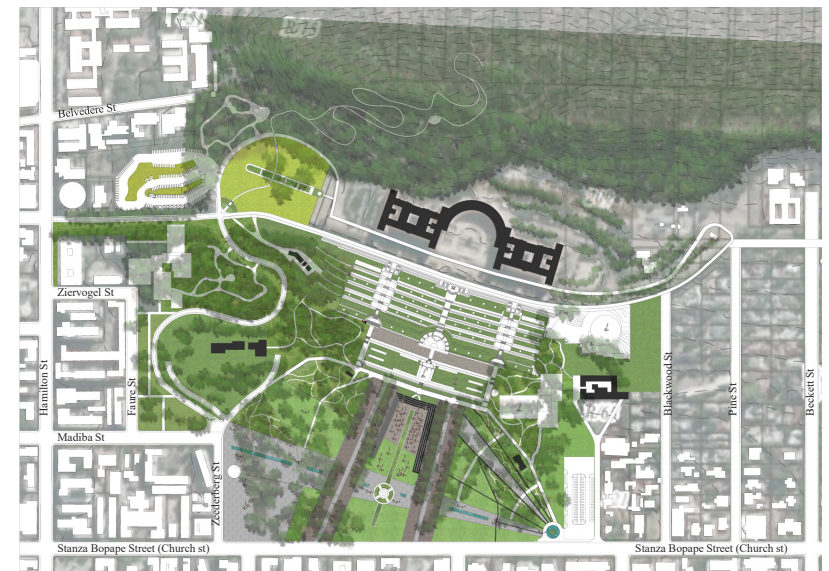


Figure 160-163. Design iterations (Author 2021)

Masterplan development

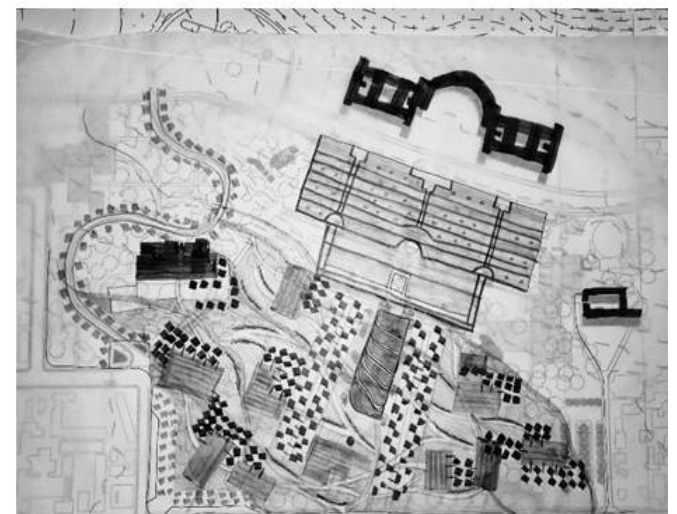
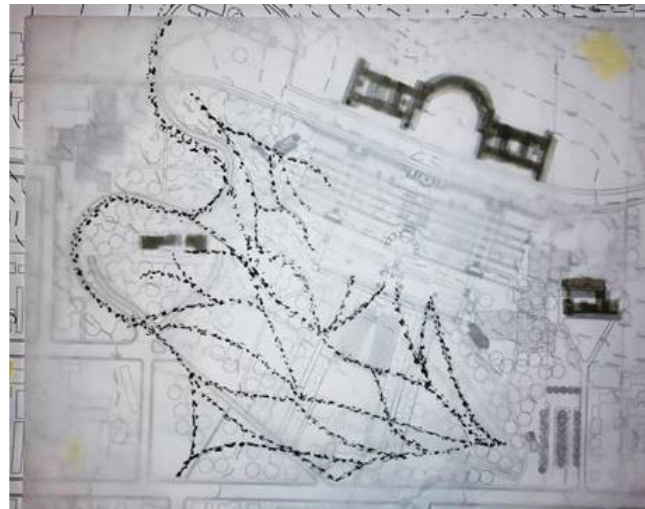
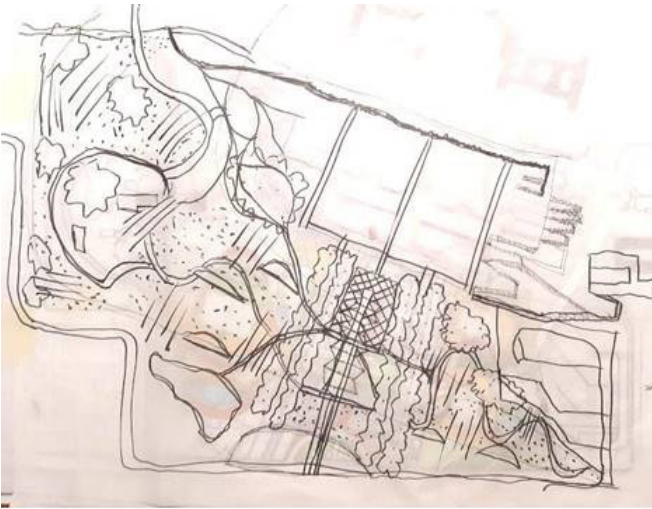


Figure 164-169. Masterplan exploration (Author 2021)

Masterplan development

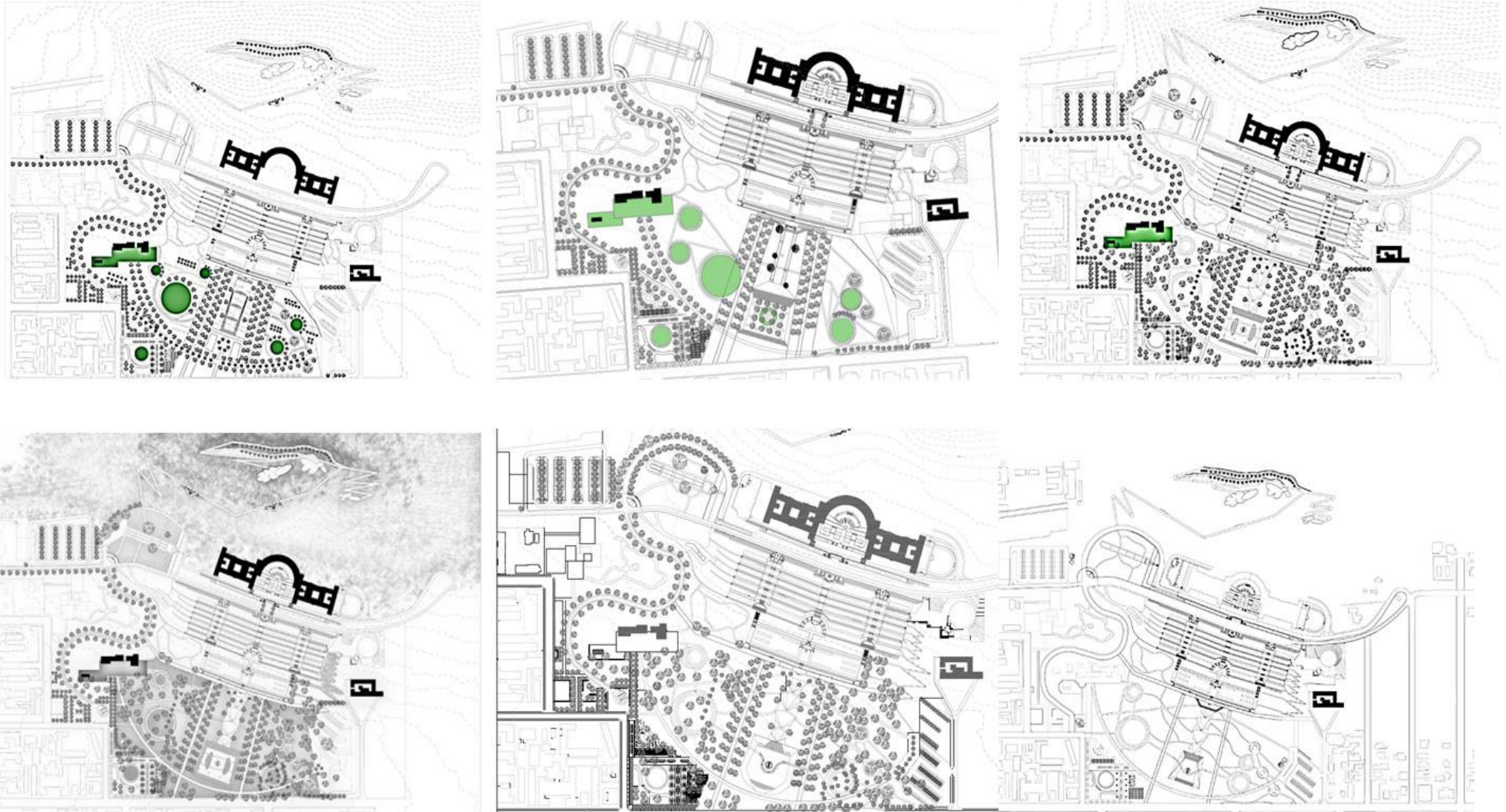


Figure 170-175. Masterplan exploration (Author 2021)

Model explorations - revealing circular geometries

These explorations returned to the idea of linking heritage structures, along the new proposed diagonal axis, using circular geometry that contrasts with the symmetrical design on the site and weaving together nature and culture within the design. Here the circles will reduce the large areas of unsustainable lawn on the site by creating designated areas of well maintained manicured lawn spaces, designed and graded for active recreation surrounded by naturalistic meadow and grassland gardens to increase the ecological value of the site and articulate the narrative of the indigenous grasslands that once occurred in this region.

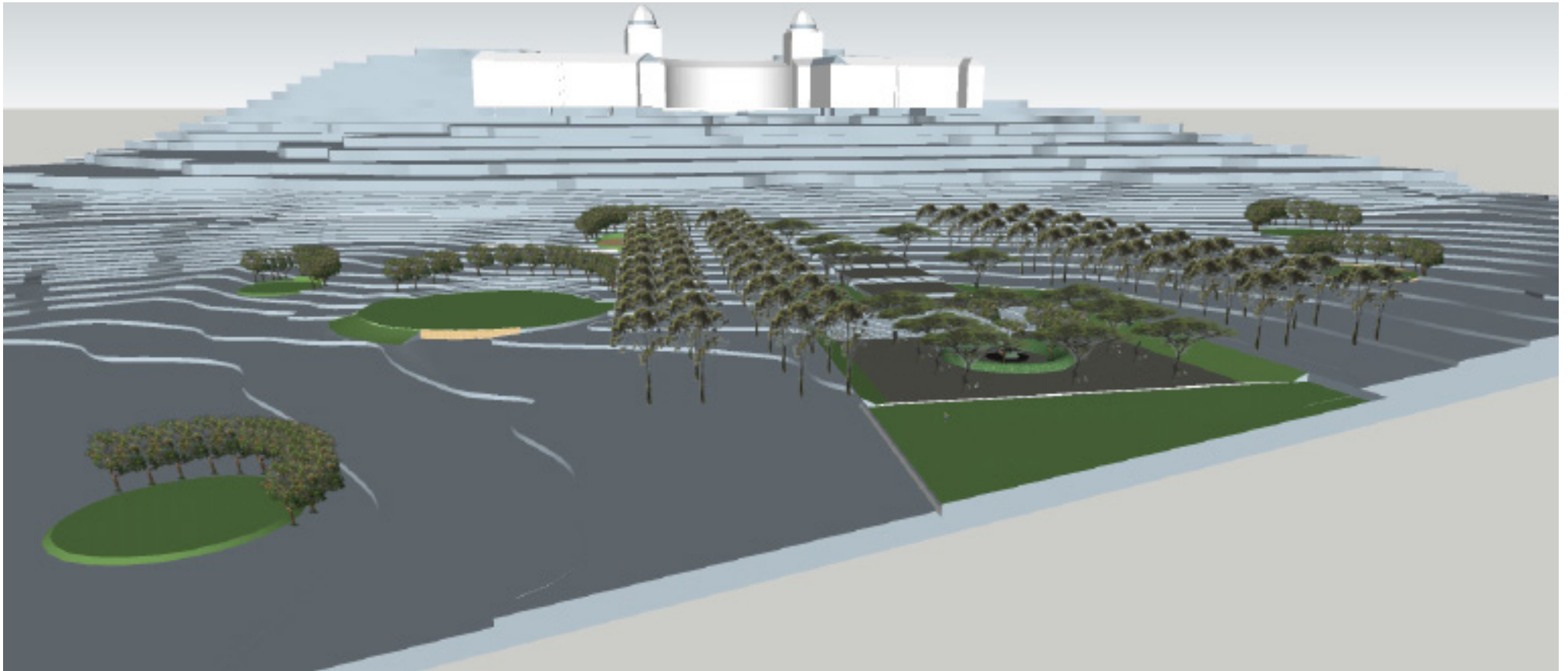


Figure 176. Early model exploration (Author 2021)

Design curation & critique

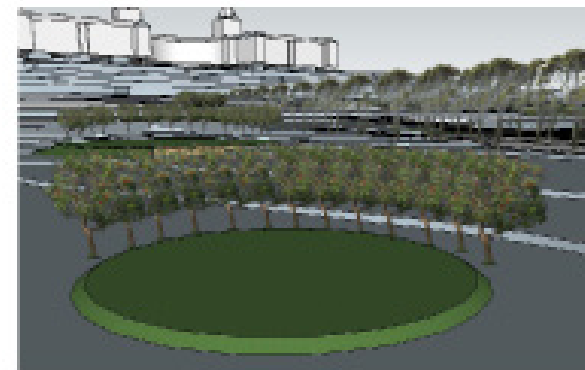
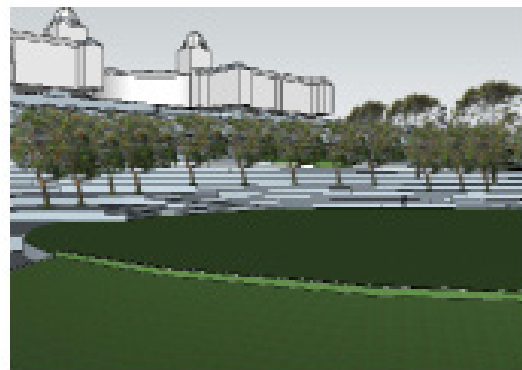
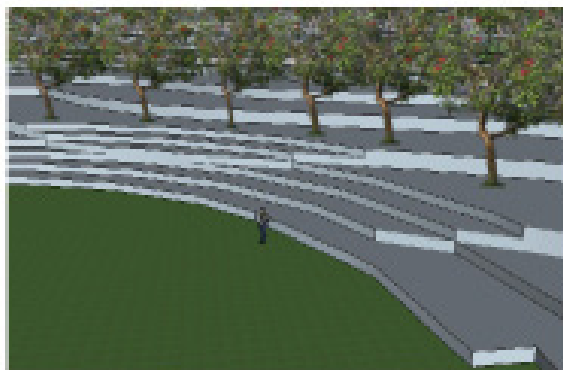
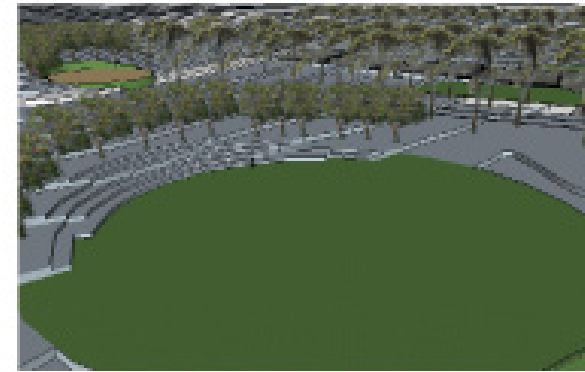
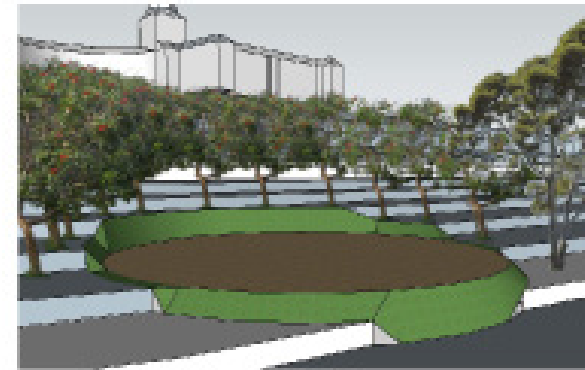
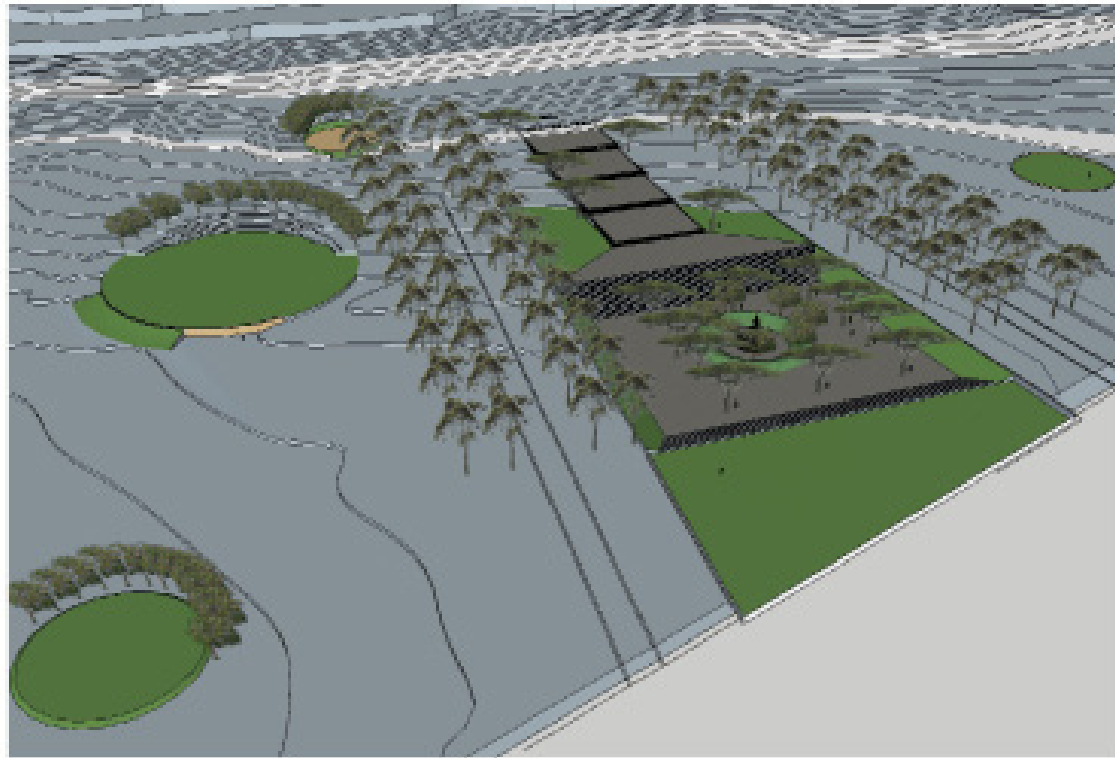


Figure 177-182. Early model exploration (Author 2021)

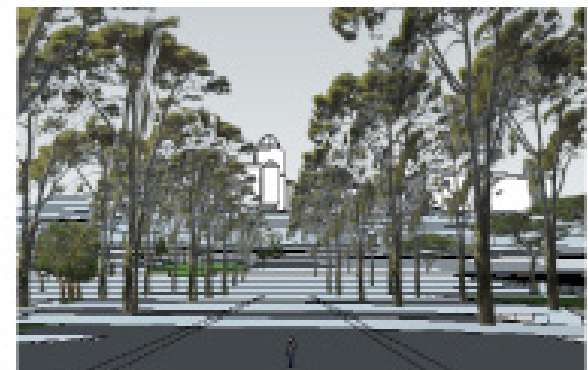
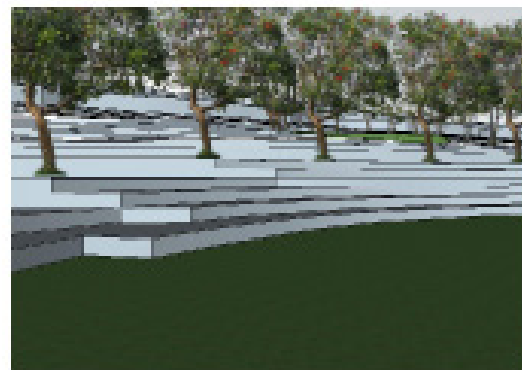
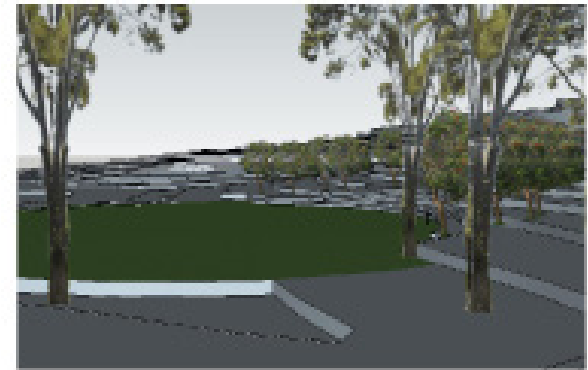
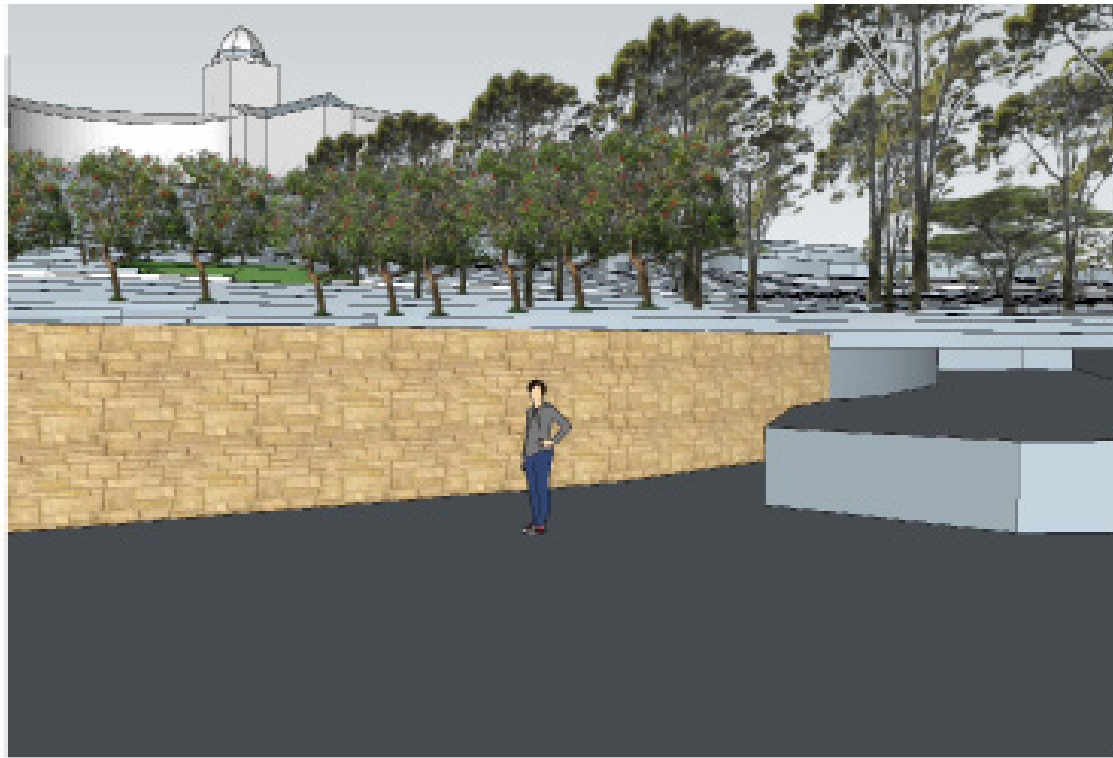


Figure 183-188. Early spatial exploration (Author 2021)

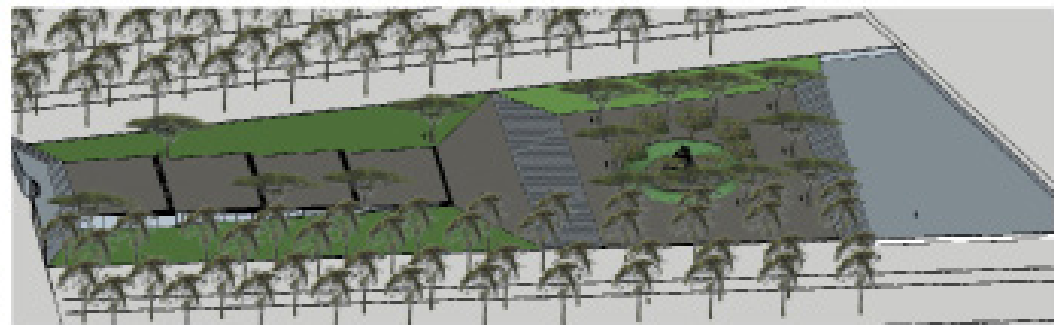
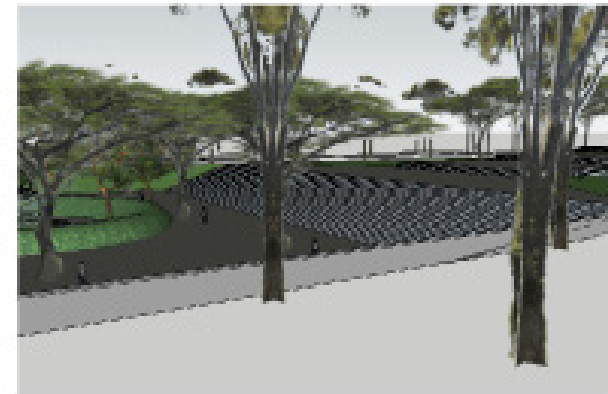
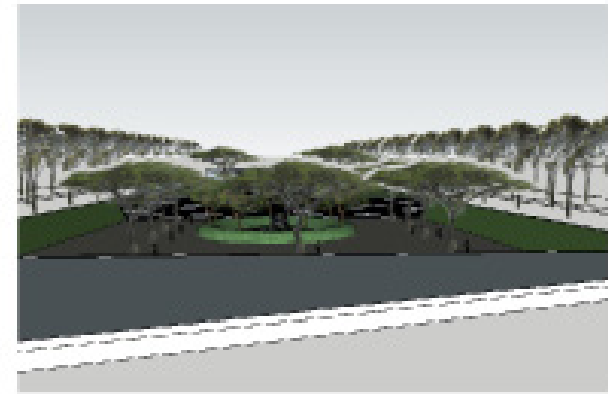
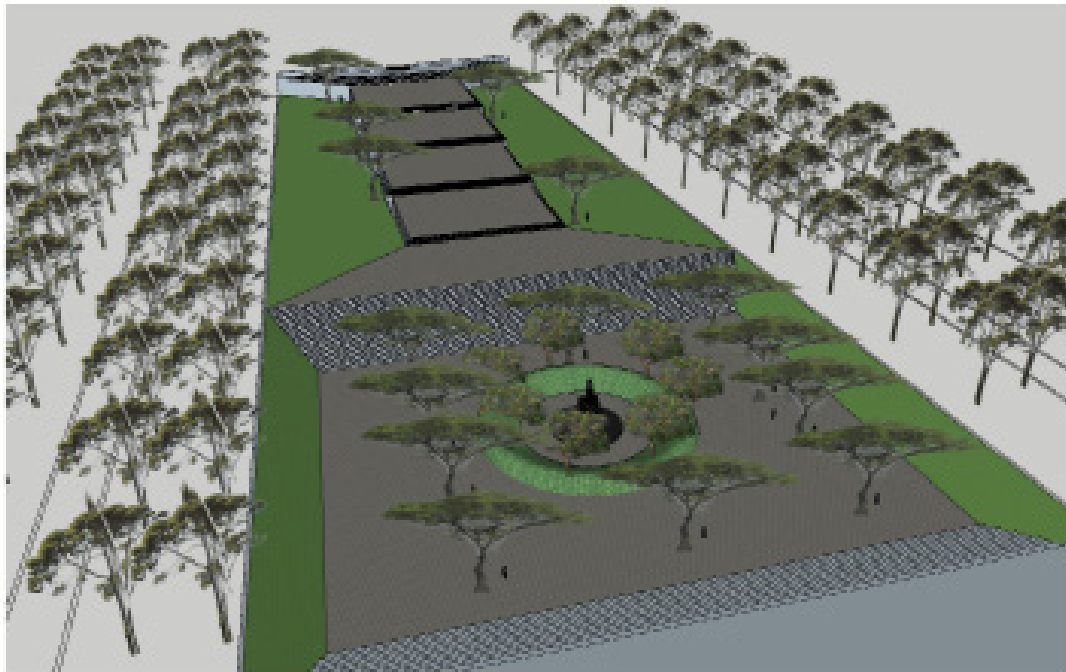


Figure 189-193. Early spatial exploration in sketchup (Author 2021)

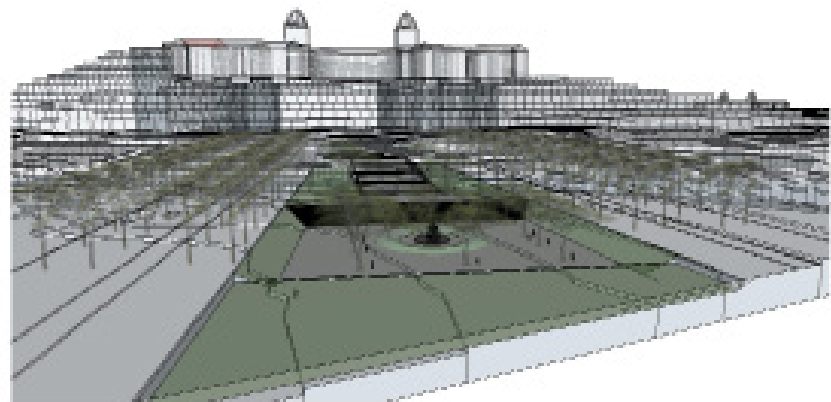
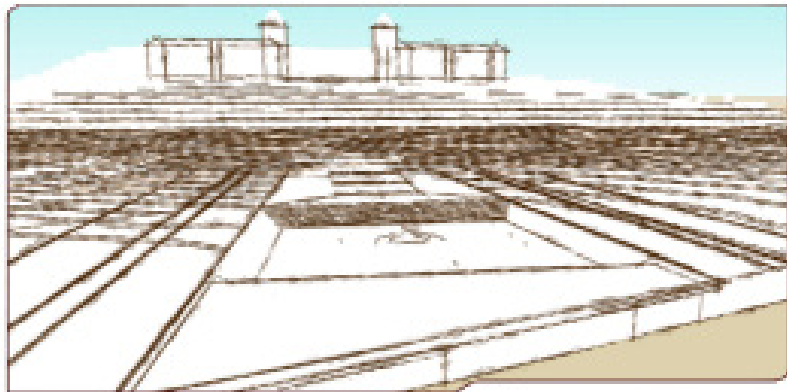
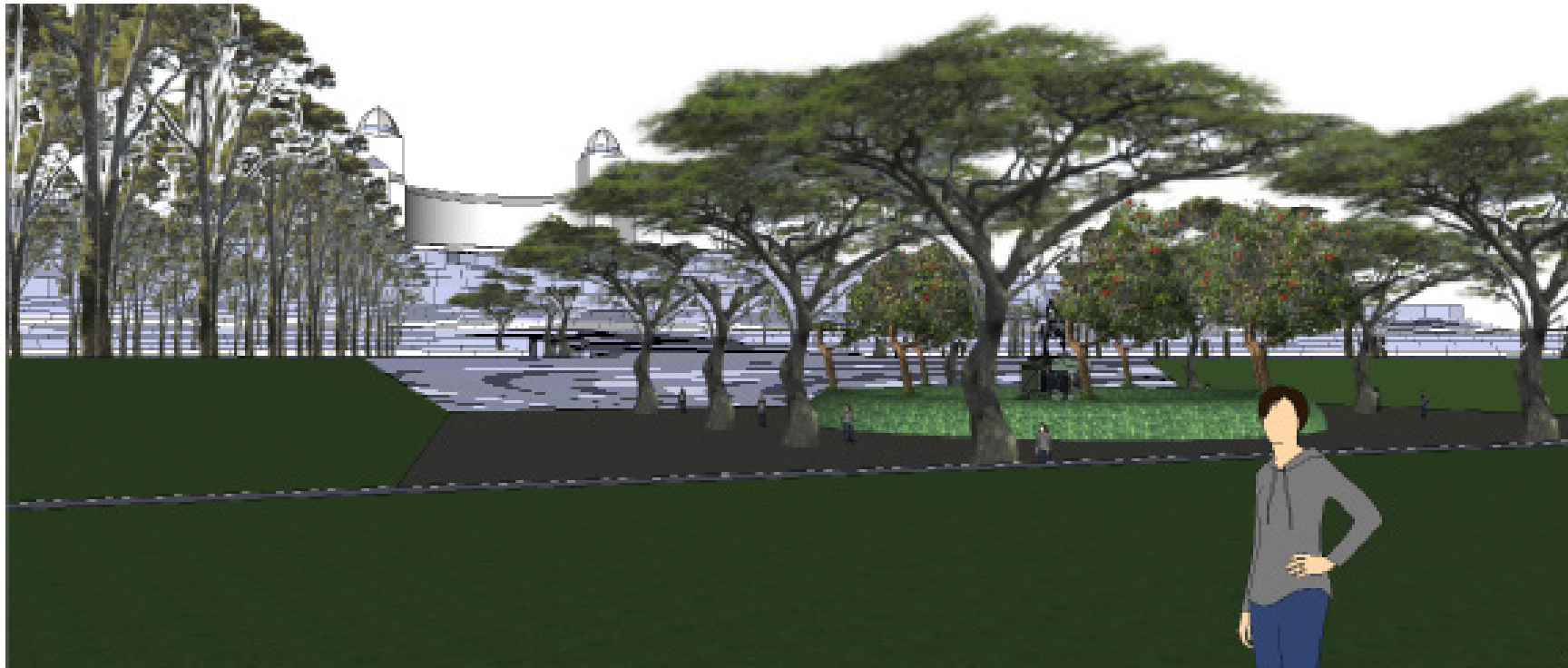


Figure 194-196. Early spatial exploration (Author 2021)

Phenomenology

Principles from phenomenology theory will be used to design the forgotten and lost narrative spaces. This study will focus on the representation of the 1902 concentration camp, the 1827-1832 kraal, and the women's protest route to commemorate the different women's protests that took place in 1915, 1940, and 1956 and also the most recent one on 25 September 2021.

Phenomenology is the study of occurrences or events as experienced by humans (their lived experience of phenomena) and their interpretation thereof to understand the phenomena's ontological significance (Leach 2005:80). In the architectural design discipline, the most applicable branch of phenomenology is hermeneutics that forms part of the Heideggerian school of thought and is believed to be an effective design method in architecture and place-making (Jordaan 2015).

The theory and its principles derived from Heidegger have been successfully applied by world-renowned architect Peter Zumthor in his designs and specifically his Bruder Klaus Field chapel for this reason it will be applied to the design of the atmospheric experience of these spaces.

Peter Zumthor (2006:19) identifies 9 factors to create atmosphere in a designed space, each discussed in a chapter in his book (See fig. 188). These factors were translated into landscape terms for the project: material composition of the site, thresholds into the spaces, movement through spaces, micro-climates, lighting of the place, defined space, scale and intimacy, sound, landscape elements.

<p>“Material Compatibility” (Sensitive compositions of different materials)</p>	<p>“The Body of Architecture” (Material presence - defining space)</p>
<p>“Tension between interior and exterior” (Transitions and crossings defining the sense of place)</p>	<p>“Levels of intimacy” (Bodily relations to building scale)</p>
<p>“Between Composure and seduction” (Involving movement through visual and virtual pathways)</p>	<p>“The Sound of Space” (Sounds and their associated memories)</p>
<p>“The temperature of space” (Physical and psychological ways of tempering architecture)</p>	<p>“Surrounding objects” (Personalize spaces through objects)</p>
<p>“The Light on things” (Light and shadows defining the surfaces)</p>	

Figure 197. 9 factors of atmosphere
(Zumthor 2006)

Representing and articulating these lost narratives in defined spaces allows them to manifest in an anti-monumental manner instead of creating the typical “monument, sculpture or memorial” to commemorate these events or phenomena such as is being done on-site by the women’s memorial.

The lack of physical manifestation of a direct symbol to represent these phenomena stresses the need and importance of sensory experience and atmosphere within these spaces. These spaces and their designed experience are purely defined by their physical matter such as planting design and materials that lend form to the space. Possible materials and plants are investigated to represent and shape these spaces and create specific atmospheres unique to these narratives.

Plants are used to enhance the atmosphere and experience of the newly designed spaces that articulate the lost and forgotten narratives of the site’s history in specific areas on site. In combination with materials, they are used to express the boundary and threshold of these spaces and to clearly define these spaces and their represented narratives as part of and separate spaces within the larger heritage site. The structure of the edge planting design around these spaces are used to separate these spaces from the rest of the site and to partially enclose them whilst the materials of hard landscaping, landscaping elements, seating walls, and plants are used to define the atmosphere of these spaces.



Figure 198-199. Protest ground and women’s memorial spatial exploration collages
(Author 2021)

Phenomenology and by extension nature of the place is discussed and used by Jordaan (2015) to develop a design framework for architectural placemaking. This framework developed by Jordaan(2015) is based on the phenomenological ideas and principles of Heidegger, Husserl, and Merleau-Ponty. Within these principles and framework placemaking is based on:

- The physical environment its materials, technology, and intentions for their use,
- User interactions with these environments i.e. through ritual and activities, and lastly,
- A user’s mental perception of a space through the senses, imagination, and memory.

To design the meaningful spaces at the Union Buildings that express and represent the lost and forgotten historic places and events, the important factors to investigate was thus, what materials would define the space, and how users will perceive and interact with the materials and spaces. Jordaan (2015) stresses the fact that these themes should be investigated both individually and in combination with one another.



Figure 200-201. Kraal and concentration camp spatial exploration collages (Author 2021)

Design and program

The chosen design consisted of a contrasted diagonal north-west movement across the site to reveal to the user a series of lost or forgotten narratives of the wild and natural vegetation of the koppie and region, the narrative of protest, the narrative of the lost botanical garden and Flanagan arboretum, of the women's protest route, Smut's love for grasses and the lost narratives of the kraal and concentration camp that was once situated on the koppie. Where nature or gardens are framed in the heritage landscape by the artificial landscape in the form of terraces and architecture, on the Southern lawn and the new proposal, these artificial landscapes or lawn and hard landscaping becomes articulated and framed by natural planting, defining these spaces for active recreation.

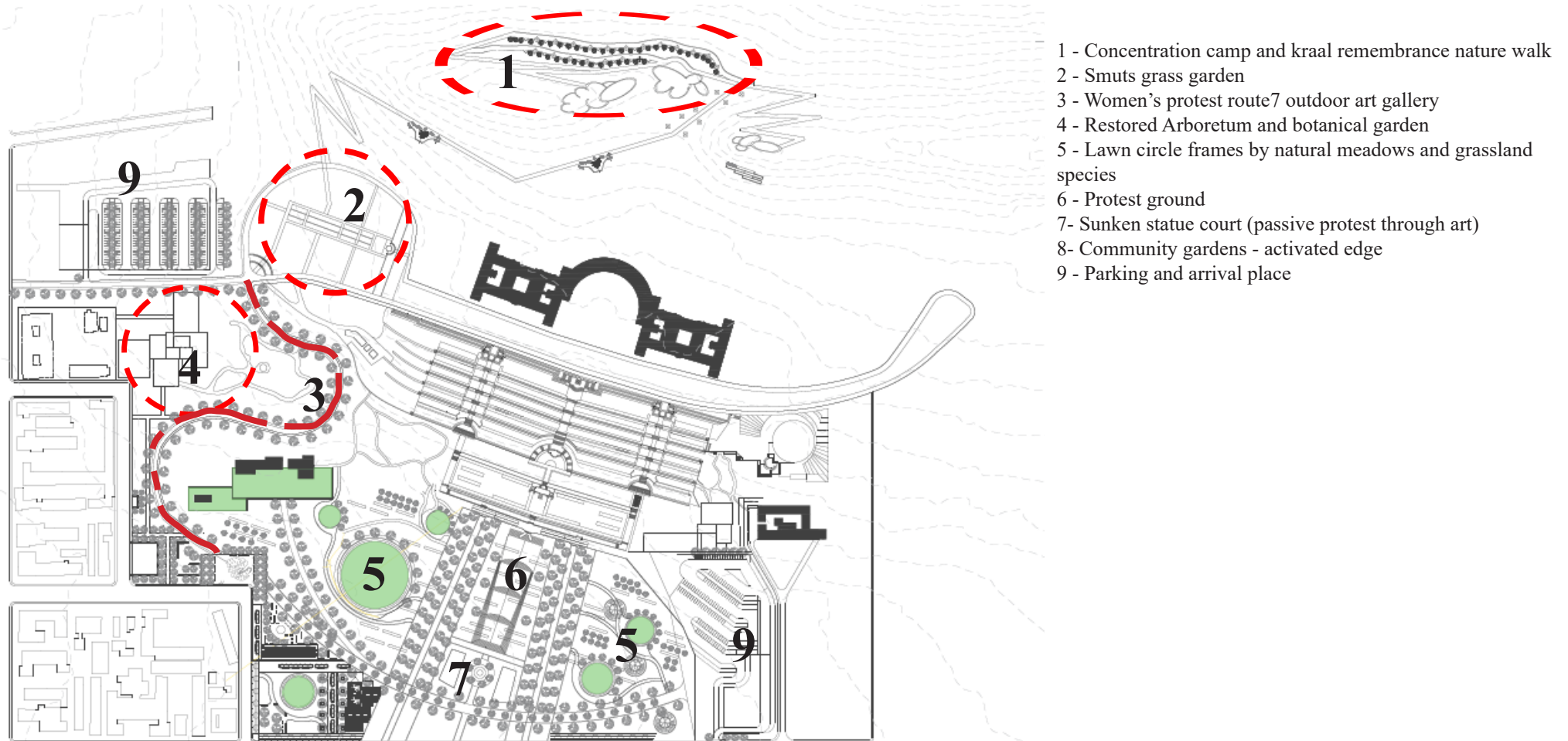


Figure 202. Placing the articulated narratives (Author 2021)

Final design iteration

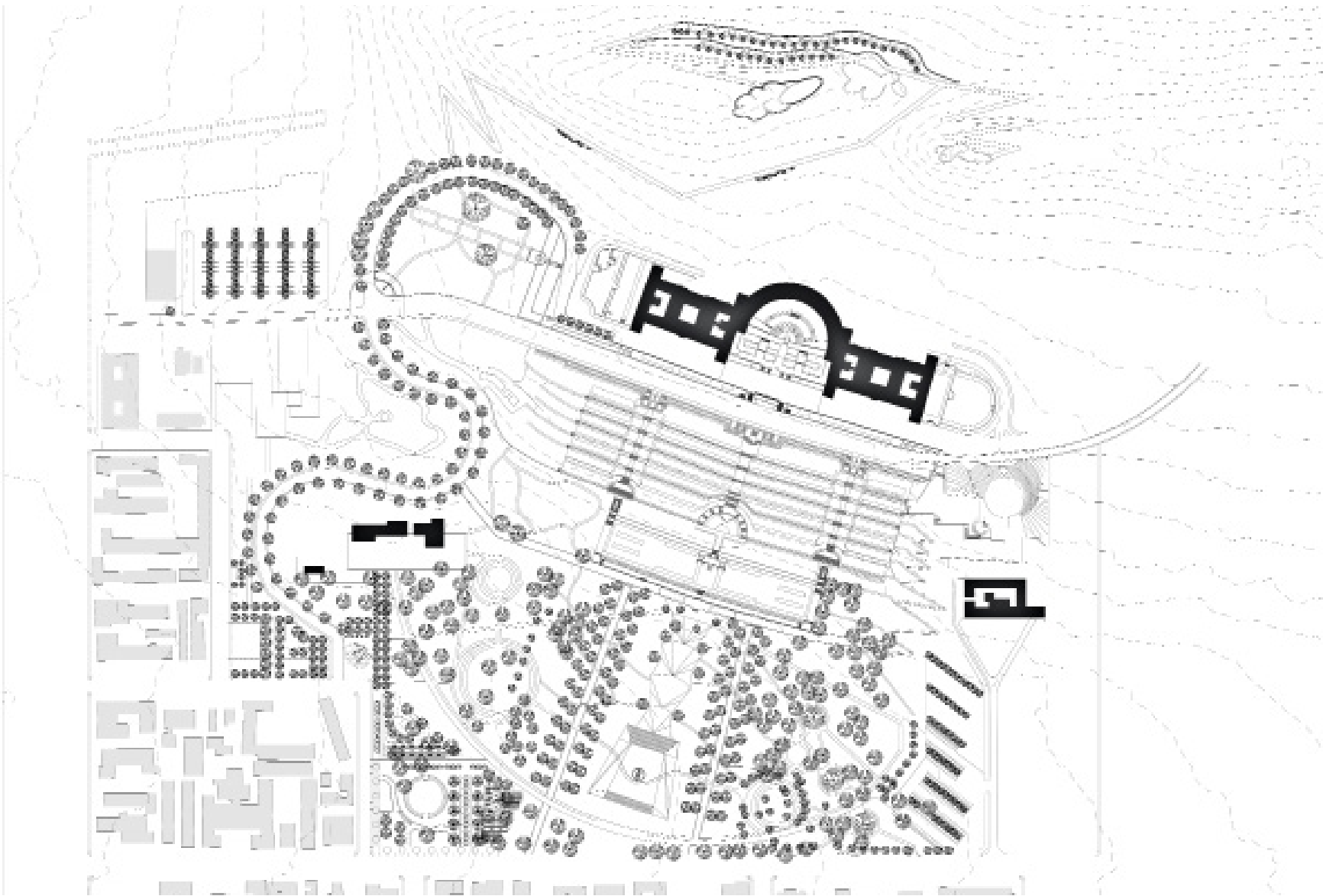
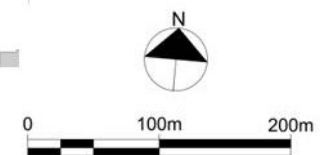


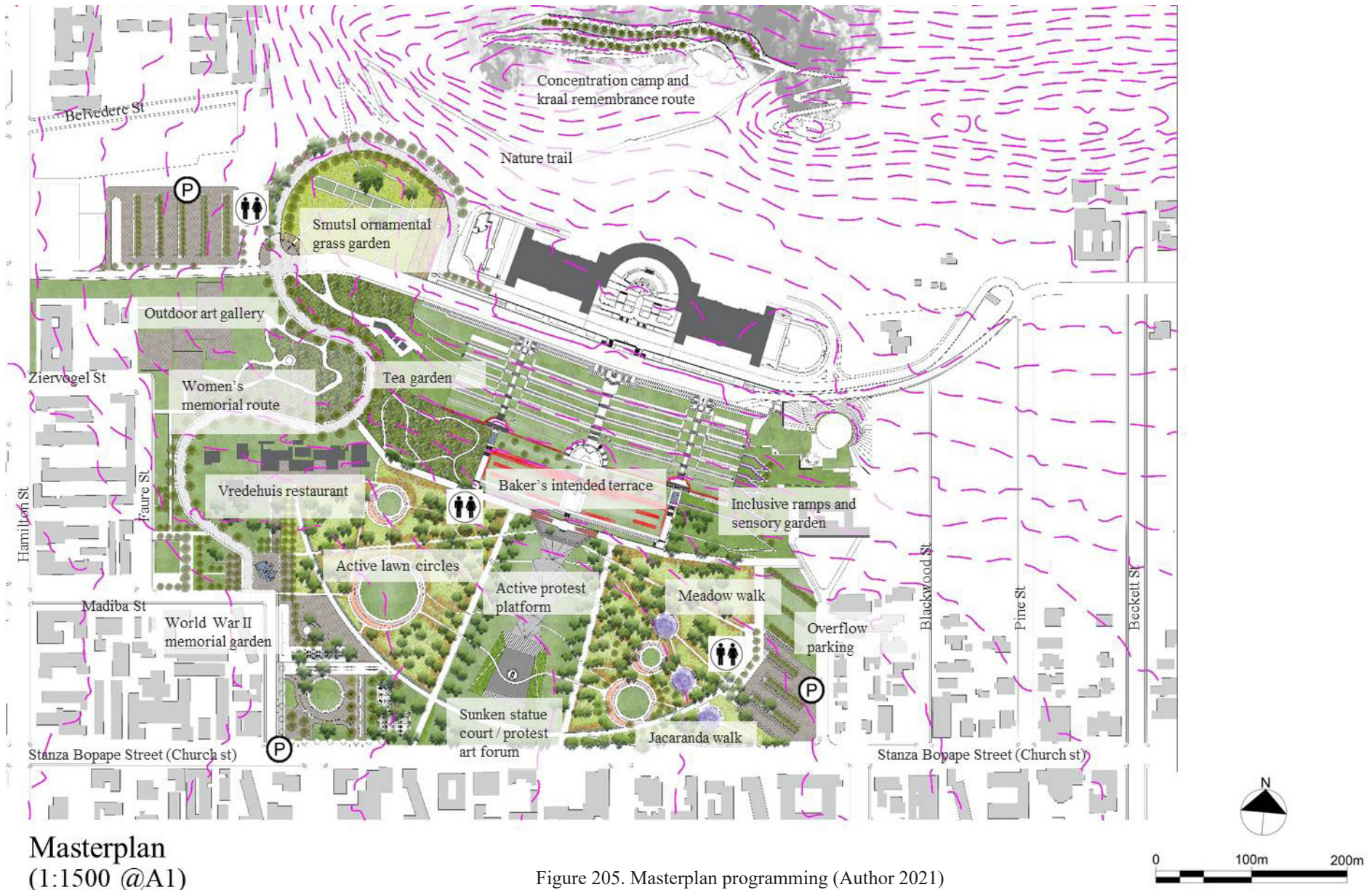
Figure 203. Final design CAD masterplan 1-1500 @ A1 (Author 2021)



Masterplan
(1:1500 @A1)

Figure 204. Masterplan 1-1500 @ A1 (Author 2021)





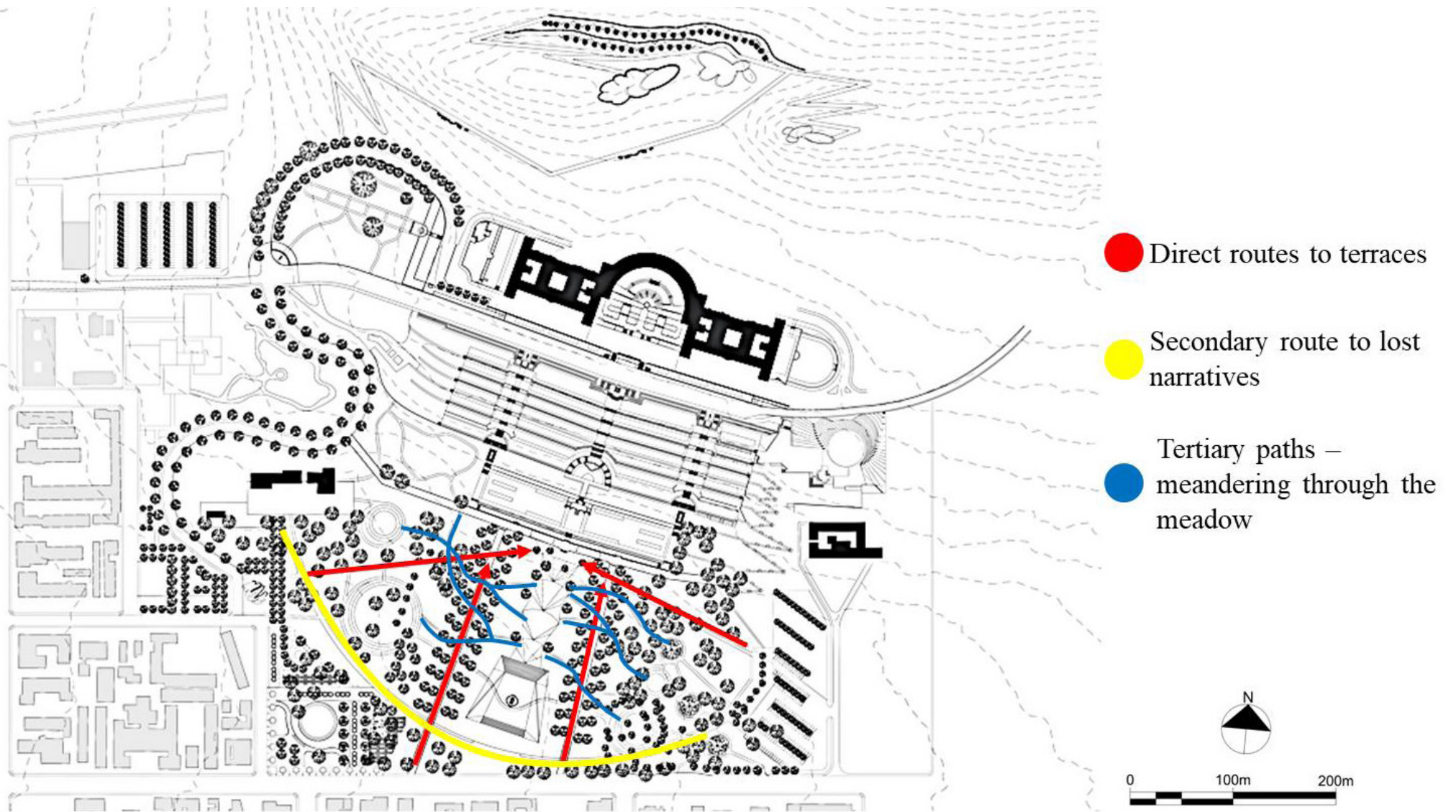


Figure 206. Masterplan path systems 1-1500 @ A1 (Author 2021)

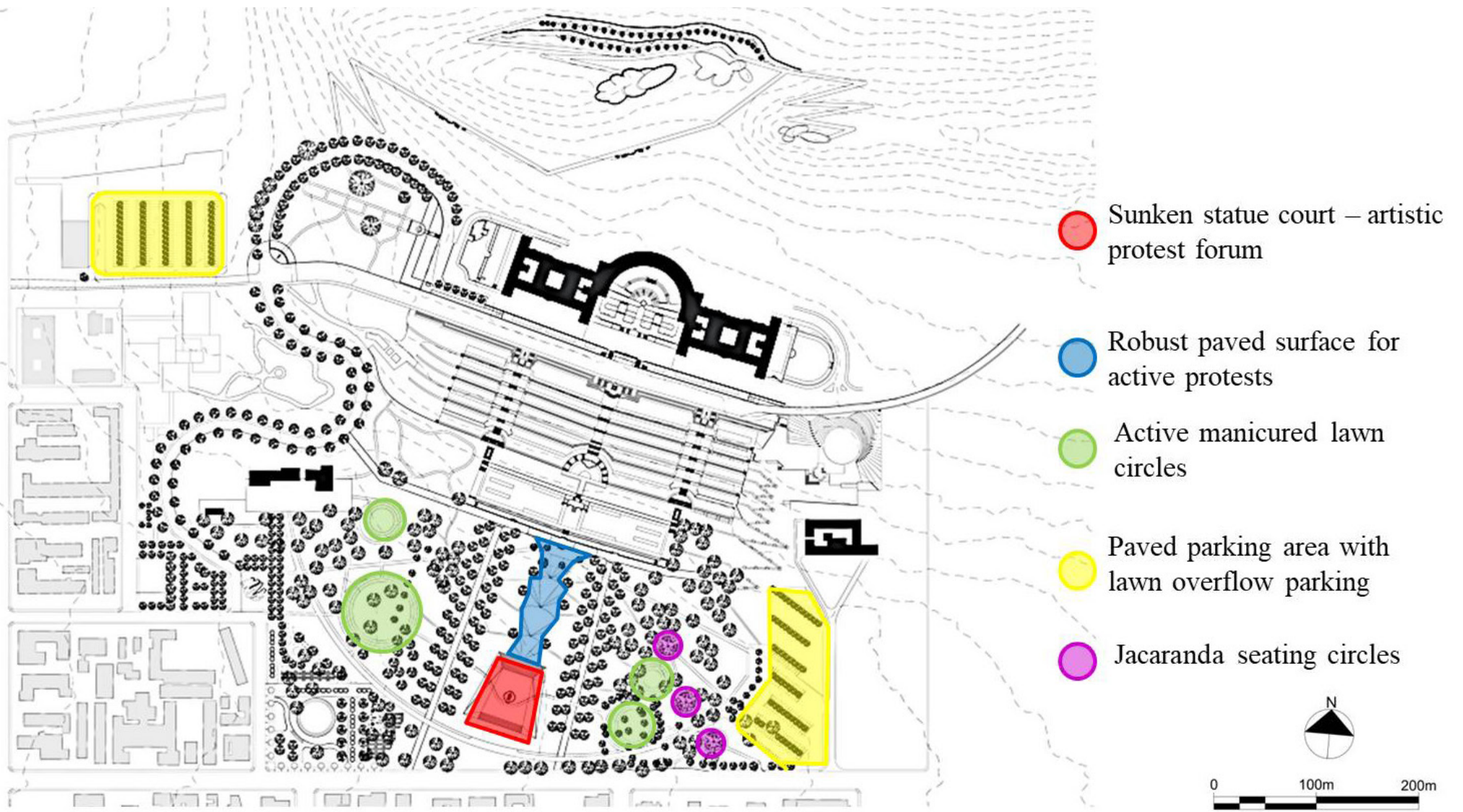


Figure 207. Masterplan programming (Author 2021)

Technological development

Building on the points argued throughout essays one and two, the project's approach to technical design and development is to protect the existing heritage layers, but not allow them to exist as sole focal elements and only attractions on the site. Second, to represent and express the forgotten and lost historic narratives and marginalised or misrepresented groups that once played a role on the site. And lastly, the stance is taken that a heritage site such as the Union Buildings that has been used all these years as a public park but is not ideally adapted to it, should be designed as a public park to allow these heritage spaces to also be robust and functional and not only passive spaces of commemoration.

As such, the technical investigation is focussed around the topics of inclusive design, designed spatial experience, and site water and ecology:

Representation and access:

- The first investigation focuses on the lack of inclusivity of the site and how the site can be re-imagined and designed to include people of all backgrounds and physical abilities and allow them to experience and enjoy the site and its attributes.
- The second investigation focuses on the lack of inclusive representation and how the forgotten and lost narratives discussed in essays one and two (concentration camp, kraal, and women's protests) can be expressed on the site. The investigation entails experimenting with materiality and planting design to manipulate the phenomenological representation and atmosphere or experience of these spaces.
- The last investigation focuses on a more sustainable water system design and improved ecological qualities of the newly designed site.

Both the first and second technical investigations react to the second research question posed in essay one:

2. How can a landscape intervention be applied as a medium for heritage transformation to act as an all-inclusive park that reflects the broader society and democratic spirit of South Africa?

The inclusivity of the site as mentioned in the question is thus addressed both in terms of accessibility and heritage representation in the design.

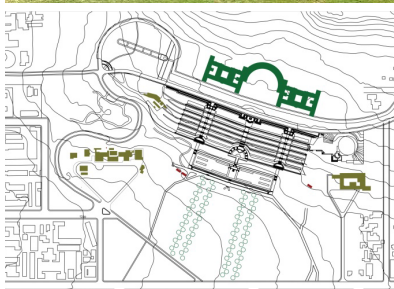
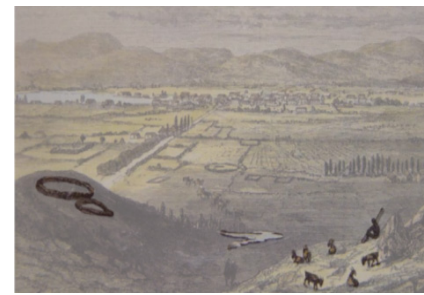


Figure 208-211. Technical issues defined (Varies)

Figure 212. Kraal on Meinjieskop (Crane 1877)

Figure 213. Concentration camp (Alberton Record 2016)

Figure 214. 1956 women's march (Mail & Guardian 2016)

Investigation one: Inclusive design

The unique quality and character of every heritage site, specific to a culture, an event, or a place can to some seem exclusive and can lead to its heritage value in a contemporary society to be doubted or contested. However, even though it might be exclusive in its representation a heritage site should not in my opinion deliberately exclude history, people, and events that played a role in the shaping of that place, and neither should it be exclusive in terms of its accessibility to any person that wishes to visit the site.

The Union Buildings, as such a heritage site, is inherently patronizing, selectively representative, and exclusively accessible, furthermore, despite the fact that the management of the site claims to have attempted a more water-wise planting palette, the site makes little attempt to be more sustainable and ecologically friendly with its water use and monotonous plant beds.

As a designed landscape on the slope of a ridge with a 100 m elevation climb from its lowest point of the site to the ridge of the hill, and with 459 steps on the garden terraces alone, the site is inherently and patronizingly inaccessible to anyone who is not at full-body strength and capability. The intervention thus aims at creating an inclusive design in the form of a series of ramps and landings (to the specifications of SANS10400) that will allow these former marginalised and excluded groups to access and enjoy the site and more specifically the historical terraced gardens

The following table shows that the designed ramps and handrails meet SANS10400 requirements in terms of inclusive design (Author 2021).

SANS10400 requirements	Union Buildings inclusive design
Ramps must not have a gradient steeper than 1:12 as measured along the ramp's center line.	The ramp gradient proposed at the Union Buildings is 1:15
Ramps must be at least 1100mm wide and have a clear trafficable surface.	All ramps are 1500mm wide
Ramps must have a surface in accordance with SANS10400 regulations	
Ramps must have a landing at the top and bottom of each ramp at least as wide as the ramp and with a minimum length of 1200mm.	Each landing has a minimum width of 1500mm and length of 2000mm
At the maximum gradient of 1:12: a ramp must have a landing at every vertical rise of 500mm and every 6m length of ramp.	The gradient proposed is 1:15
At the gradient of 1:15: a ramp must have a landing at every vertical rise of 665mm and every 10m length of ramp.	These standards are used to create a module that is repeated in the ramp design
Ramps must have a handrail on both sides of the ramp	These standards are met
At a vertical rise of more than 600mm the ramp should be staggered	The ramps are staggered to prevent a single line of long ramps in one direction and monotonous experience for the user
All circular handrails must have a diameter between 35 and 50mm wide	The diameter proposed is 45mm
The height of the handrail should be consistently throughout the length of the ramp be between 900mm and 1000mm from the surface of the ramp	The height of the handrail is consistently 950mm high
The handrails shall extend 300mm beyond the top and bottom of the ramp onto the landings	These requirements are met
These extensions act as tactile aid for persons with visual impairments	The extensions will act as tactile aids among other proposed details

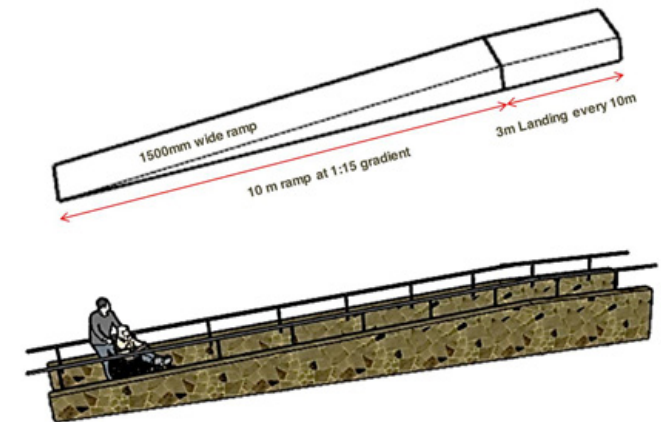


Figure 215-217. Inclusive design
(Author 2021)

Terrace number / name	Terrace height	1:15 ramp length	Ramps every 10m 1,5m wide	Total length	Ramps every 10m 3m wide	Total length	1:20 ramp length	Ramps every 15m 3m wide	Total length
1 – Terrace to UB	6,274 m	94,11	9 (13m)	107,11	9 (27m)	121,11	125,48	8 – 27m	152,48
2 – Delvillewood memorial - wall	4,24m	63,6	6 (9m)	72,6	6 (18m)	81,6	84,8	5 – 15m	99,8
3- Small terrace 1	1,352	20,28	2 (3m)	23,28	2 (6m)	26,28	30,44	1 - 3m	33,44
4- Small terrace 2	1,522	22,83	2 – 3m	25,83	2 – 6m	28,83	30,44	1 - 3m	33,44
5- Small terrace 3	1,182	17,73	1 - 1,5m	19,23	1 - 3m	20,73	23,64	1 – 3m	26,64
6- Small terrace 4	1,182	17,73	1 – 1,5m	19,23	1 – 3m	20,73	23,64	1 – 3m	26,64
7- Small terrace 5	1,711	25,665	2 – 3m	28,665	2 – 6m	31,665	34,22	2 – 6m	40,22
8- Small terrace 6	1,711	25,665	2 – 3m	28,665	2 – 6m	31,665	34,22	2 – 6m	40,22
9- Large terrace to NM statue	3,96m	59,4	5 – 7,5m	66,9	5 – 15m	74,4	79,2	5 – 15m	94,2
10- Large terrace to War memorial	3,92	58,8	5 – 7,5m	66,3	5 – 15m	73,8	78,4	5 – 15m	93,4
11- Medium terrace	2,56	38,4	3 – 4,5m	42,9	3 – 9m	47,4	51,2	3 – 9m	60,2
12- Small terrace 8	0,85	12,75	1 – 1,5m	14,25	1 – 3m	15,75	17	1 – 3m	20

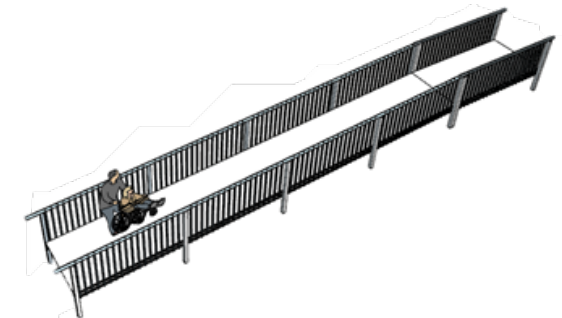
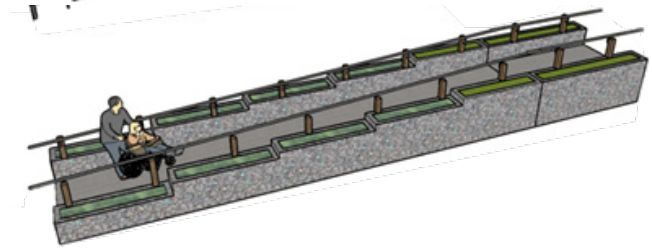
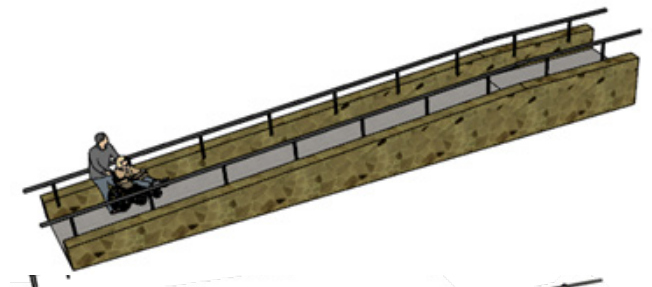


Figure 218-222. Inclusive design ramp calculations and design (Author 2021)

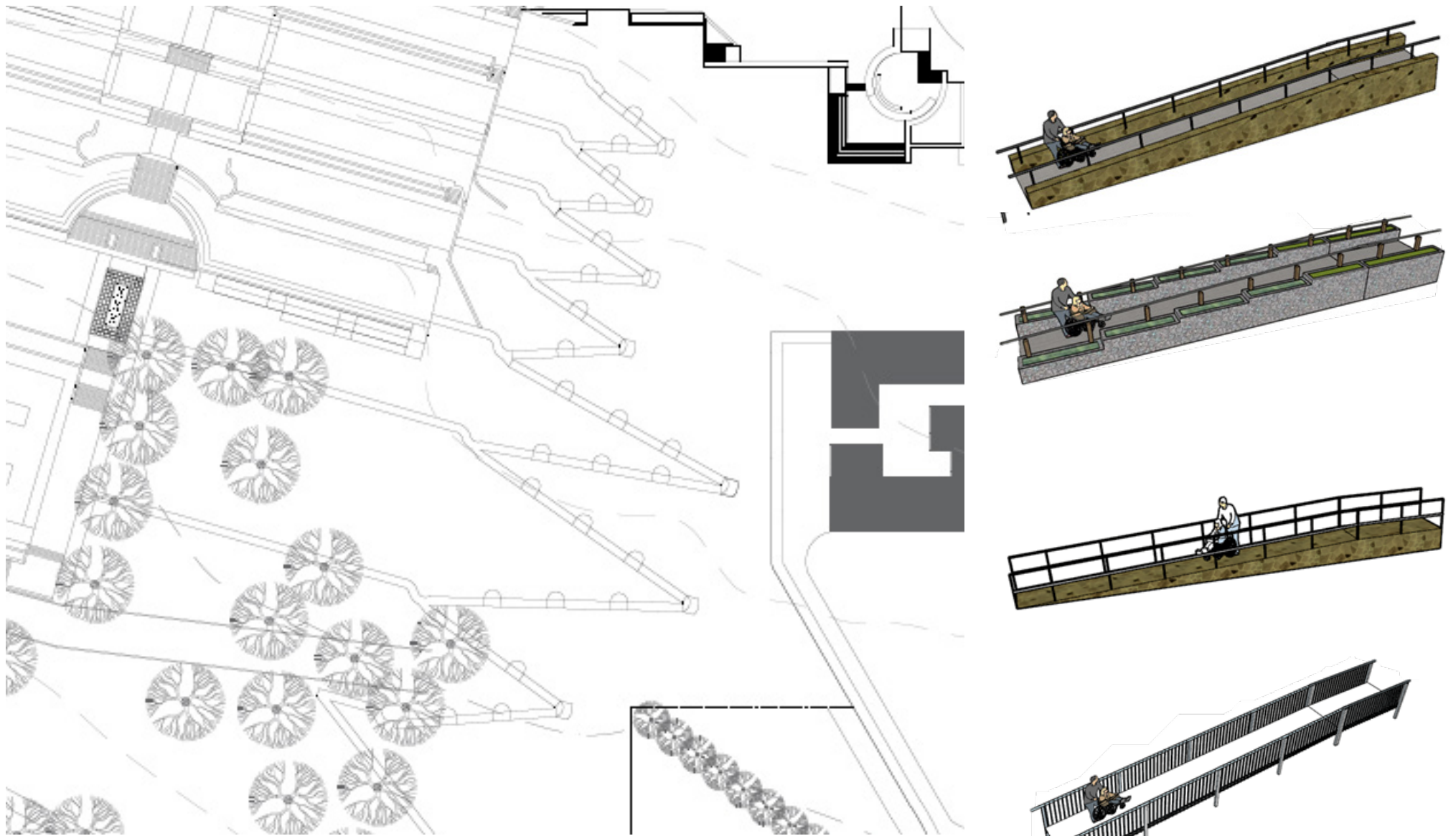


Figure 223-227. Inclusive design ramp placement and materiality (Author 2021)

Materiality options were weighed between stereotomic structures of either stone masonry ramps or tectonic structures of aluminium ramps and lastly, a combination of the two was considered in the form of a stone alternative such as gabions. However, in order to maintain the spirit of Arts and Crafts stone walls and the integrity of the heritage site, the conclusion to the materiality investigation was to build the new ramps using stone masonry walls. The heritage walls are protected by the National Heritage Act, as structures older than 60 years and also as part of the registered protected national heritage site. Thus the ramps providing access between the different terraces will have to be constructed on the lawn slope, east of the terrace walls that was identified as an area with little to no heritage value where new interventions can be proposed. Building these ramps on the sloped lawn areas allow for the landscaping to be designed between the staggered ramps to create a multi-sensory experience between the terrace levels, and properly designed landings and resting areas can contribute to the overall experience of the site.

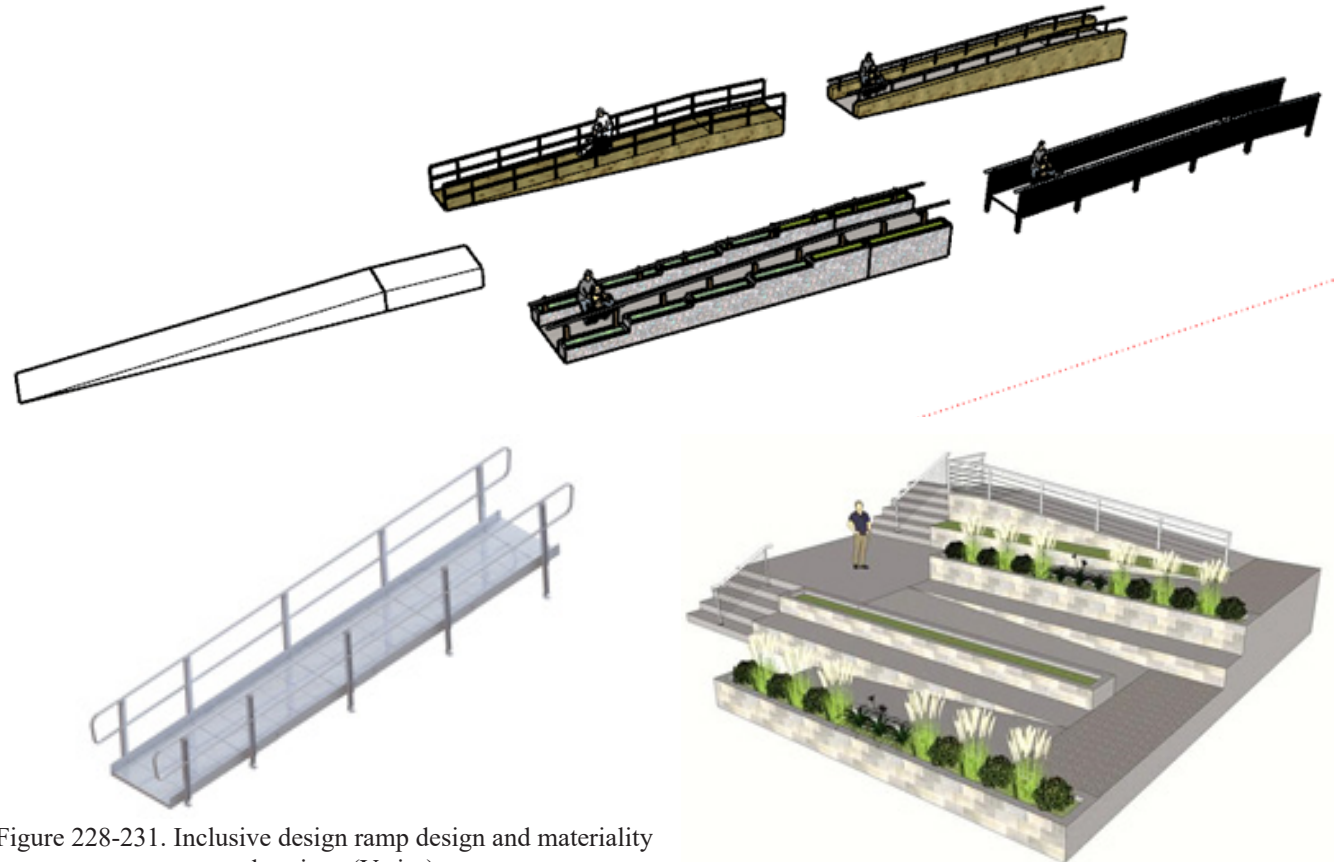


Figure 228-231. Inclusive design ramp design and materiality explorations (Varies)

One ramp, however, is proposed to be built on the eighth terrace against one of the heritage terrace walls. This proposed ramp is in an area where the wall has been badly ruined and lack of maintenance has led to further decay, it is also on the Easternmost edge of the terrace wall where it will be able to integrate with the new proposed ramp system. The direct access between two of the terraces will provide a unique experience similar to what an able-bodied person would experience using the heritage stairs on the terraces.

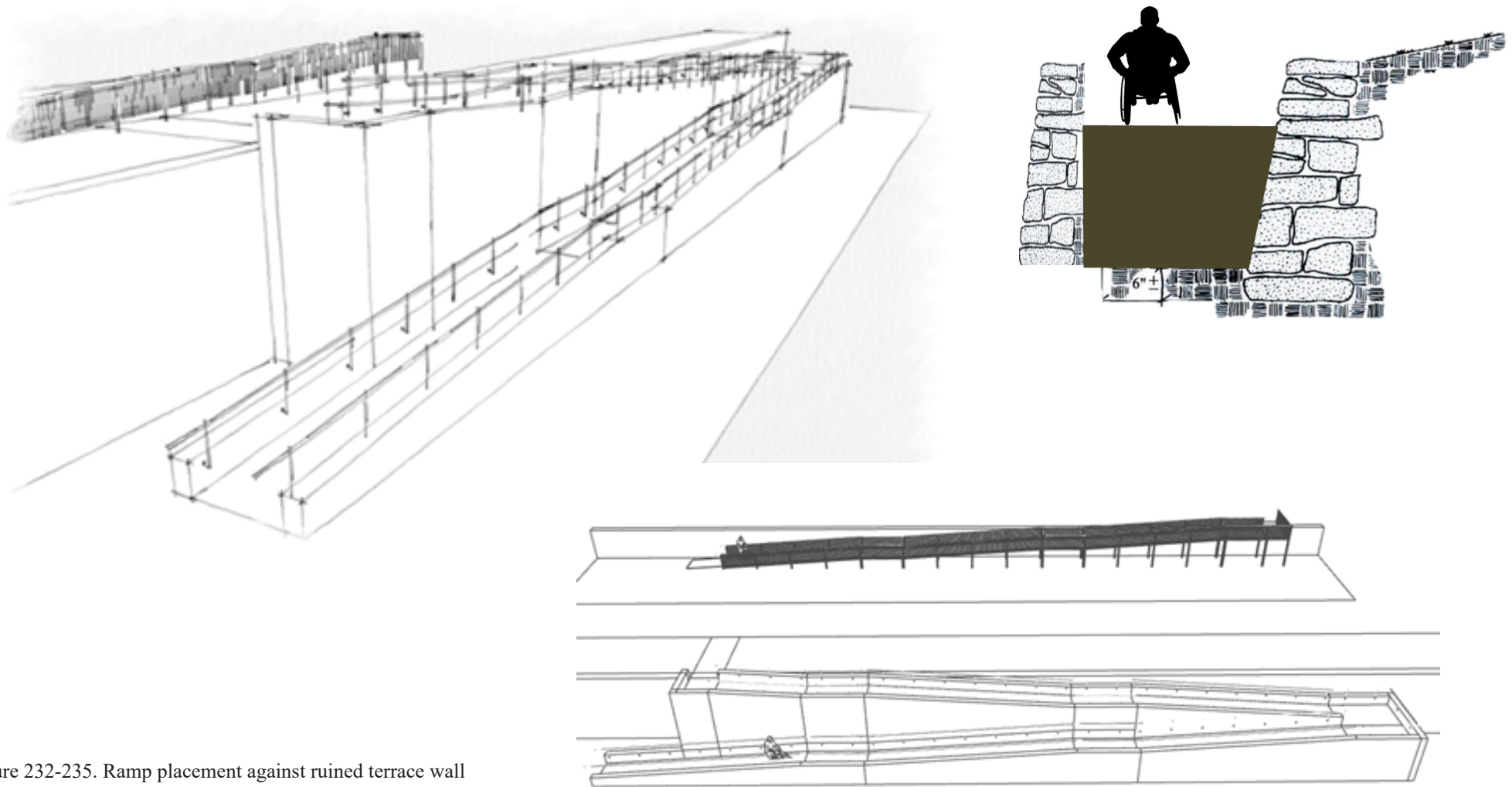


Figure 232-235. Ramp placement against ruined terrace wall
(Author 2021)

Model explorations of terrace wall ramp

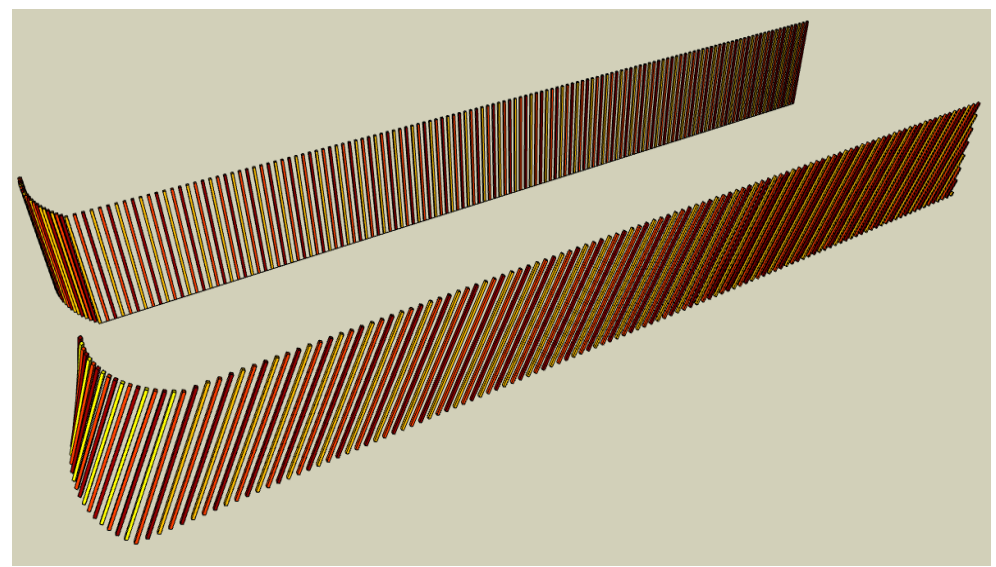
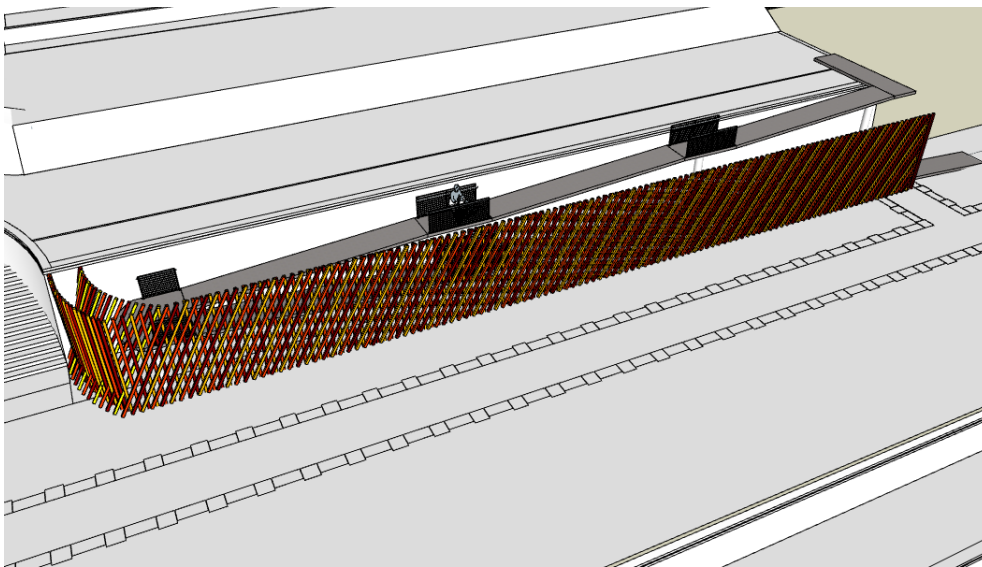
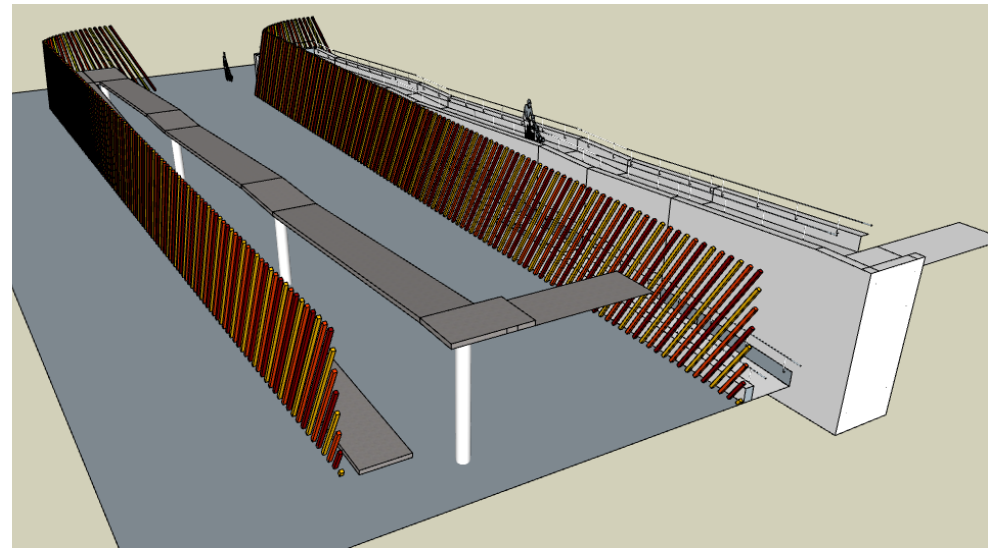
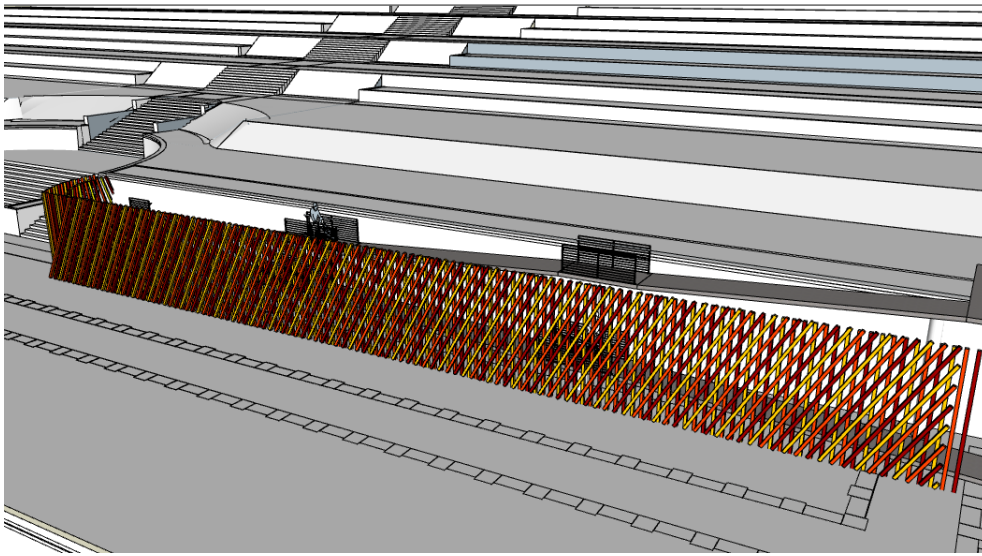


Figure 236-239. Ramp model explorations(Author 2021)

Phenomenology

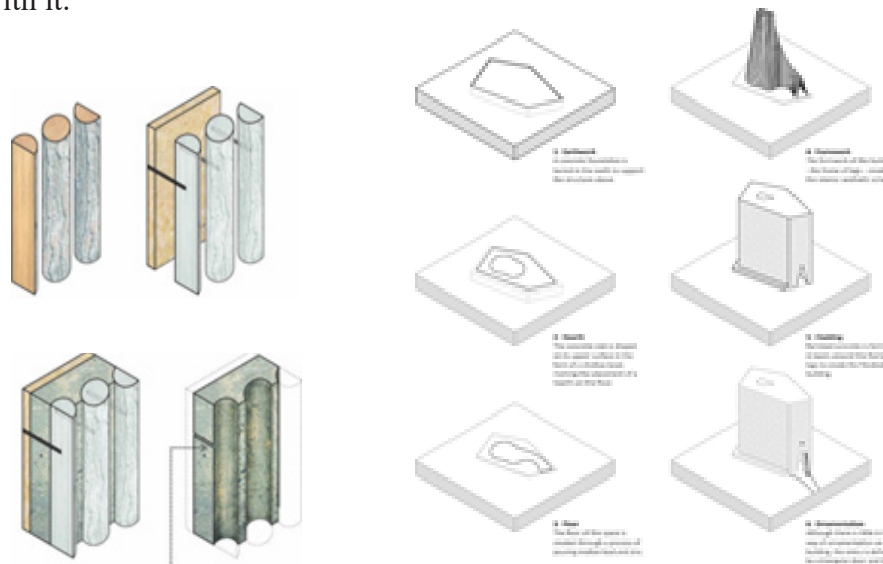
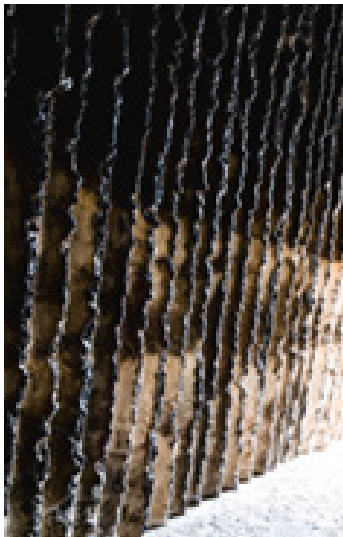
How can an appropriate memorial space be designed to articulate the loss of concentration camps – The scorched earth policy was chosen as inspiration for the atmosphere and materiality of the designed space, to represent the destruction, loss and death of the concentration camps and Anglo-Boer War. Since fire also plays an important role in highveld ecology with the regular occurrence of veld fires, fire and a charred landscape also became an important informant for the planting where fire can be used and represented in the design.

The technical experiment entailed investigating the possible aesthetic effect fire can have on construction materials where fire becomes more permanent in the colour and texture of the surface materiality.

The Bruder Klaus Field Chapel (2007) of the well-known phenomenologist, Peter Zumthor was studied and informed the material investigation for the project.

Concrete was chosen, where the formwork is burnt after the concrete has been set, which alters the texture and colour of the finished product, making the after-effects of fire permanent in the landscape. This material will be used to build walls, seating walls and floor surfaces. and charred timber poles

The concentration camp memorial route sits as a permanent reminder of the loss within the natural landscape on the hill, in contrast with it.



**Concentration camp remembrance
(Collage by Author 2021)**

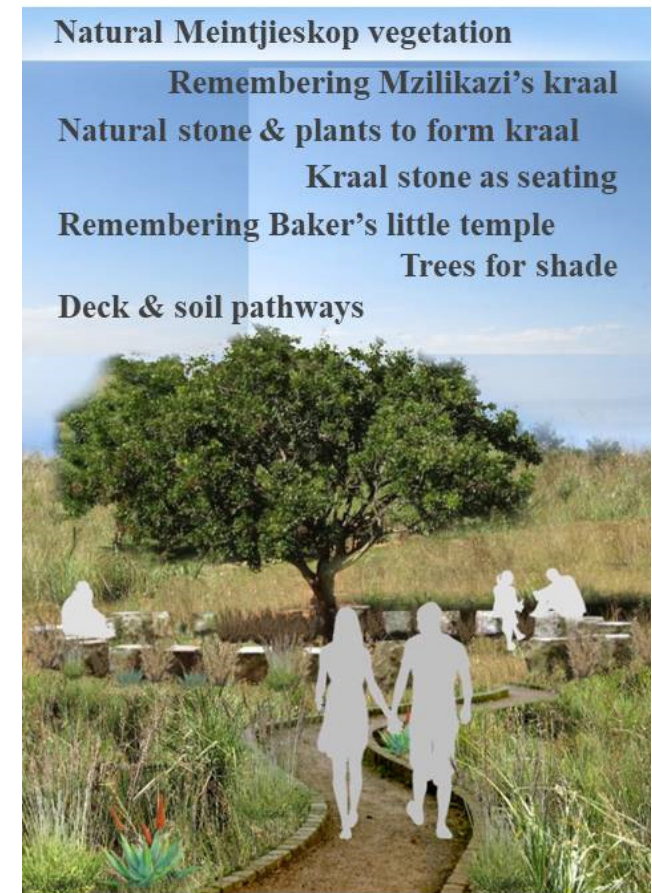
Concentration camp remembrance collage by Author 2021
Figure 242. Bruder Klaus field chappel (Archdaily 2016)
Figure 243. Bruder Klaus field chappel (CJS Research & teaching anthology n.d.)
Figure 244. Bruder Klaus field chappel (Moodydesigns 2019)

How can an appropriate passive gatherings space be designed to articulate the lost kraal narrative – Stone, natural environment, seating place, viewpoints, informal pathways
Research into materiality & planting of kraal typologies and the natural vegetation of the area.

Neither the concentration camp nor kraal can be placed in their exact historic position on the site, and their narratives are similar where the original Mzilikazi kraal was built as part of a military kraal associated with war and the concentration camp was part of the Anglo-Boer war. Since the programming of these contemporary spaces is similar in the form of passive gathering space on the hill that allows for elevated views over the city, the two spaces are arranged as a series of places along one trail on the koppie. Location, form and materials are chosen as indirect representation and for spatial experience and atmosphere of these narratives rather than a direct duplication of these historic places and their location.

To represent the theme of the natural occurrence of veld fires in the grassland and bushveld of South Africa burned concrete is used as material. To represent the theme of stone kraals, plants are chosen that naturally grow on rocky outcrops as well as for their fire resistance and plants that according to academic documents were planted around kraals.

The designed spaces manifest as a viewing platform on the hill, taking the shape of a platform on the slope acting as a kraal on the hill. The outer face of the walls that surround this space, will be the first view a visitor would see of the space from the Union Buildings and nature walk.



**Kraal re-imagined as final destination
on koppie (Collage by Author 2021)**

Figure 245. Kraal remembrance collage (Author 2021)

Investigation two - material (fire and concrete)

The investigation was based on the precedent of Peter Zumthor's Bruder Klaus Field Chappel where the chapel was constructed by burning combustible material used as part of the formwork.

Method: The investigation was done by building six pine timbre boxes of 400x400 mm large after which concrete was cast into these boxes at 50 mm thick and six different types of combustible materials were placed onto these surfaces and partially embedded into the wet concrete. The combustible materials were: Eucalyptus tree lathes, pine cones, bamboo lathes, bark chips, SA pine timber planks, and grass. After a week of curing the concrete, the outer formwork boxes were removed and the combustible material was set on fire. The materials were allowed to burn away to create both unique textural and pigmentation alterations to each of the blocks. Two days after burning the combustible materials away the blocks were sprayed off with a light spray using a hose, removing the ash from the blocks it washed away the light grey colour off the blocks and highlighted the black soot colour that stained the concrete, the spray also removed all loose debris that filled the crevices formed by the fire and allowed the full textural changes to appear.



Timbre formwork –
400 x 400 blocks



Combustible material – wood
lathes



Combustible material – bark
chips



Combustible material – Cut grass



Combustible material – planks



Combustible material – reed lathes

Figure 246. Fire experiments - combustible materials and formwork (Author 2021)



Figure 247. Fire experiments - Curing and burning



Figure 248. Fire experiments - After curing fires

Conclusions: Although some of the materials such as the timber planks, bamboo, and wood lathes could simply be removed instead of burning it away, the fire creates the added advantage of coloured concrete and the fire allows finer textural details to be formed on the concrete where the removal of the formwork will chip it off.



Figure 249. After cooling, wash and cleaning
(Author 2021)

With the smaller and more complex shapes of combustible material such as the grasses, pine cones, and bark chips, trying to remove them by hand-made the concrete break and crumble away instead of allowing the fire to burn the complex patterns and shapes into the concrete.

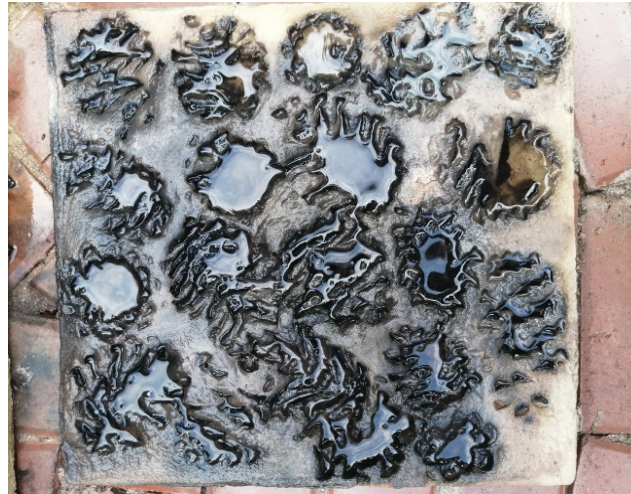


Figure 250. Fire experiments - post wash colour and textures
(Author 2021)



Figure 251. Fire experiments - Final colour and texture
(Author 2021)

Kraal memorial place Palette - fire

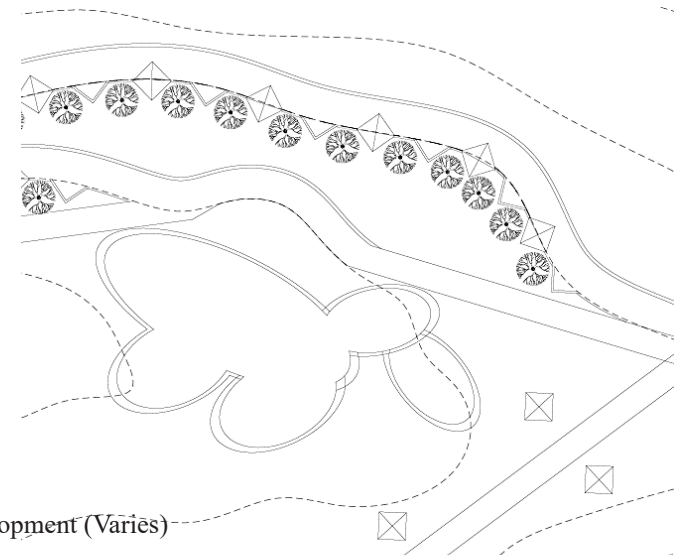
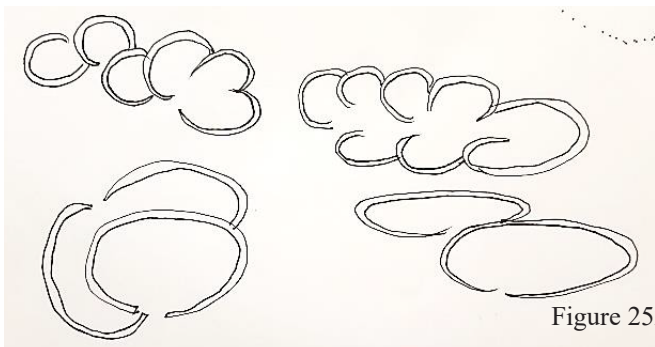
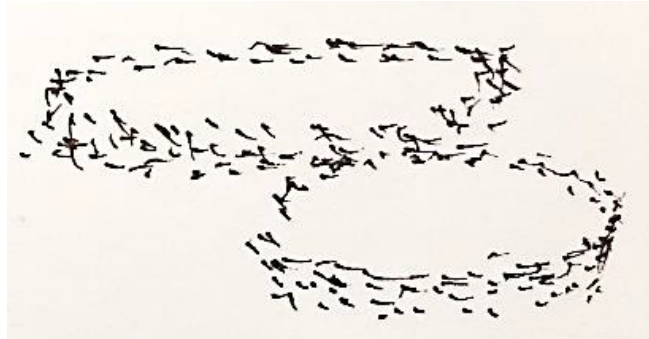
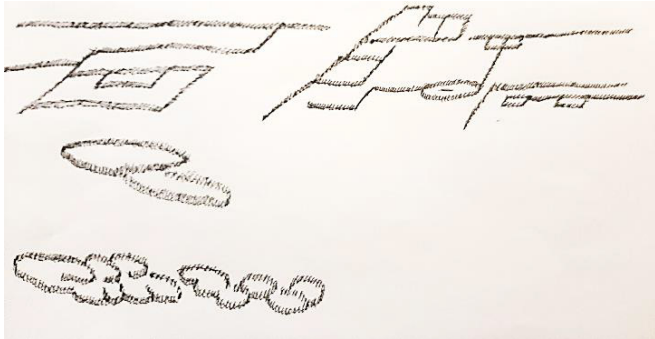
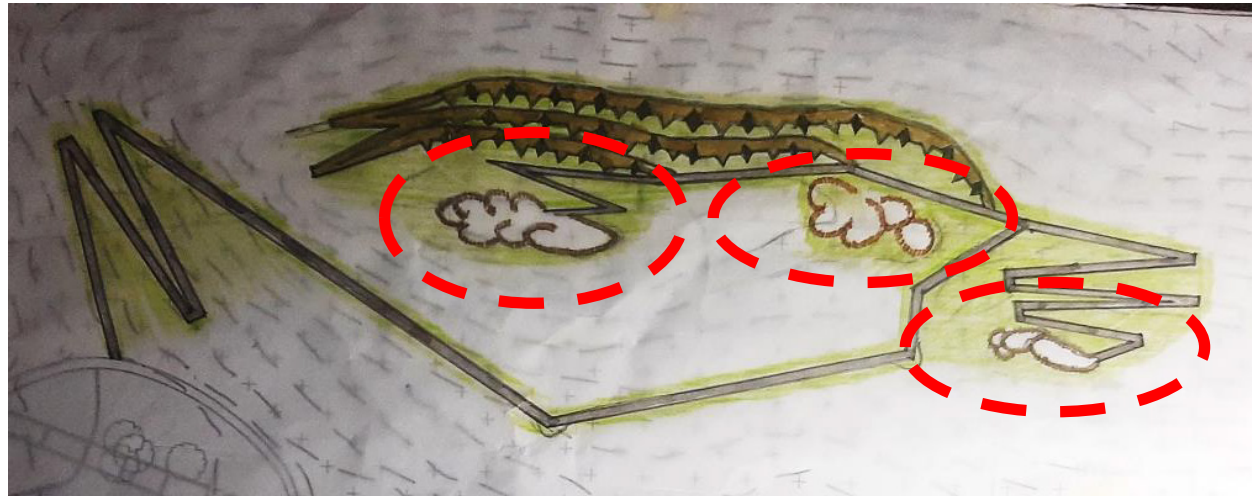


Figure 252-257. Kraal memorial space design inspiration and design development (Varies)

Section through Kraal and Concentration camp memorial areas

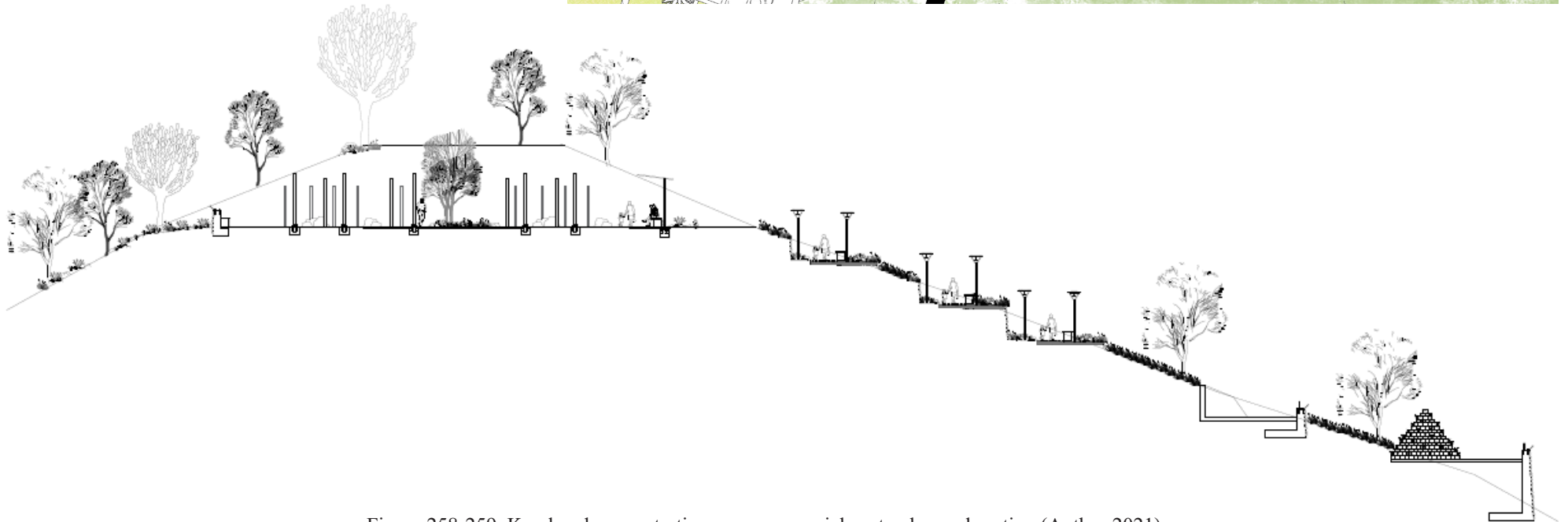
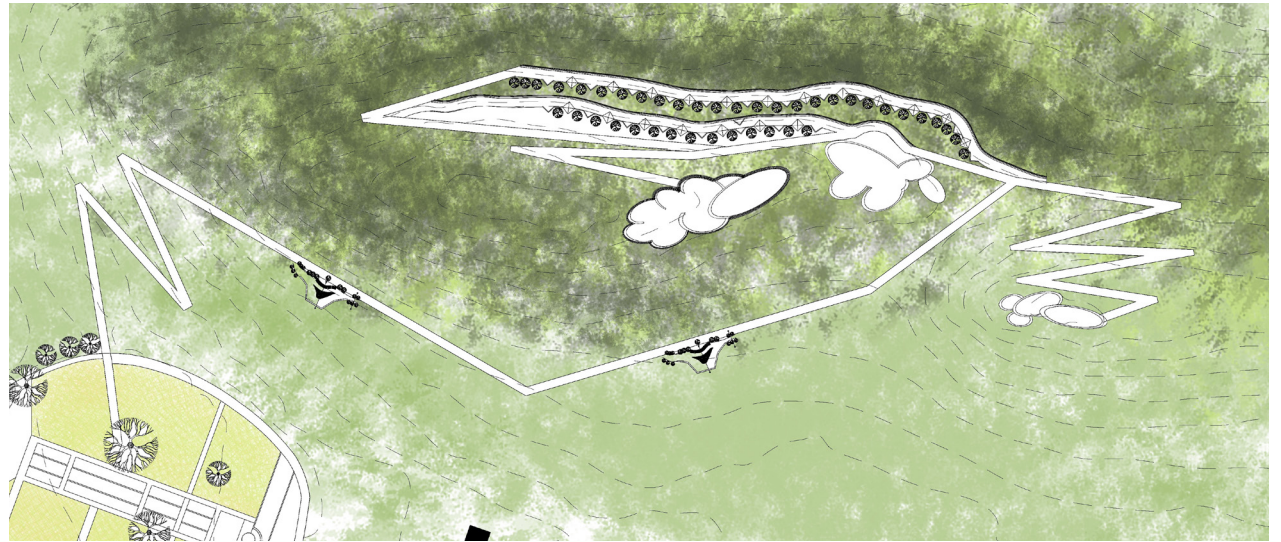


Figure 258-259. Kraal and concentration camp memorial route plan and section (Author 2021)

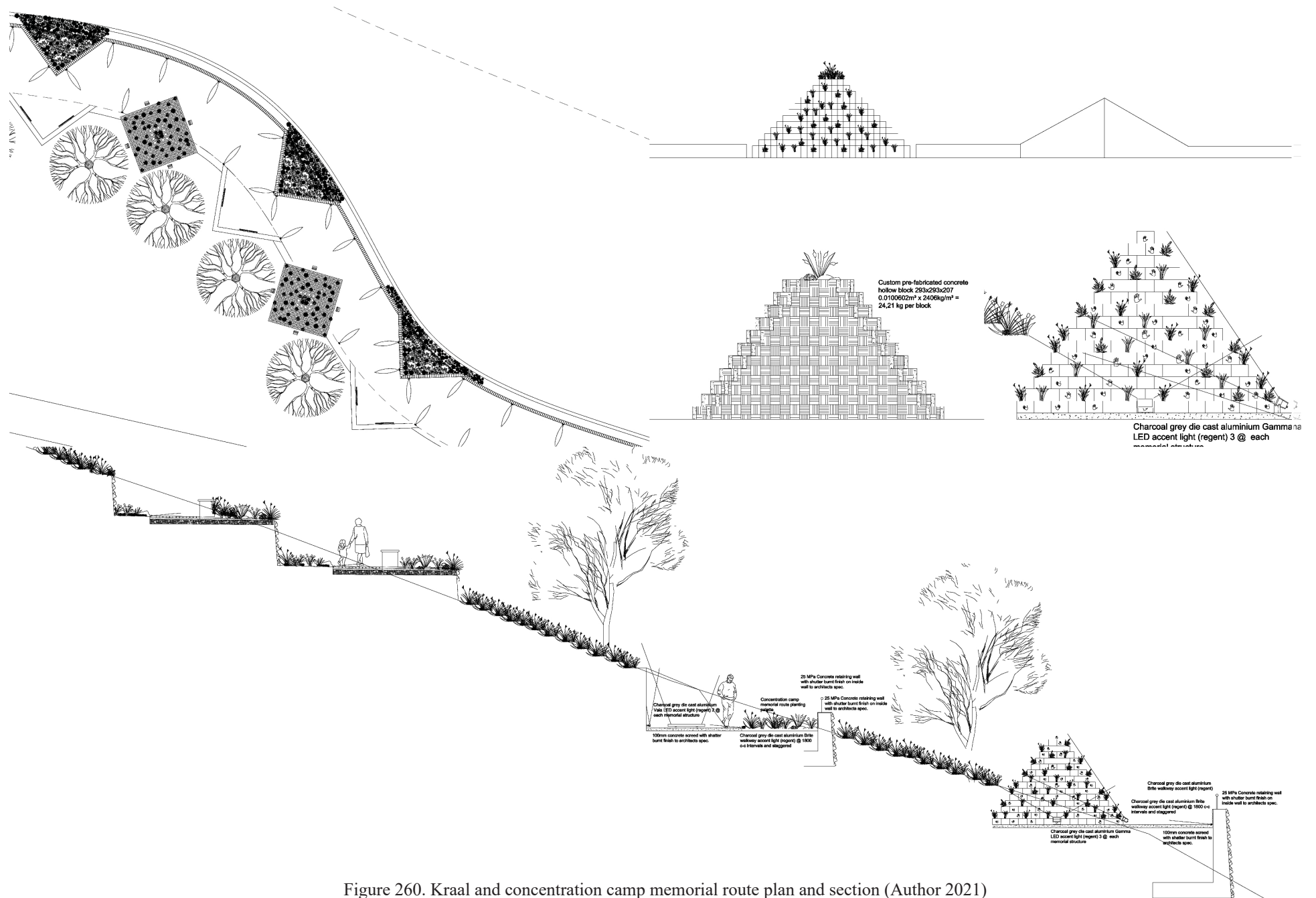
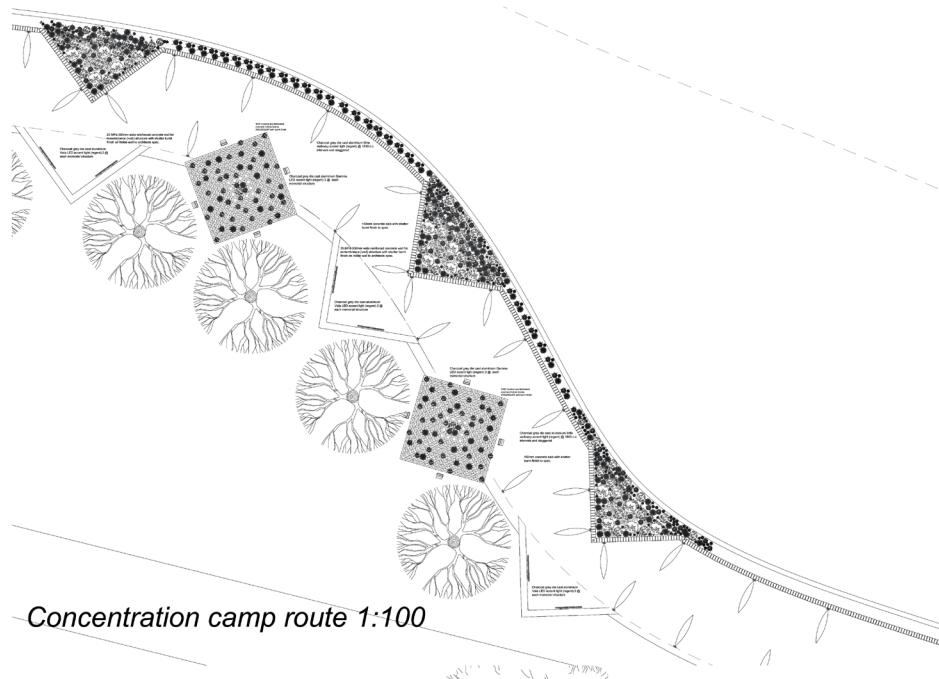
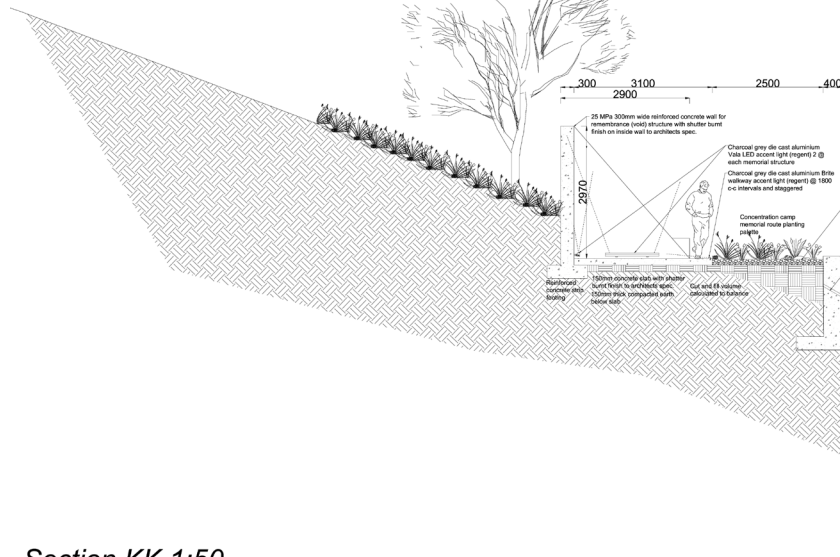


Figure 260. Kraal and concentration camp memorial route plan and section (Author 2021)



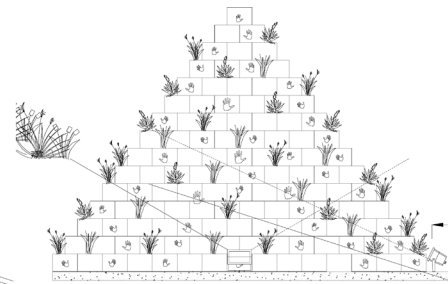
Concentration camp route 1:100



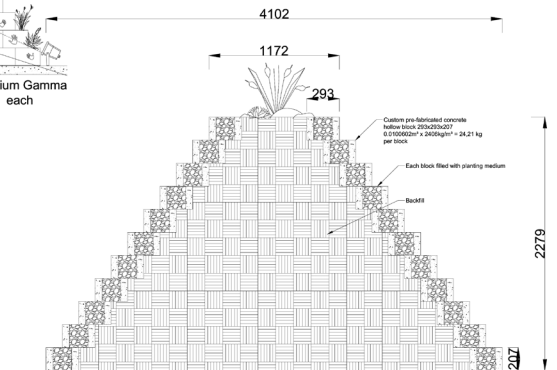
Section KK 1:50



Path elevation of mass and void structures



Side elevation of mass memorial structure



Detail k1 1:20

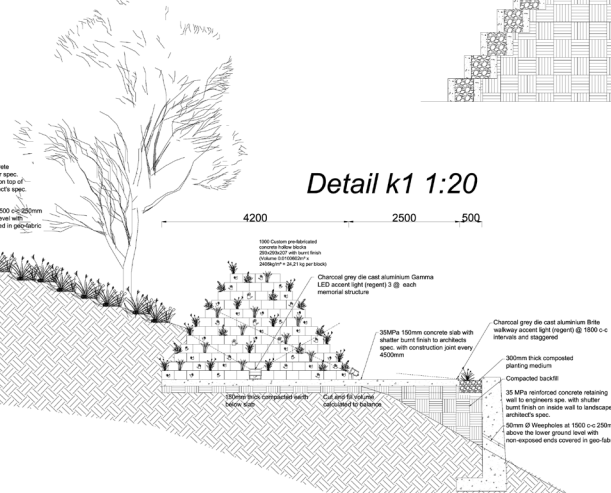


Figure 261. Kraal and concentration camp memorial route plan and section (Author 2021)

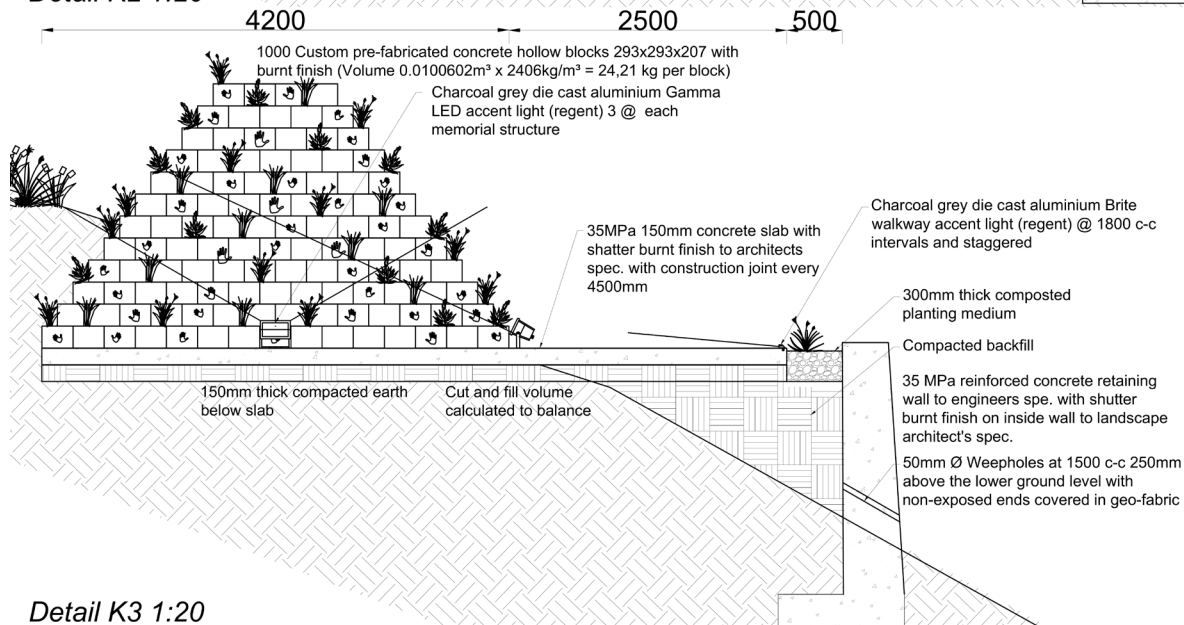
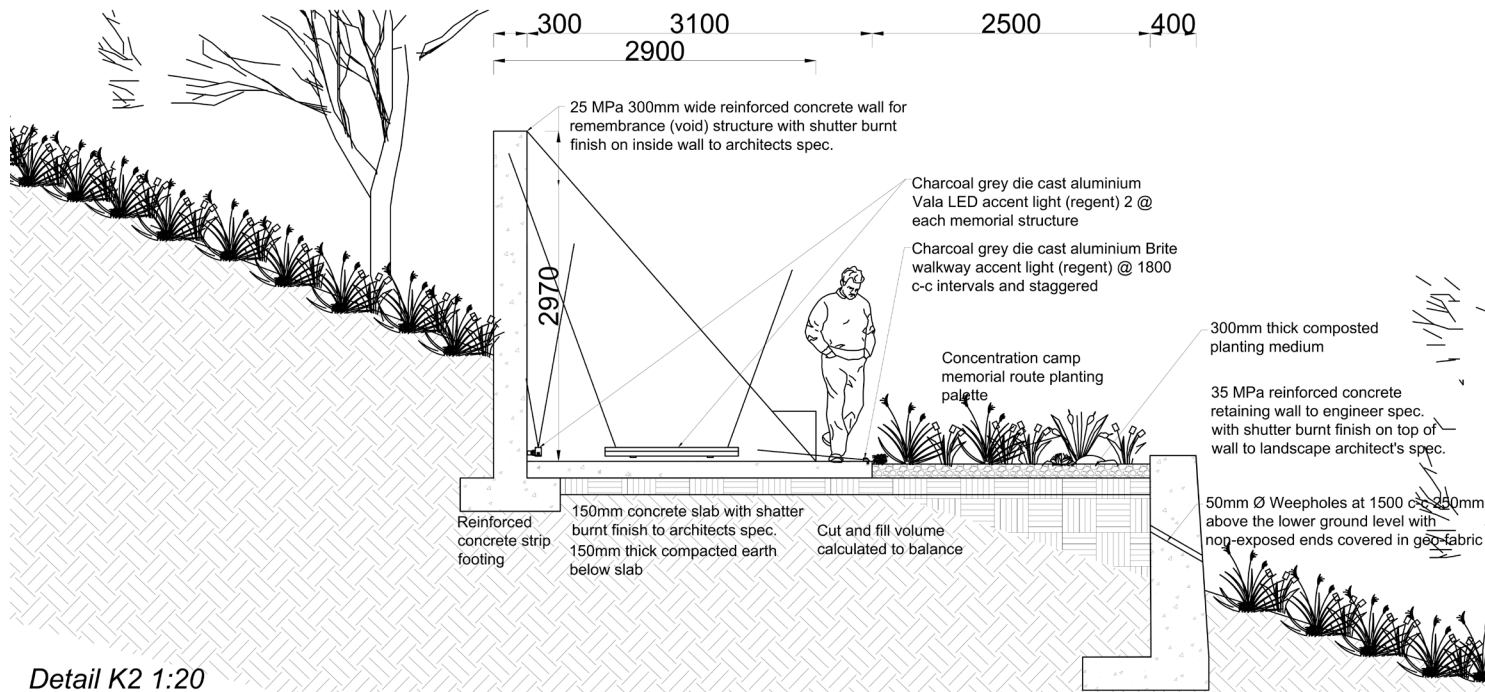


Figure 262. Kraal and concentration camp memorial route details (Author 2021)

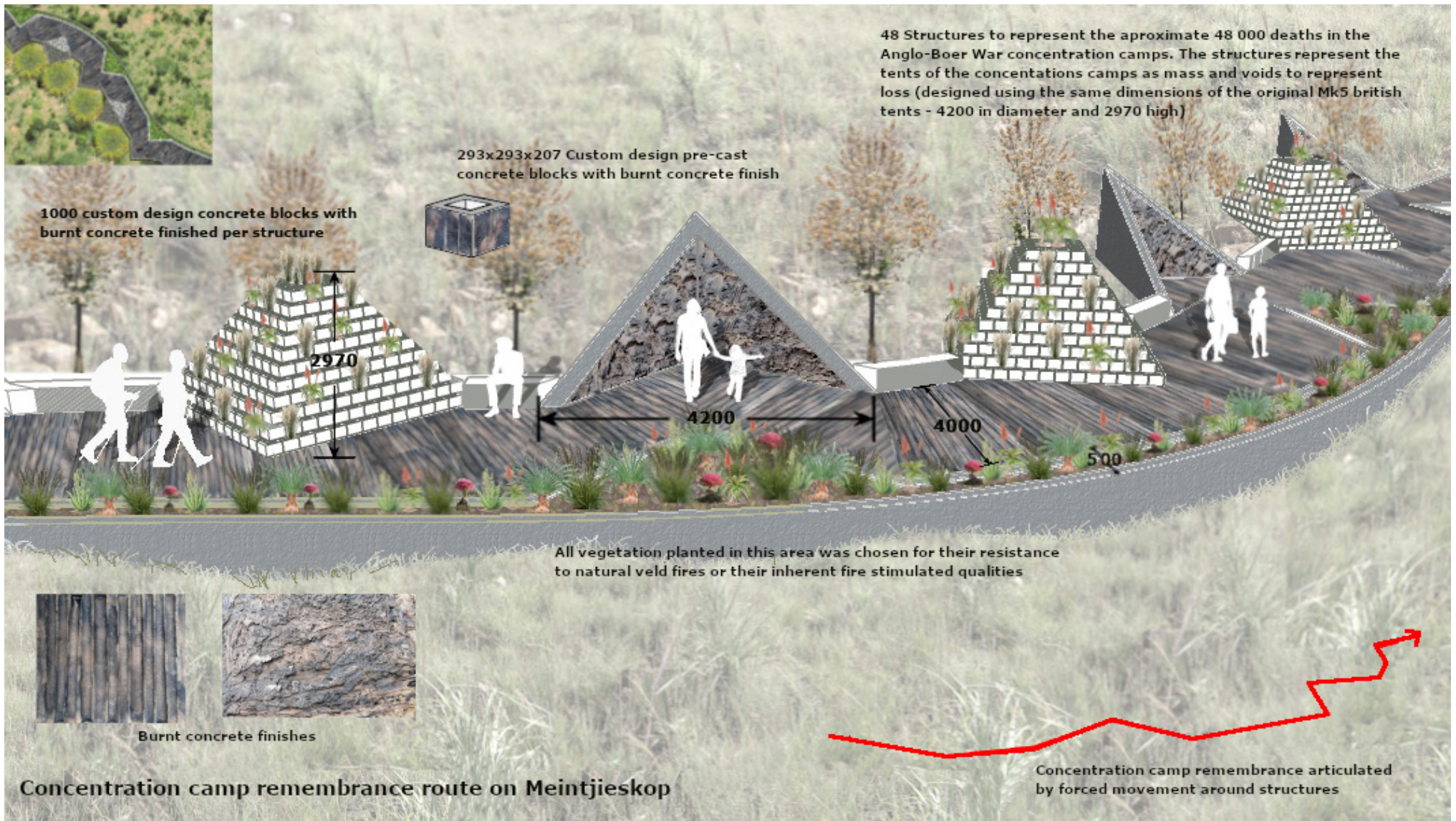


Figure 263. Kraal and concentration camp memorial route Axonometric (Author 2021)

Investigation three: water systems & ecology (planting design)

Water systems: The goal of the water system design is to articulate the lost & forgotten narratives of the site as well as to recharge the groundwater used to sustain the site.

The Union Buildings site is located on the southern slope of Meintjieskop in Pretoria. The site's water is pumped from two boreholes on the site to the Meintjieskop reservoir which lies to the northeast just above the Union Buildings on the ridge from where water is used in the Union Buildings, on the site, and in the neighbourhood. A pre-construction photograph of Meintjieskop in the book, *Pretoria: a photo journey* by Friedel Hansen 2016, shows water that accumulated at the foot of Meintjieskop. This accumulation of water during the rainy season in summer months in Pretoria, before the construction of the Union Buildings, is also shown in a painting done by S. Crane in 1877, the pond and water acted as recreational space where locals of Pretoria could go for a swim, it was known as Meintjies' swimming pool (Meintjies-se-swembad) or Meintjies' hole (Meintjes-se-gat). (Crane 1877, Hansen 2016, Swanepoel 2006).

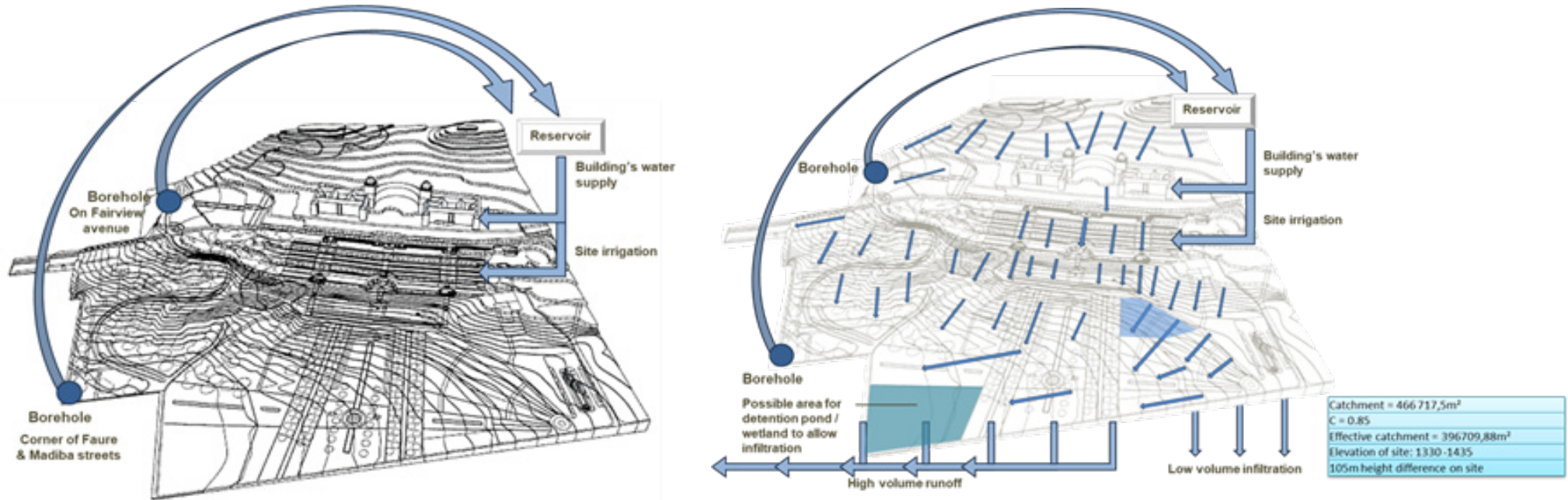


Figure 264-265. Early Water system strategies (Author 2021)

As a more sustainable approach to the site’s water system, the primary aim is to use sustainable principles of green infrastructure (such as bio-swales and seasonal wetlands) to convey and capture run-off and partially recharge some of the site’s groundwater. The narrative of water as recreation on-site has been lost and forgotten and currently due to blocked stormwater drains & low infiltration, water builds up and sits on the terraces for extended periods of time. The secondary aim is to articulate the lost narrative of water as recreation on-site by creating create social spaces on the site around the bio-swales and seasonal wetland but also to create recreational water features where water currently sits on site.

The water system entails the capture, conveyance, detention, and filtration of stormwater runoff on-site which will be recharged into the water table along with excess irrigation that builds up on site. A small volume of the water will be stored and re-used for some irrigation purposes and in water features to create social spaces and recreation around these water features.

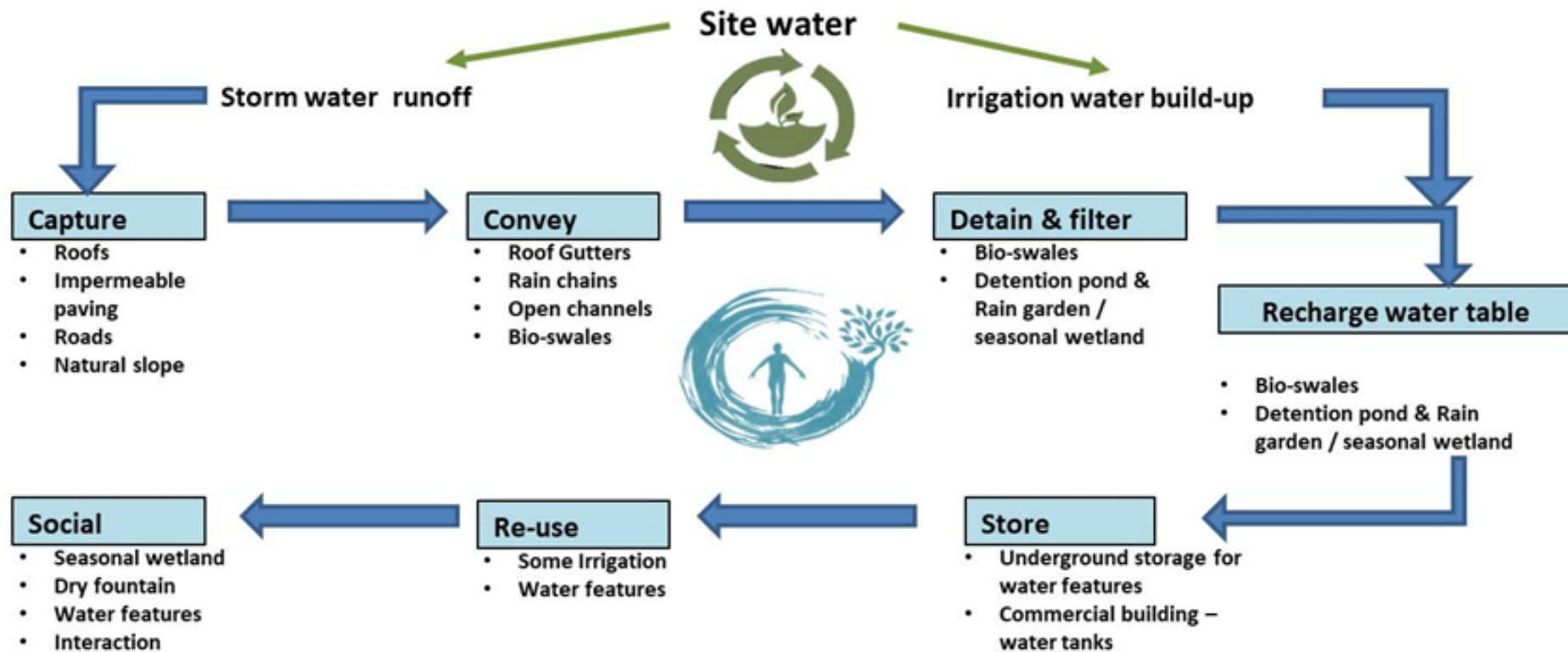


Figure 266. Water systems explained (Author 2021)

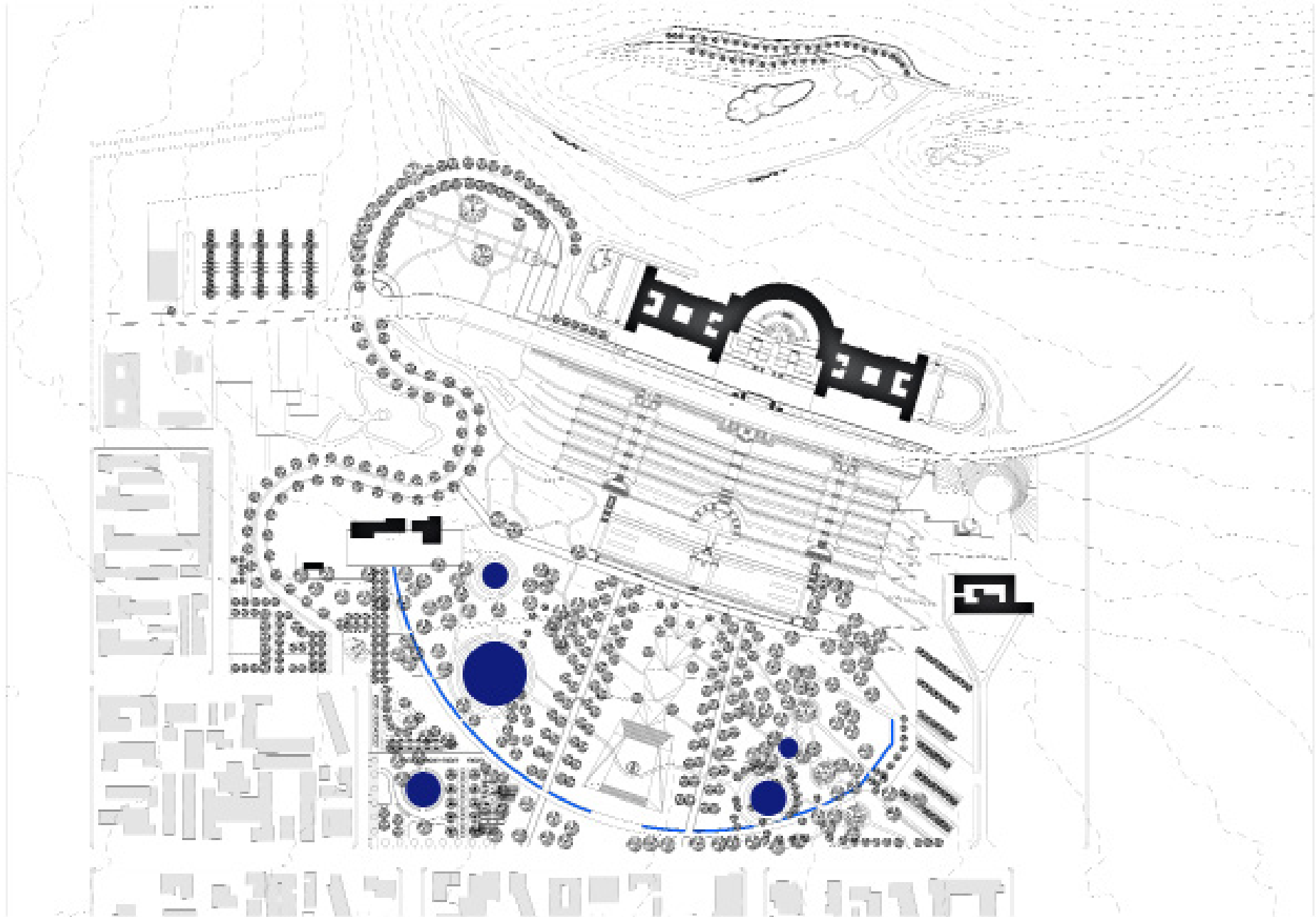


Figure 267. Masterplan Water systems (Author 2021)

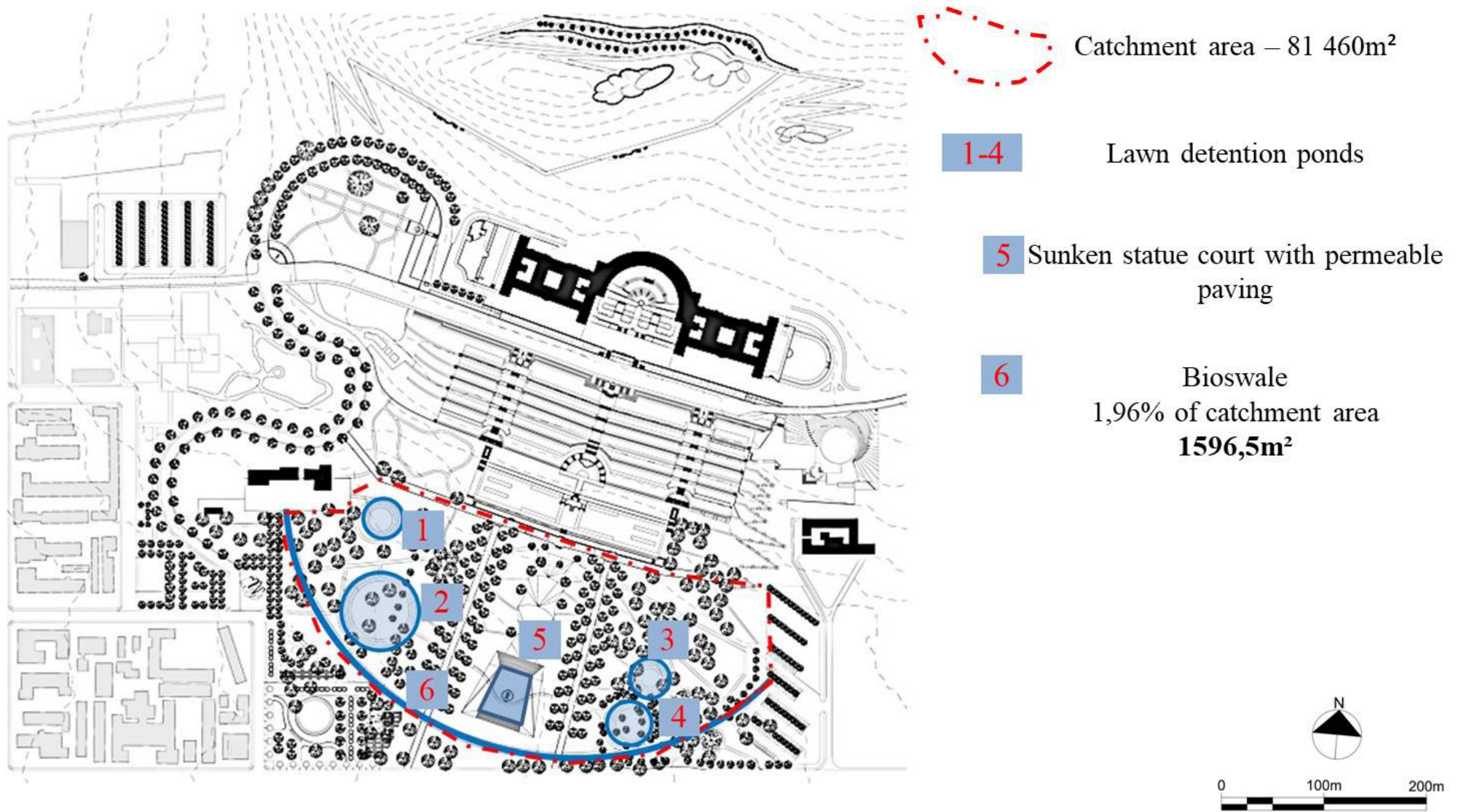


Figure 268. Masterplan Water systems (Author 2021)

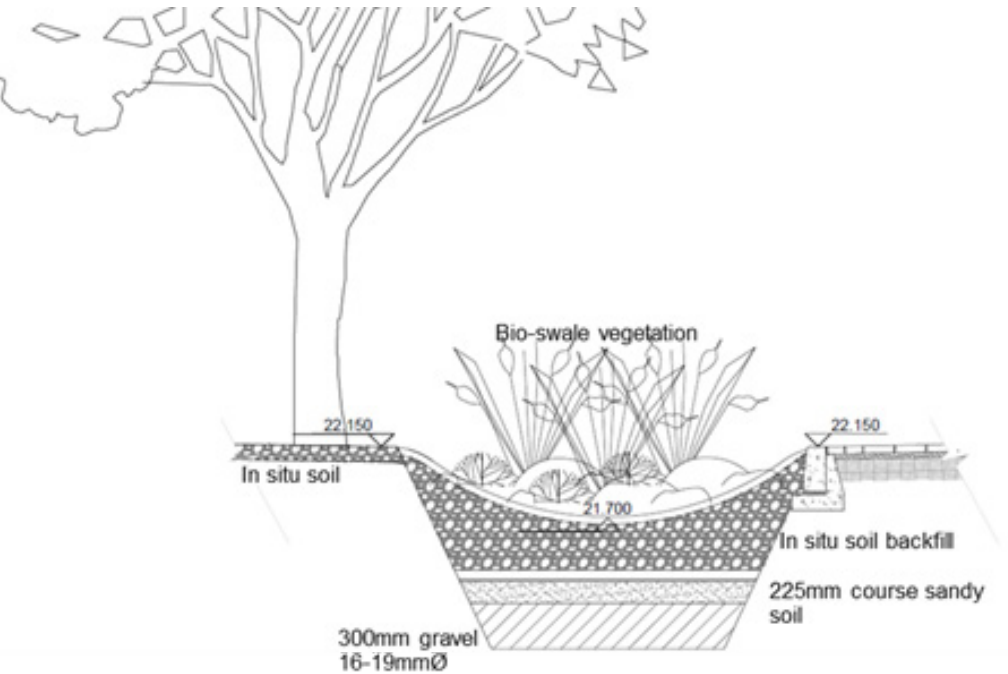
2. Yield			
Yield (m ³) = P x A x C (Where P=precipitation (m), A=area (m ²), and C=run-off coefficient)			
Area of Catchment: Per surface (Per surface)	Area (m ²)	Run-off Coefficient	
Roofing	0,00 m ²	0,9	
Paving	14 036,75 m ²	0,8	
Veldgrass	40 095,78 m ²	0,4	
Lawn	23 924,06 m ²	0,4	
Planting	2 564,03 m ²	0,3	
Gravel	839,02 m ²	0,7	
TOTAL:	81 459,63 m ²	0,47	

Mayford website 25mm/week

IRRIGATION DEMAND for proposed planting (to be sustained with rain after 2 years of establishment)				
	Planting Area (m ²)	Irrigation Depth per week (m)	Irrigation Depth per month (m)	IRRIGATION DEMAND (m ³)
January	2 564 m ²	0,040 m	0,177 m	454 m ³
February	2 564 m ²	0,040 m	0,160 m	410 m ³
March	2 564 m ²	0,040 m	0,177 m	454 m ³
April	2 564 m ²	0,030 m	0,129 m	330 m ³
May	2 564 m ²	0,020 m	0,089 m	227 m ³
June	2 564 m ²	0,020 m	0,086 m	220 m ³
July	2 564 m ²	0,020 m	0,086 m	220 m ³
August	2 564 m ²	0,020 m	0,089 m	227 m ³
September	2 564 m ²	0,030 m	0,129 m	330 m ³
October	2 564 m ²	0,040 m	0,177 m	454 m ³
November	2 564 m ²	0,040 m	0,171 m	440 m ³
December	2 564 m ²	0,040 m	0,177 m	454 m ³
YEAR	2 564 m ²	0,032 m	1,646 m	4 220 m ³
	(Average)	(Average)	(Total)	(Total)
IRRIGATION DEMAND FOR EXISTING LAWN				
	Planting Area (m ²)	Irrigation Depth per week (m)	Irrigation Depth per month (m)	IRRIGATION DEMAND (m ³)
January	128 659 m ²	0,025 m	0,111 m	14 244 m ³

Figure 269. Water calculations
(Author 2021)

The first phase of capture, convey, detain and filter will primarily take place using bio-swales. The bioswale depths and widths are designed using the Mannings equation and designed masonry steps are used at regular intervals to slow the water within the bio-swales to ensure infiltration. The bioswale runs along an arched pathway across the southern lawn to capture stormwater runoff and allow for recharge.



Bioswale Species palette

- Andropogon eucomis
- Crinum bulbispermum
- Crinum macowanii
- Hesperantha coccinea
- Juncus kraussii
- Kniphofia praecox
- Kniphofia ensifolia
- Stiburus alopecuroides

Figure 270-271. Water system bioswale (Author 2021)

For the second phase consisting of water table recharge, a planted detention pond in the form of the proposed, large manicured lawn circles will be used as short period detention to allow for recharge. Water is also captured in areas where water accumulates on site, silt traps are used to capture any silt that is still in the water that enters the storage tanks from surface run-off. Only a small volume of water is captured of the total run-off and stored for the use of the two new water features on the terraces where water normally accumulates in the rainy season. Besides the lawn circles being used for recreation and sport, they will be used to detain and recharge ground water during the rainy season. With the help of a stormwater engineer, the circles will be designed to detain stormwater for between 24 and 72 hours to allow for recharge.



Figure 271. Water accumulation on site (Author 2021)
Figure 272. Dam on site before 1910 (Hansen 2016)

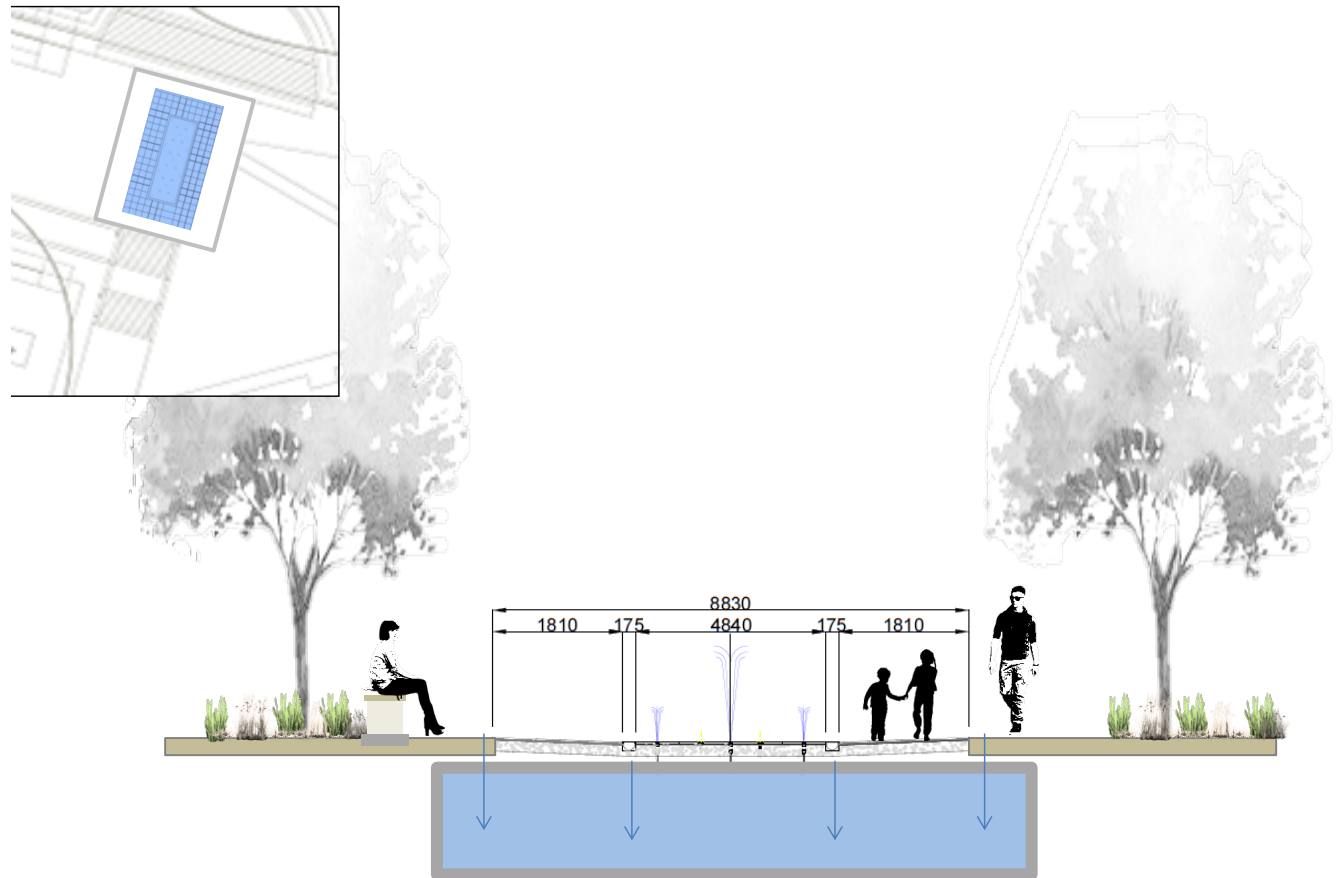


Figure 273. Water systems - water feature storage (Author 2021)



Detention pond - lawn circles 5000,7m²
Mayford Princess *Cynodon dactylon*

Figure 274-275. Water systems - Ground water recharge / detention ponds (Author 2021)

Ecology / Planting design:

The primary goal of the planting design is to articulate the lost narrative of indigenous planting on the hill, secondly to create a multi-sensory experience around the inclusive design interventions, and thirdly to renew the planting of the terraces by taking inspiration from early references to some of Baker's intentions with the plants, as well as paintings of the site by Pierneef 1939, K.A. Lausdell 1919 from the Memoirs of the First Botanical survey of South Africa (See fig. 20 & 208) and a similar painting done by Goosen in 1944 and N. Coetzee n.d. (See fig. 209 & 211).

For the terrace study, an attempt was made to identify the plants in these artworks and to compare them with current images of the site and existing planting palettes as identified on-site visits.

In the first known artwork drawn by K.A. Lausdell as a frontispiece for a botanical survey of South African plants and specifically those planted at the Union Buildings. This drawing clearly depicts the original gardens of the Union Buildings with Herbert Baker's original intent to create bright coloured gardens with scarlet, orange, and yellow flowers of sun-loving African plants, later described as *Aloes*, *Mesembriantheums* and *Cotyledons* that was planned to contrast against the stone terrace walls.

On the image, a number of different *Aloe*, *Cotyledon*, and *Euphorbia* species can be identified. If these species are re-introduced onto the site, they would fall within the current water-wise approach to planting, implemented by the Department of Public Works and it will create more permanent landscaping in the form of perennials rather than their current approach of using annuals and seedlings.



Figure 276. Union Buildings gardens from the Polica Memorial Photo by Elzbieta Sekowska n.d.(Online Adobe stock)

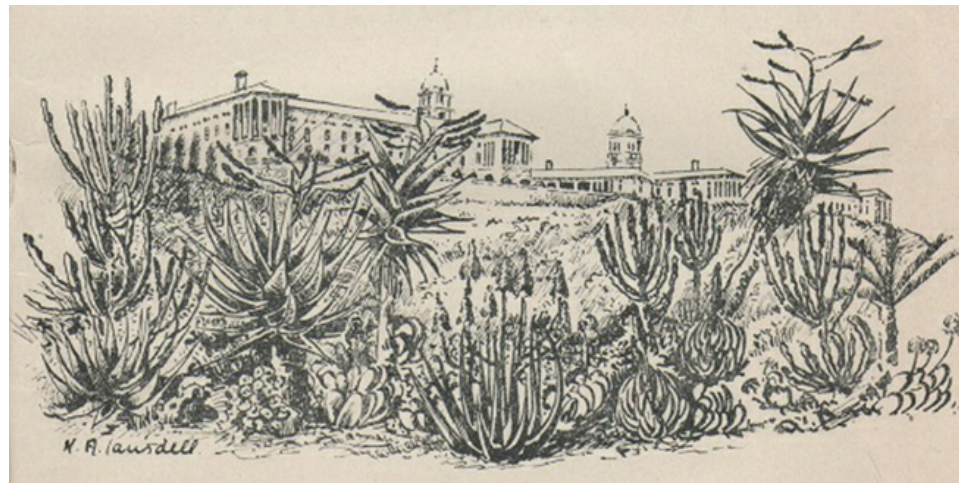


Figure 277. Remembering the original (Union Buildings drawing by K.A. Lausdell 1919)



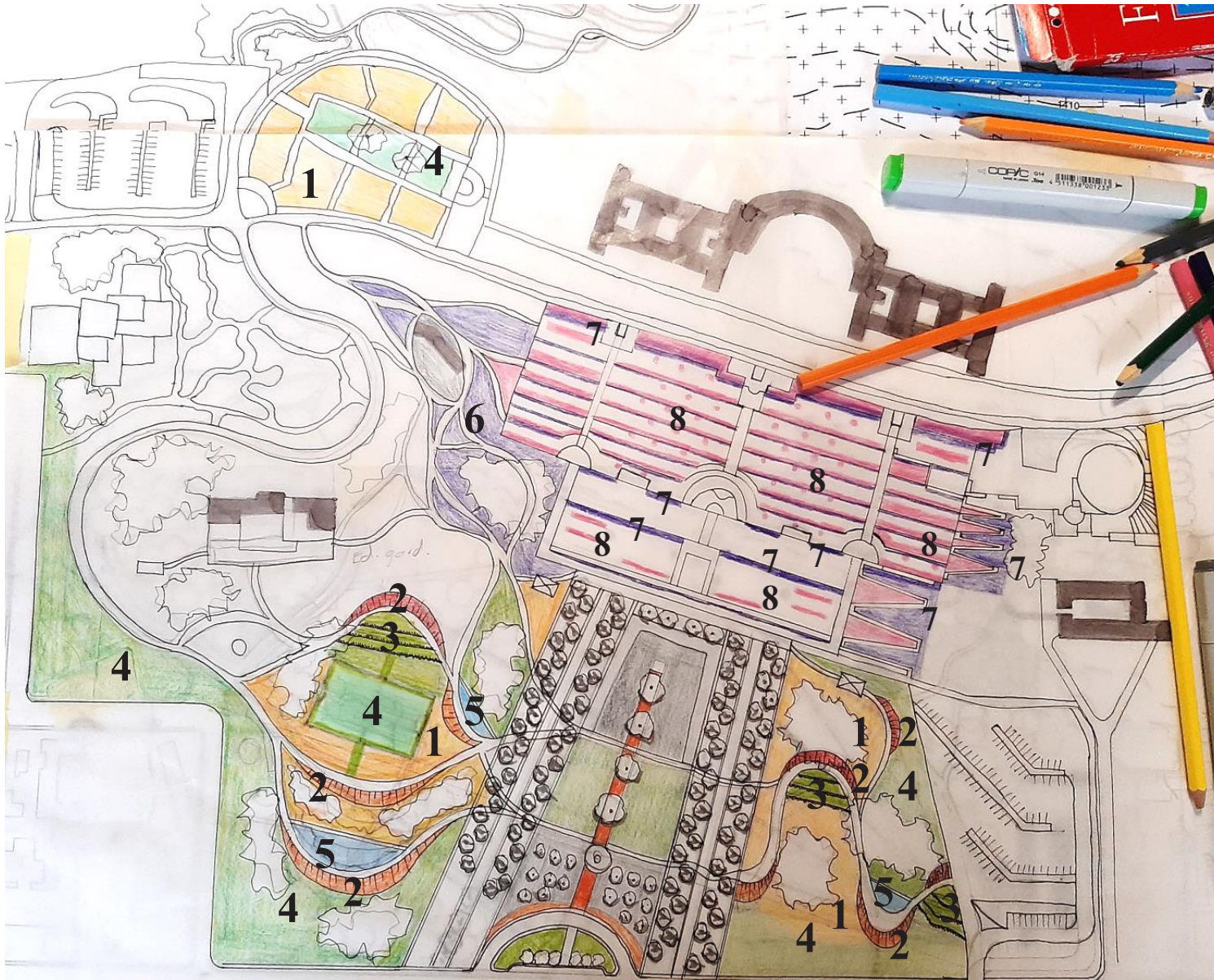
Figure 278. Union Buildings gardens Photo by Lisa S. Engelbrecht n.d.(Online Adobe stock)

The second and third images show similar paintings done by N. Coetzee for which the date is unknown and also by Goosen in 1944.

Since the plants seem similar in these artworks it can be assumed that Coetzee's painting was done more or less in the same period as Goosen's. The gardens show the classical approach to formal gardening in the form of topiaries and the use of *Cyperus* trees. Although these topiaries and these specific cyperus trees are no longer in this area on-site, similar topiaries and *Cyperus* trees can still be found on the terraces. What is interesting about these paintings is the depiction of clumps of grass species and what seems to be the indigenous *Dombeya* tree flowering with its beautiful small white flowers. The clumps of grasses with large white tufts appear to be the category 1 Invasive Alien species, pampas grass (*Cortaderia jubata* or *Cortaderia selloana*) which is native to South America. As can be seen, the last image depicts this area in the gardens as it looked like on the 25th of August 2021 which shows that the once beautiful gardens are now mostly lawn, *Dietes grandiflora*, *Tulbachia violacea*, *Violas*, *Irises*, and a *Rhus lancea* tree.

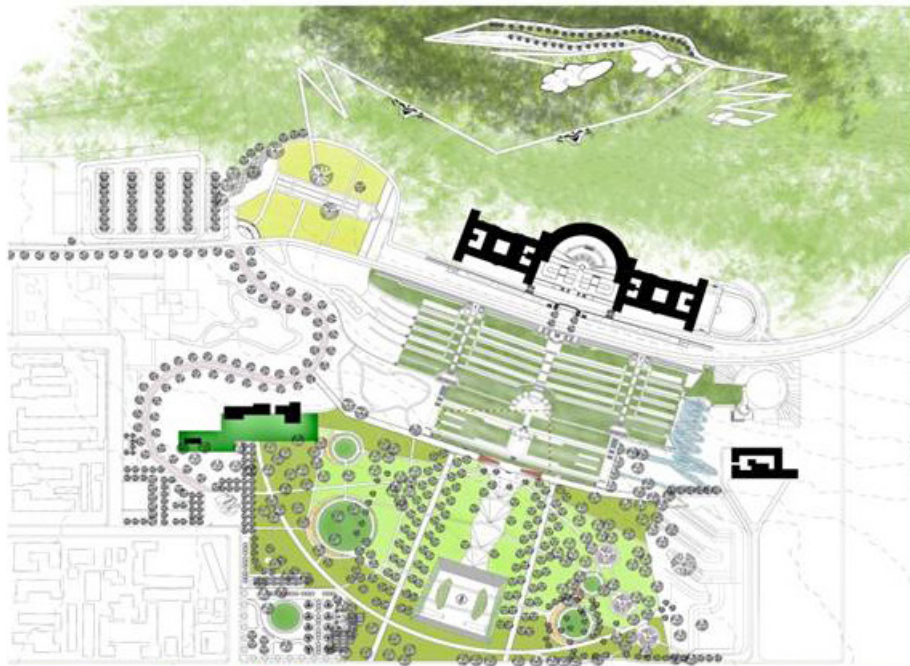


Figure 279-281. Planting over time (varies)



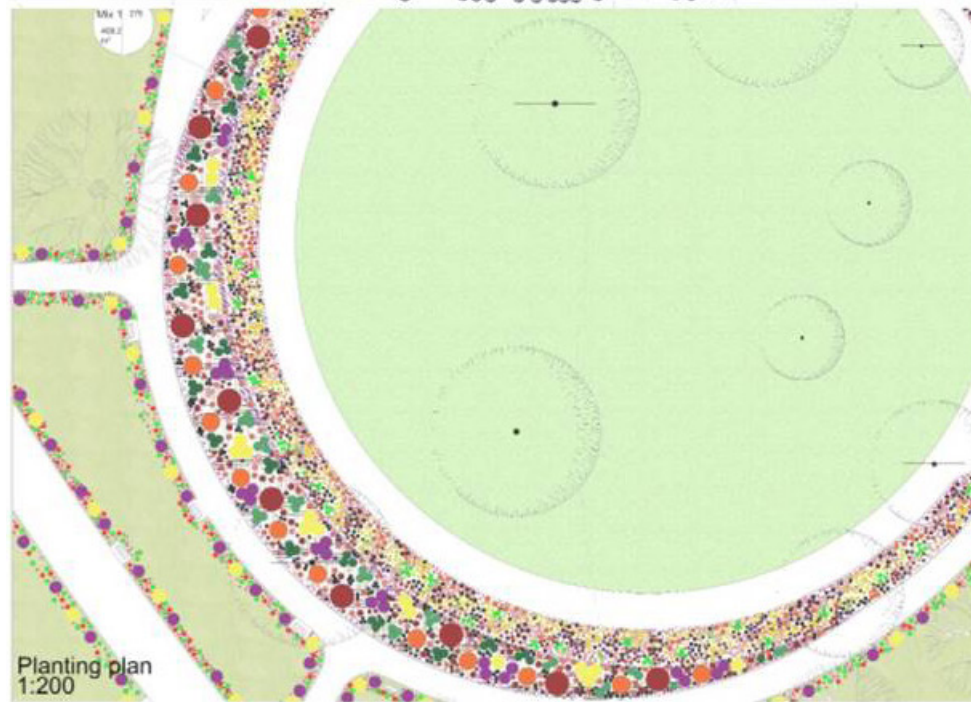
- 1 - Grassland habitat
- 2 - Rocky outcrop habitat - berms (northern slope and southern slope)
- 3 - Stepped lawn embankments
- 4 - Maricured lawn
- 5 - Detention pond
- 6 - Shade planting
- 7 - Shade terraces
- 8 - Sun terraces

Figure 282. Early plant zoning (Author 2021)



**Grassland palette -
Planted along edges of paths**

- Helichrysum* spp.
- Chlorophytum saundersiae* *Scabiosa incisa*
- Themeda triandra*
- Cenchrus ciliaris*
- Aerva leucura*
- Panicum maximum*
- Eragrostis curvula* & *racemosa*
- Melinis repens*
- Kylinga alba*
- Sporobolus stapfianus*
- Loudetia simplex*
- Aristida junceiformis*
- Aloe cooperi*
- Aloe greatheadii*
- Barleria pretoriensis*
- Eucomis autumnalis*
- Gladiolus dalenii*
- Freesia grandiflora*
- Bulbine abyssinica*
- Delosperma*
- Portulacaria afra*
- Monocymbium cerasiforme*
- Erythrina humeana*
- Dianthus*
- Crossandra greenstockii*

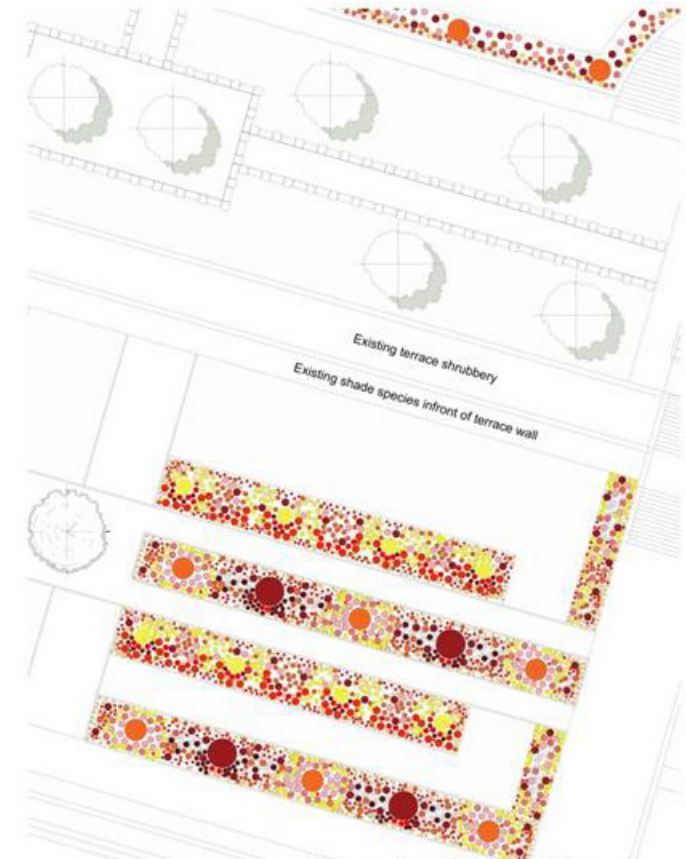


Active lawn circle
Cynodon dactylon "princess"

**Rocky outcrop palette -
Planted on berm around circle**

- Aloe cooperi*
- Aloe greatheadii*
- Aloe pretoriensis*
- Aloe verecunda*
- Aloe transvaalensis*
- Aristida junceiformis*
- Boophone disticha*
- Bulbine abyssinica*
- Cotyledon orbiculata*
- Crassula alba*
- Crassula multicaeva*
- Crossandra greenstockii*
- Dianthus moienis*
- Eucomis autumnalis*
- Falkia repens*
- Felicia filifolia*
- Felicia mucicata* *
- Gazania krebiana* *
- Gerbera jamesonii*
- Huemia transvalensis*
- Hypoxis hemerocallidea*
- Hypoxis interjecta*
- Hypoestis forskoali*
- Ipomoea crassipes*
- Kalanchoe sexangularis*
- Kalanchoe thyrsiflora*
- Kylinga alba*
- Melinis nervigulumis*
- Melinis repens*
- Portulacaria afra*
- Scadocus puniceus*
- Senecio barbetonicus*
- Sporobolus stapfianus*
- Stapelia gigantea*
- Themeda triandra* "ice"
- Tulbachia violacea*
- Tulbachia violacea* "ashanti"

Planting plan
1:200



**Warm coloured - South African,
sun-lovers planted on terrace 7 & 8**

- Aloe arborescens* - Krantz aloe (Red)
- Aloe arborescens* yellow - Yellow Krantz aloe
- Aloe cooperi* - Grassland aloe (Red)
- Aloe greatheadii* - Spotted aloe (Red) [winter]
- Aloe marlothii* - mountain aloe (orange)
- Aloe pretoriensis* - Pretoria aloe (Orange / red)
- Aloe transvaalensis* (Aloe zebrina) - Zebra leaf aloe (Orange / Red) [summer]
- Aloe verecunda* - Grass aloe (Orange / red)
- Bulbine abyssinica* - Bushy bulbine (Yellow)
- Cotyledon orbiculata*
- Crossandra greenstockii* - Bushveld crossandra (Orange)
- Crassula capitella* "campfire" - Red flames (red)
- Erythrina humeana* - Dwarf coral (Red)
- Freesia grandiflora* - Forrester freesia (Red)
- Gazania krebsiana* - terracotta gazania (yellow & orange)
- Kalanchoe sexangularis* - Bushveld kalanchoe - (Red)
- Kleinia fulgens* - coral senecio (red)
- Melinis repens* - Natal red top (Red)
- Melinis nervigulumis* - bristle-leaved red-top grass (red)
- Stapelia leendertziae* - bell stapelia (Deep red)
- Themeda triandra* - Red grass (Red)
- Triumfetta sonderii* (red seed balls)

Figure 283. Planting areas (Author 2021)

Existing Species colour calender:

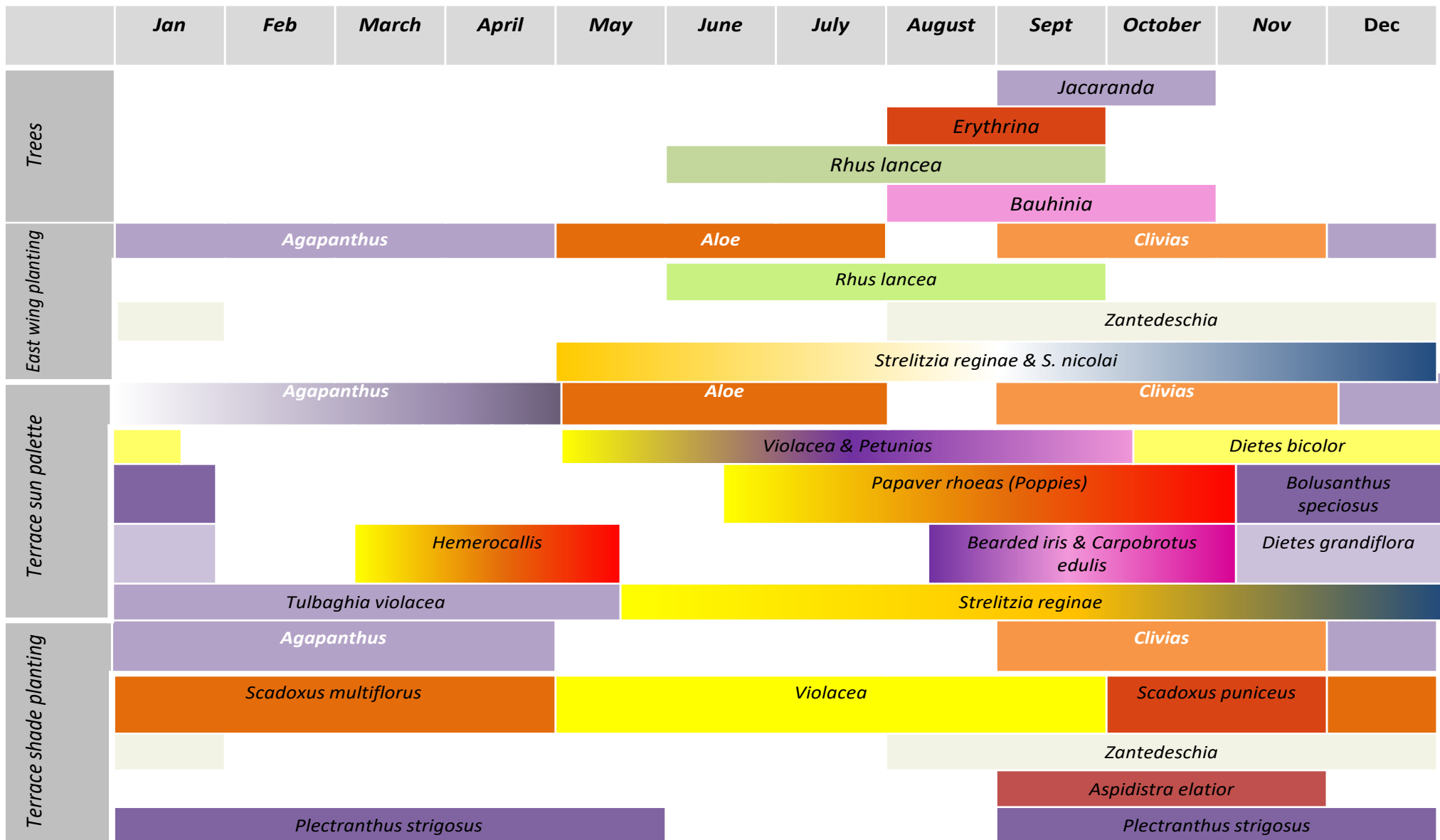


Figure 284. Existing species colour calender (Author 2021)

Existing specie palette (East wing palette)

East wing

Agapanthus sp.

Strelitzia nicolai

*Monstera
deliciosa*

*Zantedeschia
aethiopica*

Broodboom -
Encephelartos sp.

Strelitzia reginae

Aloe arborescens

Searsia lancea



Figure 285. Identifying existing species on site. (Author 2021)

Existing specie palette (Shade & tree palettes)

Tree palette

- Berg karee – *Searsia lyptodicta*
- Bauhinia variegata*
- Podocarpus henkelii*
- Pinus roxburghii*
- Coral tree - *Erythrina lysistemon*
- Searsia lancea*
- Jacaranda mimisifolia*
- Celtis africana*



Shady Terrace palette

- Zantedeschia aethiopica*
- Pansies (*Viola tricolor*)
- Agapanthus sp.*



Shade wings palette

- Ivy – *Hedera helix*
- Cast iron plant – *Aspidistra elatior*
- Mondo grass – *Ophiopogon japonica*
- Clivia sp.*

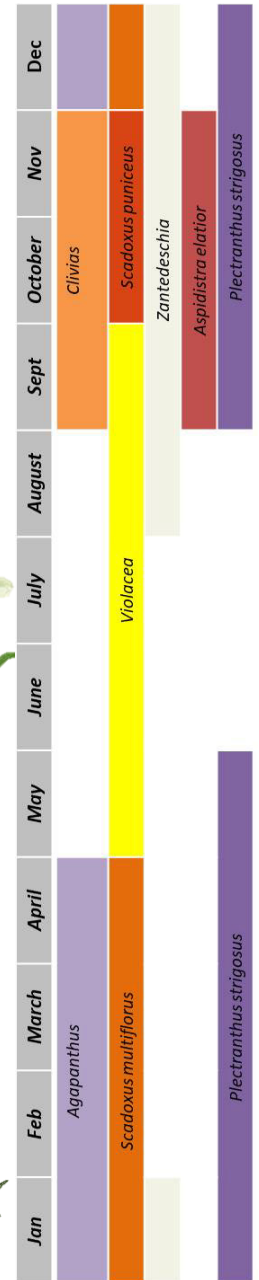


Figure 287. Identifying existing species on site. (Author 2021)

Masterplan - proposed planting plan

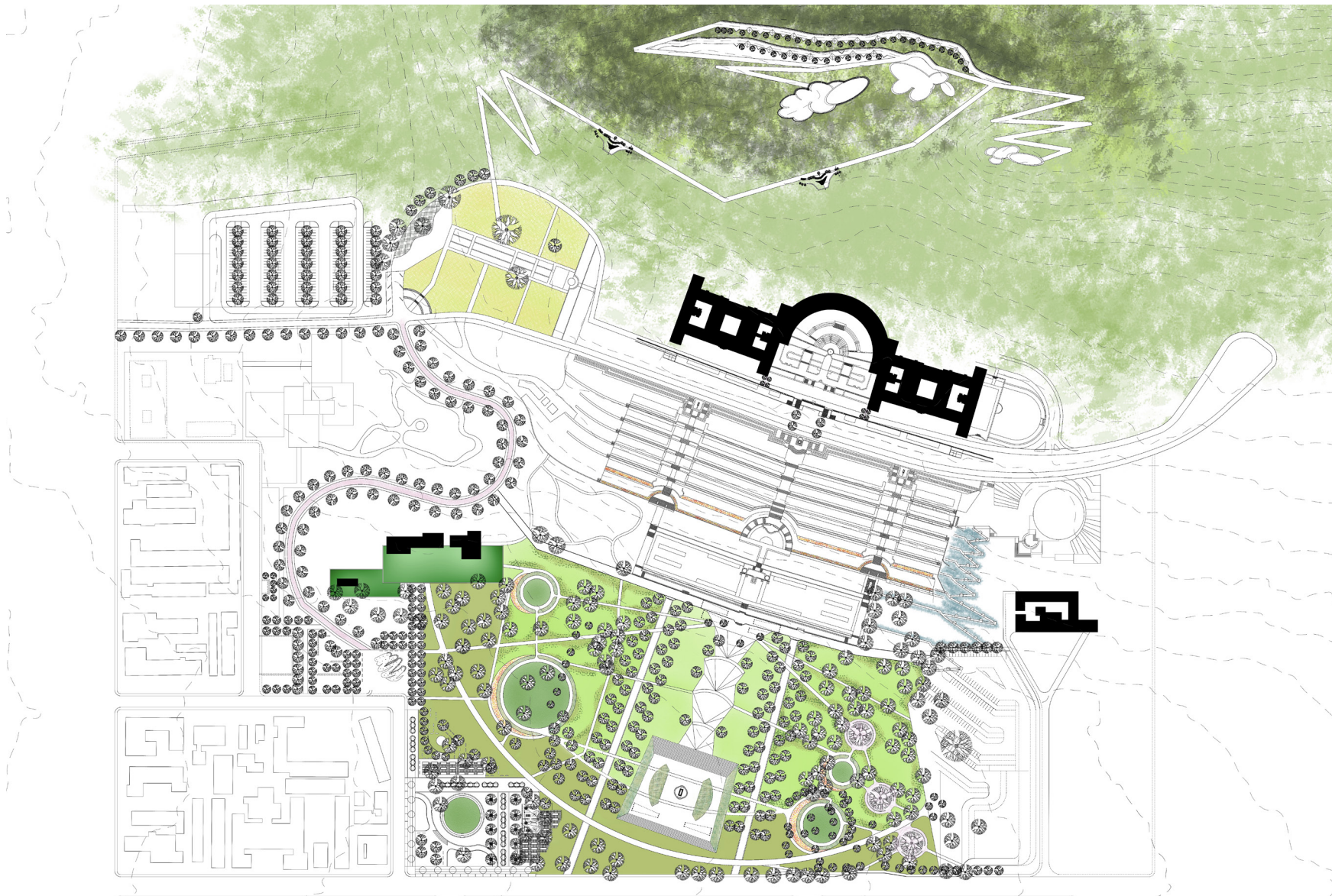


Figure 288. Planting on Masterplan. (Author 2021)

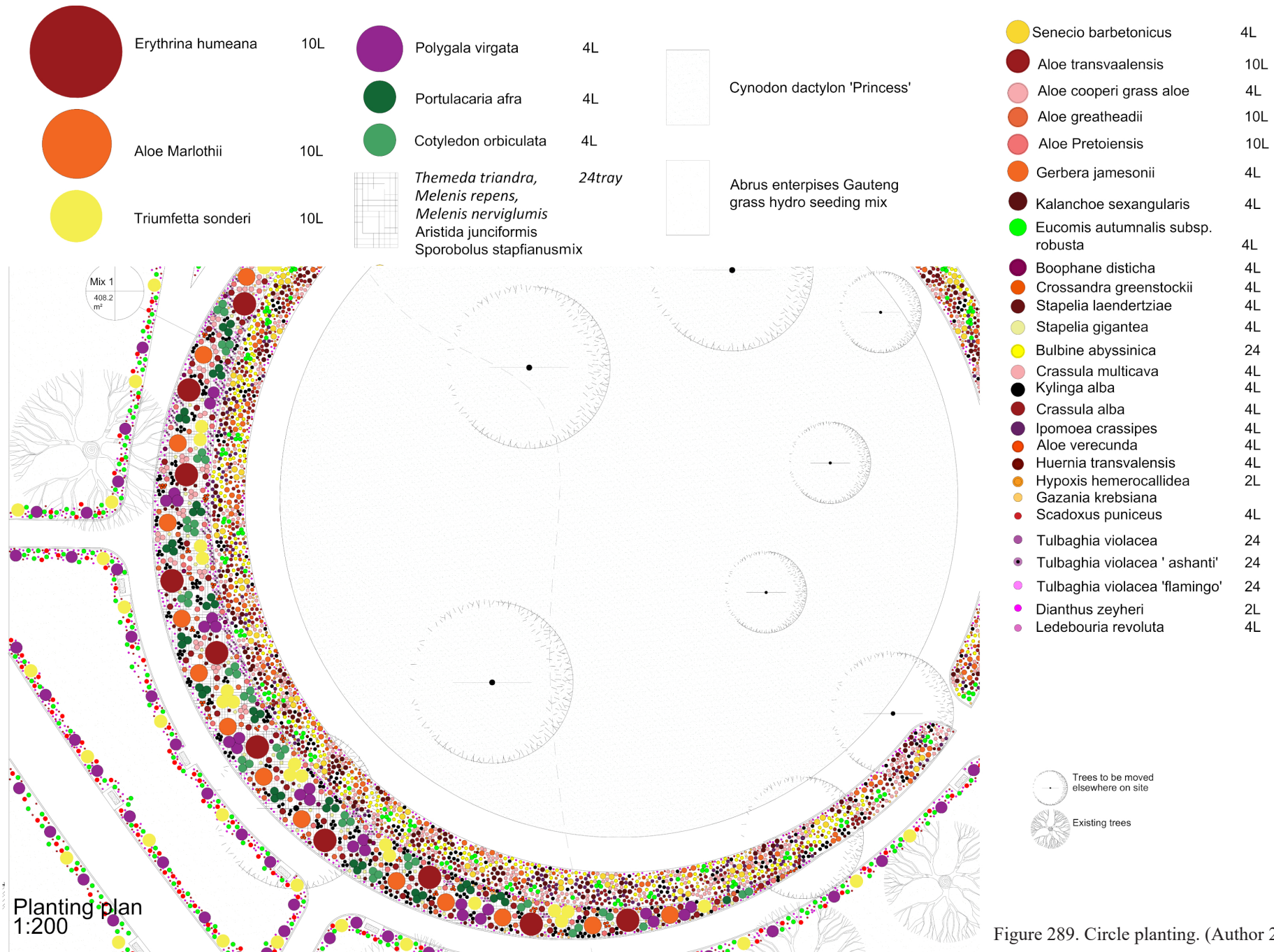
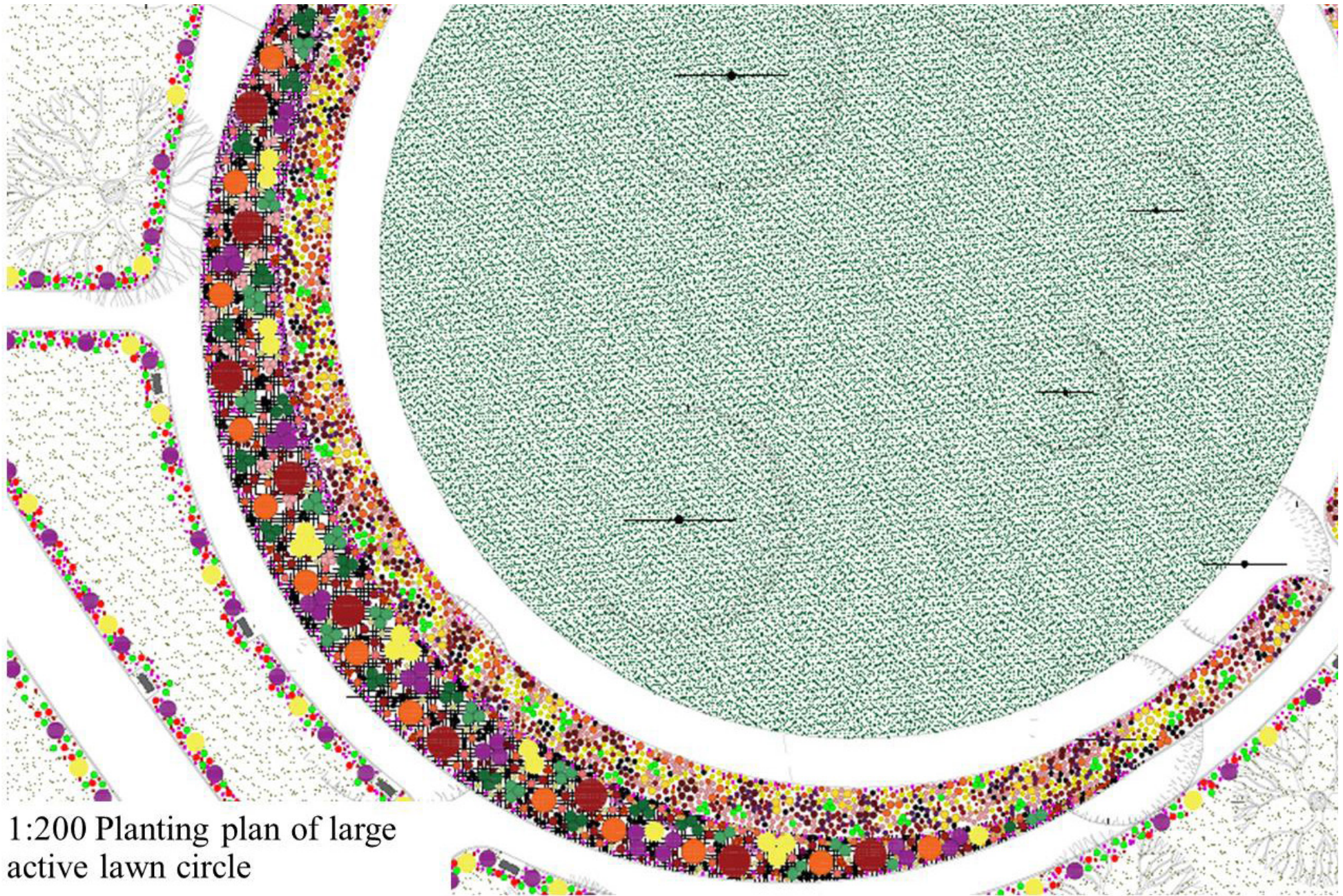


Figure 289. Circle planting. (Author 2021)



1:200 Planting plan of large active lawn circle

Figure 290. Circle planting. (Author 2021)



Figure 291. Circle planting perspective. (Author 2021)





Figure 293. Main paths planting perspective. (Author 2021)

Sensory garden Palette (ramps) – Touch, smell, taste, sound

Sensory garden palette																							
Plant name		Plant type	Size	Seasons												Attracts			Plasticity				
Common name	Botanical name			J	F	M	A	M	J	J	A	S	O	N	D	Insects	Fauna & Birds	Humans	Light	Moisture	Soil type	Hardiness	
Lemon verbena	<i>Aloysia citrodora</i>	Deciduous Perennial herb	Up to 3m tall						Dormant period				White to lilac tiny flowers						Smell and taste	Full sun		Well drained soil	
Lemon grass	<i>Cymbopogon citratus</i>	Grass	90cm to 2m tall, 1,2m wide						Dormant in cold areas										Smell and taste	Full sun to semi-shade	Moderate	Well drained Loamy soil	Frost sensitive
Stork's bill, star burst pelargonium, wildemalva	<i>Pelargonium luridum</i>	Deciduous Perennial herb	1m tall	Cream to pink flowers		Elliptical Seeds				Dormant period								Grazing	Smell	Full sun	Moderate	Well drained. Sandy, loam	
Starry wild jasmine	<i>Jasminum multipartitum</i>	Evergreen climber or shrub	Up to 1,5-3m		Green to bluish-black berries							40mm diameter perfumed white flowers				Butterflies and moths	Insects attract insectivorous birds, Game grazing	Smell	Prefers partial shade	Low to moderate	Well drained soil with organic material, sandy loam	Relatively hardy, sensitive to frost	
Wild mint	<i>Mentha longifolia</i>	Perennial herb	0,5-1m Up to 1,5m tall	White to mauve flowers													Bees and butterflies		Smell	Full sun to semi shade	Moderate to high	Sandy loam	
Rose-scented geranium	<i>Pelargonium graveolens</i>	Shrub	1,3m tall, 1m wide									White to pinkish flowers				Butterflies, bees		Smell	Semi-shade	Moist	Sandy loam		
Golden sage	<i>Salvia aurea (africana-lutea)</i>	Shrub	Up to 2m	Brown flowers from spring sometimes year round															Smell and touch	Full sun	Low	Well-drained, sandy loam	Hardy
Wild garlic	<i>Tulbaghia violacea (Tulbaghia pearl, oshanti and flamingo)</i>	Bulbous plant	0,5m	Pinkish mauve flowers garlicky scented													Moths, bees and butterflies		Smell	Sunny to semi-shade		Most soils, prefers well-drained composted	Drought resistant
Lamb's ear	<i>Stachys byzantina</i>	Groundcover																	Touch	Full sun	Low to moderate	Well drained sandy loam	Drought tolerant
Natal red top	<i>Melinis repens</i>	Grass	Up to 1,5m	White pinkish small scented flowers														Birds	Touch	Full sun		Sandy loam	
Cat's tail	<i>Asparagus densiflorus 'Meyersii'</i>	Perennial	30-60cm tall by 400-700 wide	White pinkish small scented flowers														Birds	Touch	Full sun, semi-shade	Moderate	Sandy loam	Drought tolerant
Yellow everlasting	<i>Helichrysum setosum</i>	Perennial	Up to 40cm	Yellow flowers															Touch and smell	Full sun		Sandy loam, well drained	Hardy
Wild pear	<i>Dombeya rotundifolia</i>	Tree	3-6m Up to 10m tall							White to cream flower clusters							Bees and butterflies		Touch	Full sun	Moderate	Loam, sand	Fire resistant trunk
Raasblaar blaar	<i>Combretum zeyheri</i>	Tree	10-15m	Green flowers													Butterflies and moths	Horn bill bird	Sound	Full sun semi-shade	Moderate	Sandy Well drained	

Figure 294. Proposed sensory garden species (Author 2021)

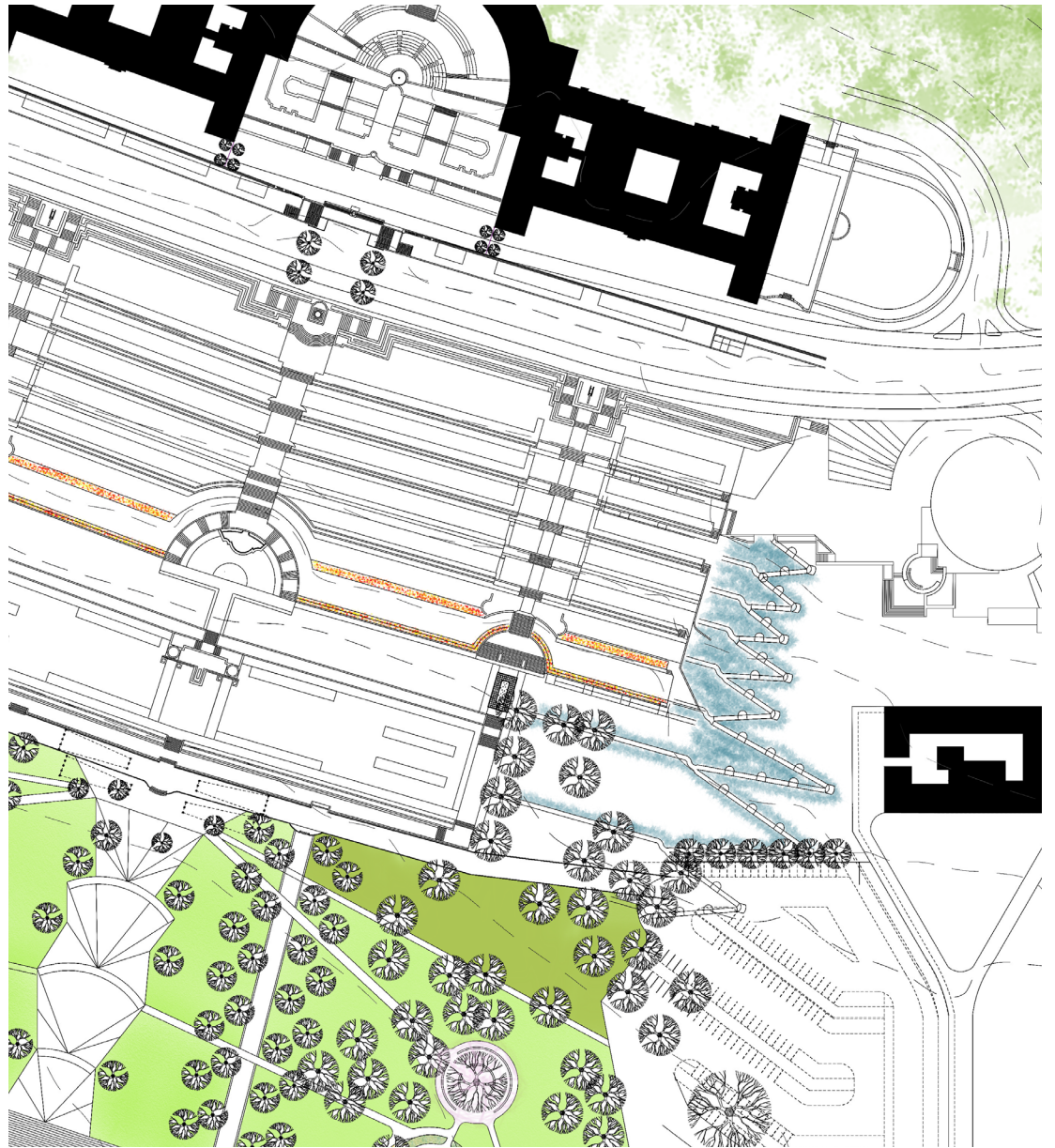
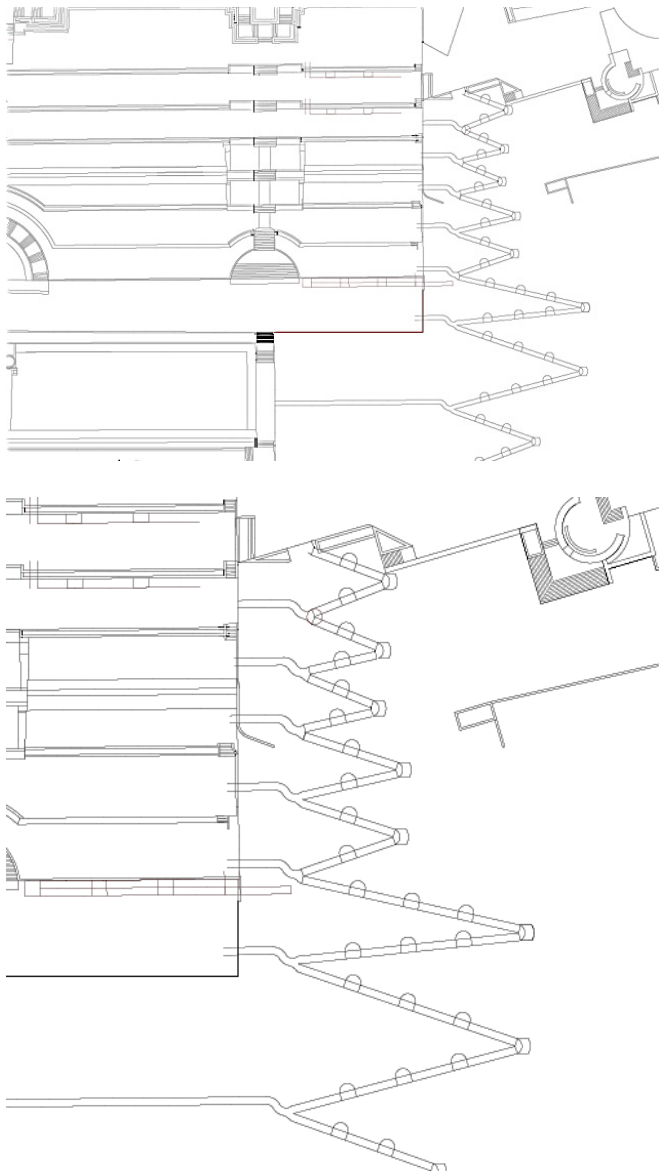
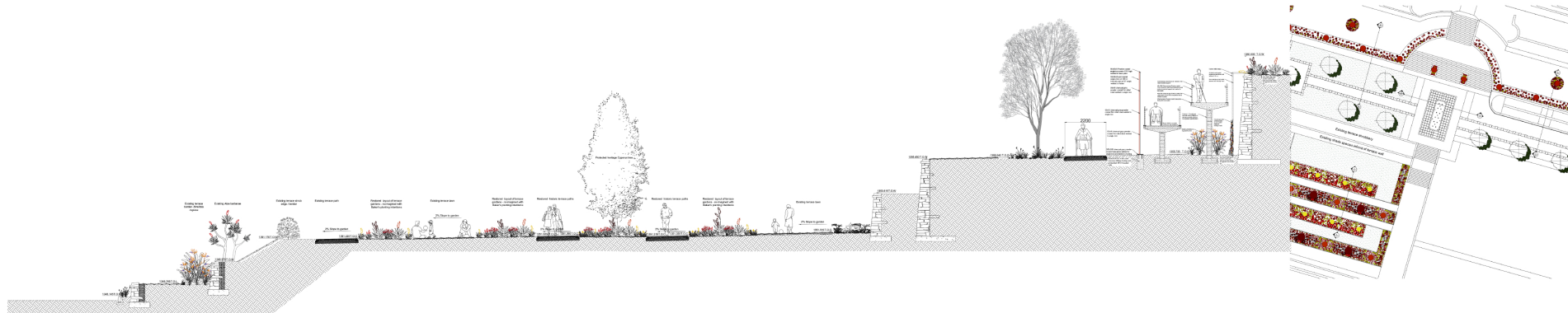


Figure 295-296. Proposed sensory on plan (Author 2021)

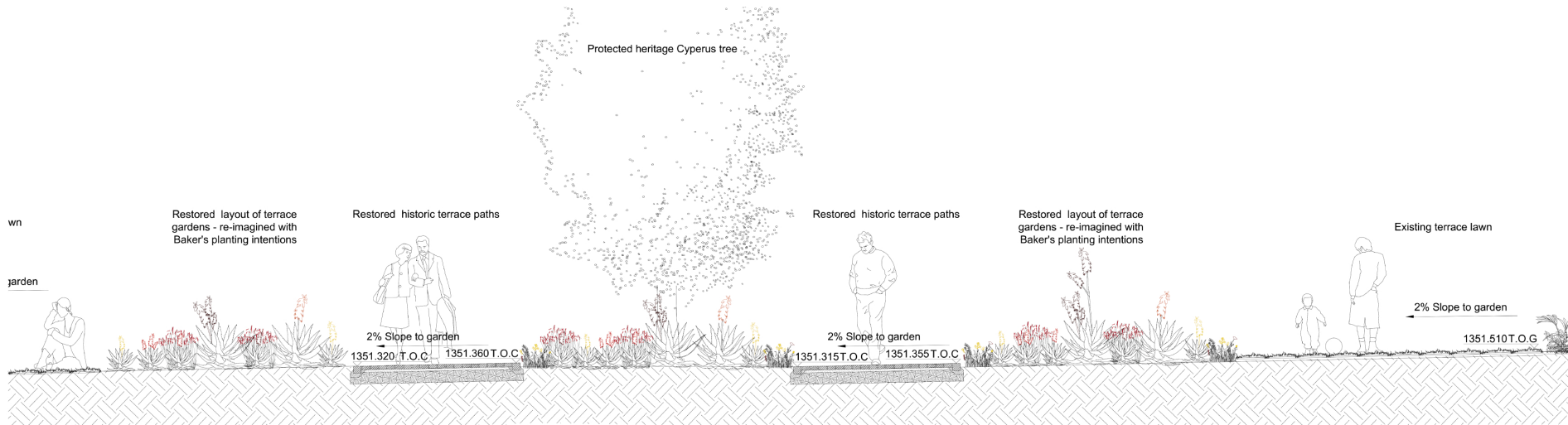
Terrace planting design - based on Baker's planting intentions



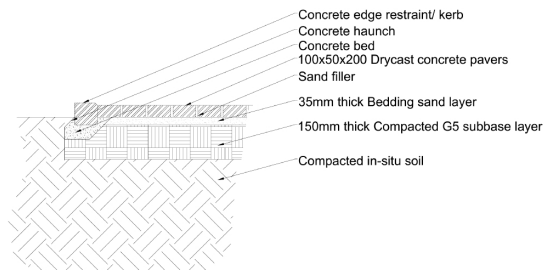
Figure 297. Terrace planting design (Author 2021)



Terrace Section AA 1:100 (@A1)

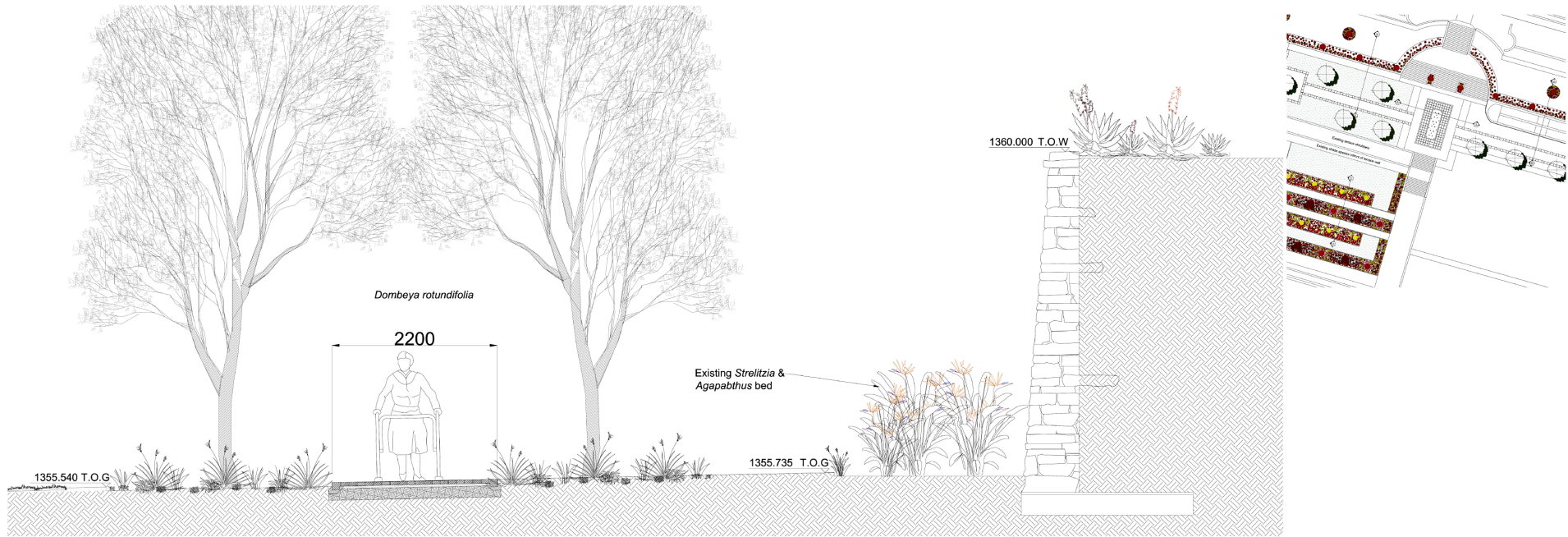


Section AA 1:25

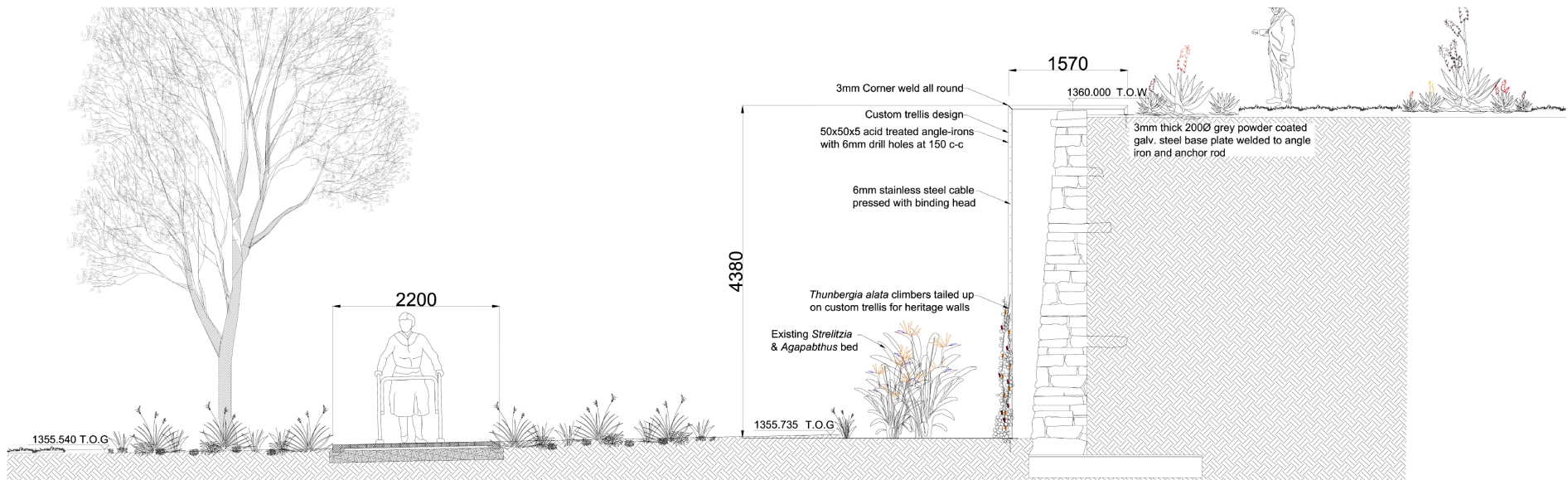


Paving edge detail
1:10

Figure 299. Terrace planting design sections (Author 2021)



Section C2 1:25



Section C3 1:25

Figure 300. Terrace planting design sections (Author 2021)

Women’s protest routes Palette – Mostly white blooms

Plant name		Plant type	Size	Seasons												Attracts			Plasticity			
Common name	Botanical name			J	F	M	A	M	J	J	A	S	O	N	D	Insects	Fauna & Birds	Humans	Light	Moisture	Soil type	Hardiness
Wild pear	<i>Dombeya rotundifolia</i>	Tree	3-6m Up to 10m tall										White to cream flower clusters			Bees and butterflies		Touch	Full sun	Moderate	Loam, sand	
White sedge	<i>Kylinga alba</i>	Sedge	30cm	Year round White balls (flowers)															Full sun	Moderate	Loamy	Very hardy
Wilde-tabak	<i>Silene undulata</i>	Perennial herb	Up to 1,2m	White to pale pink scented flowers												Bees and butterflies				Loam		
White paint brush	<i>Haemanthus albiflos</i>	Bulb	25cm																Shade			
Snowflake grass	<i>Andropogon eucomis</i>	Grass	50cm	Glistening white seeds													Birds		Full sun	Moderate	Loamy	Hardy
Silver andropogon	<i>Andropogon huilensis</i>	Grass	1m									Silvery white feathery inflorescences				Birds		Full sun	Moderate to high	Sandy loam	Hardy	
	<i>Themeda triandra 'ice'</i>	Grass	20-80cm									Silvery white inflorescence						Full sun or semi-shade		Loam	Fire resistance	
Candelabrum lily	<i>Albuca nelsonii</i>	Bulb	1m										White striped green flowers						Semi-shade or sun		Loam	
African lily	<i>Agapanthus 'white ice' & 'white giant'</i>	Bulb	40cm – 1,5m																Full sun semi-shade	Low to moderate	Any well composted soil	



Figure 300-302. Proposed women’s memorial route species and section (Author 2021)

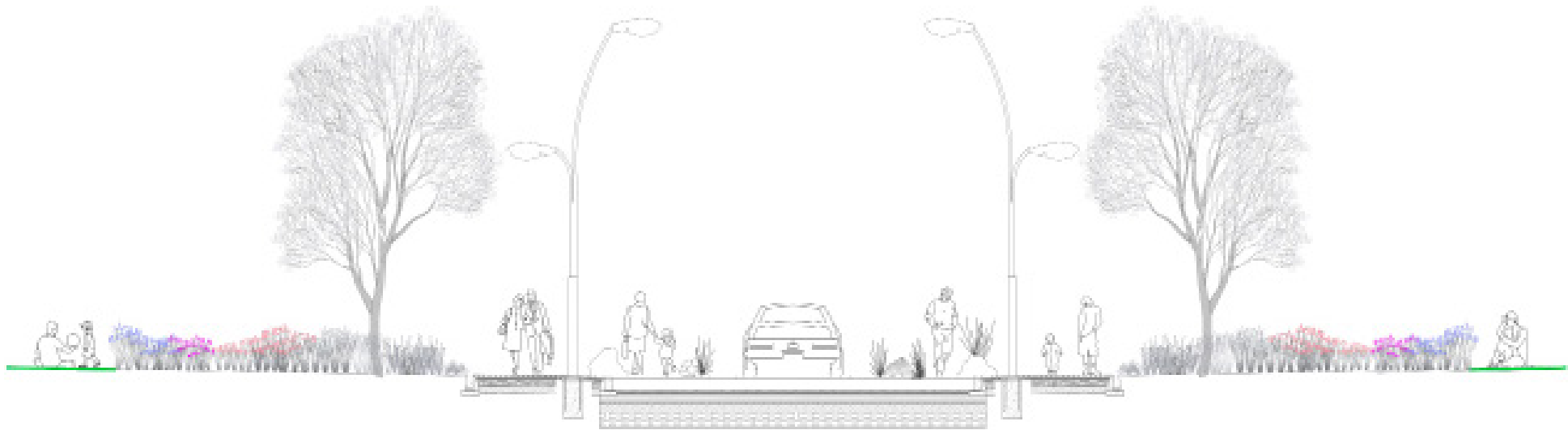


Figure 303-304. Proposed women's memorial route sections (Author 2021)

Concentration camp memorial route

Palette - fire

Plant name		Plant type	Size	Seasons												Attracts			Plasticity							
Common name	Botanical name			J	F	M	A	M	J	J	A	S	O	N	D	Insects	Fauna & Birds	Humans	Light	Moisture	Soil type	Hardiness				
Naboom	<i>Euphorbia ingens</i>	Succulent Tree	Up to 12m													Butterflies and bees	Birds nesting		Full sun	Low	Sandy					
Century plant	<i>Boophone disticha</i>	Bulb														Pink to red sweetly scented flowers			Full sun		Sandy well drained	Fire resistance				
Wild pear	<i>Dombeya rotundifolia</i>	Tree	3-6m Up to 10m tall													Bees and butterflies		Touch	Full sun	Mode rate	Loam , sand	Fire resistant trunk				
Red grass	<i>Themeda triandra 'ice'</i>	Grass	20-80cm																Full sun or semi-shade		Loam	Fire resistance				
Star flower	<i>Hypoxis hemerocallidea</i>	Tuberous perennial	40cm													Dormant in fire season				Bees	Grazing		Full sun	Low to mode rate	Well drained sandy loam	Fire tolerant
Chocolate bells	<i>Trichodesma physaloides</i>	Perrenial herb, shrub	0,5m													Pink brownish flowers			Full sun		Sandy loam	Fire resistance and fire stimulated				

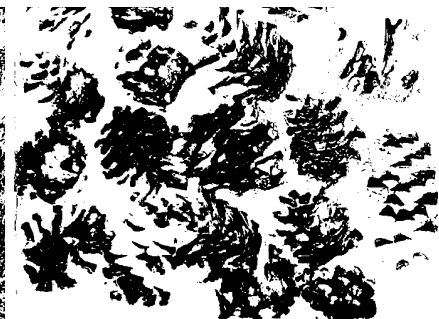
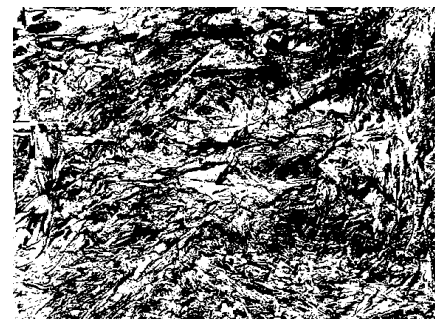
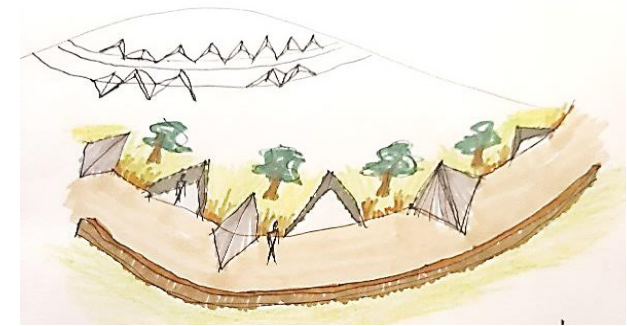
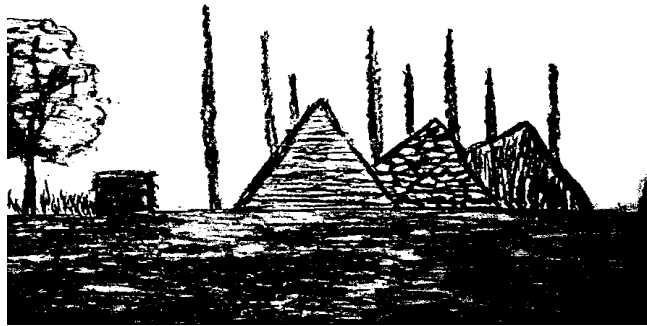


Figure 305-309. Proposed concentration camp plant species, design informant and design form and materiality development (Varies)

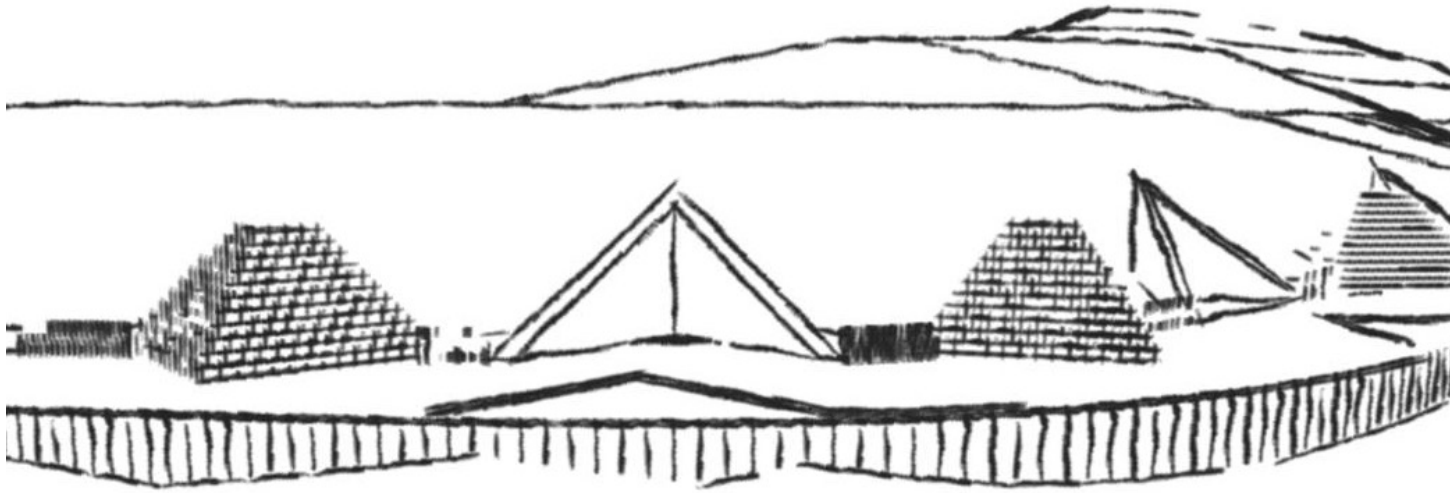


Figure 306-307. Proposed concentration camp remembrance route model(Author 2021)

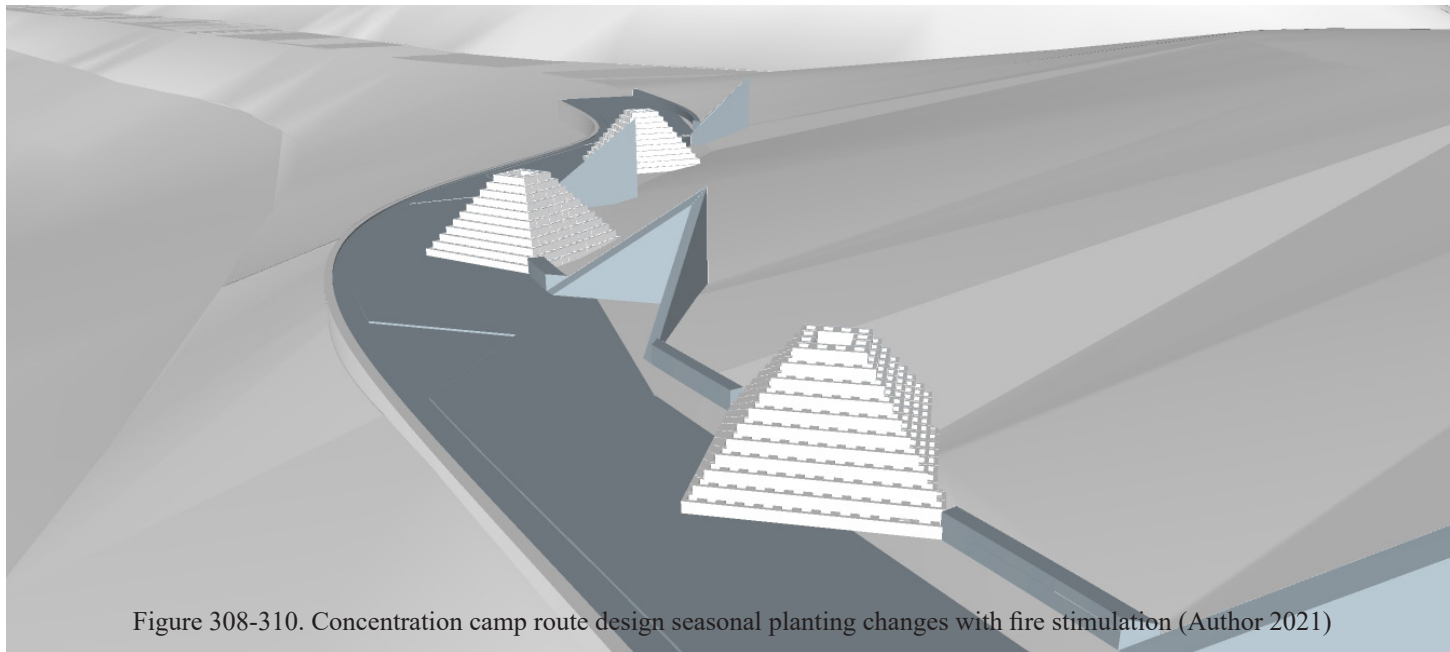


Figure 308-310. Concentration camp route design seasonal planting changes with fire stimulation (Author 2021)

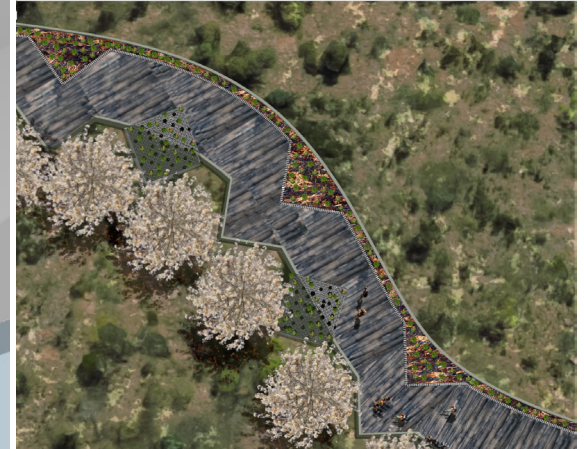
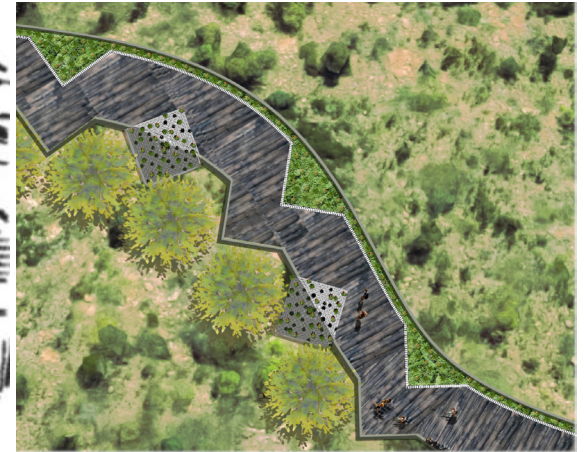




Figure 311. Proposed concentration camp route perspective (Author 2021)

Concentration camp memorial route

Inspired by the scorched earth policy implemented during the Anglo-Boer War

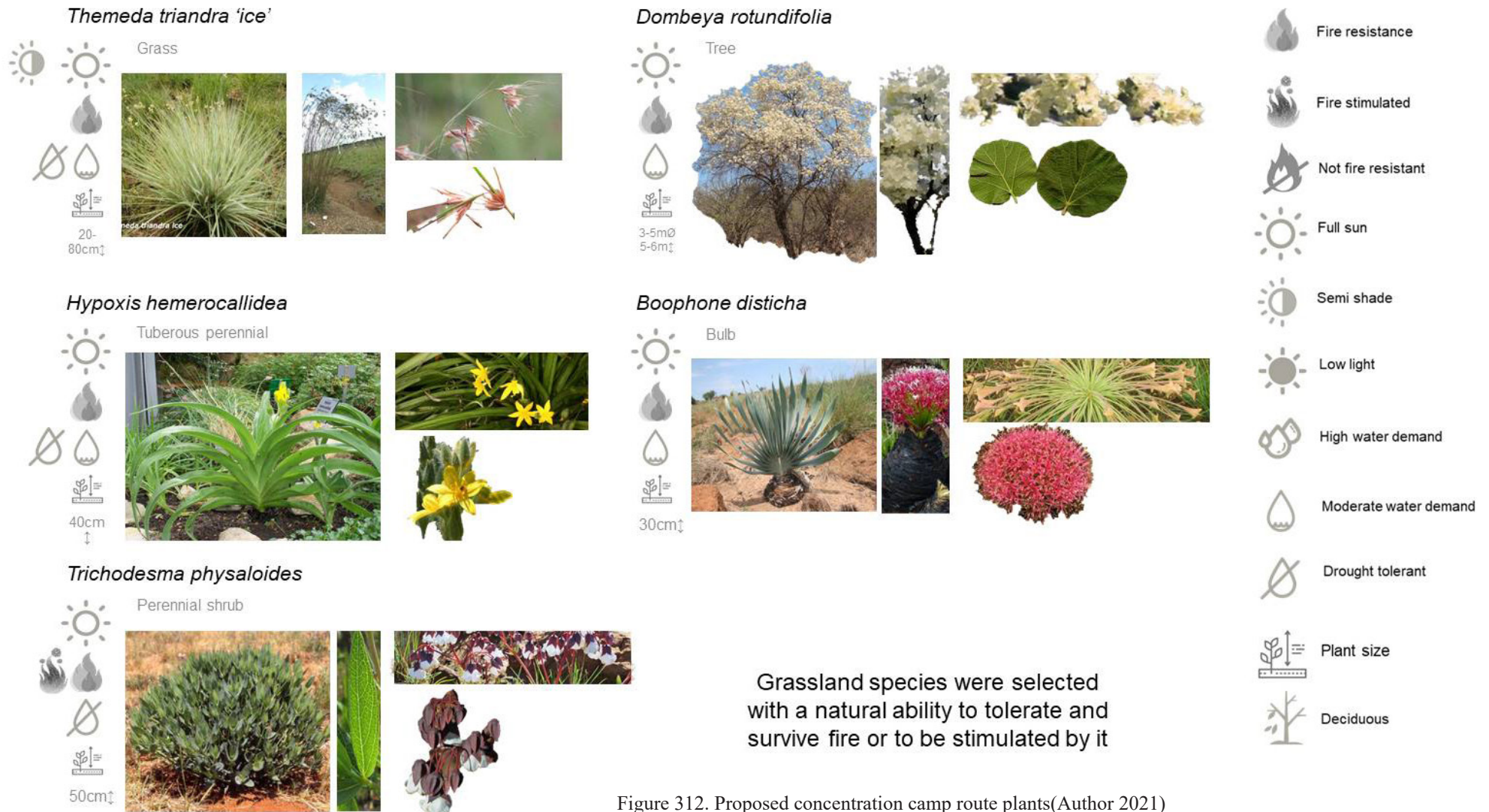


Figure 312. Proposed concentration camp route plants(Author 2021)

Material and furniture approach



A palimpsest heritage approach is taken towards the design which implies a process of layering of physical change and meaning over time. It includes that new layers can be either **uncovered or added** to the **existing, highlighting historical importance and cultural relevance**.

One key principle of the **Burra Charter**, was applied where **new insertions and interventions**, (besides restoration or reconstruction) should **not replicate the heritage fabric** but be **distinct and clearly identifiable**.

In terms of **materiality and language** this stance is taken to find an **alternative to the existing stone work** that would **complement it, but be clearly identifiable** as new and imitation should be avoided (Article 20 and 22 of the Burra charter).

One material was identified on the site that is recurrently used in newer areas and distinct from the original masonry and stone work, it is concrete pavers. So as **complimentary stone alternative, concrete was chosen as coherent language throughout the design** rather than completely alternative materials such as metal or timber. Repetition with variation is key, as **concrete will be repeatedly used in the different areas**, but with variation in colour and texture to compliment the specific use and atmosphere of that area.

The New work will respect the significance of the place through consideration of the placement, form, bulk, scale, character material and colour and texture.

- **The design approach I took for the design is that of contrast.**
- Through contrast, change and difference it is patently evident as the addition or extension is set against that which exists.

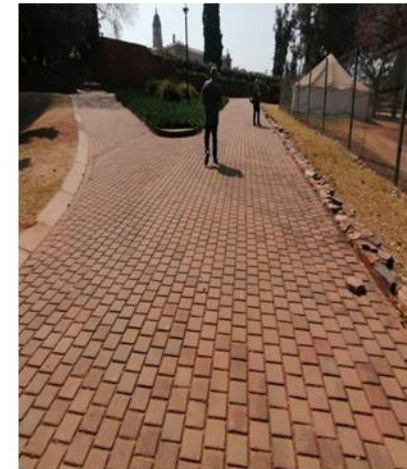


Figure 313-318. Existing site material photographs (Author 2021)

Heritage principles applied

Insertions and interventions, (besides restoration or reconstruction) should **not replicate the heritage fabric** but be **distinct and clearly identifiable** (Burra charter 20&22)

Adaptation should involve minimal change to significant fabric, achieved only after considering alternatives (Burra charter 21,1)

Changes which reduce cultural significance should be reversible, and be reversed when circumstances permit (Burra charter 15.2)

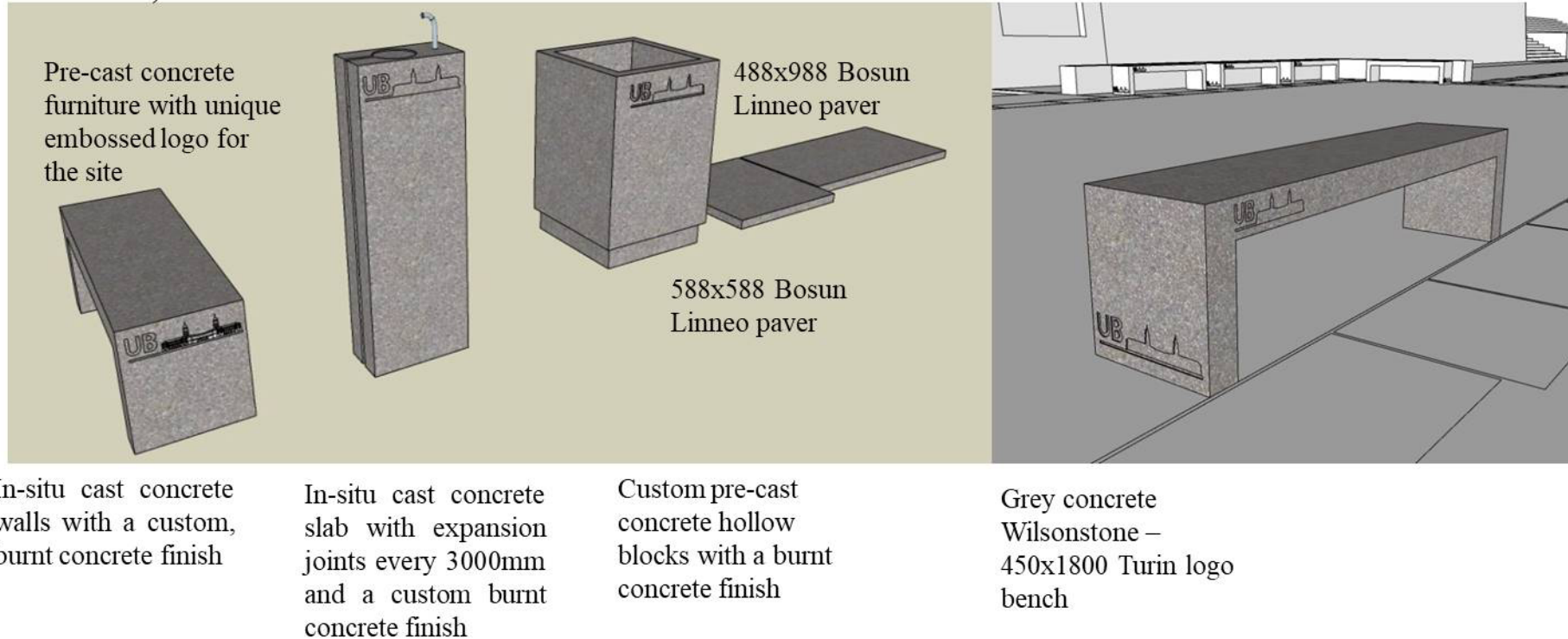


Figure 319. Furniture design (Author 2021)

Conclusion:

In conclusion, I believe that the careful consideration and design of accessibility and materiality, and planting has allowed the gardens of the Union Buildings to become a truly transformed landscape and a wholly inclusive garden for all visitors with an enhanced sensory experience throughout the site. The careful experimentation with planting and materiality has allowed the envisioned lost narrative spaces to come to life and no longer only to act as forgotten tales of the site in historical texts and lastly by reconsidering maintenance issues and nuisances on-site, the new functional elements that were once believed to have been pure maintenance issues have also become social and recreational aspects.

Critical reflection

The heritage value of the site demands it to be respected, conserved and protected, but pure preservation or restoration was never the project's intention. Throughout the dissertation process, consisting of continuous research and experimentation, it became evident (repeatedly) that a contemporary design for the Union Building should not lie with constant preservation, nor should it be completely restored to an earlier glory. However, it also became clear that the site should be transformed for the contemporary society and that the design should honour the multiple narratives of the place.

Reflecting on my original normative position, I hold fast to the opinion that there is no single aesthetic approach and solution to heritage projects and that each project, site, and even specific area on the site should be dealt with individually, with respect and appropriately. I still believe that both a vernacular and aesthetic solution could work in such a project as long as every design method is underpinned by, and every decision is based on respecting the site's heritage. Throughout the dissertation process, it became more and more clear that it would be impossible to fit the Union Buildings site into one single binary heritage approach "box" with a single heritage approach such as preservation or restoration. The site is far too rich in vast layers of heritage and a collection of cultures and events that played a role in the shaping of the site over time. Some areas call for restoration, others for preservation, and some for adaptive reuse whilst those areas with no significant heritage value can be re-imagined for contemporary use. I concluded that if one single solution should be applied across the site, it would most likely lead to the site's stagnation, or at least that of portions of the site would over time lose their value to the public and become deserted. Thus a post-modernist approach of pluralities is indeed, in my opinion, the best solution to deal with the different areas of existing heritage with different heritage approaches. It can also allow for the design to embrace and include the multiple forgotten narratives and histories on-site whilst accommodating diverse layers of uses in a contemporary way.

Reflecting on the design process and iterations: Although the original intention of the project was to re-imagine the Union Building gardens as a mere robust, public park and possible indigenous garden, this soon changed with the progressive research and repetitive design. As the research of the site progressed, and by studying and attempting to understand the significant history of the site, more and more layers of forgotten heritage were uncovered. So this theme of the lost and forgotten heritage influenced the main aim of the project, to articulate and celebrate these forgotten layers. This theme and aim influenced the program, design form, materiality, and planting slowly revealing the contemporary design.

It was difficult to attempt at unique and interesting form making that could elevate the site to an exciting "modern" park, because this approach and experiments of manipulating the topography and landscaping, too often treated the site somewhat as tabula rasa (a clean slate) disrespecting or ignoring the heritage. So it was concluded that these approaches were not appropriate for a heritage site and thus the design was dealt with in a more respectful manner that would not only preserve and restore the terraces and heritage sculptures, but also the Southern lawn with its heritage trees.

Critical reflection

Future recommendations: The development of the design for this project was primarily driven by the site's history and physical heritage structures, but it can be very beneficial in the future to have interviews with community members or site visitors. On every site visit, I found that both the staff of the landscape maintenance team and also visitors were very unwilling to speak about the site or their work. Staff members stated that they were not allowed to speak to anyone as if fearing they will be in trouble, or that they would be quoted. It would be beneficial, if a future project is undertaken at the Union Buildings, to attempt such a community engagement project in collaboration with the Department of Public works to assist in easing the process and putting staff and visitors at ease that the interviews will have no repercussions.

Conclusion: Throughout my studies, I have always had a bit of a reluctance to work with heritage sites, as I was taught throughout my youth to be respectful of heritage and heritage sites, to the extent of only being an onlooker within the space, which prevented one from interacting with it. My opinion of architectural heritage sites has changed where my original opinion leaned more to the side of preservation, careful restoration, and respectful and passive use. I have seen how this could possibly lead to the disuse and possible abandonment or ruin of these sites and how the contemporary approach to the design of their landscapes can possibly positively influence their continued future use and value in the urban landscape. I have learned how one can treat the heritage structures with respect by preserving and restoring them, but still allowing and designing for contemporary uses within the landscape. In my career going forward, I will retain this newfound knowledge that perhaps our initial opinion of and approach to a site and project is not necessarily the best for its users or for its continued existence, particularly when dealing with heritage sites. I will also, in the future be less reluctant to accept and deal with a project that includes heritage aspects as it no longer necessarily means a hands-off approach to the site. I have come to believe that our heritage sites should not only be preserved and restored for future generations to see and learn about but that the future lies in the revival of our stagnant and abandoned heritage sites in our urban environments.

List of references

- AFRICAN NEWS AGENCY. 2015. EFF to remove Pretoria's statues. <https://www.iol.co.za/news/politics/eff-to-remove-pretorias-statues-1841017>
- ARRA. 2016. Why Heritage Matters: The glasshouses on the Union Buildings estate. Pretoria. The Arcadian. July/August 2016:1.
- ANDREWS, T.E. 1962. The Union Buildings on Meintjieskop. *Pretoriana*, 39/40:31-34. Pretoria, Victoria drukkerij.
- BAKER, H. 1927. The government offices of Pretoria and the New Delhi. *RIBA Journal*, 35(3):63-73.
- BAKKER, K.A. 2003. Preserving intangible heritage resources: examples from South Africa, in the 14th ICOMOS general assembly and international symposium: Place, memory, meaning: preserving intangible values in monuments and sites. Zimbabwe. [Conference or Workshop Item] Internet: <http://openarchive.icomos.org/id/eprint/520/>. Access: 22 May 2021.
- BARKER, A. 2020. Limiting Binary thinking. Architectural design in historic urban contexts. *South African Journal of Art History*, (2):121-149.
- DLAMINI, B.W. 2020. Transformation of the South Africa's heritage landscape. Press release. Internet: <https://www.ifp.org.za/transformation-of-the-south-africas-heritage-landscape/>. Access: 10 May 2020.
- DOLLEY, C. 2015. EFF targeting 'all apartheid symbols'. <https://www.iol.co.za/news/politics/eff-targeting-all-apartheid-symbols-1840950>
- DUFFEY, A. 2010. Pierneef and the Union Buildings. *De Arte Journal*, 82:18. Pretoria: University of Pretoria.
- FISHER, R. 2004. The Union Buildings: reflections on Herbert Baker's design intentions and unrealised designs. *South African Journal of Art History*, 19:38-47.
- FISKER, A.M. & Mogensen, J.E. & Poulsen, S.B. 2014. Interior Textiles and the Concept of Atmospheres – A Case Study on the Architectural Potential of Textiles in Danish Hospitals Interiors. . Textile Society of America Symposium Proceedings. Paper 902. Internet: <http://digitalcommons.unl.edu/tsaconf/902>. Access: 8 September 2021.
- FOSTER, J. 2008. *Washed with sun: Landscape and the making of white South Africa*. Pittsburgh: University of Pittsburgh Press.
- FRAMPTON, K. 1981. *Towards a critical regionalism: six points for an architecture of resistance*. Seattle: Bay press.
- GROBLER, J. 2009. Volksmoeders in verset: Afrikaner-vroueoptogte in Pretoria, 1915 en 1940. *South African Journal of Cultural History*, 23(1).
- HANSEN, F. 2016. *Pretoria: 'n fotoreis - A photo journey*. Pretoria: Friedel Hansen.
- HATTINGH, J.L. 1967. Die Konsentrasiekamp te Meintjieskop. *Pretoriana*, 53:13. Pretoria, Victoria drukkerij.
- ICOMOS. 2008. The ICOMOS Ename charter objectives, in the ICOMOS Ename charter for the interpretation of cultural heritage sites. Internet: <http://www.enamecharter.org/downloads.html>. Access: 10 May 2021.
- JAPHA, D. 1986. Some guidelines for the development of an analytic method for architecture. Unpublished 1st year design brief. Cape Town: University of Cape Town.
- JORDAAN, J. 2015. Constructing Place: Towards a Phenomenological Framework for Architecture in the Twenty-First Century. Philosophiae Doctor in Architecture, University of Pretoria.
- KELBAUGH, D. 2012. *Critical regionalism: an architecture of place, in the urban design reader*, 2nd edition, edited by M. Larice, & E. Macdonald. Oxfordshire: Routledge press.
- Kruger, L. 1999. *The Drama of South Africa: Plays, pageants and publics since 1910*. London: Routledge.
- LEACH, N. 2005. *Part II Phenomenology*. In: Leach, N. (ed.) *Rethinking Architecture A reader in cultural theory*. New York: Taylor and Francis.

List of references

- MABIN, A. 2019. Persistence of the past and the here-and-now of the Union Buildings. *Image & Text*, (33):1-33. Internet: http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S1021-14972019000100013&lng=en&nrm=iso&tlng=en. Access: 10 May 2021.
- MAKINANA, A. 2020. Buthelezi slams 'infantile obsession' with removing colonial and apartheid statues. Nelson Mandela bay: Sunday times newspaper. Internet: <https://www.timeslive.co.za/politics/2020-07-21-buthelezi-slams-infantile-obsession-with-removing-colonial-and-apartheid-statues/>. Access: 8 April 2021.
- MTHETHWA, N. 2018. Report on transformation of heritage landscape. Pretoria: Department of Sports, Arts and Culture.
- MULDER, C. 1989. Langtermynbedryfsplan vir die tereine van die Uniegebou Meintjieskop. Volume 1. Menlopark Pretoria: Chris Mulder Genote Ingenieurs.
- MULLER, L. & YOUNG, G. 2005. Heritage audit Union Buildings estate. Johannesburg: Newtown landscape architects. Third draft.
- Pretoria Municipality. 1913. *The City of Pretoria and Districts. A Official Handbook describing the Social, Official, Farming, Mining, and General Progress and Possibilities of the Administrative Capital and Surrounding Districts*. Johannesburg: Publicity Department, South African Railways, Government Printer.
- OTTO, J.C. 2005. *Die konsentrasiekampe*. (Pretoria, Protea Boekhuis).
- FROM VAN VOLLENHOVEN, A.C. & PELSER, A.C. 2007.
- PLOEGER, J. 1979. Die "Camp of National Scouts", Meintjieskop, Pretoria. Cilliers, J.H. *Argiefnuus*. 22 (6), pp. 7-9. National Archives Depot, Pretoria: Transvaal Archives Depot: Library. From VAN VOLLENHOVEN, A.C. & PELSER, A.C. 2007.
- RENCKEN, C.R.E. 1989. *Die Uniegebou: die eerste 75 jaar*. Pretoria: Die buro vir Inligting.
- REPUBLIC OF SOUTH AFRICA. 1998. National Environmental Management Act (Act no 107 of 1998). Pretoria: The Government Printer.
- REPUBLIC OF SOUTH AFRICA. 1999. National Heritage Resources Act (Act no 25 of 1999). Cape Town: The Government Printer.
- SAHRA. n.d. Conservation Principles. Cape Town: South African HERitage Resource Agency. Internet: <https://sahris.sahra.org.za/sites/default/files/website/articledocs/CONSERVATION%20PRINCIPLES.pdf> Access: 10 April 2021.
- SANTANYANA, G. 1905. *The life of reason: the phases of human progress*. Cambridge: MIT Press.
- SOUTH AFRICA HISTORY ONLINE. 2011. Union Buildings, Pretoria. Internet: <https://www.sahistory.org.za/place/union-buildings-pretoria>. Access: 10 May 2021.
- SEGOBYE, A.K. 2015. Africa's rich heritage is under threat: The conversation. Internet: <https://theconversation.com/africas-rich-heritage-is-under-threat-42335>. Access: 10 April 2021.
- SIBAYI, D. 2013. Union Buildings Section 27 _8__c_ Letter - Final. Cape Town: South African Heritage Resources Agency. Internet: https://sahris.sahra.org.za/sites/default/files/website/articledocs/Union%20Buildings%20Section%2027%20_8__c_%20Letter%20-%20Final.pdf. Access: 10 April 2021.
- STEVENS, Q. & FRACK, K.A. & FAZAKERLEY, R. 2012. Counter monuments: the anti-monumental and the dialogic. *The journal of architecture*, 17(6):951-978.
- SWANEPOEL, R. 2006a. Kraal te Meintjieskop in Pretoria nuusbrieff, April:1-4. Pretoria.
- SWANEPOEL, R. 2006a. Konsentrasiekamp in Pretoria nuusbrieff, April:3-4. Pretoria.
- SWANEPOEL, R. & Van Vollenhoven, A.C. 2006b. Klipkrale teen Meintjieskop in Pretoria nuusbrieff, Mei:1. Pretoria.

List of references

- SWANEPOEL, R. 2006c. Pretoria nuusbrieff, December:4. Pretoria.
- SWANEPOEL, R. 2008. 1908 Kaart van Pretoria in Pretoria nuusbrieff, Mei:1. Pretoria.
- SPIES, F.J.Du.T. 1971. Vroue-optog. *Pretoriana*, 65:5. Pretoria, Victoria drukkerij.
- UNESCO. 2008. World Heritage Centre - Cultural Landscapes Operational Guidelines. [online] <http://whc.unesco.org/en/culturallandscape/#2>. [Accessed: 2020-06-13].
- VAN VOLLENHOVEN, A.C. 1992. 'n Histories-argeologiese ondersoek na die militêre fortifikasies van Pretoria (1880-1902). (Unpublished M.A. dissertation, Pretoria, University of Pretoria).
- VAN VOLLENHOVEN, A.C. & PELSER, A.C. 2007. VAN VOLLENHOVEN, A.C. 1999. Britse blokhuse in Pretoria gedurende die AngloBoereoorlog (1899-1902). *Pretoriana* 112:20-37. From VAN VOLLENHOVEN, A.C. & PELSER, A.C. 2007.
- VAN VOLLENHOVEN, A.C. & PELSER, A.C. 2007. A HISTORICAL ARCHAEOLOGICAL INVESTIGATION OF A MIDDEN FOUND AT BRYNTIRION ESTATE, PRETORIA. Internet: https://sahris.sahra.org.za/sites/default/files/heritagereports/Permit_Bryntirion_Van_Vollenhoven_AC_Aug07_0.pdf. Access: 6 June 2021.
- VAN WYK, P. 2011. Die Wagte van Pretoria. MArC dissertation, University of Pretoria, Pretoria.
- ZUMTHOR, P. 2006. *Atmospheres: Architectural Environments - Surrounding Objects*. Basel: Birkhäuser. 19. From Fisker et al. 2014.