Erin Siebert

SBRERI002

the memory laboratory

reclaiming and remembering the archaeological fragments of Cape Town's original shoreline

Design Research Paper
APG 5058S

Submitted in partial fulfilment of the degree
Master of Architecture (Professional)

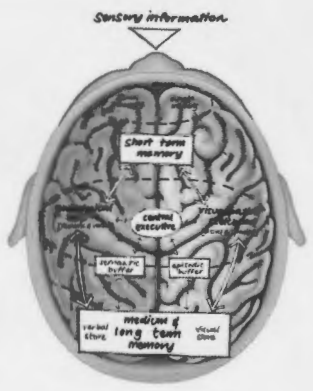
October 2010

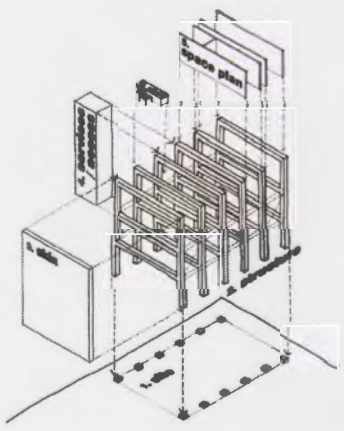
the memory laboratory

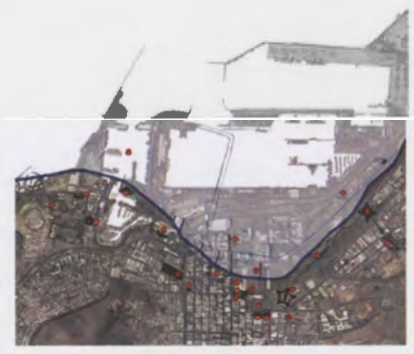
reclaiming and remembering the archaeological fragments of Cape Town's original shoreline

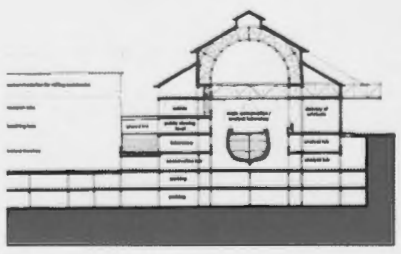
Erin Siebert

contents









Erin Siebert
Design Research Project

introduction

This thesis project began with an interest in public space and particularly the role of collective urban memory in reading and understanding public space in the city, as well as being a means of imbuing public space with meaning. This is closely linked to ideas of shared experience, identity and legacy. These ideas are widely discussed and debated in the making of architecture in our post colonial, post apartheid context. My interest is in the development of inclusive collective memories and how these histories become part of the everyday life of the city. Architecture and urban design play a key role in the spatial and physical expression of collective urban memory.

This paper represents the body of work undertaken during this year long thesis investigation and provides the introduction to the architectural design project borne out of this research.

The first part provides a theoretical basis for the project. Firstly it investigates the spatialization of memory in the human brain and relates this to the ways that collective memory has spatial implications in the urban environment. It also explores the development of a theory for collective memory. Secondly this section investigates the role of architecture in collective memory and reviews the typoolgies of memory architecture through examples of these typologies at work in Cape Town. It also reveals the development of memory architecture, in particular the 'museum' through the ages.

The second part of the paper is an exploration into the technology or making of buildings, and particularly looks at the role of time in the 'making' of architecture. This section is representative of my interest in the life story of buildings and investigates the way they change, adapt and are recycled or re-used over time. It considers the potential of flexibility (flex buildings) in creating sustainable architecture. This section also compiles the strategies, methodologies and lessons into a manifesto for sustainability through flexibility and therefore has been a useful design tool in the final parts of the thesis project.

Part three is a study of urban memory in Cape Town, focussing particularly on the narratives and histories surrounding the original Cape shoreline. This particualr focus was chosen as it provides a platform for an inclusive history, comprising of multiple narratives and memories. It is representative of the natural history of Cape Town (landscape, climate, water) and the human history of indigenious inhabitants, early explorers, colonial immigrants, convicts and slaves. This section represents the compilation of archival research, literature searches, site exploration and mapping exercises, which provide the basis for the later design project.

The fourth part of this paper represents the design component of the thesis. It elucidates the different parts of the design project and the research and analysis which provide the groundwork for the design. This section does not represent the final design, but rather illustrates the key design ideas, concepts and processes which will lead to the final design proposal.

Erin Siebert
Design Research Project

This first panel, presented in February, represents the original set of ideas and interests which became the basis of this research project.

Many of these initial ideas have been carried through to the end of the project, however as this paper will demonstrate, they have developed, ripened and progressed to form the brief for the final architectural design project.

common good
public space

memory
legacy
identity

transformation
redemption

social justice
spatial equity

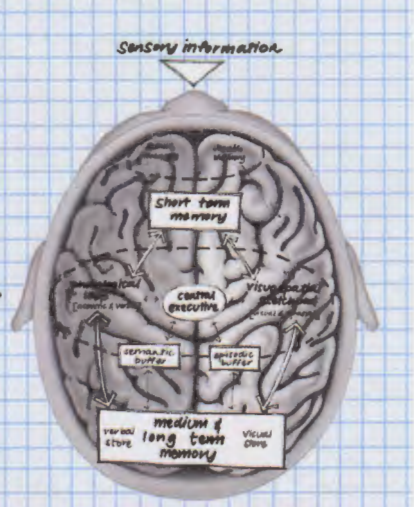
diversity

the everyday

architecture of memory

'The experience and memory of humankind are laid down in layers in the physical environment, concretely and graphically. Every new part exploits ancient forms, materials and ways of making. Building is, at base, a sign of hope, a sign of society's belief in future, a gesture forward in time. (Rossi, 1996)

How is memory spatialized/structured in the brain?
Can similar principals apply to collective memory & its spatial implications on the urban fabric?



Exploring the theories of architecture & memory:

We look back in order to move forward:
'Memory feeds the imagination'

How are collective memories 'constructed' and stored?
Do we remember our loss? Or celebrate what we had?

'Working memory' in the brain is an active system of analysis, learning, reasoning and comprehension - drawing on medium to long term memory to process incoming information. What is the equivalent at a city scale?

programme

What are the existing memory typologies?

What about a new 'hybrid' that layers memory / legacy over other public programmes?

Typologies of memory architecture:
The Museum
The Monument
The Memory Site
The City scape
The Performance

Investigating hybrid typologies:
How is legacy made part of the everyday life of cities?
Public spaces provide opportunity to engage with collective memory.

Public space is the structuring element for private development

Precedents form base knowledge:

Red Location Museum . . . Hector Pietersen Memorial . . . Holocaust Memorial . . . Jewish Museum . . . and others . . . .

siting

Exploring District Six as a 'memory site':

- Uncovering layers of history
- Discovering links to other key memory sites
- Tracking the diaspora of residents
  finding alternative sites

Research - Analysis - Mapping - Site selection
Architecture must be deeply embedded in site & context
Sustainability is essential

Lets peel back the layers of history and see what the site will reveal about itself and its city.

Whats will we uncover?

'Gone
Buried
Covered by the dust of defeat
Or so the conquerors believed
But there is nothing that can
Be hidden from the mind
Nothing that memory cannot
reach or touch or call back'
Don Mattera 1987

Erin Siebert
Design Research Project

part I | theory

introduction

Public space (or public buildings) should serve the common good, act as containers of collective memory and contribute to the further development (transformation and re-integration) of our post-apartheid society.

Position

The key to the development (transformation and re-integration) of the post-apartheid South African city lies in the creation of public space and public institutions rather than the provision of private housing or the proliferation of market driven private development. Successful public projects should be containers of the collective memories of South Africa's past, should allow for positive public use in the present as well as making a positive gesture towards the future.

The origin of this thesis lies in an interest in public space, and particularly in the multiple layers of meaning and identity contained in the everyday shared spaces of the city. In the post apartheid South African city, I am interested in the ways that our fraught history is recorded, remembered and dealt with in order to propel society constructively into the future. The notion of collective memory becomes a means of reading and understanding meaning in public space, as well as a means of imbuing public space with meaning. This is closely linked to ideas of shared experience, identity and legacy.

The exploration into urban and collective memory, does not 'prioritize' the past over the present and the future. This project is not an exploration into memory for memory's sake, nor is it about nostalgic sentimentalism. Rather this project acknowledges the importance of an understanding of the past in enriching the present and informing the future.

This interest in collective or urban memory is concerned primarily with memory in the everyday lives of ordinary people in the city, and the ways that the public spaces they inhabit and pass through become containers of this memory. Hence, the priority of this project is to make recorded history more accessible to the public, and is primarily concerned with de-institutonalised memory which occupies the everyday, public spaces of the city. It is also acknowledged that the contemporary collective practices (the ritual of the everyday) are the 'living memories' of today, which will form future history.

This project is concerned with the lives of these public or memory sites over time; past present and future. Hence this project demands an architecture which is about time as well as space. Architecture is a projective art and is concerned with the future, while acknowledging the past and present.

Part 1.1 is an attempt to holistically explore and gain an understanding of the theories of memory and collective memory.

Part 1.2 begins to explore the role of architecture in collective memory through an understanding of the architectural typologies of memory.

Erin Siebert
Design Research Project

part 1.1

Theory / Philosophy

Exploring the agencies of memory through theory and writings on the neuroanatomy of memory as well as the processes of collective memory in a community.

The first trajectory of inquiry is a discussion of the theories relating to collective memory and the role of architecture in its expression. This includes some interdisciplinary research into theories of collective memory and the ways that collective memory has been recorded, stored and passed on. This inquiry has provides opportunities for inter-textual dilatory research which locates the specificity of this project in the larger realm of collective memory discourse.

The research project draws from historical discourse around the relationship of architecture to history and memory, the role of the architect in the formation of public space, the discussions around the importance of democracy / power in public space and the concept of architecture as an agent of political or societal change.

The project draws from the ideology of Lefebvre [1], who posited that space is 'produced' or constructed through spatial and social practises. However, architecture and urban design underpin the effective creation of public memory spaces by providing the backdrop against which people play out their everyday and public lives. By understanding the ways in which people relate to space and corporately remember, spatial practitioners can provide the raw spatial materials with which people interact to construct meaningful public spaces. Architecture therefore plays a pivotal role in 'fixing' or containing memory.

'Remembering is like constructing and then travelling again through a space. We are already talking about architecture... Memories are built as a city is built. It could be said that architecture, from its beginnings, has been one of the ways of fixing memories.' [Umberto Eco: 1986]

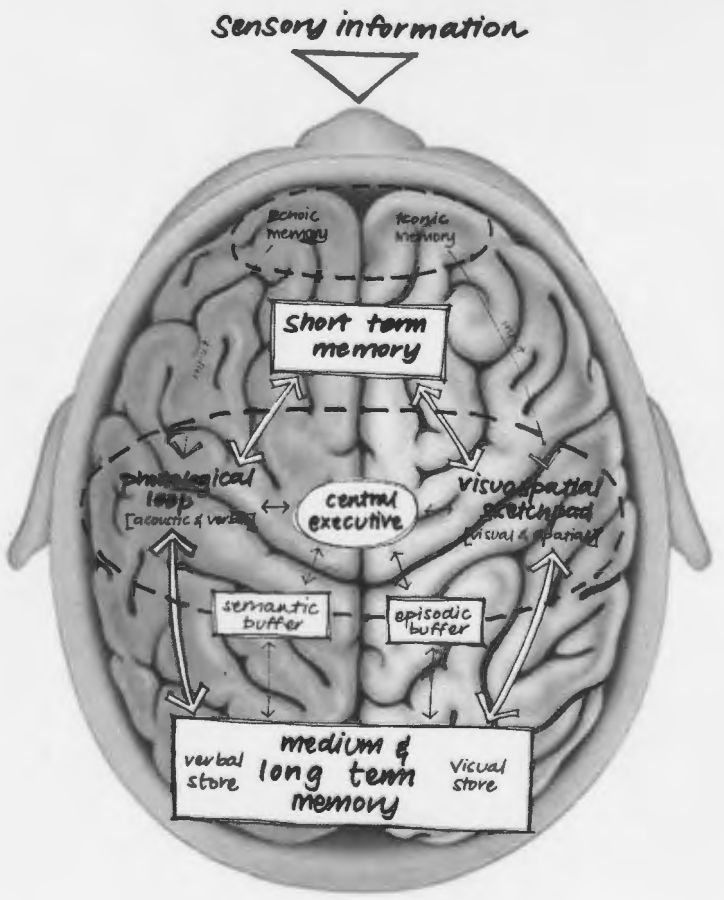
The Architecture of Memory | Neuroanatomy

This section is based primarily on the work of Daniel Schater [2] and the theories used in memory improvement training by learning institutions.

This brief overview of the neuroanatomy of memory provides the background and understanding of the processes and structure of memory and is interesting and relevant because it reveals that memory has particular 'architectural' and spatial qualities.

Incoming information entering the brain is stored as a primitive and unanalysed copy or recording in the 'sensory memory' for 0.5 to 2 seconds. This memory is located in the primary sensory cortex. Auditory (hearing) information is held in the 'echoic' memory while visual information is held in the 'iconic' memory.

Most of this sensory information quickly fades away, while that which is processed further is moved to the short-term memory which is located in the forebrain. Short term memory is limited in terms of both capacity (the amount of information which can be stored) and duration (the length of time information can be held, usually only up to 3 minutes). Therefore a person with an effective short term memory is likely to be one who is able to filter information efficiently, thereby only storing useful information in the limited capacity of their short term memory.



Working memory is the active system which both stores and manipulates or analyses information. This is the area of memory which is used in complex cognitive tasks such as learning, reasoning and comprehension. Working memory draws from both incoming sensory information and medium to long term memory. The central executive function is the active part of the working memory which is responsible for the selection, retrieval and re-storing (encoding) of memory. This is located in the frontal lobes of the brain, where intelligence and IQ lie. Improving the function of a person's working memory will improve their IQ.

There are three major types of memory storage filing systems: Short-Term Memory (also called Working Memory or Immediate Memory); Medium-Term Memory (also called Intermediate Memory); and Long-Term Memory (also called Permanent Memory). Successful memory retrieval relies on a combination of all three memory storage systems at any given time.

The Medium Term memory stores information from a time span of a few seconds up to around 48 hours ago. Information in the medium term memory has already been filtered or processed to some extent and is in the process of being analysed, sorted and moved from short term memory to long term or permanent memory. Information deemed important is transferred to the hippocampus where the material is consolidated in preparation for sending to the long term memory bank. It is generally thought that the brain does this memory re-filing during REM sleep. The memory storage capacity of the hippocampus is limited and can only store a few days' experience, which is why sleep deprivation causes confusion and even insanity.

Once material is stored in the Long term memory, the rate of forgetting drastically slows. It is as though the memory has moved from a state of fluidity to one of crystallization. The Long term memory becomes the permanent framework of memory to which we attach new knowledge. It allows retrieval of information decades after it is stored and appears to be unlimited in capacity.

Modern memory research suggests that there are three types of 'biological' memory: short term memory storage is electrical, medium term memory storage is chemical (calcium sensitised) and long term memory storage is structural (protein based).

Why this is important?
My interest in the neuroanatomy of memory in the human brain is in its structural and spatialised nature. As an architect, this spatial arrangement of information in the brain is reminiscent of a complex system of rooms.

What is particularly interesting is the idea that long term memories become crystallized and are structural / constructed in protein form. This means that long term memory has an architecture and a physicality: becomes a physical part of the brain, rather than a chemical or electrical impulse.

We also see that the ability to remember is based largely on the ability to forget. In order to retain useful information in the limited capacity of the memory, useless information needs to be filtered out and discarded.

We also learn that in order to remember a new piece of information, it needs to be actively processed and worked through in the working memory and medium term memory before being stored. Sensory information is not stored in the long term memory without the active participation of the brain.

Corporate memory
Now that we have an understanding of the processes of memory in the mind of an individual, we can relate these processes to in the corporate memory of a city or nation. In a similar way to the spatiality of individual memory, the shared memory of a group has spatial implications in the built environment.

I would suggest that the realm of current events and the report of these in the media are the collective equivalent of incoming information and short term memory. While some of these events or recordings may become part of the collective long term memory, many of them will fade and be discarded and forgotten as time passes.

The realm of discourse, discussion and debate would be the equivalent of the 'working memory', drawing on long term memory or knowledge to process and analyse incoming information. Spaces of learning and study (schools, tertiary institutions, libraries, etc) may provide the backdrop to this activity. Art, journalism, film and related disciplines play an important role in this collective memory processing activity. Public space should and could provide an area of engagement for the laymen to participate in this process. Just as the working memory of an individual represents a state of fluidity and flux, in a similar way the collective equivalent would be a 'space' of memory.

The long term memory of a city is represented by the collective histories and memories which are crystallized and have been 'fixed'. Just as long term memory in the brain has physical structure and spatial implications; the long term memory of the city has physical implications for the city. These memories are spatially represented by the presence of libraries, archives, museums, monuments.

Theory of Collective memory

In this section I will discuss the development of the theories of collective memory, which forms the basis for an understanding of the role of architecture within collective memory.

The term, collective memory, was coined by Maurice Halbwachs [3], who separated the notion of collective memory from that of the individual in his book, 'On Collective Memory'. Halbwachs was a student of Henri Bergson [4] and was influenced by his work 'Matter and Memory' which explored the function of the brain, analysed perception and memory and discussed the relation of body and mind.

Halbwachs primary proposition is that the memory of the individual can only function within the context of the collective. He also asserts that collective memory is always selective and that different groups of people will have different collective memories which will, in turn, result in different behaviour. Halbwachs work also marked a major break from the notion that 'collective memory' was passed biologically or genetically from one generation to the next, like survival instincts are passed down through the generations of a species. Instead he suggested that collective memory is passed down through the customary behaviour of a group and socialisation of individuals into these cultural practices.

Jan Assman continued the debate in his work, ' Collective Memory and Cultural Identity'. Assman suggests there is a distinction between 'cultural memory' which fulfils a storage function and refers to the institutionalised 'memory' of a specific group and 'communicative memory' which locates memory within the functionality of the everyday, and is passed down through oral histories.

Paul Connerton [5] added to the discourse surrounding collective memory in his book, How Societies Remember, and opened the discussion to include the human body as a site of collective memory. He speaks of embodied memory and suggests that memory is retained and propagated by the physical actions and practise of individuals. This can be done by inscribing (the conscious, active act of memory through filming, writing or other forms of documentation) or by incorporating (the subconscious act which propagates cultural norms and behaviours).

Pierre Nora's 'Realms of Memory', enumerates and documents places and objects which incarnate the collective memory of the French nation. In this work Nora posits that physical spaces or places of shared memory play a significant role in collective memory. Nora also distinguished between 'history' (events that actually happened) and 'memory' (subjective representations of the events that happened). This assertion implies that at some point in history it was possible for events to be recorded in a completely objective way.

In today's post modern era, it is generally agreed that no memory or history can be completely objective. Every memory or narrative is told from a particular context or stance. Instead of claiming one ultimate truth (as Modernity did), absolute or meta-narrative, post-modernity has come to accept a multiplicity of narratives.

Andreas Huyssen [6] discusses this contemporary post-modern condition, in his collection of essays, 'Present Pasts: Urban Palimpsests and the Politics of Memory'. Huyssen suggests that in previous eras (Enlightenment - 19th c), the boundary between past and present was stronger and more stable, and history was firmly fixed in its 'pastness'. History was a tool for learning and the nation states were interested in monumentalising the past so as to 'legitimize and give meaning to the present and to envision the future'. It was the future and concept of progress that captured the imaginations of post-enlightenment society and this required a shedding of the past or a 'creative forgetting' as Nietzsche called it.

Huyssen suggests that the postmodern condition is marked by an obsession with the past rather than the future. The past impinges on the present through mass media, historical scholarship and museal culture.

Huyssen suggests that this ubiquity of collective memory has resulted in a fatigue with the notions of history and memory, and predicts that a cultural shift away from this nostalgia is about to occur. However, he argues that an understanding of memory is an essential tool for progress into the future.

He also discusses the role of history, in the past, as a tool of domination, through the representation of exclusionary versions of history and argues that this experience of history has resulted in today's desire to seek 'narratives of the past, re-creations, re-readings and re-productions' which allow room for many voices to be heard.

In post-colonial, post-apartheid South Africa, we have had to recognise that the way long term memory has been recorded and memorialised has for the most part been exclusionary, and has privileged one group's narrative of the past over another's. Since 1994 attempts have been made to allow for the representation of a more inclusive history, through interventions such as the move of displays on indigenous peoples from the natural history museum to the cultural history museum.

Collective memory and architecture

The theoretical writings and drawings of Aldo Rossi [7&8] explore the notion of collective memory in architecture and urbanity.

> *'The experience and memory of humankind are laid down in layers in the physical environment, concretely and graphically. Every new part exploits ancient forms, materials and ways of making. Building is, at base, a sign of hope, a sign of society's belief in future, a gesture forward in time.'* [Rossi: 1996]

Rossi criticises the lack of understanding of the city in current architectural practice by arguing that a city must be studied and valued as something constructed over time, of particular interest in this respect are urban artefacts that withstand the passage of time. Rossi in fact, held that the city 'remembers' its past in the shape of 'collective memory', and that therefore we use that memory through monuments. In other words, monuments give structure to the city.

Rossi is concerned with the postmodern condition: 'a generation progressively more distanced from the positivism of modern architecture by the collapse of historical time and left drifting into an uncertain present'.

In his pivotal book of the 1960s, Architecture and the City, Rossi reintroduces the notion of history and of typology as a means of understanding and theorizing architecture: *'History becomes analogous to a "skeleton" whose condition serves as a measure of time, and in turn is measured by time. It is this skeleton which bears the imprint of the actions that have taken place and that will take place in the city. For Rossi, architecture's history lies in its material and it is this material which becomes the object of analysis – the city. Typology, on the other hand, becomes the instrument, the apparatus, of time's measurement.'*

Rossi understands the development of the city as a dual process. 'One process is that of production, in the sense of the city being a work of manufatto (manufacture), an object literally made by the hands of men; the second process is that of time, which ultimately produces an autonomous artefact.'

This second process features strongly in Rossi's concept of permanence. He posits that there are two permanent features in any city; housing and monuments. The passing of time affects these individual and collective artefacts differently. Housing is a permanent feature in the city, while individual houses come and go. A residential district in the city is likely to remain a permanent feature, and potentially maintain its particular character and nature, while individual structures within it may be demolished or constructed. With monuments (collective artefacts) the opposite is true. In this case it is the individual structure which is permanent. They are distinguished from the rest of the city fabric by their symbolic function, a function which persists through time, in other structures use changes.

Monuments which survive the passing of time become markers in the city and speak of the city's past, present and future, and the interrelationships between these. Rossi defines these primary structures as 'those elements which can both retard and accelerate the process of urbanization in the city'. When a monument impedes this process, Rossi calls it 'pathological'. When a part of the city becomes a museum piece, which retards progress or change, we can consider it an exquisite corpse or 'embalmed body', which has the appearance of having life but are in fact dead.

Other permanences in the city are not 'pathological' but are propelling, in that they bring the past into the present, providing a present day experience of the past. (The complex of 18th century buildings on Strand Street is an example of this.)

Rossi also discusses the potential of memory sites in city as places of imagination and invention which inspire a vision for the future. The role of memory is therefore key in planning and progressing into the future.

> *'The art of memory is an invisible art; it reflects real places but is about, not the places themselves, but the reflection of these within the imagination.'* [Yates: 1980]

Rossi posits that the city can only be read as a material artefact of history, 'a man-made object built over time and retaining the traces of time'.

The works of these generation of theorists provide us with the basis of understanding with which we can begin to 'read' the city, as I have done in Part 1.3. This reading will later form the basis of the design project which intervenes in the city.

Sources:
1. Lefebvre, *The production of space.*
2. Schacter, *Searching for memory: the brain, the mind, and the past.*
3. Halbwachs *On collective memory.*
4. Bergson, *Matter and memory.*
5. Connerton, *How societies remember.*
6. Huyssen, *Present pasts: urban palimpsests and the politics of memory.*
7. Rossi, *Tre città: Perugia, Milano, Mantova. Milano.*
8. Rossi, *The architecture of the city.*

part 1.2

Architecture / Typology

Analysing the architectural typologies of memory

This section will explore the architectural typologies of memory as defined by Walkowitz [1], by relating these typologies to Cape Town's urban memory sites, in particular those relating to District Six. This offers a practical understanding of the processes of collective memory in our particular context.

Following this broad look at memory typologies, I will look more specifically at the development of the 'museum' typology from antiquity to the present day, and relate this back to the notion of collective memory, and the shifts in the theory and public conception of this sphere, as is reflected in the attitudes to built form.

Typologies of memory

In 'Memory and the impact of political transformation in public space', Walkowitz [1] identifies 5 major memory 'typologies': the monument, the museum (public institution), the cityscape, the memory site and the performance. This design component of this thesis will investigate and develop the potential of these typologies as well as the possibility of hybrid typologies which overlay the programme of memory with other programmatic (and pragmatic) requirements of public space.

To understand these typologies in the context of Cape Town, the memory of District is h ebest place to find examples. In the case of District Six we see each of these typologies at work in the remembrance of the community that was displaced, and the urban fabric that was demolished. District Six is thus an excellent example of the interaction and overlap between different mediums of memorialisation.

The monument / memorial typology is represented by the Horsley Street memorial park & Keisergracht Cairn, as well as the signage on the churches and religious sites which survived demolition. In the case of the park and cairn, we can see the typical characteristics of this typology, in its mono-functionality, the primary purpose of these structures or spaces are memorialisation. The churches or mosques which remain in District Six, represent an existing functionality which has taken on the additional role of monument.

The District Six Museum provides an exemplary example of the museum typology for the modern day. This museum is a highly interactive and multipurpose museum, which is curated and run by members of the District Six community and encourages the participation of the whole group. The museum comprises of a variety of exhibits, from fixed and formalized displays to more personal individual interventions. The museum also conceptualizes and runs projects which expose its agenda to the public, and enlarge the scope of the museum display.

The currently desolate and undeveloped site of the former District Six with fragments of the old urban fabric , can be seen to represent Walkowitz's notion of the cityscape and the memory site. The musealisation of the remaining fragments of District Six fit within this theme.

District Six is also actively remembered through performances and rituals of various types. Memories of District Six live on in the realm of literature, drama, and music. As well as these, the museum arranges an annual memorial walk for from the museum to the Keisergracht Cairn on the 11 of February, commemorating the day that the area was declared a white only area. This annual ritual by the community plays an important role in the remembrance of the area. Other events, such as the District Six Sculpture festival play a similar role.

Keisergracht Cairn and Moravian Chapel, District Six
[Rassool ond Prosolendis, Recalling Community in Cape Town]

District Six Museum
[City, site, museum: reviewing memory practices at the District Six Museum.]

District Six: *a* desolate landscape
[City, site, museum: reviewing memory practices at the District Six Museum.]

The development of an architectural typology for memory, 'the museum':

One of the earliest references to the modern day equivalent of the 'museum' typology is Ptolemy I's mention of a palace in ancient Alexandria called 'Mouseion', which he compared to the legendary 'realm of the muses', the place where the gods and goddesses of history, poetry, dance and other arts meditated. This comparison implies the activity of remembrance, in the case of the 'mouseion' is distanced from and elevated above the sordidty of everyday life. [2]

The Pitt Rivers Museum, Oxford: a modern day example of the 'cabinet of curiosities'
[Untraceable source]

The concept of 'museum' has existed since antiquity, one of the earliest forms being the 'cabinet of curiosities', an eclectic collection of objects displayed in a small space, the intention of which is to surprise and delight the viewer and allow them to find their own connections and conclusions.

The painting collections of wealthy families were displayed in long corridors in English stately homes and French castles, which came to be known as galleries and were provided a view while taking exercise. [3]

A hunger for knowledge, and an interest in foreign lead to the display of scenes from the distant land in the form of panorama's, foreign objects and souvenirs as well as the occasional foreign person (like Saartjie Baartman) displayed in a travelling exhibitions.

During the Renaissance / Enlightenment period, museum-like organisations sprang up all over Europe, often exhibiting private art collections or treasures in stately homes or palaces for a limited period. During this era, the concept of the museum as a public institution with a duty to instruct, began to develop. Works of art were removed from their original settings to be placed in museums. The museum was considered a 'sacred space' and during this time was reserved for the educated elite.

Ashmolean Museum
[Author's own]

In 1683, Oxford University establishes the Ashmolean Museum for the collection and display of 'rarities of art and science' for educational purposes. In 1753 Parliament opened the British Museum to house the private collection of the monarch. However the first truly public museum-like institution, was the Louvre, which opened in 1793 in the wake of the French Revolution, and reminds us that the display of historical and art objects is often, if not always, political in nature.

Crystal Palace
[Untraceable source]

Around the same time the Industrial Revolution introduced new building typologies, capable of housing larger numbers of people under a single span, and the Crystal Palace and concept of the 'World Fair' were introduced, bringing public exhibitions to a wider audience.

Since the beginnings of the museum as typology, and as public institution, the museum has replaced the cathedral's pedagogic role, and as sprung up in nearly every city in the world. Until the 1950s new museums followed the preconceived notion of typological characteristics associated with the palatial treasure house, containing a selected and static set of 'treasures' in a narrative which locates itself within the meta-narrative of history.

Guggenheim Museum's spiral
[Untraceable source]

The Guggenheim Museum by Frank Lloyd Wright marks a significant break with these preconceptions and begins to see the museum as a more complex phenomenon. From this point in history onwards, we have seen dramatic shifts in the way museums are conceived. The Guggenheim replaced the traditional white box with the continuous spiral.

Today, the museum is not merely a treasure store of objects on display, but also contains spaces for discussion, for study, for socialising and for refreshment. The museum has become increasingly multifunctional. New museums must responds to a increasingly divergent claims and needs.

Pompidou Centre
[Author's own]

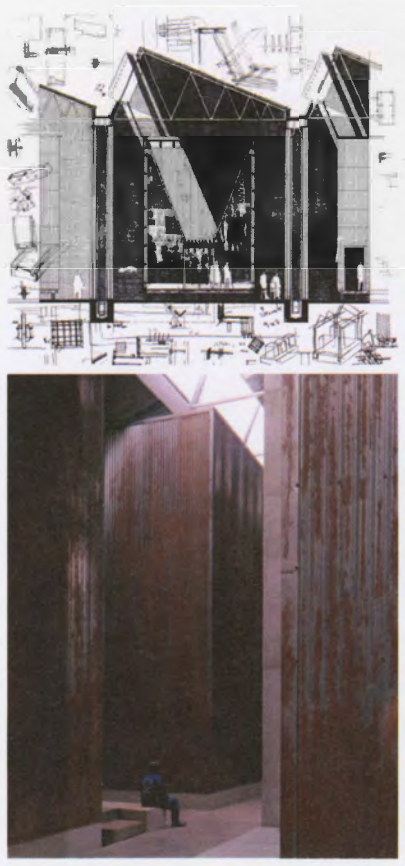
The Pompidou Centre, built in the late 1970s, marks a particular shift from the old notion of museum. The construction logic of the building, with all services externalised and displayed on the facade, allowed for the internal spaces to change and adapt for different types of exhibitions. This was a far cry from the static collections of the treasure house type museum. The building contained not only art, but library spaces, cinemas, and cafes. This marked the beginnings of the museum as a medium of mass entertainment.

> *'It is our belief that buildings should be able to change, not only in plan, but also in section and elevation. A freedom which allows people to do their own things, the order, scale and grain coming from a clear understanding and expression of the process of building... all within a clearly defined and rational framework. This framework must allow people to perform freely inside and out... a grani Meccano set rather than a traditional static transparent or white dolls house.'*
> Renzo Piano and Richard Rogers. [3]

This shift in thinking about the public nature of the museum, has been reinforced by the desire to make museum collections as accessible and readable to a mass audience. In the past museums were directed at a specific target audience, the educated elite, now they are aimed at a mass audience. The resulting large numbers of visitors to major world museums, is the new challenge to the museum typology.

Today we see an increasing 'museumification' of seemingly every phenomenon, the world contains more museums than ever before and these represent a huge spectrum and diversity of subject matters and functions.

The development of the museum typology, reflects the shifts in thinking of history from the modern conception of a single meta-narrative which describes the world to the post modern notions of multiplicity and relativism.



The Red Location Museum: Memory Boxes
[www.noerowolff.com]

This shift is expressed particularly well by the Red Location Museum of Struggle in Port Elizabeth. Following shortly after the development of Johannesburg's Apartheid Museum, which presents a narrative route through a chronological portrayal of history, the Red Location museum provides a series of memory boxes which can contain a divergent set of interrelated or independent narratives. This puts the responsibility of curation in the hands of the people, rather than limiting the scope of the museum to a fixed display.

In conclusion, we can see there are no longer one easily defined typology for the design of new museums, instead there are a multitude of tried and tested principals and ideas, as well as a new generation of museums which provide opportunities for the testing of new ideas about the collection and display of precious historical objects.

Sources:
1. Walkowitz, *Memory and the impact of political transformation in public space.*
2. Newhouse, *Towards a new museum.*
3. Davis, *The museum transformed: design and culture in the post-Pompidou age.*

part 2 | technology

introduction

To complement the design and theory investigation of architecture and memory, this technology research project investigates the way buildings change, adapt and are recycled or reused over time. This will look both at old buildings which have avoided demolition by their ability to adapt to changing or requirements, as well as contemporary buildings which are being designed for a rapidly changing world.

Position

I am interested in the life story of buildings. I believe that architecture is never 'finished', but that a successful building is one that is continually adapting to accommodate new users and their new requirements. This means we cannot judge architecture based on a glossy image of a brand new unoccupied building.

Consciousness of the lifetime of a building requires a design paradigm which recognises that the architect plays a role in only one level of the design of a building. This also requires a new logic of construction which allows for adaption.

In a world of rapid change, a building which can keep up (and therefore avoid being demolished and replaced) is a truly and holistically sustainable building. Sustainability is no longer an optional 'add on' but an essential starting point to any architectural project.

A building which has survived the test of time, becomes more than the sum of its parts, more than bricks and mortar, it becomes part of the collective memory of a city and it becomes a container of the collective memory of the city.

Research questions

How do we (or how have we) construct buildings that last?
[Character, Durabilty, Permanence]

How do buildings change over their lifetimes?
[Renovation, Conversion, Extension, Adaption]
[Weathering, Degradation, Erosion]

How do we build in order to accommodate change, chance and unpredictabilty?
[Adaptibility, Flexibility, Temporality]

In order to answer these questions we need to look back and learn from old buildings which have adapted to present conditions successfully, and we need to look forward to new generation of buildings, technologies and construction techniques, which are preparing for an unpredictable future.

Erin Siebert
Design Research Project

part 2.1

Sustainability

sustain v.tr. 1 support, bear the weight of, esp. for a long period. 2 encourage, support. 3 (of food) give nourishment to. 4 endure, stand. 5 undergo or suffer (defeat, etc) 6 (of a court, etc.) uphold (an objection etc.) 7 substantiate (a statement or charge). 8 maintain or keep (a sound, effort, etc.) going continuously. [from Latin sustinére 'to hold from beneath']

□ sustainedly adv. sustainer n. sustainment n.

sustainable adj 1 Ecol. (esp of development) which conserves an ecological balance by avoiding depletion of natural resources. 2 that can be sustained.

□ sustainably adv. Ecol. sustainability n. Ecol. [1]

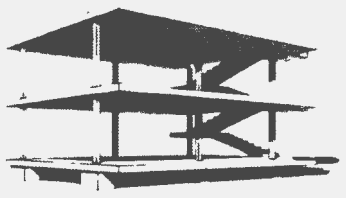
The concept of sustainability has been one of the key topics of global debate and discourse since the 1990s. The most widely used working definition of sustainability comes from the Brundtland Commission of the United Nations on March 20, 1987: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

However the specifics of what consitutes sustainable development and what doesn't remains a matter of ongoing debate. One of the great challenges to the central cause of sustainability, is the fact that the term is regularly 'hi-jacked for other means'. [2] 'Sustainable' has become a catchphrase used in politics, urban planning, ecology, finance and almost every field. This over-use of the term has resulted in the loss of some of its original meaning.

Despite this, the ideals of 'sustainable development' remain goals worth pursuing, testing and debating. This paper aims to present one strategy for sustainability in architecture; adaptability. In a world of ever increasing rates of change, a building which can adapt to accommodate change represents a sustainable architecture.

Adaptability | Flexibility

The cycle of building, altering, extending, demolishing and rebuilding is one that has been repeated since early humanity built the first structures. Thus the architectural notion of anticipating and preparing for change is not a new one. Architects have been interested in the concept of 'design flexibility' for a long time.



Dom-ino System
[Maccreanor, 'The Sustainable City is the Adaptable City'. 101.]

Experiments in flexibility were specifically undertaken during the Modern period. Le Corbusier's 'Vers une architecture' included ideas on mass-produced and flexible housing based on the Dom-ino system. The distinguishing features of the Dom-ino system were an open plan with ribbon windows that provided endless flexibility in terms of interior arrangements. [3]

This system resulted in a generation of flexible open plan buildings of neural spatial character. The test of time has shown this neutrality to be bland and ineffective. New technologies of building and facade construction did not last or meet changing energy requirements. Minimum floor to ceiling heights could not accommodate the changing needs of dropped ceilings or raised floors. Deep plans could accommodate open plan office arrangements but were difficult to subdivide. Thus several of these modern and so-called flexible buildings were unable to adapt to change and have been demolished and replaced. [3]

Bath Crescent Row houses
[Author's own]

Conversely, there are several examples of old buildings, which were designed for a specific function and time period, and yet have endured and adapted through generations of change. There are also a range of building typologies which have proven to be adaptable over time. Examples of these include the multi-storey rowhouse, as seen in London and Amsterdam, and replicated in the form of the Victorian row house in Cape Town, which have changed from single family homes into apartments, offices, workshops, galleries with very little structural change needed. Equally, some warehouse and industrial buildings are being converted to accommodate new uses.

There is much to be learnt from the shared experience of buildings which have failed to adapt and endure, as well as those which have done so successfully.

The current condition of rapid urban change, demands that the future life of our buildings and cities be considered by contemporary architects and planners. Architects have always been known as spatial artists. These changing demands, require thats architects als become artists of time.

Several contemporary architects have undertaken the challenge of designing and theorizing a new generation of adaptable buildings. Noteworthy sources of their reflections, theories and design experiments are:

- Brand, Stewart. How buildings learn: what happens after they're built. New York: Viking, 1994.
- Leupen, Bernard (ed). Time-based architecture. Rotterdam: 010 Publishers, 2005.
- Van Hinte, Ed. Smart architecture. Rotterdam: 010 Publishers, 2003.

This paper compiles these lessons from the past and theories for the future into a manifesto for adaptability. It aims to be a useful tool in setting up a logic for design and construction.

Sources:
1.Oxford English Dictionary
2.Maccreanor, 'The Sustainable City is the Adaptable City', 98.
3.Maccreanor, 'The Sustainable City is the Adaptable City', 101.

part 2.2

The life of buildings in time
How buildings change

This section discusses buildings which, by design or by chance, have stood the test of time and draws lessons from the characteristics which have ensured their survival. This will explore ideas of durability, permanence, materiality, weathering and character.

Mombasa delapidated house
[Author's own]

As buildings age, the relationship of building and site is strengthened. Weathering of the building expresses the unique conditions of the particular site: wind patterns, water flow, humidity, sunshine, animal and insect life, sedimentation, etc. As nature begins to reclaim architecture, site and building become one inextricable whole. Time may erase the original meaning or use of a building and new meanings and uses are overwritten.

Endurance | Durabiltity | Character

The primary question Stewart Brand attempts to answer is 'What makes a building come to be loved?' He suggests that the simple answer to this question is 'Age'. [1] Old buildings (whether of historical importance or not) often have greater perceived value than new ones, simply because they have proven their durability or quality, they have witnessed history come and go and have gained character over time.

Brand discusses two ways that buildings survive the test of time, these representing two ends of the 'cost' spectrum.

Firstly, he discusses, 'low road buildings', which he defines as the low-visibility, low-rent, no-style, high-turnover, background buildings of the city. He posits that these buildings endure, and ven come to be loved, simply because they offer their inhabitants maximum freedom. 'Nobody cares what you do in there', states his chapter heading.

An example of this type of building is 'Building 20', a temporary timber building built during World War II on MIT Campus. It was used for the development of radar and almost immediately after the war, was listed for demolition. Despite this, the building remains and has served several purposes over its lifetime.

Building 20, MIT
[Brand, *How Buildings Learn*, 26.]

'Unusual flexibility has made the building ideal for laboratory and experimental space. Made to support heavy loads and of wood construction, it allowed a use of space which accomodated the enlargement of a working environment either horizontally or vertically. Although, Building 20 was built with the intention to tear it down after the end of World War II, it has remained these thirty-five years providing a special function and aquiring its own history and ancedotes. Not assigned to any one school, department or center it seems always to have had space for the beginning project, the graduate student's experiment, the interdisciplinary research center.' - From a press release for an exhibition celebrating the life of Building 20 in 1978. [2]

This building, along with countless others like it, prove that temporary buildings often outlast their original functions. They are attractive in that they allow freedom of use and experiment. In Cape Town, as in other cities, young artists have flocked to rundown or industrial areas like Observatory or Woodstock, where 'low road' buildings offer them cheap rent and maximum freedom. This movement improves the area, until it becomes more desirable and more expensive and they then move on.

British Stately Home
[Author's own]

Secondly, Brand discusses 'high road buildings' such as the British 'stately home' or the historic national treasure. These buildings where built with the intention of permanence, and they endure and aquire character through 'high intent, duration of purpose, duration of care and time.' [3]

The Roman Pantheon
[Author's own]

The Roman Pantheon is an example of this kind of building. While its use and meaning has changed from pagan temple, to Christian church, to tourist site, its materiality has endured through the centuries due to its enduring value to the public and authorities.

Weathering

The most inevitable process of building change over time, is the natural degradation of materials through weathering.

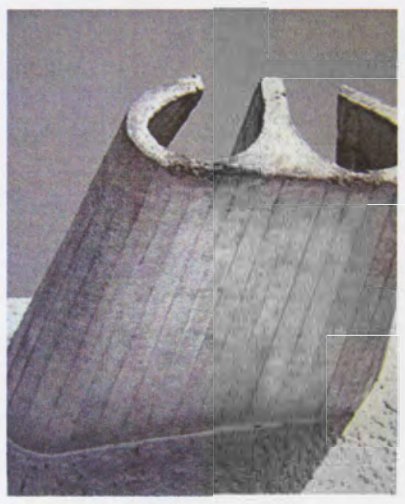
> *'No building stands forever, eventually every one falls under the influence of the elements... Over time the natural environment acts upon the surface of a building in such a way that its underlying materials are broken down. This breakdown, when left to proceed uninterrupted, leads to the failure of materials and the final dissolution of the building itself – ruination...'* [4]

Carlo Scarpa's Brion Vega Cemetary showing intentional weathering.
[Saito, Carlo Scarpa, 34.]

While the weathering of buildings is often seen as negative due to its ongoing demands on maintenance and the related cost implications, Mostafavi suggests that weathering be seen not only as a subtraction but also as an addition. *'Is it possible that weathering is not only a problem to be solved, or a fact to be neglected, but is an inevitable occurrence to be recognised and made use of... ?'* [5]

He points out the role of weathering in the marking of time and in the graceful ageing of buildings. People have a romantic appreciation of mellowed brickwork, weathered wood, moss covered stone, hand-polished brass, foot worn stone and ivy covered walls. Mostafavi suggests that *"Finishing ends construction, while weathering constructs finishing."*

Carlo Scarpa designed buildings which allow for weathering, ageing, staining, sedimentation and planting to become a part of the character of the whole. He considers this ' degradation' a continuation of the building process and intentionally uses weathering as a means of 'finishing' of surface of the building or as a means of 'decoration'. This results in buildings with a strong sense of materiality and tectonic quality.

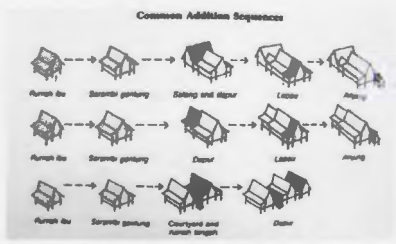


Ronchamp Chapel Roof drain
[Untraceable source]

The term 'weathering' used to refer to the part of the building which projected beyond any external wall and served as a drip. Remnants of this term remain in words like weather step, weatherboard, etc. This one term therefor refers both to the process and the object by which the process is contolled. [6] An intentionality about this control of the weathering process can add drama and poetry to architecture. LeCorbusier's treatment of the drainage of water from the roof of his chapel at Ronchamp demonstrates this celebration of the dual processes of weathering – the action of the weather and its control.

Weathering in the form of the staining of surfaces, erosion (particularly through the action of water) and biodeterioration (through the growth of plants). The interntional harnessing of each of these features can result in weathering being an addition to the aesthetics of architecture, and a marking of the passage of time.

Adaption | Extension

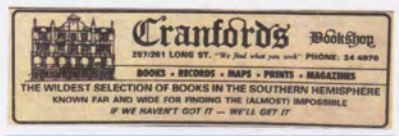


Study of extension and adaption of Malay vernacular homes.
[Brand, How Buildings Learn, 137.]

Buildings grow. This is one of the primary means of building adaption and change. We see this process of growth and adaption, globally in the vernacular family home, whether it be a South African RDP house which is slowly extended through the construction of backyard shacks, or the California Mansion which is extended to include an indoor pool.

Brand explores this process of addition through the Malay vernacular home, which in its traditional structure, provides a particular logic or sequencing for additions.

Change of use



Carnival Court, formerly Cranfords.
[Authors own]

Buildings which have survived the passing of time, have done so by their ability to adapt to changing programmatic requirements, and changing uses.

Carnival Court in Long Street Cape Town, has come to be loved over its lifetime. Originally built as luxury Victorian apartments, the buiding was later converted to house Cranfords bookshop, and today houses the ever popular, Long Street Cafe on the ground floor, with Carnival Court Backpackers Lodge housed on the upper floors. This sustained and varied use over time has ensured that the building has been maintained, been updated to meet modern requirements, has gained character and layers of meaning and memory.

Sources:

1.Brand, How Buildings Learn, 10.
2.Brand, How Buildings Learn, 26.
3.Brand, How Buildings Learn, 34.
4.Mostafavi et al, On Weathering, 4.
5.Mostafavi et al, On Weathering, 16.

part 2.3

A Manifesto for Sustainability through Adaptability

> *'Adaptability is needed in order to answer the contemporary demands that come from uncertainty, conflicting interests, unpredictability, diversity, changing demography and changing lifestyles.'* [1]

A new generation of contemporary buildings are being designed to accommodate changing requirements and functions. This section collates the strategies and theories that architects employ in order to create these adaptable and sustainable buildings.

Flex buildings
Ruimtelab's study into 'flex-buildings' defines such a building as one that is 'literally designed to respond to change. A flex-building must be able to accept different fit outs and its users must be able to easily adapt to their surroundings. A flexible building has the ability to undergo modification or changes of function with limited structural intervention. Forty percent of activities housed in a flex building should be able to continue to function during modification. Flex buildings are sustainable because they don't require large scale renovation. [2]

Zoning and Building regulations
The Modernist notion of functional zoning does not encourage an adaptable urban environment. Zoning leaves parts of the city empty for long periods – housing estates stand empty during the day and business districts empty at night – and generates traffic and congestion in between these two periods. 'Zoning is inflexible and thus unsustainable' [3] Mixed use zones and multifunctional living and working areas are far more adaptable, resilient and fully inhabited. Adaptable or flex buildings encourage an urbanity of intensive land use.

In the same way, building regulations assume that a building has a specific and pre-defined use. This logic is not geared to flexible or adaptable buildings, hence this new design paradigm will challenge the way that cities and buildings are planned regulated.[4]

Loose-fit
Adaptable building design assumes that needs will change, and greater volumes of space may be needed to accommodate this. 'The over-dimensioning of ceiling heights, circulation space and mechanical service spaces as well as going beyond present energy requirements can encourage the prospect of future adaptability.' [5]

This requires an attitude to budget and brief that challenges the status quo of cost efficiency and precise briefing. Hertzberger speaks of an attitude to design which does not follow a specific brief too closely, but instead allows for spaces that can be interpreted in many ways. [6]

This also requires a change in attitude towards vacancy. In a market driven, developer lead industry, maximum tenancy in new buildings is prioritzed, and vacancy is seen as negative. Flex buildings require a new strategy towards vacancy, which consider it a reserve of extra space for growth. [7]

Facades
Adaptable buildings have facades that can change, or facades that can have several meanings or signify several types of occupation. Maccreanor call these 'neutral facades'. 'Neutrality proposes facades that have no symbolic indication of a particular use, yet are capable of strongly suggesting activity.' This does not mean that they are standardized or repetitivly dull, but instead implies that they allow a building to blend harmoniously into its urban context, and should have timeless and enduring qualities rather than the latest fashionable ornamentation.

Urbanity
'The adaptable building, capable of coping with changing use and changing conditions is primarily concerned with the quality of urbanism.' [8] Thus the adaptable building forms part of the city backdrop rather than being considered and important image or object in or of itself.

> *'The relatively inconspicuous built edifice is born from an attitude that understands it as just another element in a broader context, even to the extent of allowing it to both exist as an independent, coherent statement while also sharing the formal and spatial sensibilities of its neighboursand predecessors...'* Wilfried Wand, From Normality to Abstraction, catalogue of the exhibition 'From City to Detail, the work of architects Diener and Diener'. [9]

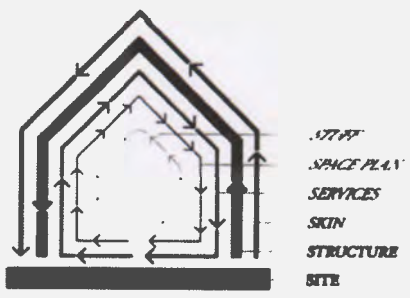
This is an 'idea of context that can allow for an emphasis on particular characteristics that are part of our collective memory and at the same time different and unknown' [9]

Ordinariness
This contextual attitude implies an interest in the everyday and a recognition that there exists a 'specialness' within the ordinary. This specialness is the key to potential adaptability and inventiveness. [10]

Timelessness
Adaptability does not require a 'revolutionary concept', nor does it attempt 'nostalgic repetion' or 'extravagent invention'. Adaptabilty recognises the slow pace at which everyday activities evolve and change. Adaptabilty speaks in a language of 'shared experience and shared memory'. Timelessness is connected to the concept of nostalgia, although this does not signal a 'negative retreat from the present' but rather speaks of the enduring presence of fragments of the past in the present. 'The emotive power of nostalgia lies in not in the desire to physically reinvent something lost, but in the way idealised and fragmentary images of the past are sometimes summoned unexpectedly into the context of a very different present. It is the simultaneous and contradictory awareness of past and present which is of importance.' [11]

Materials and detail
In order for a building to endure, it is essential that its material quality is sufficiently robust and timeless to last. Materials which weather beautifully and grow old gracefully are preferencial. Equally a carefully detailed building retains its value.

Shearing layers
Frank Duffy was one of the first few architectural theorists who dealt with rate of change in buildings. 'our basic argument is that there isn't such a thing as a building. A building properly conceived is several layers of longevity of built components.' [12] Duffy distinguished four layers, which change at different rates over the lifetime of a building. This system of layers is refered to and adapted in 'How buildings learn', 'Smart architecture' and 'Time based architecture', and the latest version of the theory speaks of 7 system based layers:



Shearing layers
[Brand, How buildings Learn, 100.]

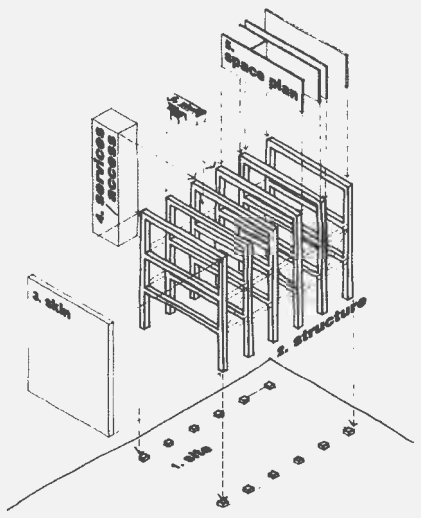
1. Site / Location: This is the geographical location, context of the building, which outlasts generations of buildings and hence has the longest lifespan.

2. Structure: This is the foundation and load-bearing elements of a building which are expensive and difficult to change, and so last anything from 30 to 300 years.

3. Access: refers to the vertical circulation systems, which, in the case of lift shafts are often part of the structural system.

4. Skin / Facade: The exterior surface of a building can be changed to keep up with technology or fashion, although these changes rarely occur more often than every 20 years or so.

5. Services: These are the plumbing, electrical, data, heating and cooling systems and moving parts such as lifts and escalators which need replacing or updating every 7 to 15 years.



Shearing layers conceptual diagramme.
[Author's own]

6. Space plan / Dividing elements: The interior layout and internal walls, doors and ceilings are often changed, particularly in commercial buildings where this might happen every 3 years.

7. Stuff / Furniture: The Latin word for furniture is 'mobilia' for good reason. These internal accessories can change or move around rapidly and regularly.

This time layered perspective aligns itself well with a logic of construction and hierarchy of architectural elements. This layering system also explains the ways people relate to, and have ownership of buildings. The temporary tenant may change the furniture, but not the space plan, the building owner is responsible for services, and so on.

Duffy, Brand and others advocate the separation or 'slippage' of these 'shearing layers' in order that each can change at its own rate. Integration or embedding of these layers may be cost effective during construction but makes change difficult later.

Irrationality
Buildings are perceived as more approachable by slight eccentricities and imperfections. These are often the result of hand-crafted details and unusual changes rendered by the users of buildings.

> *'We are convinced by things that show internal complexity, that show the internal traces of an interesting evolution. Those signs tell us that we might be rewarded if we accord it our trust. An important aspect of design is the degree to which the object involves you in its own completion. Some work invites you into itself by not offering a finished one-reading-only surface. This is what makes old buildings interesting to me. I think that humans have a taste for things that not only show that they have been through a process of evolution, but which also show that they are still part of one.'*
> - Brian Eno [13]

Shrinkage
Flex buildings should accommodate growth as well as shrinkage. [14]

Cultural durability
Buildings change in order to keep up with changing urban needs, however the city also needs enduring landmarks. Cultural durability is important but can obstruct change. Rossi calls landmarks or artefacts which retard change 'pathological', meaning they are like 'exquisite corpses' or elbalmed bodies, having the appearance of life, but in fact being dead. Architects and city planners need to preserve and protect cultural landmarks in the city, but at the same time ensure that they remain living parts of an adaptable and changing urban life.

Spontaneous adaptability
Sometimes buildings are flexible co-incidentally in that they are not specifically designed to adapt, but do anyway. Warehouses are an example of this phenomenon. [14]

Design
Many architects are trained to design functionally and therefore need a clear programme in order to design. Flex buildings are programmeless. [14]

'Time horizon'
The study of flex buildings is not just about what a design could do, but for how long. A flex building designed to last 20 years is very different to one designed for 200 years. [14]

'Bandwidth'
Not every building must be able to accommodate every function. Bandwidth measures the range / spectrum of uses which are important in a particular case. [14]

'Not everything'
The opposite pole to the flex building is the 'made to measure' building. Not all functions can be accommodated in a flex building, some should be made to measure. [14]

Polyvalence
Herman Hertzberger introduced the term 'polyvalence' into architectural discourse, although it had long been used by the French to describe the 'multipurpose' hall. Hertzberger considers 'multipurpose' too broad a term, implying a flexibility which is bland in its neutrality and undesired.

Instead Hertzberger encourages the creation of expressive forms which can be interpreted in multiple ways. Hence his awareness of the temporal nature of architecture is based on an understanding of the 'interpretational' dimension of architecture. [15]

'Competence' [15]
Design forms which are suited to more than one application, Hertzberger calls forms with great 'competence'. A building which is competent has great potential possibility or potentiality. The notion of 'competence' challenges the notion of 'performance'. Performance speaks of efficiency within specific parameters, while competence speaks of potentiality within a realm of changing requirements and unpredictable scenarios.

Sources:

1.Maccreanor, 'The Sustainable City is the Adaptable City', 108.
2.Heijne and Vink, 'Flex-builldings, designed to respond to change', 58.
3.Maccreanor, 'The Sustainable City is the Adaptable City', 108.
4.Heijne and Vink, 'Flex-builldings, designed to respond to change', 58.
5.Maccreanor, 'The Sustainable City is the Adaptable City', 108.
6.Hertzberger, 'Time-based buildings', 82.
7.Heijne and Vink, 'Flex-builldings, designed to respond to change', 58.
8.Maccreanor, 'The Sustainable City is the Adaptable City', 108.
9.Maccreanor, 'The Sustainable City is the Adaptable City', 108.
10.Maccreanor, 'The Sustainable City is the Adaptable City', 108.
11.Maccreanor, 'The Sustainable City is the Adaptable City', 108.
12.Brand, How Buildings Learn, 34.
13.Brand, How Buildings Learn, 11.
14.Heijne and Vink, 'Flex-builldings, designed to respond to change', 58.
15.Hertzberger, 'Time-based buildings', 82.

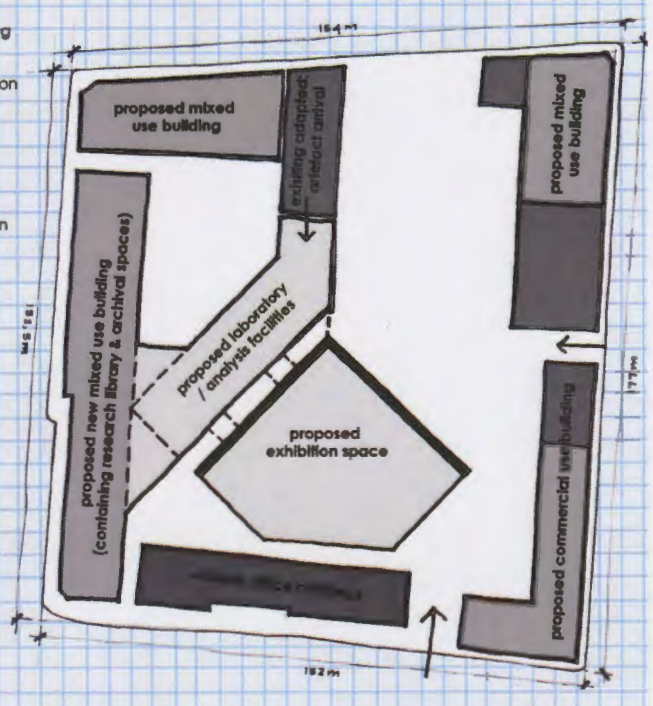
technology

manifesto for sustainability through adaptability

selected points

mixed | intensive land use

Mixed use zones and multifunctional living and working areas are far more adaptable, resilient and fully inhabited.
The memory lab site complex consists of accomodation specific to its function as well as a mix of commercial and residential spaces for lease.



'flex buildings'

- designed to respond to change
- ability to undergo modification / changes of function with limited structural intervention.

bandwidth

- bandwidth measures the range / spectrum of uses

- perimeter buildings: large bandwidth - greatest mix of uses & ability to adapt.
- internal exhibition & laboratory buildings: smaller bandwidth - greater degree of specificity.

loose-fit

'The over-dimensioning of ceiling heights, circulation space and mechanical service spaces as well as going beyond present energy requirements can encourage the prospect of future adaptability.'

materiality and detailing

robust, timeless materials (brick, stone, concrete)
sliding scale of durability relates to 'shearing layers'
carefully detailed
designed to weather well

shearing layers

Frank Duffy was one of the first few architectural theorists who dealt with rate of change in buildings. 'our basic argument is that there isn't such a thing as a building. A building properly conceived is several layers of longevity of built components.' Duffy distinguished several layers, which change at different rates over the lifetime of a building.

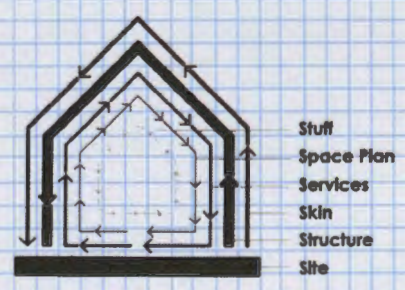
Duffy, Brand and others advocate the separation or 'slippage' of these 'shearing layers' in order that each can change at its own rate. Integration or embedding of these layers may be cost effective during construction but makes change difficult later.

1. Site / Location:
This is the geographical location, context of the building, which outlasts generations of buildings and hence has the longest lifespan.

2.1 Structure:
This is the foundation and load-bearing elements of a building which are expensive and difficult to change, and so last anything from 30 to 300 years.
The structure should be designed to last, making use of robust materials and making allowances for additional growth.
Frame structure with a standard section allowing for additional bays to be added or removed
The structural grid should be sufficiently flexible to allow for different uses.

2.2 Access:
This refers to the vertical circulation systems, which, in the case of lift shafts are often part of the structural system.

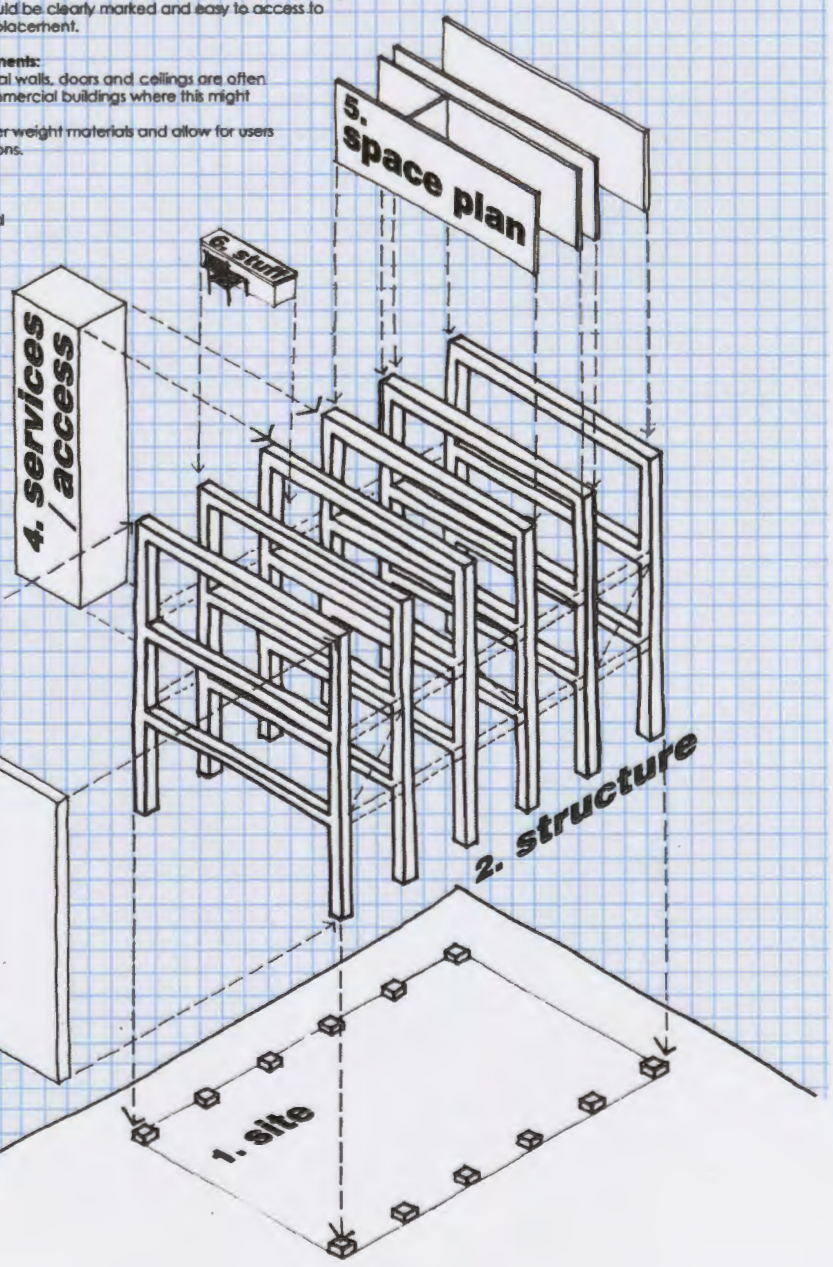
3. Skin / Facade:
The exterior surface of a building can be changed to keep up with technology or fashion, although these changes rarely occur more often than every 20 years or so.
The facade should be timeless and fit harmoniously into the surrounding context, make use of robust materials and be relatively 'neutral' ie do not indicate of a particular use, yet are capable of strongly suggesting activity.



4. Services:
These are the plumbing, electrical, data, heating and cooling systems and moving parts such as lifts and escalators which need replacing or updating every 7 to 15 years.
Service shafts and ducts should be clearly marked and easy to access to allow for maintence and replacement.

5. Space plan / Dividing elements:
The interior layout and internal walls, doors and ceilings are often changed, particularly in commercial buildings where this might happen every 3 years.
Hence these can be of lighter weight materials and allow for users to make inexpensive adaptions.

6. Stuff / Furniture:
These internal accessories can change or move around rapidly and regularly.
Free standing units are preferable to built in furniture for adaptability



part 3 | shoreline

introduction

Site Study

Investigating urban memory in Cape Town through the old shoreline.

> *'Cape Town must find ways to get in touch with its own unique, fraught history and its contemporary challenges that run the full spectrum of social divisions, economic exclusion and environmental degradation. It is only when the city becomes sensitive to the barbed history and memory of Cape Town's people and communities that the authentic heritage can be valued and protected. Such a focus implies a place where diversity is defended and celebrated.'* [1]

This section represents the primary site and historical research which acts as the springboard for the design project. This inquiry traces the development of the Cape Town, with particular emphasis on its shoreline and relationship with the sea over time, using the old shoreline as a reference point for a series of narratives and layers of memory.

For the purposes of this paper the research has been primarily about discovering and uncovering the fragments of memory in the central city, with particular focus on the band of land representing the former shoreline, and the contemporary 'boundary' between the old city and the foreshore, running from Woodstock to the Waterfront. Hence this paper has focused on a particular reading of the city through memory.

The design project which followed this research explores ways of intervening in the city. The primary goal of the design component of this project, is to link the currently fragmented sites of history and memory in the city, making them more legible and part of a larger, ongoing narrative, in the collective consciousness of Capetonians.

This project aligns itself with the Central City Development Strategy, which emphasizes the need for the city to work first and foremost for its citizens, which will in turn mean it will work for visitors and tourists. *'The strategies and actions that can be clustered around this theme have to do with making the local people more familiar with the city's streets and the layers of history and memory to be found there; if Capetonians can tell the stories of the city firsthand, the city itself becomes a living and intriguing canvas that visitors will want to access and understand.'* [1]

The intention of the design project is not to expose memory or history simply for its own sake. Instead the goal is to provide forums for the public to take part in a collective 'working memory' through cultural practices. My view is that an increased understanding of the past enables constructive development and progress into the future.

The kind of historical understanding I wish to imbue this project with, is expressed in the speech given by Thabo Mbeki at the adoption of South Africa's new constitution in 1996.

> *'I owe my being to the Khoi and San who desolate souls haunt the great expanses of the beautiful Cape – they who fell victim to the most merciless genocide our native land has ever seen, they who were the first to lose their lives in the struggle to defend our freedom and dependence and they who, as a people, perished in the result.*
>
> *Today, as a country, we keep an audible silence about these ancestors of the generations that live, fearful to admit the horror of a former deed, seeking to obliterate from our memories a cruel occurrence which, in its remembering, should teach us not and never to be inhuman again.*
>
> *I am formed of the migrants who left Europe to find a new home on our native land. Whatever their own actions, they remain still part of me.*
>
> *In my veins courses the blood of the Malay slaves who came from the East. Their proud dignity informs my bearing, their culture a part of my essence. The stripes they bore on their bodies from the lash of the slave master are a reminder embossed on my conscious of what should not be done.*
>
> *I am the grandchild of the warrior men and women that Hintsa and Sekhukhune led, the patriots that Cetshwayo and Mphephu took to battle, the soldiers Moshoeshoe and Ngungunyane taught never to dishonour the cause of freedom.*
>
> *My mind and my knowledge of myself is formed by the victories that are the jewels in our African crown, the victories we earned from Isandhlwana to Karthoum, as Ethiopians and as the Ashanti of Ghana, as the Berbers of the desert.*

I am the grandchild who lays fresh flowers on the Boer graves at St Helena and the Bahamas, who sees in the mind's eye and suffers the suffering of a simple peasant folk, death, concentration camps, destroyed homesteads, a dream in ruins.

I am the child of Nongqause. I am he who made it possible to trade in the world markets in diamonds, in gold, in the same food for which my stomach yearns.

I come from those who were transported from India and China, whose being resided in the fact, solely, that they were able to provide physical labour, who taught me that we could be both at home and be foreign, who taught me that human existence itself demanded that freedom was a necessary condition for that human existence.

Being part of all these people, and in the knowledge that none dare contest that assertion, I shall claim that – I am an African.'

And in the word of Max du Preez, 'Let us acknowledge our differences and enjoy the stories of how those who came before us struggled with each other at times. But let's never forget that we are all Africans. ... It is time for us to let go of the notion of separate histories. It is time to start thinking of our past as the time that forged all of us into the nation we are now at last becoming. We all have only one history.' [2]

Hence, while this project recognises that there are multiple narratives at play in making up Cape Town's history, it attempts to provide an equal space for each of these within the framework of history.

The project explores the life of the site over time: past, present and future and attempts to map its 'life story' in an inclusive way, through the multiple narratives present on the site. The collation of history and memory fragments has taken into account all types of memory; natural history (the memory of the land; its geology and topography; climatic memory; the patterns and changes in sun, rain and wind; water memory; the ebb & flow of rivers, shoreline, and tidal patterns) as well as human history; the histories and narratives of the early Cape inhabitants (the nomadic Strandlopers and Khoi Khoi), the European traders, colonists and immigrants (the Portuguese, Dutch, English, French and so on) and the slaves and freed slaves who represent many corners of the globe, and all those who have followed them in making up today's diverse city.

These memory layers are presented through:

A 'catalogue' of historical events in the form of a timeline
A series of maps illustrating the development of Cape Town's shoreline
A series of key sites identified along the shoreline

The study is not exhaustive, and it is also recognised that the 'archive' is incomplete, however the intention of the project is to provide a framework into which additional entries or narratives can be built.

Sources:

1. Borraine, 'Cape Town Central City Strategy', 115.
2. Du Preez, Of warriors, lovers and prophets: unusual stories from South Africa's past.

part 3.1

Timeline | Historical Maps

Investigating urban memory in Cape Town through the old shoreline.

Pre 1498: Pre-colonial

500 000 years ago, early humans inhabit the West Coast. The skeleton of 'Saldanha man' is discovered hundreds of thousands of years later.

127 000 years ago, and early human woman (Homo Sapiens) leaves footprints in sand dune near the Langebaan lagoon. These calcified remains were found and fondly called the 'footsteps of Eve'. They are on display at the SA Museum in Cape Town

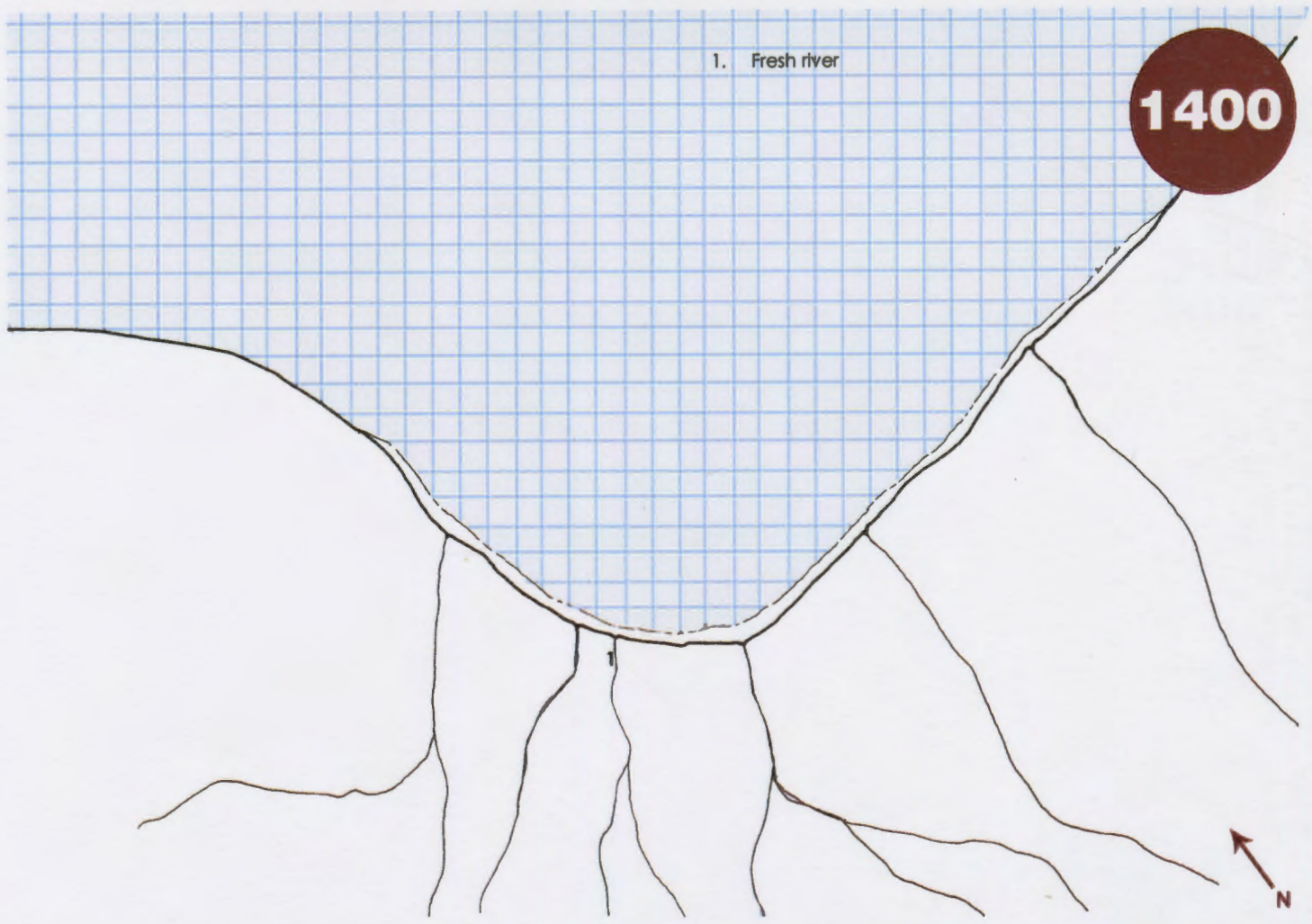
On the Cape Peninsula at Fish Hoek, remains from Echo Cave have been dated to between 75,000 and 50,000 years, and rock art found there is as old as 28,000 years.

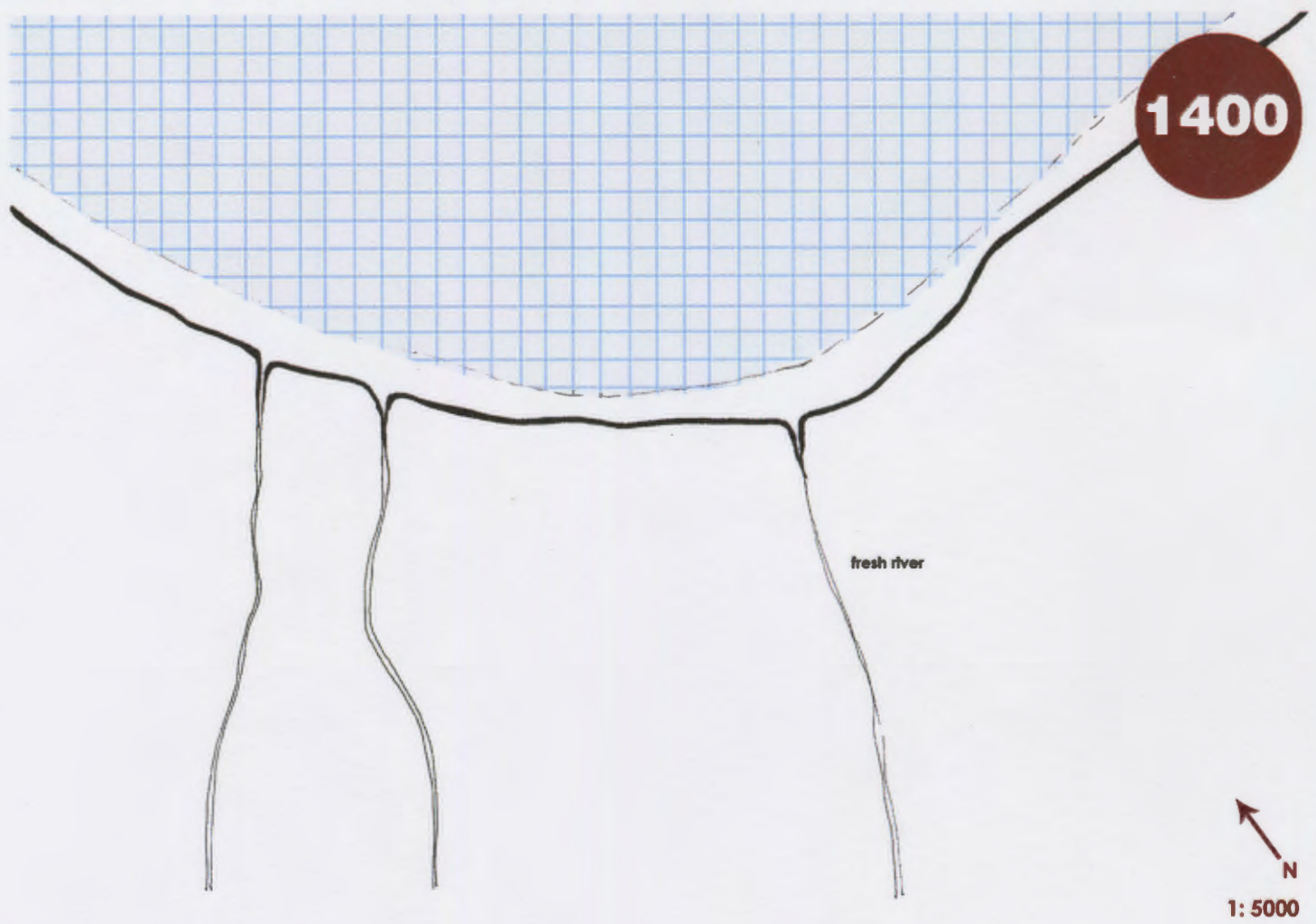
601 BC: According the writings of Greek historian, Herodotus, the first sea voyage around the Cape was undertaken by Phoenician traders backed by Necho 11 of Egypt. These claims appear to be supported by archaeological finds in the 1700 and 1800s.

300 BC: San groups in northern Botswana aquire domestic stock and migrate southwards, becoming known as the KhoiKhoi.

1300 – 1500: The Khoisan are established as the dominant power in the southern and south-western Cape regions. This is followed shortly by contact with the first European settlers.

Erin Siebert
Design Research Project





These maps show the current site of the Cape Town city centre before there were any physical signs of human inhabitation. Fresh water streams flow from the mountain to the sea, drawing the local Khoi Khoi people and their cattle to visit every spiring for grazing and refreshment. They named this place 'Camissa', place of sweet waters.

1498 - 1652: European ships passing the Island via the Cape to the East

1488: Bartholomeu Dias (Portugal) circumnavigates the Cape, landing at Mossel Bay. On his return journey via the Cape he plants a padrao dedicated to St Philip at Cape McClear near Cape Point and names the Cape, 'Cabo Tormentosa' (Cape of Storms) and 'Cabo de Boa Esperanca' (Cape of Good Hope, due to the hope that rounding the cape brought to the mission of finding a sea route to the east.)

1498: Vasco da Gama (Portugal) rounds the Cape and succeeds in finding a sea route to India.

Cantino Planisphere
Portugal
1502

1503: Antonio de Saldanha (Portugal) enters Table bay, hence its original name, Saldanha Bay, and is the first European to climb Table Mountain, naming it 'Taboa do Cabo' (Table Cape)

1510: Portuguese Viscount Francisco D'Almeida sailed into Table Bay. After a friendly trade with the local Khoi Khoi, some of his men attempted to steal some of their cattle. The Khoi Khoi fought back killing the viscount and 64 of his men. They were buried on the shorefront. The story is told by Max du Preez in 'Death on the beach'.

1580: Sir Francis Drake (England) rounds the Cape en route to India.
"This Cape is the most stately thing, and the fairest Cape we saw in the whole circumference of the earth."

1600: Name 'Table Bay' coined

1613: Sir Thomas Smythe, governor of the English East India Company, takes Coree, a member of the local Khoi Khoi group called the Gorachouqua on board the Hector and takes him and another Khoi man back to England. The companion died en route but Coree survived the journey. Coree was dressed as an Englishman, and tutored by Smythe in his own home (one of the grandest in London). Coree, however was miserable and begged to be returned home. 14 months later the Hector returned him to the Cape. Coree was more aware of the value of copper and brass and advised his tribe on the value of their cattle in trade. (Fuller story by Max du Preez)

1615: Ten Newgate convicts put ashore at the Cape

1620: Two English captains Shillinge and Fitzherbert attempt to claim the Cape for the Crown (but without permission or authority of the King). English ships pass the Cape at least once a year, Dutch up to ten times more. Post office stones established.

1631: Autshomato, later known as Herry / Harry, chief of the Goringhaikonas Khoi Khoi group goes by English ship to Bantam in Java. He returns to the Cape in 1632 and acts as postmaster to passing ships.

1647: Nieuw Haerlem (Dutch ship) wrecked in Table Bay, near Blouberg. Fort Zandenburgh / 'Sandy castle' built to house 62 people. They lived at the Cape for a year: planted vegetables, traded with the Khoi (via Harry) and tended to passing ships.

1648: The Haerlem's crew returned to Holland in April 1648, one of their fellow passengers was Jan van Riebeeck, a lesser Company official caught for fraud (or trading on his own account) Upon return to Netherlands, Janz and Proot present their report / 'Remonstrantie' to VOC recommending the Cape as a refreshment station

1652-1795: Dutch East India Company period

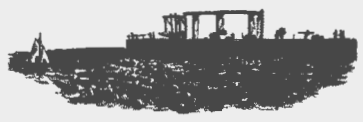
The Landing of Jan van Riebeeck at the Cape
Charles Davidson
1852

1652: Jan van Riebeeck sets up a VOC refreshment station at the Cape to provide passing ships with fresh water, fruit, vegetables, meat and medical care. Harry acts as interpretor between Dutch and local Khoi Khoi. Van Riebeeck requests that VOC supply Asian slaves to do farming and build the fort. VOC stipulate that local population must not be enslaved. (VOC takes 5 years to supply these slaves)

1655: Three slaves arrive from Madagascar on passing slave ship

1656: First slave freed to marry a Dutch settler.

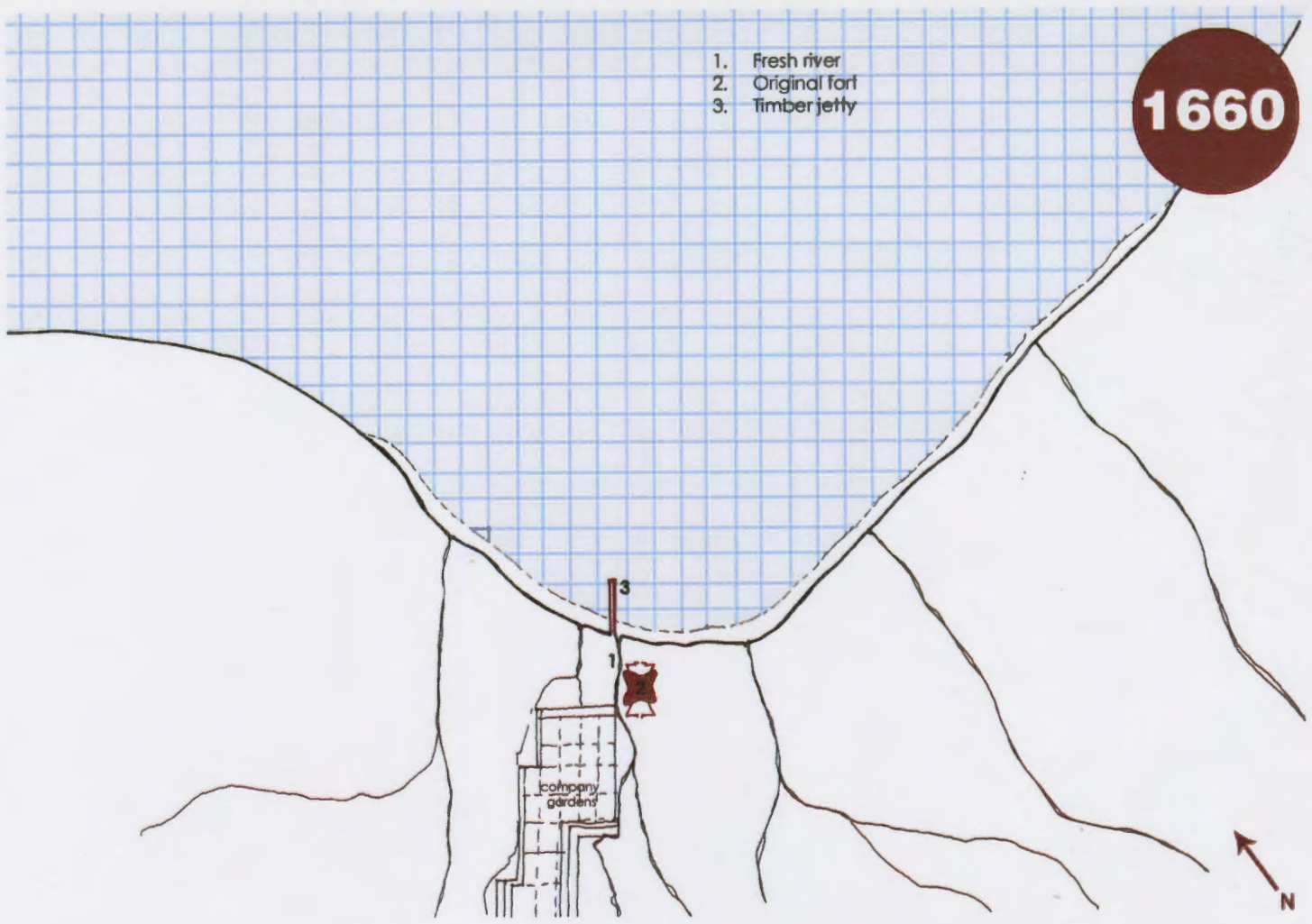
1658: First VOC slaving expedition returns with slaves from Madagascar on the Amersfoot. Over the next 150 years 63 000 slaves are brought to the Cape from Dahomey, Angola, Mozambique and Madagascar as well as India and the East Indies. By 1708 slaves outnumbered Europeans at the Cape.

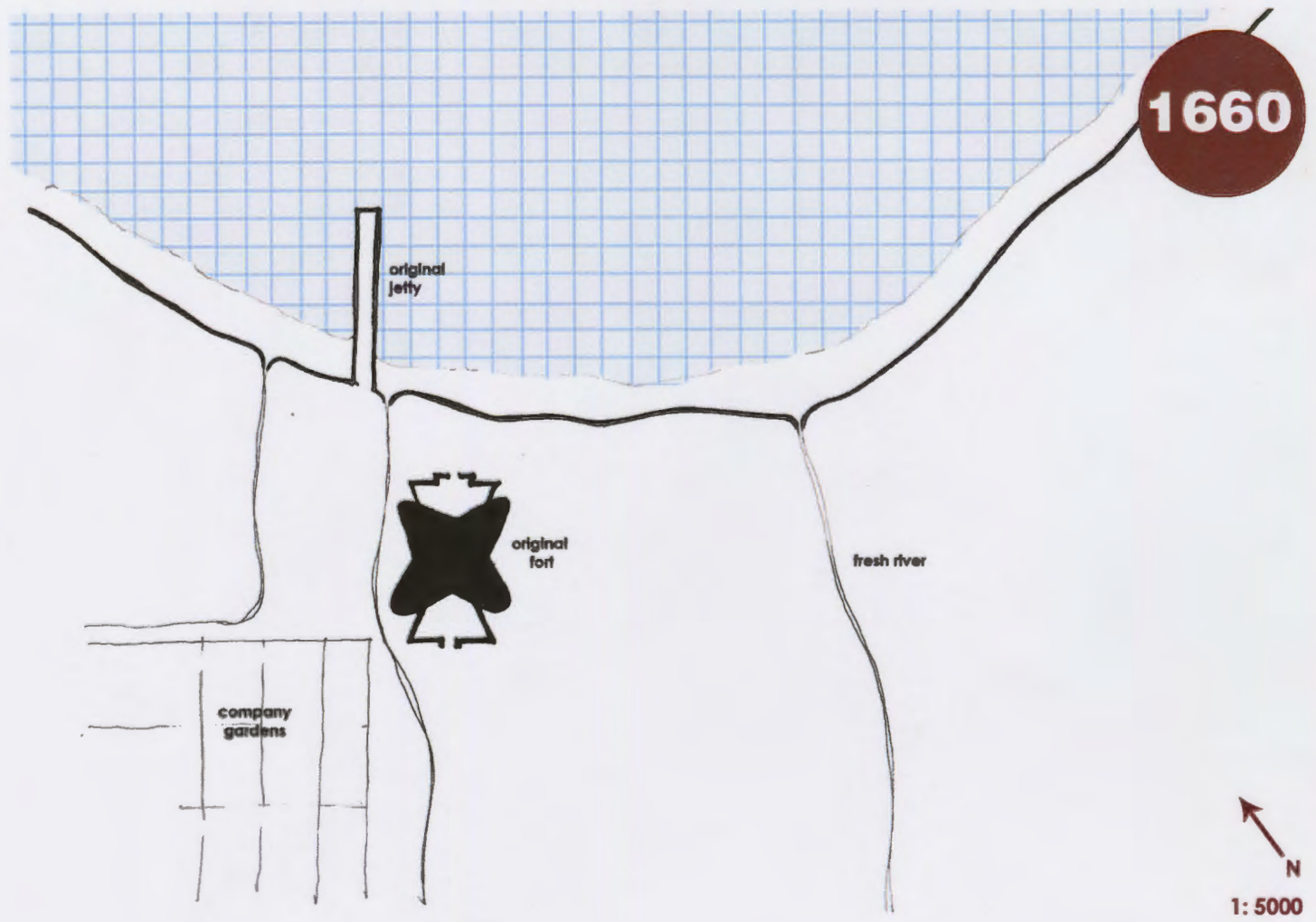


The first jetty
[Veitch, Waterfront and Harbour]

1656 - 1658: First Jetty built near castle with tree trunks felled in 'the forest at Newlands'. Building was slow due to lack of manpower at the Cape.

1660: La Marichale stranded & wrecked near the mouth of the Salt River. French contingent of soldiers on board show no signs of taking over the settlement, but assist in building work, most notably assisting with planting wild almond hedge around the settlement.

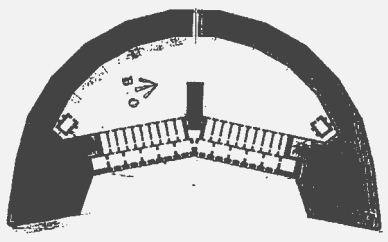




These maps show the beginnings of urban development at the Cape by the Dutch colonists. The original fort was built by Jan van Riebeeck and his men shortly after their arrival at the Cape in 1652. (Plans for the fort and its position are recorded in detail in his journal.) The fort was constructed using timber brought from Europe, local stone, restios for thatching and earth berms or banks planted with sods to prevent rain damage. The company fruit and vegetable gardens are being established to provide passing ships with fresh supllies. A timber jetty has been built with tree trunks felled in the forest at Newlands in 1656. This jetty was damaged, repaired and rebuilt several times due to the harsh weather and seas at the Cape of Storms.

A Plan of the Town of the Cape of Good Hope and its environs
Bourset after Francois Valentijn 1770

Prospect of the Cape of Good Hope
Thomas Bowen 1777



The Amsterdam Battery
[Untraceable source]

Lady Anne Barnard's watercolour of the wreck of the Sceptre

1663: Construction of Wagenaar's reservoir

1666: Construction of the Castle begins.

1679: Slave Lodge constructed to house Company Slaves.
Simon van der Stel is appointed Commander of the Cape of Good Hope.

1692: Hoorgergeest and Goede Hoop wrecked in same storm. Orange also wrecked that year.

1697: De Stad Keulen rams into Oosterland which is driven ashore slightly south of mouth of Milnerton lagoon
Waddingsveen wrecked (Paarden Island area)
De Swaarte Leeuw also wrecked and jetty destroyed.

1713: Small pox epidemic wipes out majority of Khoi population and 25% of the European population. Farmers claim the land and livestock of the deceased Khoi Khoi.

1714-1725: Chavonnes Battery built by the VOC to protect the Cape. Eyewitness accounts described the Chavonnes Battery as being the most formidable of the Table Bay fortifications.

1722: June – VOC loses 7 vessels to shipwreck in Table Bay, 600 people die.VOC more concerned with material loss than loss of human life. Plakaat was issued to prevent private salvage attempts at VOC property, with punishment including execution on the spot. VOC salvaging often took preference over assisting survivors!

1729: First survey of the harbour commissioned by the VOC & undertaken by Jacobus Moller (Master of Naval establishment) & Jan de Heere (a free burgher). Suggested a breakwater be built to make the harbour area safe, but this was deemed too expensive.

1737: Gale force winds wreck 9 ships, 200 lives lost

1743: Fort Knokke constructed.

1743: First breakwater / 'mole' (350ft) built near current site of Mouille Point lighthouse. (Construction slowed by a plague of locusts! Farmers tax to assist in building of breakwater, involved delivery of building material after market. Destruction of crops by locusts meant the farmers were no longer at market and no longer delivering quarry materials to harbour site. Unsuccessful attempt to build this mole only remembered in name 'Mouille Point'.

1757: Voorstigheid wrecked at mouth of Salt River (25 VOC vessels sunk since establishment of settlement). Simon's Bay made the official winter anchorage (15 May – 15 August)

1773: Jonge Thomas wrecked in Table Bay (somewhere near Paarden Island).
Wolraad Woltemade's heroism

1781: 'Sea lines' (rampart of rammed earth with stone facings) built from castle to Fort Knokke and 'French Lines' rampart with redoubts from Fort Knokke to Zonnebloem.

Cape Town known as 'Little Paris' due to foreign and French presence, however VOC was running out of money to maintain this possession

1781: Amsterdam Battery built as a seaward line of defence near Rogge Bay

1794: Sao Jose(ne) wrecked off Camps Bay, 200 of 500 hundred slaves on board drown. Remainder are sold at the Cape.

1795 - 1802: First British occupation

1797: Lady Anne Barnard arrives at the Cape: and keeps a valuable record of her life in her journals & sketchbooks

1798: *'Here... there is only one rickety worm-eaten jetty... to provide for the embarkation of both passengers and cargo'* – General J H Craig, in command of occupying British forces at the Cape. (Although much altered and repaired this was still the only jetty in original position west of the Castle)

1799: Wreck of the Sceptre as well as 6 other vessels of 14 in Table bay. Sceptre grounded on the reef opposite Fort Knokke and Craig's Tower (SE corner of the bay), no more than 100m from the beach. Reef was called 'sceptre reef' as a result. 281 officers from Sceptre died, and many more from other shipwrecks. 3 wagon loads of dead were taken for burial near the hospital, others were buried in a single mass grave on the beach. Shipwreck lies under Table Bay Boulevard somewhere near the Royal Cape Yacht Club. (was supposedly found by divers in 1903, before land reclaimations)

1800: An official government newspaper press is established publishing the 'Cape Town Gazette' and 'African Advertiser'. Freedom of press only allowed in 1828.

In the 150 years since the establishment of the VOC refreshment station at the Cape, the town has grown considerably. A reservoir has been built to store fresh water to supply passing ships and local inhabitants. The original fort fell into disrepair and has been demolished and replaced by the castle, which has survived to this day. An area of open ground to the west of the castle is used for military parades, practicising grounds and public gatherings. The Grand Parade remains an important urban feature in the Cape. The town itself has grown, making it necessary to allocate burial grounds for the townspeople and slaves, as well as for the many souls lost in shipwrecks along the coast. Regular competition for control of the cape by the British has resulted in the construction of several fortifications at the Cape.

Sketches by Sir Charles D'Oyly

1806 - 1910: British colonial period

1806: Battle of Blouberg: British occupy the Cape, officially taking control in 1814.

1807: Abolition of slavery in Britain

1818: Pacquet Real, carrying 171 Mozambiquan slaves to San Salvador, wrecked near the south wharf on Woodstock Beach. It appears that those that died were buried in a mass grave in the dunes near Fort Knokke. These were found during the 1950s.

1824: Green Point Lighthouse constructed (first lighthouse in SA)

1830: Captain Knox submits an elaborate design for a second breakwater to the British government.

1831: Gale wrecks 6 ships
Stone pier built at foot of Bree Street to convey anchors and cables to ships in distress.

1832-3:Sketchbooks of Sir Charles D'Oyly

1833: Construction of a new stone pier near the 'whale-fishery' just south of Amsterdam Battery and near the bottom of Bree Street. (protected by a small reef) Eroded badly by the sea.

1834: Official emancipation of slaves.
Beginnings of the Great Trek.

1836: Lord Glenelg (Cape Governor) creates a Harbour Board for Table Bay

1838/9:Dwarf jetty constructed to take pressure of the old south jetty

1842: Second jetty off Bree Street opened, built of stone and wood and more modest in proportion to stone pier. Stood for many years. Imperial Cold Storage Building was later erected on this site and during its resoration in the 1990s fragments of the jetty were found.

1842: Abercrombie Robinson wrecked, all 700 troops on board safely brought to shore. On the same night, the Waterloo (convict ship) was wrecked and 190 of 304 passengers were lost. Abercrombie wreck was never found. Waterloo found in 1868. Monument to Waterloo in Maitland cemetery.

1843: Mouille Point Lighthouse is constructed.

1844: Colonel C. Mitchell (Surveyor General) submits plan for harbour, involving employment of English convicts en route to Australia. Plan not fully realised.

1846-1931: Robben Island used as a leper colony

1848: Board of Commissioners formed to construct sea wall from North jetty on Bree to the old port office in Strand Street.

1849: Giant protest meeting at the Commercial Exchange against Cape Town being used as a penal colony.

1850: Third jetty / central causeway built off Heerengracht Street (now Adderley)

1853: Timber south jetty demolished after sever damage by gales.

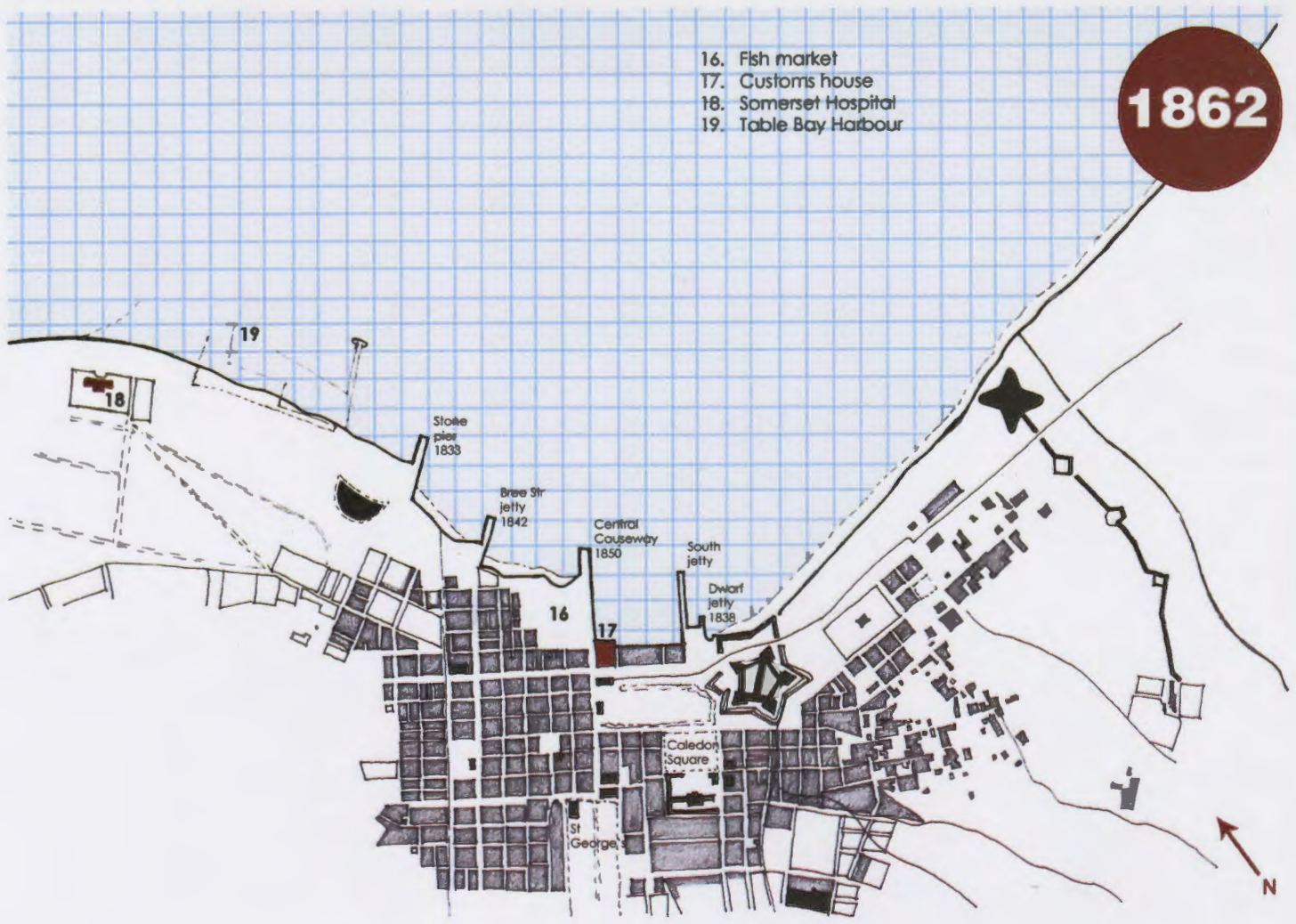
1854: Signal hill becomes 'time keeper' for the Cape, as well as signalling arrival of ships in the bay.

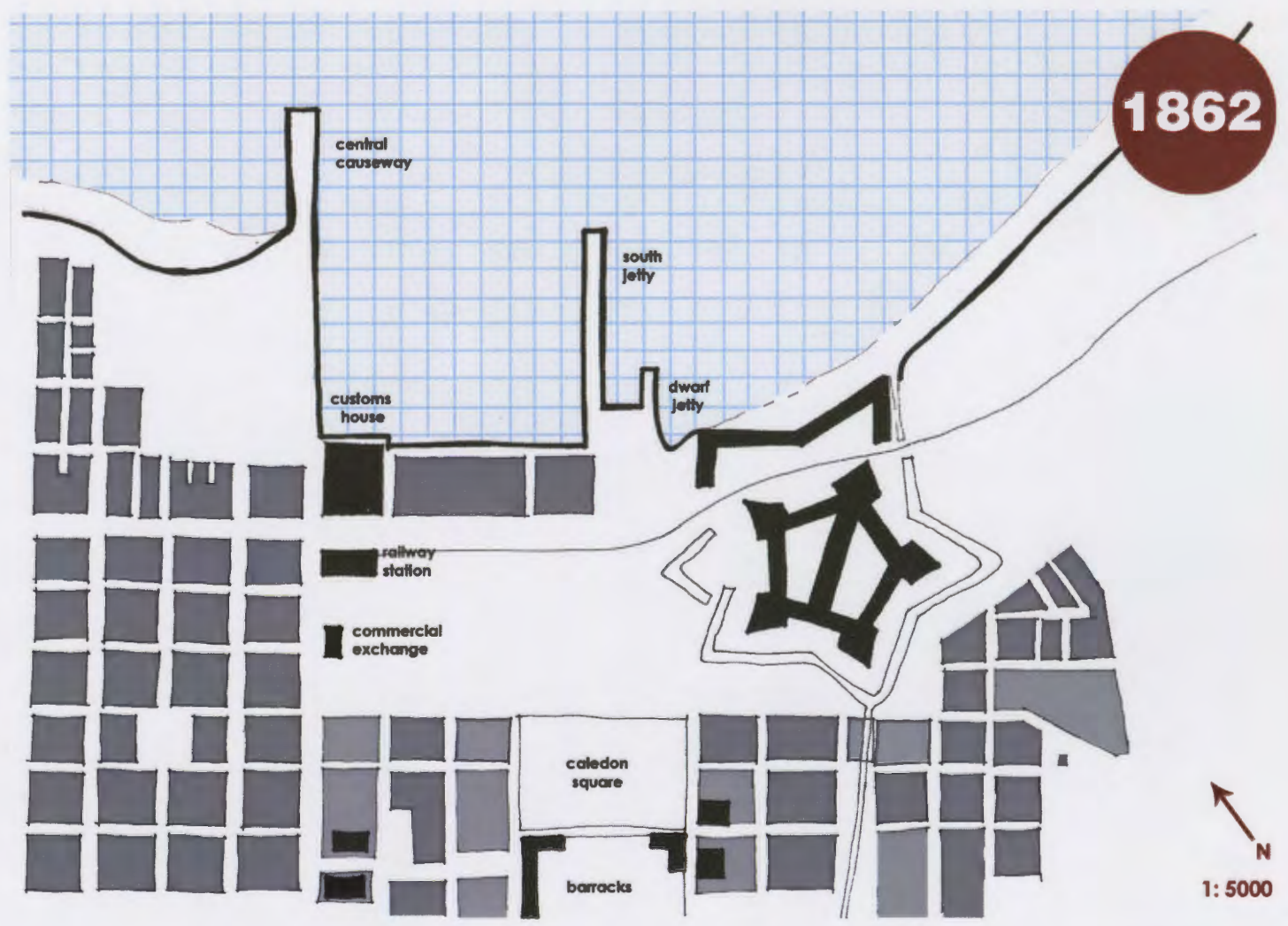
1856: Extension of central jetty

1857: Captain Vetch R.E (Harbour Surveyor to the Admiralty) submits a plan for a 5600ft breakwater, inner and outer harbour, enclosing 1,508 acres of water. Sir John Coode appointed as engineer in chief.

1860: Commencement of harbour construction. HRH Prince Alfred (16yr old) (first royal at the Cape) tips first truckload of stones on the 17th September. (Convict labour accommodated in remodelled Chavonnes Battery)

1860: Somerset Hospital constructed on Beach Road Green Point, designed by Scott Tucke (Colonial Engineer)





The settlement at Cape Town continues to grow. The loss of several ships at the infamous 'Cape of Storms' has been mediated by several attempts to construct breakwaters and jetties to secure ships in the bay. Eventually construction has started on the Table Bay Harbour.

Robinson Graving Dock
[Untraceable saurce]

The Clocktower
[Old Buildings at the Cape]

1865: Athens with mail on board and City of Petersborough (and all hands on deck) lost in 'Great Gale' on Sceptre reef.

1867: Official opening of the harbour by Prince Albert on 4 July

1869: Suez canal opens
Discovery of diamonds in northern Cape

1871: Ceremonial opening of the harbour

1881: New harbour board constructs collier jetty & organises first Fire Brigade

1882: Electric lighting installed

1882: Completion of Robinson Graving Dock allows for the largest ships of the time to be repaired.

1883: Clock tower is built at the entrance to the docks (Albert Basin) to serve as a signal station. Construction of the 3 storey, octagonal building cost £3,700. The clock tower accommodated a Tide Gauge as well as the original Port Captain's Office. The second floor 'mirror room' allowed the captain panoramic views of activity in the docks.

1883: Timeball Tower to ensure accurate standard time by a ball dropped on a short staff at the top of the tower, allowing ships to accurately adjust their chronometers.

1883: Sir John Coode prepares a specification for the construction of an outer harbour, using convict labour.

1886: Construction of South Pier commences

This map shows the completion of the original Table Bay Harbour as well as the arrival of the railways to Cape Town.

1893-1895: Outer Harbour constructed by Mr W Matthews of Coode, Son & Matthews Consulting Engineers, after death of Sir John Coode. Coaling and Barge Jetty also constructed.

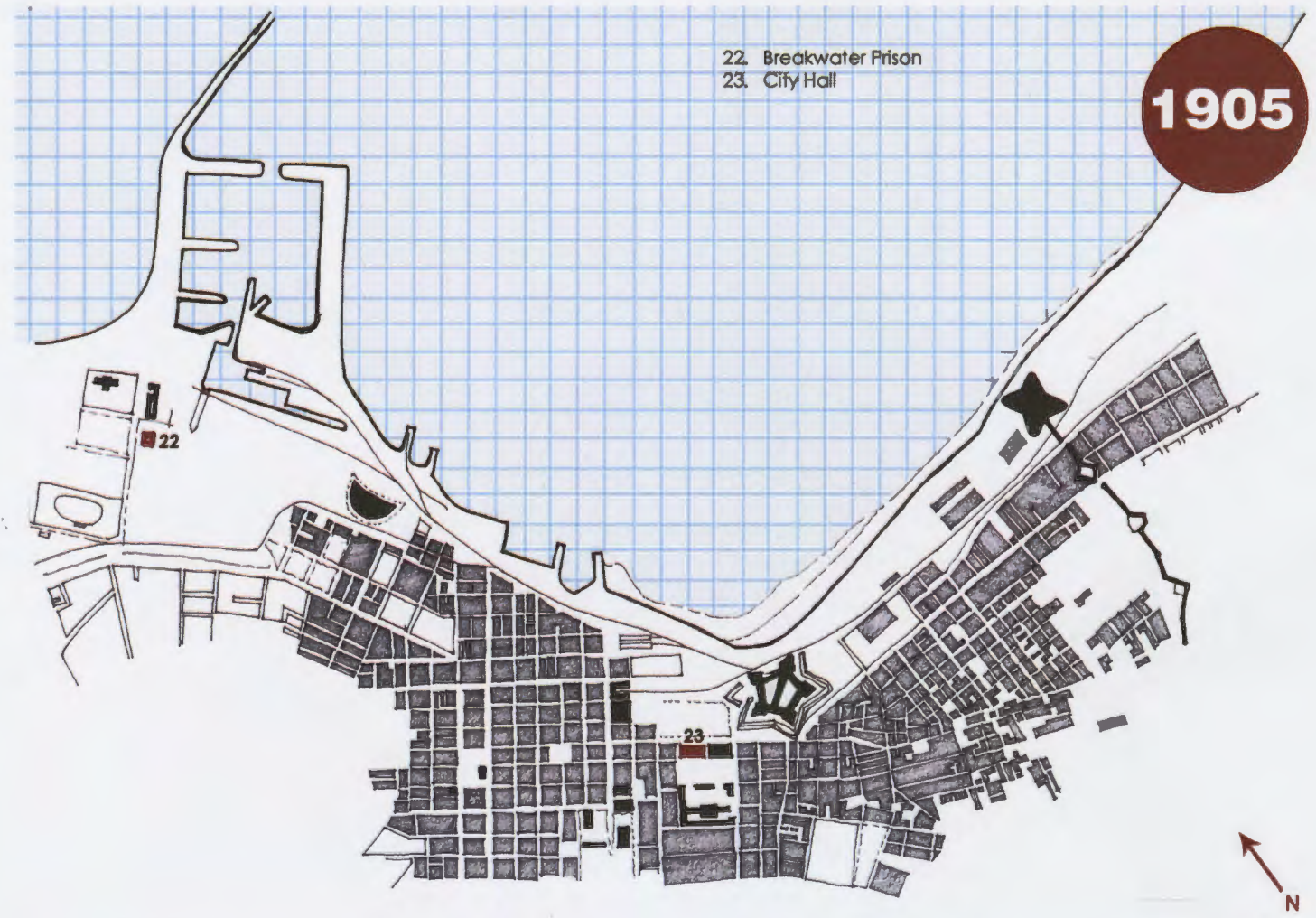
1895-1901: Construction of the Breakwater Prison as a new convict station for those working on the breakwater and harbour construction.

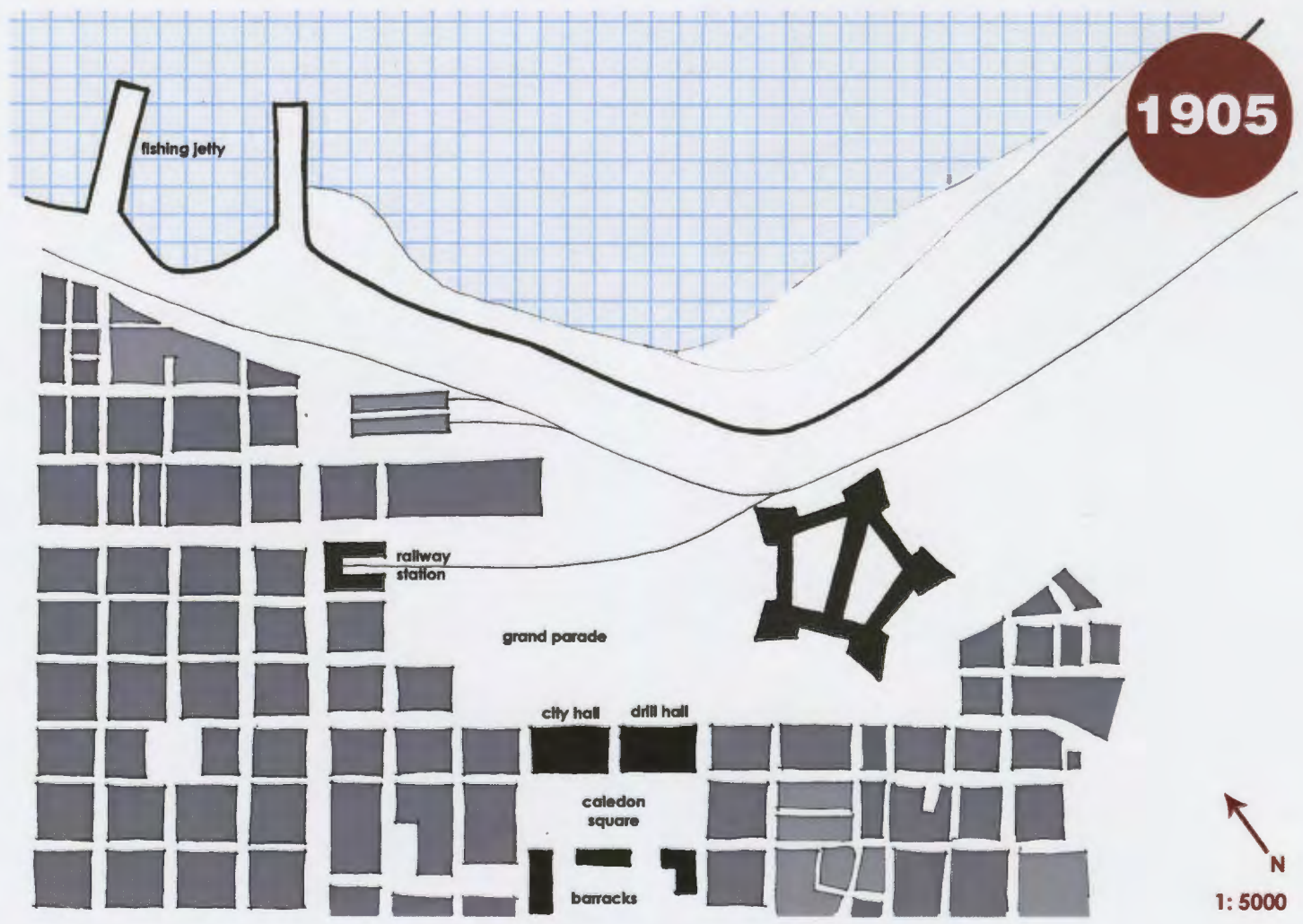
1896: First reclaimation / landfills between coaling jetty and north jetty. 'Combrink's concession. Further landfill occurred in 1903. Area later occupied by Imperial Cold Storage buildings

1901: Outbreak of bubonic plague. Black labourers moved to Ndabeni.

1903: Harbour Cafe
Port Captain's Office

1904: East Pier completed
Amsterdam battery party demolished.





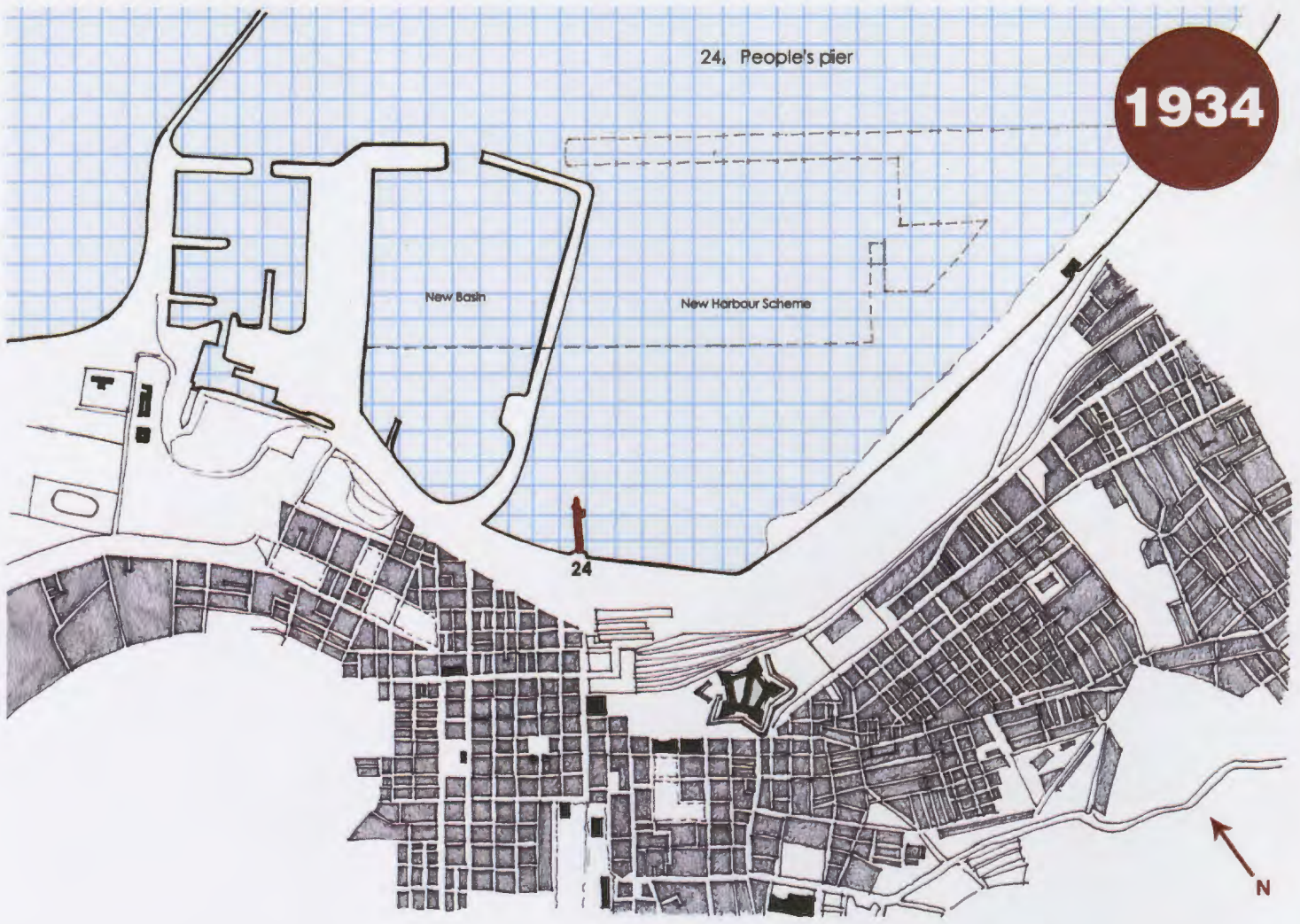
These maps show the extension of the Table Bay Harbour and the continuing growth of Cape Town.

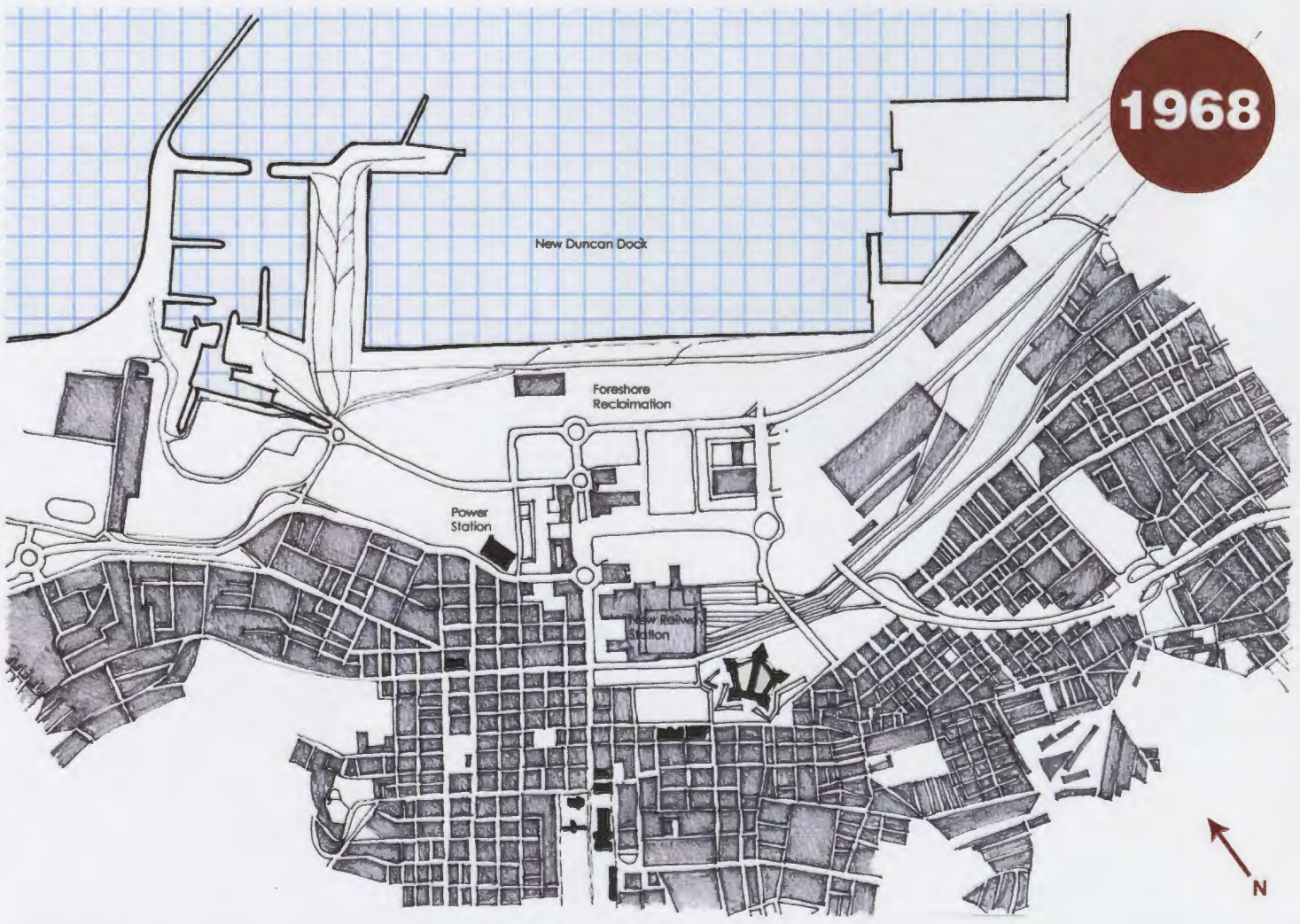
1910-1961: Union of South Africa

1913: People's Pier opened at the end of Adderley Street, projecting 300m into the bay and incorporating a tower, concert pavilion, restaurant and swimming and boating facilities. Marine drive with line of palm trees.

1919: Union Castle House built as home to mail steamship service

1938- 1945: Duncan Dock Reclaimation scheme





Here we see the continuing growth of the city of Cape Town and the need for increasing dock space for visiting ships. First a new basin is built east of the existing harbour, later the Duncan dock and resulting reclaimed land is constructed.

19 Table Bay Harbour
Woodstock pavilion
Somerset Hospital 18
Chavonnes Battery 8
10 Shipwrecks
Fort Wijnland 15
Fort Knokke 9
Coaling wharf 1878
Breakwater prison 22
Stone pier 1833
Amsterdam Battery 14
Holland Redoubt
French lines
24 People's Pier
Military hospital
13 Central Redoubt
Bree Street jetty / North wharf 1842
12 Sea lines
Fishing jetty 1878
Central Wharf 1860
3 Original timber jetty 1658
7 Prestwich Street Memorial
16
11
17
New Market
Old train station 20
2 Old fort
5 Castle
4
6
City Hall
Pier Hall
23
21
1 Fresh River (not original)

please pull out

part 3.2

Key historic sites

24 key sites identified in the investigation of Cape Town's development

[Reclaim Camissa]

the fresh river

What was:

The original Khoi Khoi name for Cape Town, was 'Camissa', the 'Place of Sweet Waters, refering to the streams which ran from Table Mountain into Table Bay. The nomadic Khoi Khoi visited this area every spring for as far back as 1500 years before the arrival of the European colonists. These streams were the raison d'etrefor the position of the VOC refreshment station and colonial occupation of the Cape. The alternative sites considered near Saldanha and Simon's Town offered safer anchorage but lacked fresh water. The fresh river [Varsche Rivier] and other streams were canalised by the Dutch (Heerengracht, Buitengracht) and later covered over by the British due to pollution and health risks.

What is:

Today, these streams are diverted into the city's stormwater system, and run down to the sea unseen, underutilized and for the most part forgotten by Capetonians. Parts of the stormwater system are made up of the old Dutch canal system and are as old as the castle. In recent years, tours of these drains have begun to bring the existence of these streams back into the public consciousness.

What could be:

Proposals by the Public Benefit Organisation, Reclaim Camissa envisage ways to better use these streams by redirecting water for navigation, irrigation, display, recreation and education.

The original fort as drawn in Jan van Riebeeck's diary.

the original fort

What was:

The original fort was built by Jan van Riebeeck and his men shortly after their arrival at the Cape in 1652. (Plans for the fort and its position are recorded in detail in his journal.) The fort was constructed using timber brought from Europe, local stone, restios for thatching and earth berms or banks planted with sods to prevent rain damage.

It was built on the site now occupied by the northern corner of the Grand Parade and the adjacent portion of Strand Street.

What is:

As far as we know to date, no fragments of the original fort remain. It is, however possible that remnants lie buried under the Grand Parade. The position of the fort is marked on the paving with a painted red line. However the fort's existence is largely forgotten in the collective consciousness.

What could be:

Remembrance of this first European building in South Africa could enrich the public understanding of the historic parade site.

Artist's rendition of the original jetty.
[Veitch, Waterfront and Harbour]

original timber jetty

What was:

The first jetty at the Cape was built with tree trunks felled in the forest at Newlands in 1656. This jetty was damaged, repaired and rebuilt several times due to the harsh weather and seas at the Cape of Storms. *'Here... there is only one rickety worm eaten jetty ... to provide for the embarkation of both passengers and cargo'* – General JH Craig 1798 Subsequently several other jetties, causeways and piers were built at the Cape and the original 'south jetty' was demolished.

What is:

As far as we know, nothing remains of the original timber jetty, and any remnants that may have survived are buried under the reclaimed land occupied by Cape Town Station. However it is significant that this was the point of arrival for all members of the cape society (slave or free) for the first 200 years of Cape Town's existence. Today this site remains the primary arrival point in the central city for Capetonians, who are generally ignorant of this piece of its history.

What could be:

The significance of this site in the history of Cape Town should be brought to the attention of the collective consciousness through the creative marking of site. Proposals to sink Cape Town station and redevelop this site need to take this important piece of history into consideration.

'Wagenaar's Reservoir' Remnants in Golden Acre Mall
[Author's own]

wagenaar's reservoir

What was:

'These ruins are all that remain of a reservoir built in 1663 under the supervision of Zacharias Wagenaer, the second Commander of the Cape, to improve the water-supply for sailing ships. They were discovered in 1975 during building operations and have been preserved in their original position. The reservoir, built of stone and brick, was constructed in the bed of the Fresh River which flowed down to the sea from Table Mountain. The reservoir was 45 x 15 m with a capacity of approximately 700m³. A 1-metre-high safety wall of brick surrounded it. Four flights of steps enabled sailors to reach the water to fill their barrels. A wooden sluice-gate at the entrance of the sluice channel regulated the water level. The sluice channel was covered by timber and a mound of earth to provide additional strength against water pressure.' - Sign at the site of ruined reservoir

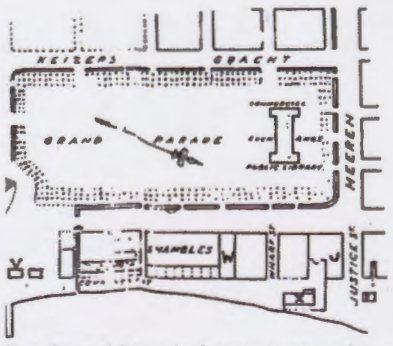
What is:
The ruins of this reservoir, preserved in the midst of the Goden Acre arcade, a site of heavy pedestrian traffic used by a wide cross section of the public represents the viability of history and memory being part of the everyday life of the city. This fragment of history has not been institutionalized and is accessible to anyone willing to stop and look.
What could be:
This site should be included in a strategy to link the currently fragmented sites of history and memory in the city, making them more legible and part of a larger, ongoing narrative, in the collective consciousness of Capetonians.

5 the castle

Built between 1666 and 1679, the Castle is the oldest surviving building in South Africa. It is a pentagonal fortification with a moat and bastions at each corner, named after the titles of the Prince of Orange.
What is:
Today it serves as a military base, houses the Military Museum and contains other historical objects, including the William Fehr Collection of paintings, carpets and other objects. The castle is used for public events and exhibitions. It is one of the key tourist sites in the city.
What could be:
This site should be included in a strategy to link the currently fragmented sites of history and memory in the city, making them more legible and part of a larger, ongoing narrative, in the collective consciousness of Capetonians.

6 the grand parade

What was:
The Grand Parade has been a permanent feature of Cape Town's urban fabric since the establishment of the VOC refreshment station. Located adjacent to the castle the parade was originally used as a military practise ground.
What is:
The Grand Parade remains a key public space in the life of Cape Town, and is used for major events and gatherings from politcal rallies to sporting events. On a day to day level it provides informal trading space and central parking space. However, as a key historic site and public space, the Parade is generally under-utilized.
What could be:
The Grand Parade has the potential to be a central part of Capetonians' understanding of the history of their city. This is a site which represents the layering of history from pre colonial times right up to the present day. These layers of memory should be better represented on the site. Due to the central location of the site, and the historic significance of the surrounding buildings, it has the potential to be a starting point for historic tour routes through the city.



The Grand Parade from on an early survey

7 burial grounds

What was:
During the 17th and 18th centuries, Cape Town's burial grounds were located near the site of the old Somerset Hospital in Chiappini Street. Parts of the burial grounds were formalised, walled and marked on early maps of the city. These were used for the burial of the middle to upper classes of society. Slaves, paupers and the unnamed victims of shipwrecks were buried outside but alongside these walled areas, representing early divisions in social structure.
What is:
In 2003 the remains of those buried in these early cemeteries were discovered during redevelopment of the site. The Prestwich memorial serves to mark this site, as well as provide a dignified ossurary for the exhumed remains of these 2500 early cape inhabitants , paying tribute to their contribution to making the city what it is today.
What could be:
The history of this site is already well memorialised. The Prestwich Memorial is one of a few significant sites marking the presence of slavery Cape Town's history. It has the potential to be part of a strategy which links the currently fragmented sites of history and memory in the city, making them more legible and part of a larger, ongoing narrative, in the collective consciousness of Capetonians.

The Prestwich Memorial building by Lucien Le Grange.
[Author's own]

8 the chavonnes battery

What was:
The Chavonnes Battery was built in 1714 -25 as the first of a series of coastal defenses at the Cape. Eyewitness accounts describe it as the most formidable of the Cape fortifications. Besides serving a military role, the battery was used as an isolation ward to the old Somerset Hospital, during small pox epidemics. In 1861 the battery was decomissioned and partly demolished during the construction of the Table Bay harbour, and some of the stone was used in the construction of the docks.
What could be:
The remnants of the battery lay hidden until the redevelopment of the Clocktower Precinct of the Waterfront in 1999 exposed them. The Chavonnes Battery Museum is located in the basement of the new BOE bank building and parts of the fortification are exposed to the open air and hence are easily accessible to the public.
What could be: The Chavonnes Battery is part of a series of military fortifications of various levels of preservation and accessibility. They represent the Cape Town's colonial era and the militarized control of space. There could be stronger links between these fragments of history, in the form of a narrative route.

Chavonnes Battery today
[Chavonnes Museum, www.chovonnesmuseum.co.za]

9

fort knokke

What was:

Fort Knokke was built in 1743 as part of a chain of coastal defenses protecting the Cape settlement from attack from the sea. Many of these fortifications were decommissioned during the 1800s and Fort Knokke was likely demolished during the early 1900s to make room for the railways. During the 1950s a mass grave was found near the site of Fort Knokke – likely the victims of the shipwreck of the slaving ship, Pacquet Real in 1818.

What is:

As far as we know, fort knokke has been completely demolished, but fragments of the fort may remain under the woodstock railway lines. Most Capetonians are unaware of its existence and records of the fort are scarce.

What could be:

In 2007 it was proposed that the name of Selwyn Road in Woodstock be changed to Fort Knokke Road. Although this has not been carried out, it is a viable way of remembering this site. The proposal to sink the railway lines from Cape Town to Woodstock Station and the redevelopment of this land should take into account the presence of this historical fragment.

10

Shipwreck
[Veitch, Waterfront and Harbour]

shipwrecks

What was:

During the history of the 'Cape of Storms' several ships have been wrecked in Table Bay. The prevailing North Westerly wind would drive ships into the South East corner of the bay, wrecking them around Paarden Island, Woodstock and Salt River.

What is:

There are approximately 70 ships buried under the reclaimed land of the Foreshore. The majority of Capetonians have little comprehension of the presence of these watery graves below the now solid ground of Woodstock.

What could be:

Should the proposal to sink the railway lines from Cape Town station to Woodstock go ahead, the necessary excavations may well uncover the remains of some of these wrecks. This project therefore represents a major archaeological opportunity for Cape Town and should be planned accordingly. This site represents Cape Town's origin as a refreshment station on a major trading and slaving route.

11

Strand Street complex by Sir Charles D'Oyly.

strand street complex

What was:

Strand Street, implies its former proximity to the sea by its name, and contains a series of key historical buildings. The Koopmans de Wet house, built in 1701 was once the cultural salon of Cape Town. Today, it contains a collection of Cape furniture and silver, and Dutch Delftware. The vine in the courtyard is reputedly one of the oldest in the country. A collection of 18th century buildings make up a block around 96 – 100 Strand Street. They are the Sexton House (1787), the Lutheran Church (1774 – 1785) and the Martin Melck House, the adjoining church parsonage (1774 - 1785)

What is:

This group of buildings represent the best preserved fragment of early 19th century Cape Town, and the view of them has hardly changed since Lady Anne Barnard and Sir Charles D'Oyly drew them in the 1790s and 1830s. The buildings currently house the Consulte of the Netherlands, the Lutheran Church and the Gold Museum of Africa

What could be:

This group of buildings already play an important cultural and museal role in Cape Town, but could become part of a series of significant sites along a narrative route.

12

Artists rendition of the sea lines
[Veitch, Waterfront and Harbour]

sea lines

What was:

After the British attempted to capture the Cape from the Dutch in 1781, a series of defenses, including the sea lines were constructed. This defensive wall stretched from the Castle's Imhoff battery to Fort Knokke. There are no records of the demolition of the sea lines, but we can safely assume that they were decommissioned during the 1860s and demolished during the construction of the railway lines.

What is:

Today there are no physical remains of the sea lines. They are remembered only in old maps of Cape Town, and the presence of the shore front is remembered in street names such as Beach Road in Woodstock.

What could be:

The memory of the old shoreline as marked by the position of the sea lines could be re-introduced into the collective consciousness through the redevelopment of the site through the sinking of the railway lines for 2030.

13

french lines

What was:

In 1780 the Dutch allied themselves with France. Britain attempted to capture the Cape colony in 1781, spurring the Dutch to build a series of defenses against future attacks, both overland and from the sea. The French lines were constructed by a French garrisson from Fort Knokke and stretched from the fort up towards the blockhouses on the slopes of Devils peak.

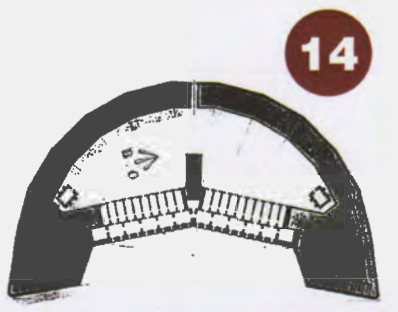
What is:

Remnants of the central redoubt can still be seen in Trafalgar Park, Woodstock. They are

easily accessible to the public but their historical significance is generally unknown.

What could be:

The remaining fragments of the French lines and their relationship to the blockhouses and Fort Knokke could be better utilized as a memory site and could be included in a historical narrative route.



The Amsterdam Battery then and now
[Author's own]

amsterdam battery

What was:

The Amsterdam or Water Castle Battery, built in 1781 and remodelled in 1892 was part of a chain of coastal defenses at the Cape. Dismantling to accommodate extensions to the harbour appear to have started in 1905.

What is:

While the review and catalogue of Cape Town buildings in the 1970s compared the construction and historic significance to the castle bastions. Today only portions of heavy blue stone walling remain in a private parking lot, and are neglected and forgotten.

What could be:

The Amsterdam Battery is part of a series of military fortifications of various levels of preservation and accessibility. They represent the Cape Town's colonial era and the militarized control of space. There could be stronger links between these fragments of history, in the form of a narrative route.

[Untraceable source]

fort wynyard

What was:

In 1795 a Dutch military base named Kyk in die Pot is built on the hill overlooking Granger Bay. This was dismantled in 1827 and in 1862 a new fort was built on the same site and named in honour of General Wynyard. The fort remained operational through both world wars. In the 80s and 90s it housed an open air naval museum and was open to the public. This museum has subsequently been moved to Simonstown.

What is:

Today the site remains a National Monument and is home to the Cape Garrison Artillery.

What could be:

While the working nature of Fort Wynyard restricts its use as a memory site, the fort's position adjacent to and overlooked by the new Greenpoint Stadium, means its presence as a historical site should be better known.

The Old fish market and Fishing boats in Roggebaai
[Veitch, Waterfront and Harbour]

fish market

What was:

Traditionally the sandy beach of Rogge Bay was associated with the local fish trade. Fishing, whaling and sealing activities were carried out here from the early days of the colony unitl the reclamation of the foreshore and construction of the new harbour.

'It is a very pretty sight, too, to go down to the Central Causeway any afternoon about three o'clock and watch the fleet of fishing boats come to anchorage after a hard day's toil at hooking 'snoek', 'silverfish', 'hottentot', 'stumpnose' and 'geelbeck'. There they come in a long double file, rounding the end of the North Jetty, their white sails glittering in the sun, their crews toiling at their oars in a measured sweep; while boat after boat, as it reaches the smooth waters of the haven, folds its white wings, lowers its mast, and is rushed up onto the beach by a stalwart of half-naked coolies, who dash into the surf to steady the gunwales, and promote an early delivery of their varied hauls. It would do your heart good to see the crowds of healthy children swarming in the Fish-market when these boats have been hastily emptied!' - Life at the Cape a Hundred years ago, by a lady. 1861

What is:

The Rogge bay beach is buried under the reclaimed land of the foreshore and its presence is remembered in street and place names such as Sea, Jetty and Wharf Streets and Pier Place.

What could be:

The memory of the old shoreline, beach and fishing jetty should be remembered as part of a series of interlinked historic sites in the city.

Blue stone walling found at Cape Town station, possibly footings of the old customs house.
[Reclaim Camissa]

commercial exchange | customs house

What was:

The Commercial Exchange was built in 1822 on the site of today's Golden Acre, and represnted the formalisation on financial activity in Cape Town. This continued Cape Town's history as a player in world trade since its establishment as a half point along international trade routes. The old commercial exchange was demolished in 1893.

Complementary functions were housed in the Customs House building located on the site of the current train station, with close proximity to the old jetties.

What is:

While the Commercial Exchange and old Customs House are long demolished, Cape Town remains an active player in international trade and financial activities. Excavations on the Cape Town Station site have revealed what may be the foundations of the old customs house.

What could be:

Redevelopment of the Cape Town Station site provides the opportunity to remember the important role Cape Town has and still plays in international trade.

18

somerset hospital

What was:

The new Somerset Hospital was built as a replacement to the old hospital on Chiappini Street below the Somerset road cemetery. The Somerset Hospital continues the Cape's long history of providing medical care to passing sailors. The hospital was designed by I Scott Tucke, colonial engineer.

What is:

Today the Somerset Hospital still stands on the out skirts of the Waterfront complex, and is marked on its tourist maps as a historic site.

What could be:

The hospital represents one of early Cape Town's key reasons for establishment, that being the provision of medical care to passing sailors. This site has the potential to be part of an interlinked series of historical sites in the city,forming a narrative route.

19

table bay harbour

What was:

After several attempts to improve the safety for ships at anchor in the bay by constructing moles and breakwaters and several elaborate harbour proposals, finally a realistic harbour design was submitted and construction started on the Table Bay harbour, we know as the Waterfront today. The first truckload of stones was tipped into the bay by 16 year old, Prince Alfred, the first Royal to visit the Cape. Convict labour was housed in the remodelled Amsterdam battery. In 1867 Prince Alfred opened the inner harbour. In 1895 the harbour was extended through the construction of the outer harbour by Coode, Son and Matthews consulting engineers.

What is:

Today the V&A waterfront is a popular destination for tourists and Capetnians alike, as well as a successful commercial complex, while remaining a working harbour. The complex contains several historic buildings, which are listed below:

Ferryman's Freehouse/Mitchell's Scottish Ale House - 1860
Dock House - 1880
Robinson Dry Dock - 1882
Old Power Station (Pump House) 1882
Clock tower 1883
Timeball Tower 1894
Harbour Café - 1902
Old Port Captain's Building - 1904
Old Millwright's Building (core of Two Oceans Aquarium premises) - 1907
Union Castle Building - Baker, Kendall Morris Design - 1919

20

The old railway station and its demolition
[Old buildings at the Cape]

railway station

What was:

The first railway line was built in 1861 from Cape Town to Wellington with a temporary timber and corrugated iron station on the site of today's Golden Acre. In 1875 the site was bought by the railways for 1 shilling (12c) for the construction of a permanent station, on condition that the land be returned to the council once the railways were finished with it. In 1961 the new station was built on its current site. It was hoped that the old station would be used as an exhibition hall or cultural venue. Unfortunately it was decided that the station should be demolished much to the disappointment of many Cape Tonians who attached fond memories to the building, and to the central clock which served as a meeting point in the city. The old station was demolished in 1968 and the land was returned to the council as promised, for the widening Strand Street. Archeologists hoped that Wagenaar's reservoir would be rediscovered during the demolitions, however this artefact was discovered a decade later during the construction of the Golden Acre complex, so named due to the high value of the central piece of land it occupies.

What is:

Today's railway station is located on the site adjacent to the old station.

What could be:

The site of the old and current railway stations are rich in layers of memory, which should be remembered in the upgrading of these sites.

21

The Drill Hall
[Old buildings at the Cape]

drill hall

What was:

The Volunteer Drill Hall was built in two stages, the hall itself was completed in 1885 under CE Tennant and the Tudor Frontage and extensions were added in 1889 by A de Witt. The hall, along with the Grand Parade and Caledon Square provided the practising grounds for the military housed in the main barracks which were located in Barrack Street.

What is:

The Drill has recently been remodelled and refurbished to house the Cape Town Central Library.

What could be:

The Drill Hall's location alongside the City Hall, Grand Parade and Castle make it part of a historic precinct which could be better utilized as a cultural venue and memory site. The library should play a key role in making Cape Town's history more accessible to the public.

22

[Old buildings at the Cape]

breakwater prison

What was:

Breakwater prison is a large square double storey building with a central courtyard which was built as 'New Convict Station' between 1895 and 1901 to house convicts who were employed in the construction of the breakwater.

What is:

The building was subsequently converted and now houses the Protea Hotel, Breakwater Lodge as well as the UCT Graduate School of Business. A treadmill used to punish disobedient convicts is still on show, representing the punitive penal attitudes of the 1890s.

What could be:

While the building is listed as a historic site on the V&A Waterfront's tourist guides and makes, more could be made of its significance through links with the Robben Island Museum. The site along with other fragments of Cape Town's history have the potential to be linked to form a legible historic route and an ongoing and inclusive narrative in the collective awareness of Capetonians.

23

[Author's own]

city hall

What was:

The City Hall was built in an Italian Renaissance style in 1905 and is said to be modelled on Leeds Town Hall. The City Hall was built of golden Bath stone and marked the height of the imperial relationship with Britain and the rejection of the image of Cape Town as a Dutch town. In 1990, Nelson Mandela gave his first speech after his release from prison from the balcony of city hall. The central Cape Town library was accommodated in the City Hall until its recent move to the Drill Hall.

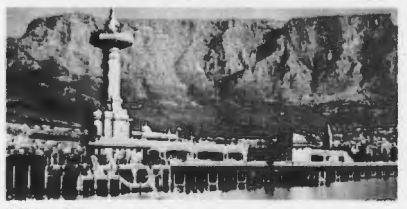
What is:

The City Hall acts as concert venue, and the space formerly occupied by the library was renovated and converted into exhibition space for the recent Spier Contemporary.

What could be:

The Cape Town Partnership, and more specifically, their Creative Cape Town wing is currently in negotiations with the City Council to share management of the venue and turn it into a dedicated cultural venue. Their public awareness project, 'Imagine City Hall' invites Capetonians to take ownership of the future of this historic venue. The City Hall therefore has the potential to play a pivotal role as a memory site in the city as well as a site of 'living / working memory' through the cultural events it aims to host.

24



[Old buildings at the Cape]

people's pier

What was:

The People's pier was a built by the municipality in 1913, extending 300m into the bay from the bottom of Adderley Street, from the site of the central causeway of the 1850s. It accomodated a tower, concert pavilion, restaurant and swimming and boating facilities. The pier represented Capetonians ongoing and close relationship with the sea, and its demolition in the 1930s along with the reclaimation of the foreshore represented the loss of this relationship.

What is:

The People's Pier is remembered by older generations of Capetonians and its presence is memorialized by the naming of 'Pier Place' off the Heerengracht, in the approximate position of the old pier head. Fragments of the central causeway have recently been found at the Cape Town Station, representing a key archeological find.

What could be:

The memory of Cape Town's relationship with the sea has the potential to be strengthened through the discovery of remnants of the old jetties and piers, and the display of these artefacts.

[Author's own]

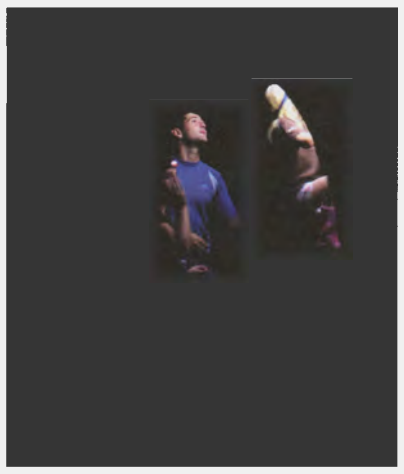
part 3.3

Related contemporary projects and proposals

This project is predicated on a series of existing design proposals and projects in the city. Originally my investigation into urban memory in Cape Town was centred around the redevelopment of District Six as a memory site as well as a site of land restitution. Research into the site revealed that the memory of District six is already well established in the public consciousness through a variety of typologies of memorialisation. (see part 1.2) As one of the original aims of the project was to uncover the layers of history and memory that have been lost or forgotten in the city, this became less appropriate as a choice of site.

Reclaim Camissa

An opportunity to do a tour of Cape Town's old stormwater drains with Reclaim Camissa and Figure of Eight Adventures, revealed a layer of Cape Town's natural and colonial history which is hidden underground. 'Camissa', meaning 'the place of sweet waters' is the ancient Khoi name for Cape Town. Embedded, lost and obscured within the city's fabric this vital ecological and cultural link still exists.... Reclaim Camissa is a citizen activation project to investigate, document and restore vital ecological and cultural heritage links between Table Mountain and the sea in the Cape Town Central City. The work of Reclaim Camissa and Caron von Zeill became a valuable source of information on Cape Town's hidden and forgotten memories, particularly those concerning Cape Town's relationship with water.



Stormwater drain tour
[Author's own]

Archaeological finds at Cape Town Station

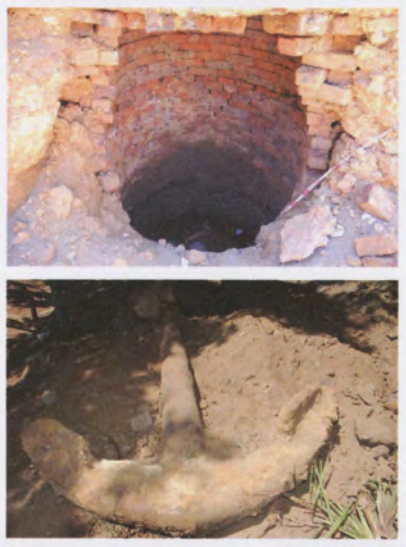
Important archaeological clues to Cape Town's past were discovered during renovation and construction work on the Cape Town railway station and adjacent station square in preparation for the FIFA world cup, in March 2010. The wooden remnants of what is likely to be the 'Central Jetty', evidence of an 18th century well, some blue stone (bokkeveld shale) walling, possibly of the old customs house and an old admiralty era anchor were found. These artefacts confirm that Table Bay's water edge was approximately where the station is today.

In the words of Cape Town's Archaeologist, Dr. Antonia Malan,

> *'In my opinion, if there is any site in South Africa that symbolises (and is the earliest material, tangible mark of) the birth of the Mother City and the modern State in Southern Africa it has to be the landing jetty. It was here that our ancestors stepped ashore (whether freely or not, healthy, sick or dying). It was the umbilical cord that sustained passing ships with fresh food and water and conducted vital supplies to the struggling settlement. It was the point from where indigneous and foreign exiles and convicts were offloaded and shipped to Robben Island where famous and infamous travellers disembarked.'*
>
> *'The features uncovered by the contractors are associated with the so-called 'central jetty' at the end of Heerengragt/Adderley Street, where a custom house was built on the edge of the then shoreline.*
> *Over time the shoreline was pushed back into the bay by natural silting and deliberate filling.*
> *The stone and brick remains are probably 19th century, but of course we don't know what's deeper down until further excavations are carried out. The ACO has not yet been commisssioned to do this. The red brick well is built in the style typical of the British period. The anchor is an 'Admiralty' anchor there were ongoing improvements in anchor design under the auspices of the British Admiralty.'*

Unfortunately, in the rush to complete the station precinct for the FIFA World Cup, some of these finds were covered over in hard landscaping, compromising their archaeological integrity, as well as missing a key opportunity to showcase an important part of Cape Town's history to foreign visitors. This incident highlighted the need for better archaeological protocols and more efficient management of important finds.

This discovery reminded me of my lifelong fascination with Cape Town's original shoreline (before the reclamation of the foreshore) and the stories surrounding it. Many Capetonians know that the castle bastions used to look out onto beach front and that in rough weather, synonomous with the Cape of Storms, waves would crash against these ancient walls. However, the precise location of the old shoreline is largely unknown and so my research project became one of uncovering and mapping the old shoreline, and the historic sites related to it.



Cape Town Station finds
[von Zeill, Reclaim Camissa]

Blue Line project
[Reclaim Camissa]

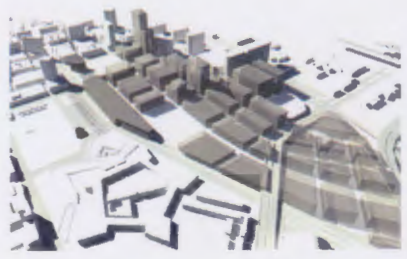
The Blue Line Project

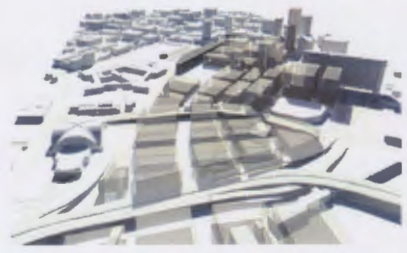
Reclaim Camissa in collaboration with landscape artist, Strijdom van der Merwe have a proposal named the 'Blue Line Project', which invisions a line painted onto the surface of roads and pavements in a pigmented limewash, marking the 6.5m above sea level datum line. This line represents both the approximate location of the old shoreline, the frontier of the South African nation: Cape Town's old shoreline, where trading ships filled their water caskets and bartered with the indigenous peoples, as well as the level indicated for possible future flooding due to sea level rise. The blue line will serve the dual purpose of raising the public awareness of the past and future sea level, as well as acting as a carbon sink.

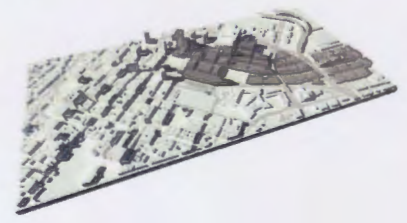
BRT Station and route
[Author's own]

Bus Rapid Transport

In preparation for the 2010 World Cup and beyond, Cape Town's existing public transport system has been supplemented / complemented with the development of the new bus rapid transport (BRT) system. The primary BRT (trunk) routes have separate dedicated bus ways for special 18 metre articulated vehicles. Enclosed weatherproof bus stations are placed at the centre of the road to ensure the buses can move quickly past other traffic, and most importantly, offer a car competitive service.' One of these routes, which is still under construction, runs from Paarden Eiland to Cape Town Station, following the approximate line of the old Cape shoreline.







Proposals for the redevelopment of the Cape Town Station site
[DHK]

Cape Town Station Revitalisation 2030

Cape Town Station is undergoing a major revitalisation and renovation. While phase 1 of this project was completed in time for the World Cup, the design team (Comrie Wilkinson, Jakupa, DHK & Makeka Design Lab) were asked to envision what Cape Town station could be by 2030 (phase 2).

The 2030 vision is to sink the existing railway lines from Cape Town station to Woodstock into underground tunnels, enabling the redevelopment of an area of land equivalent to 30 city blocks. This would allow the central city to expand eastwards, 'providing much needed leeway for mixed use developments, including offices, affordable housing, educational facilities and public open spaces, as well as resulting in improved integration of key neighbourhoods such as District Six, Woodstock, the Foreshore and Culemborg with the central city.' (Andrew Boraine – Central City Strategy)

The following article, from the Cape Times [4 March 2010], sums up the vision and impact of this project.

R80bn project to transform Cape Town by 2030

A huge R80 billion regeneration project for the Cape Town Station precinct and more than 50 hectares of land between Woodstock and Culemborg is set to radically alter Cape Town's inner city and breathe life into a "dead area".

Plans include the recovery of shipwrecks from below the Cape Town station and the dropping of the railway tracks between Cape Town and Salt River to allow for expanded terrestrial development.

The transformation will revive a "blighted" part of the city, marred by under-utilisation, crime and degradation. "This will change the face of the CBD," said mayoral committee member for safety and security JP Smith.

The ambitious inner-city facelift, unveiled yesterday at the City of Cape Town's mayoral committee meeting, is one of seven national transport orientated development projects being considered by Intersite, the property division of the Passenger Rail Agency of SA.

As about half of the city's commuters relied on rail transport, Cape Town's regeneration was a "high priority", said Intersite chief executive officer Cromet Molepo.

Intersite's technical manager, said the project would reconnect precincts of the city from District Six, Culemborg and Salt River/Woodstock into an integrated East City space.

It would also form part of a sustainable economic strategy for the area.

But he said the development would need to work with the existing urban environment, and heritage aspects of the area would be preserved.

The rail corridors would have nodes and stations, each with a unique character and economic profile.

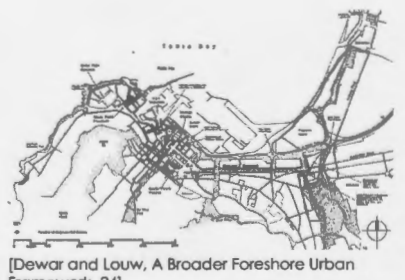
Makeka said there would be four neighbourhoods linked by a central spine or grand promenade.

- Neighbourhood A would be mixed-use with a cultural centre, museum and boutique hotels.
- Neighbourhood B would be a centre of technological research and education.
- Neighbourhood C would be a government services area with staff housing and parliamentary loft apartments.
- Neighbourhood D would be a health and lifestyle area with clinics, sport medical centres and a fitness park.

Phased Redevelopment of the railway line area
[Makeka design lab]

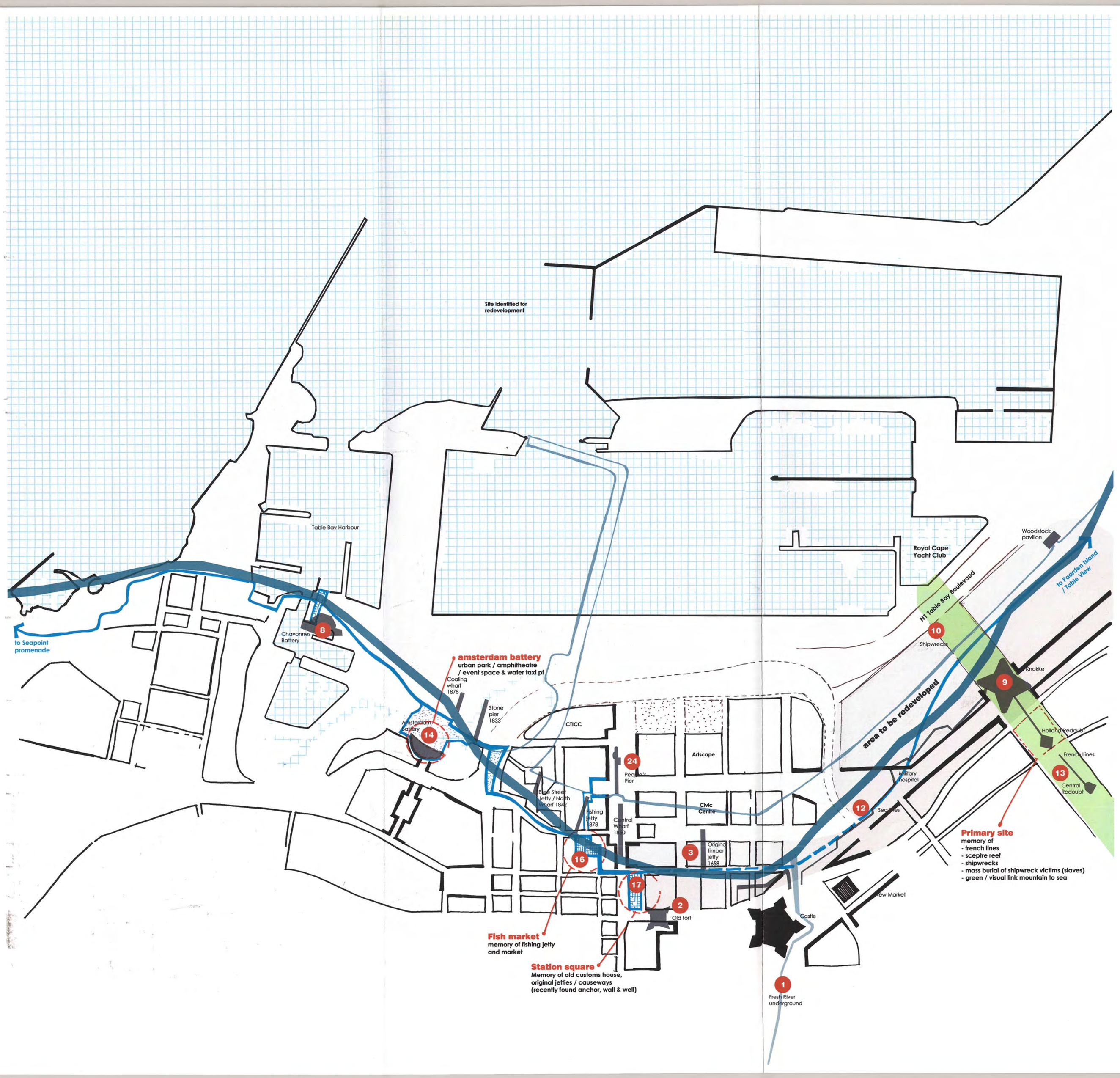
Intersite said the public investment alone in the project would be at least R20 billion.
Makeka said challenges included the zoning rights that would be needed to get a project of this magnitude off the ground, and the "substantial" amount of infrastrucfure that would be placed underground.
Intersite asked the mayoral committee to treat the project as one of "strategic importance".
Makeka added: "We need to collaborate with the city to realise the vision."
The city has been asked to provide resources so that Intersite can complete a feasibility plan for the project by 2012.
But members of the mayoral committee said they were concerned that Intersite could not confirm how much the project would cost the city.
"The city wants to be a partner, but there are concerns, such as the financial impact on the city," said Cape Town mayor Dan Plato.
Ward councillor for the area Belinda Walker asked Intersite for a more detailed plan with clear time targets.
Although Intersite's plan has the support of Mansoor Mohammed, executive director of economic development, the mayoral committee said there had to be wider consultation with the ward councillors involved for it to get the council's approval.
The committee has asked for a report on planning applications that would be needed for the project.
Intersite said it needed the co-operation of the city, and other spheres of government, as well as investors.
"The 2030 project is a catalytic project which will be the start of a long-term corridor revitalisation process that will act as a social, spatial and economic stitch at local and provincial scale," it said.

Cape Times
[www.iolproperty.co.za/roller/news/entry/r80bn_project_to_transform_cape]



[Dewar and Louw, A Broader Foreshore Urban Framework, 24]

A Broader Foreshore Urban Framework
This framework, proposed by Dave Dewar and Piet Louw for the City of Cape Town in 2003 provides a useful basis for understanding the possible future development of Cape Town at a metropolitan scale.



please pull out

part 4 |design

part 4.1 | the line

Design / Planning at Urban Framework Level

The first part of the design project is multi-strategy plan for the remembrance of the old shoreline. The aim is firstly to raise public awareness of the existence of the old shore and its close relationship with the city, secondly for the memory of the shoreline to be marked on the contemporary urban fabric in the form of a narrative route which can be followed by pedestrians, and thirdly that this route would begin to inform and structure future development in the city.

This takes the form of a series of interdisciplinary recommendations for what could and should happen around the old shoreline. These interventions would be phased rather than simultaneous.

Wellington's Old Shoreline Trail

Phase 1: Map

Mapping the old shoreline: Creating an easily accessible and legible map which allows members of the public and tourists to do self guided walking tours of the old shoreline. The map should be available at tourist information offices, online for printing, or downloadable to cell phones / mobile devices.

Precedent example: Wellington, New Zealand

A map / booklet has been produced and published online, providing all the information required for members of the public to create their own self guided walking tours of the old shoreline.

Phase 2: Event

An excellent means of raising public awareness of urban memory is through the use of celebrations, festivals and events. An annual charity walk or run, on Heritage Day, the 24th of September, following the route of the old shoreline could be established as a means of encouraging the public to walk through parts of the city they have previously not visited. The Cape Town Fan walk has left a positive legacy of walking the city's streets long after the World Cup.

Mombasa signage strategy
[Author's own]

Phase 3: Signage

Legible maps positioned strategically along well used pedestrian routes allow passers by to follow the route of the old shoreline / navigate to key historic sites.

Precedent example: Mombasa

Maps positioned at regular intervals around the Old Town guide visitors to key historic sites around the city. Three possible pedestrian routes of varying distances and themes are indicated. Historic sites are well signposted and further information is available to the public on signboards at the sites.

Phase 4: Paint

The first and most cost effective method of marking the position of the old shoreline would be to paint its location onto the existing hard landscaping (roads, pavements and public squares) This initial intervention creates public awareness of the location of the old shoreline, and allows members of the public to follow the line in a narrative route. Signage (as discussed before) provides the historical narrative to the walk. The line creates a forum for the discussion of ideas and imaginings around what the old shoreline could become. Rather than being an end in itself, it should lead to further development around the memory of the old beachfront.

Blue Line project
[Reclaim Camissa]

Precedent example: The Blue Line Project

An existing proposal by Reclaim Camissa and landscape artist, Strijdom van der Merwe, involves the painting of a blue line to mark the datum level for predicted sea level rise. This co-incides roughly with the line old shoreline. (see section 3.3)

Berlin Wall Marker
[Untraceable source]

Boston's Old Shoreline Intervention
[www.publicartboston.com/content/horbor-shoreline]

The Ramblas, Barcelona
[Author's own]

[Dewar and Louw, A Broader Foreshore Urban Framework, 20]

Phase 5: Landscaping

The painted line is replaced with hard and soft landscaping and urban furniture, creating a pedestrian friendly and humane urban environment, with public green spaces and memory sites along the route. By this time the old shoreline has become part of the public consciousness and its route has become a popular pedestrian route as well as a public transport route. Development clusters around this axis to serve public and tourist needs.

Precedent: Berlin Wall Marker

The line of the old Berlin wall is marked on the contemporary urban fabric in the form of a continuous line of cobbestones and brass plaques.

Precedent: Boston

The location of early Boston's shoreline and street plan are marked on the granite pavers in the public park between Faneuil Hall and Boston City Hall. This site has been dramatically transformed over 400 years, salty tidal marsh to harbor wharf to active urban plaza. Like Cape Town, much of Boston's urban land has been created by landfill. Artist, Rob Miller has sandblasted engravings onto the paving which marks the pre landfill shoreline (c 1630) and the lot and block lines from an 1819 survey map as well as images of materials which may be found at the high tide line, such as sea grass, shells, fish, and old rope. These elements have a subtle yet profound effect, bringing the geographical boundaries of the past to our feet in the present.

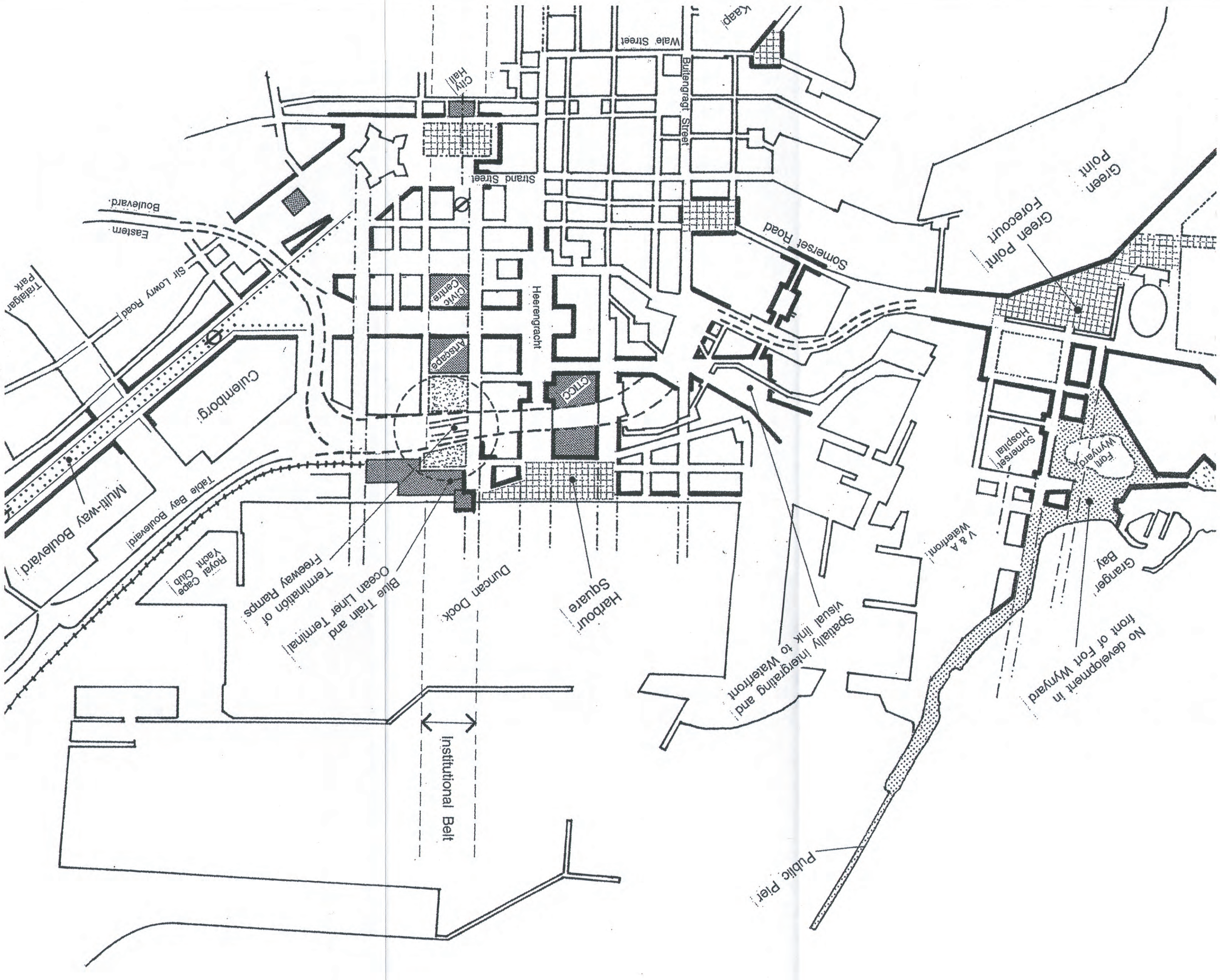
Phase 6: The 'multiway boulevaud'

The line informs the urban development of the new Culemborg and Woodstock neighbourhoods (above the future sunken railway lines. The shoreline memory route re-inforces the multi-way urban boulevaud (as planned by Dave Dewar and Piet Louw and echoed in proposals by Makeka Design Lab and others) in its pedestrian friendly and humane urban environment. The emphasis is on accommodating pedestrian traffic, with public transport available in the form of the BRT system, as well as the newly sunken, undergound railway system. The memory of the old shoreline (and associated historical sites) add layers of meaning and richness to the new public spaces and green spaces created along this boulevaud. Thus memory becomes part of the everyday life of the city. This multiway boulevaud is seen as a major structuring element around which the development of these new neighbourhoods is arranged.

Precedent: The Ramblas, Barcelona

The Rambla was originally a small steam which flowed from the hills of Barcelona down to the sea. Development of the original university and convents structured themselves around this stream. By the 19th century the stream had dried up, but its memory remained a structuring element around which new development clustered itself. Although the original buildings have been demolished, they are remembered in the names of the 5 sections of the Ramblas. Today the stream of water, is replaced by a steady stream of pedestrians (both local and tourist) along this 1.2 km pedestrian, tree-lined boulevaud. Vehicular traffic is limited to two small lanes on either side, with 3 underground metro stations providing easy access to public transport. The Ramblas has become one of the most famous urban spaces in the world and provides a precedent for the spatial quality desired in the new shoreline boulevaud.

please pull out



part 4.2 | the nodes

Of the 24 historical sites uncovered in part 3.2, 10 have been identified as key sites for design intervention. These nodes provide the historical narrative of the shoreline walk as well as providing rest and recreation points along the route. The marking of historic sites is not for the purposes of memory alone, but aims primarily to create positive public space, with the overlaid meaning that history brings. The chosen sites have not yet been preserved / intervened upon, yet are ripe with design potential. They are as follows:

1. the fresh river
2. the original fort
3. the original timber jetty
9. fort knokke
10. shipwrecks
13. the french lines
14. the amsterdam battery
16. the fish market and related fishing jetty
17. the customs house
24. the people's pier

The fresh river, original fort, timber jetty and custom's house are clustered around the station and Grand Parade area and their interventions, offer opportunities of creating a better integrated historical and cultural precinct in the central city.

The french lines, fort knokke and major shipwreck site are located in woodstock in close proximity to one another, and again, demand an integrated approach to design.

The fish market was located close to the current Thibault square and thus offers the opportunity to enrich this public space with a memory which gathers narratives from the full spectrum of early Cape inhabitants.

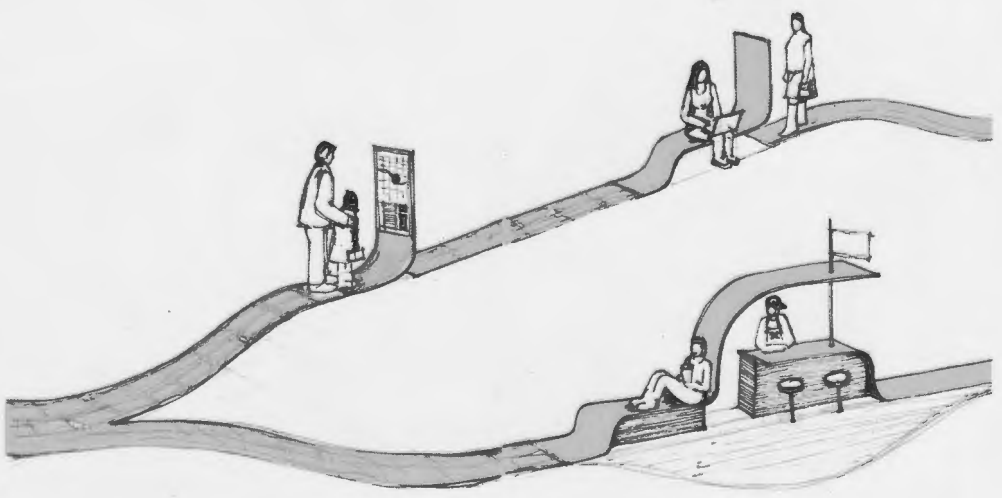
The amsterdam battery is completely underutilised and almost forgotten as a historic site and is located near the open piece of land near the entrance to the waterfront which currently houses the 'wheel of excellence' ferris wheel, as well as being a water taxi stop between the waterfront and the convention centre. This site has great potential as a natural amphitheatre and public event space, which has already been partly utilized over the FIFA World Cup.

The marking of these sites of historical importance along the old shoreline, represent the intersection of the past and present and of memory and the everyday life of the city.

The nodes or markers should not simply be monofunctional monuments but should be useful parts of the urban fabric and everyday life of the city. The should encourage public interaction and use.
Possible node functions include drinking fountains, seating, public green spaces, public toilets, water fountains, recreational facilities, retail (juice/water/snack bars) and internet or phone points. The node uses could have an association with water.

The purpose of this part of the design project, is to define a brief, a common set of requirements and a pallette of materials for the nodes, and to invite students, architects, artists, urban designers, landscapers and collaboratives to design an intervention. Thus the design of the nodes allows for an interactive and inclusive process which is representative of the multiple narratives and memories of the city's inhabitants, rather than being the work of one designer.

However, a few of these nodes will be notionally designed as part of the main architectural project in order to illustrate the potentials and possibilities for the other nodes.



Possibilities for marking the line and nodes

part 4.2 | the nodes

Of the 24 historical sites uncovered in part 3.2, 10 have been identified as key sites for design intervention. These nodes provide the historical narrative of the shoreline walk as well as providing rest and recreation points along the route. The marking of historic sites is not for the purposes of memory alone, but aims primarily to create positive public space, with the overlaid meaning that history brings. The chosen sites have not yet been preserved / intervened upon, yet are ripe with design potential. They are as follows:

1. the fresh river
2. the original fort
3. the original timber jetty
9. fort knokke
10. shipwrecks
13. the french lines
14. the amsterdam battery
16. the fish market and related fishing jetty
17. the customs house
24. the people's pier

The fresh river, original fort, timber jetty and custom's house are clustered around the station and Grand Parade area and their interventions, offer opportunities of creating a better integrated historical and cultural precinct in the central city.

The french lines, fort knokke and major shipwreck site are located in woodstock in close proximity to one another, and again, demand an integrated approach to design.

The fish market was located close to the current Thibault square and thus offers the opportunity to enrich this public space with a memory which gathers narratives from the full spectrum of early Cape inhabitants.

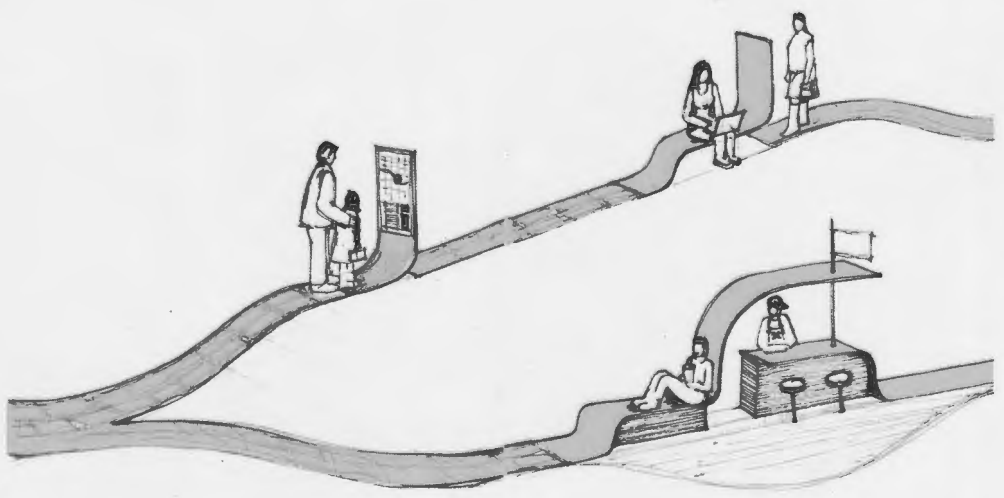
The amsterdam battery is completely underutilised and almost forgotten as a historic site and is located near the open piece of land near the entrance to the waterfront which currently houses the 'wheel of excellence' ferris wheel, as well as being a water taxi stop between the waterfront and the convention centre. This site has great potential as a natural amphitheatre and public event space, which has already been partly utilized over the FIFA World Cup.

The marking of these sites of historical importance along the old shoreline, represent the intersection of the past and present and of memory and the everyday life of the city.

The nodes or markers should not simply be monofunctional monuments but should be useful parts of the urban fabric and everyday life of the city. The should encourage public interaction and use.
Possible node functions include drinking fountains, seating, public green spaces, public toilets, water fountains, recreational facilities, retail (juice/water/snack bars) and internet or phone points. The node uses could have an association with water.

The purpose of this part of the design project, is to define a brief, a common set of requirements and a pallette of materials for the nodes, and to invite students, architects, artists, urban designers, landscapers and collaboratives to design an intervention. Thus the design of the nodes allows for an interactive and inclusive process which is representative of the multiple narratives and memories of the city's inhabitants, rather than being the work of one designer.

However, a few of these nodes will be notionally designed as part of the main architectural project in order to illustrate the potentials and possibilities for the other nodes.



Possibilities for marking the line and nodes

part 4.3 | memory laboratory

Programmatic requirements

The memory laboratory is the primary 'node' along the old shoreline narrative route, and is the generator of this urban feature. It houses the fluid 'working memory' of the city, rather than 'fixed' long term memory, thus playing a role in de-instutionalising collective memory and bringing it back into the public realm of everyday life. The memory lab should therefore represent a new typology for memory architecture.

The memory laboratory project prepares for 2030 plan to sink the Cape Town – Woodstock railway lines into underground tunnels as well as the proposed redevelopment of the adjacent Culemborg area. It recognises that this will be both a major feat of engineering and logistal management, but at the same time, is a key archaeological opportunity for Cape Town,as there are up to 70 shipwrecks buried under the foreshore, many of them, blown into this particular area by prevailing north westerly winds. As we have learnt from the recent finds on the Cape Town Station site, important artefacts can be lost or compromised where proper archaeological protocols and infrastructure is not in place. Therefore the memory laboratory provides the necessary facilities and infrastructure to deal with the variety of archaeological artefacts that may be found during these developments.

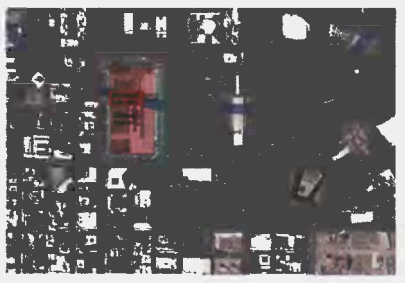
The primary function is therefore the collection, analysis and display of these historical fragments or artefacts, in a way that allows public viewing and participation. It ensures that 'memory' while still in the phase of analysis and processing, is visible to and involves the public. Once the artefacts have been through the full process of analysis and conservation, they will go on public display in an inter-active exhibition space, which includes both indoor (environementally controlled) spaces and outdoor 'sculpture garden' type areas within public green spaces.

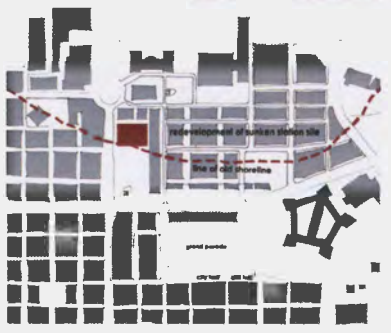
The memory laboratory should also play an educational function in the city. This should could comprise the full spectrum of educational levels from primary to tertiary and include adult further education. The archaeological lab may be run as a post-graduate research and education facility in conjunction with the University of Cape Town. The centre should also provide training and resources related to heritage and conservation and could provide CPD courses to related professions.

The facility also provides a public resource centre, archival store and library, which is an easily accessible starting point for further research with links to other historical resources (such as the Cape archives.)

While the laboratory serves a series of particular functions during the redevelopment of the railway area, it is designed in such a way as to be flexible and adaptable to unpredictable and changing needs. It prepares for the analysis of unforeseen finds (from a VOC coin to a mass grave to a whole shipwreck). The design also recognises that in order to be truly sustainable and enduring, the building should be able to accommodate different needs once its current task is complete.

Site considerations





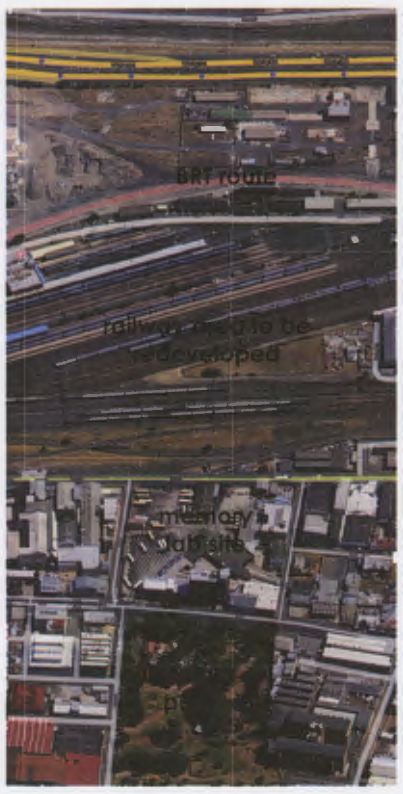
The choice of site for the memory laboratory was predicated on the following requirements:

- The site should be a currently under-utilized memory site, with layers of history that have the potential to be exposed.
- It may comprise one or more of the 24 historic sites identified at the research stage of the project.
- The site should be publicly accessible (therefore relatively central) and part of the everyday life of the city.
- It should be a site with the potential to be a 'connector' in a route.
- It could have existing buildings with the potential for re-use.
- It should be strategically located for the processing of artefacts related to the 2030 railway line redevelopment.

Several sites were considered for the key node / hub in the shoreline walk, as illustrated on the urban framework plan, where the 10 key nodes are clustered in groups.

Originally the Cape Town station site was considered, due to its recent historic finds and centrality of location and function in the everyday life of Capetonians. However as the site is in such a prime location there is high demand for space for a variety of complex and competing functions, which means there was simply not enough area for the required programmatic functions of the memory laboratory. The site, while at the end of the railway lines, was also not as well located as it could be for dealing with artefacts found during excavation. However the station site, particularly the newly created public space, 'Station Square' remains a key site for intervention along the old shoreline.

Site



The site finally chosen for the Memory Laboratory, is located in Woodstock, on the line of the old military defense wall called the French Lines. One of the redoubts of this fortified wall lies partially buried on the site.

The site is bounded by New Market Street to the north, Selwyn Terrace the the west, Barron Street to the east and Sir Lowry / Victoria Road to the south. Trafalgar Park lies to the south of the site. The site is currently quite underdeveloped and accomodates the Golden Arrow bus depot.

The site was chosen for its close proximity to the area which will be redeveloped during the 2030 proposal to sink the railway lines underground. It is therefore strategically located for the handling of the archaeological artefacts likely to be found during this development. The site is close to the former site of Fort Knokke, and the adjacent part of the old shoreline, where many ships were wrecked on 'Sceptre Reef'. As a result, victims of shipwrecks (particularly slaves) were buried in mass graves on this stretch of the coast. Some of these were found during development in the 1950s, but have never been properly memorialised.

In proposals for the future development of Cape Town, this site, along with Trafalgar Park and the former site of Fort Knokke becomes part of a green corridor and visual link between the mountain (above De Waal Drive and up towards the block houses and Devils Peak) and the sea (the Royal Cape Yacht Club).

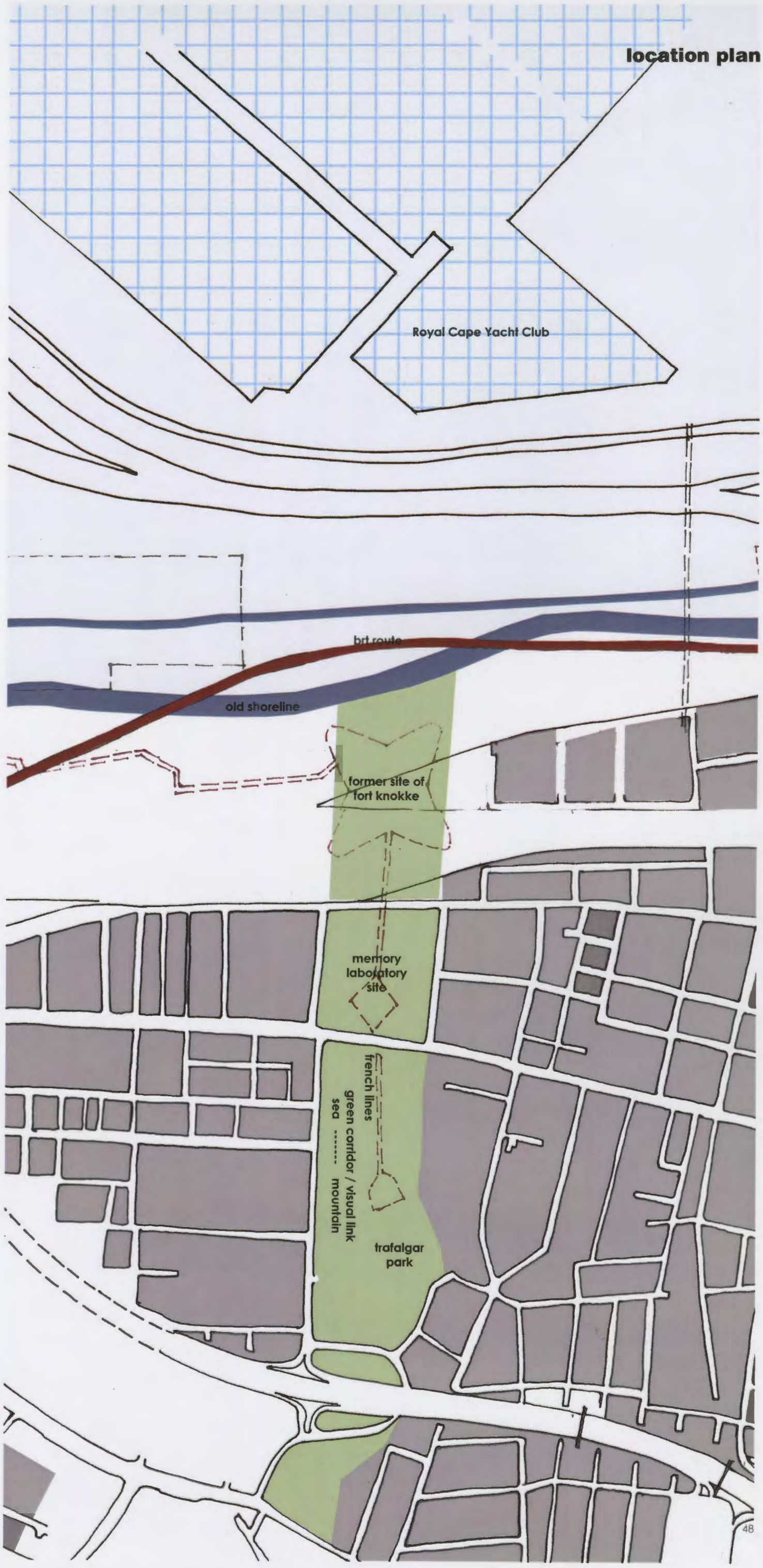
This proposed green link connects the site to the old shoreline and the BRT route which is currently under construction.

The oblique aerial photograph to the left shows the site and its related urban precinct, this area is illustrated in the location plan overleaf. The site and urban precinct's development over the next 35 years is illustrated in the following two pages.

Panoramic photograph of Woodstock railway station

Panoramic photograph of the BRT route currently under construction and the surrounding area to be redeveloped for 2030.

BRT route and station under construction


location plan
Royal Cape Yacht Club
brt route
old shoreline
former site of
fort knokke
memory
laboratory
site
french lines
green corridor / visual link
sea ..... mountain
trafalgar
park


1


2


3


4

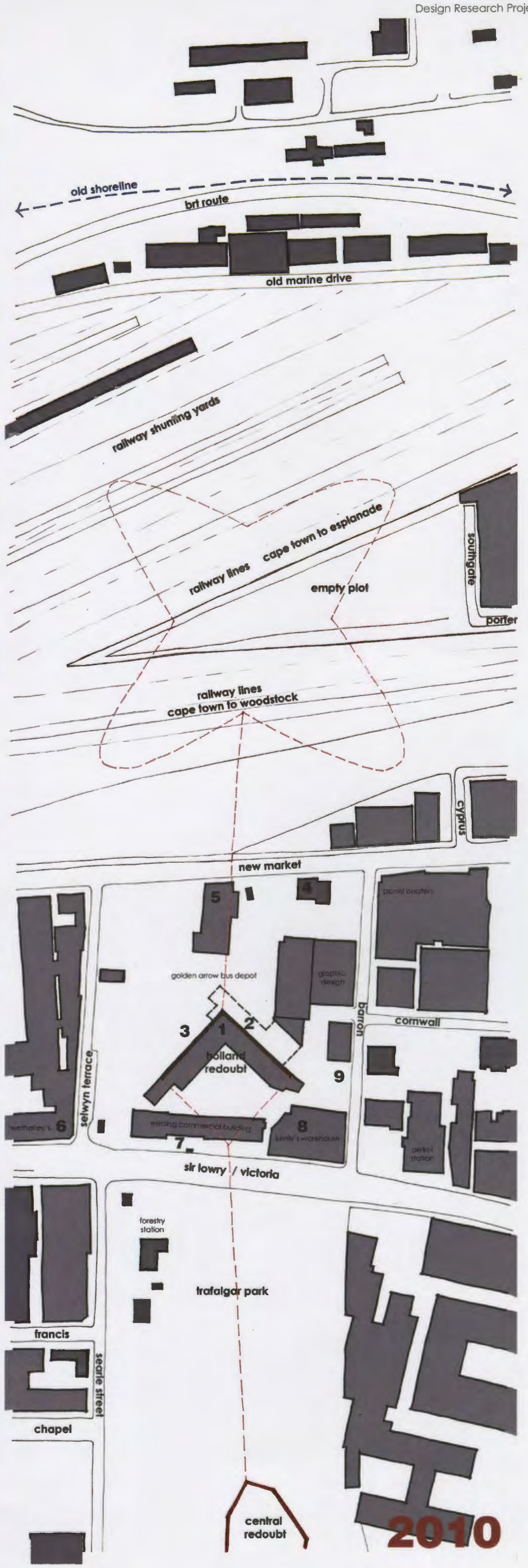

5


6


7


8


9


old shoreline
brt route
old marine drive
railway shunting yards
railway lines
cape town to esplanade
empty plot
tramgate
porter
railway lines
cape town to woodstock
cyprus
new market
5
4
panel beaters
golden arrow bus depot
graphic design
barron
cornwall
3
1
2
holland redoubt
9
selwyn terrace
wetherley's
6
existing commercial building
8
lenly's warehouse
7
petrol station
sir lowry / victoria
forestry station
trafalgar park
francis
searle street
chapel
central redoubt
2010

please pull out

2015

central redoubt

chapel

francis

searle street

trafalgar park

forestry station

sir lowry / victoria

existing commercial building

tenly's warehouse

selwyn terrace

holland redoubt

golden arrow bus depot

barron

cornwall

canal beetles

new market

cyprus

cape town to woodstock railway lines

approximate site of fort knokke exploratory archaeological dig site (excavation area grows as railway lines are sunk)

railway lines cape town to esplanade

southgate

archaeological control centre

porter

area to be redeveloped railway shunting yards

old railway buildings re-used

old marine drive

old shoreline

brt route

beginnings of redevelopment along brt route / old shoreline

2030

central redoubt

chapel

francis

searle street

trafalgar park

forestry station

sir lowry / victoria

existing commercial building

new commercial building

cafe

retail

selwyn terrace

holland redoubt

landscape feature in public green space

library

post and telegraph education

sculpture gardens

barron

cornwall

laboratory

public plaza

exhibition

temporary exhibition

new market

cyprus

pedestrian mall

porter

southgate

archaeological control centre

paquet reel memorial park

fort knokke pedestrian mall

old marine drive

shipwreck memorial park

brt station

shoreline boulevard

brt route

old shoreline

recreational / sports area

2045

central redoubt

chapel

francis

searle street

trafalgar park

forestry station

sir lowry / victoria

existing commercial building

new commercial building

cafe

retail

selwyn terrace

holland redoubt

landscape feature in public green space

library

post and telegraph education

sculpture gardens

barron

cornwall

laboratory

public plaza

exhibition

temporary exhibition

new market

cyprus

grey

pedestrian mall

porter

southgate

paquet reel memorial park

fort knokke pedestrian mall

old marine drive

shipwreck memorial park

brt station

shoreline boulevard

brt route

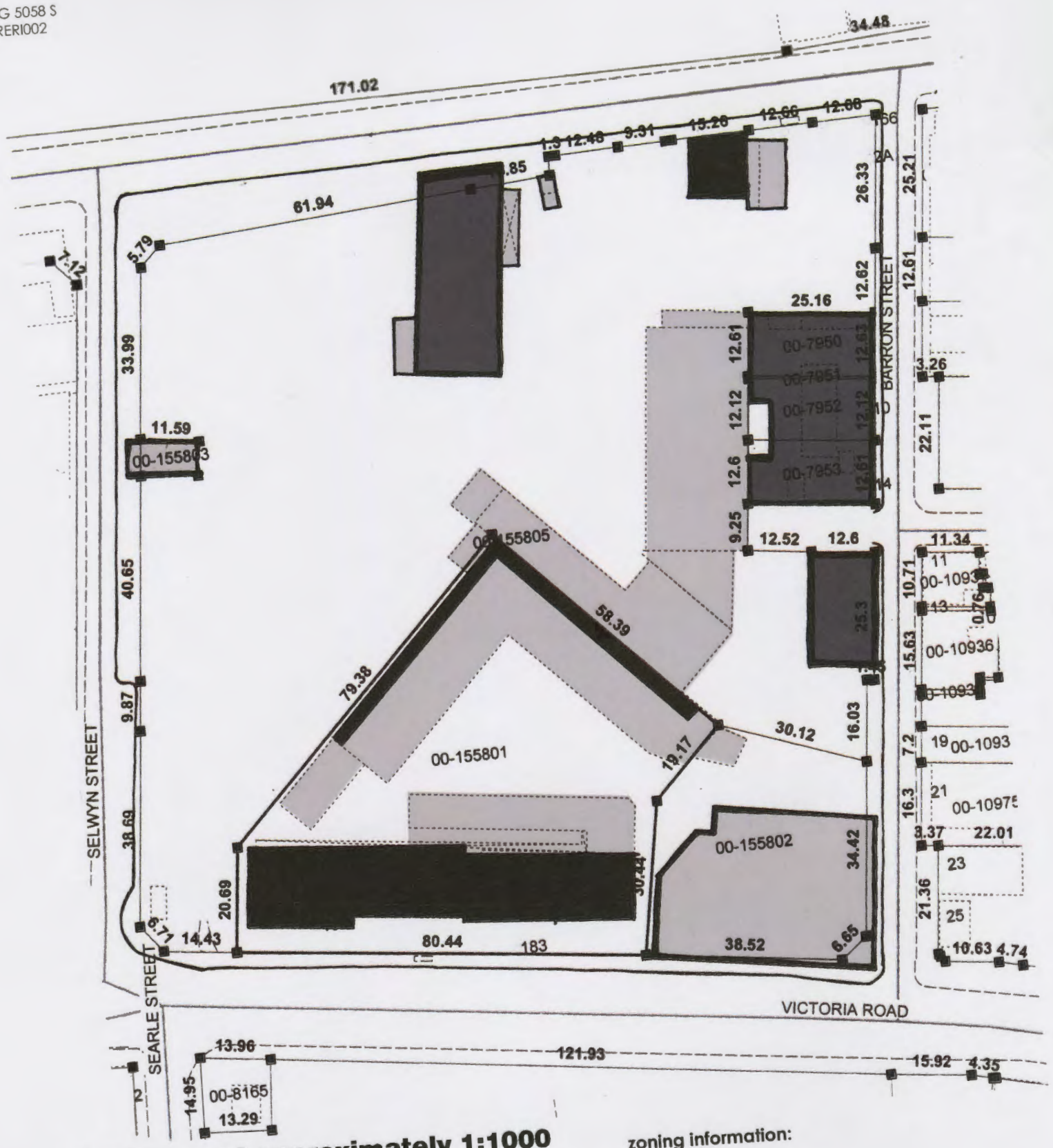
old shoreline

wetland park

water taxi canal

recreational / sports area

APG 5058 S
SBRERI002



erf diagram at approximately 1:1000

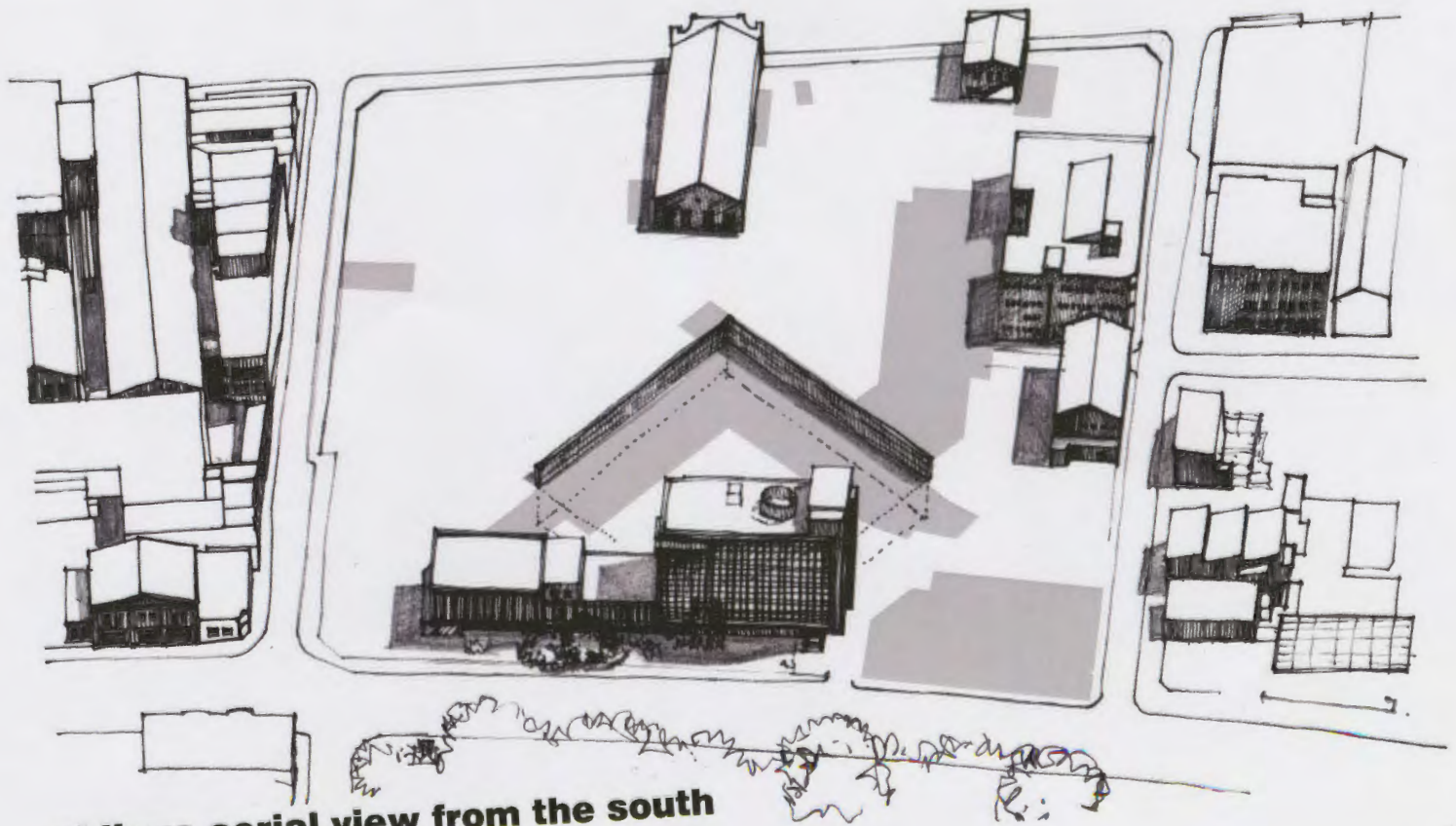
buildings to be demolished

buildings that may be retained

buildings / fragments to be retained

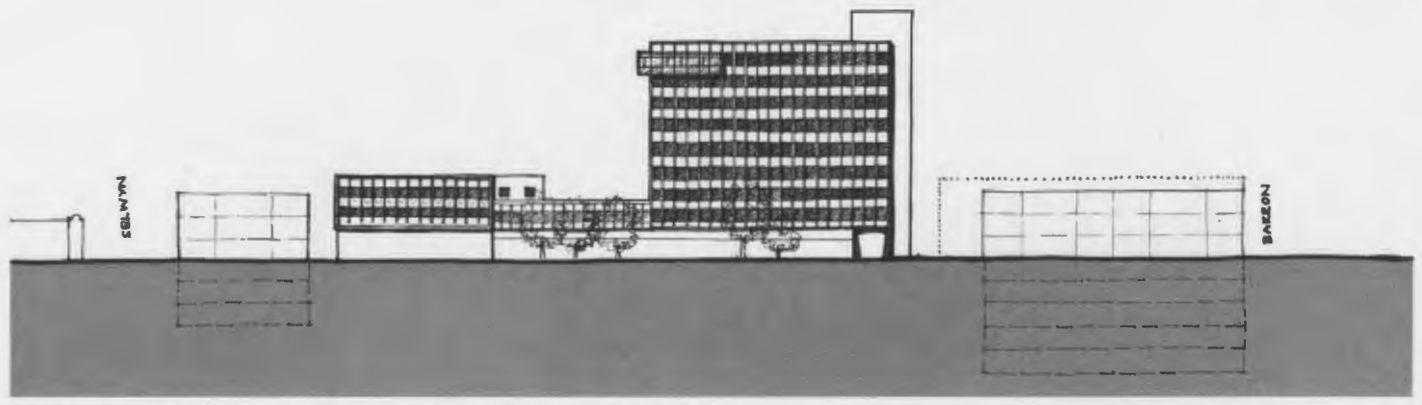
zoning information:

C3: General Commercial
Bulk factor: 3.7
Permisssible floor area = site area x 3.7
Maximum height = 7 storeys
Setbacks:
street boundary 0m - ground,1st & 2nd floors
4.5m - 3rd floor and above

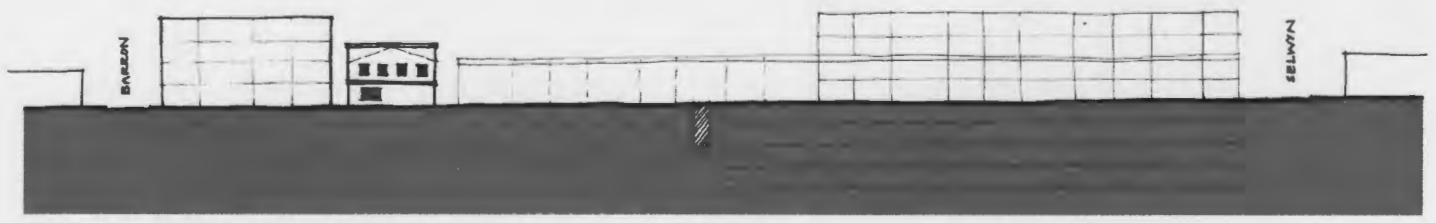


oblique aerial view from the south

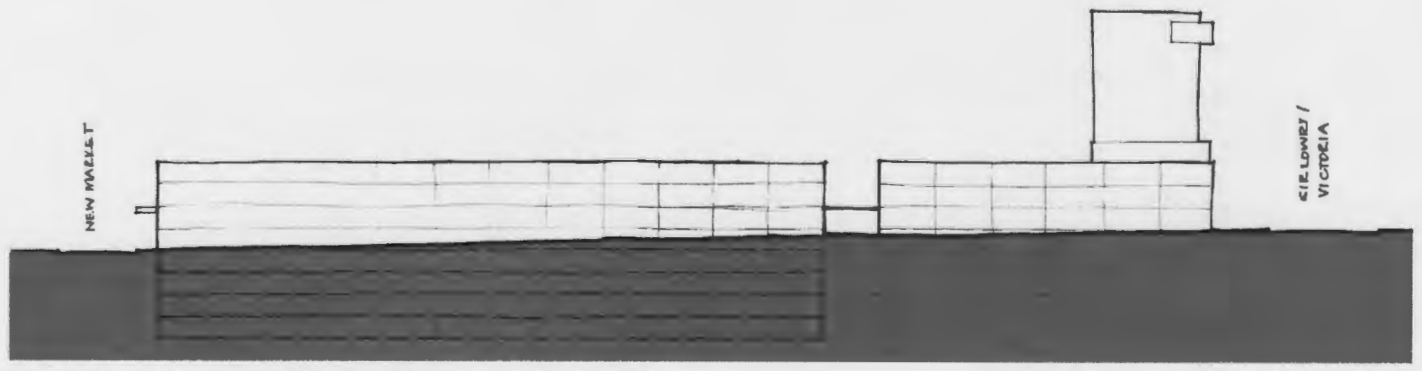
notional elevations showing massing



south | sir lowry elevation +-1:1000



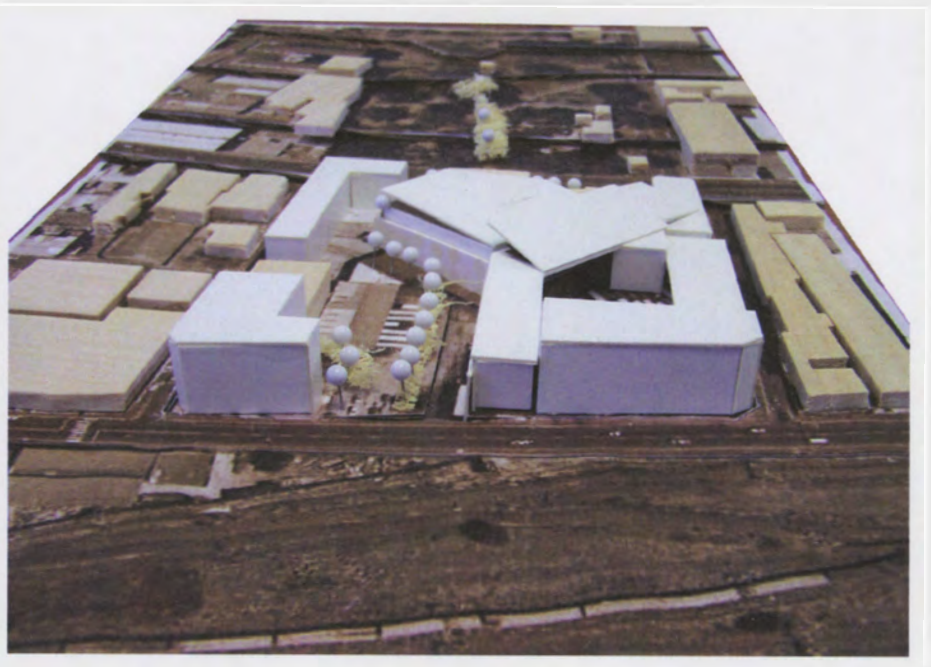
north | new market elevation +- 1:1000

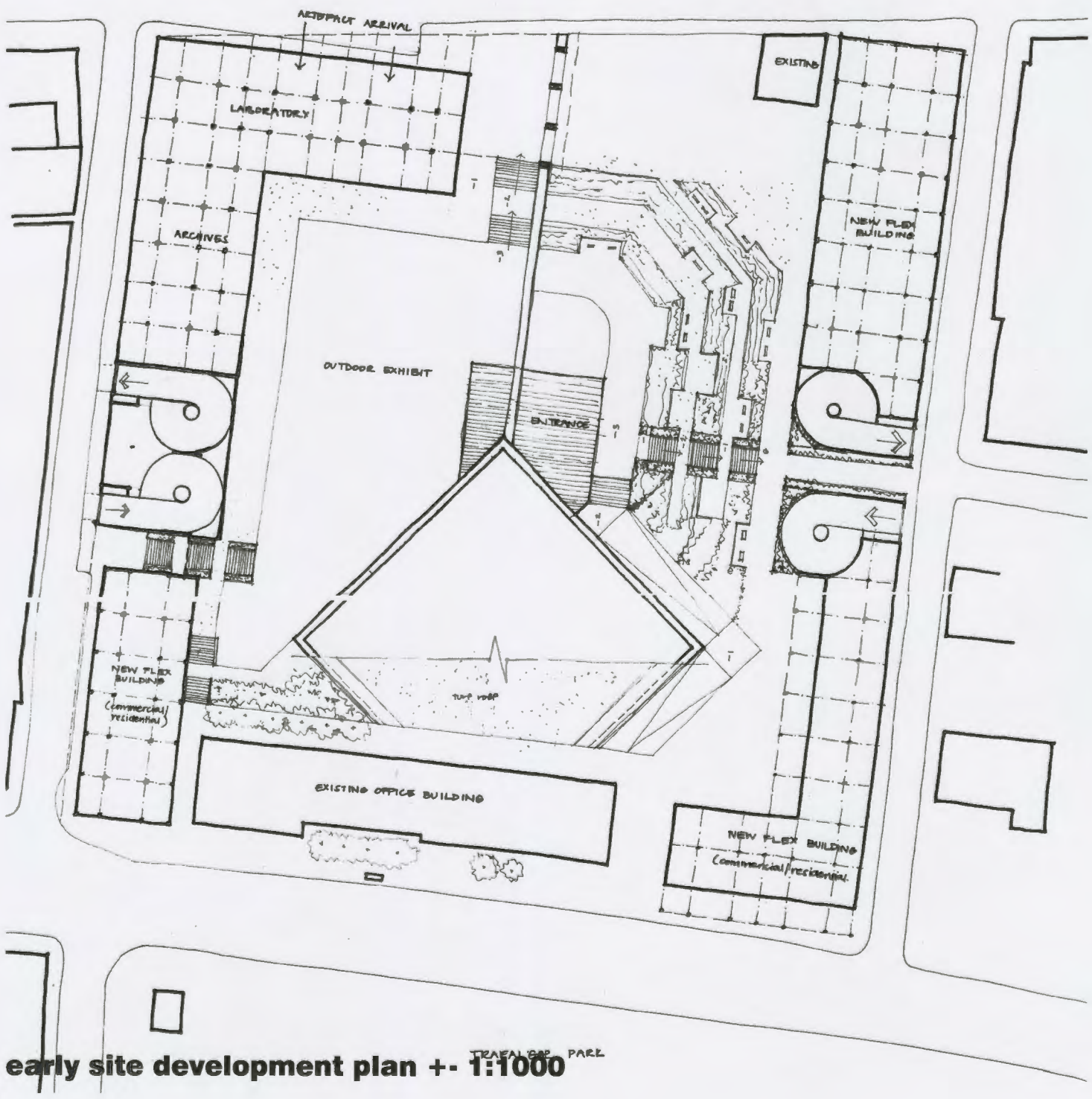


west | selwyn elevation +- 1:1000

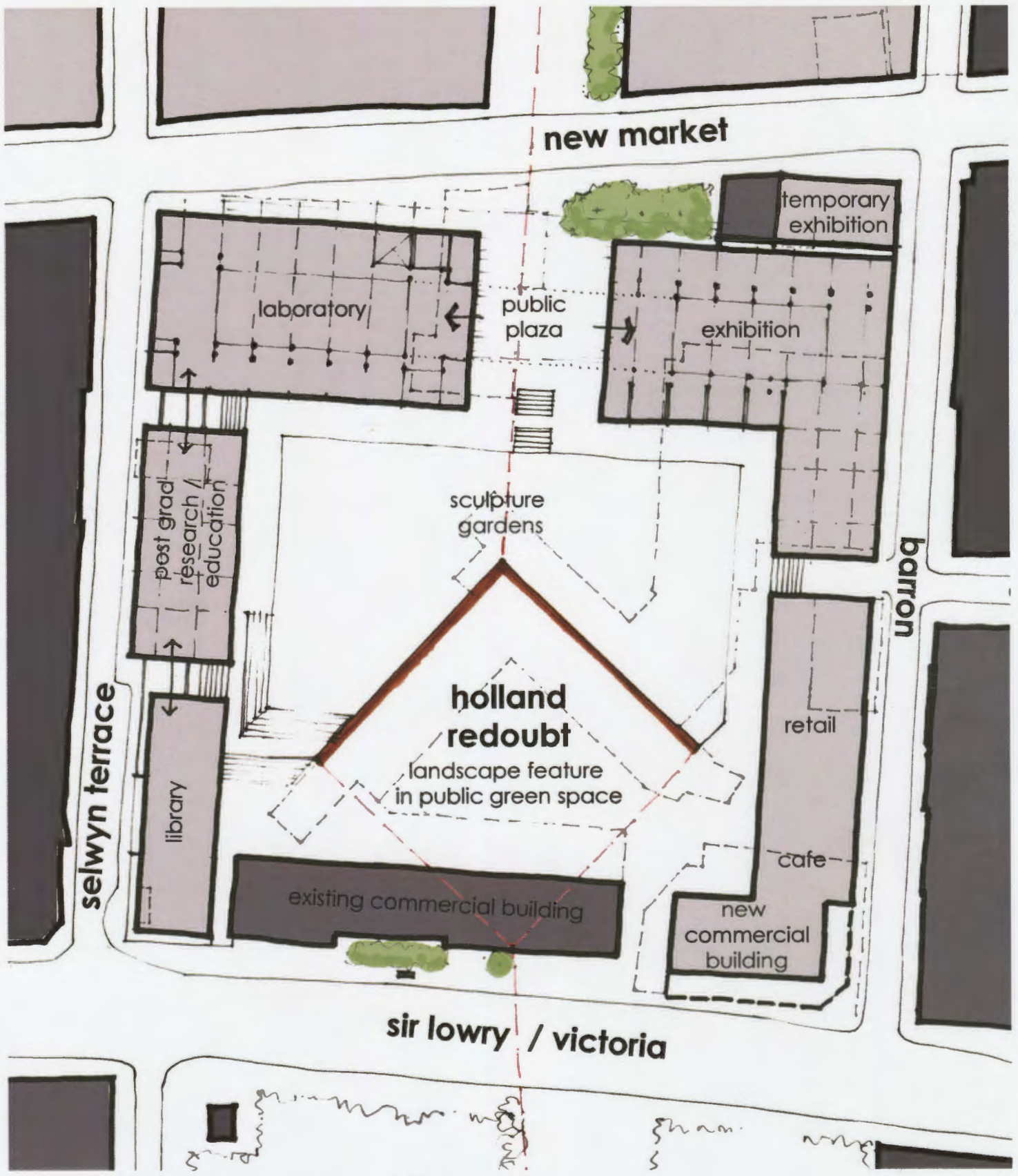
east | barron elevation +- 1:1000

design development through model building





early site development plan +- 1:1000



site development plan +- 1:1000

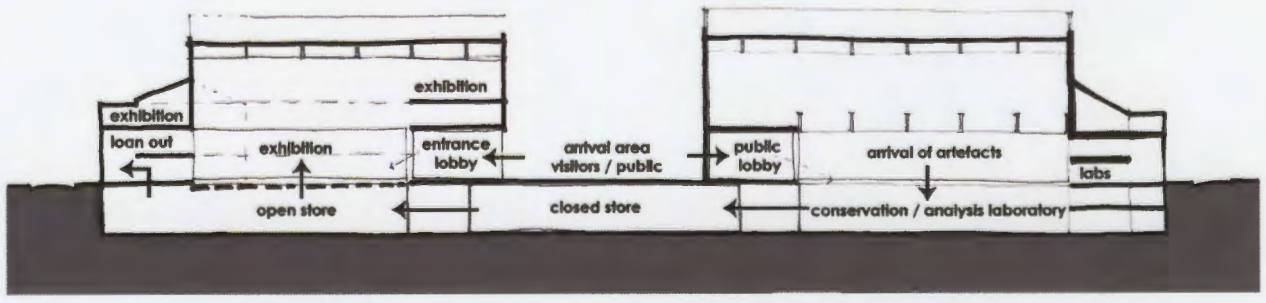
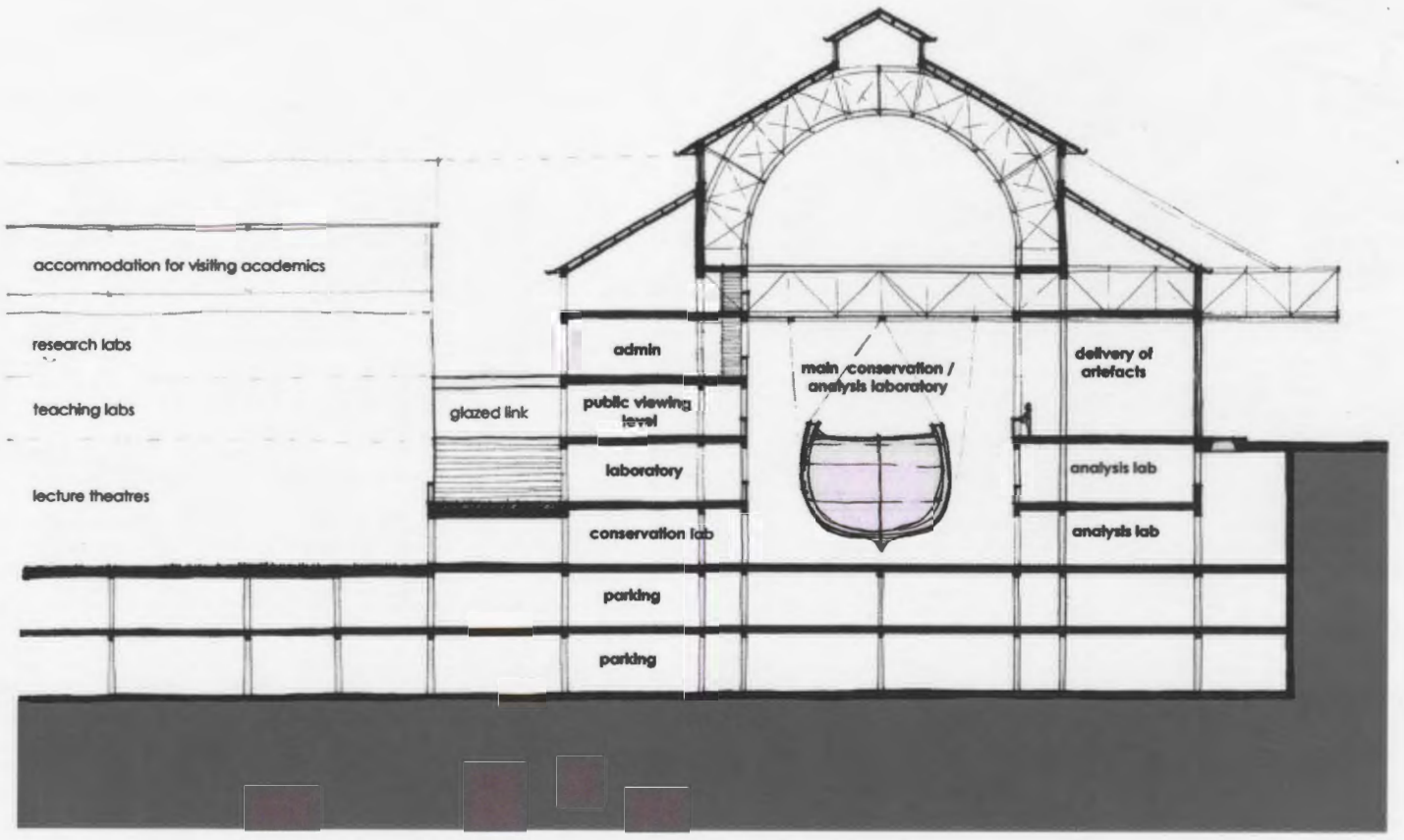


diagramme showing circulation of artefacts and visitors
east west section +- 1:1000

south north section +- 1:1000



conceptual section through memory laboratory

bibliography

Addleson, Lyall. Performance of materials in buildings: a study of the principles and agencies of change.

Bank, Andrew. People of the Western Cape: a history for schools. Lansdowne [South Africa]: Juta Gariep, 2003.

Barnard, Anne Lindsay. Lady Anne Barnard's watercolours and sketches: glimpses of the Cape of Good Hope. Simon's Town, South Africa: Fernwood Press, 2009.

Barnard, Anne Lindsay. The Cape diaries of Lady Anne Barnard, 1799-1800. Cape Town: Van Riebeeck Society, 1999.

Bergson, Henri. Matter and memory. London: G. Allen & co., ltd, New York: The Macmillan co, 1912.

Birkby, Rory. The making of Cape Town's Victoria & Alfred waterfront: the inside story of its planning, design and creation. Waterfront, South Africa: Victoria & Alfred Waterfront, c1998.

Birksted, J [Ed]. Landscapes of memory and experience. London: Spon Press, 2000.

Bloomer, K. Body, memory, and architecture. New Haven: Yale University Press, 1977.

Boyer, M. The city of collective memory: its historical imagery and architectural entertainments. Cambridge, Mass: MIT Press, 1994.

Brand, Stewart. How buildings learn: what happens after they're built. New York: Viking, 1994.

Breytenbach, Cloete. The spirit of District Six / Cape Town : Human & Rousseau, 2003.

Building conversion and rehabilitation: designing for change in building use. London: Boston Butterworths, 1979.

Cantacuzino, Sherban. New uses for old buildings. London: Architectural Press, 1975.

City, site, museum: reviewing memory practices at the District Six Museum. Cape Town: District Six Museum, 2008.

Connerton, Paul. How societies remember. Cambridge [England]: Cambridge University Press, 1989.

Coode, John. Table Bay harbour, Cape of Good Hope: specification for the proposed outer harbour and other works in connection therewith. Cape Town: The Author, 1883.

Davids, N. Re-imaging space, re-imaging place. Cape Town: Centre for African Studies, University of Cape Town, 2004.

Davis, Douglas. The museum transformed: design and culture in the post-Pompidou age. New York: Abbeville Press, 1990.

District Six Museum. 2009. District Six Museum. [Online]. Available: www.districtsix.co.za/frames.htm. [09/10/09]

D'Oyly, Charles. The Cape sketchbooks of Sir Charles D'Oyly, 1832-1833, depicting Cape Town, the countryside and neighbouring villages. Cape Town: Balkema, 1968.

Du Preez, Max. Of warriors, lovers and prophets: unusual stories from South Africa's past. Cape Town: Zebra Press, 2004.

Du Preez, Max. Of tricksters, tyrants and turncoats: more unusual stories from South Africa's past. Cape Town: Zebra Press, 2008.

Field, S., Meyer, R., Swanson, F. (eds). Imagining the city: memories and cultures in Cape Town. Cape Town: HRSC Press, 2007.

Findley, L. Building change: architecture, politics and cultural agency. London: Routledge, 2005

Fransen, Hans. A guide to the old buildings of the Cape: a survey of extant architecture from before c1910 in the area of Cape Town - Calvinia - Colesberg – Uitenhage. Johannesburg: Jonathan Ball, 2004.

Gribble, John. Tales of shipwrecks at the Cape of Storms. Tokai [South Africa]: Historical Media, 2008.

Halbwachs, Maurice. On collective memory. London: University of Chicago Press, Stanford, CA: Center for the Study of Language and Information, Leland Stanford Junior University, 1992.

Hamilton, P [Ed]. Oral history and public memories. Philadelphia: Temple University Press, 2008.

Hayden, D. The power of place: urban landscapes as public history. Cambridge: MIT Press, 1995

Henaff, M [Ed]. Public space and democracy. Minneapolis: University of Minnesota Press, 2001.

Huyssen, Andreas. Present pasts: urban palimpsests and the politics of memory. Standford: Standford University Press, 2003.

Huyssen, Andreas. Twilight memories: marking time in a culture of amnesia. Routledge, 1995.

Karp, Ivan (ed). Museum frictions: public cultures/global transformations. Durham: Duke University Press, 2006.

Lefebvre, H. The production of space. Oxford; Cambridge, Mass.: Blackwell, 1991.

Leupen, Bernard (ed). Time-based architecture. Rotterdam: 010 Publishers, 2005.

Lieux de mémoire. English Realms of memory: the construction of the French past. New York: Columbia University Press, c1996-c1998

Low, S [Ed]. Theorizing the city: the new urban anthropology reader. New Brunswick, N.J.:Rutgers University Press, 1999.

Mendels, D [Ed]. On memory: an interdisciplinary approach. Bern; New York: P. Lang, 2007.

Mostaedi, Arian. Building conversion & renovation. Barcelona: Carles Broto, 2003

Mostafavi, Mohsen and Leatherbarrow, David. On weathering: the life of buildings in time. Cambridge: MIT Press, 1993.

Murray, N [Ed]. Desire lines: space, memory and identity in the post-apartheid city. London: Routledge, 2007.

Newall, Peter. Cape Town Harbour 1652 to the present. Cape Town, South Africa: Portnet, c1993.

Newhouse, Victoria. Towards a new museum. New York: Monacelli Press, 1998.

Pama, C. (Cornelis), 1916-1994. Vintage Cape Town: historic houses and families in and around the old cape. Cape Town: Tafelberg, 1973.

Petersen, Sydney Thomas. The development of the Table Bay harbour, 1860-1870: being a study of the construction of the breakwater and the inner and outer basins of the Alfred Docks, 1978.

Pieterse, E. A.(Ed). Counter-currents: experiments in sustainability in the Cape Town region. Auckland Park: Jacana Media, 2010.

Pistorius, P [Ed]. Texture and memory: the urbanism of District Six. Cape Town: Sustainable Urban and Housing Development Research Unit, Dept. of Architectural Technology, Cape Technikon, 2002.

Powell, Ken. Architecture reborn: the conversion and reconstruction of old buildings. London: Laurence King, 1999.

Rassool, C and Prosalendis, S. (eds). Recalling community in Cape Town: creating and curating the District Six Museum. Cape Town: District Six Museum, 2001.

Reflections on the conference, Hands on District Six--Landscapes of Post- Colonial Memorialisation, Cape Town, 25-28 May 2005. Cape Town: District Six Museum, c2007.

Re-using redundant buildings: case studies of good practice in urban regeneration. London: H.M.S.O, 1987

Robben Island Museum. www.robben-island.org.za (accessed April 13, 2010)

Ross, Louisa Grace. Life at the Cape a hundred years ago. Cape Town: Struik, 1963.

Rossi, Aldo. Tre città: Perugia, Milano, Mantova. Milano: Electa, New York: Rizzoli, 1984

Rossi, Aldo. The architecture of the city. Cambridge, Mass: MIT Press, 1982.

Schacter, Daniel L. Searching for memory: the brain, the mind, and the past. New York: BasicBooks, 1996

Schoeman, C. District Six: the spirit of Kanala. Cape Town: Human & Rousseau, 1994.

South African History Online. Timelines: Chronologies of South African History. www.sahistory.org.za. (accessed April 13, 2010)

Table Bay Harbour Board. Regulations for the working and management of the Alfred Docks, Table Bay. Cape Town: W.A. Richards, 1888.

The buildings of central Cape Town. Cape Town: Cape Provincial Institute of Architects, 1978-1984.

The South African Post Office: History. www.sapo.co.za/aboutus.aspx?ID=3 (accessed April 13, 2010)

Todeschini, F. 2008. District Six: Some planning and design reflections on a long-standing conflict landscape. Architecture SA, (Special Issue): p.46-59, Nov/Dec 2008.

Van Hinte, Ed. Smart architecture. Rotterdam: 010 Publishers, 2003.

Van Riebeeck, Jan. Journal of Jan van Riebeeck. Cape Town: Balkema for the Van Riebeeck Society, 1952-1958.

Veitch, Neil. Waterfront and harbour: Cape Town's link with the sea. Cape Town: Human & Rousseau, 1994.

Victoria and Alfred Waterfront. www.waterfront.co.za (accessed April 13, 2010)

von Zeil, Caron. Reclaim Camissa. http://zh-cn.facebook.com/pages/Reclaim-Camissa/201229746552 (accessed April 13, 2010)

Watson, S. (ed). A city imagined: Cape Town and the meaning of a place. Johannesburg: Penguin, 2006.

Walkowitz, DJ [Ed]. Memory and the impact of political transformation in public space. Durham, NC: Duke University Press, 2004.

Walkowitz, DJ [Ed]. Contested histories in public space: memory, race, and nation. Durham [N.C.]: Duke University Press, 2009.

Wilkinson, J.O. Cape Town Railway Station 1878-1968. Thesis (B.Arch)--University of Cape Town.

Wheeler, M. The Lamp of memory: Ruskin, tradition, and architecture. New York: Manchester University Press, 1992.