SALT ROCK LIFESAVERS CLUB

ARCHITECTURAL INTERFACE: A GATEWAY TO A TEMPORARY REALM OF PLAY

SCOTT PATRICK ISAACS | 2013051251

Figure 1 - The eco pool generating interactions between building, man and nature (author, 2020).

Voluntarily stepping outside of 'real' life into an alternate, temporary sphere of activity"
- C. Thi Nguyen (2017: 3).

Figure 2 - Aerial view of the site showing Salt Rock Main Beach looking North towards the Salt Rock Tidal Pool (Author, 2020).

00.1 | DECLARATION

SALT ROCK LIFESAVERS CLUB

Architectural interface: a gateway to a temporary realm of play

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This dissertation is in partial fulfilment of the requirements for the MArch. (Prof) degree.

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Declaration of original authorship:
The work contained in this dissertation has not been previously submitted to meet the requirements for a qualification at this, or any other, institute of higher education.
To the best of my knowledge, this dissertation does not contain material that has been previously published or written by another person except where due reference is made.

00.2 | PROLOGUE

An introduction to the character of Salt Rock and the Dolphin Coast from the author's perspective

My family moved from Durban North to the small holiday town of Salt Rock on the Dolphin Coast when I was 3 years old, which was in 1998. My family has since lived in the same home on top of a hill overlooking Salt Rock to Ballito for 22 years – some would call me a true KZN 'Banana Boy.' Since its birth in the 1800's Salt Rock has had a long history of fantastic fishing, sporting fun and drunken shenanigans, I can testify that this still stands today – however the isolated coastal essence of the town has somewhat changed along with the newfound development in the area. The Dolphin Coast runs North from Zimbali Estate which is about a 2 minute drive South of Ballito, to Sheffield Beach which is about a 2 minute drive North of Salt Rock. You can drive from one end to the other in 15 minutes along the coastal road on an average day.

From 2009 to 2019, the Durban, Ballito and Umhlanga corridor was the fastest growing wealth market in South Africa according to the AfrAsia Bank SA Wealth Report (2019). The addition of the King Shaka Airport added fuel to the development fire on the KZN North Coast. When I first started primary school in 2002 there were less than 400 pupils and you knew almost everyone in the town by name. The landscape of the Dolphin Coast has changed dramatically since then, where we used to run school cross country in sugar cane fields there now stands huge residential estates and major industrial developments. The massive expanse of residential units selling the idea of coastal living 15 minutes from the airport has created a gold rush of sorts, whereby there has been an explosion of businesses to service this increase in population: malls, hospitals, contractors, schools, the works. The small coastal town of Zinkwazi, which is about a 30 minute drive North of Salt Rock on the N2, is now probably what I would call closer to the essence of what Salt Rock was before the year 2000 than Salt Rock is today.

The Dolphin Coast lives off tourists, and it completely transforms in the holiday periods. The Dolphin Coast is quiet during the off season with an estimated 30 000 – 35 000 permanent residents in Ballito, and transforms in the school holiday periods to about 90 000 – 100 000 in Ballito alone (Stephenson, 2018). This causes absolute chaos on the coastal roads: beach parking is flooded spilling onto the roads; drivers drive at 20kph soaking up the views; and tourists who we locals fondly nickname 'Vaalies' create massive queues in our supermarkets – we can tell by their choice of crocs and sunburn which is closer to purple than red in many cases. In the end, the holiday periods bring together rich and diverse cultures that have given people throughout South Africa much loved memories of the town, with people coming together from different parts of our beautiful country to celebrate the joy of the Dolphin Coast.

00.3 | PROJECT SUMMARY

GPS Coordinates: 29°30'23.4"S 31°14'07.7"E

Programme: Salt Rock Lifesavers Club

Primary Clients: Salt Rock Lifesavers Club
KZN Sharks Board

Research Field: Environmental Potential

Theoretical Premise: Investigating the users' spatial experience and its relation to interpretation & memory of place to reconcile the disconnect between nature, the built environment and man.

Architectural Approach: Building on Kwa-Zulu Natal North Coast main beach archetypes to establish and better relationships between nature, the built environment and man.

Figure 3 - A lifeguard relaxing during a quiet day on Salt Rock Main Beach (author, 2020).

00.4 | ABSTRACT

The proposed development seeks to pay homage to the temporary realm of play that is the beach. It intends to play on the user experience by utilizing thresholds to channel interactions with both the building and landscape in an interface like manner as the user journeys through the intervention and into this temporary realm of play. The design suggests 'a user interpretive realisation' of the landscape as a social, natural, and economic incubator and stimulus whereby a sustainable interdependency between the user and the site is established.

The proposal calls for the redevelopment of the Salt Rock Lifesavers Club which acts as the primary portal and entrance to Salt Rock Main Beach. Currently the Club exists in a constant state of repair vs disrepair, and offers very little benefit to its primary users and the public at large functionally, visually and as an experience. The development seeks to accommodate two primary clients: the existing Salt Rock Lifesavers Club which currently is the primary caretaker of the beach; and the KZN Sharks Board, which uses Salt Rock Main Beach as one of their launching sites for shark net maintenance and research.

Salt Rock Main Beach is the primary public beach for Salt Rock. It is one of the two Dolphin Coast beaches currently used to host the Ballito Pro Surf Competition which is a World Surf League (WSL) event, this ranks it as one of the best surfing spots in South Africa. The Dolphin Coast, and in particular the stretch spanning from Salt Rock to Ballito attracts hundreds of thousands of tourists every year. The beach is extremely busy over the December and April Holiday periods. The site is unique in that it offers a large enough park to accommodate music concerts which other beaches lack. Furthermore, the site has an ephemeral stream dissecting the beach which is currently dammed and separates the park and beach.

Figure 4 - A busy day at the beach acting as temporary realm of play (author, 2020).

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01 | INTRODUCTION

Figure 5 - A typical summer 5 o'clock sunrise at Salt Rock Main beach (author, 2020).

01.1 | THE SITE

A brief introduction to Salt Rock Main Beach

The site is located on the Dolphin Coast of Kwa-Zulu Natal South Africa, and is the primary tourist and main beach of Salt Rock. The KZN Sharks Board launches directly from Salt Rock Main Beach, where they monitor shark nets along the Dolphin Coast. In peak season there is a small amount of informal trade, as well as a lot of vehicular and pedestrian movement through the site along Ocean Drive, which is one of three main roads connecting Salt Rock to Ballito. Salt Rock Main Beach is one of the main beaches utilized for the Ballito Pro Surf Festival, where additionally three days of musical concerts are held each year with thousands of visitors to the beach. The existing park is left open to accommodate this. Salt Rock Main Beach is one of the popular local beaches used by surfers. The Life Savers Club houses a large amount of local paddle skies, canoes, surfboards, etc. for many locals. There is an existing ephemeral stream that runs through the site which is currently polluted and not suitable for swimming. The building attempts a sustainable mutually beneficial relationship between the building, the stream and locals.

Figure 7 - Map of South Africa showing Salt Rock Main Beach located on the North Coast of Kwa-Zulu Natal (Google, 2020,

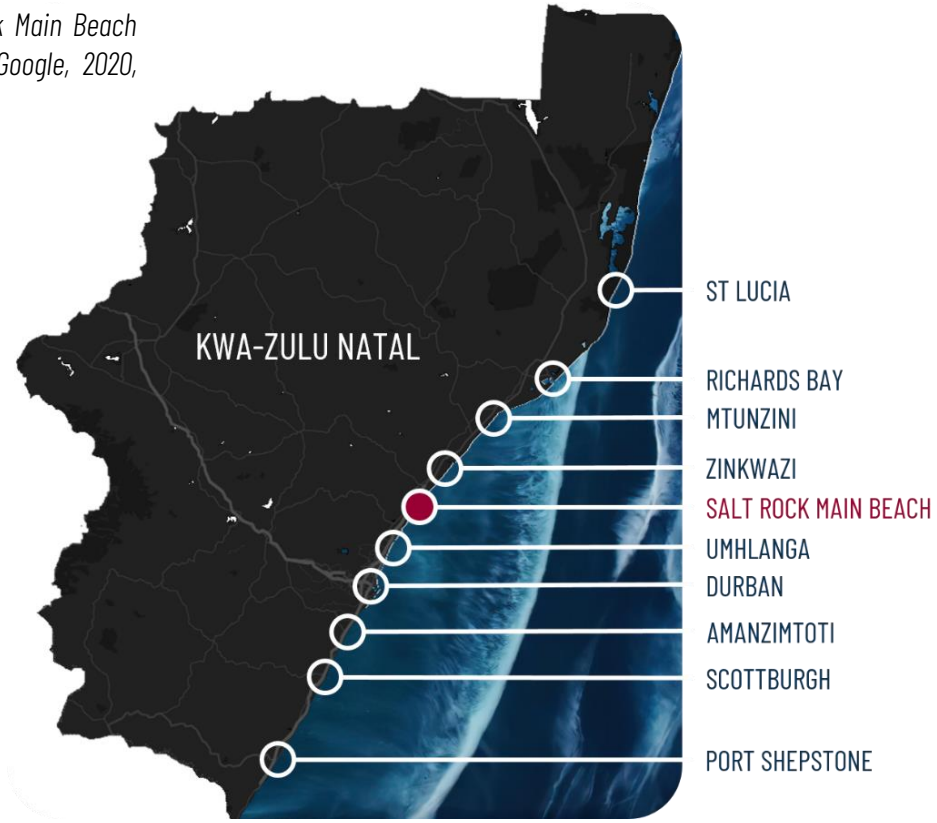


Figure 6 - Map of KZN showing Salt Rock Main Beach in relation to the North Coast of Kwa-Zulu Natal (Google, 2020, adapted by author)

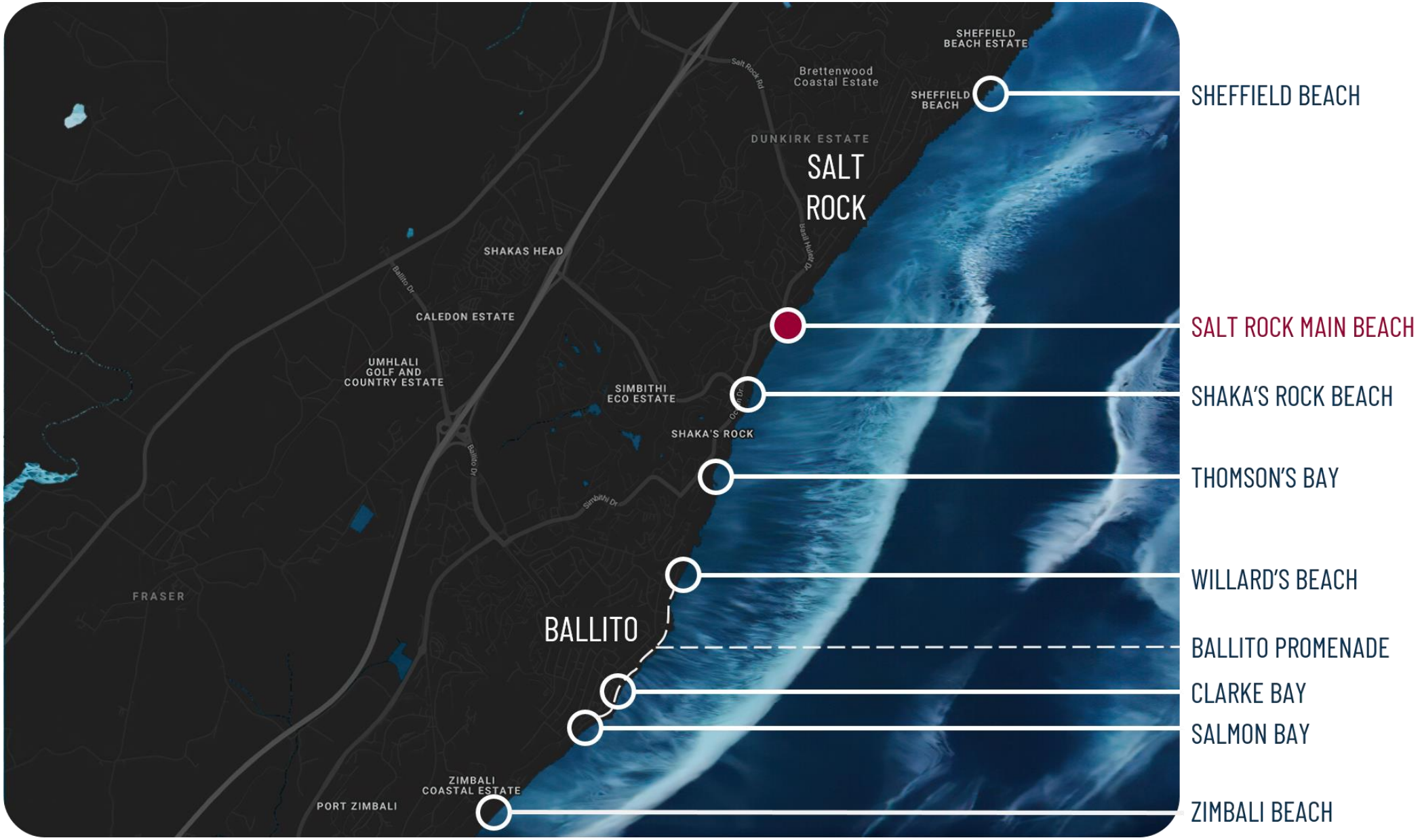


Figure 8 - Map of the Dolphin Coast showing its main beaches in relation to Salt Rock Main Beach (Google, 2020, adapted by author).

Figure 9 - Aerial view of the existing site illustrating its basic physical features (author, 2020).

01.2 | INTRODUCTION

Urban development patterns on the Dolphin Coast

Coastal urban sprawl differs from that of other landlocked cities whereby it is characterised by the coastal edge. Typical urban sprawl usually starts from a central point and spreads outwards in all directions radially, whereby coastal urban sprawl is defined by the way in which it sees outward expansion through a more lateral expansion parallel to the beachfront. This can have a negative effect on the public beach realm whereby it can become privatized, this is especially noticeable on the Dolphin Coast whereby gated residential estates are formed by wealthy developers. Good examples of this are Zimbali Estate and the up and coming jointly owned residential estates of Zululami, Elaleni and Seaton - which are set to take up more coastline north of Salt Rock than that of which Salt Rock has itself. These estates are completely closed off to the public, and reserve the ease of access to beaches exclusively for residents and their associates. This is more often than not done in an anything but democratic way with regards to true public and equitable access. The issue of the privatization is not only an issue that the Dolphin Coast faces alone. Other KwaZulu-Natal (KZN) East Coast Developments such as those in Umhlanga, for example the Pearls, or the Sibaya Precinct face similar issues.

Project intentions

The urban vision for Salt Rock Main Beach is to help it realize the full potential of the beach as a public place. The beach is one of the few and last remaining 'publicly accessible' swimming beaches in Salt Rock that have the potential for complete lasting public equitable access.

The site is unique in that there is the opportunity to regenerate the relationship of the existing disconnect between the natural and built environment on the site, which in contrast to the coastline surrounding the site has not been seemingly developed beyond repair. The building seeks to create a mutually beneficial relationship between the natural and built environment. This is in an attempt to inform and educate the public on the true potential the natural coastline has for generating sustainable, social and economic stimulus for coastal communities – the result of which would hopefully serve as precedent for the way in which architectural intervention can serve other coastal communities and further developments.

01.3 | PROGRAM DEVELOPMENT

Current infrastructure on Salt Rock Main Beach lacks the means to adequately accommodate the surge in visitors during holiday periods to the site comfortably. The site is furthermore neglected due to the extensive maintenance required on coastal structures, and is exacerbated by the current broken relationships between users, buildings and the site. A polluted ephemeral stream runs through the site which is somewhat foul smelling for most of the year, and causes many erosion and earthworks problems throughout the year as the stream would naturally dissect the most commonly used and best part of the swimming beach. Many people choose to use other more equipped beaches on the Dolphin Coast as the journey through the site to the beach is so unpleasant. If the beach were better equipped, it would firstly benefit locals economically and recreationally by stimulating an increase in use and tourism, but more importantly ensure a sustainable relationship between the users and the site environmentally going into the future whereby both the environment and community enter into a symbiotic relationship.

To allow for a concise design intervention that focuses on specific issues that are relevant to the immediate context, the project will focus on the programmatic accommodation of the Salt Rock Lifesavers Club and KZN Sharks board as two client entities serving the public and environment.

The two entities complement each other in that they both serve the environment and public in ways that the other does not. The broader comprehensive and complimentary knowledge that both entities share provide a unique situation whereby a substantial amount of knowledge and experience is found in one place.

The focus of the design takes advantage of this unique situation whereby both entities are given a platform with the design to wholesomely educate the public at various levels. Many other local professionals and industries depend on the sea to earn their livings, for example professional surfers where many have launched successful careers from Dolphin Coast Beaches. The community and these entities stand to benefit from a flexible shared educational space that the Salt Rock Lifesavers Club and KZN Sharks board are the primary custodians of.

PRIMARY CLIENTS:
- Salt Rock Lifesavers Club
- KZN Sharks Board

ADDITIONAL CLIENTS:
- Shared educational area:
  - National Sea Rescue Institute (NSRI)
  - Salt Rock Nippers
  - Surf Schools
- Formal Traders:
  - Restaurant, Deli and Bar
  - Surf shop and hire

01.4 | PROJECT OBJECTIVES

Overarching Objectives Derived from Informants

THEORETICAL INTENTIONS AND GENERAL OBJECTIVES

- Challenge the way in which the Dolphin Coast approaches accommodating public space in relation to public main beaches
- Assist in the public realization of natural place and phenomena, and why they should be protected and kept sacred.
- Utilizing the liminality of the site to create thresholds, kindling the public realisation of the sanctity of place as a user interacts with the place as they journey through a liminal site.

URBAN OBJECTIVES

- Where previous urban expansion patterns have privatised the coastal edge, the building will ensure a democratic and equitable scheme, opening the coast to all classes as well as accommodating them without exclusion.
- Connect the fragmented spatial entities and functioning of the site to provide a platform where the primary custodians of the site are able to engage with the public comfortably and share place.
- Create a lasting relationship between the primary custodians of the site, locals, and the public at large.

LANDSCAPE OBJECTIVES

- Restore landscapes by emphasizing sensitivity to towards nature rather than dominating over it, whereby the current scheme of the site is reapproached in a manner where it learns from the landscape prior to urban development.
- Establishing a symbiotic and interdependent coexistence between man and nature by reinstating nature as a stakeholder in the design.
- Learn from how the landscape informs existing rituals of the site, and how can the design respect and embody this?

ARCHITECTURAL OBJECTIVES

- Design a building and integrated social solution with the landscape, whereby the building acts as an extension and interface for man to experience the natural phenomena of the site.
- Learn from existing North Coast architectural typologies and approaches to coastal design to create a lasting and sustainable solution to a brutal environment.
- Connect the urban environment to ecological systems through the celebration of that which is sacred to the site, and promoting public interaction and engagement with these entities in an attempt to change public perception of how we are civically able to interact with our natural landscape.

01.5 | RESEARCH METHODOLOGY

Combining quantitative and qualitative data to come to a complete understanding of the site and its extents.

1. THEORETICAL LITERATURE STUDY

A literature study was done in order to come to a holistic understanding of current and previous theories. The stances and theories investigated were chosen to come into alignment with personal design philosophy in an attempt to test design ideas and ways to approach the subject matter. The conclusions drawn from this investigation were then used as informants for the rest of the research methodology to guide inquiries and focus the dissertation on the main ideas drawn.

2. MICRO MAPPING

As part of the theoretical literature study, an in depth investigation and analysis of the qualitative qualities of the site in relation to the theoretical premise set by the earlier investigation. This formed the basis on which educated decisions could be made regarding as to where interventions could take place, as well as allowing for responsible design decisions in terms of the site and its context.

3. MACRO MAPPING

In order to understand the issues facing the KZN North Coast public coastline, macro mapping of public thresholds to beaches was done to help justify the site choice as well as helping to determine the urban response to the site conditions. This macro mapping was done in an attempt to give the reader context and understanding of the larger urban issues at play specific to the Dolphin Coast in an easily approachable format.

4. PRECEDENT AND CASE STUDIES

The Durban North Beachfront Promenade was visited and used as a means to investigate numerous buildings sharing program and very similar conditions to that of the site. This gave insight to the longevity of KZN coastal building both in terms of their design principles and materiality.

5. CONCLUSIONS

From the previous steps in research, conclusions were drawn and used as informed foundations on which the design process could continue.

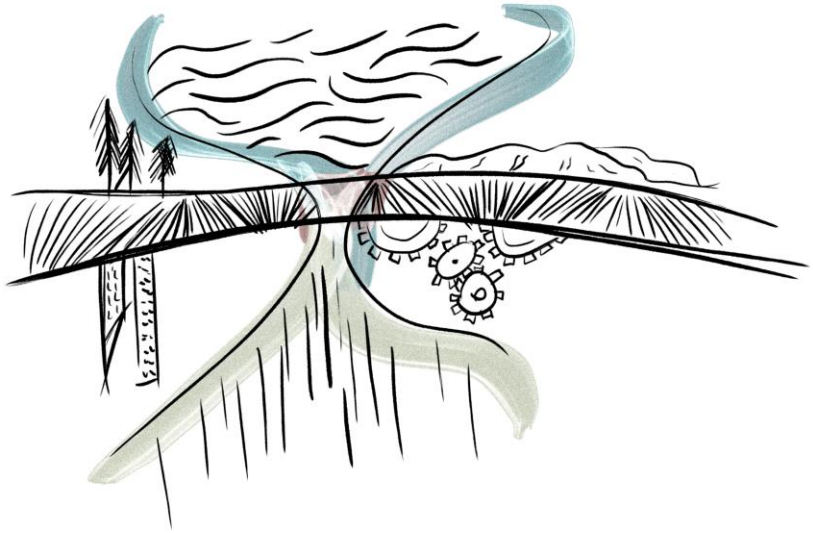


Figure 10 - Early conceptual sketch showing the existing site disconnect between man and nature when journeying from land to sea (author, 2020).

01.6 | RESEARCH QUESTIONS

General Questions

Is architecture a solution to the spatial legacy of outdated planning practice and urban sprawl?

How can architecture contribute to existing social and environmental structures within the Dolphin Coast and the KZN Coastline as a whole?.

Main Questions

How can architecture act as precedent for creating sustainable mutually beneficial relationships between communities and the coastal landscape?

How can architecture influence the users' spatial experience and its relation to interpretation & memory of place to reconcile the disconnect between nature, the built environment and man?

What can be learnt from Kwa-Zulu Natal main beach architecture? From this, what should be applied as precedent for further coastal projects?

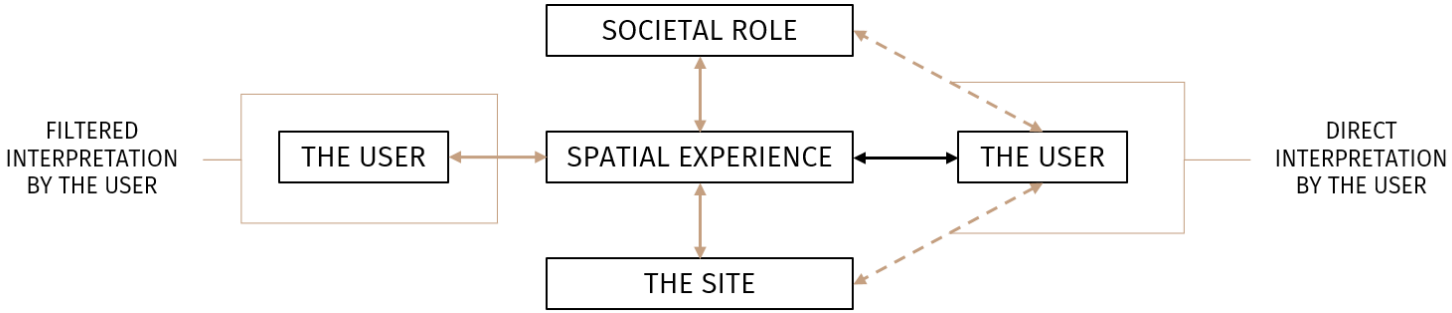


Figure 11 - Interpretation of the user versus spatial experience (author, 2020)

01.7 | LIMITATIONS

Providing relevant assumptions and limitations of the project going forward

Assumptions

It will be assumed that:

1. The existing building on site is to be demolished. This is due to the excessive piling, ground beams and earthworks needed to accommodate a new building. It furthermore only holds a functional architectural value, and has been deemed not of heritage concern. Parts of the building in its current state require excessive maintenance and renovation as certain structures have been constructed by the lifesavers themselves, the local council has no record of any plans for the building.

2. The soils on which the project sits are stable enough to accommodate the building with ground beams and piling.

3. Zoning: there is no zoning that restricts the accommodation list of the building.

4. The amount of water flowing through the ephemeral stream on site is enough to sustain ecopool.

5. The existing sewerage pump house only caters to the existing structure, and that it will be shut off during construction after which it will maintain its existing connections and function.

6. Based on a limited amount of conversations with the existing lifeguards on site, it will be assumed that they will be able to share a facility with the Sharks Board despite it being a separate organisation. Furthermore, it is assumed that the clients will be able to share a communal living area with a very limited amount of club members – this is based off their personal experience running the existing lifesavers club.

7. Any negative effect that the building has on the sand dunes on site during its construction will able to be remedied, as was done when massive swells battered the coastline in March 2007. Furthermore, it is assumed that the structure will withstand freak naturals disasters such as this.

Limitations:

Site visits were very limited, especially during the first few months of the Covid-19 pandemic, therefore site conditions were assumed if not covered under the limited site visits. A 3D model was generated of the site using photogrammetry software with aerial shots from a drone. It is assumed that the generated dimensions of the site and its surrounding context are accurate based on the measurements taken from this. Approaching the local building council proved fruitless over the pandemic, and they were unable to find any record of information pertaining to both the existing building and that of the site itself.

02 | THEORETICAL INVESTIGATION

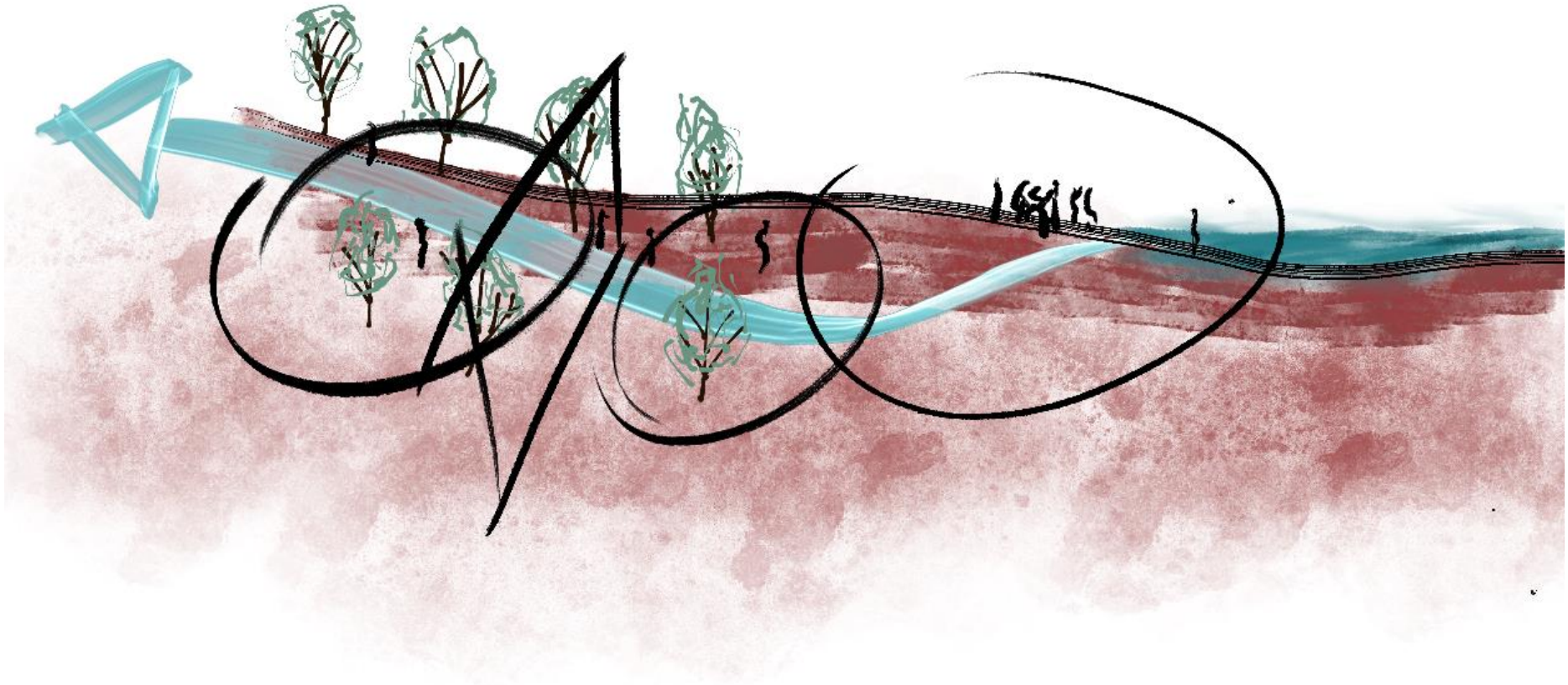


Figure 12 - Temporary 'Realms of Play', threshold and the users' experiential journey (author, 2020).

02.1 | REALMS OF PLAY

"Voluntarily stepping outside of 'real' life into an alternate, temporary sphere of activity" (Nguyen, 2017: 3).

C. Thi Nguyen (2017: 3), a professor of philosophy, interprets the late professor of history Johan Huizinga's (1955: 10) notion of play as voluntarily stepping outside of "real" life into an alternate, temporary sphere of activity (figure 1), of which Huizinga calls a "magic circle" of play. Inside this "magic circle" or "temporary sphere", usual real life consequence of what would normally happen outside this realm does not apply. Instead, conflict within this 'circle' or 'sphere' have no blame once the participants of this form of play exit the game (Nguyen, 2017: 3). According to Huizinga (1955: 10), there is an essential relationship between games and other activities, such as in the site's case with surfing or bathing on the beach. In this relationship between users and the site/beach with the landscape as the enabler, users enter this 'temporary realm of play', and "enter into a consecrated, dedicated ground, where we suspend everyday activities, take up new roles and motivations, and, at a moment's notice, put it all away again" (Huizinga, 1955).

When one mentions they are 'going to the beach', they are in a sense also talking subconsciously about the act of entering into this temporary realm of play and not only just going to the beach in the physical sense. In my personal opinion, having lived 2km from the site for over 20 years and having a good knowledge & personal relationship to many of its users, I believe that the beach is an escape or safe place for many of its users. Locals have a deep appreciation and sense of place for Salt Rock Beach. I believe that intervention is needed to address the existing somewhat unpleasant and bland journey one goes through currently on site when entering into this sacred temporary realm of play. I believe that the design intervention should pay tribute to this sacred space, as well as the mental escape and temporary relief one experiences by suspending 'outside' thought. The original site selection was in part chosen due to the personal relationship with the site as my own temporary realm of play that I have escaped to many times. The design intention was share this realization of place in an accessible way to my community through architecture.

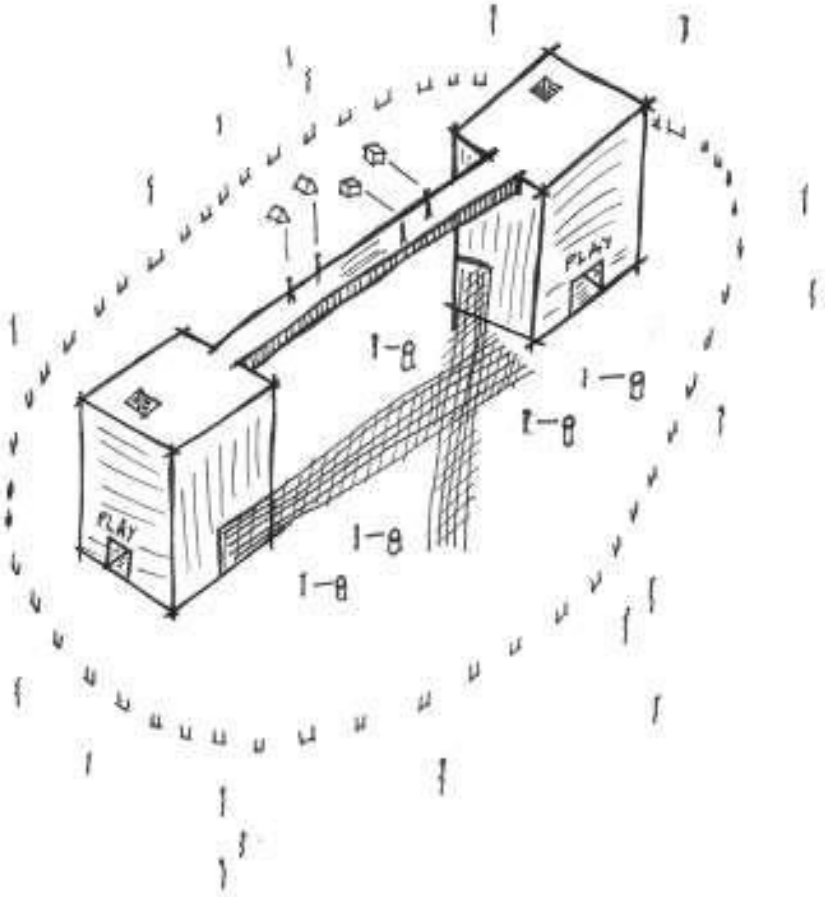


Figure 13 - The temporary sphere of activity (Nguyen, 2017: 3) created by the act of entering into a game, and the relationships generated as consequence (author, 2019).

02.3 | EMBODIMENT

Extract from 'The Red Army graffiti in the Reichstag' (Baker, 2002: 37)

"The unparalleled depth and range of human history embodied by the southern African landscape offers to all its people points of connexion with place, personhood and history. All people leave fragments of their presence in the form of artefacts, which allow us glimpses into worlds other than our own. It is, however, imperative for a robustly questioning citizenry to acquire the skill of informed observation that they may understand properly and empathetically the meanings of these artefacts, the places they inhabit and the people that left them. This contemplative skill is most adequately guided by Archaeology - a science of absence and intangibles. Architecture is the seemingly opposed science of presence and tangibles that is capable of giving powerful material form to many of archaeology's insights. An alliance of these two disciplines may produce a critically aware and socially responsible practice that allows us to properly imbibe the spirit of a place and its people and so be agents for innovation, compassion and radiance.

These two `archs' - architecture and archaeology - are Janus- headed, not identical twins but very much related. Both have to do with matter, space, time. But while architecture looks to projecting into the future, archaeology searches for the face of mankind in the past. Like Walter Benjamin's angel of history, archaeology is condemned to look into the past; architecture is the angel who builds jetties into the future. And the architect knows that the sands of time will eventually destroy the monument, whose only hope of resurrection will be through the knowledge and the tenacity of the archaeologist."

(Baker, 2002: 37)

Extract from 'Radiant landscapes and ancient mindscapes: Archaeology and Architecture in harmonious counterpoint' (Ouzman, 2002: 2):

"An invisible landscape

The southern African landscape may be understood as a symphonic counterpoint of cultural presences and absences. An understanding of these presences and absences is, I suggest, best attained using an alliance between disciplines not usually imagined together – Archaeology and Architecture. Indeed, many would argue, as Baker does in the quotation above, that the two are opposed disciplines. Archaeology has traditionally concerned itself with what is absent or only just present - the material and symbolic fragments left by people on and in the landscape. In contrast, architecture has traditionally concerned itself with what is present - the built or soon-to-be-built environment. Though disciplinary confines can be familiar and comfortable, occasionally we have to transgress a boundary, risk a paradigm to keep our fields of enquiry vital and juvenated. In this spirit, alloying architecture and archaeology is a reasoned gamble; allowing both fields of inquiry to play off and complement each other in the same contrapuntal way that music is dependent on the quality and texture of the silences between the musical notes. An amalgam of archaeology and architecture may help reveal elements of landscapes and culturescapes that are normally all but invisible to more conventional modes of enquiry."

(Ouzman, 2002: 2)

*Please not that these extracts are not my own work and I do not form part of the submission, they are included as they were an integral part of my design process.

In the extracts above we see Frederick Baker (2002:37) (a filmmaker, media scholar, and archaeologist) and Sven Ouzman (2002: 1-54) (a lecturer and archaeological theory expert) both comparing and relating the commonalities and differences between Architecture and Archaeology as a means of inquiry and investigation. Archaeology in practice carefully and slowly reveals the past with the intention of discovery without damaging that of what was. This means of inquiry of looking at the past of a place in order to discover an 'invisible landscape' (Ouzman, 2002: 1-54)(Figure 14) informed design decisions later on in the process in terms of how an inquiry of the past of a place or space as such can lead to ways of embodying this 'ancient mindscape' (Ouzman, 2002: 1- 54). This ancient mindscape is essentially an 'internal mental construction' (Ouzman, 2002: 7) of a place – which could be of the past, present or future. The reveal of this invisible landscape after archaeology, and embodying it through Architecture, although perhaps still invisible to the eye, resulted in the enhancement of the users' experience of the design intervention. It pays tribute to what was, and although indirectly, arguably embodies the 'phenomena of nature and the elements' (Pallasmaa, 2011: 119) and time itself.

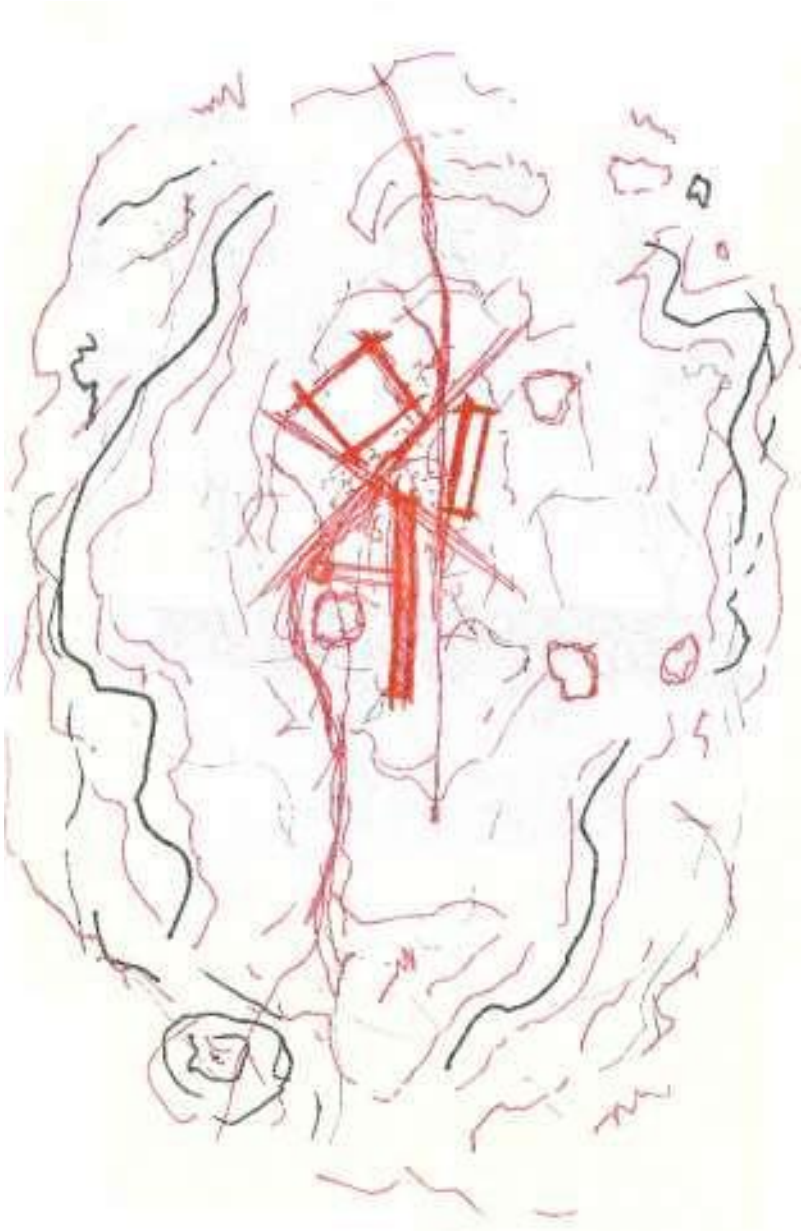


Figure 14 - Architecture revealing the invisible landscape (author, 2019). Inspired by Juhani Pallasmaa, a Finnish architect and former professor of architecture, "Architecture gives a specific meaning to phenomena of nature and the elements" (Pallasmaa, 2011: 11

02.3 | PLACING SALT ROCK BEACH

A qualitative site analysis based on theoretical precedence

"Establishing place is the fundamental task of Architecture" (Pallasmaa, 2001: 20)

Figure 15 - Aerial view of Salt Rock Main Beach looking up the beach towards the Salt Rock Tidal Pool, which is approximately 250m from the Main Beach Entrance (author, 2020).

PLACE

Space can be defined as the volumetric dimensions of height, width and depth within which all things exist and move through. Interestingly, in one of many definitions and perhaps in the incorrect context, the Cambridge Dictionary (2020) defines space as 'an empty place'. Marc Augé (1995:78), a French Professor of anthropology and ethnology, uses the term 'place' to describe an anthropological version of space, or a humankind version of space as such. This subtly suggests that space is 'place' absent of humankind or that a 'place' cannot be without humankind. This has some merit as humankind invented the term 'place', and in a sentient being sense are the only ones able to interpret it. June Jordaan (2015:1), a South African philosophical doctor of architecture, defines place as 'space with meaning and significance'. Place could be seen in the sense that is not necessarily created, but rather experienced. Place then, can be inherited as it could simply exist as space deemed at what human describe as a place. The approach whereby archeology is used as a means of architectural enquiry, could perhaps lead to the discovery of the past or hidden place of a space, and hence preserve the meaning and significance of the phenomena of the site. In the figures below, spaces that are, that were, and that could be 'place' are looked at through the lens of the architect whereby the hidden landscape is observed as place. This 'place' of the site is deemed to be sacred in that its essence should either be preserved or revealed with the building.

Figure 16 - A man resting in the shade underneath the large existing fig tree adjacent to the parking lot on site (author, 2020). An existing place.

Figure 17 - A typical sunset from the existing park looking inland (author, 2020). In contrary to general preference of view whereby people generally prefer to face the sea, they are gifted with views of both land and sea during sunset. An existing temporal place

Figure 19 - An existing endangered milkwood tree across the road of the site sitting next to the stream (author, 2020). People often use it as a bench. A past, present, and future place.

Figure 18 - The existing ephemeral stream running under Ocean drive through the site in its polluted state (author, 2020). This stream would once have provided clean water to beach users, the proposal seeks to address its current state. A past place, and a future place.

PLACELESSNESS

Edward Relph (1976), a Canadian geographer, defines placelessness as 'environments that lack richness, meaning and depth, providing only possibilities for commonplace or mediocre experiences'. In contrast to place, placelessness can be seen as the condition of a space void of humankind cultural value and meaning, and is simply a facilitator of a plain lived experience. Relph (1976) puts forward the idea that the proliferation of placelessness depends on the eradication of existing places, thus replacing them with a homogenous, predictable landscape. Karsten Harries (1997), a Professor of Philosophy, on placelessness concludes that although this placeless environment gives the means for the physical body to flourish, it 'condemns the spirit to wither'.

NON-PLACE

Augé (1995) coined the term 'non-place'. Jordaan (2015:20) defines Augé's non-place as 'spaces formed in relation to certain ends (transport, transit, commerce, leisure) and the relations that individuals have with these spaces' (Auge, 1995:94). Non-place typically is placeless, and is the result of thoughtless human programmatic intervention to place.

Figure 21 - the public access route to the beach (author, 2020). The public and lifesavers vehicles both share the entrance. The experience of going through the site is so unpleasant that people such as myself choose to go to other beaches. The streams water often becomes rancid, especially in peak holiday periods when there has been little rain. There is absolutely no interaction between the building and the site, and the park and main beach entrance are divided by the stream. The stream is almost walled off and unwanted in a sense by the gabion retainers. A non-place.

Figure 20 - the public showers of the beach (author, 2020). The showers fail to meet their full purpose to cleanse, and mostly become clogged up with sand. The ritual of cleansing the salt and sand off the user is completely tainted by its location, and is uncomfortable to use. A non-place.

02.2 | THE REALIZATION OF THE LANDSCAPE AS PLACE

Establishing a symbiotic relationship by addressing the disconnect between the natural and built environment

The urban coastal sprawl defining the Dolphin Coast coastline has resulted in a negative impact on natural systems, as is evident by the current state of Salt Rock Main Beach. A clear disconnect exists between man, building and nature – whereby what man has constructed has prevented any interaction or potential relationship between entities. In an attempt to realize the 'invisible landscape' described above with architecture as the mediator - especially regarding addressing the ephemeral stream dissecting the site – an investigation was done into symbiotic relationships between man and nature.

Ebenezer Howard is credited to have established regenerative theory in the 1880s, he "sought to reconnect humans to nature, and featured use of natural rather than engineered processes to build the health of the system" (Mang, P. and B. Reed, 2012). Howard (1898) explains the Utopian city as living harmoniously with nature rather than separate from it, and using the natural as a tool for settlement design criteria. John Lyle (1994), in Regenerative design for sustainable development, describes Patrick Geddes work on urban growth patterns in 1915 where there was a mass movement of people into cities, as the first fundamentally organic understanding of cities whereby Geddes had little liking for the chaotic growth that he saw resulting from industrialisation. Geddes built on Howard's ideas and saw cities as living organisms, whereby understanding a city's context (the surrounding landscape's natural features, processes and resources) was required to address the problems of unsustainable growth.

"Regenerative development acknowledges humans, as well as their developments, social structures, and cultural concerns, as an inherent and indivisible part of ecosystems." (Zari and Jenkin, 2009)

In Karl-Henrik Robert's (2000) Natural Step Framework, systems thinking is described in a way in which recognizing that what happens in one part of a system affects every other part. It begins by "understanding the broader systems within which problems occur and the principles governing success within that system" (Roberts, 2000: 1). The framework views humans as part of the natural ecosystems of the world, and that therefore when attempting to create sustainable systems we should consider our own selves in a holistic nature in relation to our environment. This relates to more recent ideas of regenerative theory, such as Lyle's (1984) idea that "designers must understand ecological order operating at a variety of scales and link this understanding to human values if we are to create durable, responsible, beneficial designs."

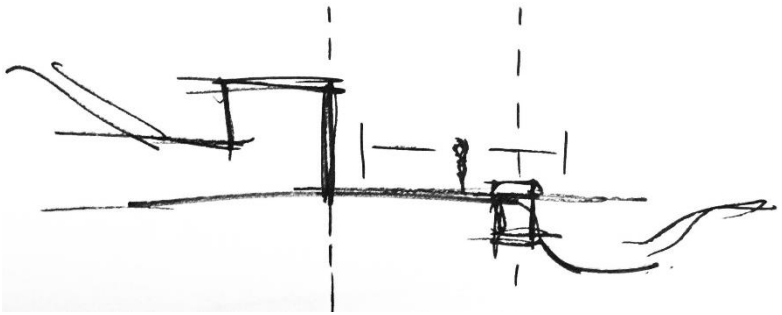


Figure 22 - Impression from the first formal site visit whereby man, building and nature are separated by walls constructed by man. (author, 2020).

"Understanding a problem is to understand the relationship between the events and the context in which these relationships occur" (Pilon, 2015)

Sufficient collective change is required to change the way we approach problems and the entirety of our actions, thus altering the consequences.

By utilizing an ecosystemic approach forming the basis of design, the building, users, function become part of the larger systems of the site. The design and nature become one whereby they benefit from one another forming a symbiotic relationship – this symbiotic relationship in necessary to ensure the lasting sustainable impact of the building. The approach does not look at entities as singular functioning systems, but rather as part of the entire system whereby every entity is related in some manner regardless of its scale or importance. This approach is based off nature itself whereby there is a cyclic flow of order.

This ecosystemic approach seeks to create an architecture capable of regeneration and of lasting sustainability, whereby all entities facilitated between the site and design are included. The hard, durable and industrial nature of the building on the coast should engage with its context, initiating restoration and lasting symbiotic relationships between the two.

When it comes to ensuring lasting sustainability and relationships between these entities, the creator, or man as such, is the entity which can disrupt and disconnect these relationships. Mans' actions are therefore an important part of implementing a ecosystemic approach and creating true change, therefore education becomes a significant aspect to sustainability. The design should seek to help man understand the relationships between man and nature, and how by caring for these relationships man stands to benefit. Pilon (2015) extends to us that our ability to act as a collective is determined by education; "it can develop questioning, innovation and creativity, enable to recognize the powerful forces that drive unsustainable living and develop self-confidence and organisational skills". To conclude, educating the collective cannot be seen as separate from an ecosystemic approach. Education needs to be fully integrated into the design in order to maintain relationships between man, nature and the civic environment – if this were to fail the entities would become fragmented and independent from one another ultimately leading to the weaker entities demise.

02.4 THEORETICAL PRECEDENT AND CASE STUDIES

Figure 23 - An aerial view of the Salt Rock Tidal Pool which sits 250m from Salt Rock Main Beach (ShowMe, 2009).

THEORETICAL CASE STUDY - SALT ROCK TIDAL POOL

shows Salt Rock Tidal Pool, which is a landmark of Salt Rock, and is kept up by the Salt Rock Hotel which looks onto it. The pools have been around since the hotel was built. The original fishermen's' structure has fallen away as seen by the columns sticking out of the rocks, the new tower was then built for fishermen. The structure is made up by a mixture of concrete and rocks from surrounding beaches. The pools become alive as a temporary realm of play, and are an excellent example of the landscape and place making creating the public realisation of the sanctity of place.

Perhaps the fishermen's tower and pools (Figure 25) can be seen as Architecture, or place making as such, giving 'a specific meaning to phenomena of nature and the elements' (Pallasmaa, 2011: 119), and providing a platform for its users to voluntarily step 'outside of 'real' life into an alternate, temporary sphere of activity' (Nguyen, 2017: 3). Here we see the a good example of what the design intervention could set out to achieve in many senses, whereby appropriate materials are utilized in the structure, as well as where place making creates a sustainable and interdependent relationship between man and landscape. The tower could be interpreted as the vertical elements of waves meeting the rocks, as well as the fishermen's rods.

Figure 26 - Sketch showing the vertical element of waves crashing into rocks (author, 2020).

Figure 24 - A typical fishermen's' scene at the Salt Rock Tidal Pool showing the fishermen's tower (ShowMe, 2009). A temporary realm of play and place.

Figure 25 - the old fishermen's tower in 1988 of which only the remnants of the columns exist today (Forbes, 1988). A temporary realm of play and place.

THEORETICAL PRECEDENT STUDY: CHEONGGYECHEON STREAM RESTORATION PROJECT

SeoAhn Total Landscape, Seoul, South Korea

Figure 28 – Cheonggyecheon stream restoration project, Seoul (2005). SeoAhn Total Landscape. (Landscape Performance Series, 2020, Online, adapted by author).

1. The elevated freeway prior to the 2003 start of construction on the stream restoration project.

2. Remnants of the elevated freeway stand as a testament to Cheong Gye Cheon's industrial past.

3. Areas of slower or still water are built into the stream to better support biodiversity of bird and aquatic life. Different physical levels of design intervention regarding water level management accommodate the different levels of storm water as it rises, ensuring human interaction with the water at all times.

4. The site has now become a welcome resting place in the busy city of Seoul. It attracts 64 000 visitors daily of which many are tourists, whereas before it was only a highway. (Landscape Performance Series, 2020, Online)

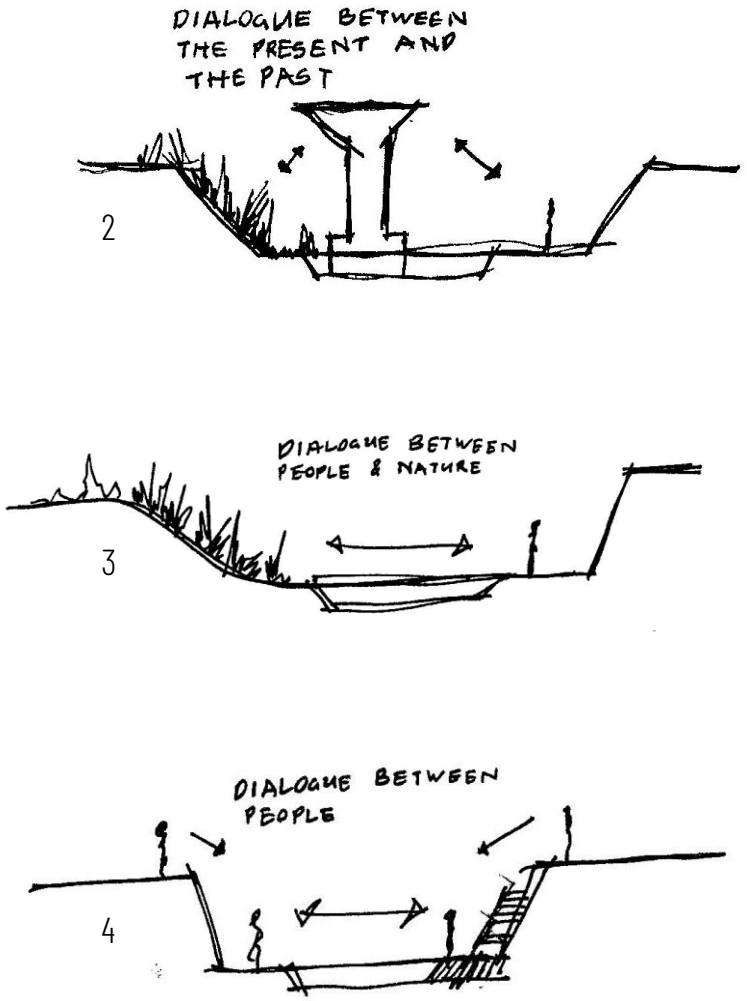


Figure 27 - Analytical sectional sketches depicting the various relationships that the design embodies, the stream acts as an interface to the public accessing the phenomena of nature and the elements (author, 2020).

The Cheonggyecheon Stream Restoration Project was chosen as a precedent due to its close relation to resolving both quantitative and qualitative challenges on site particularly relating to the ephemeral stream. The stream previously existed as a neglected natural entity encased in more than three miles of crumbling concrete (Revkin, 2009, Online) in Seoul underneath a busy highway. The stream was completely restored and with this came a number of benefits:

ENVIRONMENTAL:

- Increased overall biodiversity by 639%, with the number of plant species increasing from 62 to 308, fish species from 4 to 25, bird species from 6 to 36, aquatic invertebrate species from 5 to 53, insect species from 15 to 192, mammals from 2 to 4, and amphibians from 4 to 8 s (Revkin, 2009, Online).
- Reduced the urban heat island effect with temperatures along the stream cooler than on a parallel road 4-7 blocks away. This results from the removal of the paved expressway, the cooling effect of the stream, increased vegetation, reduction in auto trips, and a 2.2-7.8% increase in wind speeds moving through the corridor (Seoul Development Institute, 2003).
- Reduced small-particle air pollution by 35% from 74 to 48 micrograms per cubic meter. Before the restoration, residents of the area were more than twice as likely to suffer from respiratory disease as those in other parts of the city (Revkin, 2009, Online).

Figure 29 - Areas of slower or still water are built into the stream to better support biodiversity of bird and aquatic life in the stream. Cheonggyecheon stream restoration project, Seoul (2005). SeoAhn Total Landscape. (Landscape Performance Series, 2020, Online).

SOCIAL:

- Contributed to 15.1% increase in bus ridership and 3.3% in subway ridership in Seoul between 2003 and the end of 2008 (Kim, Koh & Kwon, 2009).
- Attracts an average of 64,000 visitors daily. Of those, 1,408 are foreign tourists who contribute up to 1.9 million USD (~R28.8 million) in visitor spending to the Seoul economy (Kim, Koh & Kwon, 2009).

ECONOMIC:

- Doubled the rate of business growth in the area versus downtown Seoul (Kim, Koh & Kwon. 2009: 32.)
- Increased the price of land by 30-50% for properties within 50 meters of the restoration project. This is double the rate of property increases in other areas of Seoul. Land prices (Kim, Koh & Kwon. 2009: 32.)

In Figure 27 we are able to see the resulting new relationships generated by the project. The stream acts as an architectural interface to accessing different aspects of the site, whereby the users are able to access an understanding of how the natural landscape has bettered their lives with architecture as the interactive mediator. Ouzman's (2002: 1-54) invisible landscape can be associated to how architecture, or the making of place as such, addressed the stream in that archaeology as a means of inquiry was applied carefully and slowly revealing the past with the intention of discovery without damaging that of what was. For example, to address business owners' concerns, the Seoul Metropolitan Government held over 4,200 meetings to build consensus on the project (Landscape Performance Series, 2020, Online).

03 | SITE ANALYSIS

A deep consideration of the site's quantitative and qualitative qualities both at a macro and micro scale.

Following the theoretical investigation where the qualitative elements were analysed at a micro scale. The following is investigated in continuum to provide continuity in reading the document.

Macro mapping the site's context of the Dolphin Coast was done in order to understand the urban quantitative issues the coastline faces regarding its main public beaches. Each main beach monitored by Dolphin Coast lifesavers was visited in person as an urban case study and documented by looking at the beaches through the lens of the architect. This was done with particular focus on the influence previous uncontrolled urban sprawl has had on the journey and experience going from land to beach – and how the user is able to interact along this journey qualitatively as influenced by urban sprawl. This was then summarized from the architect's perspective at the end of the investigation.

A macro quantitative analysis was then done of the site's context to illustrate the disconnect pedestrians have with accessible general amenities, such as place to buy food. It furthermore illustrates the large amount of public space and parking area that the beach is able to use in peak seasons. This helped justify the site choice and chosen program.

03.1| CASE STUDY - THE ARCHITECTURAL INTERFACE OF DOLPHIN COAST BEACHES

A visual investigation into the essence of journeys to Dolphin Coast beaches from the authors perspective. Each main beach, classified by having permanent lifeguards, was chosen as a best case public beach scenario to compare with the chosen site. Particular focus was given to:

What differentiates Salt Rock Beach from other Dolphin Coast beaches?

How does the user interact with the liminal space between land and sea?

What spatial experiences are unique to Dolphin Coast beaches, and how can they enhance the spatial experience of Salt Rock Main Beach?

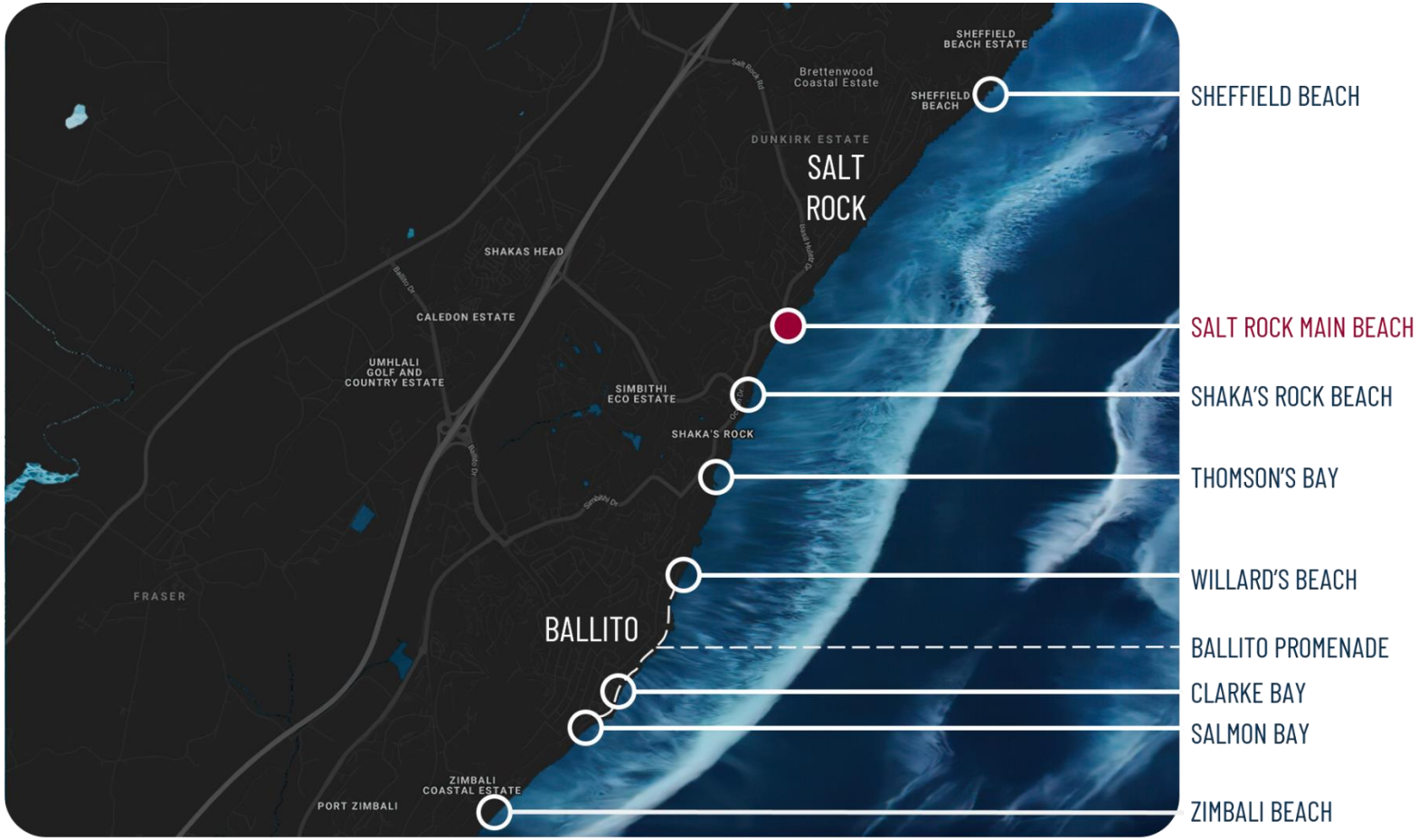


Figure 30 - Map of the Dolphin Coast showing its main beaches in relation to Salt Rock Main Beach (Google, 2020, adapted by author).

SHAKA'S ROCK BEACH

Privately owned space

Ocean

Existing buildings

Coastal dune vegetation

Rocks

Beach

Public beach access route

Figure 33 - Map showing the relationship between public vs private space and access routes of Shaka's Rock Beach (author, 2020).

Figure 31 - A steep slope looking back towards the road from the beach (author, 2020).

Figure 32 - The entrance to Shaka's Rock beach from Ocean Drive (author, 2020).

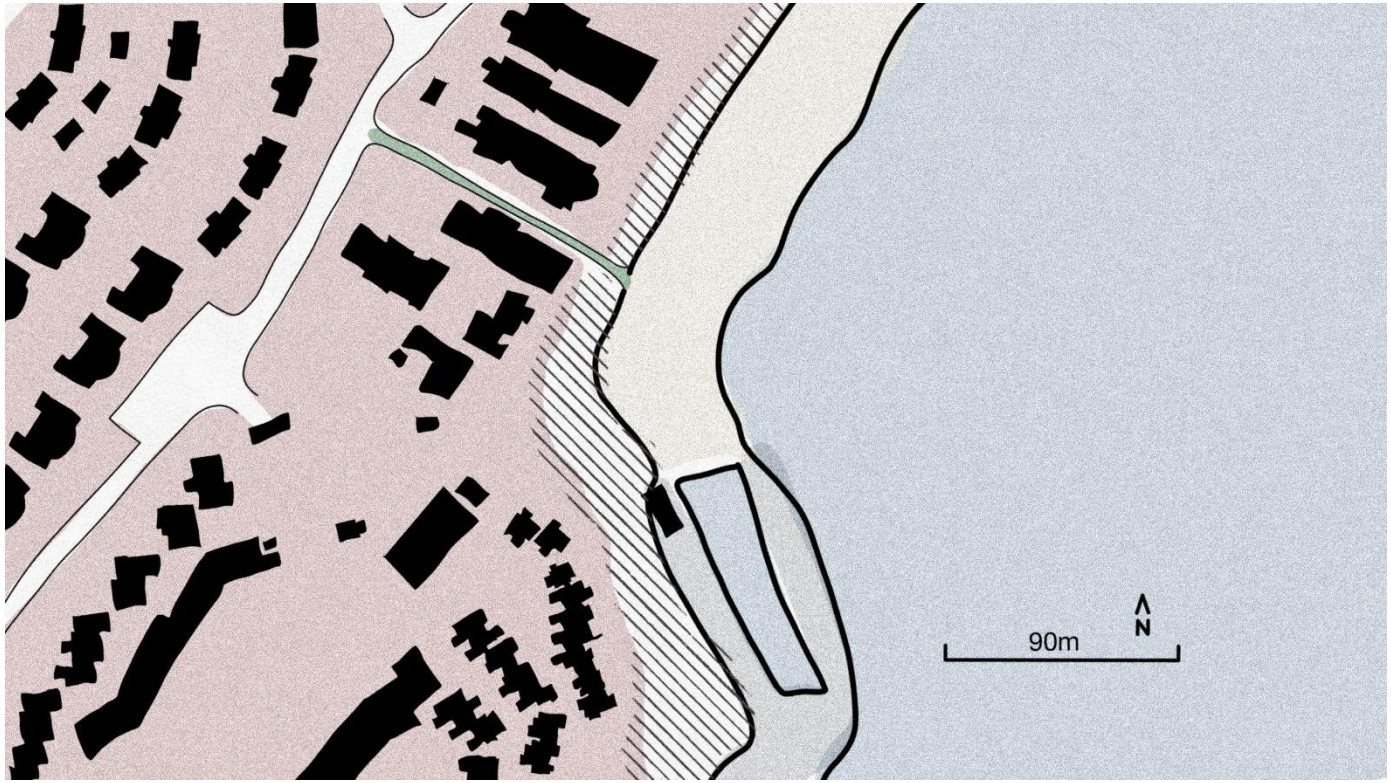


Figure 36 - Map showing the relationship between public vs private space and access routes of Thompson's Bay (author, 2020).

Privately owned space

Ocean

Existing buildings

Coastal dune vegetation

Rocks

Beach

Public beach access route

Figure 35 - The start of a more than 100m long walk to Thompson's bay (author, 2020).

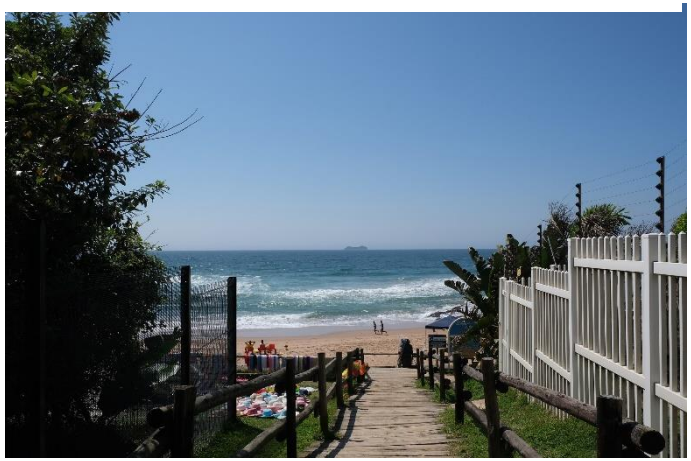


Figure 34 - Crossing the threshold from the path to the beach. The openness of the sea is contrasted with the tunnel like path (author, 2020).

WILLARDS BEACH

Figure 39 - Map showing the relationship between public vs private space and access routes of Willard's Beach (author, 2020).

Figure 37 - Walls generating a tunnel-like approach to Willard's Beach (author, 2020).

Figure 38 - Crossing the threshold from the path to the beach. The openness of the sea is contrasted with the tunnel like path (author, 2020).

Privately owned space

Ocean

Existing buildings

Coastal dune vegetation

Rocks

Beach

Public beach access route

Figure 42 - Map showing the relationship between public vs private space and access routes of Clarke Bay (author, 2020).

Figure 41 - Vegetation generating a tunnel-like approach to Willard's Beach (author, 2020).

Figure 40 - Once you have crossed the threshold of the tunnel, the promenade generates a better relationship between public place and beach (author, 2020).

Figure 45 - Map showing the relationship between public vs private space and access routes of Salmon Bay (author, 2020).

Figure 43 - Private ownership of beachfront properties leaves little opportunities for public beachfront buildings (author, 2020).

Figure 44 - Although parking is offered, the spatial experience of the beach approach from the main road still reflects the tunnel-like experience of other beaches in terms of interactions (author, 2020).

Privately owned space

Ocean

Existing buildings

Coastal dune vegetation

Rocks

Beach

Public beach access route

THE URBAN ISSUE FROM THE ARCHITECTS PERSPECTIVE

The effect of urban sprawl whereby the beachfront property was built as close as possible to the coastline without any oversight has without a doubt lead to the commodification of Dolphin Coast Beaches, whereby the highest bidder gets the land. Most private beachfront properties on the Dolphin Coast enjoy seemingly private and reserved beachfront access immediately in front of their properties, this is because should a member of the public wish to access this part of the beach they have to walk a few hundred metres from a publicly accessibly beach entrance.

The result of this urban sprawl has led to a tunnel like experience of journeying to the beach, in some cases stretching out to around 100m as is the case with Thomson's Bay and Willards Beach, this is also often involving a steep slope with no true vehicular access for disabled persons. It can be argued that this urban sprawl commodifying beachfront property has had a negative impact on equitable access to Dolphin Coast Beaches. The beachfront of the Dolphin Coast, and more specifically Salt Rock, is reserved for the social elite. Ballito is fortunate to have a promenade running along the beach front, and as a result to this equitable beachfront access, has the generally the more popular and well maintained beaches as they help drive Ballito's tourism industry.

Despite this exclusionary access to Dolphin Coast beaches, there is still much to learn from the spatial experience that these walls of private property have created along the beach. The user is made to feel almost as if they are journeying through a boundary of sorts between land and beach. A feeling of true liminality is stretched out for long distances and strengthened with time, building up to a massive spatial threshold whereby the user feels as if they are truly stepping through a boundary into a temporary realm of play, completely walled off and safe from the trials of reality.

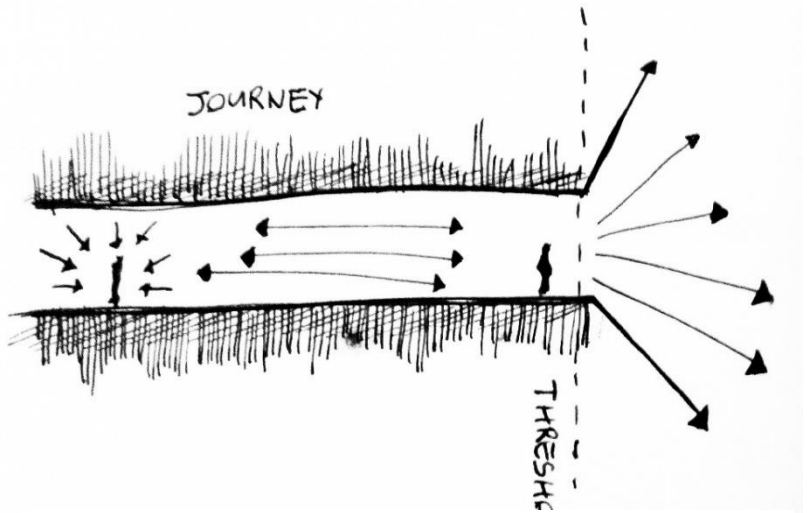


Figure 46 - Threshold created by the tunnel-like effect of existing beach access roads (author, 2020).

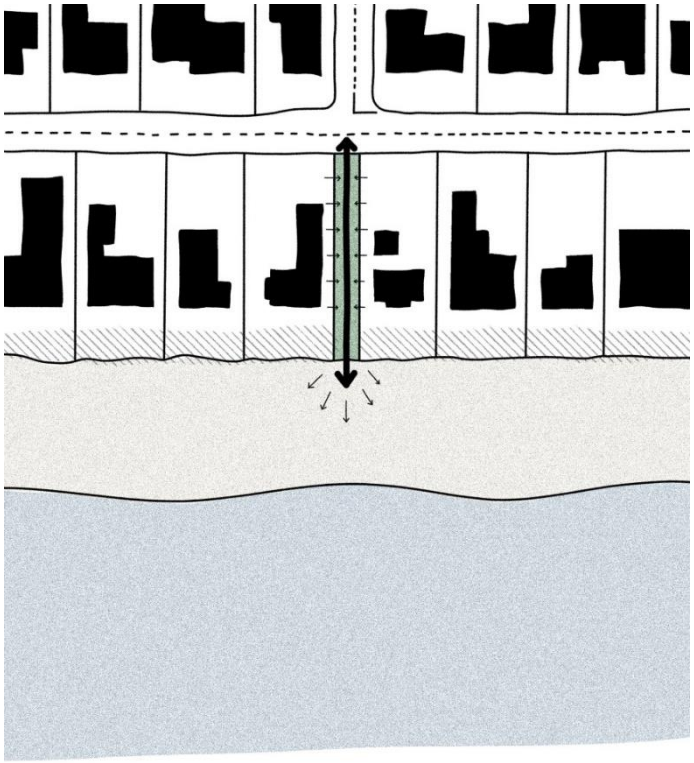


Figure 47 – Map summarizing the typical relationship between beach access routes and experience driven by private beachfront property ownership and urban sprawl (author, 2020).

03.2 | SALT ROCK MAIN BEACH

Figure 48 - Salt Rock Main Beach differs from other Dolphin Coast beaches in that it has a large beach footprint due to the park (author, 2020). A large public accessible footprint is created and in turn does not have a tunnel like approach to the beach. The relationship between the beach and land can be celebrated as opposed to hidden.

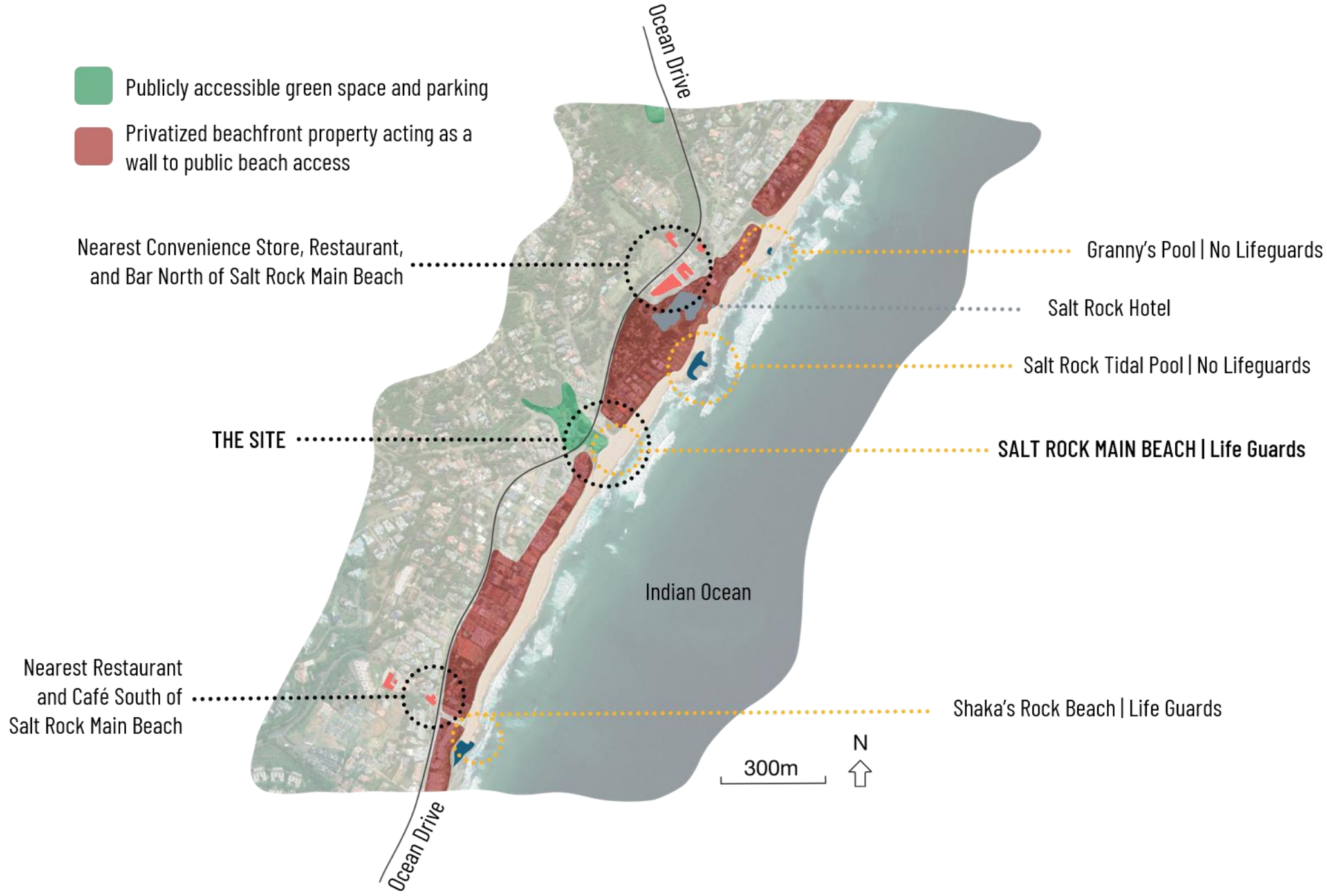


Figure 49 - Urban analysis of the context of Salt Rock Main Beach (author, 2020)

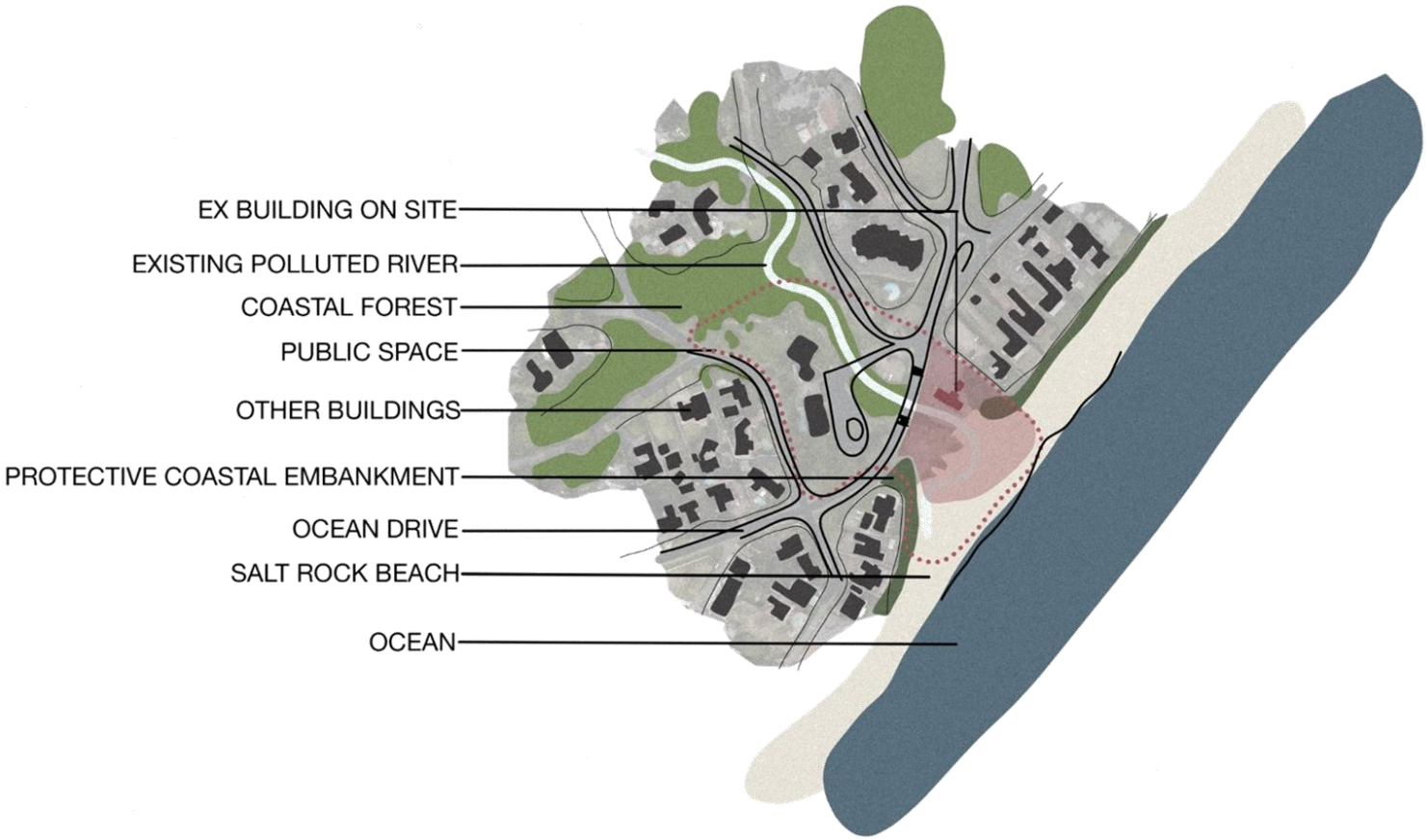


Figure 50 - Locality plan showing primary features of Salt Rock Main Beach (author, 2020).

In Figure 49 we are able to clearly see the privatisation of beachfront property and the effect it has had on public beach access. A wall of sorts is created between the closest road to the beach and the beach itself. In addition, there is seldom public space or enough parking to accommodate a surplus of users in peak tourism periods. There is a vast amount of public space inland of the beach, and although it is not a designated park, it acts as such as its grass is maintained and many locals utilize it.

Due to the inability to immediately access basic items such as food from the beach, with the closest food stores existing over 800m away, the beach requires people to either drive a car to fetch food quickly or take a long walk. It could be argued that the beach suffers from this in terms of visitor count as it is simply not as convenient as visiting other beaches, especially for pedestrians. This formed part of the reason why a restaurant, deli and bar area was included in the accommodation list of the building as it would help bolster visitors and tourism to the beach singularly.

03.1| CASE STUDY – MATERIALITY OF THE DURBAN BEACHFRON PROMENADE

An investigation into KZN Coastal public architecture

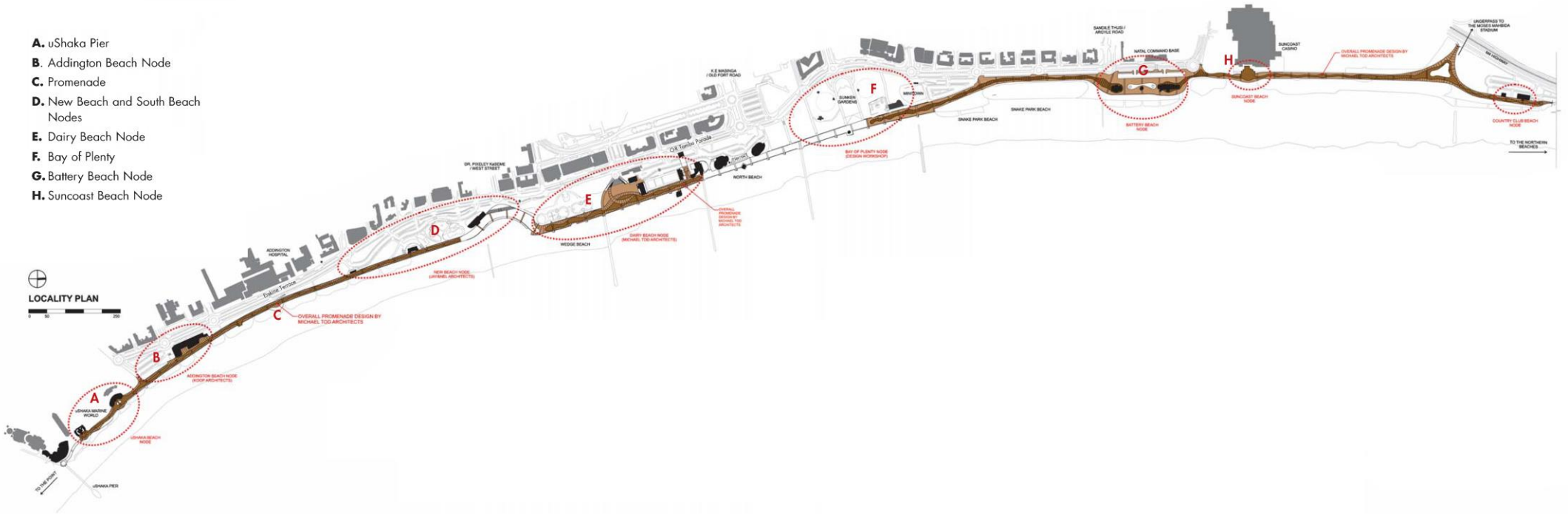


Figure 51 - Locality Plan of Durban's Beachfront Promenade (KZNIA, 2010: 4, adapted by author)

Due to the site sitting on the beachfront, a case study based on the weathering of buildings and materials on coastal buildings in public place was done. This was in order to choose materials that would last, as well as to discover an adequate local case study to learn from. The chosen case study ended up being the Addington Beach Node by Koop Design Studio. All images are by the author for this case study other than where stated.

CHOSEN CASE STUDY: ADDINGTON BEACH NODE

Koop Design Studio, Durban, South Africa

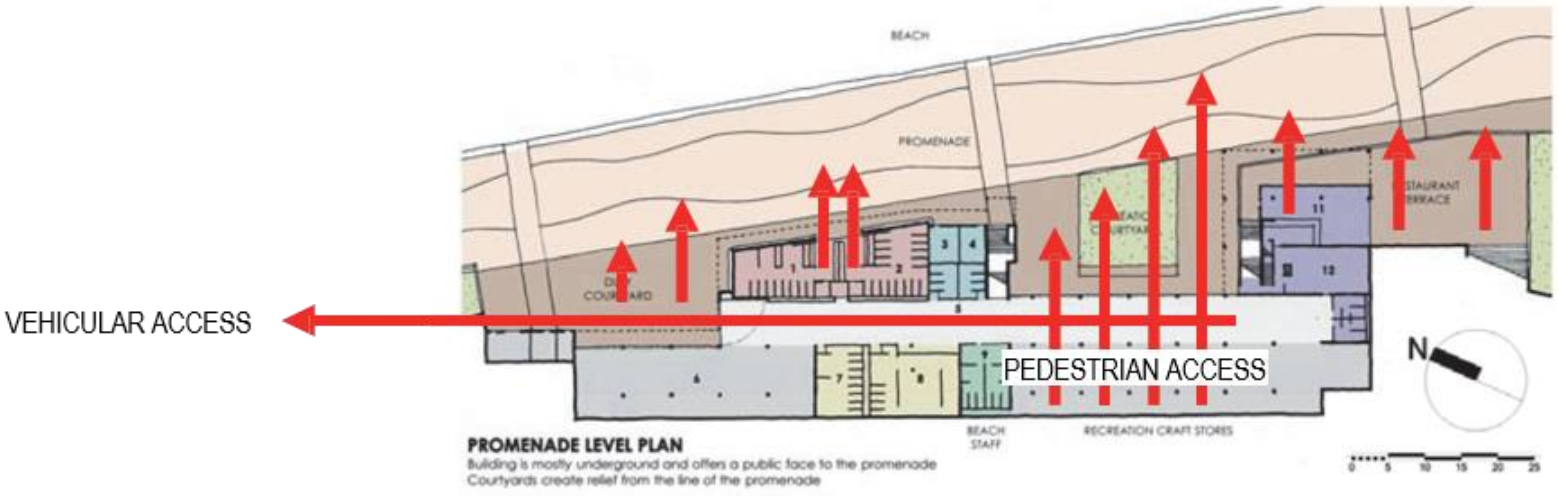


Figure 53 – Promenade level plan showing the interface created (KZNIA, 2010: 9, adapted by author)

Vehicular access is separated from the pedestrian street interface of the building. The way in which the column grid and retaining wall deal with structure in relation to movement and storage was noted and applied in the building in Salt Rock as the existing retaining wall and restricted access between stream and retaining wall was similar to the way in which this recreational craft store dealt with the retaining wall and interface with the pedestrian access route.

Figure 52 - Interior of the recreational craft storage (KZNIA, 2010: 9)

Internal and external views of the hanging timber slatted garage door system. This allows for the garage to stay ventilated while the craft dry, as well as retain the connection of sightlines between inside and outside, and furthermore let light into the garage.

Figure 57 – Interior of the recreational craft storage showing the timber sliding garage door structure (KZNIA, 2010: 9)

Figure 55 - Exterior of the recreational craft store (author, 2020)

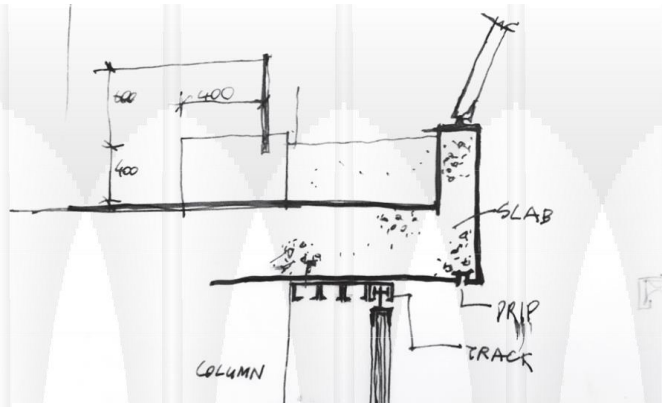


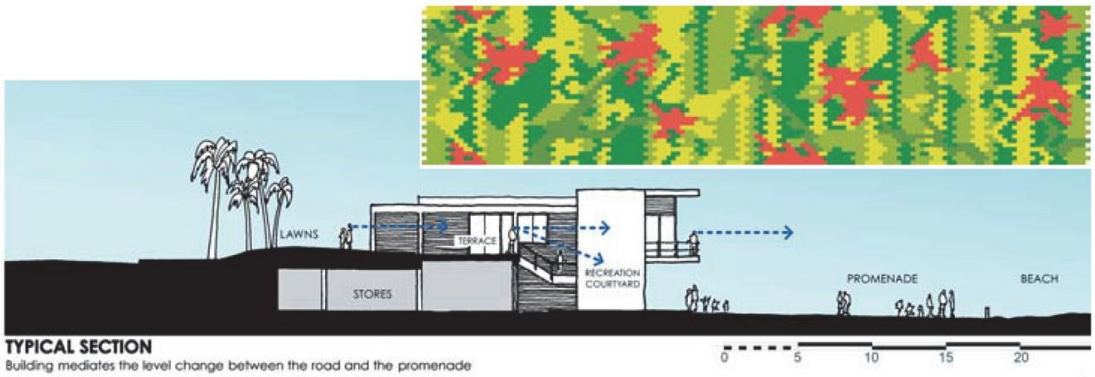
Figure 56 - Process sketch of the hanging timber slatted garage door system being applied to the recreational craft store for ventilation (author, 2020).

SURF SHOP

Pre-cast concrete terrazzo seating has fared extremely well for the amount of use the seating goes through on the busy Durban beachfront promenade.

The flat concrete roof structure ensures views of the beach from land above remain unrestricted. The slab also provides thermal mass and helps keep the building cool to some extent. Its maintenance is somewhat minimal due the its robust nature.

Powder coated aluminium framed curtain wall and windows wared extremely well in comparison to other steel structures. Note the vent at the top of the control tower for natural air circulation as opposed to mechanical ventilation. The exposed concrete structure has fared remarkably well, and requires very little maintenance.



TYPICAL SECTION
Building mediates the level change between the road and the promenade

The building acts as an interface to the promenade by playing with the new urban edge.

The glazed bricks have worn very well and are easy to clean due to their smooth nature, although some have chipped due to everyday wear on wall corners.

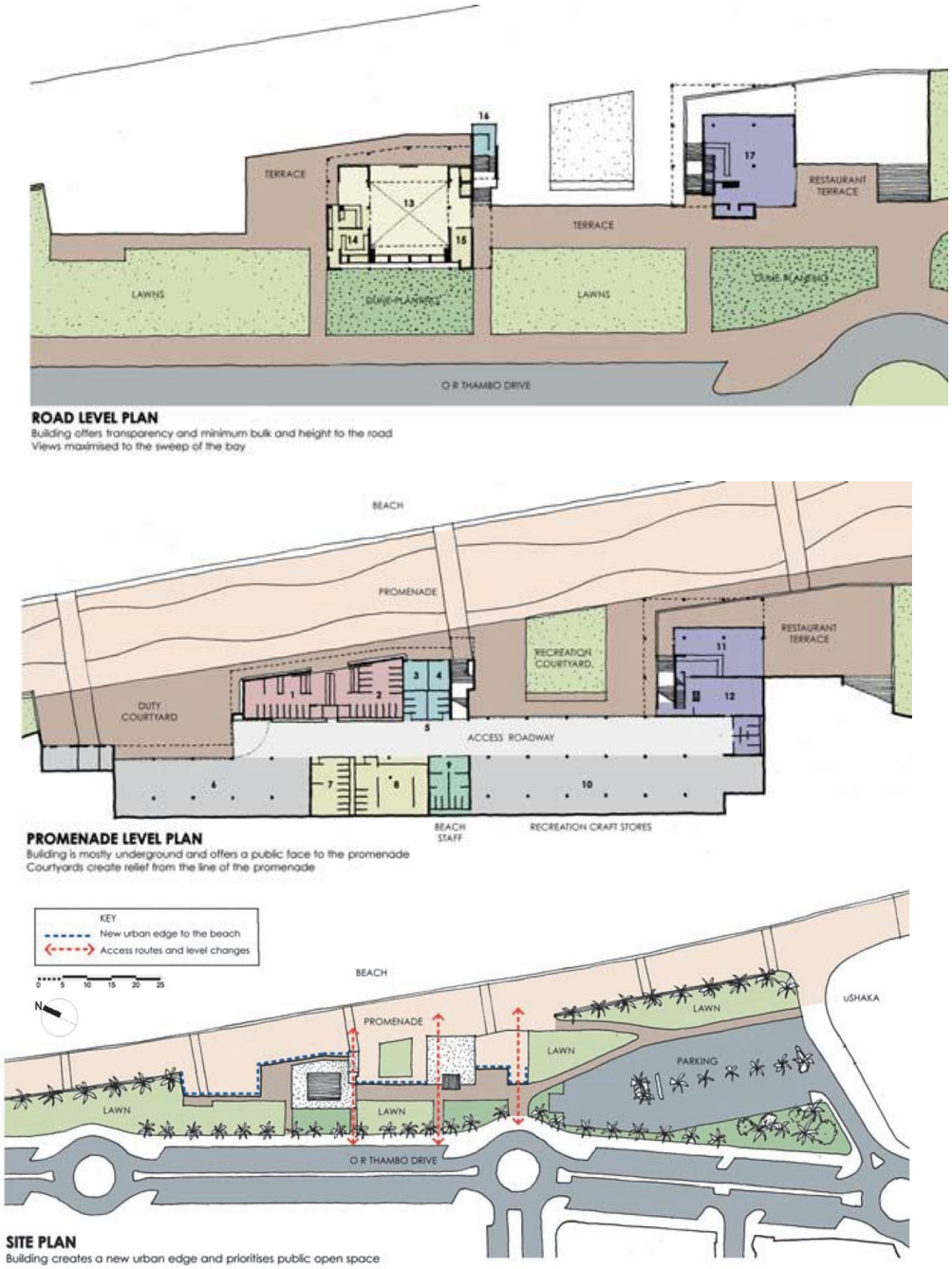
The column grid and beam structure and robust materiality of the building has worn extremely well in comparison to other beachfront promenade architecture since its redevelopment for the FIFA 2010 Soccer World Cup.

Some elements such as this steel service door have succumbed to the elements. Steel should be avoided at all cost judging by the way it has worn on the Durban beachfront in 10 years.

DETERMINING THE ACCOMODATION LIST

The accommodation list was determined utilizing a combination of precedent that the Addington beach node set, as well as by conducting interviews with the local lifesavers club.

The accommodation of Addington beach node was distributed along a spine that allowed the articulation of public space with a civic nature. The bulk of the accommodation is craft storage for duty boats and surf skis. This storage together with the extensive ablution facilities is located below ground and accessed by an underground roadway. This strategy enables the public facilities to provide the interface: ablutions open to the Promenade, clubhouse facilities enjoy elevated views over the beachfront and the restaurant presides over the southern portion. As the primary custodians of beach culture, the lifeguard tower and beach office are central and prominent. Two courtyards articulate the building and provide relief from the line of the Promenade. They also frame the different functions of the building and help connect Parade and Promenade levels. The duty courtyard relates to lifeguard functions, the cleaning and servicing of boats, quad bikes and rubber ducks.
The recreational courtyard is given over to washing down surf skis and is the theatre for recreation events. Landscaped lawns and dune planting roll over the underground accommodation linking north to south. In this way the building both defines and is defined by the landscape (KZNIA, 2010: 9).



KEY
1. Public Ablutions - male
2. Public Ablutions - female
3. First aid room
4. Lifesavers beach office
5. Lifesavers ablutions
6. Lifesaving duty stores
7. Club ablutions - female
8. Club ablutions - male
9. Beach staff facilities
10. Recreation craft stores
11. Restaurant
12. Restaurant kitchens
13. Recreation hall
14. Hall kitchens
15. Hall office
16. Lifeguard tower
17. Restaurant

Figure 59 - Addington Beach Node Plans (KZNIA, 2010: 9)

BASIC ACCOMMODATION LIST THAT INFORMED THE DESIGN

Life Savers Club
- Viewing deck
- Lounge and meeting area
- Private Toilet
- Change Room & Showers
- Tea Room
- First aid room
- Storage
- Boat garage
- 1x Office
- School Tours

KZN Sharks Board
- Exhibition Space
- Educational Hall
- Information Desk
- Toilets/Change Rooms
- 2x Offices
- Garage

Schools
- Classrooms/shared hall
- Equipment Storage

Trade
- Permanent rentable area for tenant surf shop
- Permanent coffee shop/deli and bar
- Flexible work space

General
- Public Toilets
- Rooftop Viewing Deck
- Locker Room

3.2 | FURTHER LESSONS LEARNT:

NEW BEACH RESTAURANT

Dean Jay Architects, Durban, South Africa

Looking at the building through the lens of an architect analysing interface, the lack of depth of the façade and the limited access points to it prohibits and imposes on promenade goers and the building seems uncomfortable to approach, this is especially in comparison to the Addington Beach Node case study.

The plaster and paint of the building looks in need of maintenance in comparison to the concrete structure of Addington Beach Node.

The use of saligna battens on steel external framed sliding screens has worked effectively.

Furthermore, the use of timber columns to support the roof slab above seem to have worn well. The weathering of the saligna battens almost resembles driftwood from the beach.

Limited access point and lack of depth to the façade create a border of sorts between the beach and building for public pedestrians.

The use of galvanized steel has significantly prolonged the durability of steel profiles.

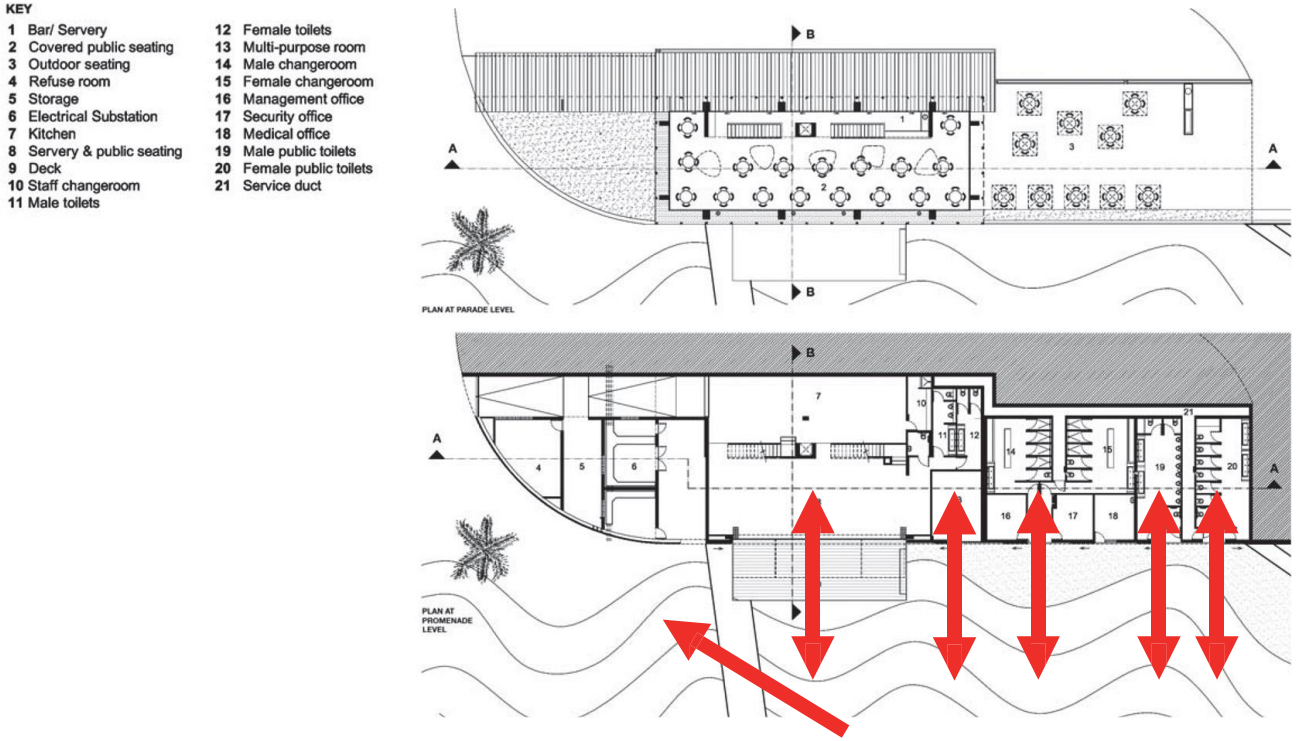


Figure 61 – Promenade floor plan (KZNIA, 2010: 11, adapted by author)

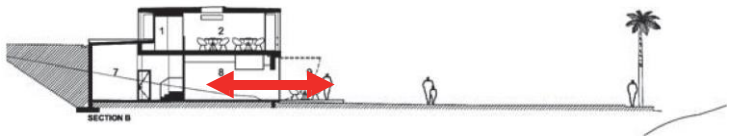


Figure 60 – Typical Secition(KZNIA, 2010: 11, adapted by author)

DAIRY BEACH NODE

Michael Todd/BLOC Architects, Durban, South Africa

Figure 62 –The concrete structure of the building weathered well (KZNIA, 2010: 12).

Although the timber and concrete have weathered substantially since being built, the robustness and material choices have ensured that the building stays true to its essence. The use of an intensive green roof system insulates the building with its thermal mass, and furthermore creates a pleasant view from the buildings above. The building is a good example of how the choice of materials have an effect on the longevity of the building. The glass balustrade has also weathered well, and remains relatively maintenance free in comparison to other steel/timber balustrades on the beachfront. This glass balustrade would have needed to be nano coated in order to ensure that the salt and moisture in the air do not stick to it.

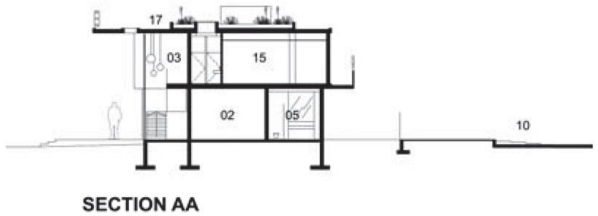


Figure 63 –Section illustrating the relationship to the green roof (KZNIA, 2010: 12).

BAY OF PLENTY NODE

designworkshop: sa, Durban, South Africa

Contrast in the weathering of the powder coated steel handrail vs the painted steel timber support structure.

Although the timber has weathered well, its fixing has almost completely failed due to the treatment of the steel support structure with the timber falling off in many places.

OTHER STRUCTURES:

The timber structured shaded pergola with wattle slats in the image above has weathered very well in comparison the steel framed pergola below, with both situated on the Durban beachfront. The use of steel structure was avoided at all costs in the final construction of the building due to the extensive maintenance required along with its unpleasant weathering aesthetic in comparison the concrete.

CONCLUSIONS DRAWN

It is clear to see the effect the coastal weather has on buildings. In some cases, the weathering is so bad that it has actually changed the inherent character of the building, such as Bay of Plenty Node. The two buildings that have stood the test of the brutal coastal weather so far include the use of simple, solid concrete structures with aluminium frames and the wood. Based on how well the Addington and Dairy Beach Nodes have weathered, it was decided to utilize exposed concrete as one of the primary design materials. Furthermore, timber was used to add texture and soften the harshness of concrete on the building, this was along with a concrete and rock wall that replicates the materials used on the Salt Rock Tidal Pool where it has weathered extreme conditions. By designing a robust building without the use of complicated detailing, the building is more likely to maintain its character while negating the need for excessive maintenance.

04 | DESIGN SYNTHESIS

Figure 64 - Perspective of the eco pool which aims to generate a new symbiotic relationship between man, building and nature (author, 2020).

04.1 | SITE ORGANISATION

LINES OF MOVEMENT DETERMINING MASSING

Figure 65 - Conceptual touchstones investigating the positioning of boundaries in relation to the journey along the stream, lines of movement in relation to interpretation of threshold, and the users abstracted interpretation of the journey through the building in relation to choice (author, 2020).

Figure 66 - Lines of movement showing pedestrian access through the existing site, with the purple point emphasizing the meeting point in the car park (author, 2020).

COLUMN GRID AS STRUCTURE DEFINING PLACE MAKING

The offset of the journey in order to create a spatial experience relating to approach and threshold. Piling would be needed for the structure on the beach sand, and this would result in a structural grid of columns. These columns would for the basis for all structure of the building. The weight of the structure would be leveraged on these columns with an interconnecting structure

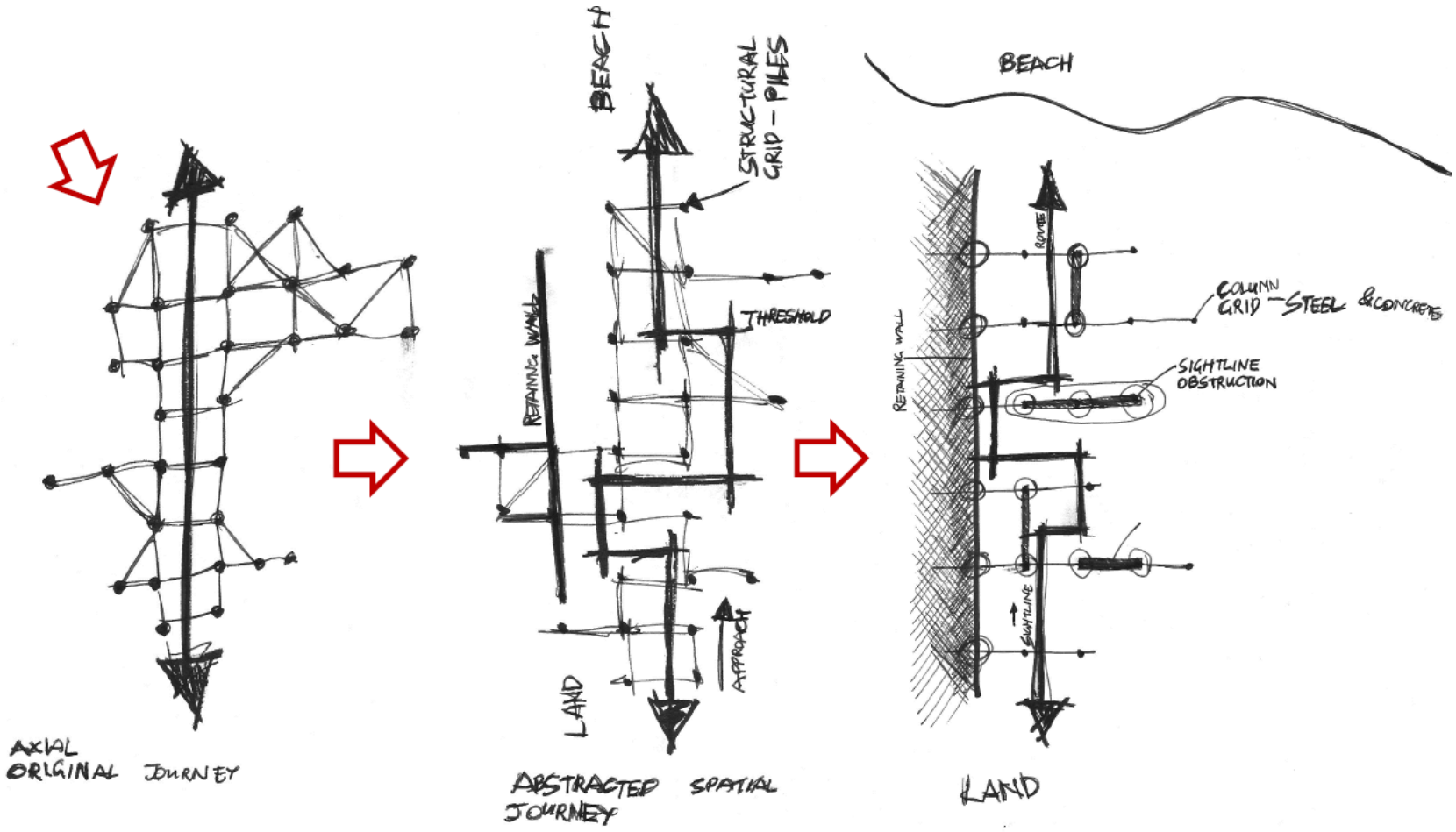


Figure 67 - Sketch showing columns as a structural element making place (author, 2020).

MASSING OF THE SITE DETERMINED BY PEDESTRIAN MOVEMENT THROUGH THE SITE

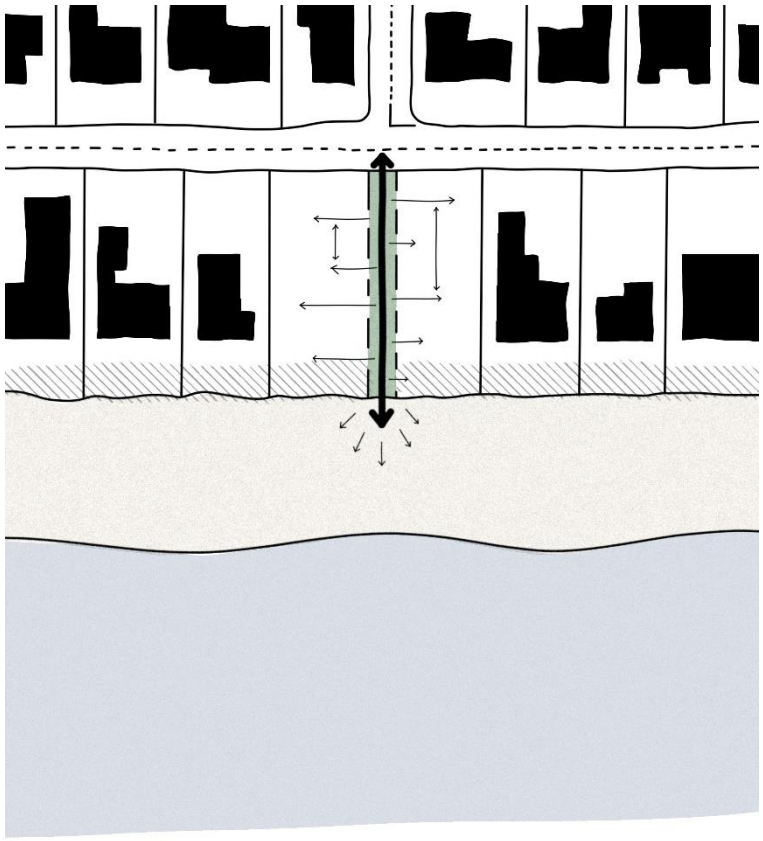


Figure 69 - Generating an interactive approach to the beach by penetrating boundaries (author, 2020).

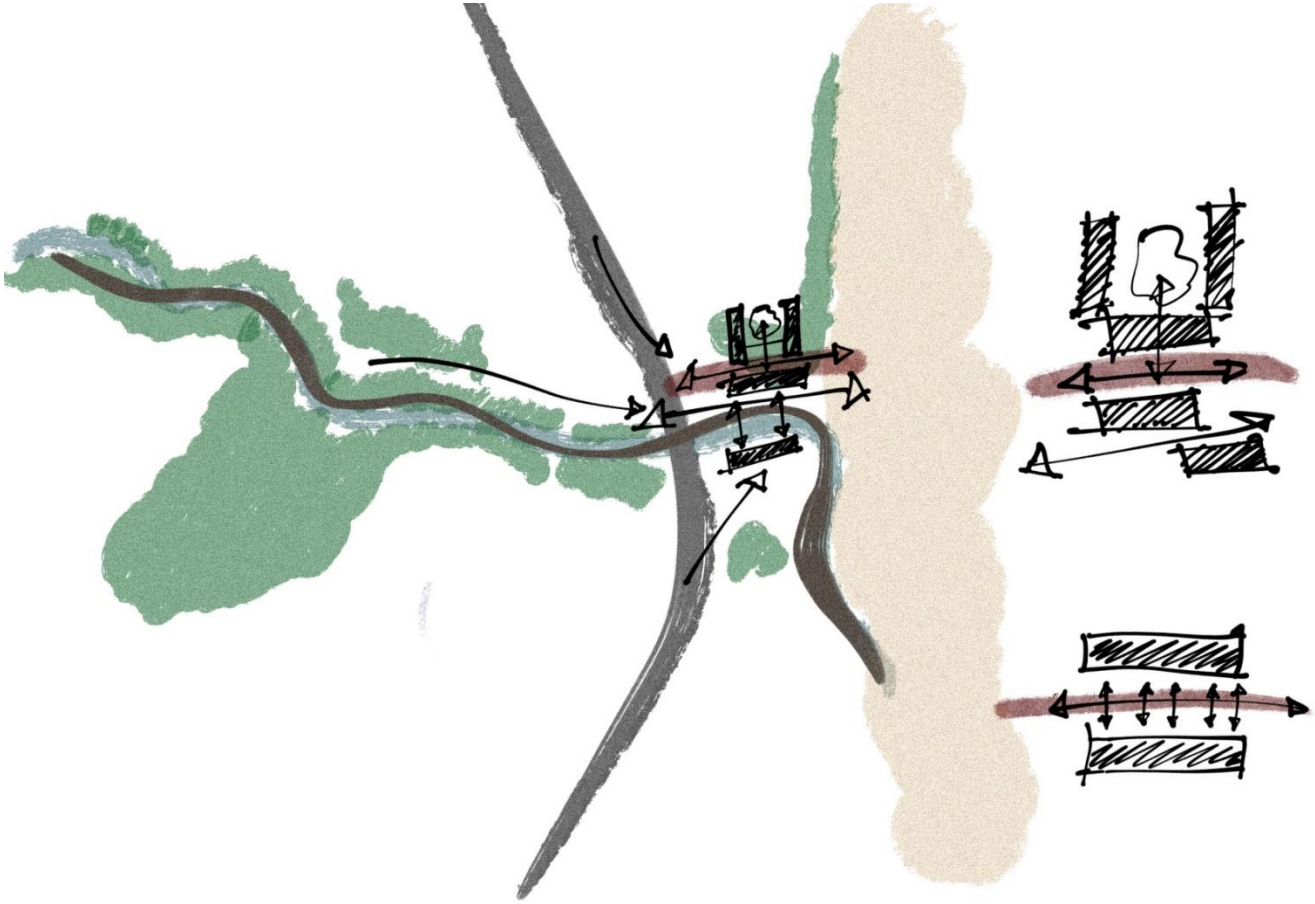


Figure 68 - Massing determined by lines of movement through the site (author, 2020).

The circulation and lines of movement determined project massing, whereby the tunnel like threshold experience was played on. The user is able to penetrate the buildings and ephemeral stream on either side of the tunnel wall. This creates an interface like manner in which the user can choose what path to take on, he can either continue towards the beach, or he can interact with the building or nature.

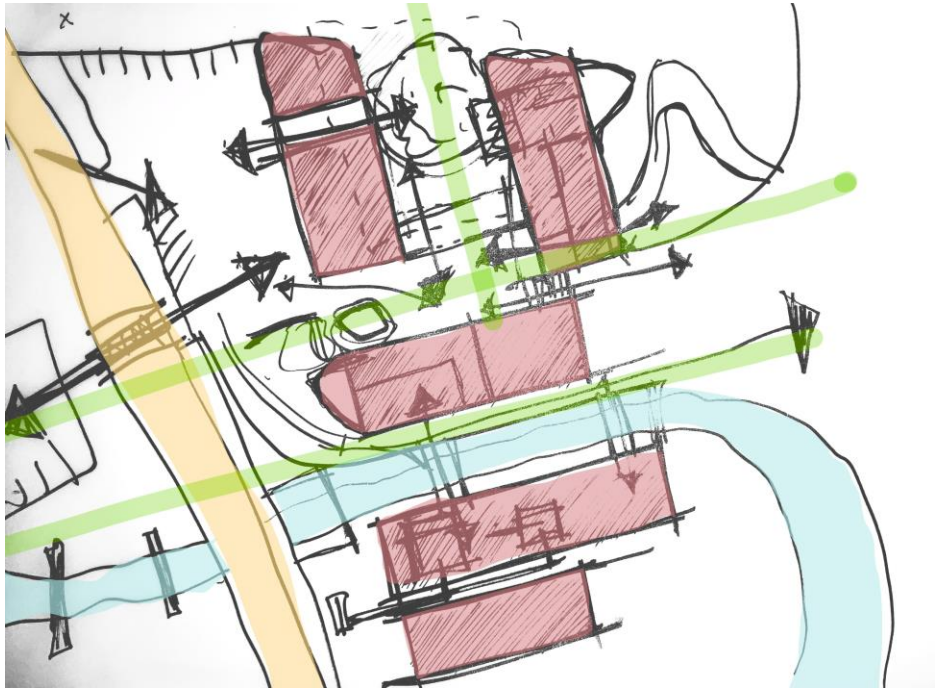


Figure 70 - Lines of movement through the site in relation to the interactions trhough project massing (author, 2020).

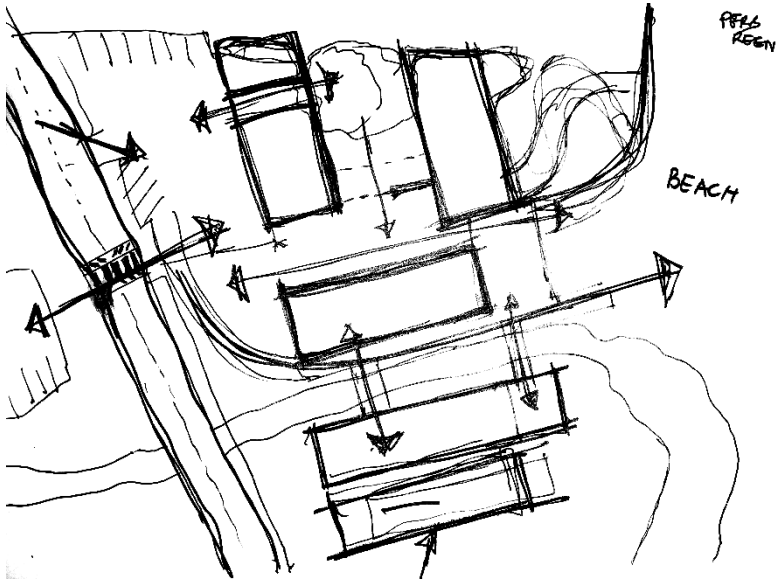


Figure 71 - Lines of movement determining site massing (author, 2020).

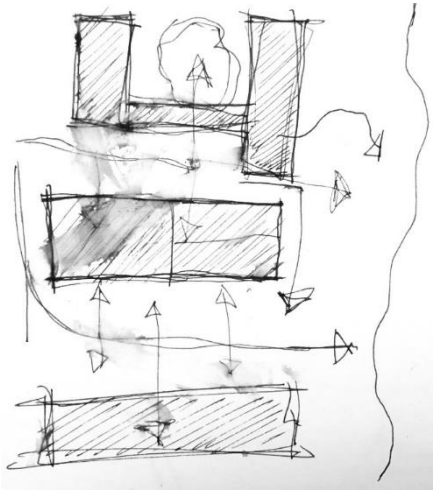


Figure 72 - Penetrating boundaries along access routes (author, 2020).

THE APPROACH

Informing materiality and massing

As the user drives north along Ocean Drive towards the site, the site is revealed along with a view of the Indian Ocean. In order to protect this sightline and view, the building was massed to fit within the visual footprint of the existing sightline as shown by the hatched regain of Figure 73. This sightline is the dominant first impression of the site and building. By massing the building within this visual footprint, respect is given to the sentiment of locals who remember this moment on their daily commute along the road. Ocean Drive is the main coastal road connecting Salt Rock to Ballito, and thousands of people pass the site during their daily rituals. In addition, the materiality of the building attempts to mimic local coastal rock formations in order to better blend into the vegetation around it, this is in respect to this view of the site.

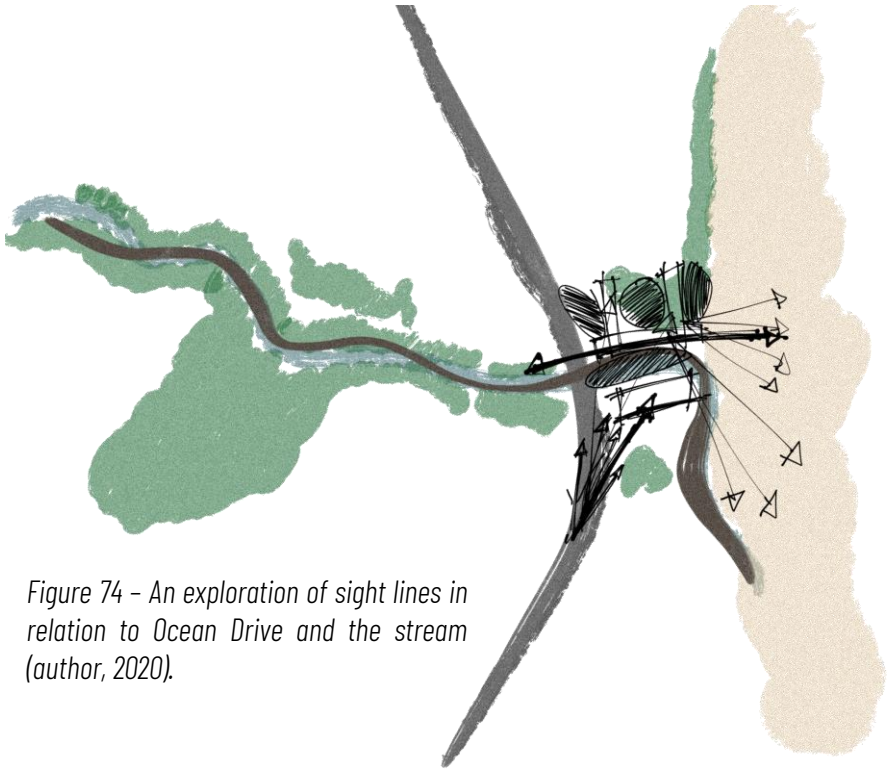


Figure 74 – An exploration of sight lines in relation to Ocean Drive and the stream (author, 2020).

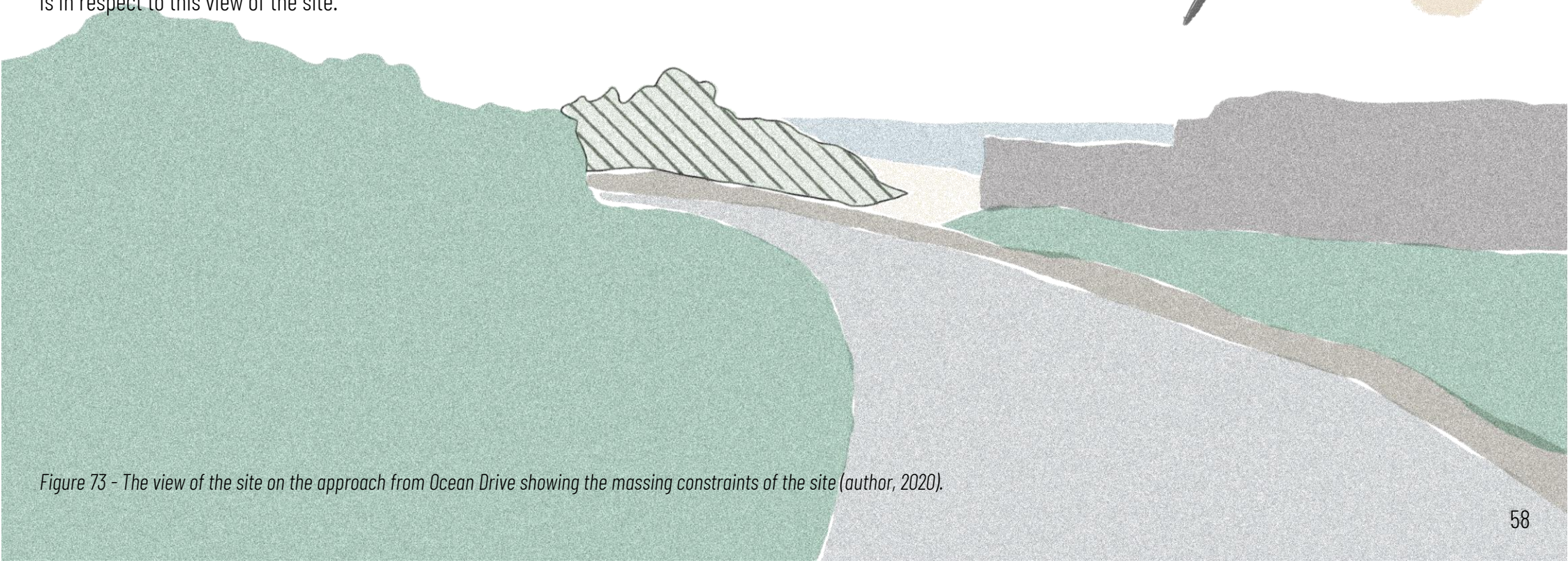


Figure 73 - The view of the site on the approach from Ocean Drive showing the massing constraints of the site (author, 2020).

Figure 79 - Early process conceptual sketch showing the building massing within the original footprint (author, 2020).

Figure 80 - The main approach to the beach along Ocean Drive (author, 2020).

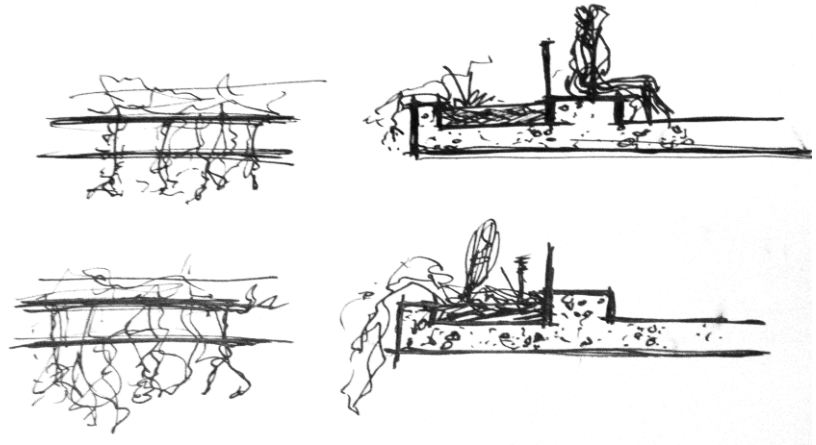


Figure 78 - a first impression sketch of the sight with an overlay of sightline elements highlighted (author, 2020).

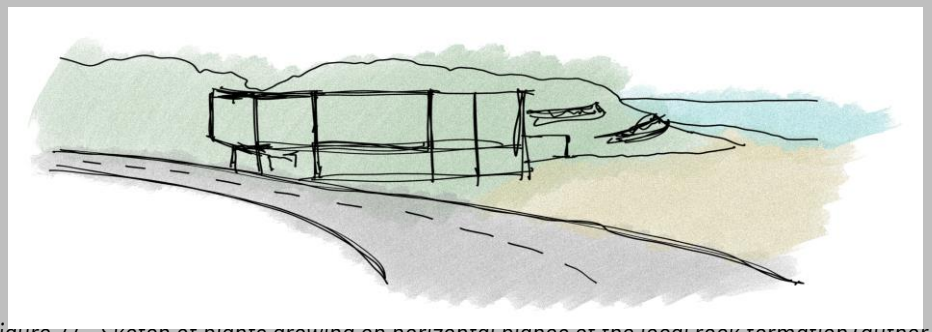


Figure 77 - Sketch of plants growing on horizontal planes of the local rock formation (author, 2020).

Figure 75 - A local coastal rock formation about two km from the site (author, 2020). The building mimics the horizontal planes of the rock formation and vegetation with green planters placed at the edges of slabs in an attempt to blend into the visual footprint of the site.

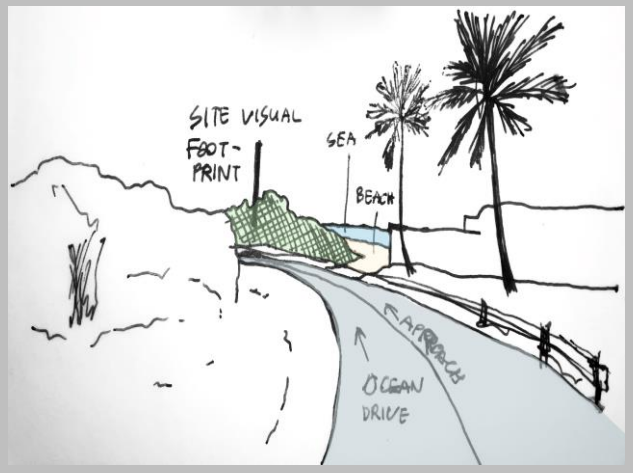


Figure 76 - Early conceptual sketch of concrete planters at the end of slabs to mimic local rock formations and their horizontal planes and levels (author, 2020).

Figure 81 - Perspective showing the building within its visual footprint from the main approach of the site on Ocean Drive (author, 2020).

04.2 | DEVELOPMENT OF THE ECOPOOL

The existing ephemeral stream was designated as being sacred to the site, and one of the form defining aspects of the design. The introduction of the ecopool was intended to create a lasting solution to the stagnant water sitting at the end of the ephemeral stream, and to regenerate it to a state of existence similar to that of before human development whereby a new symbiotic relationship between man and nature could be established.

Currently, the end of the stream is diverted away from the main swimming beach in order to keep its waters clean, the result of which is the water pooling and becoming rancid quickly with the hot sun and many external factors running into its water. The stream serves as a storm water outlet for the immediate area, so all storm water runoff from the existing roads etc. lead into this ephemeral stream. Unfortunately, this comes with pollutants associated with general storm water runoff such as litter, oil from cars, etc. Furthermore, in its current state grey water runs into it from the sand showers and lifesaver equipment cleaning. The result of all this is an unhealthy mix of pollutants which sit in very hot temperatures on beach sand.

Even after heavy rains, the stream still remains rancid if it does not manage to break into the sea. This is also a problem as when it does break, this water gets released into the ocean dirtying the swimming conditions.

The principle of an ecopool is to replicate the mechanisms and biological processes found in nature, whereby the water would be comparable in quality to that found in a natural lake or river. In many ecopools the water is so clean that it is drinkable. The ecpool is made up of two main zones, the swimming pool area and the aquatic plant area. These two zones are separated by a wall that is only slightly below the surface of the water, this keeps the plant matter separate from the pool. In addition, skimmers are utilized to keep the pool free of floating debris. This is a standard skimmer that can be applied across all types of pools.

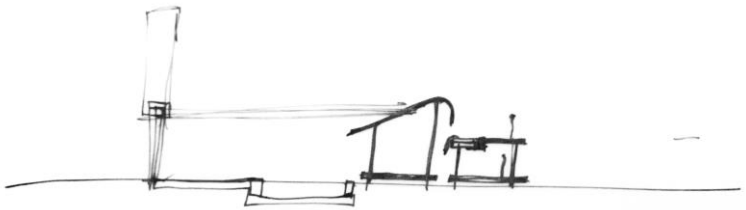


Figure 83 - Development sketch showing the decision to formalise the streams path with structure (author, 2020).

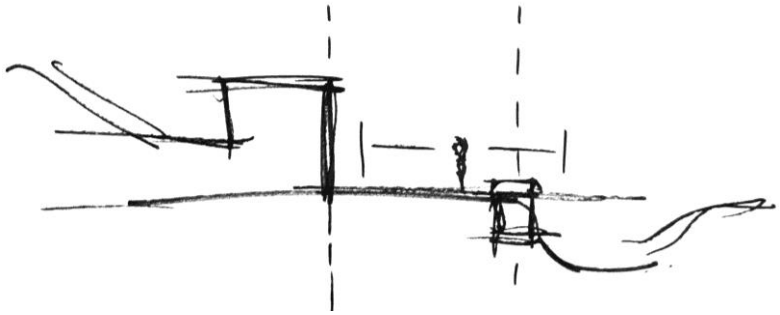


Figure 84 - Illustrating the disconnect the user experiences from the existing building and stream in its current state (author, 2020).

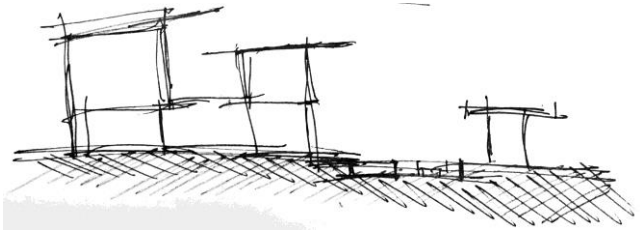


Figure 82 - Development sketch showing the ephemeral stream dissecting the structure (author, 2020).

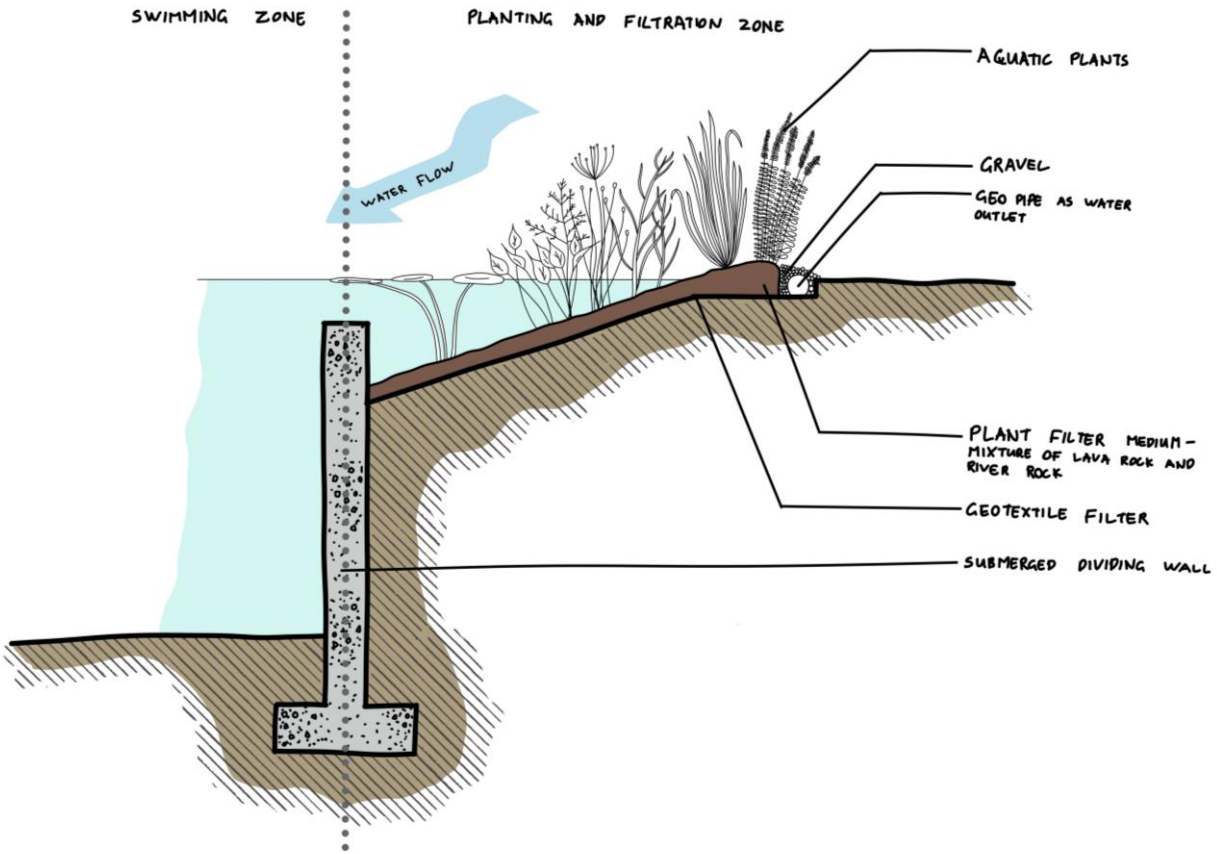


Figure 85 - Typical ecopool design elements and features (author, 2020).

Ecopools are able to work completely without additional filter systems and nozzles. This is due to plants, microorganisms being involved in the process of breaking down nutrients in the water, while the various layers of sand and gravel act as a filter for larger deposits. Furthermore, the ecopool's plants in the filtration zones require very little maintenance once they are established and a balance is reached. However, due to the potential for the ecopool to be used excessively in peak periods, filtration should be installed in the case the pool is unable to remain clean. In ecopools water is either filtered through a mechanical or ultraviolet filter. However, due to backwashing, certain systems such as a mechanical sand filters are unable to be installed. There are other mechanical options such as a cartridge filtration system whereby no backwashing is required, and it only requires maintenance every 5 to 7 years. This form of filtration could be used; however an ultraviolet filter would be more effective due to its little maintenance required all the while remaining completely chemical free. In conclusion, an ecopool of on this scale would require the expertise of a specialist to specify exactly how the filtration system would work. It is assumed that enough space has be given to accommodate a variety of engineered solutions if the need be.

1. The existing condition illustrating the ephemeral stream as a dividing element on site. The gabion retaining wall acts as a hard barrier preventing any interaction between the user and stream.

2. Removing the gabion wall enables the user to interact with the stream, however it does not address the issue of the soil eroding underneath the access road. Furthermore, if multiple people were to use the stream it would destroy any plant life on the streams edge.

3. By formalising the streams path with a concrete pool structure the user is now able to interact with the stream all the while retaining the soil needed for underneath the access road. This particular sketch led to assigning the stream a function whereby users were able to wash their feet and water sport equipment, rehabilitating the stream creates a symbiotic relationship between man and nature whereby man has a use for the stream, and the streams ecosystem becomes rehabilitated and protected. By designating an aquatic plant zone for the ecopool plants are protected and are able to flourish.

4. The final typical section was generated with stairs leading into the swimming area to provide safe access. This also enabled the user to interact with the planting on the other side of the pool.

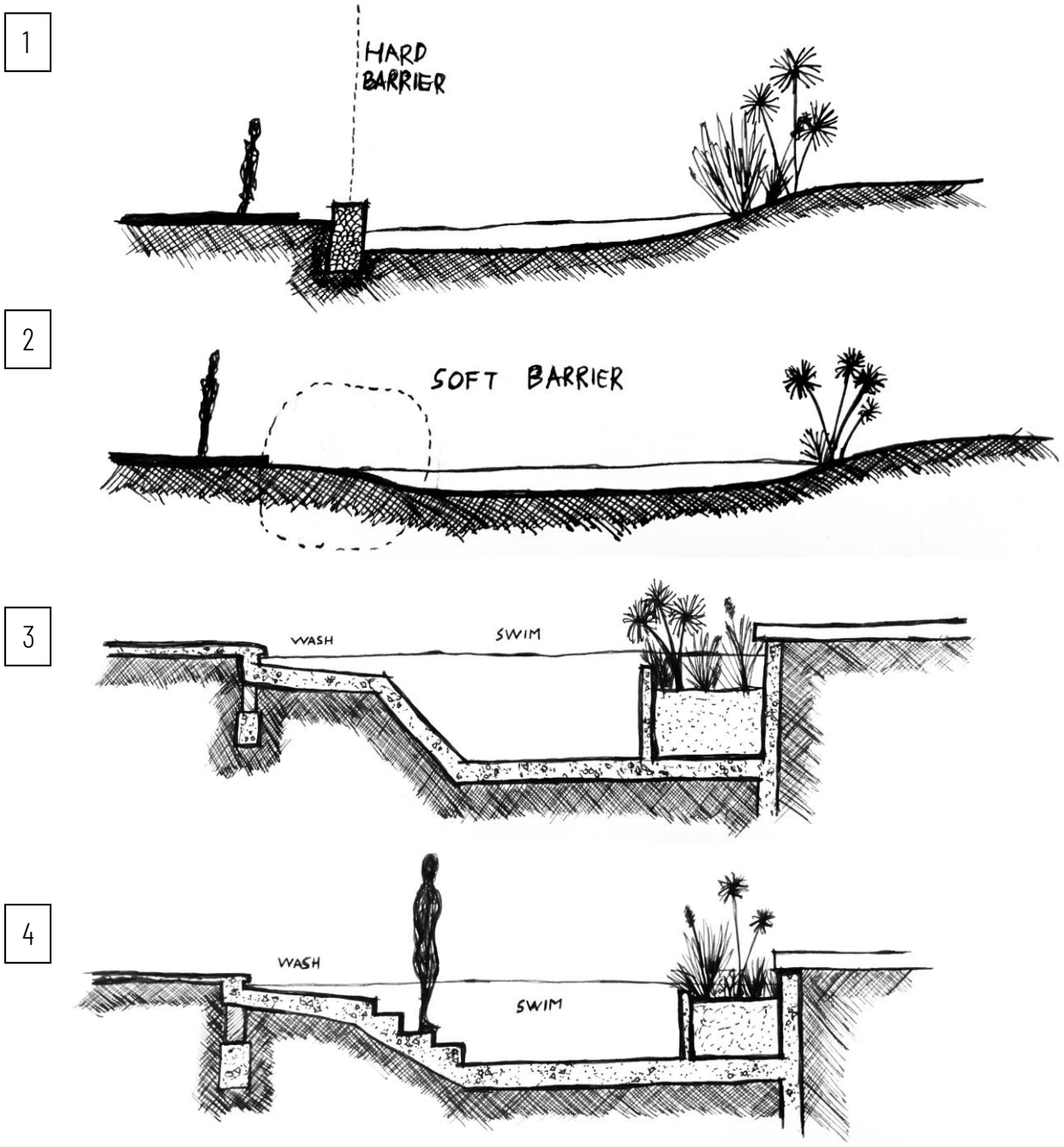


Figure 86 – Eco pool design development (author, 2020).

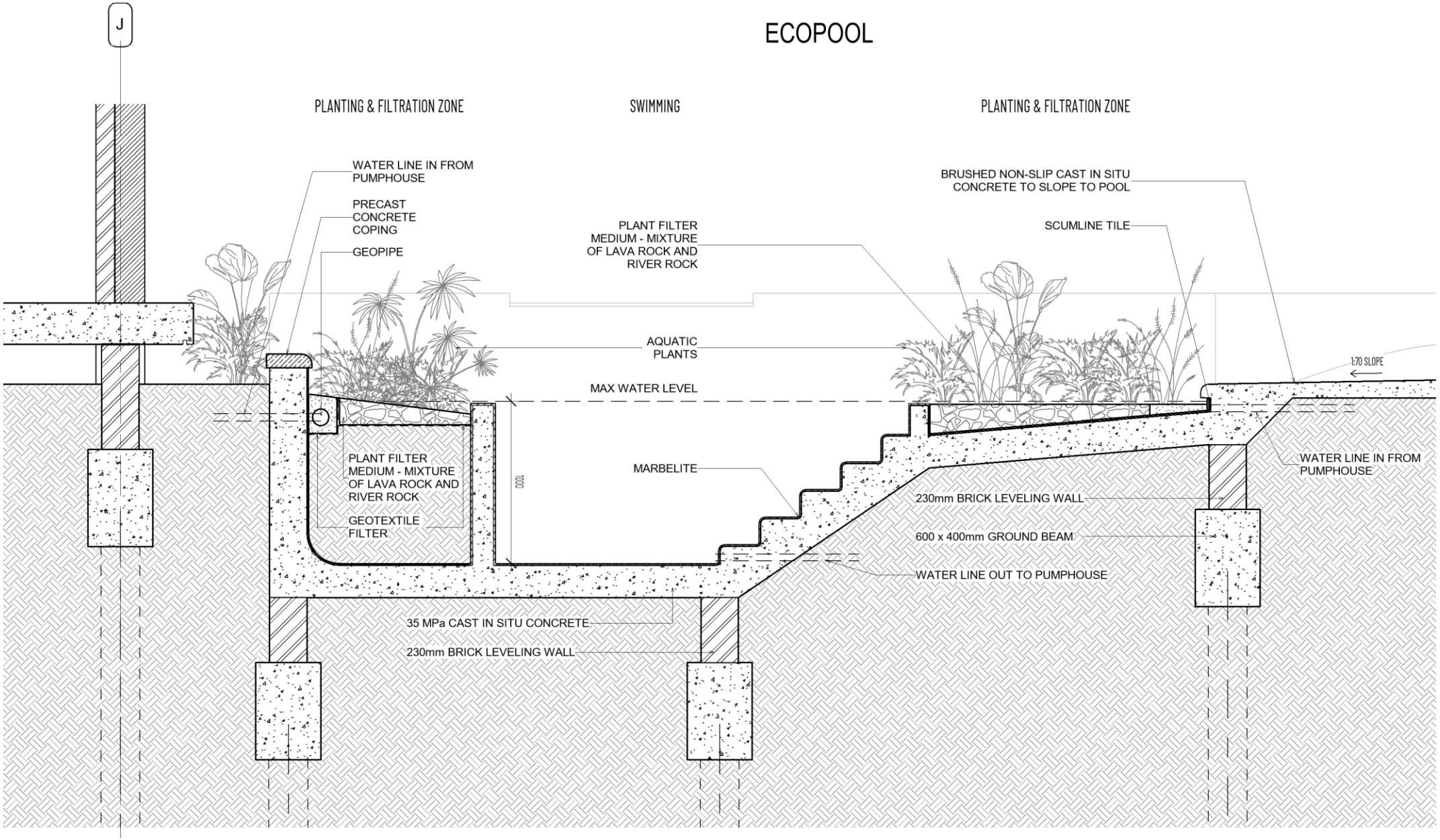


Figure 87 - Ecopool section showing aquatic planting filtration zones (author, 2020).

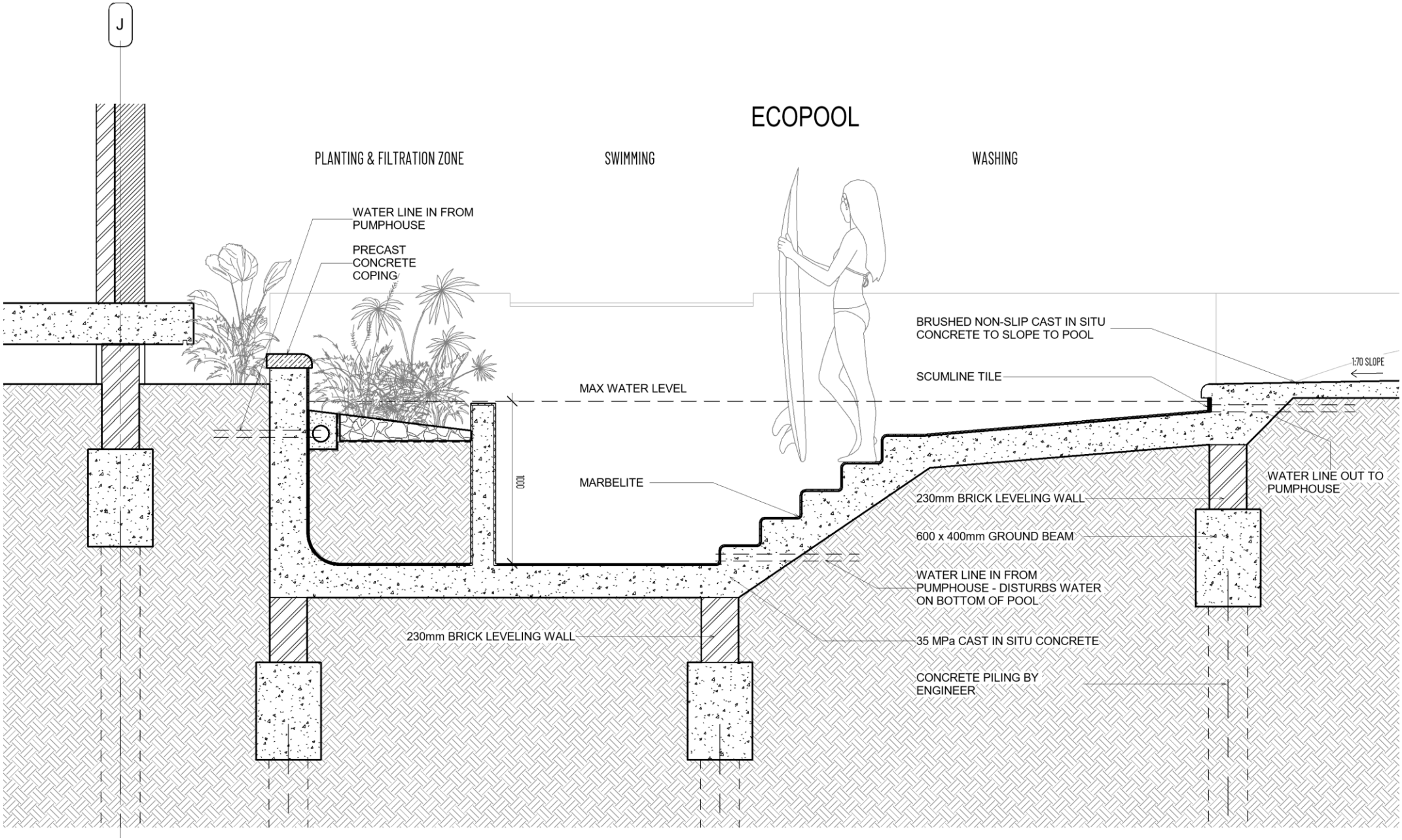


Figure 88 - Ecopool section showing its swimming and washing zones (author, 2020).

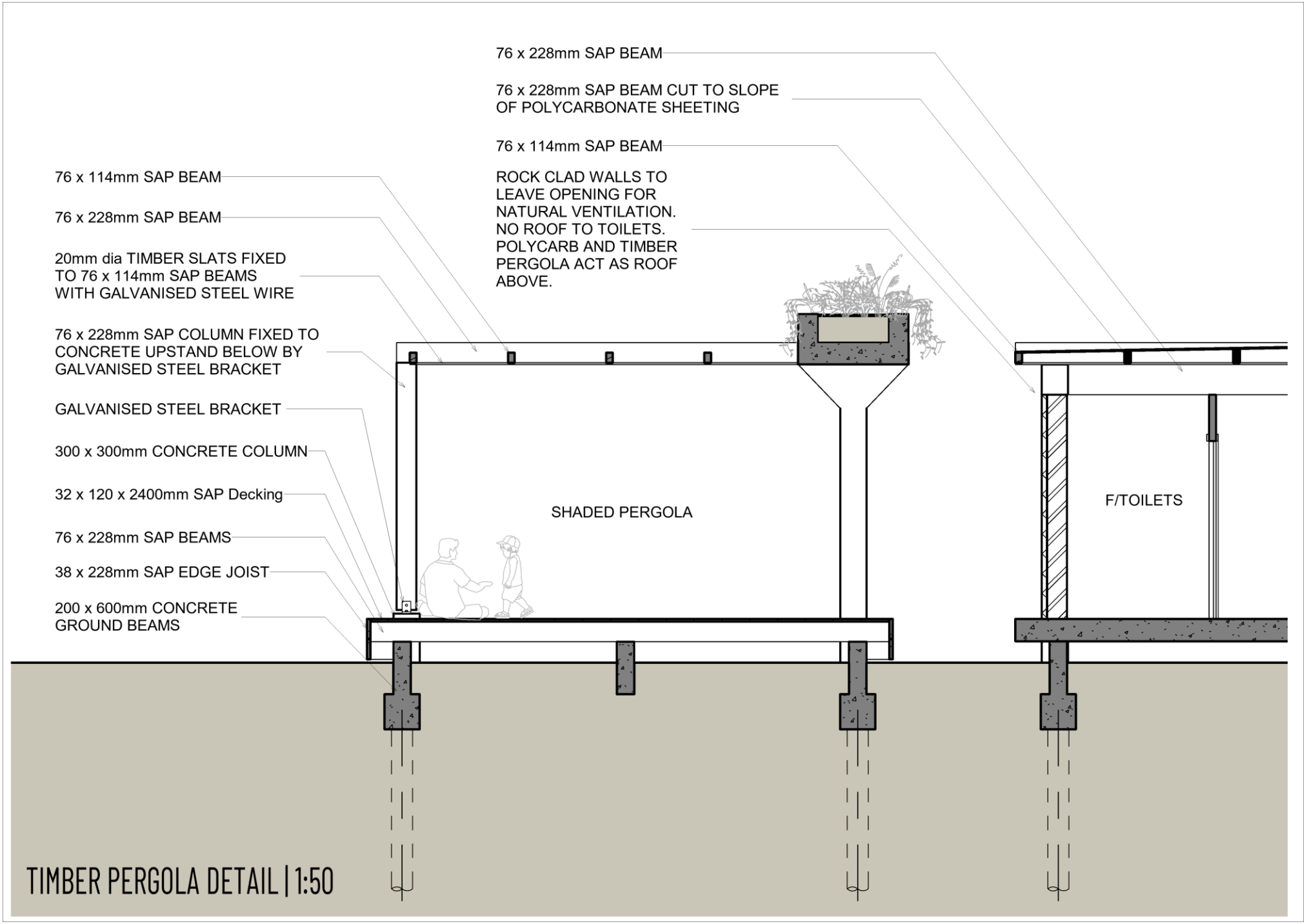


Figure 89 - Timber pergola detail (author, 2020).

04.3 | DEVELOPMENT OF THE EXHIBITION HALL & OUTDOOR DEMONSTRATION COURTYARD

The development of the exhibition hall started with a single moment during the site visit whereby the site was looked at through the lens of an archaeologist. A local car guard had appropriated the shade underneath an existing tree looking onto the existing car park on site. The user of this space had moved a log to create a seat in the tree's shade, and had thereby created 'place' - the interaction between man, nature and 'building' had been created, and this interaction is directly experienced by the user. The phenomena of this interaction was deemed sacred to the site. The building attempts to reveal this place by creating stepped concrete retaining wall seating along the existing slope of the site underneath the tree, so that many more can experience its shade and this place. The building shields the tree and courtyard from coastal winds, and creates a peaceful, cool place where people can sit in the shade and escape the harsh sun after a day at the beach.

Figure 90 - The car guard sitting underneath the existing tree looking onto the car park (author, 2020).

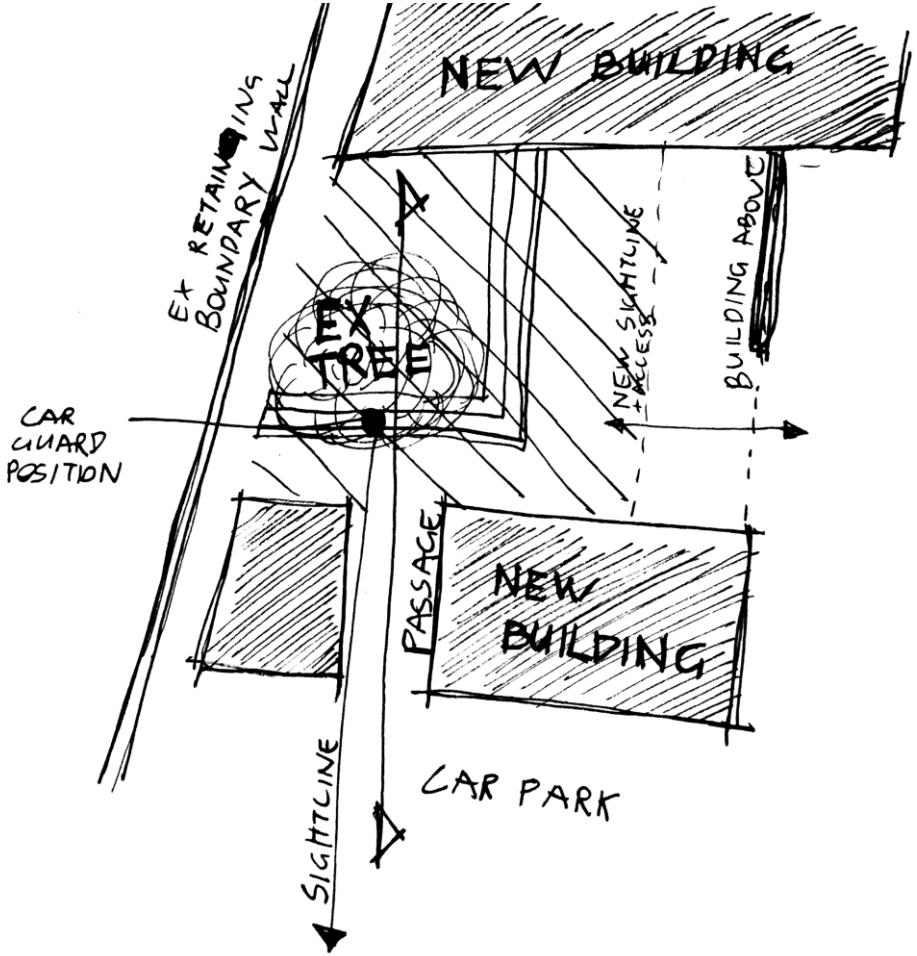


Figure 93 – Process sketch showing the courtyard and passage created around the existing tree (author, 2020).

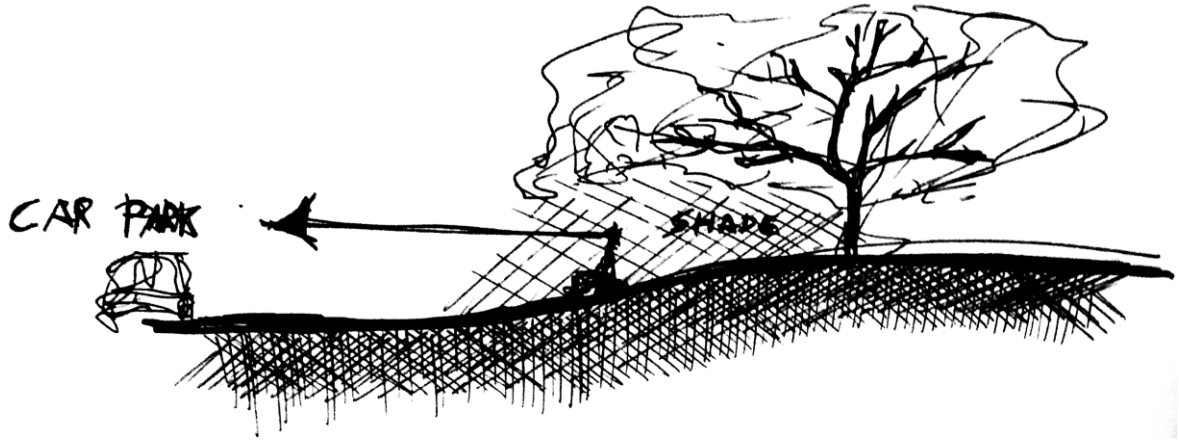


Figure 92 - Section showing the original relationship between the car guard, tree and car park (author, 2020).

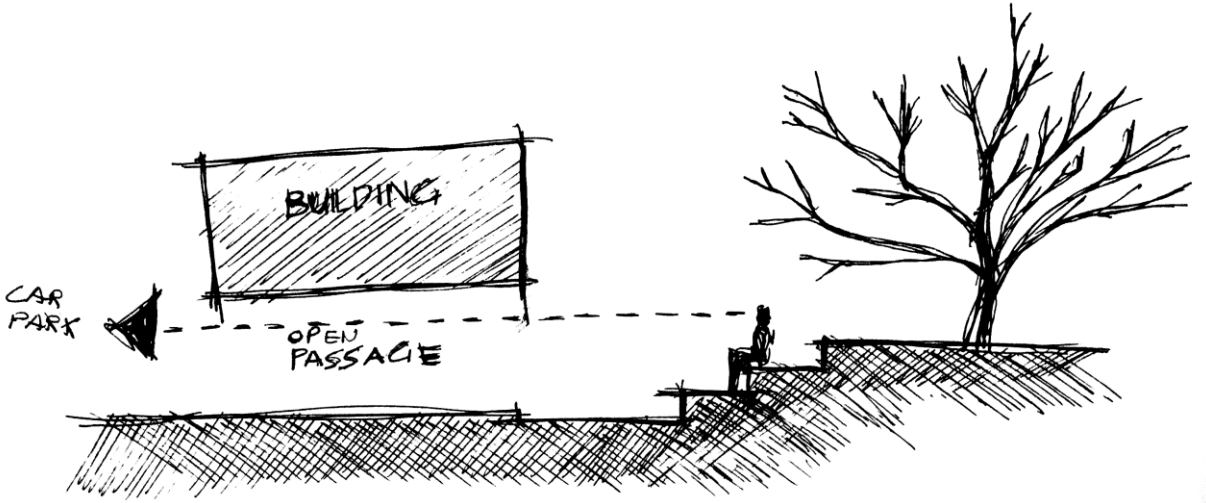


Figure 91 - Section showing the inherited relationship between the user, tree and car park (author, 2020).

Figure 94 - Perspective from the car park showing the passage linking the original sightline of the car guard to the car park. The stepped concrete seating is visible and the end of the passage (author, 2020).

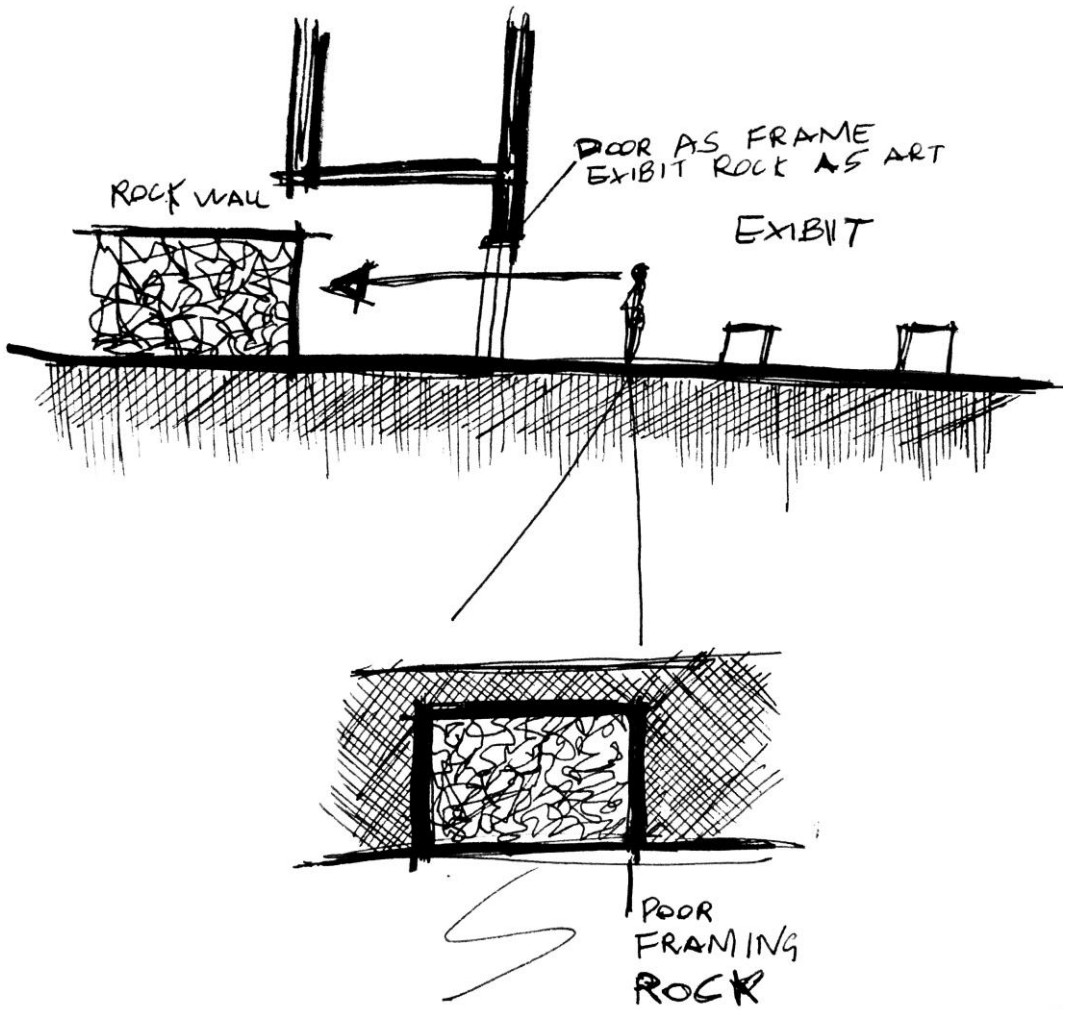


Figure 96 - Framing the exterior rock wall with the glass door of the interior exhibit facing the public toilets (author, 2020).

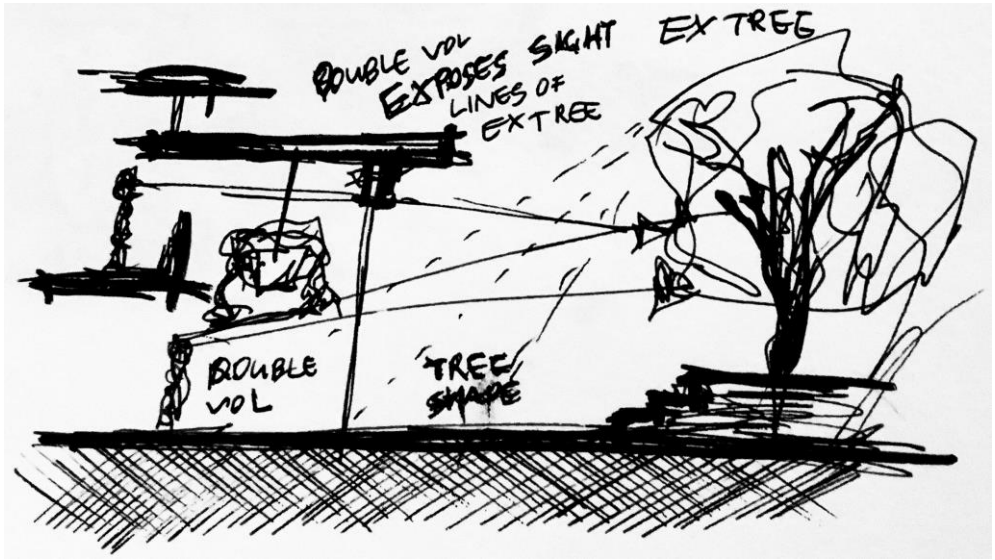


Figure 95 - Double volume exhibition space a reflection of the double volume 'place' beneath the tree. The double volume allows sightlines of the courtyard from both the ground and first floor levels (author, 2020).

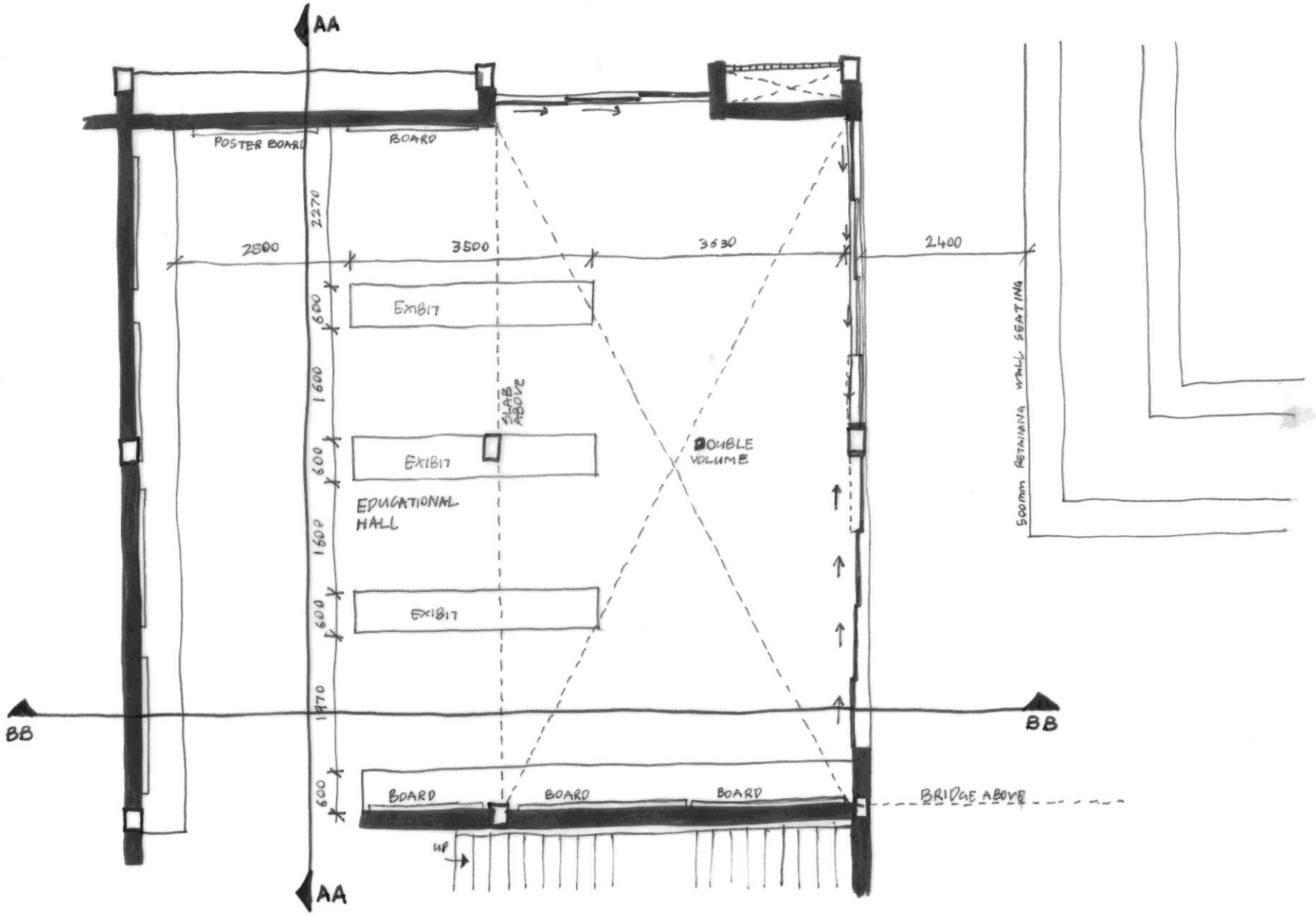


Figure 97 - Floor plan of the double volume educational hall and exhibition space (author, 2020).

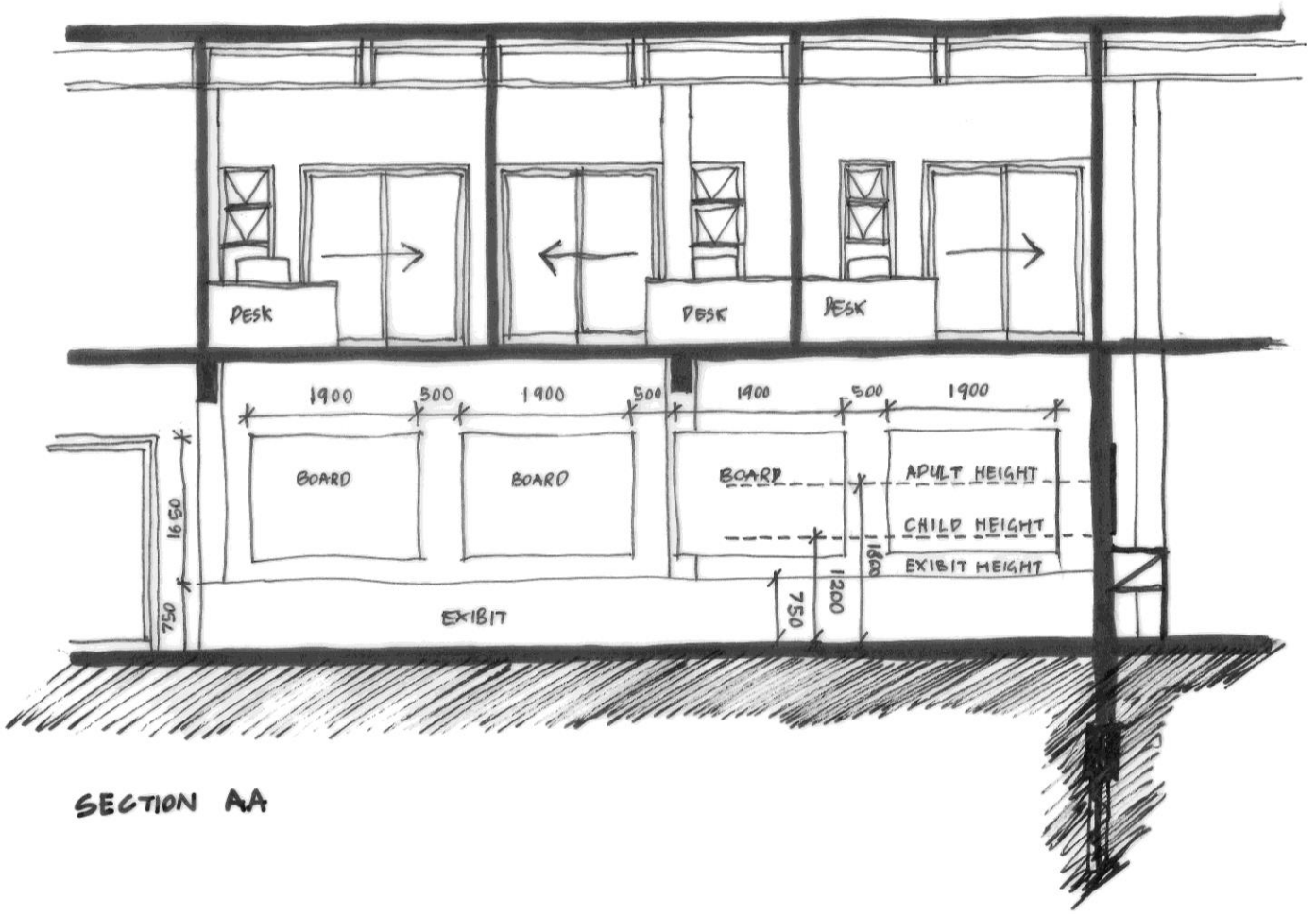


Figure 98 - Section of the educational hall and exhibition space with the sharks board and lifesaver offices above (author, 2020).

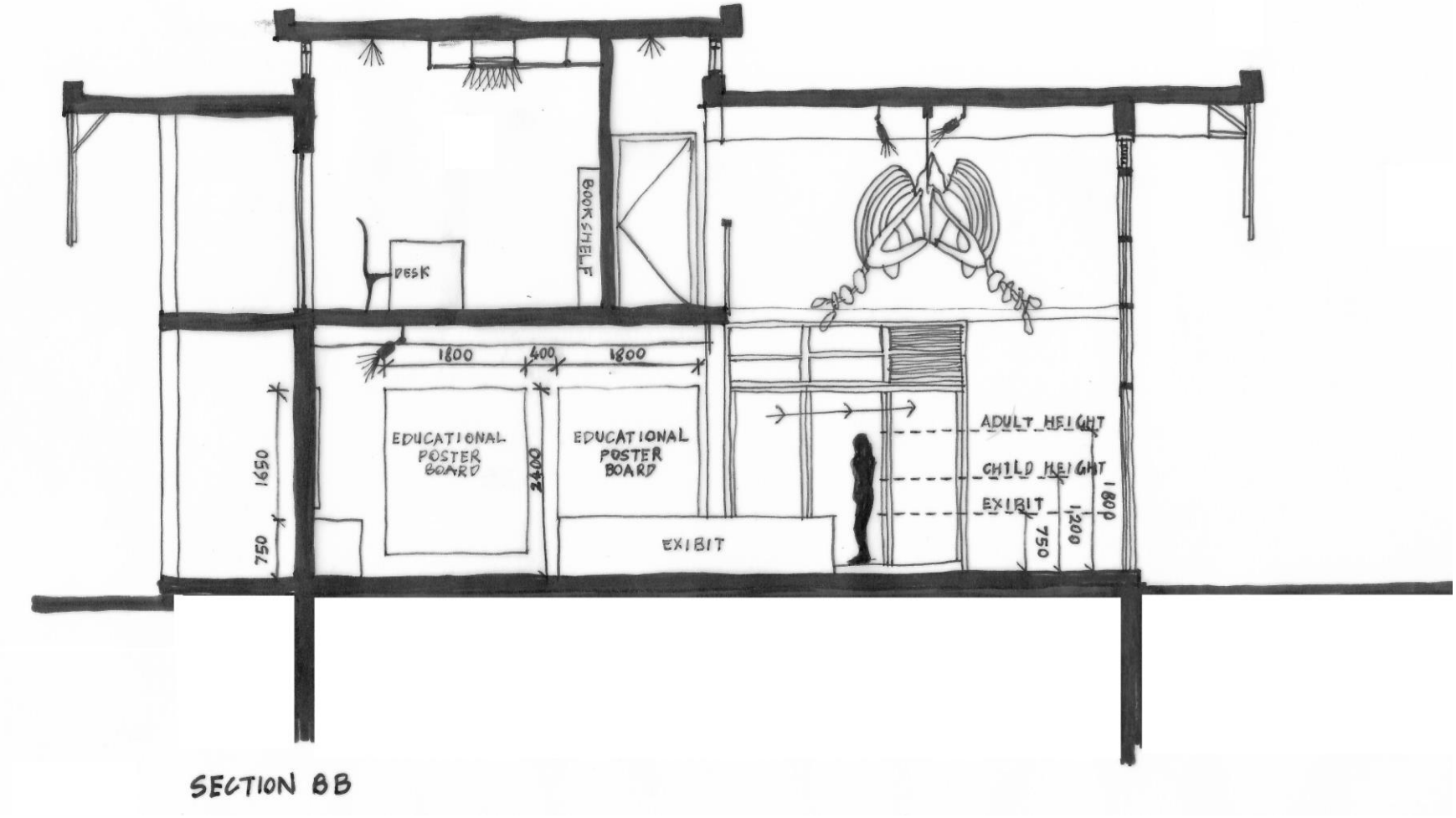


Figure 99 - Section of the double volume educational hall and exhibition space with the sharks board and lifesaver offices above (author, 2020).

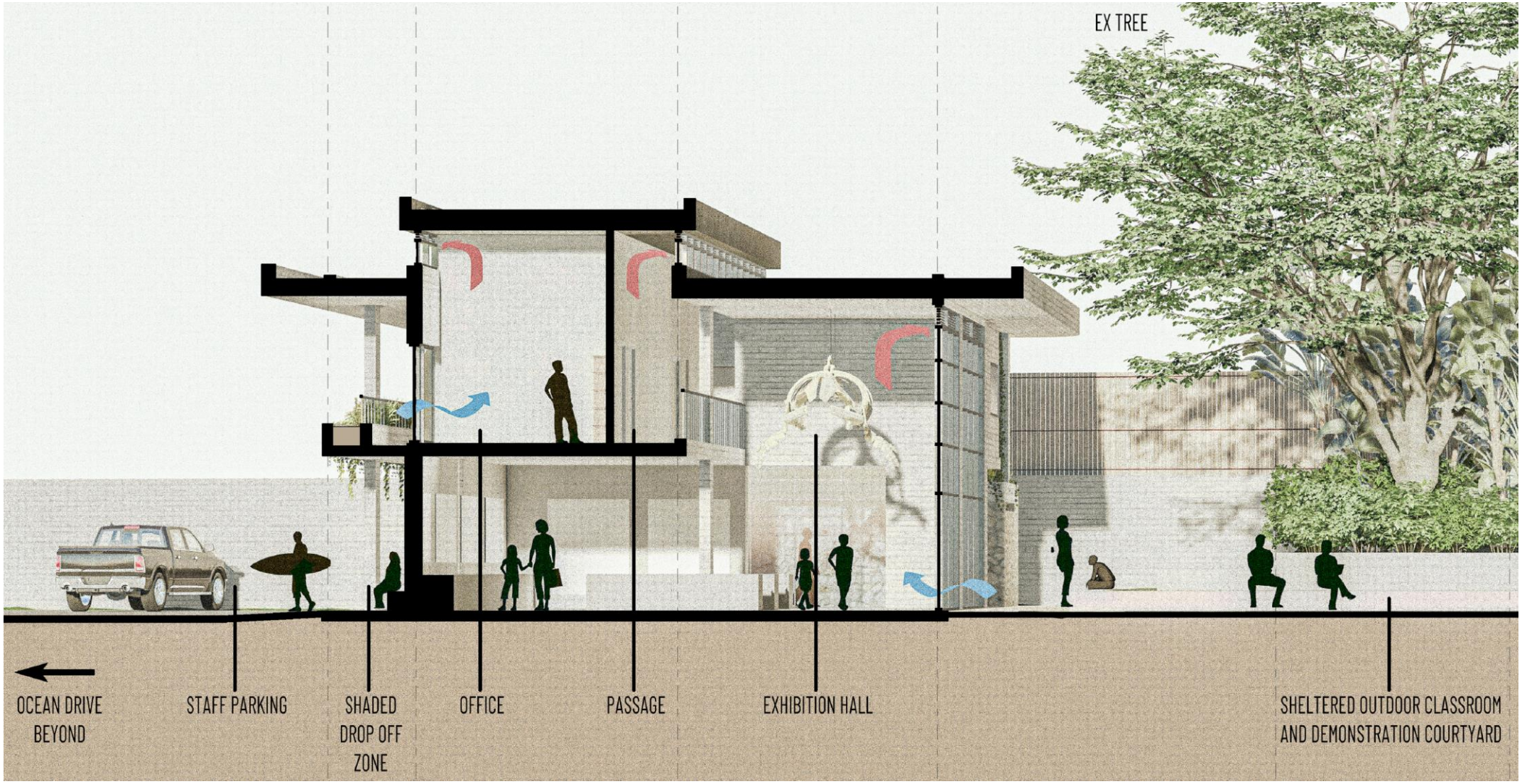


Figure 100 - Section through the double volume exhibition space showing the passage and an office above (author, 2020).

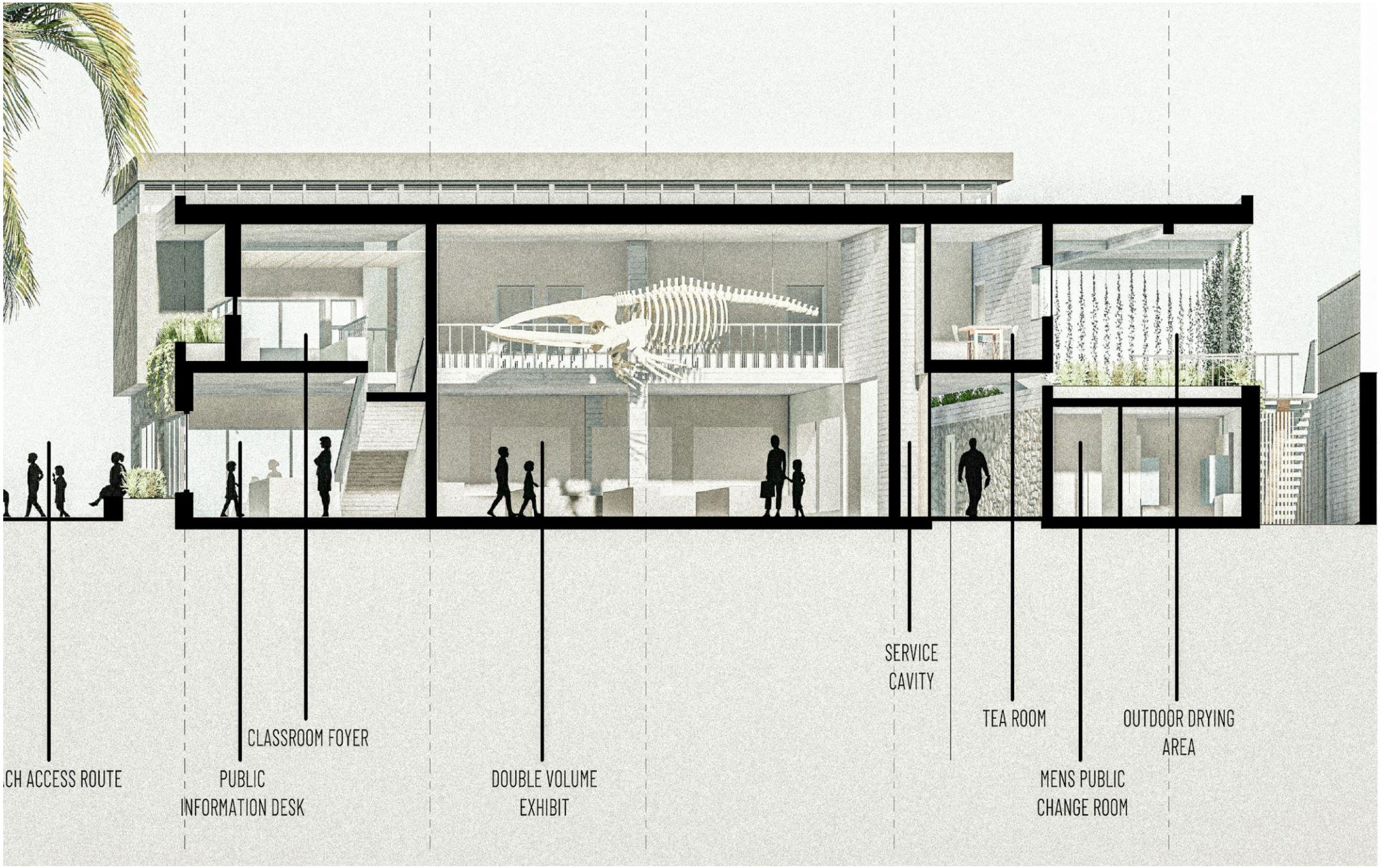


Figure 101 - - Section through the double volume exhibition space (author, 2020)

04.5 | DEVELOPMENT OF THE VIEWING DECK

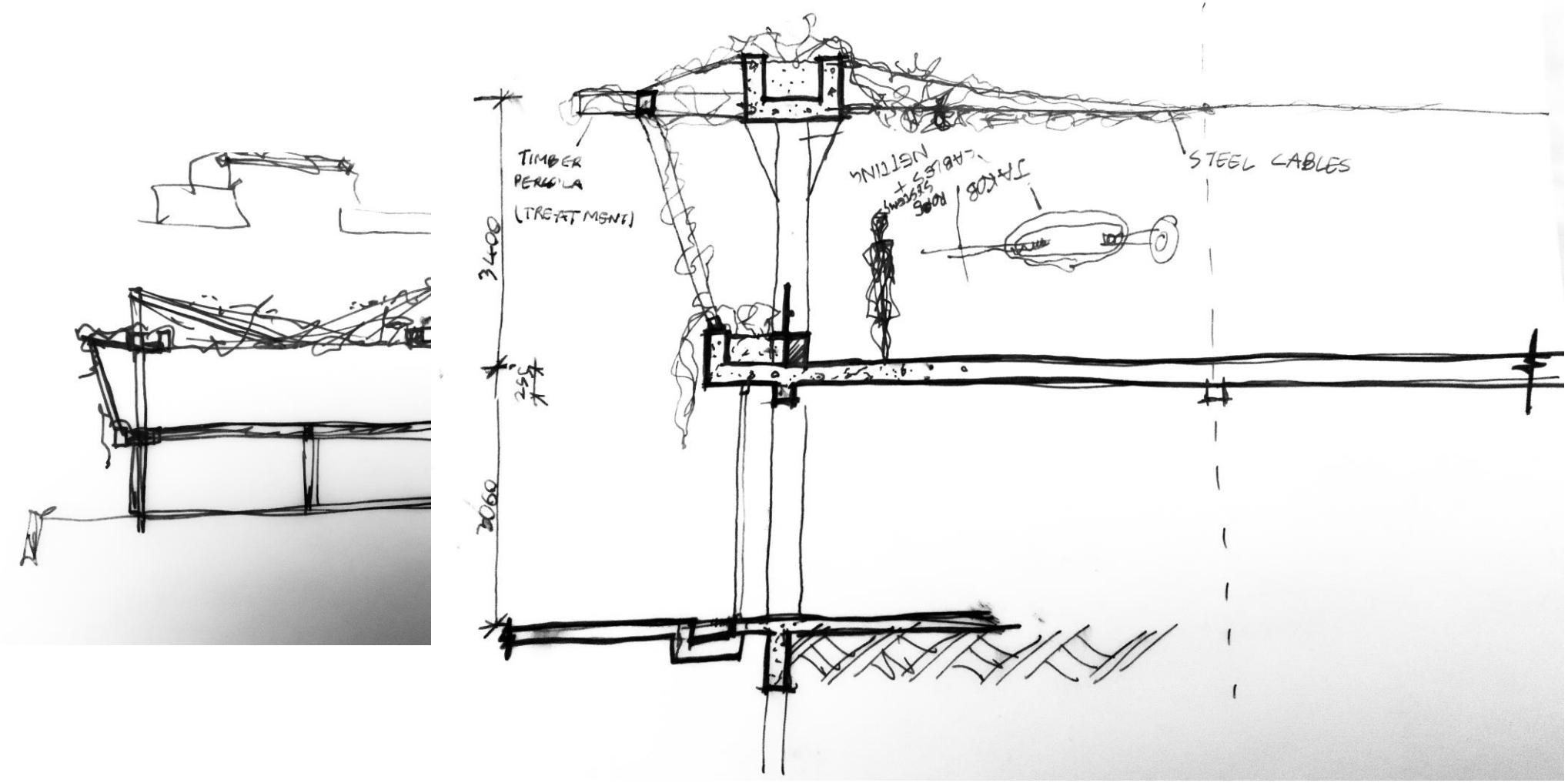


Figure 102 - Suspending the creepers above the viewing deck with galvanised steel wire reduces the load and allows for a 10m span of cover (author, 2020).

Figure 103 - Images of the Mondia whitea pergola at the Durban Botanical Gardens (author, 2020).

A Mondia whitea pergola at the Durban botanical gardens. The plant is known to grow up to 30-40cm every three to four days. It offers a dense shade and aesthetically pleasing sculptural developed stems and vines. Once formed the plant helps support itself. They are known to live for extended periods of time and are a hardy plant.

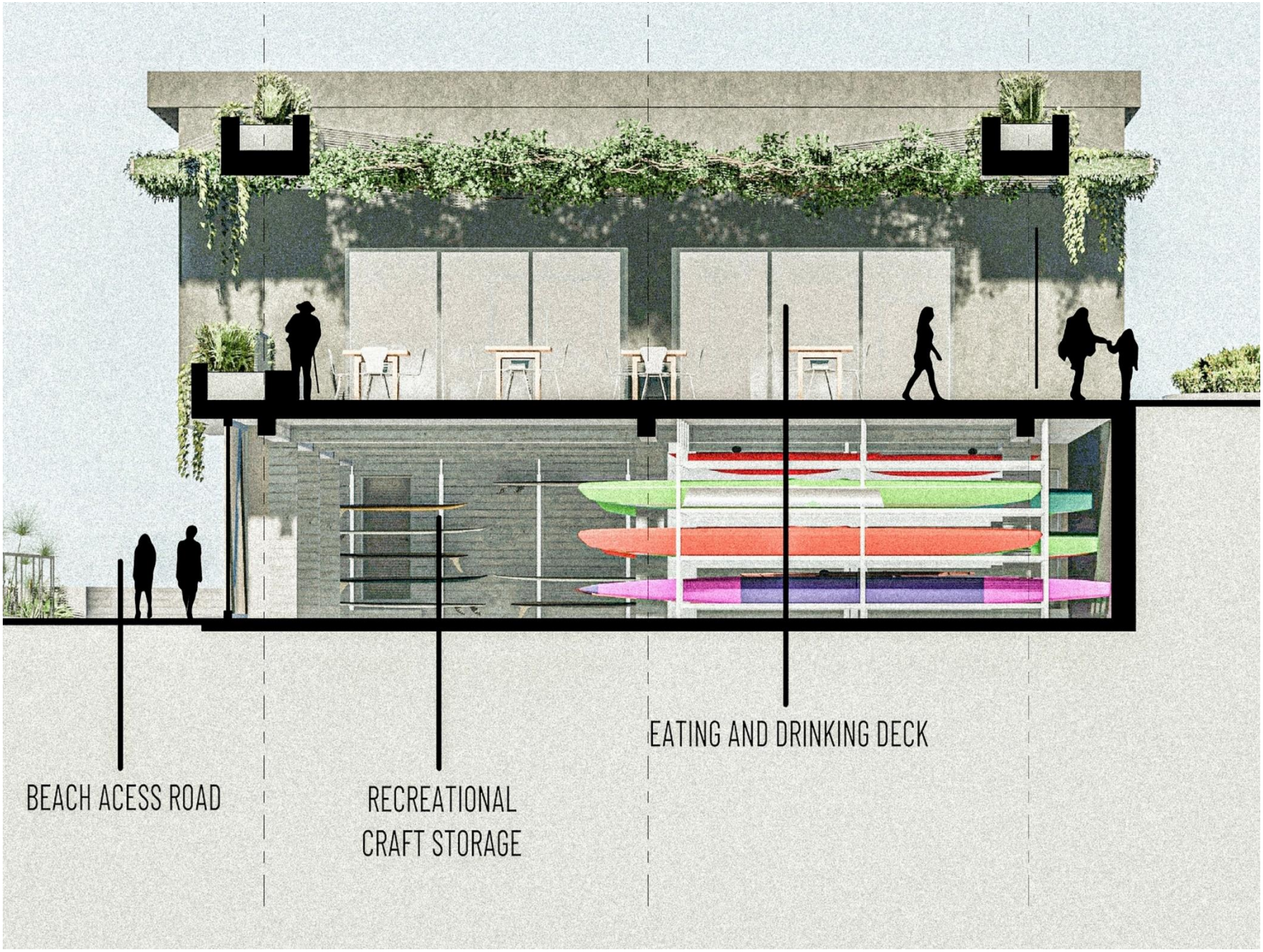
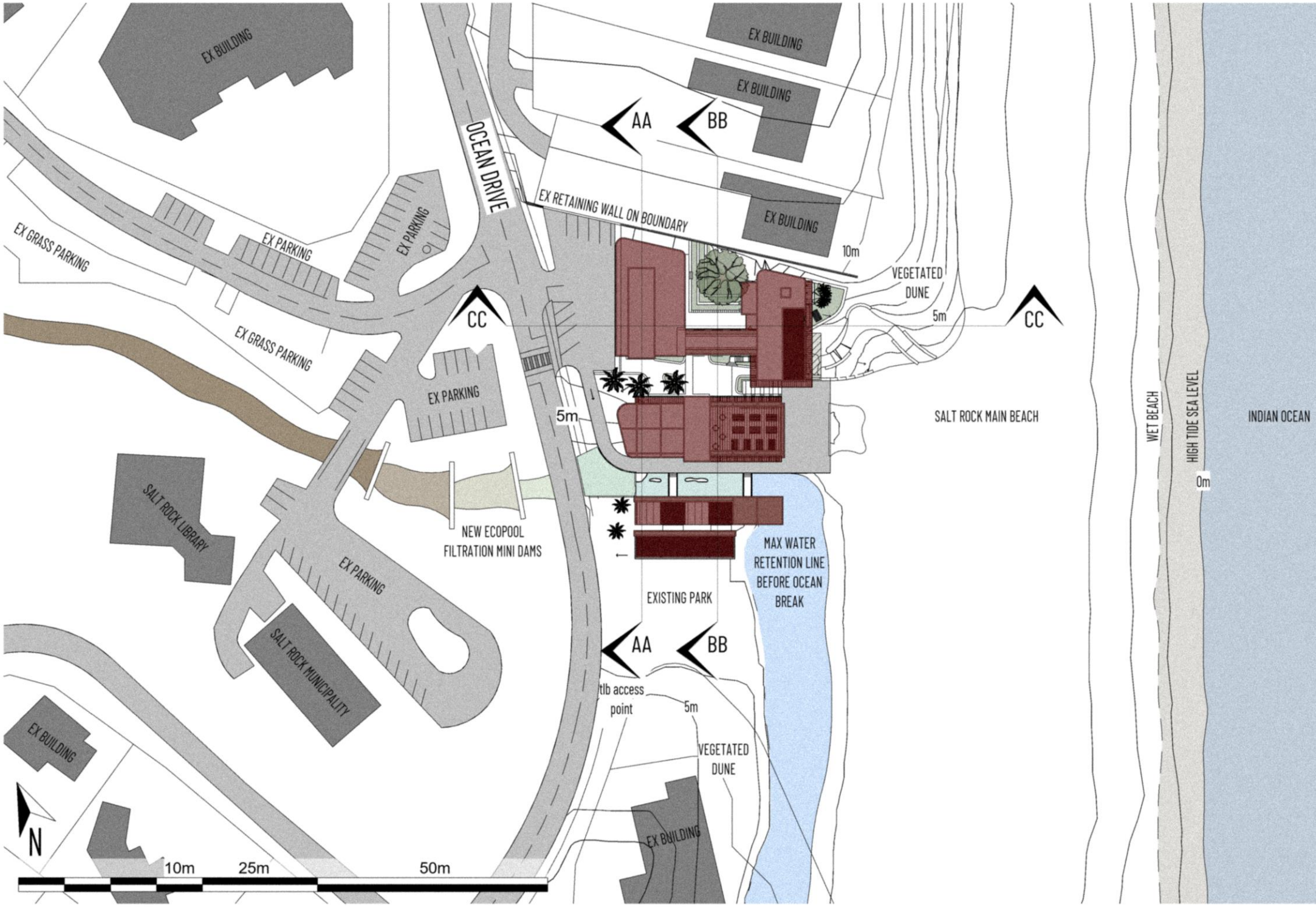


Figure 104 – Section showing the viewing deck with the recreational craft storage below (author, 2020)

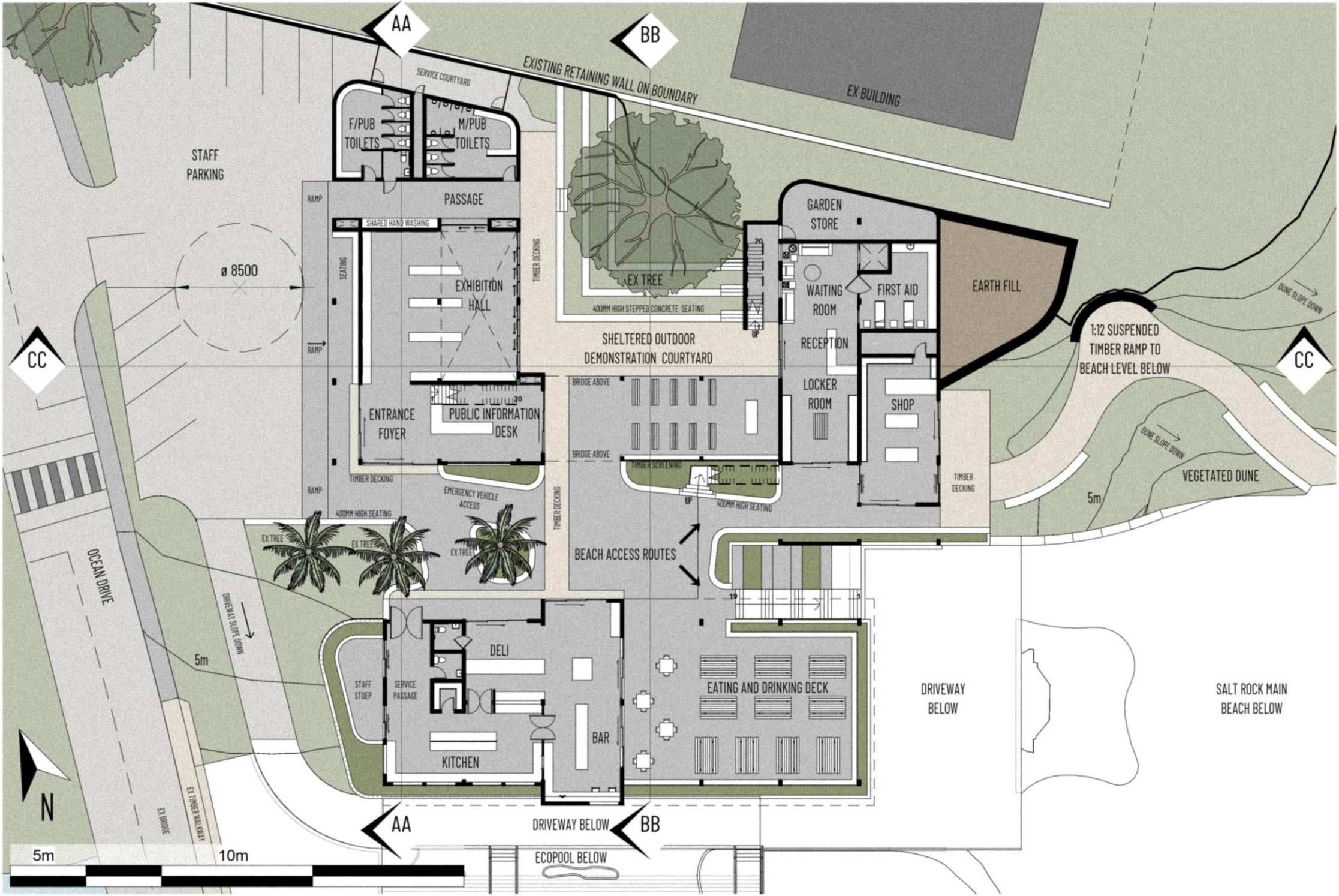
05 | TOWARDS A FINAL DESIGN

Figure 105 - Aerial perspective from the beach side showing the final design sitting within its context (author, 2020).



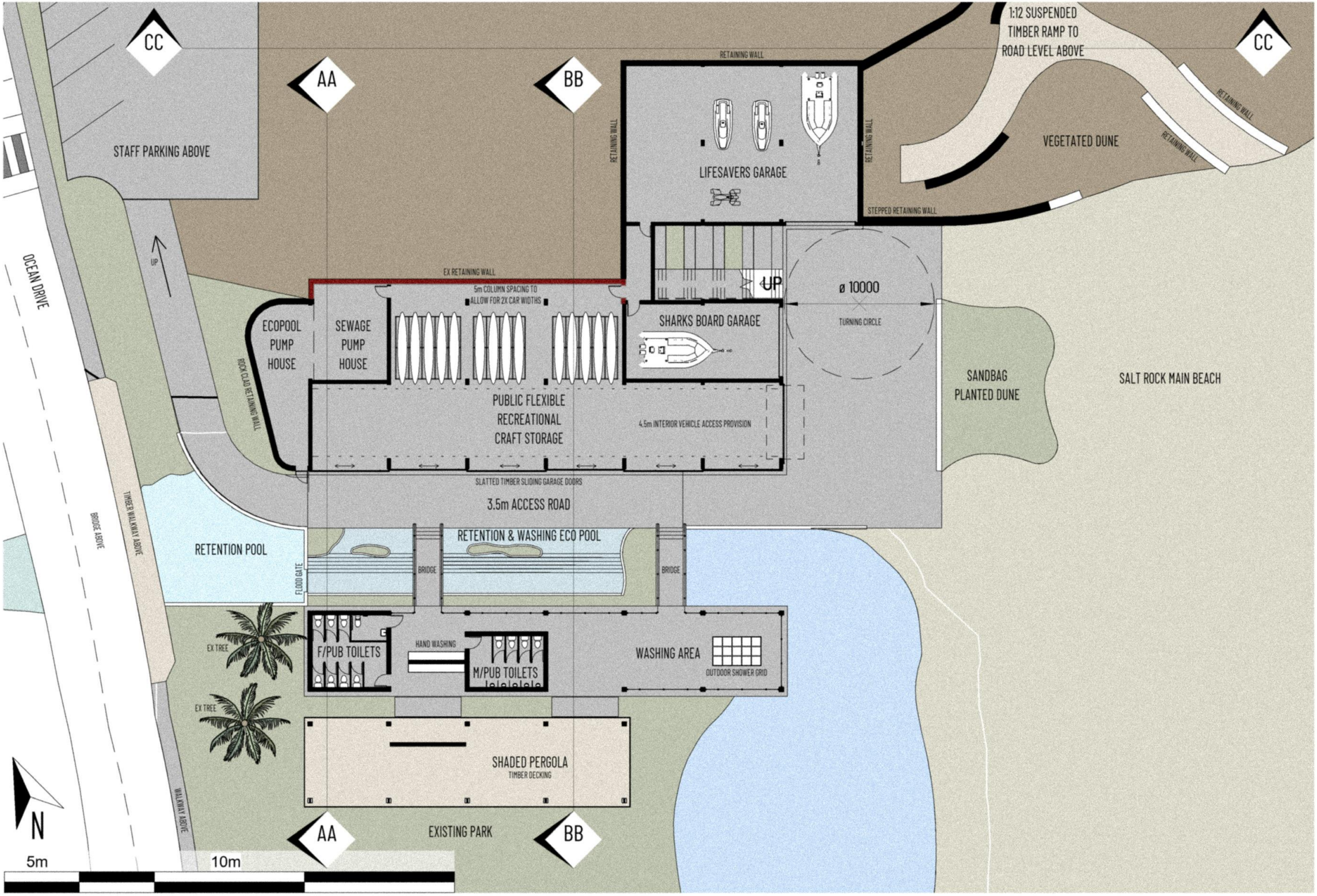
SITE PLAN

Figure 106 - Site Plan (author, 2020).



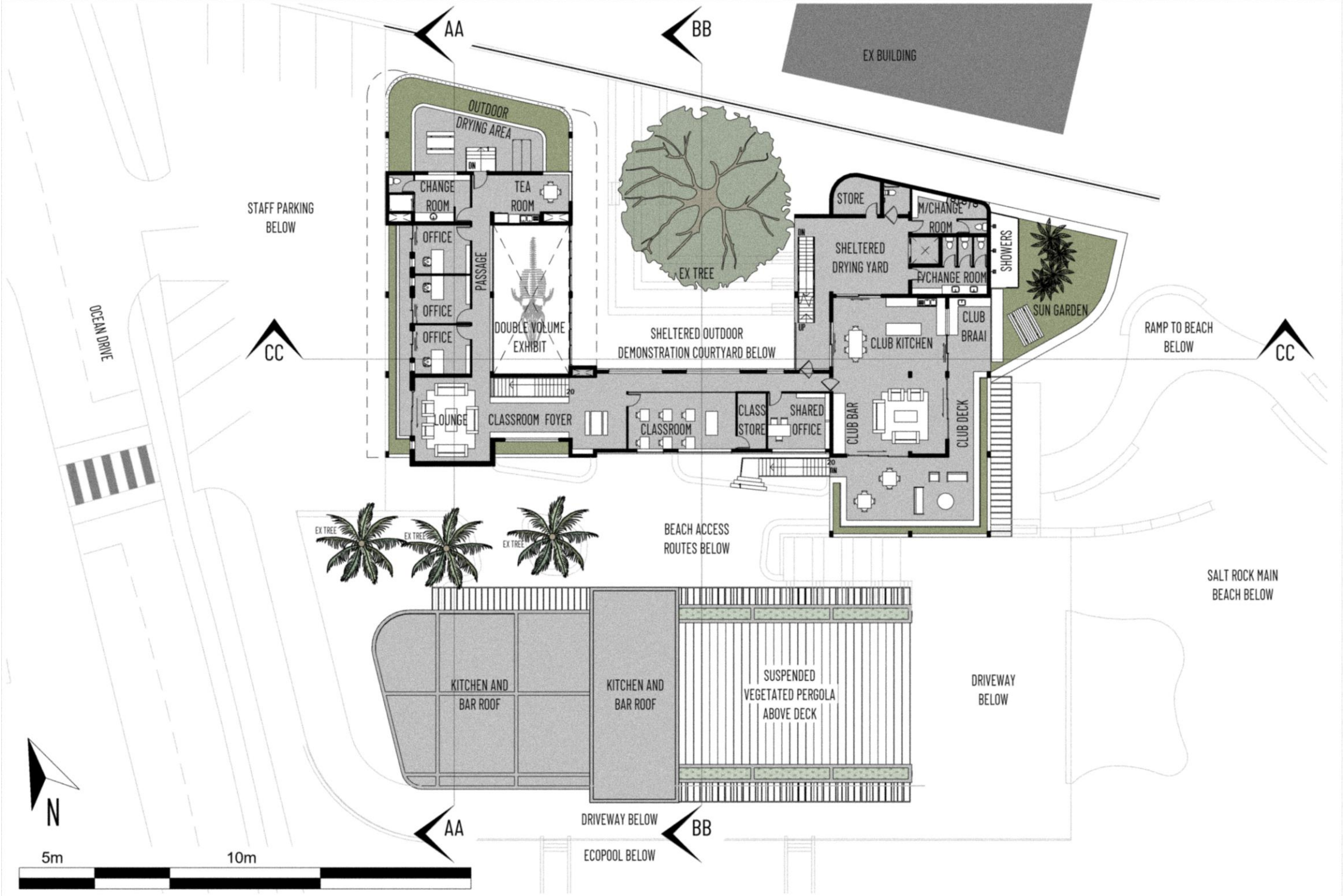
GROUND/ROAD FLOOR LEVEL

Figure 107 - Ground Floor Level Plan (author, 2020).



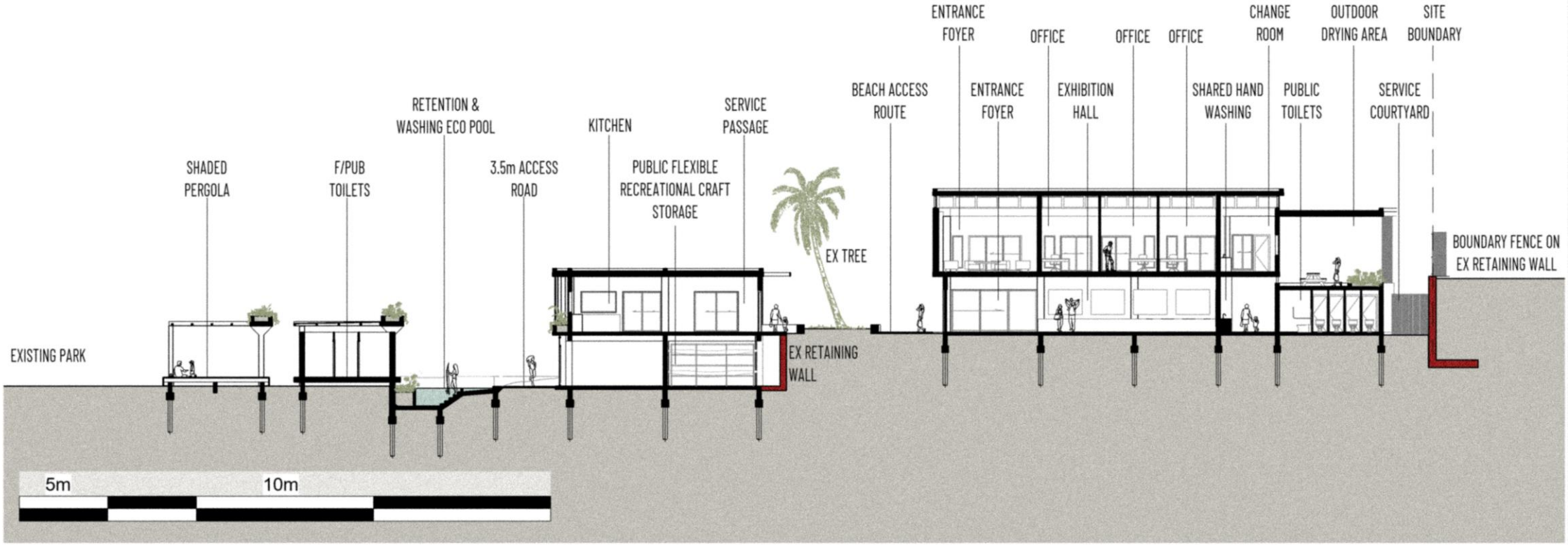
BASEMENT/BEACH FLOOR LEVEL

Figure 108 - Basement Level Floor Plan (author, 2020).



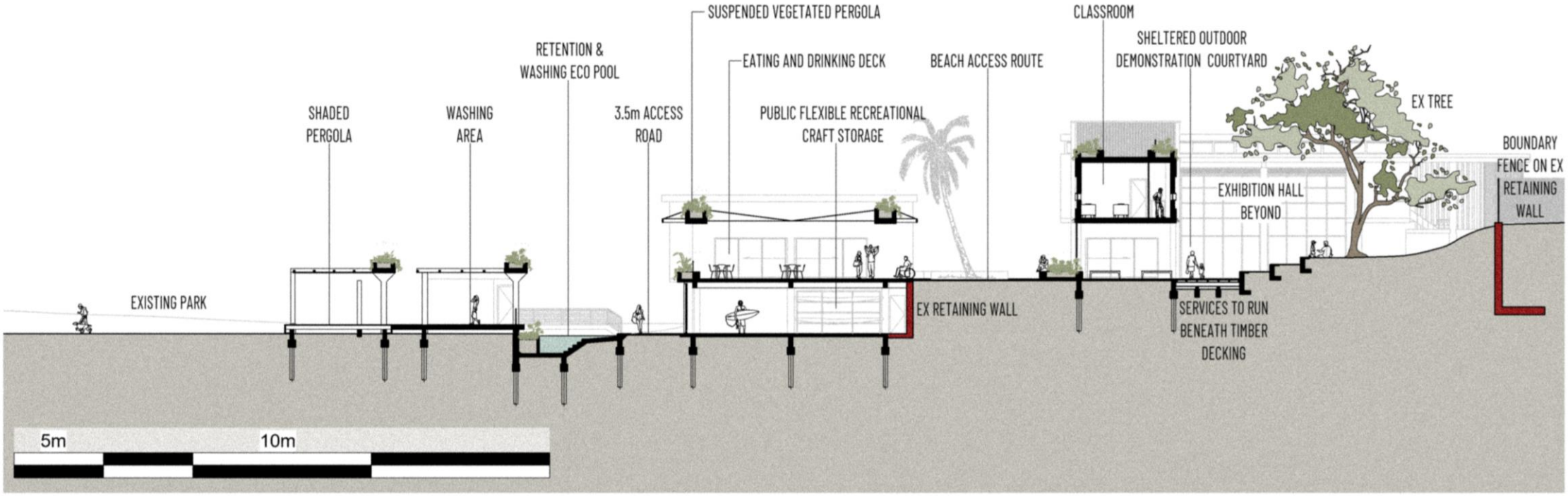
FIRST FLOOR LEVEL

Figure 109 - First Floor Level Plan (author, 2020).



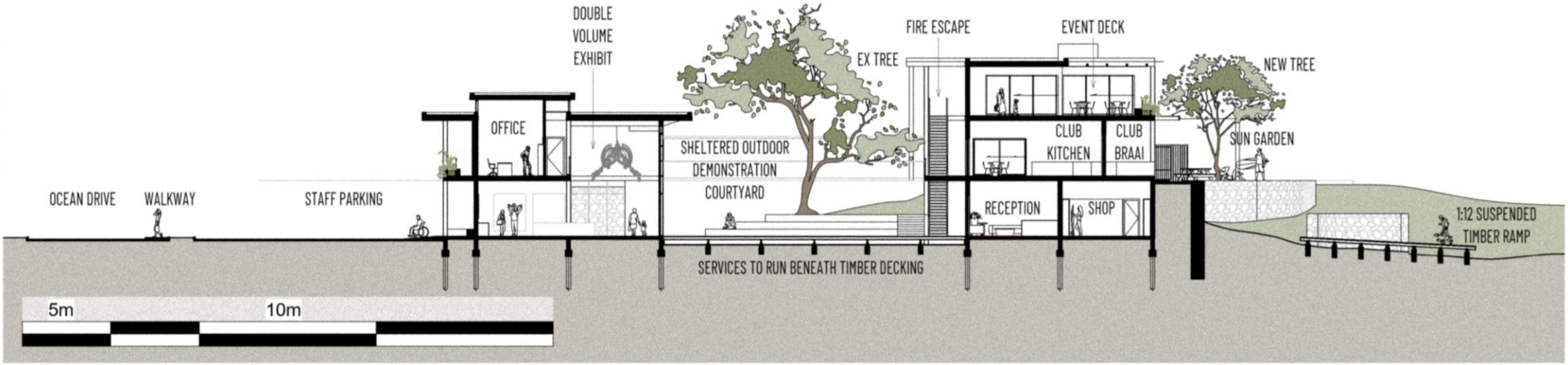
SECTION AA

Figure 110 - Section AA (author, 2020).

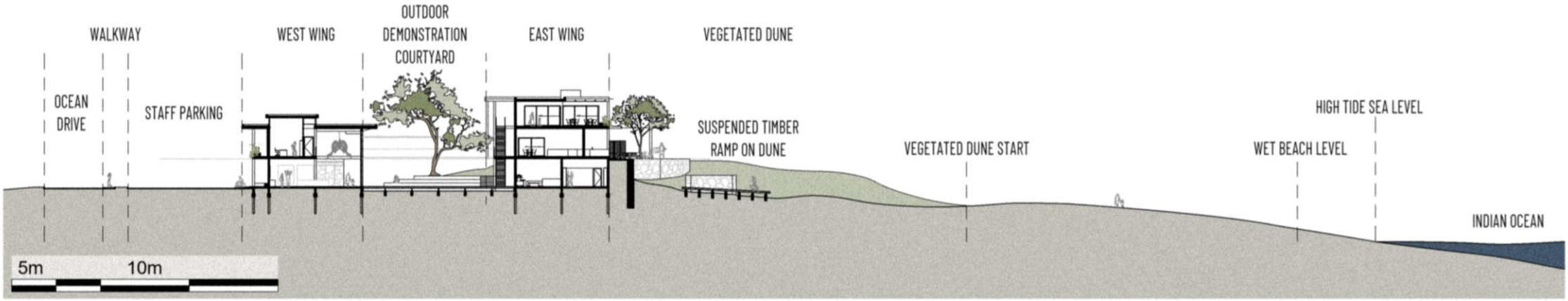


SECTION BB

Figure 111 - Section BB (author, 2020).



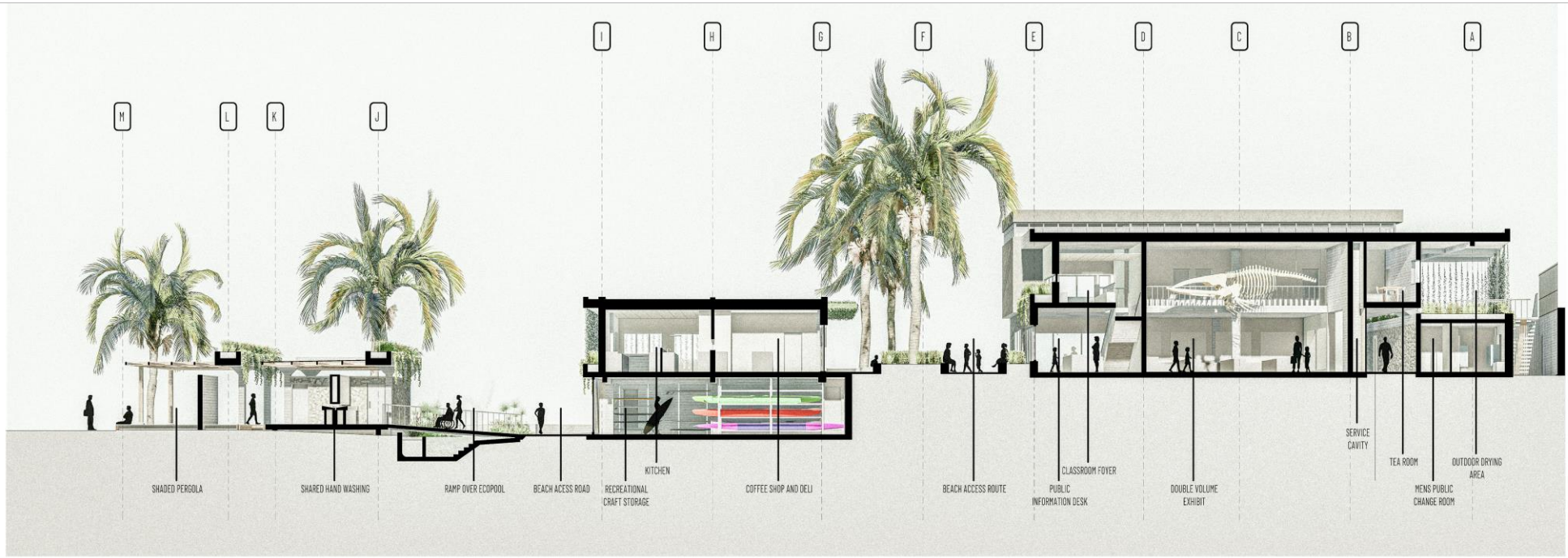
SECTION CC

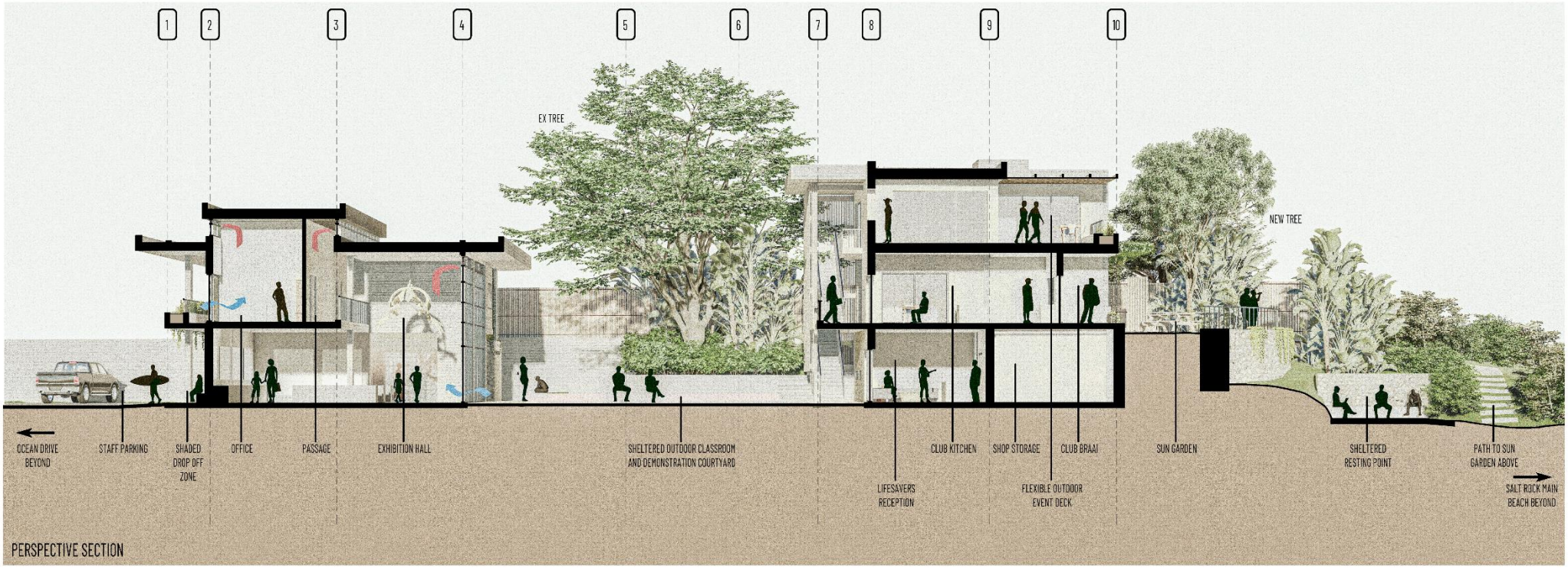


SECTION CC - SITE & CONTEXT

Figure 112 - Section CC - Site and context (author, 2020).

PERSPECTIVE SECTION

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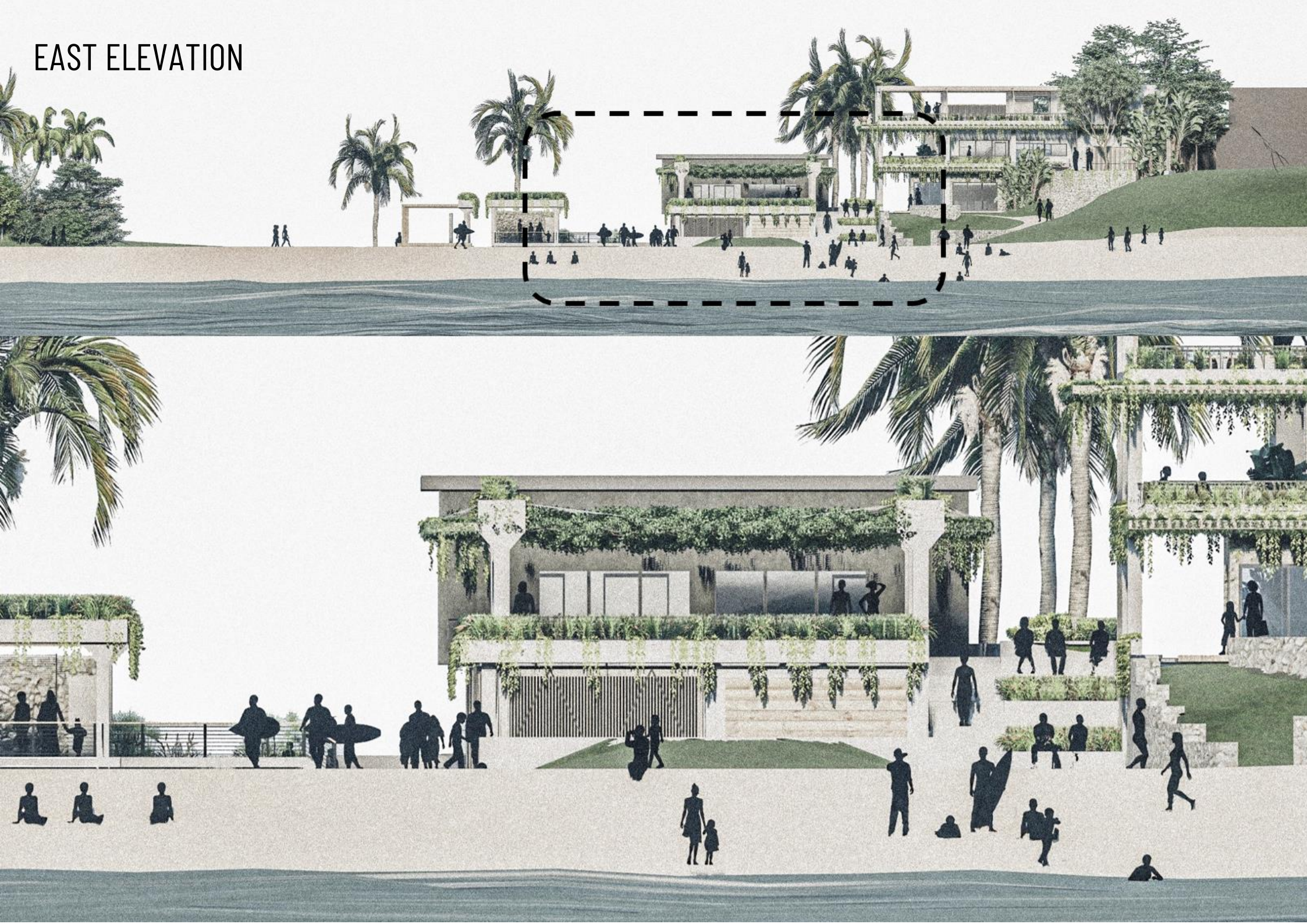
EX TREE
NEW TREE
OCEAN DRIVE BEYOND
STAFF PARKING
SHADED DROP OFF ZONE
OFFICE
PASSAGE
EXHIBITION HALL
SHELTERED OUTDOOR CLASSROOM AND DEMONSTRATION COURTYARD
LIFESAVERS RECEPTION
CLUB KITCHEN
SHOP STORAGE
FLEXIBLE OUTDOOR EVENT DECK
CLUB BRAAI
SUN GARDEN
SHELTERED RESTING POINT
PATH TO SUN GARDEN ABOVE
SALT ROCK MAIN BEACH BEYOND
PERSPECTIVE SECTION

EAST ELEVATION



WEST ELEVATION

Figure 118 - Perspective of the building viewed from the Salt Rock Main Beach (author, 2020).

Figure 119 - Perspective showing the building viewed from the staff parking lot and Ocean Drive (author, 2020).

Figure 120 - Perspective from the road level beach access route (author, 2020).

Figure 121 - Perspective from the road level beach access route showing the bridge above the sheltered outdoor demonstration courtyard (author, 2020).

Figure 122 - Perspective showing the sheltered outdoor demonstration courtyard looking towards the double volume exhibition hall (author, 2020).

Figure 123 - Perspective showing the eating and drinking deck looking onto the sea, with the suspended vegetated pergola creating shade from above (author, 2020).

Figure 124 - Perspective along the access road on beach level showing the approach towards Salt Rock Main Beach (author, 2020).

Figure 125 - Aerial perspective of the eco pool and access road (author, 2020).

Figure 126 - Perspective of the flexible public craft storage area looking through the sliding garage doors towards the eco pool (author, 2020).

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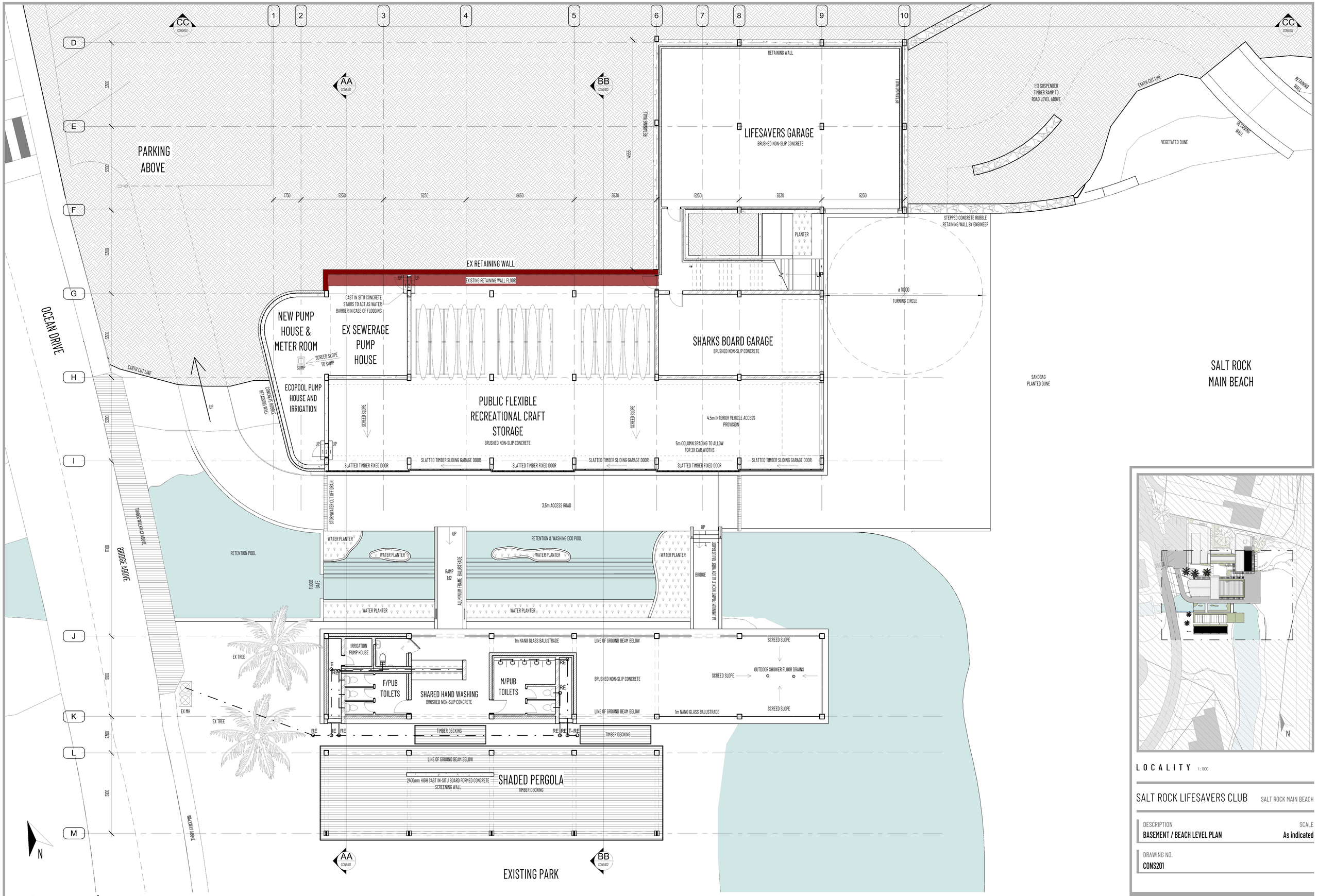


BASEMENT | BEACH LEVEL 1:100

LOCALITY 1: 1000

SALT ROCK LIFESAVERS CLUB — SALT ROCK MAIN BEACH

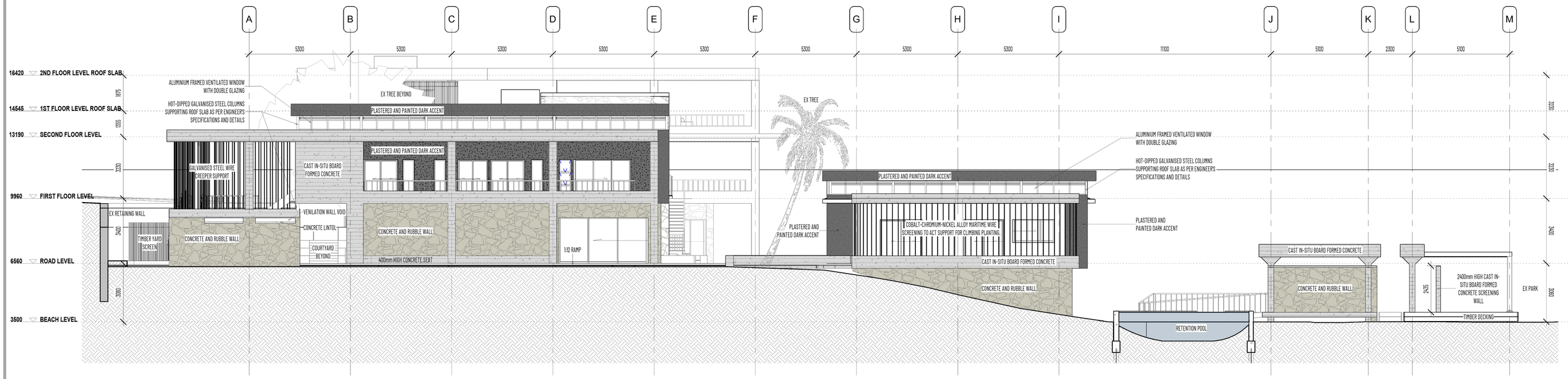
DESCRIPTION: BASEMENT / BEACH LEVEL PLAN

SCALE: As indicated

DRAWING NO.: CONS201

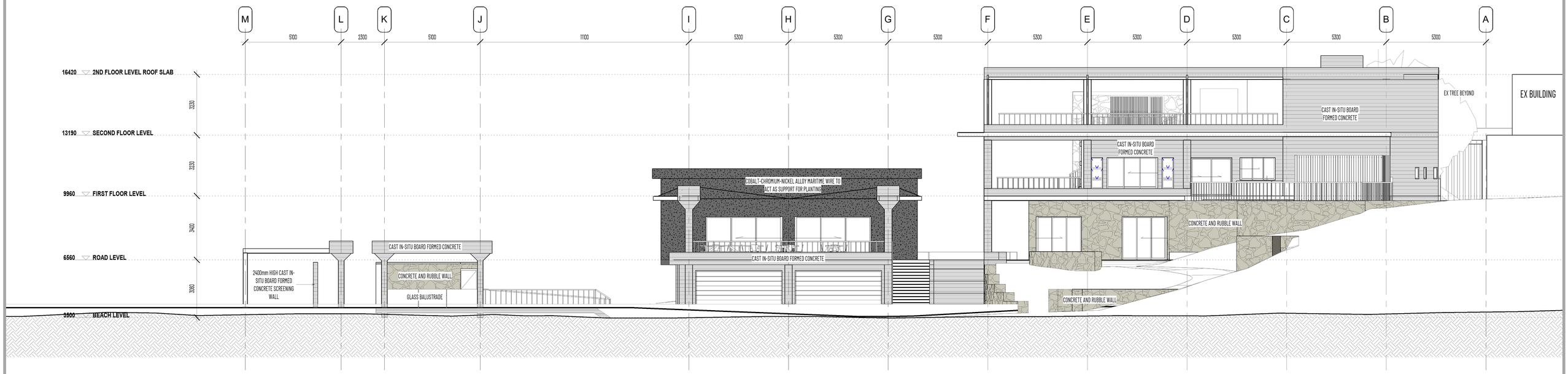
SP ISAACS | 2013051251 — 2020

UNIVERSITY OF THE FREE STATE — M. Arch (Prof)



WEST ELEVATION

2 | scale 1 : 100



EAST ELEVATION

1 | scale 1 : 100

SALT ROCK LIFESAVERS CLUB — SALT ROCK MAIN BEACH

DESCRIPTION: ELEVATIONS
SCALE: 1 : 100

DRAWING NO.: CONS300

SP ISAACS | 2013051251 — 2020

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EX BUILDING

STAFF PARKING BELOW

EX PARKING

OUTDOOR DRYING AREA

CHANGE ROOM

TEA ROOM

OFFICE

OFFICE

OFFICE

PASSAGE

DOUBLE VOLUME EXHIBIT

LINE OF VENTILATION DUCT ABOVE

LOUNGE

CLASSROOM FOYER

SHELTERED OUTDOOR DEMONSTRATION COURTYARD BELOW

TIMBER CLADDING

ALUMINIUM FRAME CURTAIN WALL

CLASSROOM

CLASS STORE

SHARED OFFICE

CLUB BAR

FIRE DOOR

FIRE WALL

TIMBER CLADDING EXTENSION INTO BALUSTRADE

STORE

SEWER LINE BELOW SLAB

M/CHANGE ROOM

SHELTERED DRYING YARD

LIFT

F/CHANGE ROOM

SHOWERS

FR

CLUB KITCHEN

CLUB BRAAI

SUN GARDEN

NEW TREE

PATH TO BEACH

RAMP TO BEACH BELOW

CLUB LOUNGE

CLUB DECK

EX TREE

EX TREE

EX TREE

BEACH ACCESS ROUTES BELOW

SALT ROCK MAIN BEACH BELOW

PRECAST CONCRETE ROOF PAVERS

PRECAST CONCRETE ROOF PAVERS

PRECAST CONCRETE ROOF PAVERS

BAR, DELI AND RECREATIONAL CRAFT STORAGE BUILDING

PLANTER WITH CREEPERS

SUSPENDED VEGETATED PERGOLA ABOVE DECK

PLANTER WITH CREEPERS

DRIVEWAY BELOW

DRIVEWAY BELOW

ECOPOOL BELOW

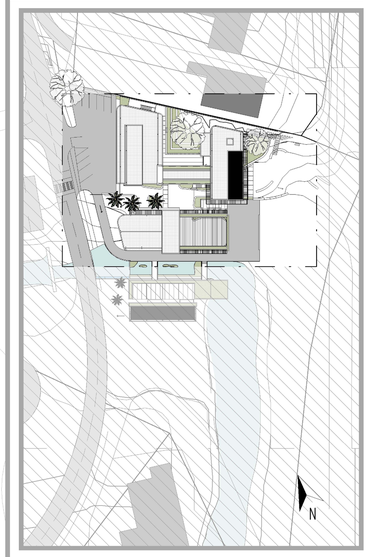
AA CONS401

BB CONS402

CC CONS403

N

FIRST FLOOR LEVEL 1:100



LOCALITY 1:1000

SALT ROCK LIFESAVERS CLUB SALT ROCK MAIN BEACH

DESCRIPTION: FIRST FLOOR LEVEL

SCALE: As indicated

DRAWING NO.: CONS202

SP ISAACS | 2013051251

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2020

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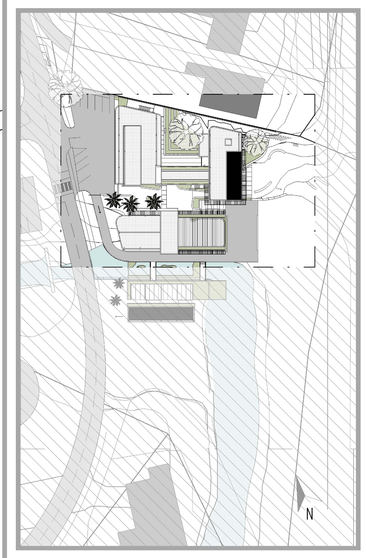
GROUND FLOOR | ROAD LEVEL PLAN

1:100

N

LOCALITY 1: 1000



SALT ROCK LIFESAVERS CLUB — SALT ROCK MAIN BEACH

DESCRIPTION: GROUND FLOOR / ROAD LEVEL PLAN

SCALE: As indicated

DRAWING NO.: CONS200

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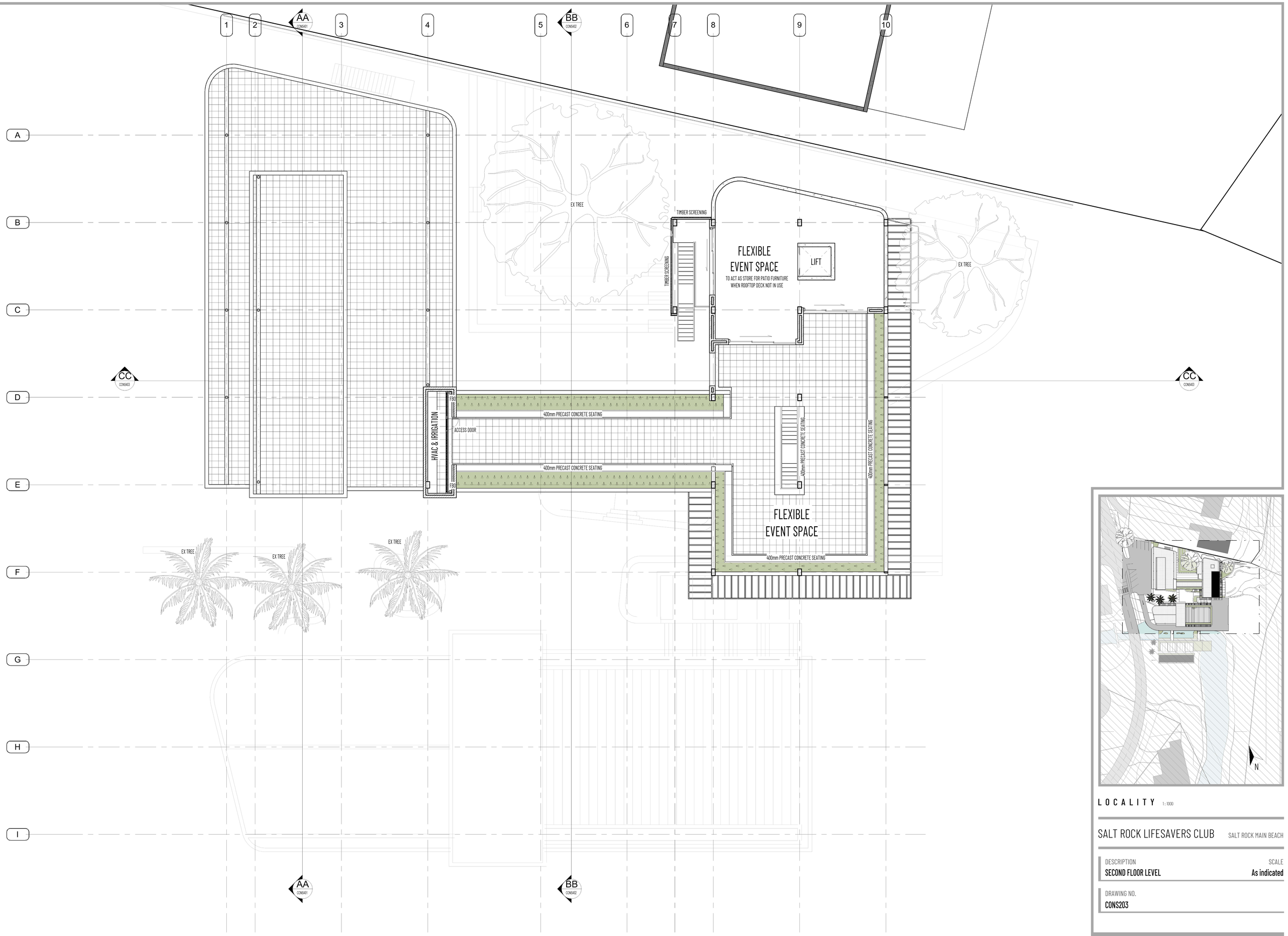

SECOND FLOOR LEVEL 1:100

LOCALITY 1:1000

SALT ROCK LIFESAVERS CLUB SALT ROCK MAIN BEACH

DESCRIPTION	SCALE
SECOND FLOOR LEVEL	As indicated

DRAWING NO.
CONS203

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SITE BOUNDARY 54.09 m

SITE BOUNDARY 76.46 m

SITE BOUNDARY 24.24 m

SITE BOUNDARY 33.80 m

SITE BOUNDARY 31.00 m

SITE BOUNDARY 80.00 m

SITE BOUNDARY 93.49 m

EX RETAINING WALL ON BOUNDARY

EX TREE

DISABLED

EX PARKING

STAFF AND DISABLED PARKING

EX PEDESTRIAN CROSSING

EX PUBLIC PARKING

OCEAN DRIVE

EX BEACH ACCESS ROAD

BOOM GATE

EX TIMBER WALKWAY ATTACHED TO BRIDGE

ECOPOOL RETENTION MINI DAMS

EX BUILDING

ERF 297/1521

ADMINISTRATION AND EXHIBITION BUILDING
PRECAST CONCRETE ROOF PAVERS

SHELTERED OUTDOOR CLASSROOM & DEMONSTRATION COURTYARD
TIMBER DECKING

PRECAST CONCRETE ROOF PAVERS

EXPOSED AGGREGATE CONCRETE SLAB

TIMBER DECKING

LIFESAVERS CLUB, ROOFTOP EVENT DECK & SHOP

PRECAST CONCRETE ROOF PAVERS

TIMBER PERGOLA

TIMBER PLANTER PERGOLA

PRECAST CONCRETE ROOF PAVERS

NEW TREE

PATH TO BEACH

VEGETATED DUNE

DUNE SLOPE ON

1:12 SUSPENDED TIMBER RAMP TO BEACH LEVEL BELOW

ERF 547

TIMBER PERGOLA

TIMBER PLANTER PERGOLA

PLANTER

BAR, DELI AND RECREATIONAL CRAFT STORAGE BUILDING
PRECAST CONCRETE ROOF PAVERS

SUSPENDED PLANTED PERGOLA
COBALT-CHROMIUM-NICKEL ALLOY MARITIME WIRE

PLANTER

TIMBER PLANTER PERGOLA

WATER RETENTION POOL

RAMP

ECOPOOL

BRIDGE

PLANTED ROOF

TRANSLUCENT POLYCARBONATE ROOF SHEETING ON TIMBER PERGOLA

TRANSLUCENT POLYCARBONATE ROOF SHEETING ON TIMBER PERGOLA

PLANTED ROOF

PLANTED ROOF

PLANTED ROOF

TIMBER PERGOLA

EXISTING PARK

MAX WATER RETENTION BEFORE OCEAN BREAK

EXISTING VEGETATED DUNE

TLB ACCESS POINT

SALT ROCK MAIN BEACH

WET BEACH LINE

HIGH TIDE SEA LEVEL

INDIAN OCEAN

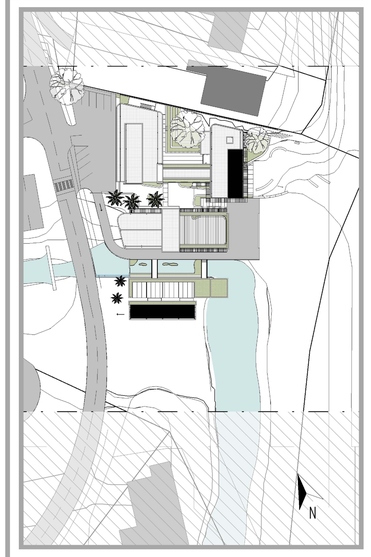
AA CONS401

BB CONS402

CC CONS403

N

SITE PLAN 1:200



LOCALITY 1: 1000

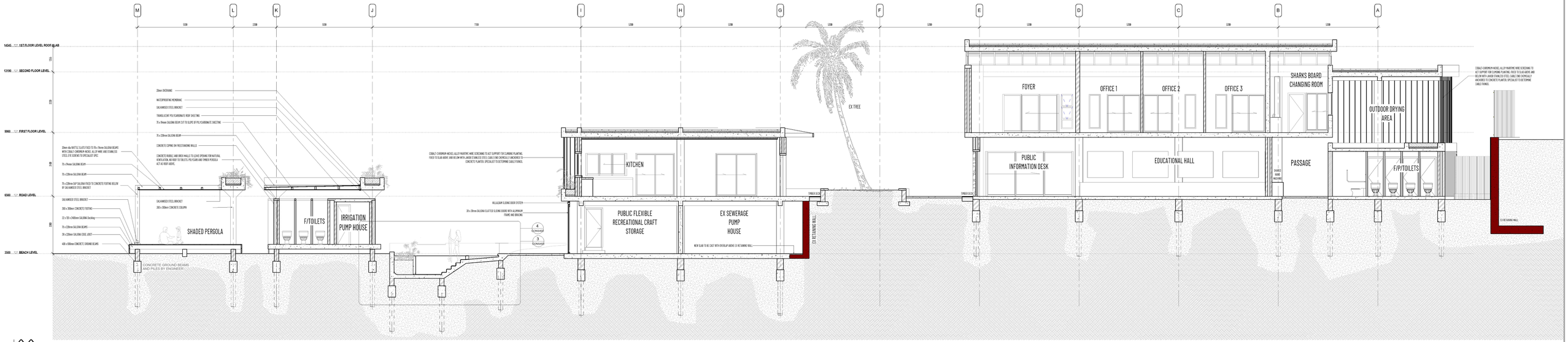
SALT ROCK LIFESAVERS CLUB — SALT ROCK MAIN BEACH

DESCRIPTION	SCALE
SITE PLAN	As indicated

DRAWING NO.
CONS100

SP ISAACS | 2013051251
UNIVERSITY OF THE FREE STATE

2020
M. Arch (Prof)



AA
1 scale 1 : 50

SALT ROCK LIFESAVERS CLUB SALT ROCK MAIN BEACH

DESCRIPTION: SECTIONS
SCALE: 1: 50
DRAWING NO.: CONS401

SP ISAACS (20370252) 2020
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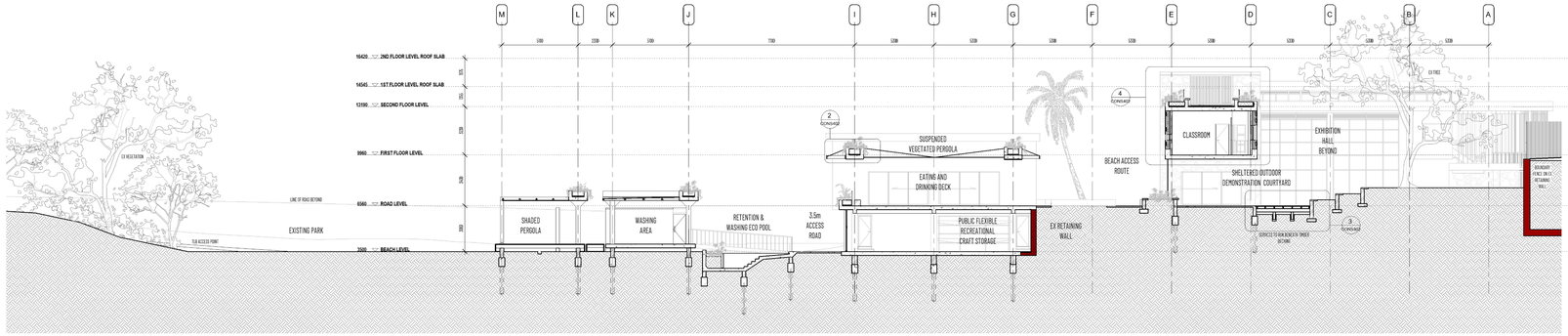
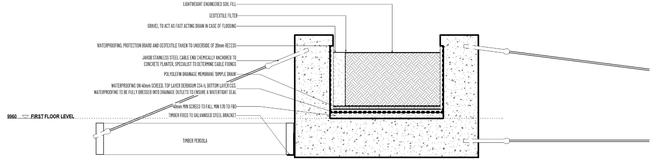


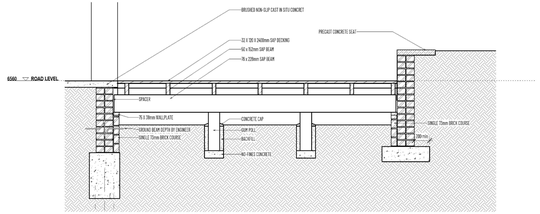
BB

1 | scale 1 : 100



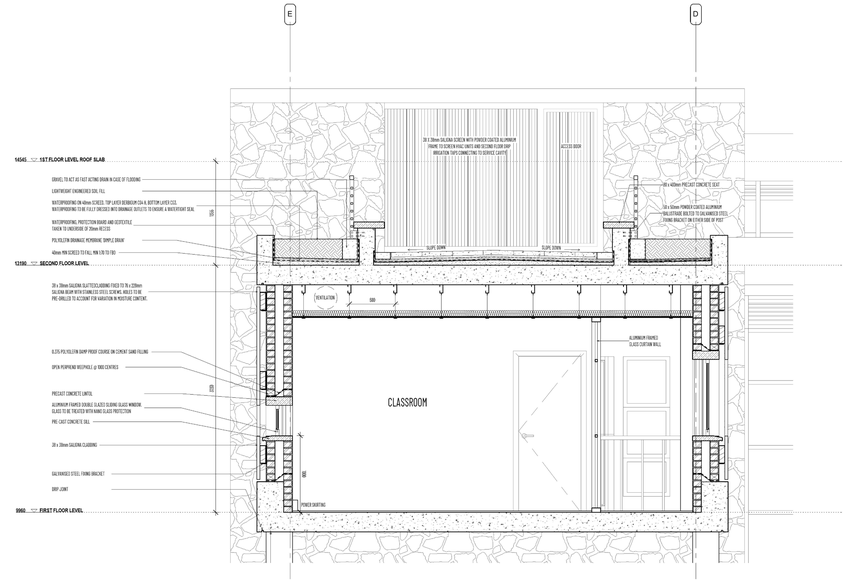
TYPICAL PLANTER DETAIL

2 | scale 1 : 10



TIMBER DECK DETAIL

3 | scale 1 : 20



BRIDGE SECTION

4 | scale 1 : 20

SALT ROCK LIFESAVERS CLUB — SALT ROCK MAIN BEACH

DESCRIPTION: SECTIONS — SCALE: As indicated

DRAWING NO.: CDN5402

SP ISAACS | 220735052 — 2020

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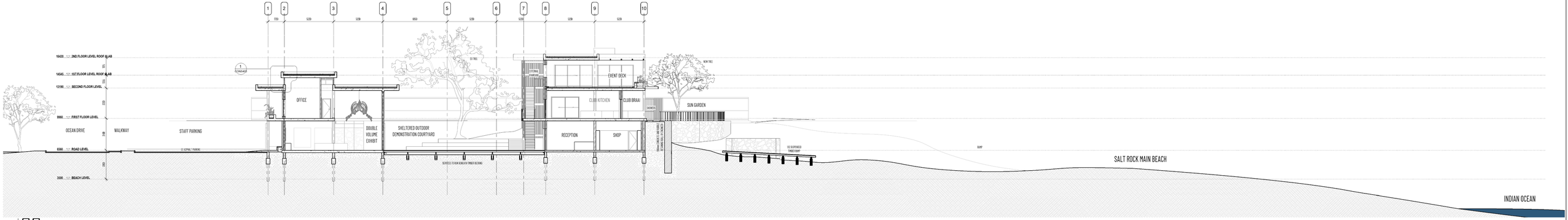
1
2
3
4
5
6
7
8
9
10
5723
5230
5230
5230
6053
5230
5230
5230
5230
16420 2ND FLOOR LEVEL ROOF SLAB
16345 1ST FLOOR LEVEL ROOF SLAB
13190 SECOND FLOOR LEVEL
9960 FIRST FLOOR LEVEL
6560 ROAD LEVEL
3500 BEACH LEVEL
1 CONCAVE
EXTING
EXTING PLANTERS
NEW TREE
OFFICE
EVENT DECK
CLUB KITCHEN
CLUB BRAAI
SUN GARDEN
SKOKO
OCEAN DRIVE
WALKWAY
STAFF PARKING
(1) ASPHALT PARKING
DOUBLE VOLUME EXHIBIT
SHELTERED OUTDOOR DEMONSTRATION COURTYARD
RECEPTION
SHOP
REFER DETAIL 1 FOR ROOF
REFER DETAIL 2 FOR RAMP
REFER DETAIL 3 FOR RAMP
REFER DETAIL 4 FOR RAMP
REFER DETAIL 5 FOR RAMP
REFER DETAIL 6 FOR RAMP
REFER DETAIL 7 FOR RAMP
REFER DETAIL 8 FOR RAMP
REFER DETAIL 9 FOR RAMP
REFER DETAIL