THE CITY IS

SURPLUS

architecture + waste

by MARIA MALAN

M.Arch (Prof) | 2022 | Design Dissertation

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Fig.01 - 'Clean' Waste
(O'Donnell&Pranger, 2020)

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Maria Malan

Design dissertation document submitted in partial fulfilment of the degree of Master's of Architecture (Proffesional)
in the School of Architecture, Planning and Geomatics,
University of Cape Town

November 2022

Supervisor:
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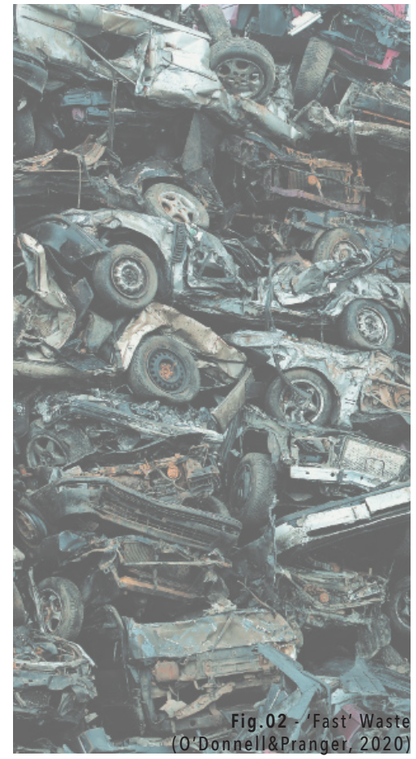

Fig.02 - 'Fast' Waste
(O'Donnell&Pranger, 2020)

ACKNOWLEDGEMENTS

The list of people that have carried me through this year in all ways possible is unending.

My utmost gratitude to the supervising group of the class of 2022, in particular Dr. Michael Louw. Your calm, inspiring ,and encouraging presence made the world's difference.

Hout bay Harbour community and Helena Fagan.

All my friends, fellow classmates and flatmates.

My family: Jeremie, Maré, Cillié, Phillip, Kristen, Nicole.

Thank you for lending me your ears, eyes, brains, time, and sometimes shoulders during this design quest.

All praise be to God.

Crumbling is not an instant's Act

- Emily Dickinson

Crumbling is not an instant's Act

A fundamental pause

Dilapidation's processes

Are organized Decays –

'Tis first a Cobweb on the Soul

A Cuticle of Dust

A Borer in the Axis

An Elemental Rust –

Ruin's formal – Devil's work

Consecutive and slow –

Fail in an instant, no man did

Slipping – is Crashe's law –

Fig.03 - Building rubble (Author, 2022)

" From nothing - from **waste** - **powerful** things can arise"

- Dominique Malaquis

ABSTRACT

Waste

The stuff we throw away, the spaces we forget about, the buildings that have lost their initial purpose. The wasted human lives that had to make way for something or someone new. Living along with and within waste has become our reality. The way that we deal with it has the potential to impact the future of our planet and of the beings that inhabit it. Something which was once of high value has become surplus.

This dissertation aims to flesh out the ideas of the surplus in order to expose its layers on an urban, architectural, material and human scale and the opportunities it holds within a cityscape.

The exploration of the surplus is approached through using methods of collage, unpacking palimpsest, and looking toward the theories of re-urbanism, adaptive reuse and repurposed waste as construction materials as ways of dealing with the surplus on an urban, architectural and material scale. The main method of exploration is a speculative design proposal in order to translate theories into a three-dimensional contextual response.

The surplus, which is inherent in every layer of the city and this site, enables the proposal to manifest in the form of a mixed-use program (industrial, commercial, tourism, community focussed). A dynamic space that punctures into the wasted scape of the Hout Bay harbour, in the derelict Oceana Fish Meal Plant buildings. An adaptive reuse urban and building project which builds with, into, on and for the surplus – it intends to become both a place for dynamic programs and to become dynamic in itself. The architecture explored in this research looks at simple, durable, almost factory-like construction.

The complexity of layers found in the site results in an intervention that is born out of the site in order to ultimately serve it and the surrounding community of Hangberg and Hout Bay since, with the loss of fishing quotas and employment opportunities in the harbour, they have also begun to be regarded as a form of surplus.

Through the lens of waste this proposal aims to spark and/or continue the conversation around dealing with waste and the surplus in order to address the importance of changing our relationship with it.

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[. . .]

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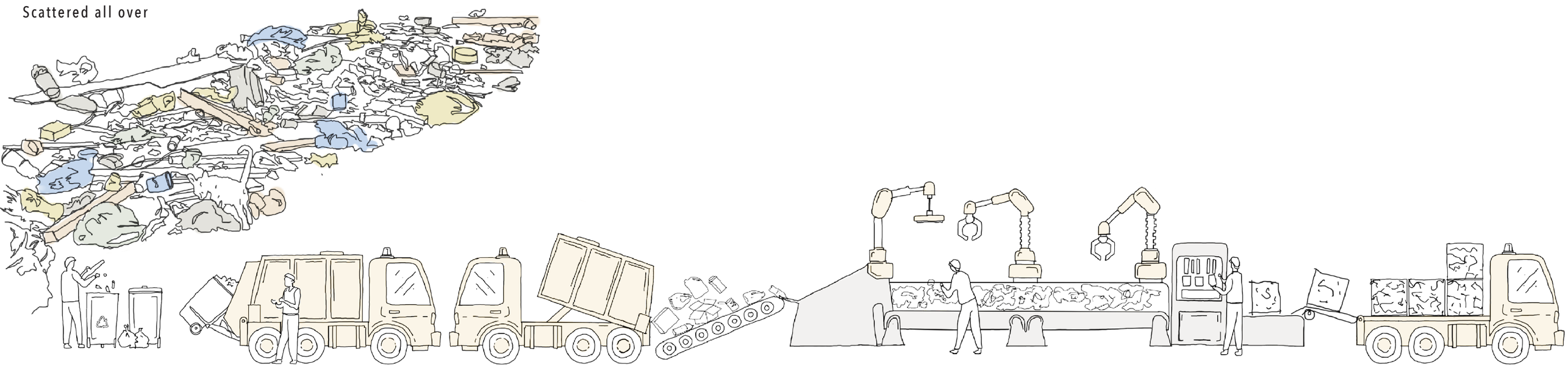


THE RECYCLING PROCESS

Fig.04 - Drawing by author (2022)

SCATTERED ALL OVER

PREFACE

It all started with waste

Since a very young age I've been aware of how much I consume and then discard of. The fact that my actions have consequences on a very large scale first struck me as a 10 year old after watching the 2008 Disney animation, Wall-E, following the narrative of a robot (Wall-E), responsible for cleaning a waste covered earth.

At the beginning of this year, my investigation started with looking at waste through a very practical scope. I asked myself questions like: How do we currently deal with the objects that end up on landfills? Where should recycling start? What should waste management systems look like? And what can we do with waste? Even though I believe that the eradication of single use objects and materials is the best way of minimising waste (idealistically thinking), it is also important to deal with the waste there already is.

By investigating waste through the method of collage and palimpsest, the topic developed into investigating waste on different layers and scales. Thus, looking at waste through a more theoretical lens. Waste on an urban scale, architectural scale and waste on a human scale (along with waste on a material scale).

This word waste developed into the overarching term of the surplus.

The excess.

Stuff, buildings, places, people.

What I've learned through the process of looking at all these layers of the surplus is that it all comes down to the relationship that humans have with their waste.

Arthur Weissman opened his article 'What is it about humans and waste?' for GreenBiz reads with the potent question: "What is it about human beings across history and societies that causes them to create so much waste in all their endeavours?" (2019).

Landfills are situated, conveniently, far beyond the prying eyes of the city.

In the book 'The Architecture of Waste' the authors express their concern on this: 'The apparent lack of concern for the problem of waste can be attributed in part to policies that remove waste from our everyday experience." (O'Donnell, 2020, pg) Out of sight, out of mind right.

Just like waste in the object sense, people are ignorant to waste on most other levels too. Society is separated from both the resources we extract and the waste we produce. Thus, wasted spaces and buildings, standing derelict, left without any purpose, won't be something that most people will even recognise. It is just part of life. The high unemployment rate results in a large amount of wasted human skills and ultimately lives of which wasted children's lives have affected me the most. Children growing up in poverty with no hope for a better future, tend to drop out of school at an early age and get involved in gang related activities.

It started with the waste that I accumulate. It evolved into the waste that society creates on all different levels. This dissertation aims to find a mediation point of dealing with waste in some of its forms.

Fig.05 - Waste Airborne - Archi.Maki 01 (Author, 2022)

vertrash

Fig.06 - Vertical Trash (Author, 2022)

SCATTERED ALL OVER

INTRODUCTION

Fig. 07 – girl in trash (noroozi, 2022)

Relationships are at the core of human existence. It is what creates beauty and causes wars. It can be the upliftment and downfall of society and the environment it exists in.

The contemporary urban landscape we know today is a complex structure which is the result of the relationship humans have with their environment. These landscapes are shaped due to the influence of human activities resulting in the good, the bad and the ugly. The term urban landscape is such a broad notion which involves a social, cultural, economic and historical dimension along with the physical landscape of the urban. For my research I will refer to the urban landscape in its physical entity referring to urban public space, which inherently carries the characteristics of the social surroundings.

People, things, time and nature move around, collide and disperse. Cities are intrinsically messy spaces. They are "...productive, unruly, beautiful and need(s) to be celebrated." (Musgrave,2013). Musgrave expresses her thoughts on cities in the architectural review article: 'Capital assets: providing framework for the 21st Century cities.". She believes it is fundamental to have a shift in outlook on dealing with urbanity in the 21st century from the Modernist ideal to thinking of a city as an organism (Thomson and Newman, 2018).

Every organism has a metabolism just like every city has their different functions and parts. By investigating cities in their complexity, they become more understandable. Our capacity to understand these different urban metabolisms is reliant on our investigation of the intangible, visual and the physical of place.

By understanding these micro metabolisms in cities, we can apply the knowledge to regenerate pockets of the city.

With sustainability and a lower carbon footprint as the goal for cities, it is important to implement the correct strategies to reach this goal. In this dissertation I will be focussing on the recycling on an urban, building, and material scale as one of the main strategies to move toward a more sustainable future, along with the implementation of green infrastructure frameworks and looking at repurposed materials for the architectural language. I will use two methods to apply these strategies to the urban and site context. Firstly, looking at Re-urbanism as a method of reweaving holes in the urban fabric and how it addresses the city as a whole to serve as the enabler of architecture.

Secondly, I will look at adaptive reuse and how it is a perpetuation of continuation of growth and change by reusing existing structures. The result of this method is an intricately woven series of narratives of the built environment.

These strategies and the methods used to implement them are investigated as mitigation strategies for waste. Waste on an urban and architecture scale.

These can be generated as mitigation strategies for the pandemic of the surplus that the world is facing.

Inspired by the process of recycling and upcycling, it has become the way of approaching this design dissertation.

Waste starts by being scattered all over. The first step is the sourcing and collecting of different waste materials. After these materials have been sorted accordingly, they are put through different processes to clean, and become something new. The waste materials undergo processes of compression, melting and cooling to eventually reach the output, the new, created with the waste.

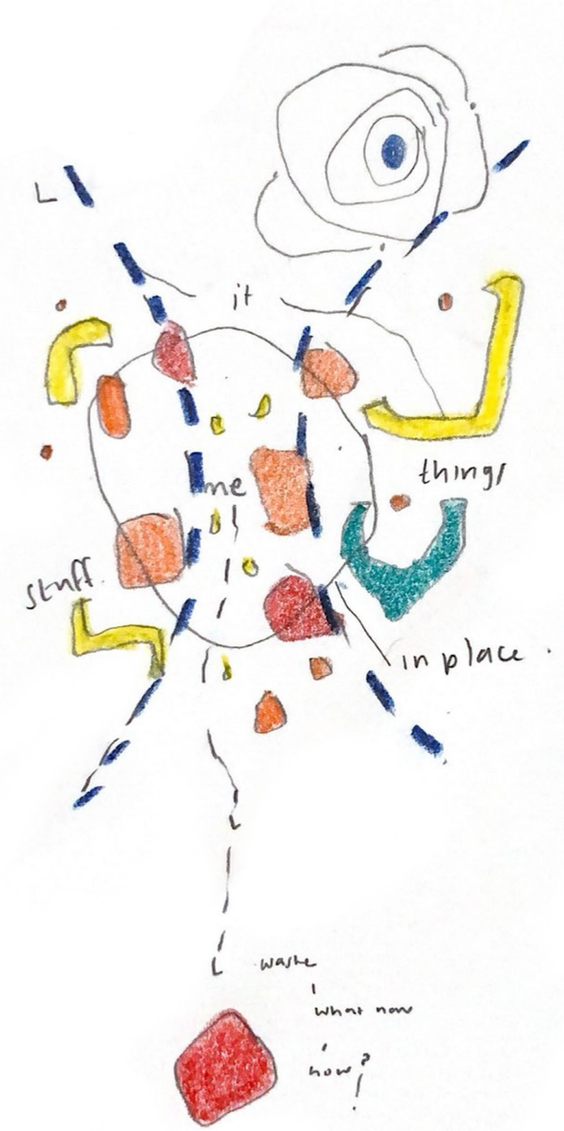
How do we live with and in Waste (the surplus)?

The intent of this design dissertation is to embark on a journey to mitigate living with and within the surplus.

scan me with your phone camera

People, things, time and nature move around, collide and disperse. Cities are intrinsically messy spaces. They are "...productive, unruly, beautiful and need(s) to be celebrated." (Musgrave,2013).

Fig.08 - Collage - the cityscape
(Author, 2022)



This diagram explores the microcosmos of the relationships humans have with other humans, their things and the environment they are placed within.

Fig.09 - Diagram - relationships
(Author, 2022)

This investigation started with waste, it developed into looking at the surplus and has been further refined to look at the city's surplus. Referring to the city as a compound of elements which include, public spaces, streetscapes, natural landscapes, public and private buildings, activities hosted by these spaces and the people that use it. The city is the main location of the waste narrative. It is the greed of cities that want more and take more from the natural surrounding landscapes and ultimately produce more.

S u r p l u s.

The consumer culture started in the 1950s, just after the end of World War two. The era of the baby boom and the American dream when Tupperware had its rise to fame. The more things people buy, the more things will need to be thrown away. Ironically, it is what we call progress that produces waste and wreckage (Frichot, 2021).

By considering waste and its management, the bodies that waste away in the process and how waste is present in the construction and demolition phase of a building we can see the process of architecture and how it struggles to escape the production of waste.

Due to time constraints, proper material planning has not always been the main priority, resulting in a lot of waste produced by a site. Up to 30% of materials delivered to a construction site could end up as waste (broken bricks, building faults etc...). (BigRetz Inc, 2021). This production of the new is always overshadowed by waste (Till, 2009)

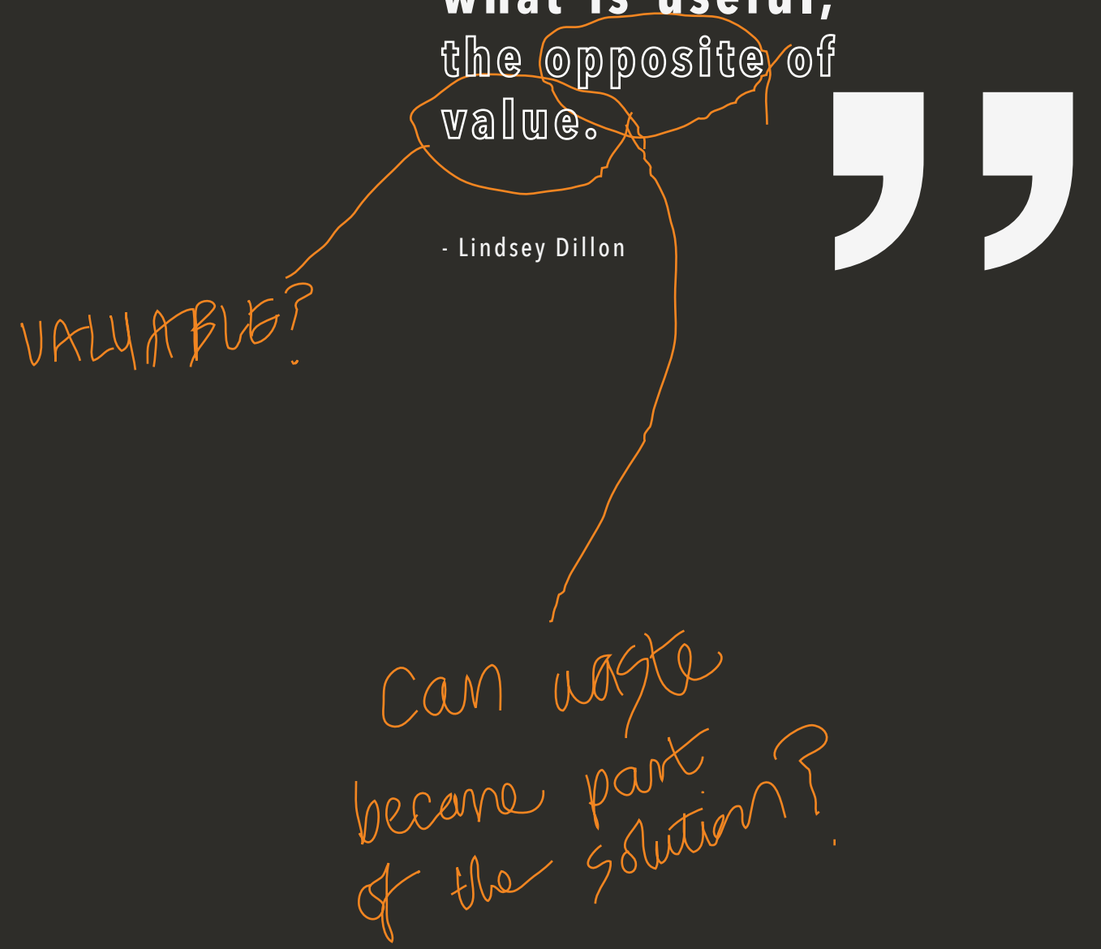
Every part of the city has become accustomed to, part of, the producer of or the end zone for the surplus.

THE SURPLUS

scan me with your phone camera

"Waste is the byproduct of production, the remainder of what is useful; the opposite of value."

- Lindsey Dillon



T H E
W A S T E S C A P E

[identifying potential]

After gaining a decent grip on exactly what the surplus looks like on an urban, architecture, human and material scale, I embarked on the journey to find a site for the design dissertation to grow within.

As a starting point, I investigated the tangible wastescapes of Cape Town. Driving around and scrolling through google earth, my mouse zoomed in on the Hout Bay harbour, and my attention was captured by the interesting urban fabric that the few hundred square meters of the Hout Bay harbour and the Hangberg community surrounding it has formed.

Hout Bay is the bigger region of inquiry, nestled between the peaks of the Table Mountain National Park mountain series. The Hout Bay harbour is the context in which this dissertation grounds itself, found at the foot of the Hangberg community. Hout Bay harbour is like no other. It has a genuine South African feeling to it. The Bay Harbour Market is one of the main attractions, along with the famous Snoekies and Fish on the Rocks fish and chips restaurants which attract international tourists, national tourists and locals alike. The Hout Bay Harbour tries nothing to be like its bigger sister, the Victoria and Alfred Waterfront. It is a small harbour filled with local culture, a lot of activity and so much potential to become a space that celebrates and uplifts the community and simultaneously attracts tourists from South Africa and abroad.

Waste is no stranger here, on an object, human, urban and architecture scale. After some investigation it has become apparent that so much of this harbour precinct has untapped potential buried under waste. The mismanagement of the harbour by the Department of Forestry, Fisheries and the Environment and the Harbour Master, Pumla Feni-Gela, has lead to the decline of this tourist destination harbour (Carte Blanche, 2022). The harbour faces many challenges with many sunken boats that restrict boats to move around freely. The drydock has been left barren for most of the first half of this year due to a sunken boat in the slip way in front of the dry dock. Many buildings along the harbour strip are standing empty, such as the recently built harbour master's office. In the Hangberg community there are many other government buildings that are also left unoccupied (the Hangberg Family clinic; new government buildings on the corner of Atlantic Skipper street and Harbour Road). Most recently, the decommissioned Oceana Fish Meal plant has also been added to the list of wastescapes in the harbour.

It is in this particular surplus space where this dissertation will find its three dimensional exploration. After standing empty for two years, the residents of Hangberg have started to dismantle the buildings which has opened up the discussion on urban mining. This building, now almost completely dismantled, has become a talking point and visiting point of the harbour. It has become a ruin.

I will briefly look at the relationship between the ruin and the city. Without the initial intention this fish meal plant has become a ruin through recycling the building materials.

The Oceana Fish Meal plant has been running since 1958 (Paton, 2015). Oceana has spent over R50 million on odour minimisation technology (Paton, 2015) but it proved to be unsuccessful. Oceana closed down end of 2019 due to the community's complaints about the smell and a drop in production (Human, 2022). The lease was terminated in March of 2021 after which the Oceana Group stopped its security for the site. The Department of Public Works and Infrastructure were supposed take back the responsibility (Human, 2022).

Since mid-2021 the building has been gradually stripped. The materials that are harvested are either used to build other buildings (such as the growing informal housing against sentinel peak above the Hangberg community) or are sold. "One man who was removing bricks said that they were being sold for R1 each." (Human, 2022). Ironically, this building has become a surplus object with so much potential in its material value. Essentially waste has become a resource.

Along with the open plots of land scattered with broken boats, unoccupied buildings and waste ridden harbour water, another wasted element is present. Wasted lives. With the fish depleted and the fishing quotas that aren't focussed on small scale fishers, the unemployment number has increased in the Hangberg community. This has lead to Illegal abalone poaching by amateurs and gang violence, leaving many at the bottom of the ocean. The youth tend to drop out of school at a young age to join these groups. The concern of youth employability arises. With an incomplete academic foundation, many job opportunities will be missed.

This **small** harbour has opportunities for **big life**.

Fig.10 - Hout Bay harbour aerial view (Google earth, 2022)

SOURCING + COLLECTING

HISTORICAL

Current day Hout Bay is a popular tourist destination famous for the Bay harbour market, fish and chips restaurants and the spectacular views.

However, Hout Bay has been a favourable destination since the early Middle Ages. The historical timeline of the Hout Bay harbour illustrates how the harbour's role changed over the years having an everchanging main harbour trade industry. This amplifies the dynamic nature of this harbour.

Timeline by Sven Pilzweger, 2014: 1, adapted and expanded by author.

DEFENCE

100-500AD First knowledge of man fishing in Hout Bay.

1510 The Portuguese set up ship at current day harbour position to barter with the Khoi but misunderstanding leads to Battle. The Viceroy of Portuguese India and 57 of his men killed. The "strandloopers" documented the Portuguese returned years later with a canon as a gift for the Khoi, only to set it off once they were carrying it - killing most of them.

1607 First entrance into Hout Bay recorded - John Chapman, Master's mate, on the English boat, the consent, noted promise of natural harbour for ships docking in Cape of Good Hope.

TIMBER TRADE

1652 Salted fish caught in Hout Bay - replenish passing ships through Cape Town's refreshment station. Dutch East India Company set up woodcutter's post (first one along with Kirstenbosch) for their replenishment station in the Cape.

1657 Constantia Nek established (Kloof Pas). Note constant threat of Hottentot incursion therefore men had to "hold" the pass as wood was obtained from the Bay.

1668 First permit to cut wood in Hout Bay forest.

1672 War between Netherlands and France.

1674 Steady supply of 4 shiploads/ month of timber arrive from Hout Bay to Cape Town harbour to be used to finish Castle (against possible French invasion).

1676 4 woodcutters posts established in Hout Bay

1677 First farmers inhabit area

1684 No trees left, and Hout Bay name change considered

1687 Simon van der Stel has Oaks planted in Hout Bay to recover lost vegetation

1693 New road between Constantia and Hout Bay established

1710 All woodcutters gone

DEFENCE

1780 England declares war on Netherlands.
voc ships take refuge in Saldanna Bay and Hout Bay yet only ones in Hout Bay remains safe and uncaptured.

Fig.11 - East ford - a ruin (dkvillas, 2020)

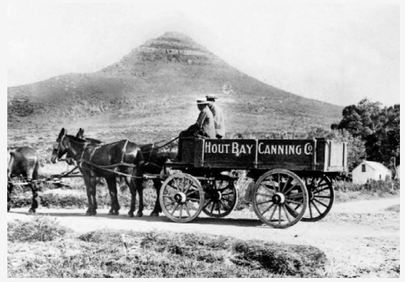


Fig.12 - Hout Bay Canning Company started (HiltonT, 1904)

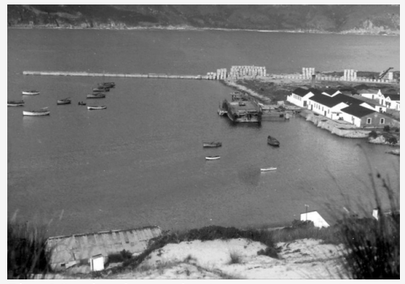


Fig.13 - harbour during construction (HiltonT, 1937)

Fig.14 - harbour road (HiltonT, circa1900)

DEFENCE

1781 Hout Bay seen as "soft underbelly" of Cape's defences due to privacy afforded by its sheltered bay. voc decided to privatise Bay as potential refuge spot for ships in case of a storm or attack. West Fort built (during war between Netherlands and British).

1783 East Fort with Blockhouse erected.
Another attack made on voc ships in Hout Bay harbour but British retreat due to Hout Bays line of defence and naturally safe bay.

1786 First concept of turning "fortified bay" into commercial harbour - considered one of safest landing and sheltering spots in Cape Town.

1798 West Fort abandoned, and East Fort becomes headquarters of Hout Bay defences.

FISHING

1800 First "REAL" exploitation of fish in Hout Bay. Trade started with Mauritius - dried Snoek in exchange for yellow sugar. Sheds built to dry and salt snoek caught by local fishermen.

1806 British gain control over Hout Bay

1819 British site Hout Bay as safest harbour and place to dock in Cape Town

1830 Blockhouse of East Fort no longer functional - Falls to ruin over next 50 years

1843 Hangberg Fire Department started

1867 Fishing village established by Jacob Trautman

1890 Successful and consistent trade between Hout Bay and Mauritius

1895 First church built and first school in Hout Bay started in this church.

1903 Hout Bay Canning Company started - First "INDUSTRIAL" exploitation of harbour - supplies overseas market with canned lobster.

1914 Explosion at Canning company kills many and destroys part of the cannery.

1935 Hout Bay harbour approved

1937 Harbour construction begins with a southern breakwater (200m long)

1938 Road to harbour hardened due to traffic issues with wet sand and high tide.

1939 World War 2 - West & East Forts rebuilt with new weaponry.

1940 Wooden Jetty built to repair boats (NOTE: no longer timber - now concrete).

1943 Hout Bay part of Cape Town main defence - radar station "Fort Collins" built on top of Karbonkelberg - purpose to detect enemy submarines.

1945 Timber boats/ trawlers used to locate mines around Cape Coast (wooden structures impervious to magnetic mines).

1946 South African Sea Products Limited (SASP).

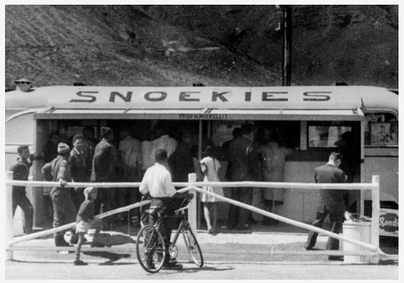


Fig.15 - Snoekies takeaway cafe opens at the end of Harbour Road.(Snoekies.co.za, c.1951)

Fig.16 - Oceana plant air pollution (FAHB, nd.)

Fig.17 - Oceana buildings april 2022 (Hendricks, 2022)

FISHING

1947 Hout Bay Canning Company joins SASP. Built first smoker and fish plant to process Rock Lobster Offal in RSA. 17m Slipway built by government

1950 Group areas act implemented – Hangberg becomes designated coloured area.
Up until 1950 land primarily used for forests and mine industries

1951 Extension to existing breakwater
Snoekies opened

1952 Reclamation of over 10 000m2 of land from sea to expand wharf facilities.

1958 Fishmeal factory established called Lucky Star

1959 Protest from residents over smells from factories. Scrubbing towers installed to alleviate odours.

FISHING + TOURISM

1964 Da Gama Fisheries joins SASP

1967 Extension of breakwater and construction of new jetty to alleviate congestion in Hout Bay harbour.

1968 North Breakwater constructed

1978 Hout Bay Yacht Club founded

1980 The Republic of Hout Bay established as tourism gimmick

1984 Floating Marina opened - berth for 45 boats
Mariners Wharf (SA's first fish emporium) opened

1985 SASP constructs deodorising plant which sorts out "smell" issue in Hout Bay.

1988 Land fuel tank removed (stood for approx. 20 years

1989 Floating Marina extended – can accommodate 15,5m yachts

1993 Fish on the Rocks restaurant opened

2010 Hangberg uprising

2011 City government and Peace and Mediation Forum signed a peace accord (no one allowed to build above the fire break, in return the city would provide housing)
Hout Bay Harbour Market opens its doors

2014 Air pollution portfolio created of the HBRRA (Hout Bay Rate Payers and Residents Association)
Fresh Air of Hout Bay formed and advocated for sustainable harbour development plan to be put in place

2019 Oceana Fish meal plant closed down with a lease until end of 2020

2020 [November] – Oceana Maritime academy opens – training of broader small scale and commercial fishing industry

2021 [December] – First roof sheets removed from Oceana fish meal plant building

2022 [April] – Oceana Fish meal plant building - Most roof sheeting removed; steel beams, bricks and piping have been removed
[May] – A few walls, concrete slab and trash remain.

01

02

There are **two important take aways** from investigating the history.

The primary usage of Hout Bay and the harbour has continuously undergone changes.
1. Its initial role was to protect the early inhabitants that lived here.
2. It became a source of timer (timber is depleted)
3. Protection against war (war ends)
4. Small fishing village (Industrialisation)
5. Heavy industrialised fishing (local residents put a stop to it)
6. Medium fishing and tourism harbour
7. ???

With fish depleted, leaving many jobless in its wake, and rising fish quotas, what could be the next primary use of this harbour?

The second interesting take away is to see the relationship that humans have with the surplus over the decades. The human behaviour is one of greed. Kill when someone is in your way, grab when there is something without thinking about the future consequences or generations. These relationships over the years have resulted in what we encounter at Hout Bay today. Decline and decay. Waste.

"Local fisher John Reed said the premises should have been used for the benefit of the surrounding community." (Human, 2022).

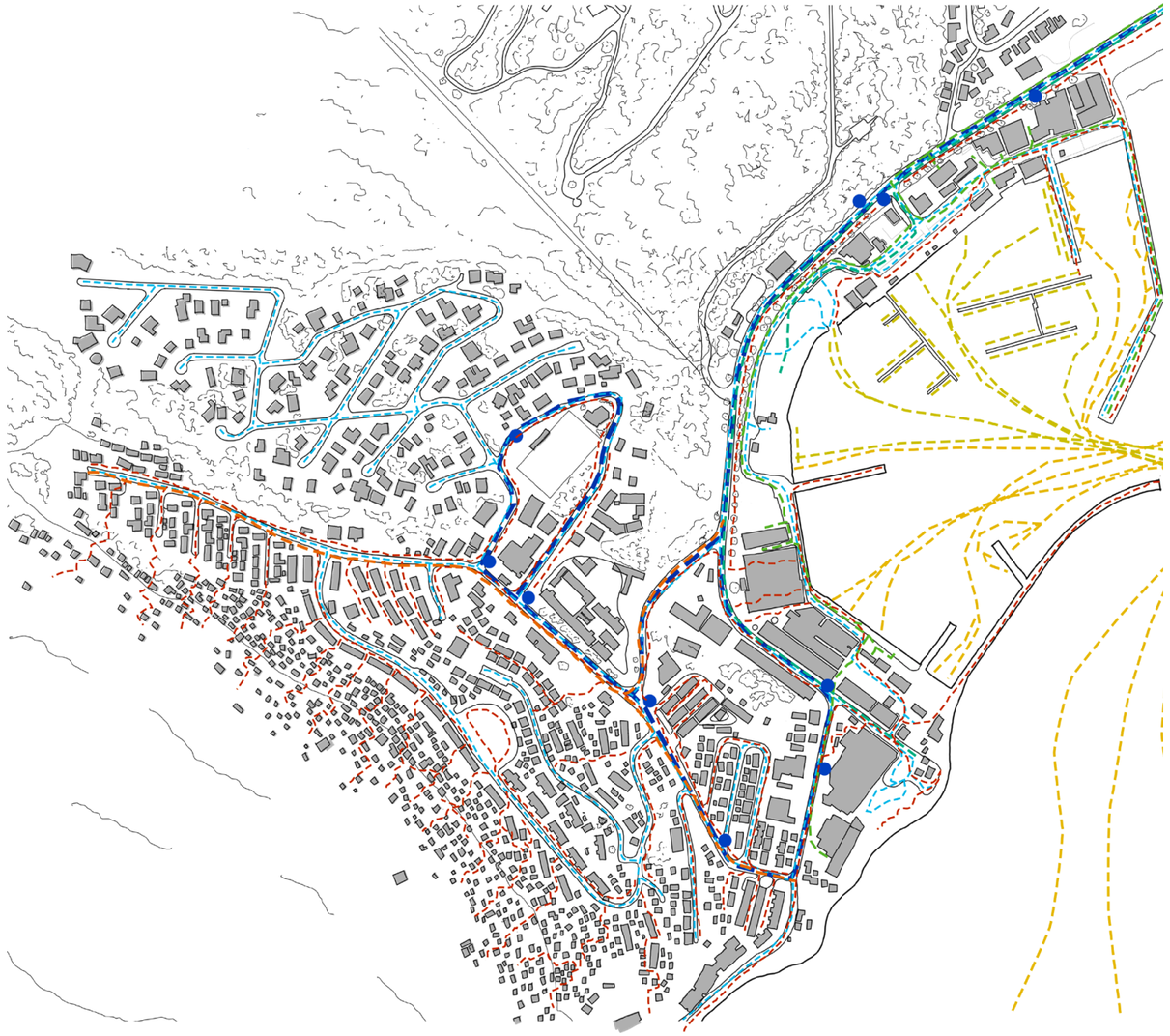
SOURCING+ COLLECTING

ACTIVE

The dynamic nature of the harbour is yet again apparent in the social infrastructure present in the harbour and surrounding community.

The concept of dynamics is omnipresent in the social infrastructure of the harbour and the surrounding community of Hangberg. A harbour in itself is rooted in its dynamic nature of transport be it for humans or the catch of the day. Water is a magnet for movement. People tend to migrate to water edges/ harbours for the opportunities it holds. This harbour deals with the dynamics of movement and mayhem. Movement in the sense of its core goal as one of fishing and tourism. Mayhem in the sense of the political and social presence that deals with both the harbour workings as well as the community surrounding it.

MOVEMENT MAP



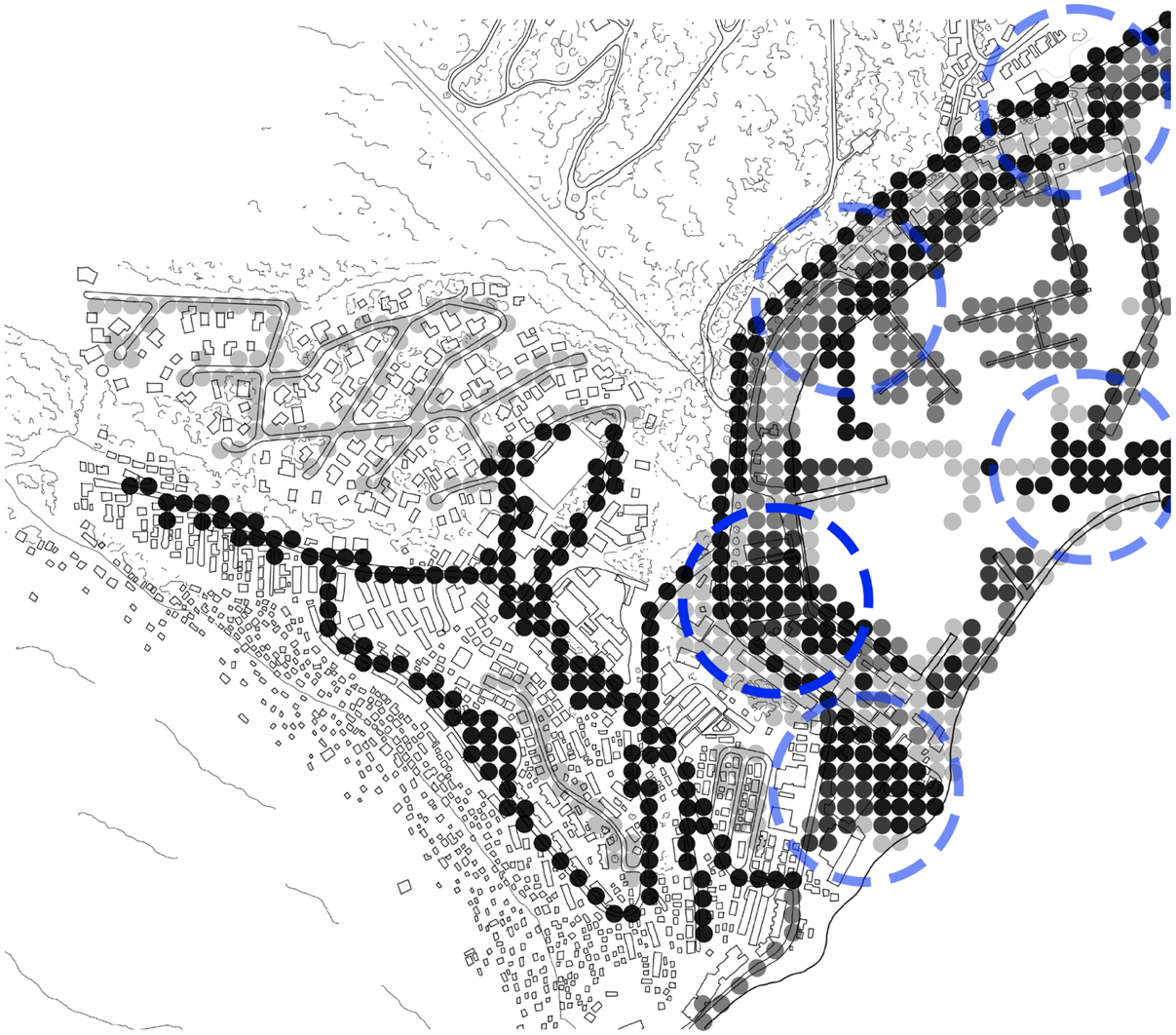
SOFT MOVEMENT

- Fishing vessels
- Private+tourist boats
- Pedestrian
- Skateboards

HARD MOVEMENT

- MyCiti bus route
- Cars+mini busses
- Tourist busses
- Fishing related vehicles

Fig.18 - Movement Map (Author, 2022)



Activity indicated with colour indicators.

Darker shades = Activity hotspot

Ligter shades = less activity

ACTIVITY MAP

Fig.19 - Activity Map (Author, 2022)

Fig.20 - Emerald Isle (Swart, 2022)

Fig.21 - Rooi Goud (Swart, 2022)

Fig.22 - The Drydock (Swart, 2022)

This picturesque corner of the peninsula is home to a wide variety of cultures, races and people.

The fine grain activity that is present here is causing a lot of controversy. The first of which are the 'hell riders of hout bay', (as dubbed by journalist, Chealsea Geach). Chapman's peak drive, Suikerbossie and Karbonkel road leading down into the harbour have become the popular downhills for the youngsters of the area to try out their skateboarding skills, speed limits and guts. However, car drivers aren't amused – it is extremely dangerous for both the drivers and the joyriders.

Hangberg is a community known for its skilled fishermen. The residents rely on the ocean to survive. However, with the fish quotas, depleted fish stock and closing of the Fish meal plant, people have had to make other arrangements. Some have joined the abalone poaching groups and others, like Deon Barendse have made a living by befriending a seal and showcasing him to tourists.

The opportunities this harbour holds can be learnt from the dynamics of movement and mayhem that fills this harbour space.

Fig.23 - Deon Barendse (former fisherman) and Happy the seal (Geach, 2022)

SOURCING+ COLLECTING

STATIC

The Hout Bay harbour has a dynamic nature even in its static structures. Since the Middle Ages the harbour and Hangberg community has grown and developed at a fast pace into the harbour that exists today. Historical maps retrieved from the national geospatial portal depict the gradual development of infrastructure. However, the ever growing informal structures of Hangberg bring the conversation of housing, unemployment and education to the table. Figure ground illustrations show the alarming growth rate of the informal. Dynamics of the static.

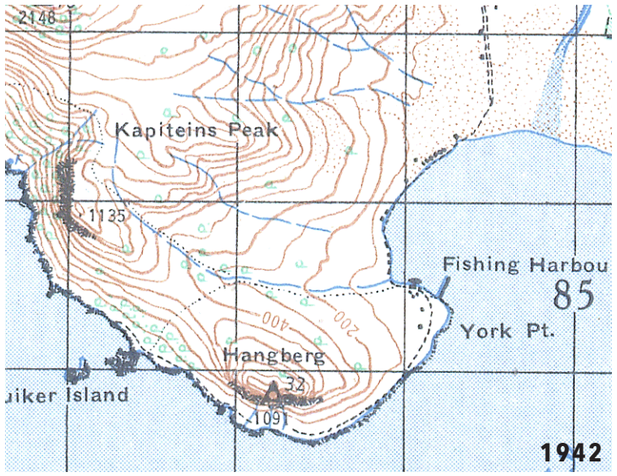
Hout Bay harbour is a small harbour compared to others, which has suffered over the past few years. Despite the repairs and upgrades made to the main and secondary breakwaters in 2017, most of the harbour structures aren't in great condition.

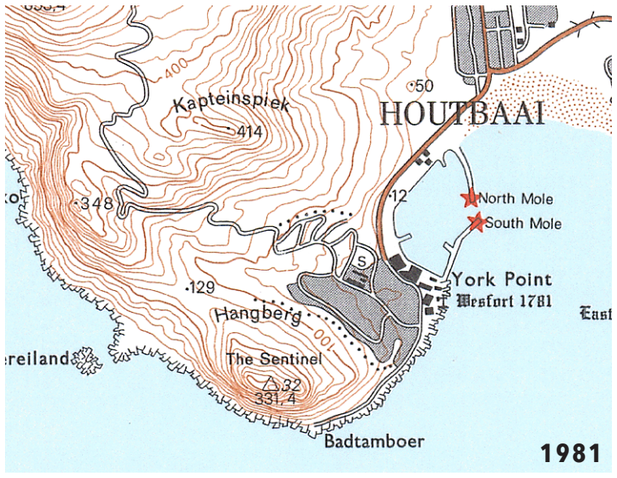
By investigating the spaces on foot, via drone and by conversations, this map indicates the wasted urban spaces, wasted urban edges, and wasted water edges that are present in the harbour. These spaces are stagnant, holding so much dynamic potential. These spaces have the potential to draw people to the harbour, both tourists (economic influx) and locals, to create spaces where people can interact (social influx).

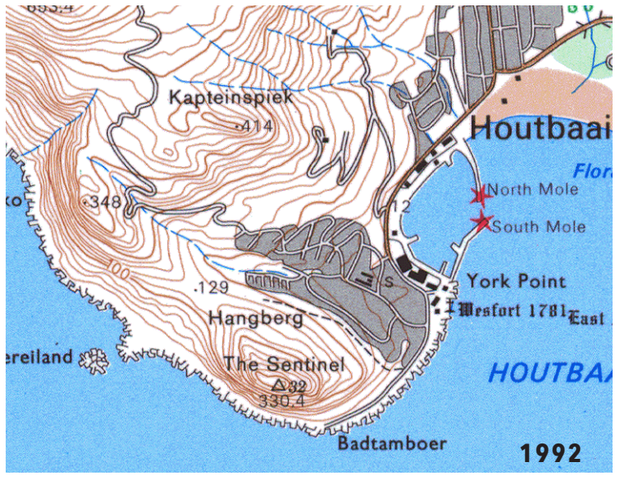
WASTE MAP

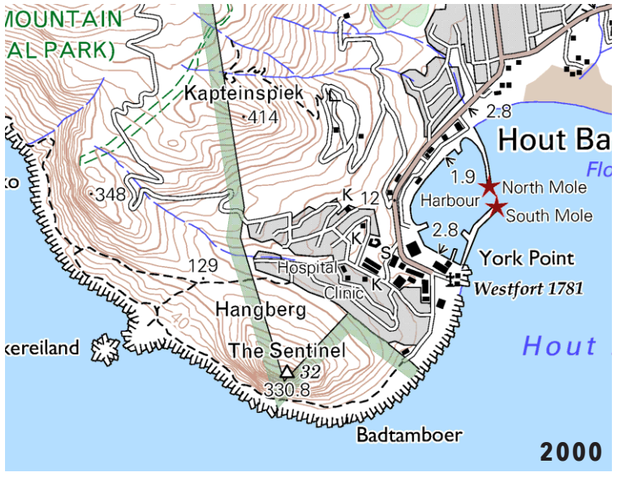
Spaces

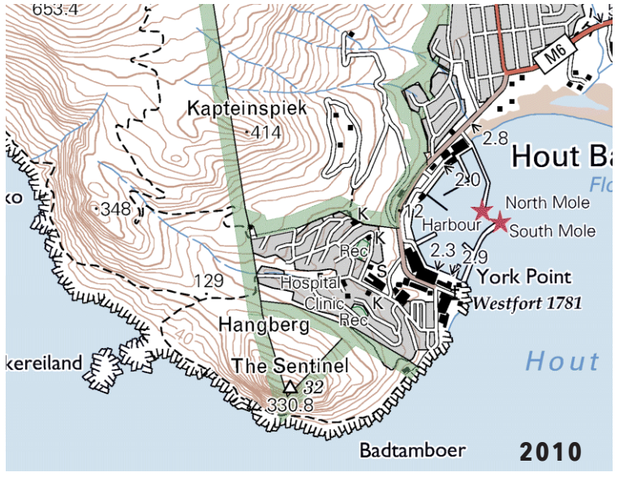
Fig.24 - Waste map (Author, 2022)











HISTORICAL MAPS

Harbour + Hangberg development

Fig. 25-30 - Maps from SA Geospatial Portal (2022)

FIGURE GROUND

Growth of Hangberg informal housing

Fig.31-36 - Drawings by author (2022)

Fig.37 - Ice Factory (Author, 2022)

Fig.38 - Ice Factory stairs (Author, 2022)

The structures present at the harbour are all predominantly simple structures. These structures were built purely according to the function that they needed to house of which was mainly fishing related. Brick buildings with steel cladded pitched roofs. Factory like buildings and only a few concrete framed structures. Simple structures that aren't durable enough to last for a second life cycle if not maintained well. The decommissioned Ice Factory, located on the main breakwater, is an example of this. This concrete structure with steel cladding has been left neglected, exposed to the elements with steel sheets flapping in the wind.

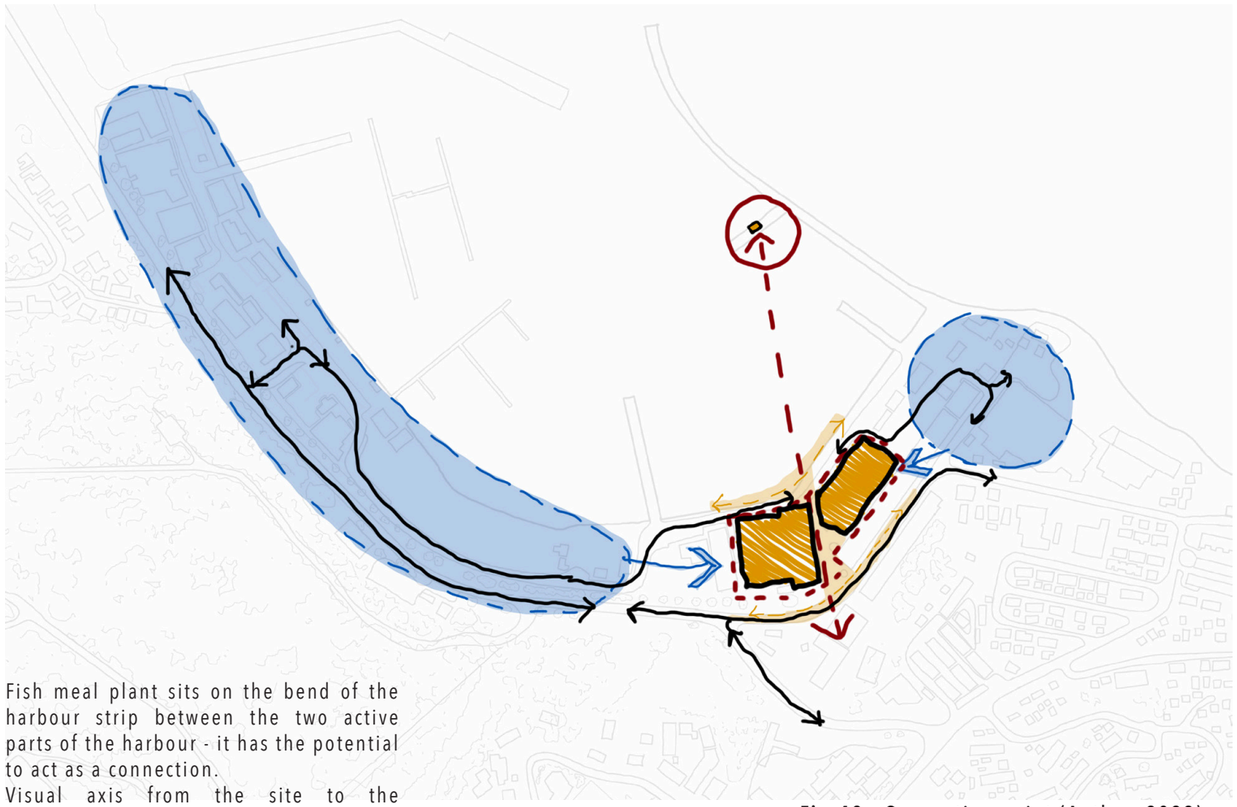
The structures at the harbour have been mapped according to their quality, to show the overall current condition of the harbour structures.

The northern part of the harbour's structures is in a better condition compared to the southern part. The Fish meal plant is in the middle of these two parts of the harbour on the bend of the harbour strip, next to the new maritime academy. This site has the potential to become a catalyst of urban change as well as a connection point for the two parts of the harbour and the community above.

Fig.39 - Infrastructure quality map(Author, 2022)

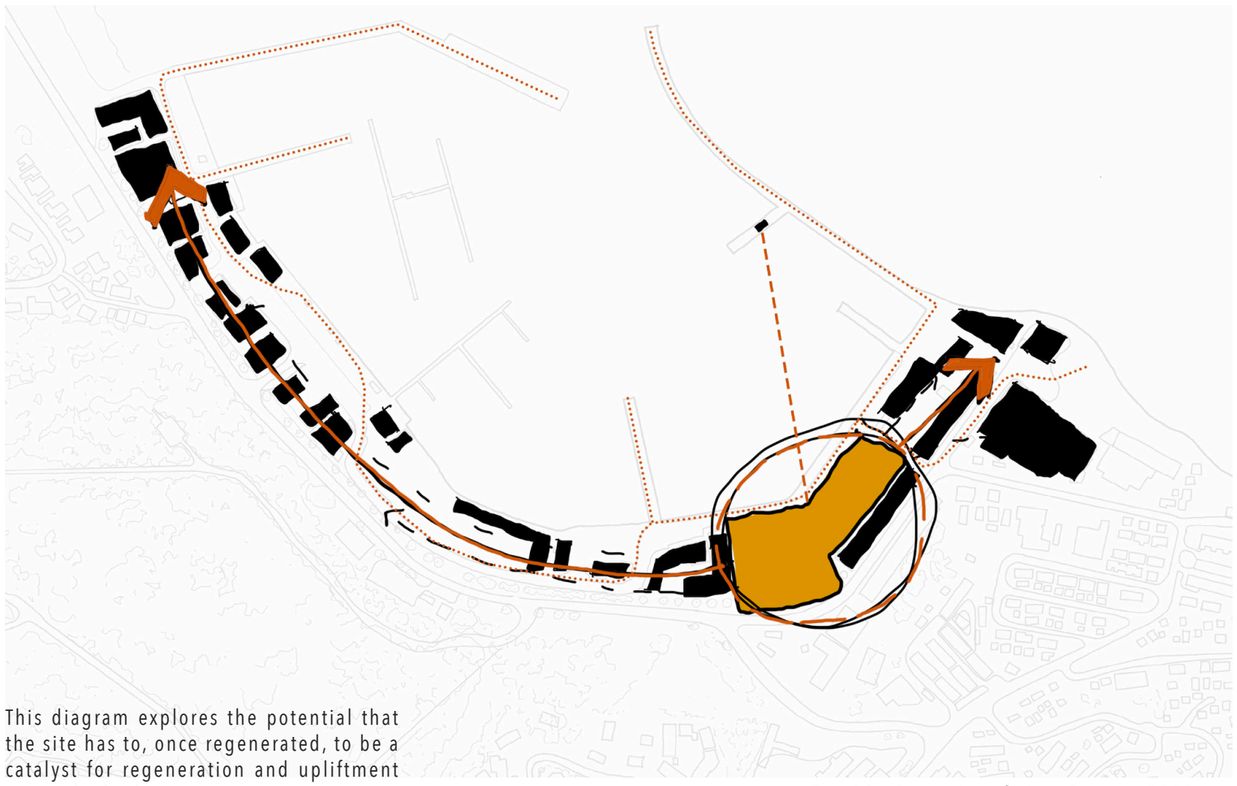
INFRASTRUCTURE QUALITY

Harbour infrastructure



Fish meal plant sits on the bend of the harbour strip between the two active parts of the harbour - it has the potential to act as a connection.
Visual axis from the site to the decomissioned ice factory identified.
Arrows indicating access from harbour road, road on the waterfront and Atlantic Skipper st.

Fig.40 - Connection point (Author, 2022)



This diagram explores the potential that the site has to, once regenerated, to be a catalyst for regeneration and upliftment along the harbour strip.

Fig.41 - Potential of site (Author, 2022)

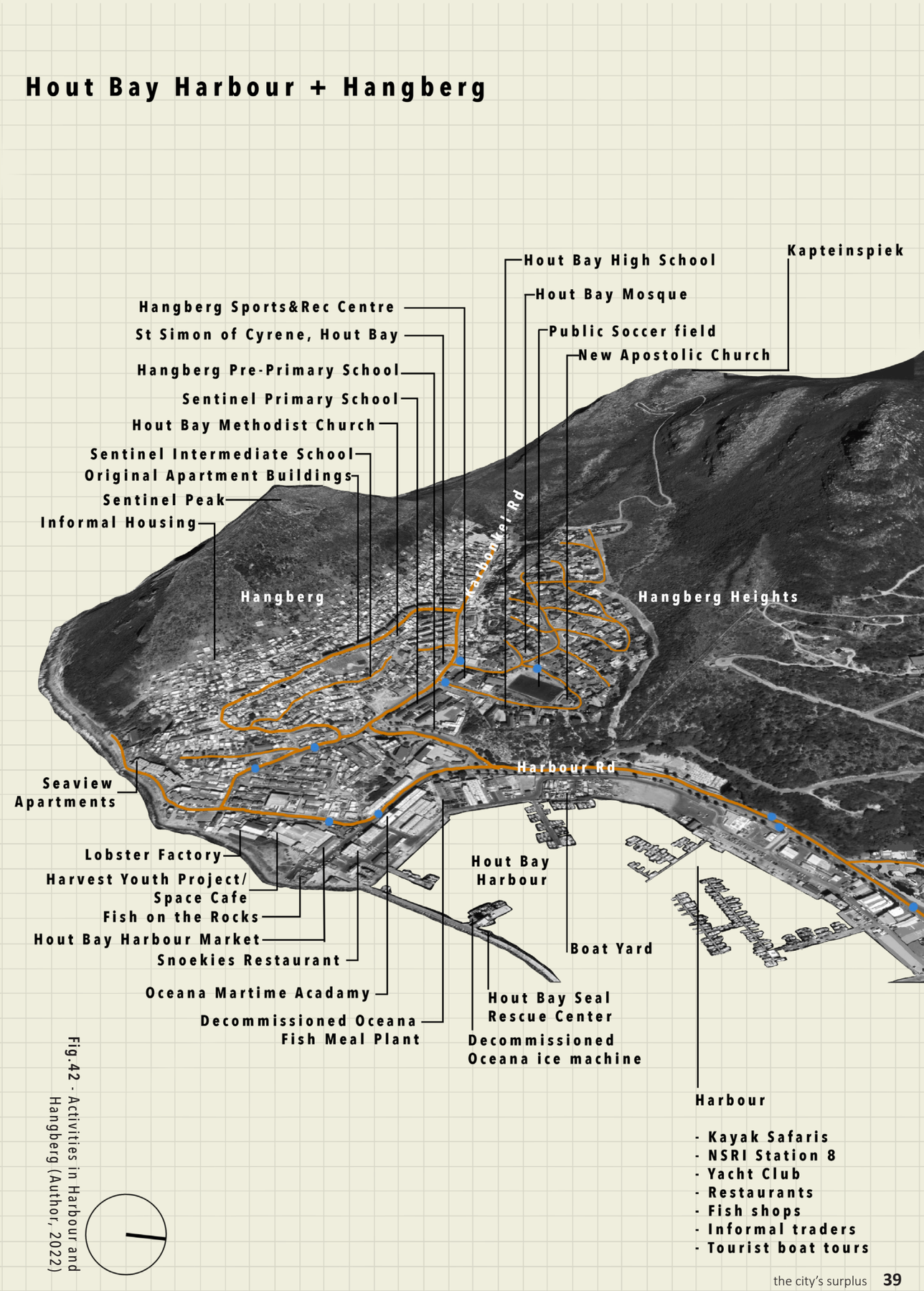
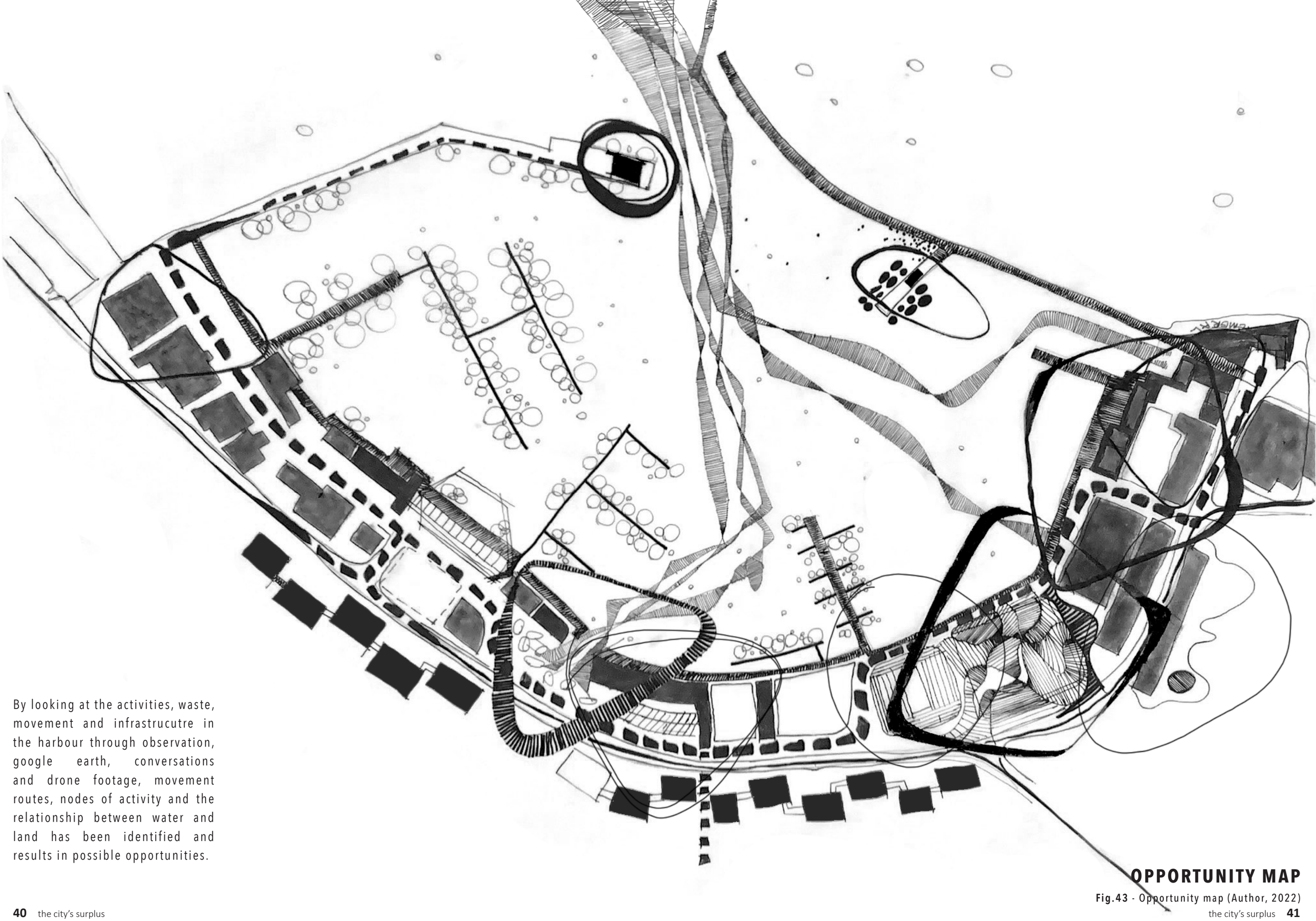


Fig.42 - Activities in Harbour and Hangberg (Author, 2022)



By looking at the activities, waste, movement and infrastrucutre in the harbour through observation, google earth, conversations and drone footage, movement routes, nodes of activity and the relationship between water and land has been identified and results in possible opportunities.

OPPORTUNITY MAP

Fig.43 - Opportunity map (Author, 2022)

The layering of all the mapping has resulted in a collage of the dynamic and the static which offers a an intersting texture and visual of the invisible palimpsest present in the the harbour.

CONSOLIDATED MAP

Fig.44 - Collage of maps (Author, 2022)

THE INPUT

THE RUIN + THE CITY

The ruin has become the architecture of the Anthropocene. The current city is littered with more decay caused by wars, environmental disasters, post industrialisation and economic stagnation. Catherine Slessor writes in the essay 'Reading the ruins' (2017) published in the Architectural Review, that ruins are architecture's memento mori. This Latin phrase translates to "remember that you are mortal". Roman emperors appointed a slave to whisper this into their ears as a reminder of their mortality. Ruins essentially have the same job description, as they are a reminder of the temporality of the urban landscape (Slessor, 2017).

Ruins are a way of reading history and imagining the future. 'The ruined building is a remnant of and portal into the past, its decay is a concrete reminder of the passage of time.' (Slessor, 2017).

"The image of the ruin has the power to distort, unleashing its own ruinous effects on the world" (Slessor, 2017). The ruin carries so much transparent history with it of political and social circumstances and events.

The Oceana Fish Meal Plant has fallen to ruin in a matter of months, showcasing the temporality and brittle nature of infrastructure that is not cared for or that does not contribute to its community. This space has become surplus for the community. The surplus became valuable when it was being taken apart because the bricks, steel, wiring and piping could be sold or used to build homes. It once again has become a wasted space, in the form of a ruin, with the potential to become a space of value again.

The Hangberg community exemplifies the practice of using everything. The less capital, the more creative solutions become.

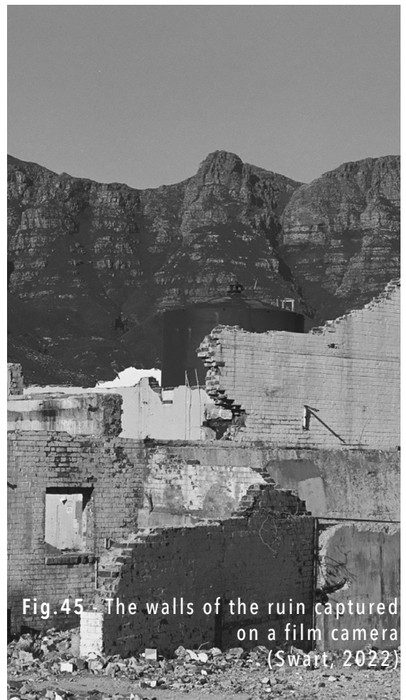


Fig.45 - The walls of the ruin captured on a film camera (Swart, 2022)

Fig.46 - The building rubble with a vista of the harbour captured on a film camera(Swart, 2022)

Except for the physical qualities of the site as a ruin and a wasted space it was chosen for its socio-political location. Situated on the bend of the harbour strip, between rundown spaces, next to the new maritime academy, at the end of the road from which most Hangberg residents enter and exit the neighbourhood, seperating them from the sea.

An easily accessible space by all with the potential to become a catalyst for urban and architecture interventions on either side thereof.

URBAN MINING

The anthroposphere is the home for countless things such as office blocks, apartments, vehicles, ships, batteries, phones, laptops, steel and concrete. Most of these things end up on landfills.

Urban mining is about mining what has already been manufactured and introduced into the urban context. Many of these materials can be mined out of existing products (Hoskins, 2022).

The global urban mine has big potential and it includes products or places that are in use, that are classified as waste or that are in a landfill (Hoskins, 2022). Some of these materials have the potential to be used as raw materials. Urban mining "...can contribute to long-term environmental protection and resource conservation as well as providing economic benefits" (Hoskins, 2022).

Urban mining usually refers to people ravaging through landfills to reclaim materials that are not renewable to be recycled and reused. "On a conceptual level, it looks towards the waste generated by cities and urban environments as a valuable resource, using anthropogenic stocks rather than geological to meet the demands of manufacturing." (rts.com, 2021).

In the case of the Oceana Fish Meal Plant, urban mining has occurred spontaneously. The people from the surrounding communities have deemed the buildings wasteful and started to take them apart brick by brick. Clay bricks, concrete bricks, steel elements, doors, roof sheeting and piping have been 'mined' and either sold or reused in the building of homes and other structures.

Fig. 47 - Man knocking out bricks at Oceana plant (Hendricks, 2022)

Fig.48 - Rubble in the ruin (Author, 2022)

Fig.49 - Extension of house (Author, 2022)

Fig.50 - Bricks and steel to be sold off or used (Author, 2022)

Fig.51 - Illegal structures above fire break, many of which have used salvaged materials from the Oceana plant according to community (Author, 2022)

MATERIALITY EXPLORATION

Precedent - ByBlock

What would happen if cities started to place value on waste, rather than spending valuable time, money, and fuel to get rid of it? Perhaps it could become a resource in its own right. If you shift your mind toward thinking of waste as valuable, then its identity could shift from being the problem to forming part of the solution. A paradigm shift in domestic behaviour, manufacturing, construction, and design is inevitable which rethinks processes, systems, and solutions for the second lives of material-objects (O'Donnell & Pranger, 2020).

When looking at the adaptive reuse of an existing structure, materiality plays a considerably large role. The new intervention could either blend in with or oppose the current materiality. Both these methods are valid approaches, depending on the context of the structure.

The Oceana fish meal plant is a simple concrete and brick structure. This dissertation looks at a simple alternative construction material as a possibility for certain aspects of the design. It takes into account aesthetics, ease of construction and sustainability.

The material and construction method in question is the ByBlock, a brick made from compressed repurposed plastic. The ByBlock was introduced by ByFusion in 2019, a Los Angeles based start-up. . ByFusion developed and manufactured a machine called the Blocker that converts plastic into the ByBlock, and in this way diverting plastic from landfills and our oceans (businesswire, 2019).

Fig. 52 – ByBlock example. (ByFusion, n.d.)

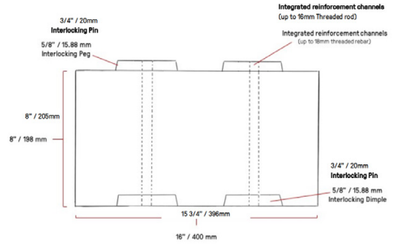


Fig. 53 – Standard ByBlock. (ByFusion, n.d.)

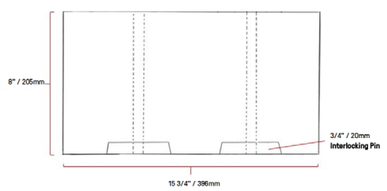


Fig. 54 – Flat ByBlock. (ByFusion, n.d.)

Fig. 55 – Blocker system. Plastic is fed into the system from the right, transported to the blockers which compress the ByBlocks (ByFusion, n.d.)

The process of making the ByBlock (concrete brick size) is uncomplicated. All plastics are suitable with no need to be cleaned or sorted beforehand after which a combination of steam and compression is used to fuse the plastic that is fed into the Blocker (Piotrowski, 2022). No specialized labour is required. It is a chemical, additive and filler free procedure that generates 41% les greenhouse gas emissions than concrete blocks (Malewar, 2022). Currently they come in three models: interlocking shapes (like a lego block); flat shapes to mount elements such as a roof onto it; and a combination of the two models. These 'bricks' weigh 10kg each and are more durable than concrete blocks. They can be used in retaining walls, sound walls, accent walls and interior element.

It is an insulating and water-resistant material that is designed to integrate with traditional building materials such as timber, steel, and cement (ByFusion, n.d.). The Blocker compresses the ByBlock into a shape with 'pins' at the top and recesses at the bottom creating an interlocking block system.

This system can be reinforced by threading a rod through the reinforcement channel, which is 10-16mm in diameter, in the blocks to keep the blocks structurally in place (op.cit.). These rods are placed at 400mm centers with the additional strength option of adding a rebar every 200mm (op.cit.). In terms of the footing the ByBlock requires a level concrete or steel footing, but a structural engineer consultation is required to adapt it to the particular project. The blocks are stacked as standard clay bricks are stacked by staggering each course (op.cit).

Once the top piece has been added the ByBlocks will be locked in place by post-tensioning the system, once again showcasing that no adhesives are required. Exactly because of this no additional ventilation is needed since it will allow air to move through. In a ByBlock wall system, when openings need to be added, timber replaces the ByBlocks. The timber pieces should be extended on either side of the opening to allow the rod to pass through it as well.

It is important to note that the product is made of plastics which are still susceptible to the natural elements such as sunlight thus, it needs to be clad by another kind of material, coated in a transparent paint or paired with a weather-resistant material (Brandon, 2022) and approved fire retardants must be applied (ByFusion, n.d.). It takes 6-10 minutes to make one block, currently (Piotrowski, 2022).

A simple process such as this can be implemented locally which can aid in job creation, tackling South Africa's plastic problem and can contribute to the building industry by aiding the housing crisis in the country with its quick assembly abilities.

The ByBlock and Blocker aim to reshape the future of plastic and with it the future of the planet.

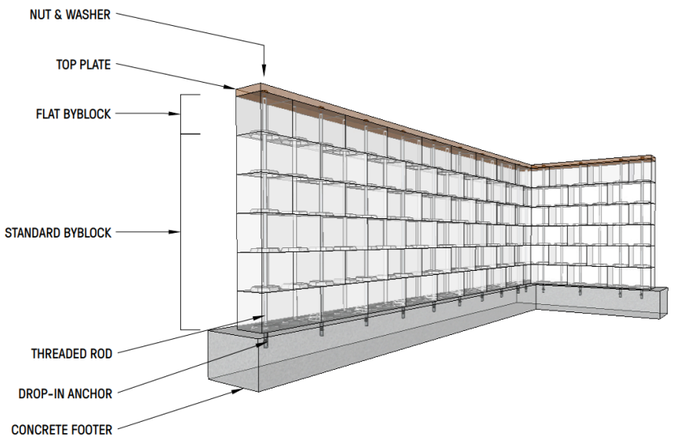


Fig. 56 – Three-dimensional illustration of ByBlock installation into a wall system (ByFusion, n.d.)

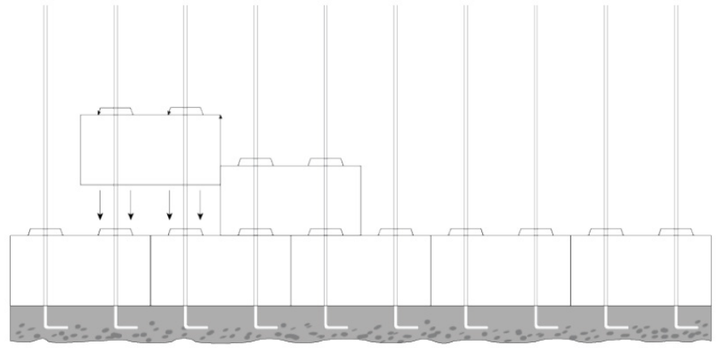


Fig. 57 – ByBlock installation system with threaded rod for extra structural support (ByFusion, n.d.)

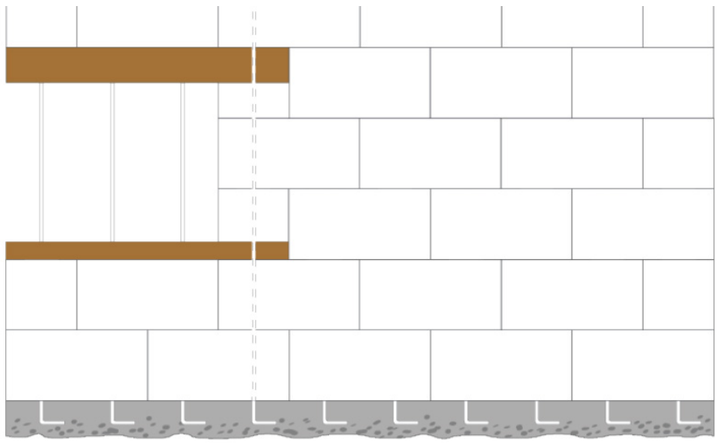


Fig. 58 – Example of opening support explained above (ByFusion, n.d.)

THE PROCESS

THE URBAN | RE-URBANISM | URBAN ACUPUNCTURE

The urban scape is the places and spaces where waste ends up lodging, creating wasted and dangerous spaces that lose possible value. Cities cannot keep up with the implementation of new infrastructure due to urban sprawl caused by population growth. Inadequate planning for the everchanging nature of cities results in many wasted spaces. However, cities have untapped valuable assets in their older buildings and neighbourhoods (O'neal, 2017) which architects, urban planners, designers, developers, and governments need to take advantage of. Modern cities are systems that draw natural resources, process it into something valuable and then produce waste. Could contemporary cities become waste absorbers rather than waste generators?

Several authors have conceptualized city development and social and urban changes into a series of urbanisms, loosely defined as the study of cities. Out of the various urbanisms, New Urbanism, Post Urbanism and Re-Urbanism are closely related. "ReUrbanism does not shape communities through reuse or historic preservation (as New Urbanism might) nor does it create spectacular Starchitecture decontextualised by myriad repetitions (as Post Urbanism does) ..." (Haas & Lock, 2018). Re-Urbanism finds itself between New- and Post Urbanism and aims to articulate urban design interventions that renew, repair and reweave the holes in the urban fabric. It addresses the city as a whole and serves as the enabler of architecture. Re-Urbanism understands the importance of tall buildings and high density. It has a place-making approach that understands the ground floor plane but sees buildings only as a complimentary element in a city scape. The understanding of the ground floor plane is important in the Re-urbanism place-making approach. Re-Urbanism and urban acupuncture walk hand in hand. Urban acupuncture is a design tactic which intervenes at a local, low-key level. Its about generating an adaptable framework for urban renewal (Cutieru, 2020).

The movement aims to conserve the urban heritage and foster new development that weaves neighbourhoods, and different metabolisms, back together. It also looks at mitigation and adaptation strategies when it comes to dealing with climate change on an urban scale. We need to consider the reuse and regeneration of existing buildings and precincts in terms of green design within cities. Less is more after all.

Fig. 59 – Aerial view. (Google Earth, 2022)

"We recycle things that are subject to a life cycle.

Parts of cities, objects, materials: talking about the c**ity as something that can be recycled** makes us think about its rhythms, life cycles, metamorphoses. **Recycling cities** is an essential strategy that **cuts across all scales** and themes of the contemporary urban question: the environmental crisis, the progressive divide between rich and poor, forced or denied mobility that points towards new exclusions."

- Recycling City, 2012

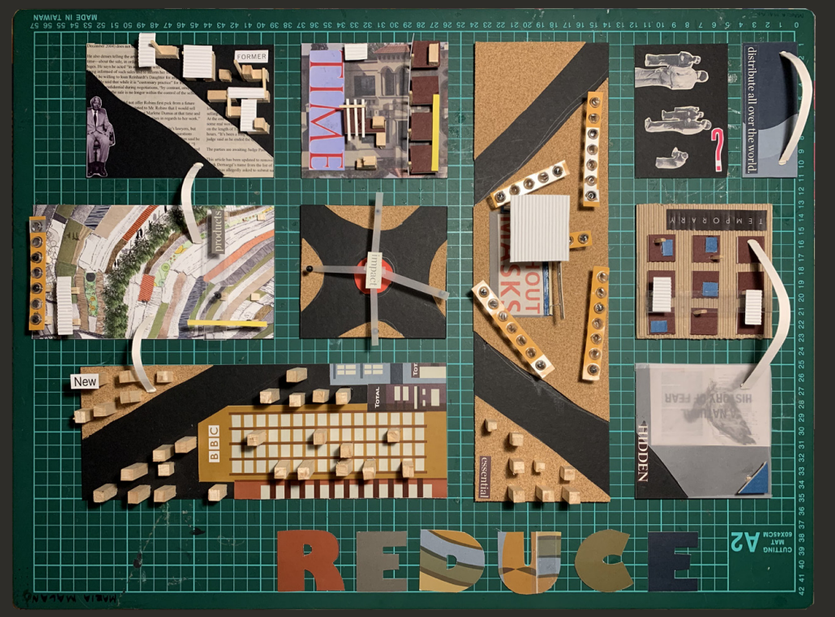


Fig. 60 – Collage – A city in Flux: This is an image of a physical built model exploring the temporality of the urban scape and waste spaces within the city through collage and assemblage. (author, 2022)

DESIGN PRINCIPLES

pattern | play | people | planet

PATTERN

The existing systems (social, economic, and political systems) need to be understood that the design projects fall within in order to alter them and introduce new systems and ultimately to arrive at a sustainable end result, threefold. These systems are on an urban and architectural scale.

01. Design on a **human scale**
02. **Variety** creates lively communities and spaces accommodating people from all walks of life
03. **Mixed use** developments
04. **Preserve the community's core** – make use of existing places and spaces and reweave the holes in the urban and architectural fabric.
05. **Build connections** – through spatial continuity
06. **Re-urbanism** – urban scale
07. **Adaptive reuse** – architecture scale

PLAY

Investigation into new technologies, materials and systems. Innovative thinking is required in all aspects of the project phases in order to achieve sustainability.

01. **Future first design thinking** – The timeframe of a city, building and material need to be considered with the end-of-life in mind. It should be flexible and adaptable after its initial use.
02. **Materiality** – Alternative materials in terms of structural stability, maintenance, reuse possibility, and carbon emissions (during production and in building). Both new technology and upcycled material possibilities are important to consider.
03. **Carbon zero approach** – Audit the energy resources spaces and places used to function and attempt to find new solutions to minimize it.

PEOPLE

People centered design approach.

01. **Place the human at the center** - Look to the past users for context and understand the needs of the present users in order to design an inclusive space.
02. **Interaction** – Interact with the users to form an understanding of their experience, interaction, relationship and requirements of a space/place.

PLANET

The implementation of green infrastructure and systems in landscape design, urban design and architecture relating to waste and net zero construction.

01. **Waste management** infrastructure and recycling.
02. **Multi use** applications for Landscape elements and buildings.
03. **Passive design principles** – climate control, passive heating and cooling, and daylight.

CONCEPTUALISING THE URBAN FRAMEWORK

The urban framework within which a singular design intervention sits plays an important role. The understanding of the ground floor plane and the reimagination thereof adds to the urban grain of a design. The urban is the first public interface, the greeting of the building, that the user interacts with.

The goal of the urban framework is to introduce economic activity to the harbour, simultaneously introducing more job opportunities with fishing related jobs on the decline. Secondly the urban framework wants to introduce social activity in the form of programmed public spaces such as skateparks and a tourist route through the harbour and into the community by enhancing already active but not well-known activities such as the Hangberg community tour and art tour.

This conceptual framework imagines a diversified multi use harbour accommodating small and medium scale fishing activity supported and enhanced by the intensification of medium industrial, commercial, tourism, recreational and educational activity. By introducing more economic focussed activities such as restaurants, workshops and shops it both draws tourists and empowers the surrounding community through job opportunities and thus skills development.

This maquette explores the fluidity of the urban spaces in the harbour on a scale of 1:2000. It looks at nodes, connection points and walking routes and their relationship with the intended intervention's location in the harbour.

Different materials and colours were used to create a dynamic and interesting conceptual space. These colours do not necessarily refer to anything but can be loosely looked as the yellow referring to movement, the orange referring to connection points and nodes, the cork and red plastic referring to fluid spaces that spill into one another and the blue as the site for the design intervention.

Fig.61 - Urban model (Author, 2022)

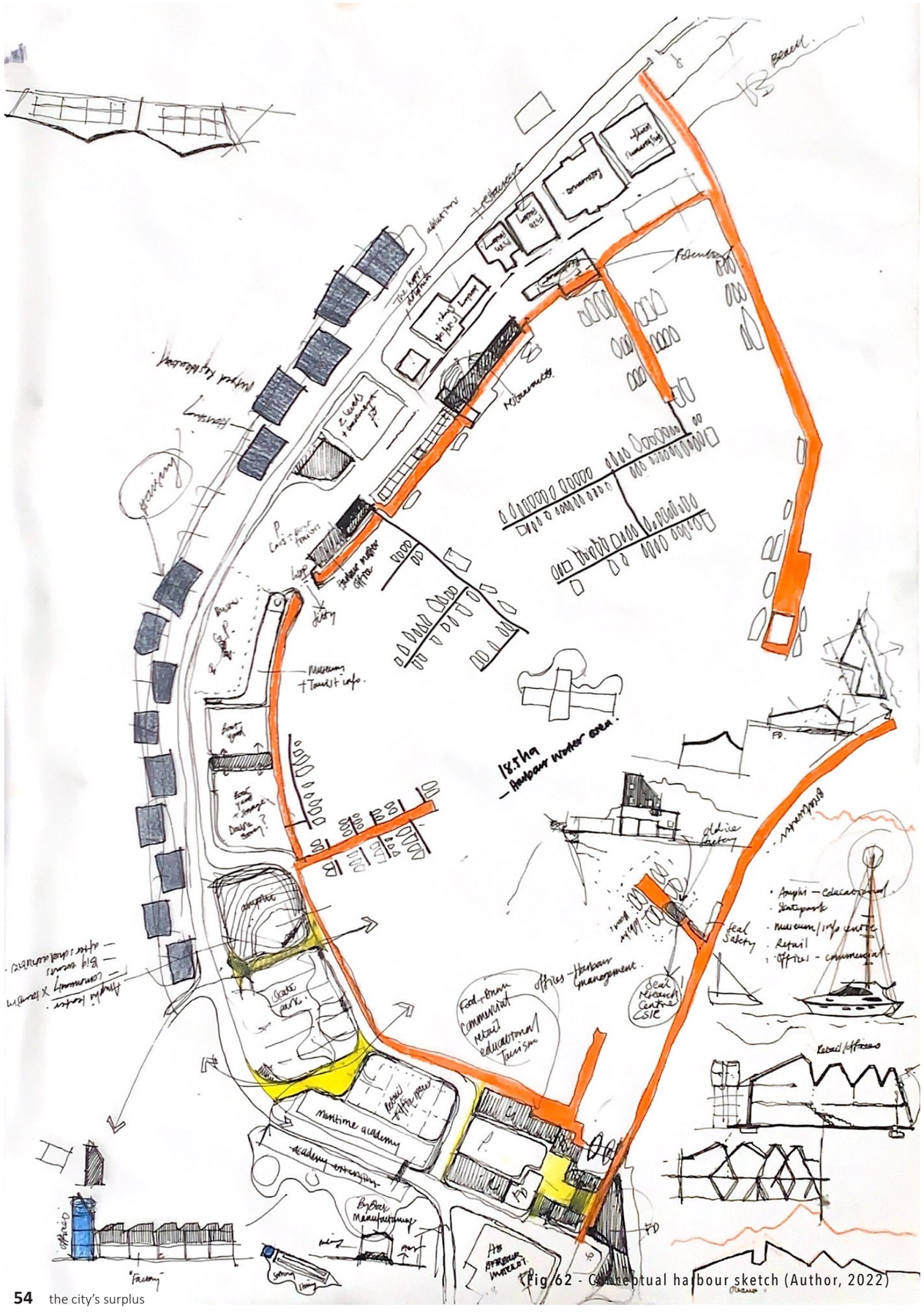


Fig.62 - Conceptual harbour sketch (Author, 2022)

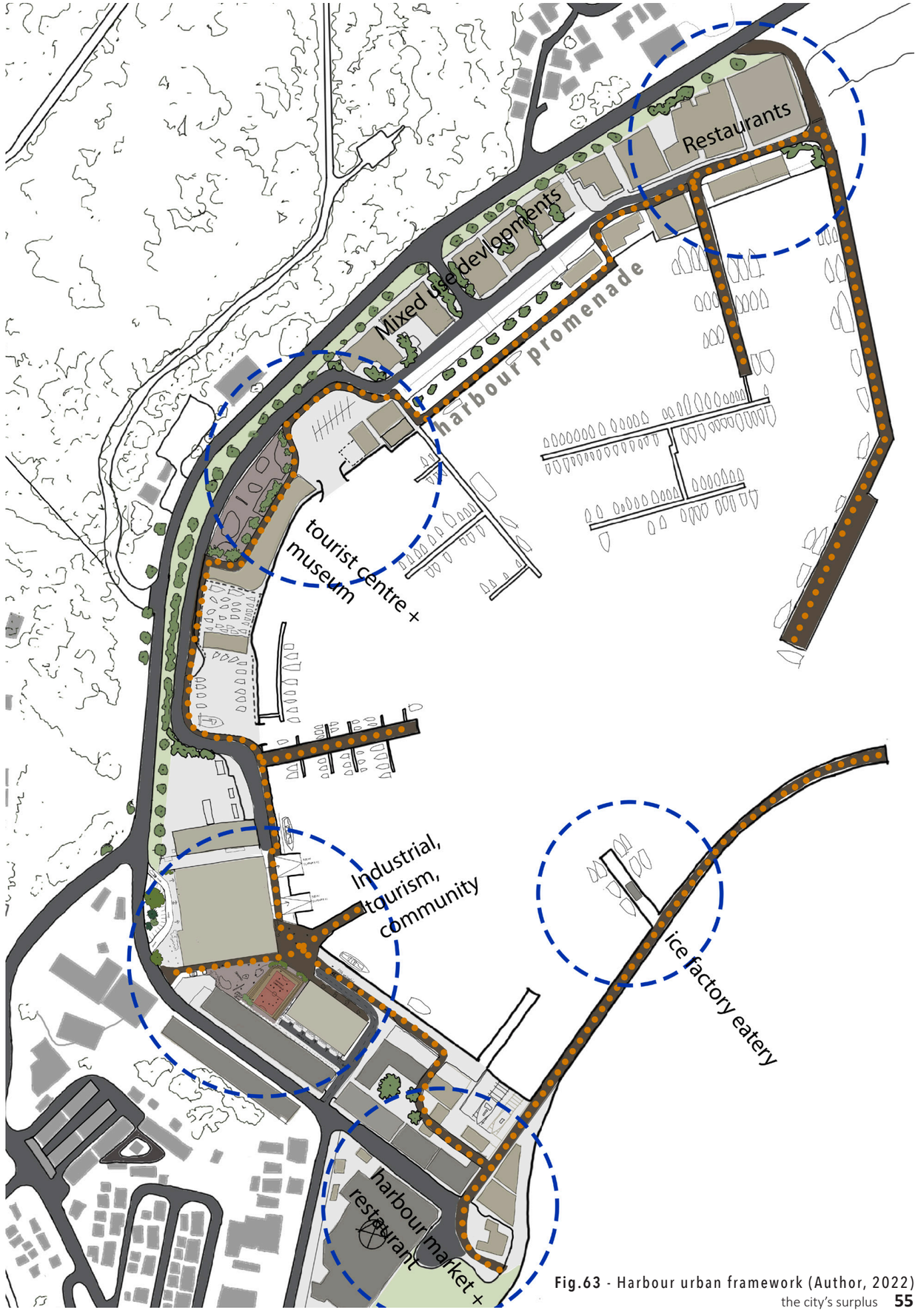


Fig.63 - Harbour urban framework (Author, 2022)

THE PROCESS

ARCHITECTURE | ADAPTIVE REUSE

Adjusting from the urban to the architectural scale is valuable since there are so many derelict buildings in cities with potential. In the urgent discussion on climate change the strategy of adaptive reuse is redefined into an important consideration when designing in an existing built context. Adaptive reuse perpetuates a continuation of growth and change in contrast to demolition and preservation approaches. The reuse of existing structures is one of the main parts of the adaptive reuse practice, but it is a rich and diverse one which includes the "... reuse of materials, transformative interventions, continuation of cultural phenomena through built infrastructure, connections across the fabric of time and space and preservation of memory..." (Wong, 2017, pg. 30-31). This results in an intricately woven series of narratives of the built environment with adaptive reuse as the main tool.

Liliane Wong compares buildings and their structure to DNA and genes. Most genes are the same in all people with a few differing parts which results in individuality. Elements such as circulation systems, façade and the structure are primary units of buildings compared to the bone structure, blood vessels etc. in the human form. The differentiating parts are the color, shape, size, materiality etc. as in humans' hair, skin, eye colour, length etc. are used to identify a person (Wong, 2017). The human body can be rehabilitated and revived just like a host structure of a building. New technology leads to medical inventions such as prosthesis and organ transplants. Like the human body, buildings can be adapted and regenerated in terms of systems replacement, new facades or structural adjustments.

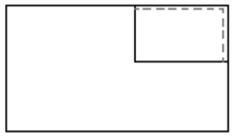
As in the human body the success of an adaptive reuse intervention relies on the relationship between the new intervention and the characteristics of the host structure. An initial assessment of the characteristics of the host structure must be the starting point of every adaptive reuse project (Wong, 2017). The DNA of the host structure is evident in adaptive reuse along with the evidence of past users, assimilating it to a palimpsest which allows the past to co-inhabit the present space. In some cases, the past is inhumane leaving these structures with brutal memories without reuse with the only purpose as serving as a witness to history in a role of education and remembrance (Wong, 2017). An adaptive reuse project forces us to read a building, like a text, with juxtaposed parts "...in which the new intervention is another chapter in its long history." (Wong, 2017, pg. 121).

Each adaptive reuse project needs to be approached from a different angle. Market forces determine whether a building will be demolished or adapted and therefore the ease of adaptability determines the shelf life of a building (Haas&Locke, 2018). On the architectural scale Re-Urbanism wants to patch up or introduce spatial continuity, an urban issue that occurs at the architectural scale. Spatial continuity further acts as a cultural memory aid at a social scale that bridges the past and present to unite the current and past users. However, the question arises: How much should designers acknowledge the passage of time in these projects?
Adaptive reuse has different approaches when taking on and redesigning an existing building. Wong refers to the host structures as found objects that have lost their relevance to the users. Each host structure has its own system, and this independent existence must be respected for the project to render successful. The host structure is an entity with which many alterations and interventions can be made in support of its independent existence. Liliane Wong (2017) describes six adaptive reuse approaches in terms of the host structure which will be briefly discussed:

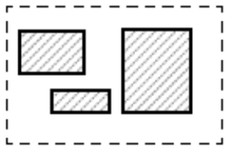
1. Entity - An intact building with interventions either on the exterior, interior or both resulting in whole building conversions.

2. Shell - Interventions that engage with every part except the envelope of the building, generally heritage buildings.

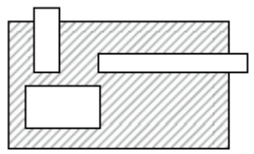
3. Incomplete building host - The Semi Ruin Host – A building with missing elements needs additions that both restores the structural integrity of the building and extends the host building in its new use.



4. The fragmented host - A building, which is incomplete, making it uninhabitable thus the adaptive reuse approach is one of invention.



5. The relic host - This is plainly a relic of the past (a memory, event, or period of time) that serves as a catalyst for a new design, guiding the spatial experience that recalls the old one.



6. Group host - A complex of buildings engendering a grand scale adaptive reuse. Unifying strategies are important to consider collective relationships between the individual structures.

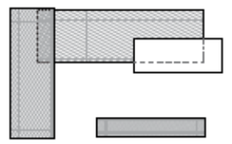


Fig.64 - Diagrams (Wong, 2017)

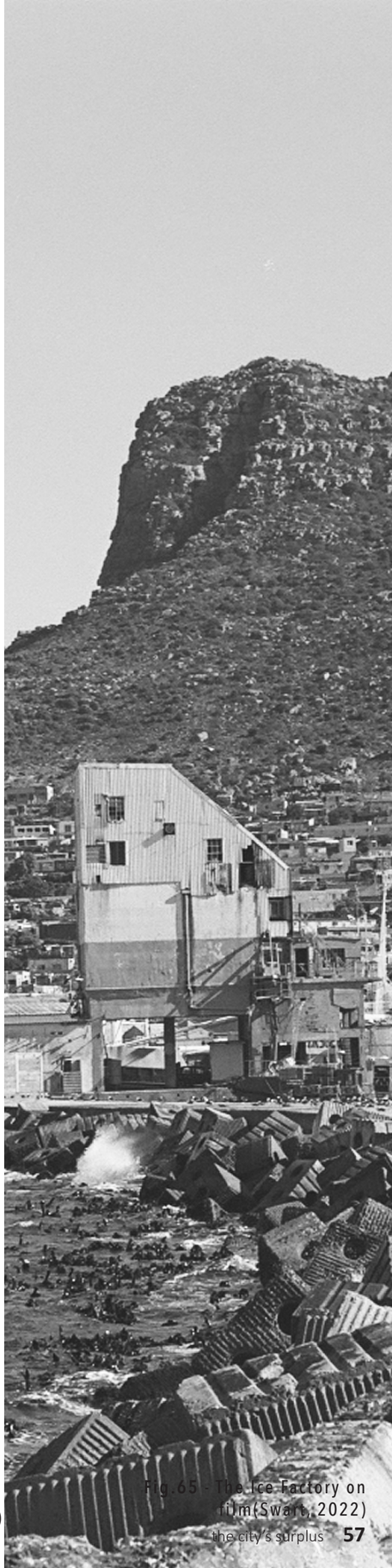


Fig.65 - The Ice Factory on film(Swart, 2022)

DESIGN PRECEDENT STUDIES

sesc pompeia

Lina Bo Bardi
Sao Paulo, Brazil
1977-1982

Sesc Pompeia, located in Sao Paolo, was designed by one of the Modernist era's leading female architects, Lina Bo Bardi. Bo Bardi transformed this previous drum factory into a multi-purpose building by adding two concrete towers to the existing building complex. The existing buildings were stripped to show the original structure of steel, brick and concrete allowing the design to inform the program.

The two new rough concrete 70m high towers were built to contain sports facilities. The towers function as a landmark to be seen from far away and act as an invitation to take part in a 'little joy in a sad city' (archeyes, 2022). This notable architecture has also attracted tourists over the years to take part in this bold architectural vision.

This project reflects Bo Bardi's concern for considering public spaces which embrace the dynamics in a city, the fluxes of city life, barriers between inside and outside and the commitment to the public to allow for appropriation(Dauden, 2020). The deck which has become known as the beach protects a stream that runs through the site and acts as an internal street that extends into the urban scape.

The program is part of the success of the project which brings the streets into the centre attracting all ages and social classes. This space became a 'dream of civic life made real' (Ferraz, 2012) with its exhibition spaces, public restaurant with communal tables, car ban, open air deck and the invitation to stroll through. This space is a testament to human labour with its transformation from a place of hard work to a place of leisure for the working class (Pinto, 2021). The old factory that remains visible aims to create a second life for the space full of soul and personality without erasing the past as a tribute to those who worked in these spaces.

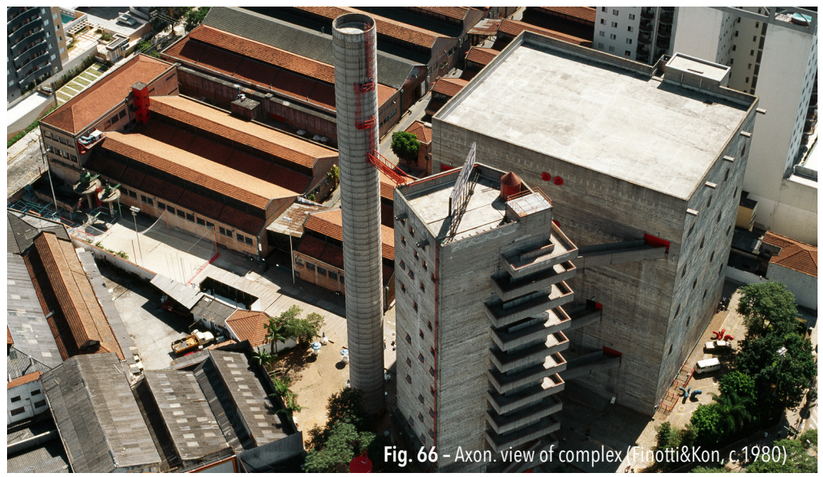


Fig. 66 – Axon. view of complex (Finotti&Kon, c.1980)

'If traditional techniques had deep roots in popular culture, **recycling** revealed the **power to adapt** to new demands'
Lina Bo Bardi

Fig. 68 – Entrance (Vidro, c.1980)

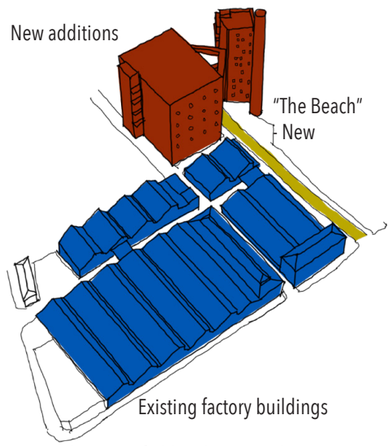


Fig. 67 – diagram of old and new (Author, 2022)

The diagram above explores the massing of the existing and the new. The exisiting factory buildings are indicated in blue and the new concrete towers are indicated in red.

The yellow strip indicates the interior street which has become known as the beach.

Thus learning how public elements can act as the glue that connects different buildings and programs

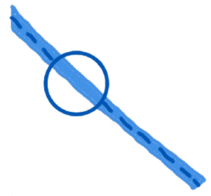


Fig. 69 – diagram 01 (Author, 2022)

Fig. 70 – diagram 02 (Author, 2022)

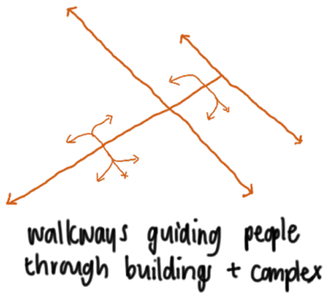


Fig. 71 – diagram 03 (Author, 2022)

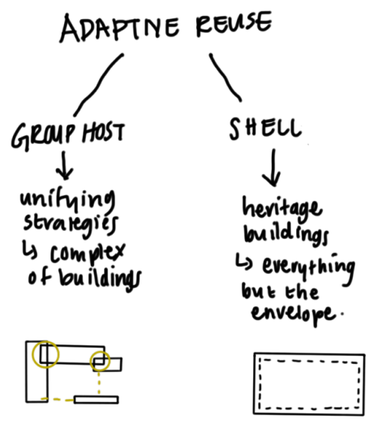


Fig. 72 – Aaptive reuse (Author, 2022)

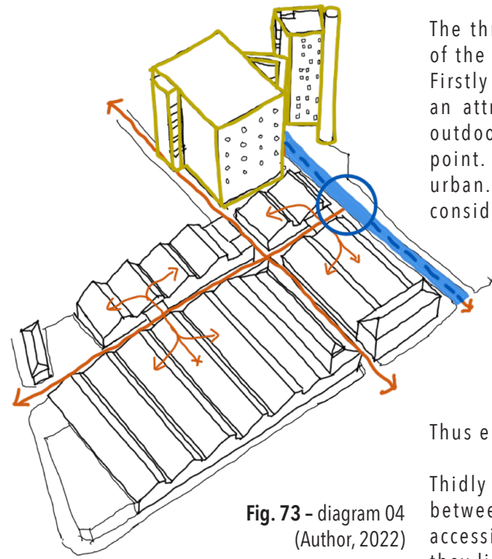


Fig. 73 – diagram 04 (Author, 2022)

The three diagrams above simplify some of the take aways from this project.
Firstly looking at the beach that acts as an attraction for the public looking for outdoor spaces as well as a connection point. It extends from the site into the urban. Looking at the importance of considered public nodes.

Secondly looking at the radical approach of erecting two tall and solid structures which can be seen from all over.
This generates interest from the public and tourists.

Thus engaging people with the city.

Thidly looking at the connection routes between spaces, making it easy and accessible for all the enter and exit where they like.

Fig. 74 – "The Beach" (Finotti&Kon, c.1980)

Fig. 75 – Interior lounge (Finotti&Kon, c.1980)

The diagram below looks at the complex on a plan view showing all the different programs present on the site.

Once again illustrating the magic of mixed programming.

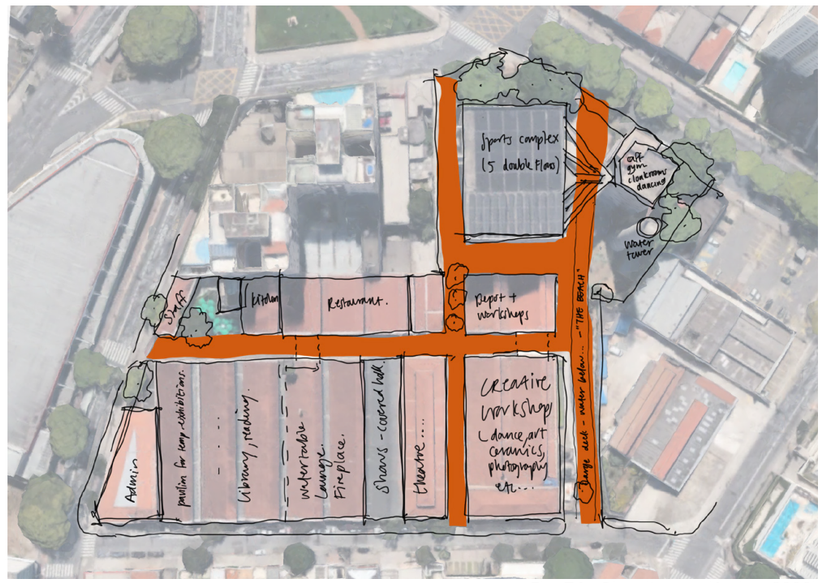


Fig. 76 – Plan diagram (Author, 2022)

Le Fresnoye
Art Centre

Bernard Tschumi
Tourcoing, France
1991-1997

Le Frensoye, Located in Tourcoing, France, was designed by Swiss architect Bernard Tschumi. Tschumi transformed this existing building into a new institution for the arts focussing on technology.
Tschumi suspends a large metal roof, that at some points floats over and other points engulfs the existing buildings (Lavin, 1997).
The design strategy towards structure was a balance between conservation and replacement. The historical buildings were restored and the new roof (steel and polycarbonate) floats above the old roof with suspended walkways and stairs weaving between the roofs and necessary infrastructure that hang from the new roof structure.
The design strategy towards materials was one of contrast as can be seen with the new steel, polycarbonate and glass opposing the existing masonry, wood and roof tiles.

The program completely replaced. The existing buildings were part of a leisure complex housing cinemas, ballrooms, horseback riding etc. The new program is art focussed and houses exhibition spaces, sound studios, audio visual production facilities, a library, cinema, restaurant, offices and apartments.

The roof is the architecture of note in this project with its multiple functions. On the South Side the roof floats high above the buildings. On the west side the roof shifts the old buildings to the outside which allows for other events to take place. On the north side the roof is closed which houses studios and apartments, more private spaces. Lastly on the east side a staircase transports you up to the level of the roofscape, between the old (old roofs) and the new (new steel structure above). Tschumi speaks of the 'entre-deux', the in between space (Loriers, 1997). Spaces that surprise and inspire.

Tschumi creates an "innovative concept about spaces generated by collisions between forms, programs and the varied systems of contemporary culture." (Loriers, 1997).

Fig. 77 – services plug in (ciam, 2019)

Fig. 78 – the inbetween (ciam, 2019)

Fig. 79 – Materiality (ciam, 2019)

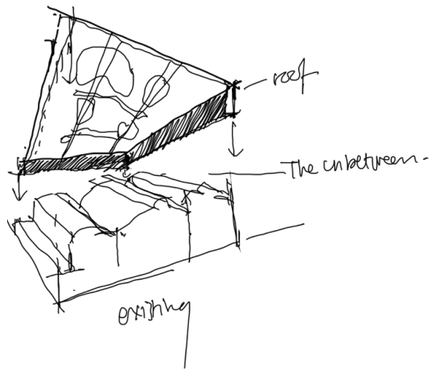


Fig. 80 – the cover: diagram (Author, 2022)

This diagram shows the umbrella roof that covers the existing heritage buildings. This approach speaks to the roof as a design element that pulls together all the different parts of the site.

By cutting holes out of the roof structure it allows for natural light to infiltrate the underneath.

Looking to the materiality and visual approach of the light tectonic roof structure and the stereotomic exisiting which speaks to how the building meets the ground and touches the sky.

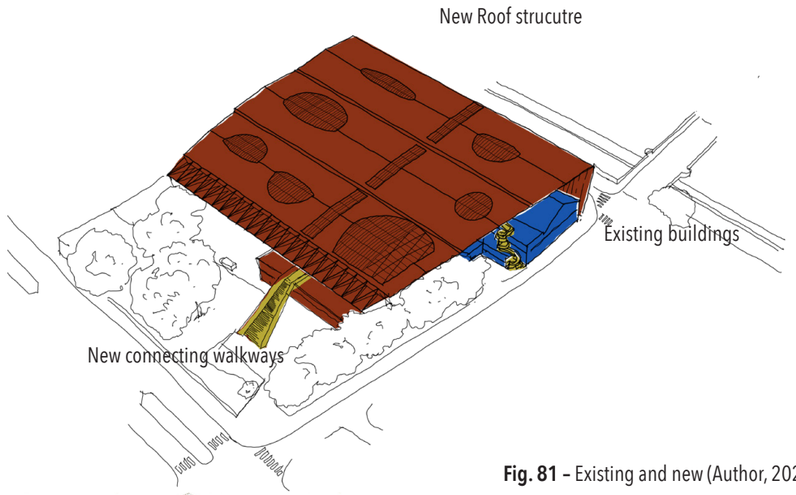


Fig. 81 – Existing and new (Author, 2022)

The section explores the different roof spaces that are protected by the new umbrella roof and how new walkway structures are woven inbetween them which can also be seen in **figure xx**. The massing in yellow becomes a landscape and the blue walkways transport the user over and through the landscape.

The importance of dealing with the roofscape, the groundscape and the relationship between the two comes into play.

Thus learning that the roof can serve more functions than just acting as an enclosure.

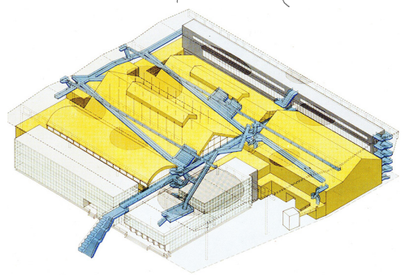


Fig. 82 – diagram of buildings (ciam, 2019)

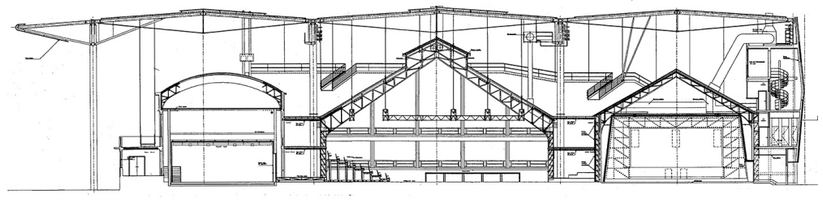


Fig. 83 – Section (Bernard Tschumi Architects, 1991-1997)

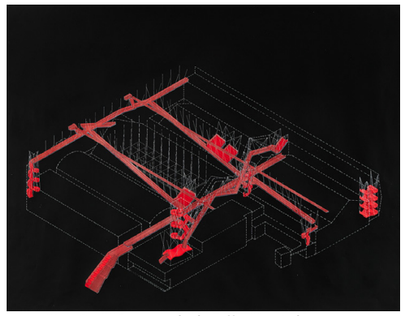


Fig. 84 – Suspended walkways inbetween (ciam, 2019)

Fig. 85 – The new overarching the old (ciam, 2019)

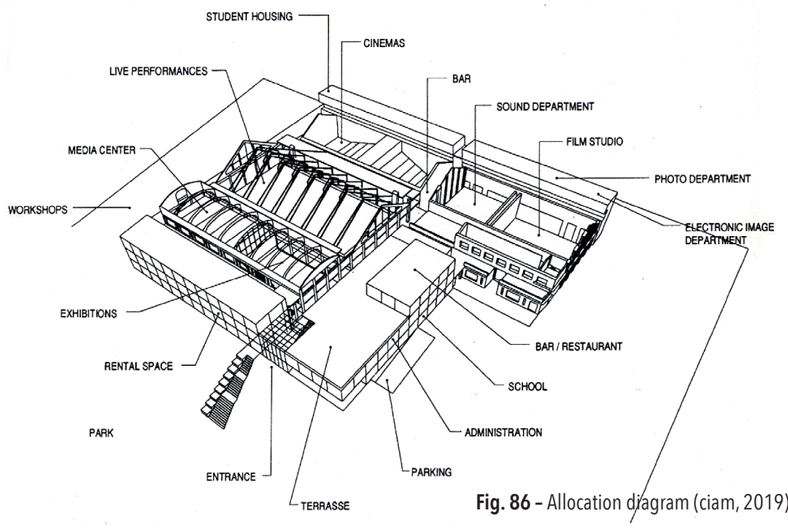


Fig. 86 – Allocation diagram (ciam, 2019)

The diagram to the left allocates all the different programs on the site. These programs all complement one another to create a successful new institution for the arts.

Thus there is magic in mixed programming. Different programs add to each other and attract a wide variety of users.

Mungo Mill

Andrea Cristoforetti
Plettenberg Bay
2018

The Mungo Mill is a creative expression of the values of Mungo and tells the story of this 20-year-old family business.

This company celebrates the craft by producing woven products and commits to ethical production and providing jobs and skills development for local people (Brown, 2018).

The design of the new mill showcases the craft and narrative of the traditions of preindustrial and industrial weaving.
Architect and landscape artist Andrea Cristoforetti designed this statement building making it visible from the national road that passes by it. Cristoforetti's aim was to create an interactive experience for the public with the production process without being in the way.

The design was informed by the looms to ultimately serve and house them. A loom has multiple heddles that hold up every thread of the warp. Cristoforetti wanted visitors to walk through these threads to experience a part of the poetry of the craft (Brown. 2018) in the exterior walkway.

A lot of natural light floods the space through large windows and observation galleries for the visitors which contrasts traditional textile mills (Brown, 2018).
The visitor enters the building, walks along the outer edge of it under the 'threads' which is slanted wood panels kept in place by steel details. It guides the visitor to the observation decks, along the storage spaces and past the making of the final products and outside toward the shop where one can buy these products.

Learning that by designing **spaces for visitors to engage** with the industrial process both benefits the makers and the visitors/buyers. It keeps the **business accountable** to its ethical stance and **engages the buyers** to the products they buy. The **notable architecture** intrigues the public from afar which **increases foot traffic** and ultimately sales.

Fig. 87 – the entrance to the mill (Author, 2022)

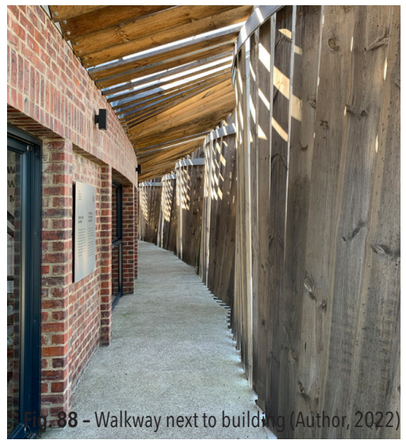


Fig. 88 – Walkway next to building (Author, 2022)

"People have **lost touch** with the **way things are made**," ... "We wanted the customer to see what they're buying being made, to make that **connection**."

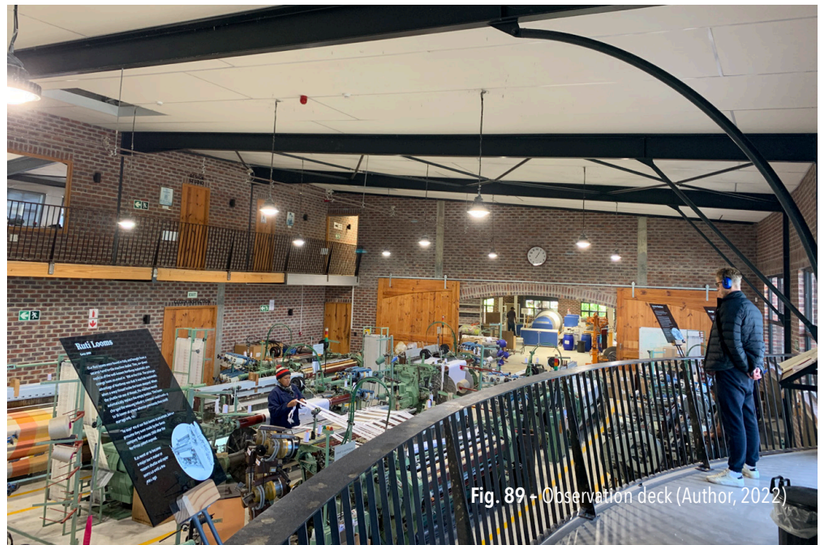


Fig. 89 – Observation deck (Author, 2022)

Watershed

Wolff Architects
Cape Town
2014

This project by Wolff Architects locates itself in a decommissioned electrical repair workshop which served the drydock at the V&A Waterfront in Cape Town. The new program for this industrial shed is a business incubator with offices on the first floor and a market space on the ground floor (Wolff architects, 2014).

Along with the formal program, a social program of incorporating a pedestrian street throughout the shed is key to the project. This sets up an urban pedestrian network that connects places around it and it reclaims public space. Thus, the large numbers of foot traffic create commercial opportunity for the small businesses in the market area. In turn this also increases the diversity and magnitude of human interactions. These interactions occur in the pedestrian street but also between levels (business incubator above and small business in the market below) by means of huge openings in the first floor level making these visual interactions possible. By making it possible to watch the activities of others it creates a stimulating, social and educational environment.

Wolff found value in the existing gantry crane with rails and lattice columns. This structure became a valuable part of the new intervention as the steel floor is suspended off it which eliminated the need for ground supports.

This precedent amplifies the **magic of mixed programming.** It illustrates the success that can come from designing **programmed public spaces and movement routes** along active edges, guiding people where you want them to go without force. It also exemplifies a way of **connecting different levels,** a more private first floor level and a public ground floor level through making openings in the floor for the visual connection. And lastly it displays the richness that can come from **identifying value** in the existing and using it to create or inspire the new.

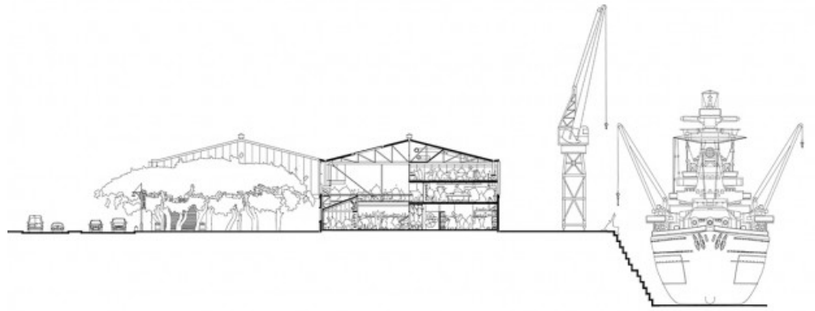


Fig. 90 – Cross section showing Watershed and adjacent drydock (Wolff Architects, 2014)

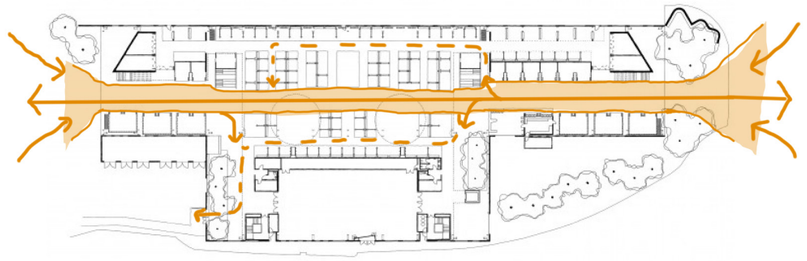


Fig. 91 – Diagram of pedestrian street on ground floor (Author, 2022)

Fig. 92 – Entrance (Southwood, 2014)

Fig. 93 – Street and shops (Southwood, 2014)

Fig. 94 – opening in first floor (Wolff, 2014)

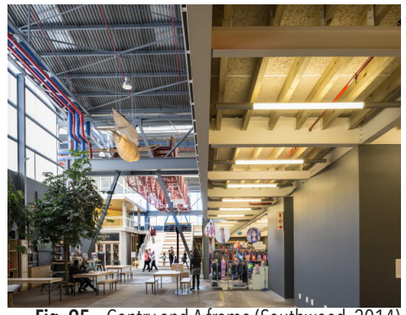


Fig. 95 – Gantry and A frame (Southwood, 2014)

CONCEPTUALISING THE DESIGN INTERVENTION

The three-dimensional exploration will find its location within this ruin. By looking through the lens of waste this particular site aims to become a catalyst for regenerating the current wasted space that is the Hout Bay harbour.

The opportunities of what this space could become and how it could contribute to the harbour-scape is learnt from the dynamics of movement and mayhem that fills it.

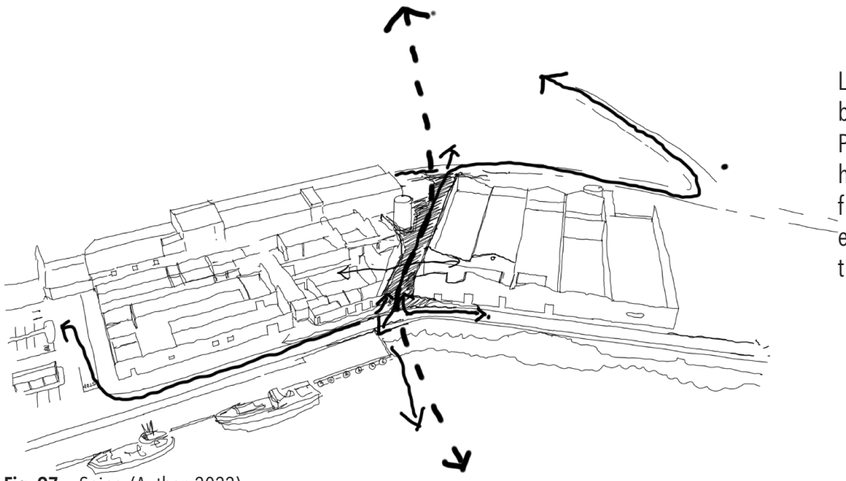
The site, the harbour context and the surrounding Hangberg community played a crucial role in the conceptualisation of the design intervention.

Adaptive reuse and urban regeneration strategies are key to the project as finding ways of dealing with the surplus on an urban and architectural scale is the main goal. The surplus human lives which refer to unemployed are approached through creating possible job opportunities, skills building and civic facilities. The surplus on an object scale is dealt through using repurposed waste construction materials and being aware of how the construction of a structure impacts the future of waste.

The aim was to create a space that would contribute to the problem of unemployment in the harbour, aid in inspiring and cultivating the young minds of the surrounding community, attract people from all over which would create commercial opportunities for small businesses and become a safe and active public space where events can take place and people from all walks of life can interact.

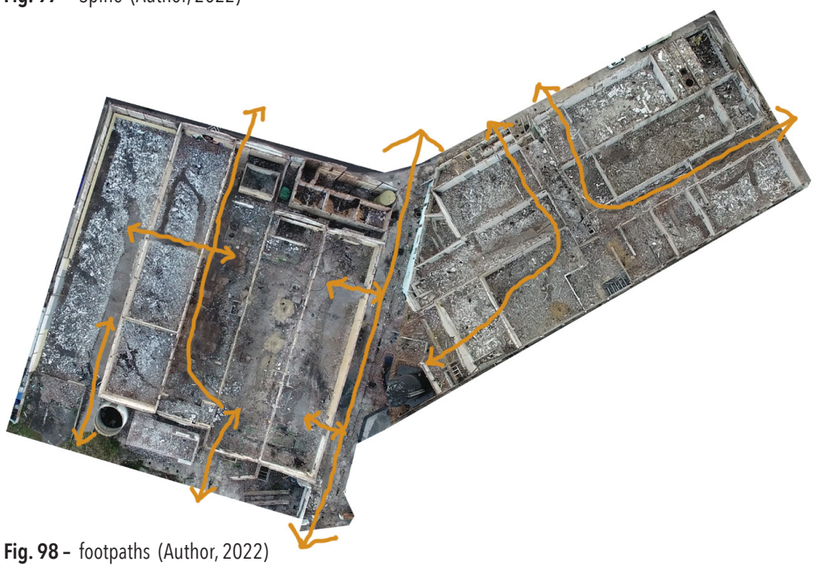
Fig. 96 – Drone view image (Wilson, 2022)

EXPLORING THE EXISTING _ THE RUIN



Learning from the existing space between the two buildings. Previously closed but it now has become a shorcut route from Harbour road to the water egde. It has become a spine for the site.

Fig. 97 – Spine (Author, 2022)



Walking routes within the ruin itself have visibly formed as people walk and kick away the waste. These desire lines act as an informant for the new design layout.

Fig. 98 – footpaths (Author, 2022)

Accidental vistas have formed. The wastescape and ruin frames the natural mountain- and waterscape.

Fig. 99 – Accidental vistas (Author, 2022)

"Architecture can't force people to connect; it can only **plan the crossing points**, **remove barriers**, and make the **meeting places useful and attractive**."

- Denise Scott Brown

Fig.100 -The spine with the Ice Factory in the vista view(Swart, 2022)

A Ruin Tour

Fig. 101 – View 01 (Author, 2022)

'The Spine'

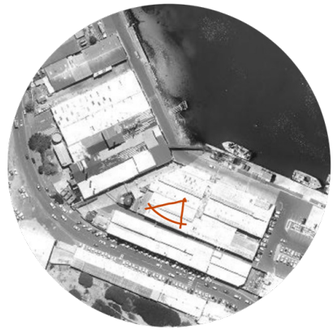
Fig. 102 – View 02 (Author, 2022)

Ruin + Hangberg

Fig. 103 – View 03 (Author, 2022)

Ruin as canvas for art

Fig. 104 – View 04 (Author, 2022)



Momentos of a past - fire escape route signs

Fig. 105 – View 05 (Author, 2022)

The facade's accidental imitation of the moutainscape.

Fig. 106 – View 06 (Author, 2022)

The ice factory in the foreground with the fishmeal plant and Hangberg in the background.

WHAT IS OF VALUE?

When the value of a building is examined it is important to approach it objectively to consider all stakeholders involved.

Adapting an existing structure implies that there will be a loss of something (Louw and Papanicolaou, 2019), visible or invisible. Thus, the importance of considering what is of value is invaluable.

Looking at the physical and social values of the existing structures aid in the design process in terms of program, aesthetic value, material consideration and urban ground floor planning.

Firstly, looking at the Fish Meal plant. The social value of a building conjures up memories. The Fish meal plant has been a place of work for a big part of the Hangberg community for over 50 years. The fishing trade has been the biggest employer in this harbour but is currently on a decline.

There is value in its location. Not only the context of the harbour but also in the greater area, with breath taking nature views all round.

Secondly, looking at the value of the decommissioned ice factory situated across the harbour. There is value in its location for the same reasons as previously mentioned as well as for its isolated location. A visitor has to walk a lot further to reach, making it a destination point. The harsh shape of the structure also accidentally mimics the skyline of the Hangberg mountain backdrop. Lastly value is identified in its iconic presence in the harbour. Making it a talking point and a point of interest.

Fig. 107 – Film photo (Swart, 2022)

FACADE - Roof skyline speaks to mountains in the background

The broken gabled façade mimics the skyline of the mountain backdrop. This accidental happening gives aesthetic value.

Fig. 108 – Film photo (Swart, 2022)

MURAL - Retain - palimpsest layer

Value is identified in the informal murals that have popped up around the site on the empty walks. The ruin acts as a canvas for artistic expression.

Fig. 109 – Film photo (Swart, 2022)

STRUCTURAL ELEMENTS - Beams + columns + foundations + slab

The structure is seen as valuable as the beams, columns, foundations and slab can be reused as a base to build off of.

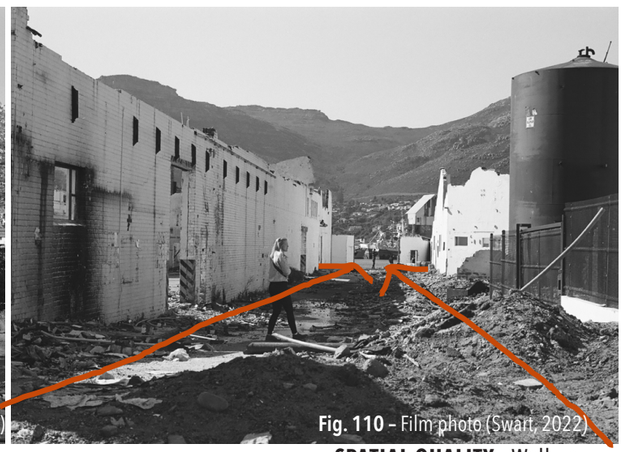


Fig. 110 – Film photo (Swart, 2022)

SPATIAL QUALITY - Walkway

The spatial quality identifies value in movement through the site, which only came to play after the site has been dismantled, opening the central walkway up and allowing a connection between the upper community and the waterfront.

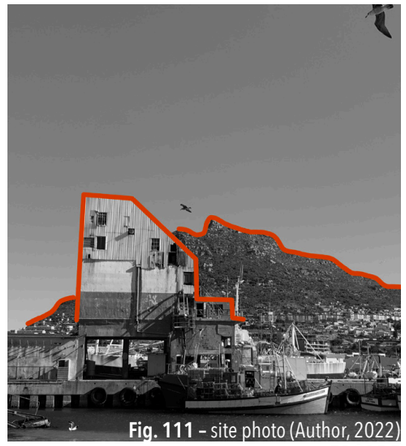


Fig. 111 – site photo (Author, 2022)

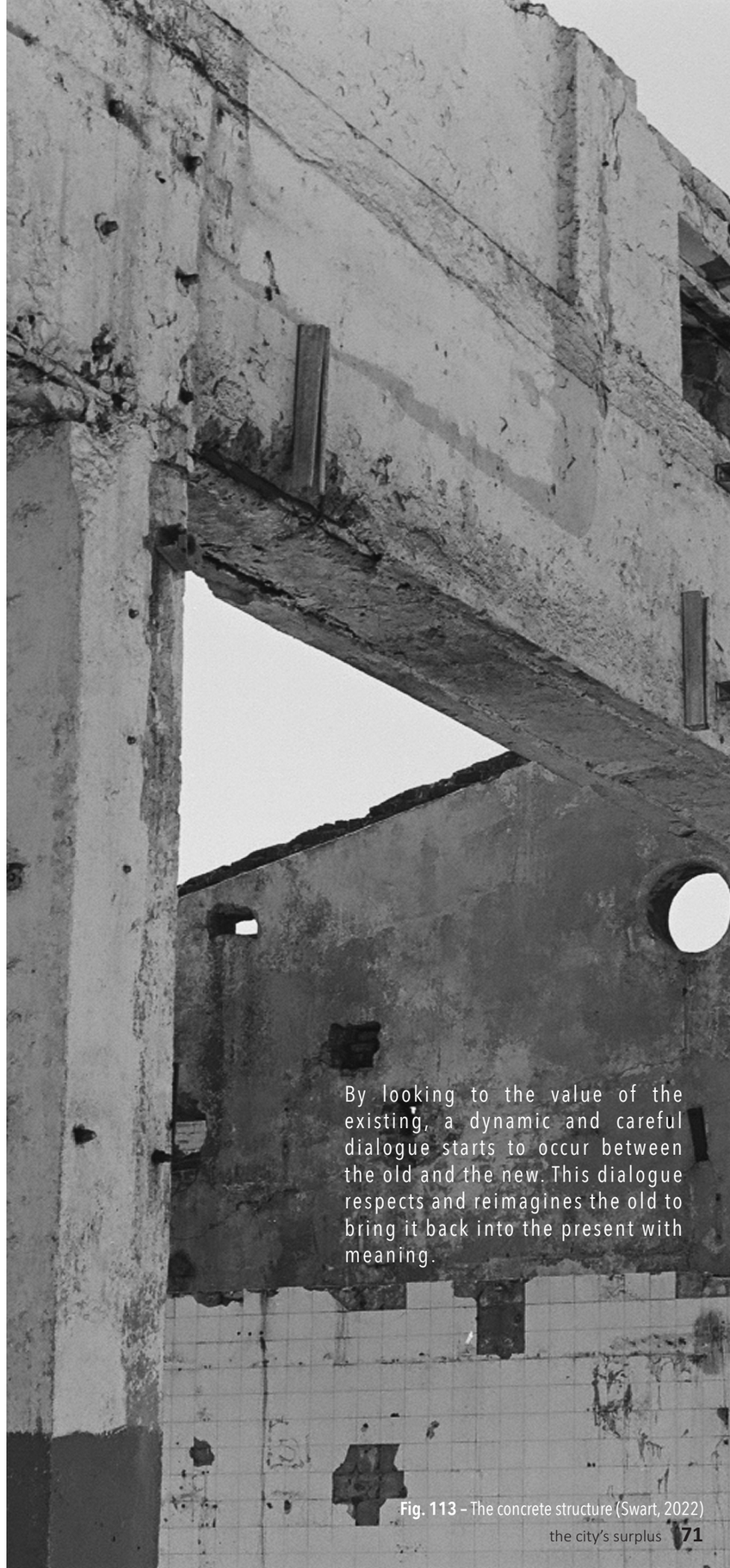
FACADE

Roof skyline speaks to mountain in the background

Fig. 112 – site photo (Author, 2022)

ICONIC PRESENCE

It has become an integral part of the harbour landscape. It is seen from all over, it has the potential to become a destination point.



By looking to the value of the existing, a dynamic and careful dialogue starts to occur between the old and the new. This dialogue respects and reimagines the old to bring it back into the present with meaning.

Fig. 113 – The concrete structure (Swart, 2022)

EXISTING TEXTURE PALETTE ON SITE

Fig. 114 - Broken asbestos sheeting lying within the rubble. (Author, 2022)

Fig. 115 – Remnants of a past. Concrete and brick rubble with documents of the previous business activities. (Author, 2022)

Fig. 116 – Wind blown sand covers the surface with rusted nails scattered around. (Author, 2022)

Fig. 117 – 230 brick wall, with a 100mm (Author, 2022)

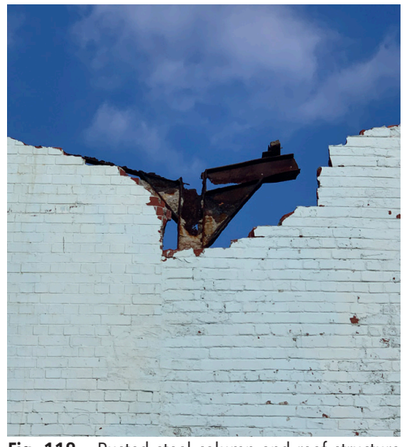


Fig. 118 – Rusted steel column and roof structure peaking out of brick wall. (Author, 2022)

Fig. 119 – Exposed rusted steel column within brick wall. (Author, 2022)

Fig. 120 – Wall art appearing on a large wall surface covering the peeling paint of the exisiting wall. (Author, 2022)

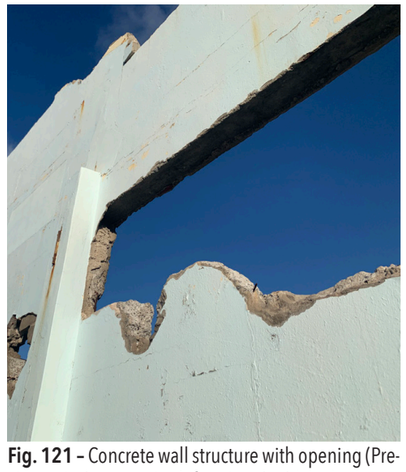


Fig. 121 – Concrete wall structure with opening (Previous window opening), framing the blue sky. (Author, 2022)

Fig. 122 – Nature has started to take over the rubble in the ruin. (Author, 2022)

EXISTING TEXTURE PALETTE SURROUNDING SITE

Fig. 123 – The steel support structure in the drydock used to keep boat stable and acts as scaffolding to fix boats.
Learning from the existing form follows function. (Author, 2022)

Fig. 124 – Formal structures with informal structures scattered between and filtering into the mountain-scape. (Author, 2022)

Fig. 125 – Rocks and concrete frame the waterscape. (Author, 2022)

Fig. 126 – "Kyk en raak wys" - Watch and become wise. Grafitti of words on the concrete wall of the drydock , sharing some wisdom. Clearly this is not the first grafitti, previously painted over, creating palimpsest. (Author, 2022)

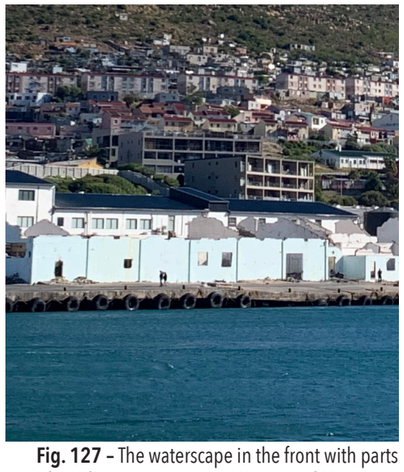


Fig. 127 – The waterscape in the front with parts of the fish meal plant and the rest of Hangberg in the background. (Author, 2022)

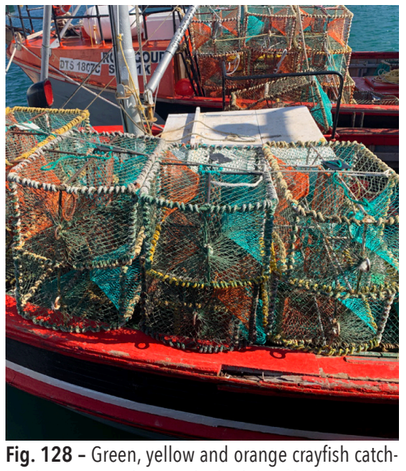


Fig. 128 – Green, yellow and orange crayfish catching baskets on a boat in the harbour. (Author, 2022)

Fig. 129 – Fishing vessel with all of its elements that are necessary for it to function. (Author, 2022)

LEARNING FROM THE SCAPES

(landscape, waterscape, mountainscape, harbourscape, roofscape, wastescape)

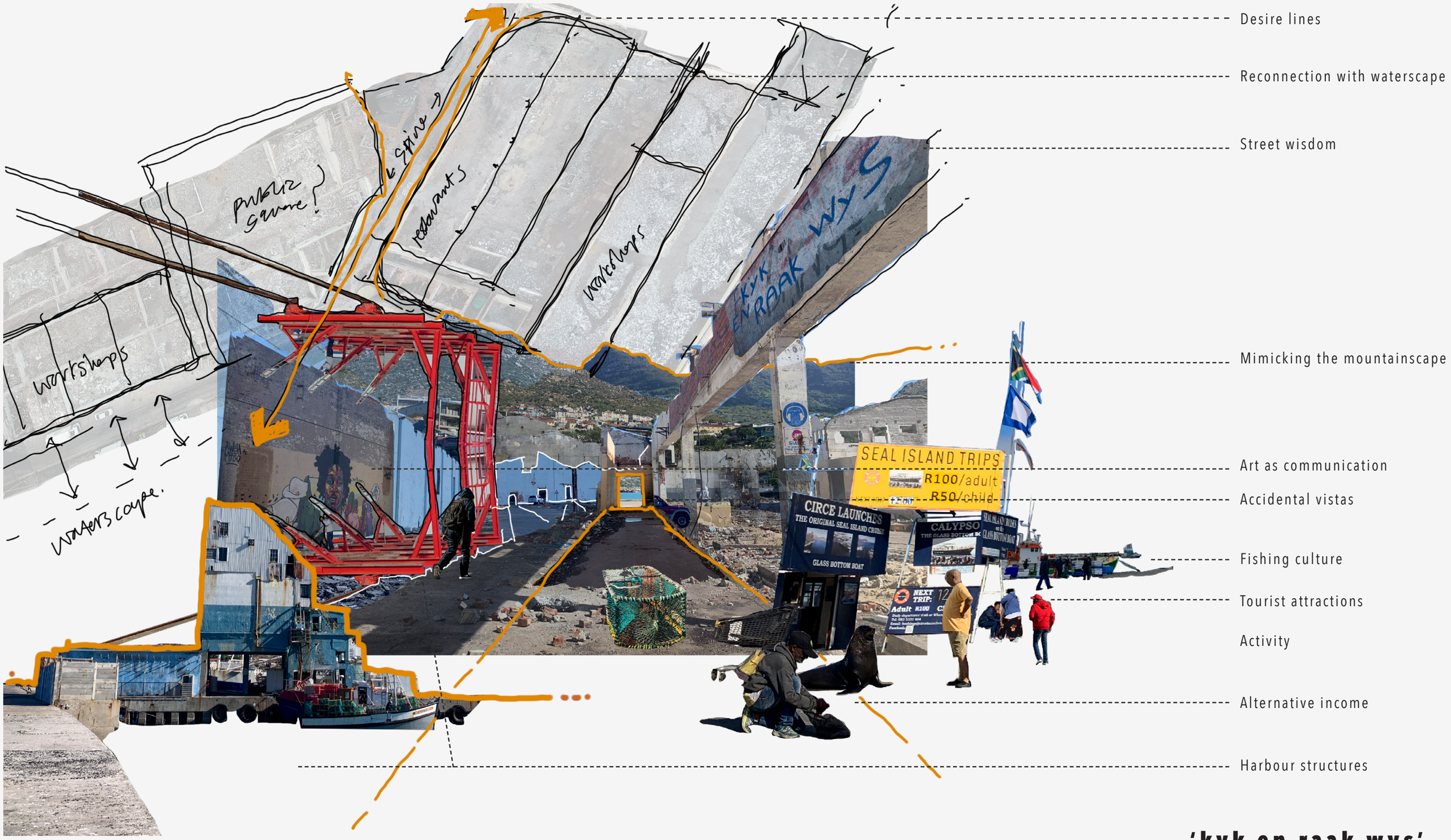


Fig. 130 – Collage - learning from the scapes (Author, 2022)

'kyk en raak wys'
look and become wiser

Fig. 131 – Collage of design development sketches (Author, 2022)

Concept elevation from street front.

GROUND FLOOR PLAN INTERVENTION

NEW FISH OFF LOADING

NEW SLIPWAY 02

NEW SLIPWAY 01

NEW PIER

Fish unloading

STOP

BOAT WORKSHOP

SMALL BOAT WORKSHOP

BOAT WORKSHOP

STAIRS FROM TOURIST VIEWING ROUTE

RESTAURANT

KITCHEN

KITCHENETTE + DINING

BATHROOMS

LEARNING CENTER

RECEPTION

STAIRS VIEWING

STORAGE

SKATEBOARD WORKSHOP

SUNKEN SPORTFIELD

SKATEPARK

SPEED RAMP

WORKSHOP 01

WORKSHOP 02

WORKSHOP 03

WORKSHOP 04

WORKSHOP 05

FIRST FLOOR SHOWROOM + VIEWING DECK INTO WORKSHOP

SERVICE ROAD

STOP

The ground floor plan intervention is integral to this scheme as the interior spaces flow into the outdoor public spaces which eventually integrate with the public ground floor level of the Harbour as a whole.

The plan houses several activities revolving around learning, teaching, making, entertainment, commerce and the community.

Fig. 132 – Ground floor plan (Author, 2022)

An aerial view image taken in May of 2022 showing the existing plan and building conditions.

Fig. 133 – Aerial view images taken via drone by Craig Wilson (2022), stitched together by author (2022)

The proposed plan, layered over the exisiting creates a palimpsest

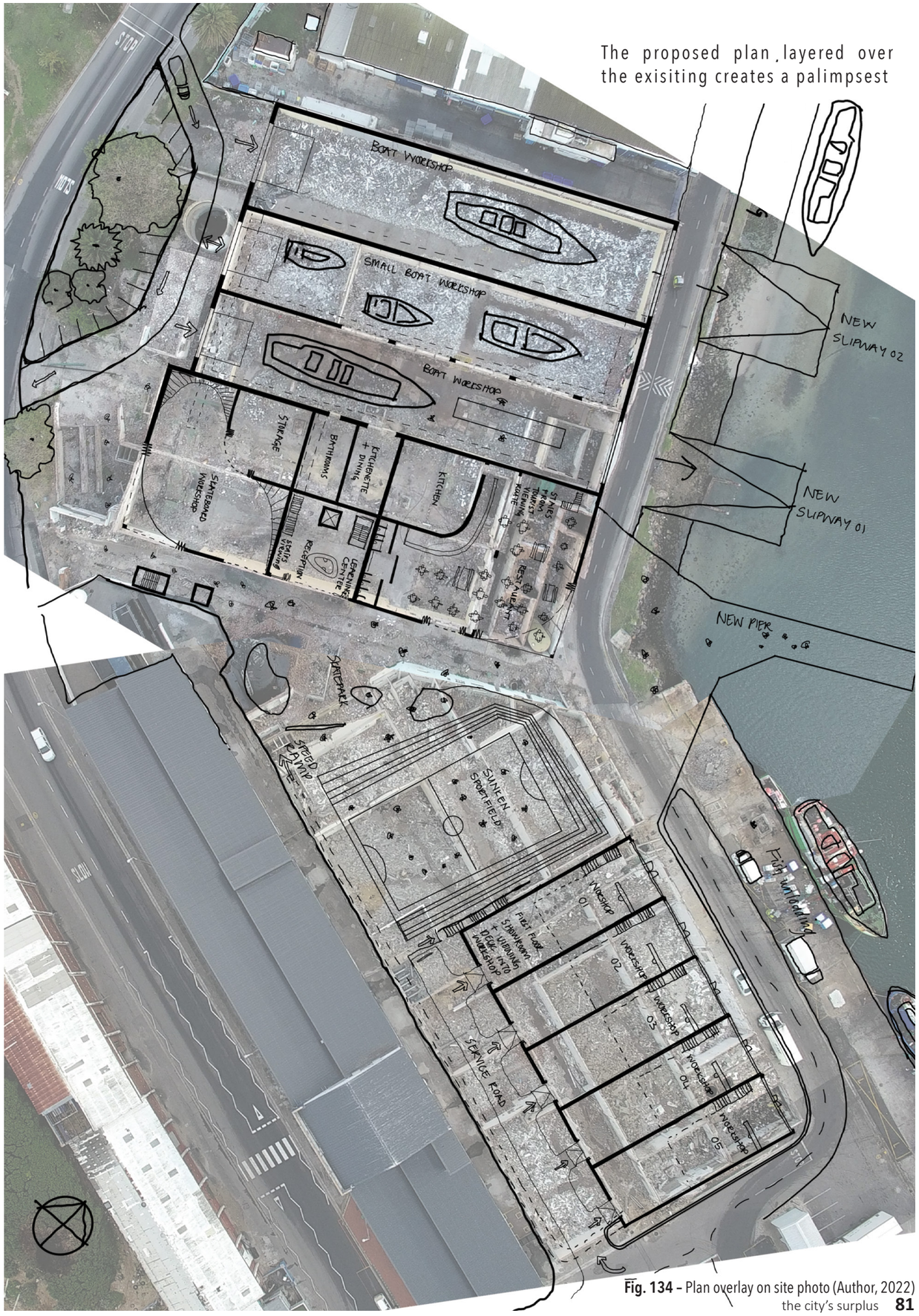
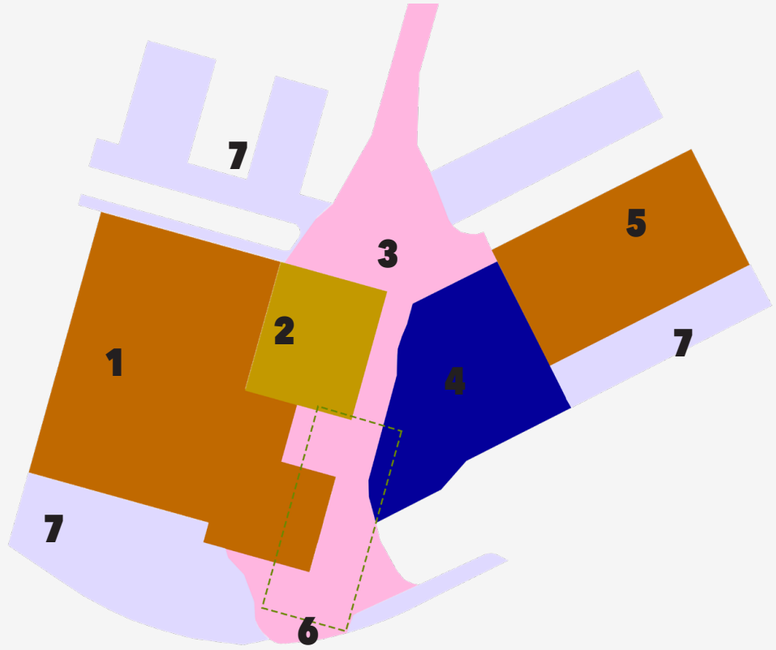


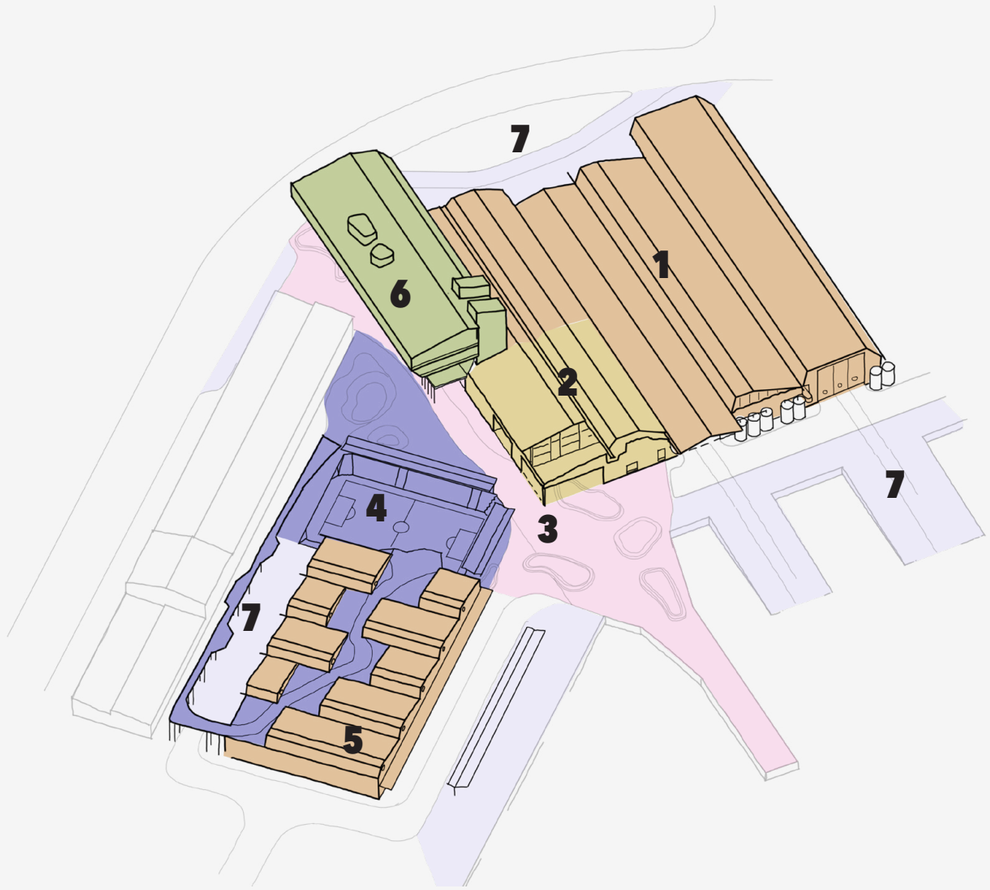
Fig. 134 – Plan overlay on site photo (Author, 2022)

A conceptual sketch of the ground floor plan extruded

Fig. 135 – Conceptual 3d sketch (Author, 2022)

GROUND FLOOR PLAN DIAGRAM





1

Workshops - Boatbuilding + Skateboarding

2

Restaurant space

3

Spine - Connection between road and water. Connecting point between two buildings, between ground and upper level.

4

Active node - sports courts, skateboard ramps + small skatepark etc

5

Workshops - Different trades - art, upcycling, wood work etc.

6

Learning Centre - spaces for ngo's to opperate in. Specifically in after school education for children

7

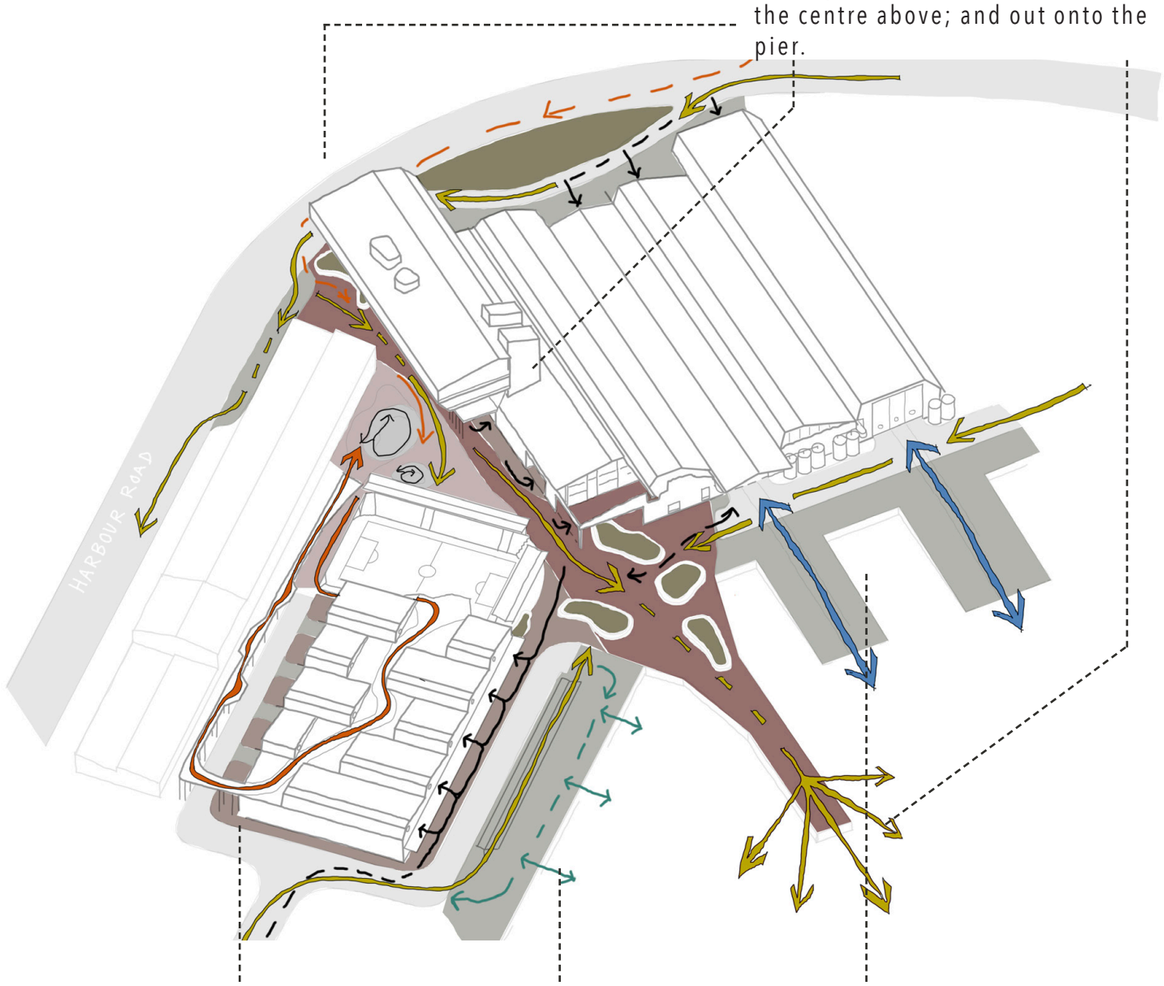
Access - Vehicle service access (loading and unloading), Slipways into water for boats.

Fig. 136 – Plan diagram (Author, 2022)

Fig. 137 – 3D diagram (Author, 2022)

GROUND FLOOR PLAN FLOW DIAGRAM

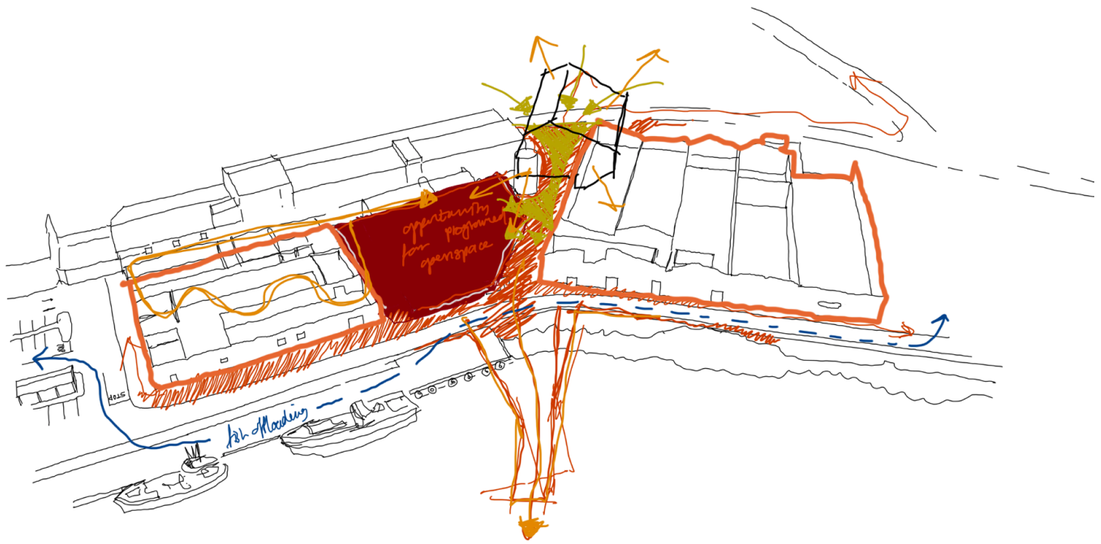
Entrance from Harbour road. The sculptural structure of the learning centre draws people into the site and guides them toward the activity node; into the entrance to the centre above; and out onto the pier.



Movement of the skateboarders, how they get onto the roof, weave between the roofs and speed down the ramp.

Entrance into the smaller workshops.

Movement of the boats between the water and the workshops.

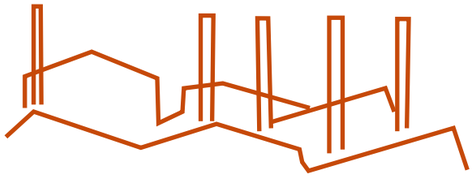


This new design is set in this wastescape and aims to be a catalyst for the harbour to take similar strategies and develop into vibrant spaces for tourists to visit and invest in and for locals to sell products and services, share the community culture and create job opportunities.

Fig. 138 – Flow diagram (Author, 2022)

Fig. 139 – exploring flow and space diagram (Author, 2022)

THE ROOFSCAPE - THE MOUNTAINSCAPE



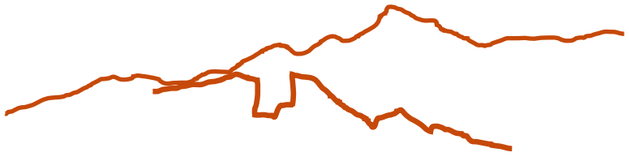


Fig. 140 – roofs pre-ruin (Furlough, 2015)

Fig. 141 – current facade (Author, 2022)

The roofscape of the factory buildings pre-ruin. The structure is purely designed to house the activities within and for them to take place with ease.

Currently there is no roofscape, only the defragmented memory of one.

Fig. 142 – Maquette (Author, 2022)

Learning from the roof- and mountainscape:

The new roof is influenced by the functionality of the previous roof and by the dialogue the exisiting facade has with the mountain backdrop.

The new roof floats above the existing structure and at other points it touches it lightly.

The varied roof angles and heights allow for bigger volumes and considers the natural light influx.

This maquette explored the facade wall in relation to a new roof structure. The roofscape is extended by a sculptural element housing the learning centre. It explores how this structure attaches itself to the roof like a parasite.

Roof becomes an elevated part of the groundscape serving as a skateboard track and ramp.

Roof structure fragmented to allow for skateboarding track, breaking its monotonous rythm.

New roof in dialogue with existing wall, mountain backdrop and interior volumes.

Fig. 143 – Roofs diagram (Author, 2022)

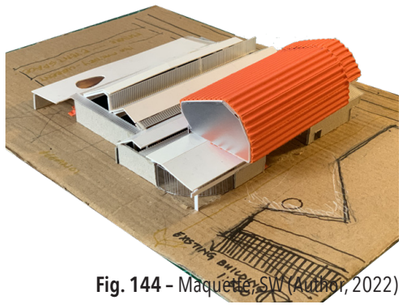


Fig. 144 – Maquette, SW (Author, 2022)

White and transparent materials exploring materiality and light

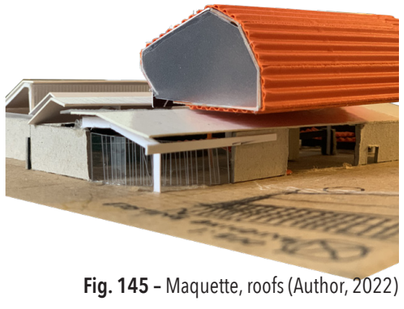
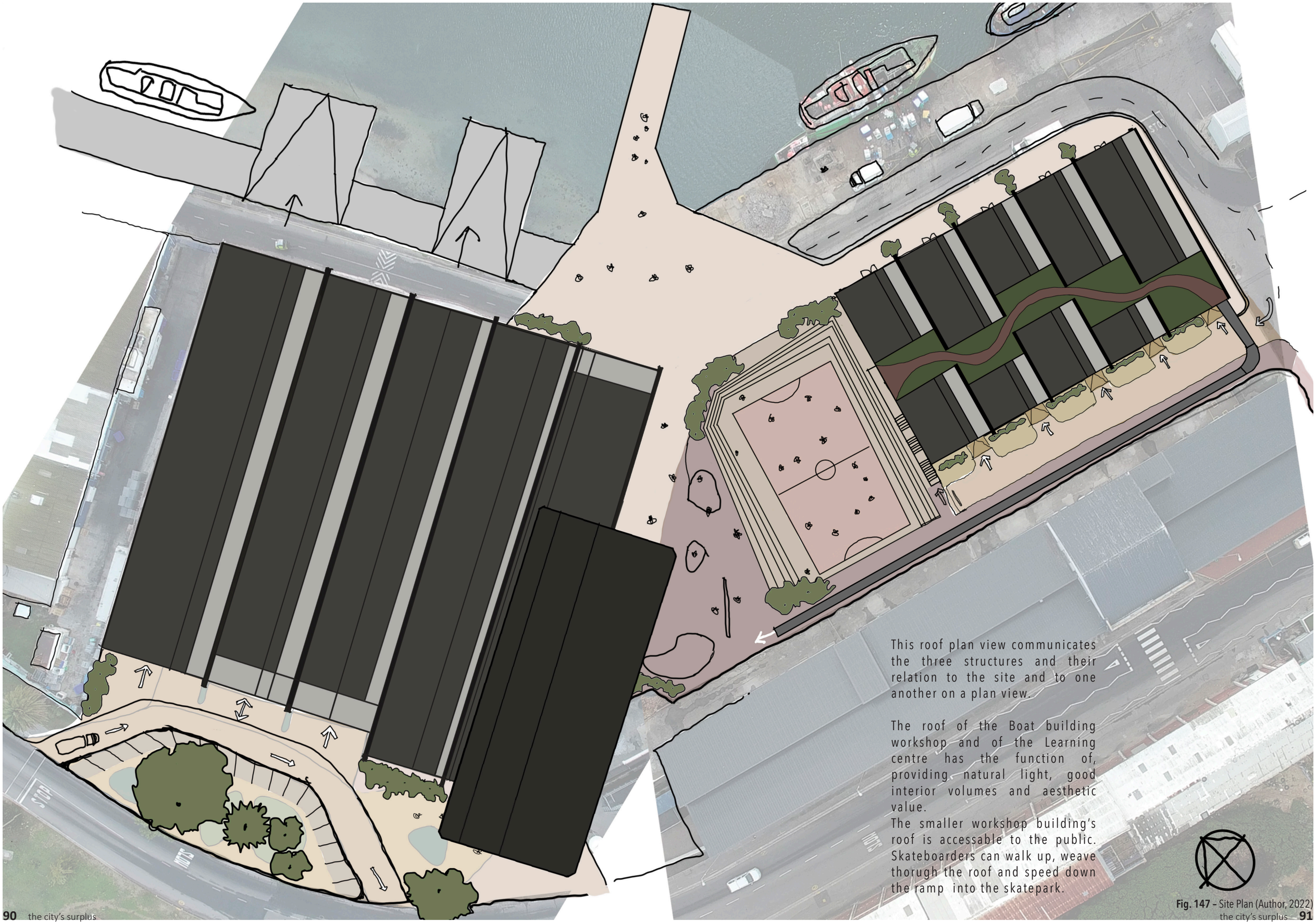


Fig. 145 – Maquette, roofs (Author, 2022)

Pulling back walls under the roof to create indoor, outdoor public spaces.

Fig. 146 – Maquette, N (Author, 2022)

Cutting holes in the roof to break the monotonous structure and allow for natural light.



This roof plan view communicates the three structures and their relation to the site and to one another on a plan view.

The roof of the Boat building workshop and of the Learning centre has the function of, providing natural light, good interior volumes and aesthetic value.
The smaller workshop building's roof is accessable to the public. Skateboarders can walk up, weave thorugh the roof and speed down the ramp into the skatepark.

Fig. 147 – Site Plan (Author, 2022)

THE WORKSHOPS - VISUAL CONNECTIONS

Learning from the case studies a simple way of connecting the public with the workshop activities is by allowing the visitor inside to take part in the process, visually.

A combination of a viewing platform and a showroom that looks down into the workshop for the smaller workshops

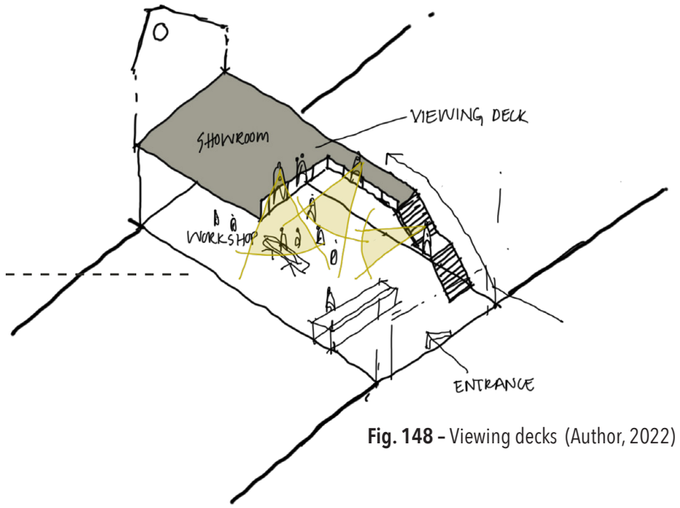


Fig. 148 – Viewing decks (Author, 2022)

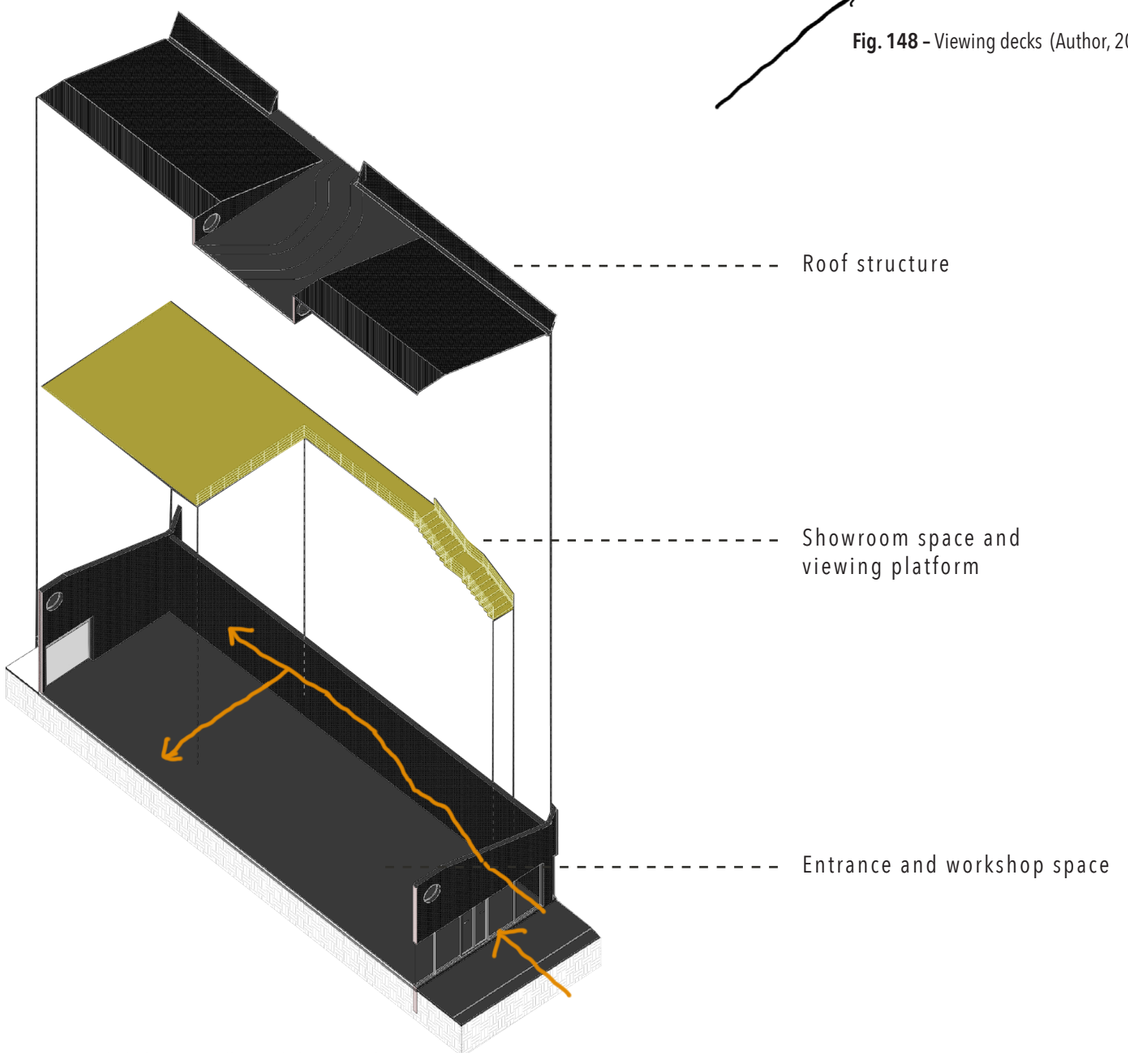
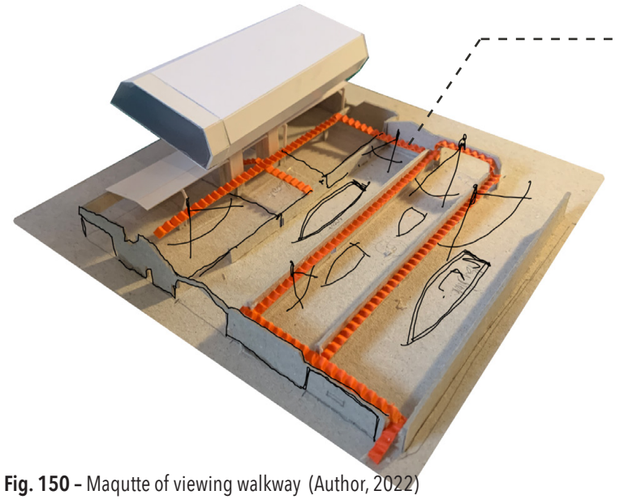


Fig. 149 – Exploded Axo - smaller workshops (Author, 2022)



This maquette explores a viewing route, in orange, throughout the boatbuilding workshop.

Fig. 150 – Maqutte of viewing walkway (Author, 2022)

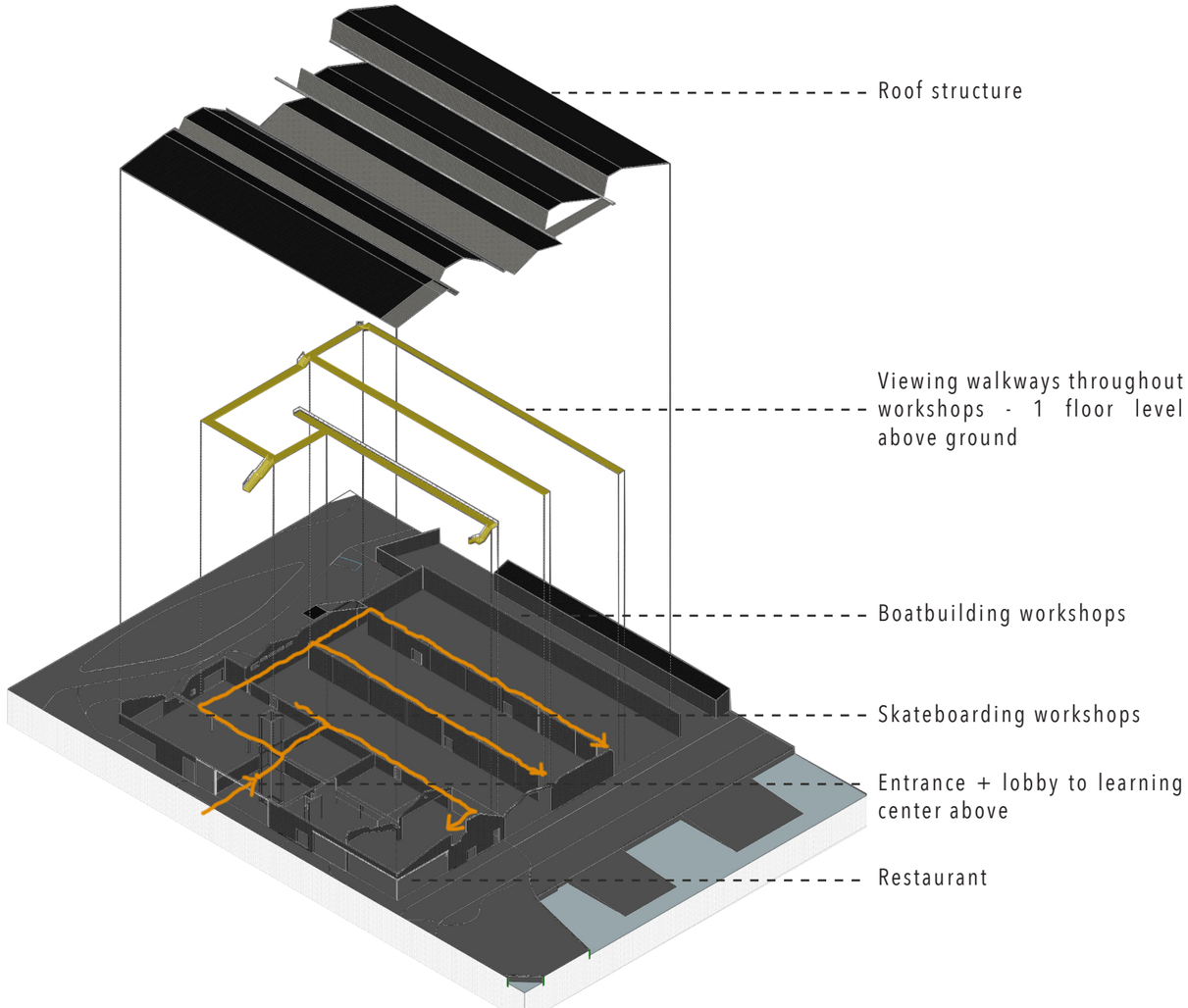


Fig. 151 – Exploded Axo - Boatbuilding workshops (Author, 2022)

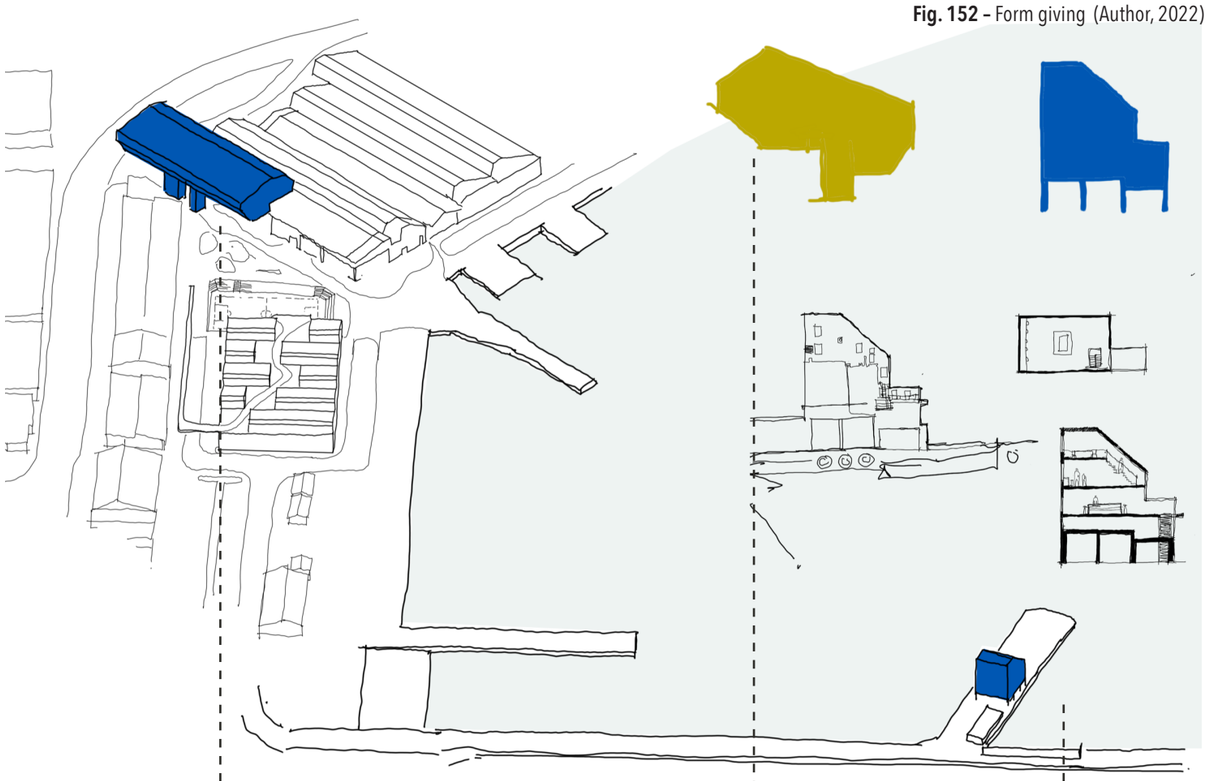
THE LEARNING CENTRE - A DATUM

The learning center is housed in this sculptural element towering over the workshops and public ground floor.
It houses ambiguous spaces for ngo's to operate in for activities such as homework, art, dance, martial arts etc and an auditorium for the children of Hout Bay to benefit from.

It is a symbole of upliftment out of harsh circumstances, out of waste.
By being visible from all over, it attracts people from all over to come and see what this space holds.

The learning center aims to be a landmark in the harbour scape and to announce not only the new space but also future possibilities.

Fig. 152 – Form giving (Author, 2022)



Formgiving exploration for the learning center inspired by the ice factory and the program.

Decommisioned Ice Factory

Proposed to be renovated and adapted into a restaurant overlooking the natural surroundings.
It acts as a part in the urban plan of the harbour for revitalisation by creating new interest and job opportunities.

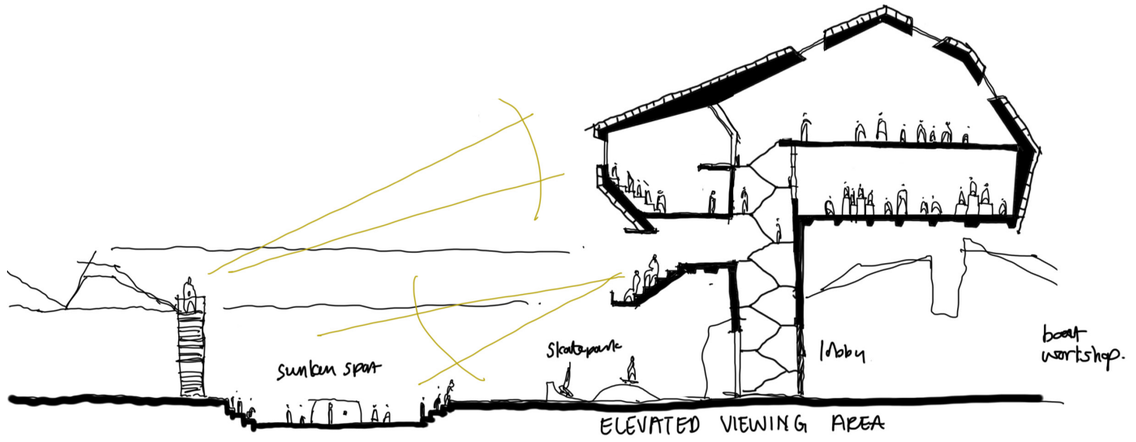


Fig. 153 – Learning center conceptual section (Author, 2022)

This section explores the interior spaces of the learning centre and also what the interaction between it and the public ground floor activity could be.

It lends itself to being useful for the sports node as well by providing light and a lookout out / supporting area.

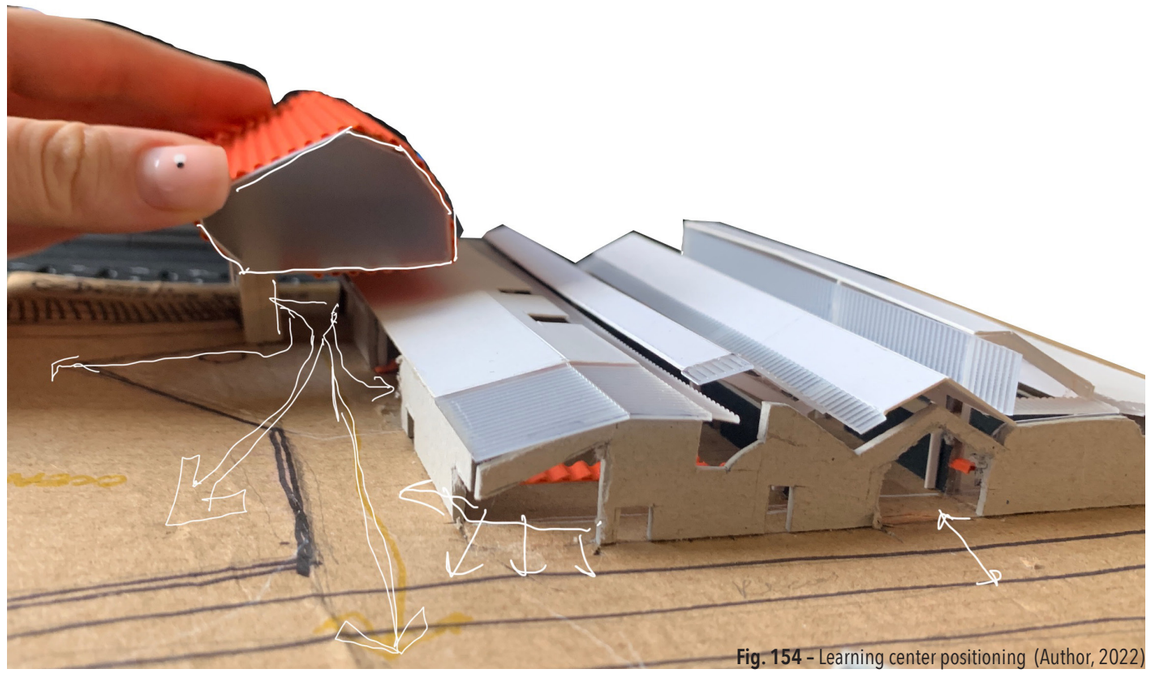


Fig. 154 – Learning center positioning (Author, 2022)

Exploring how a notable new addition to the exisiting landscape could enhance the harbour fabric by drawing attention and thus feet toward it.

This sculptural element could draw users into the public activity node and connect to the water.

VISIBILITY

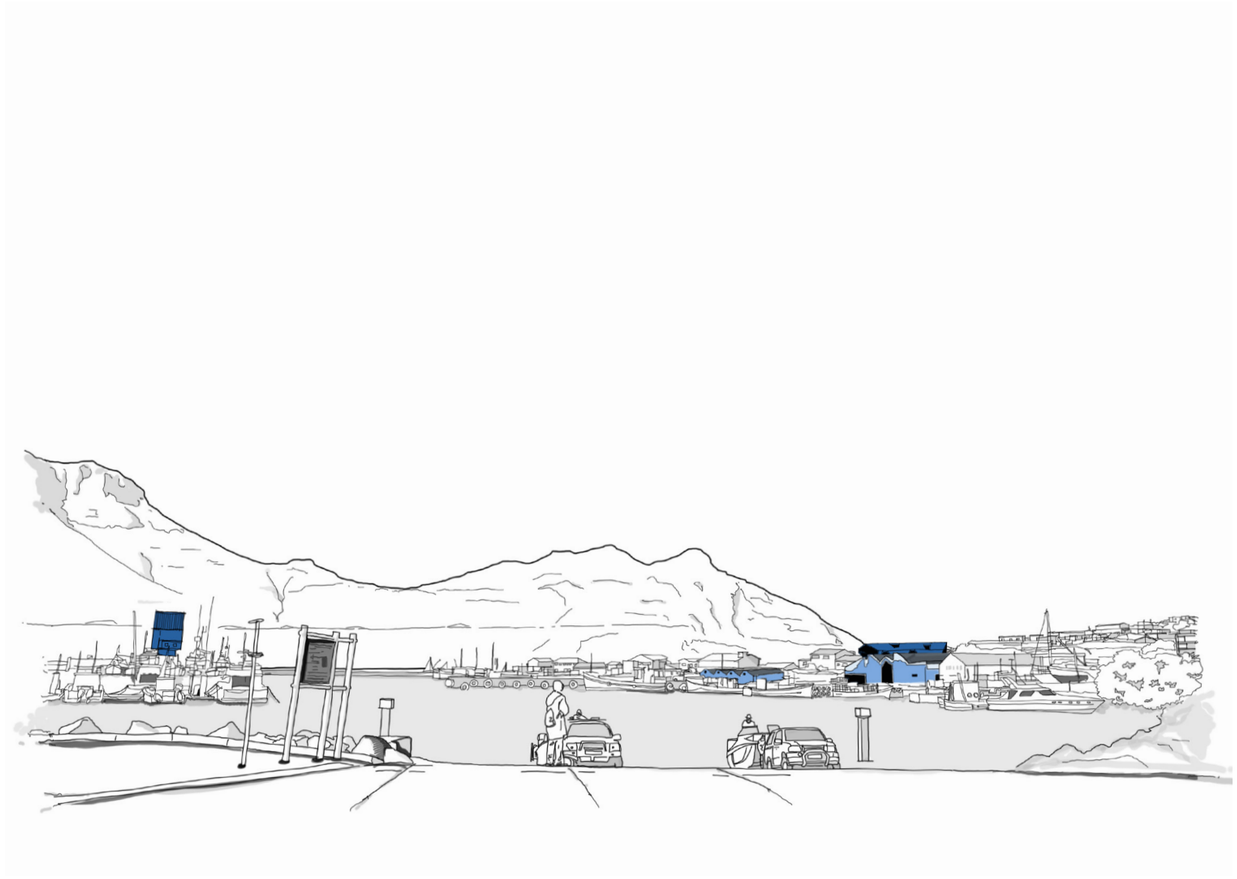


Fig. 155 – View from main slipway over water to site (Author, 2022)

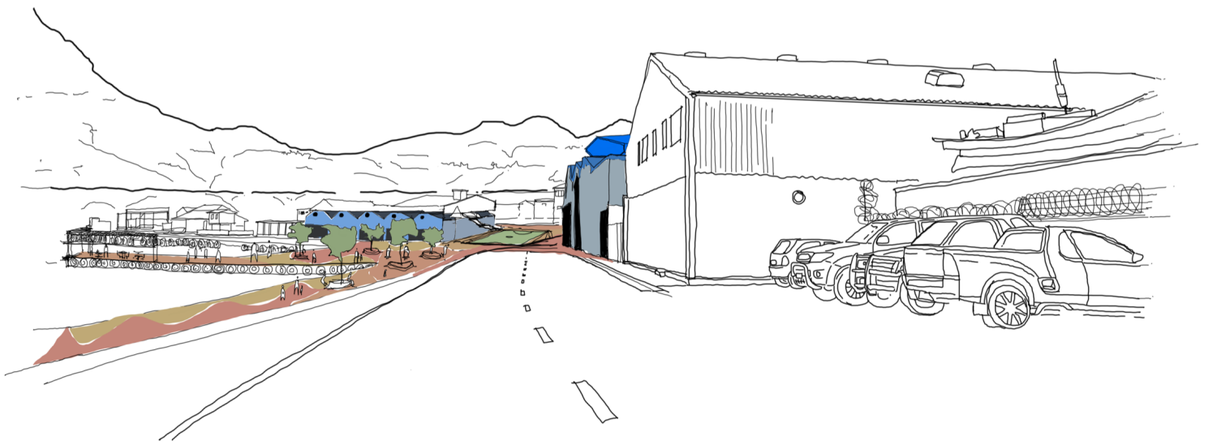


Fig. 156 – View from the road next to the water (Author, 2022)

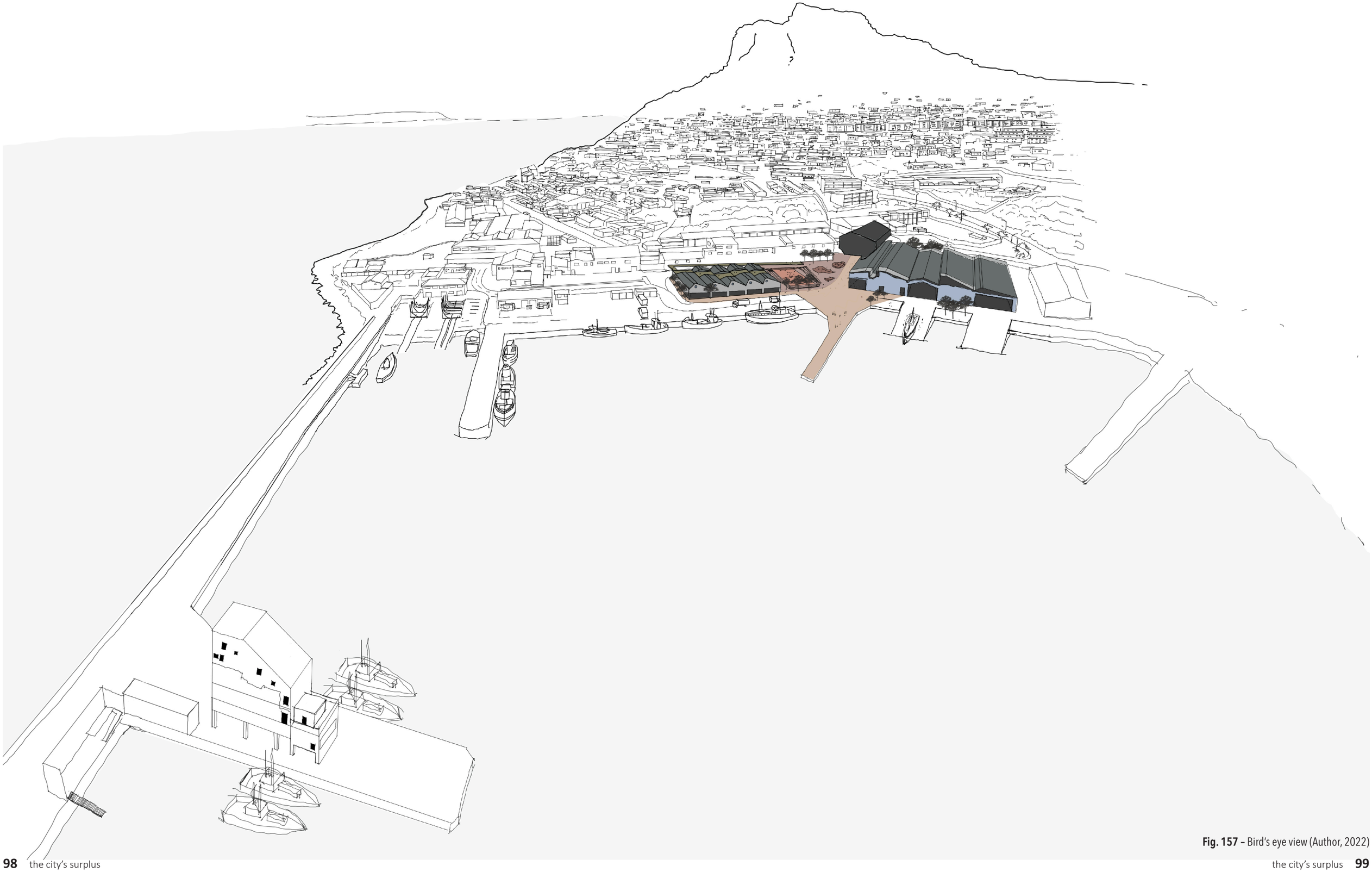
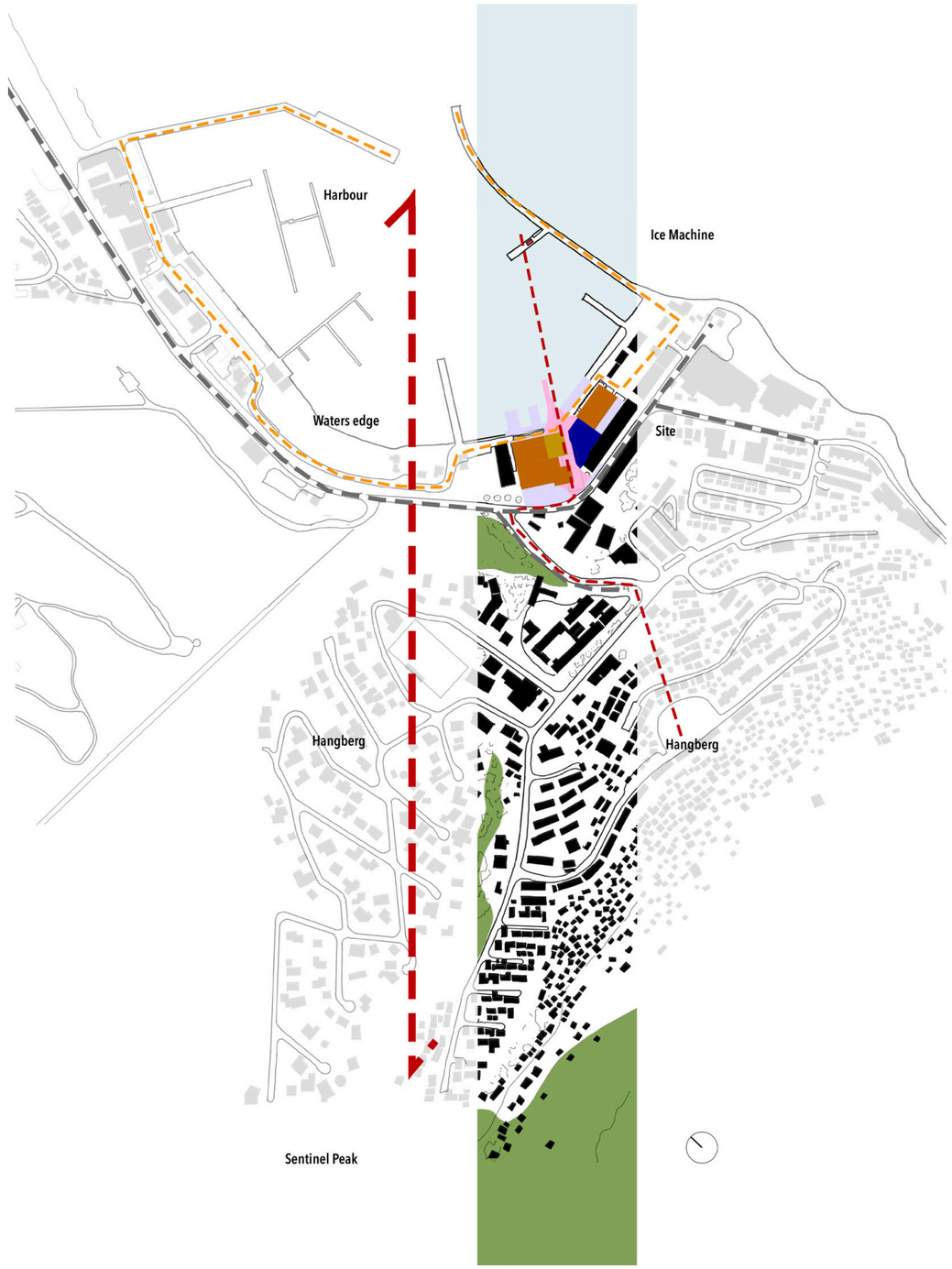


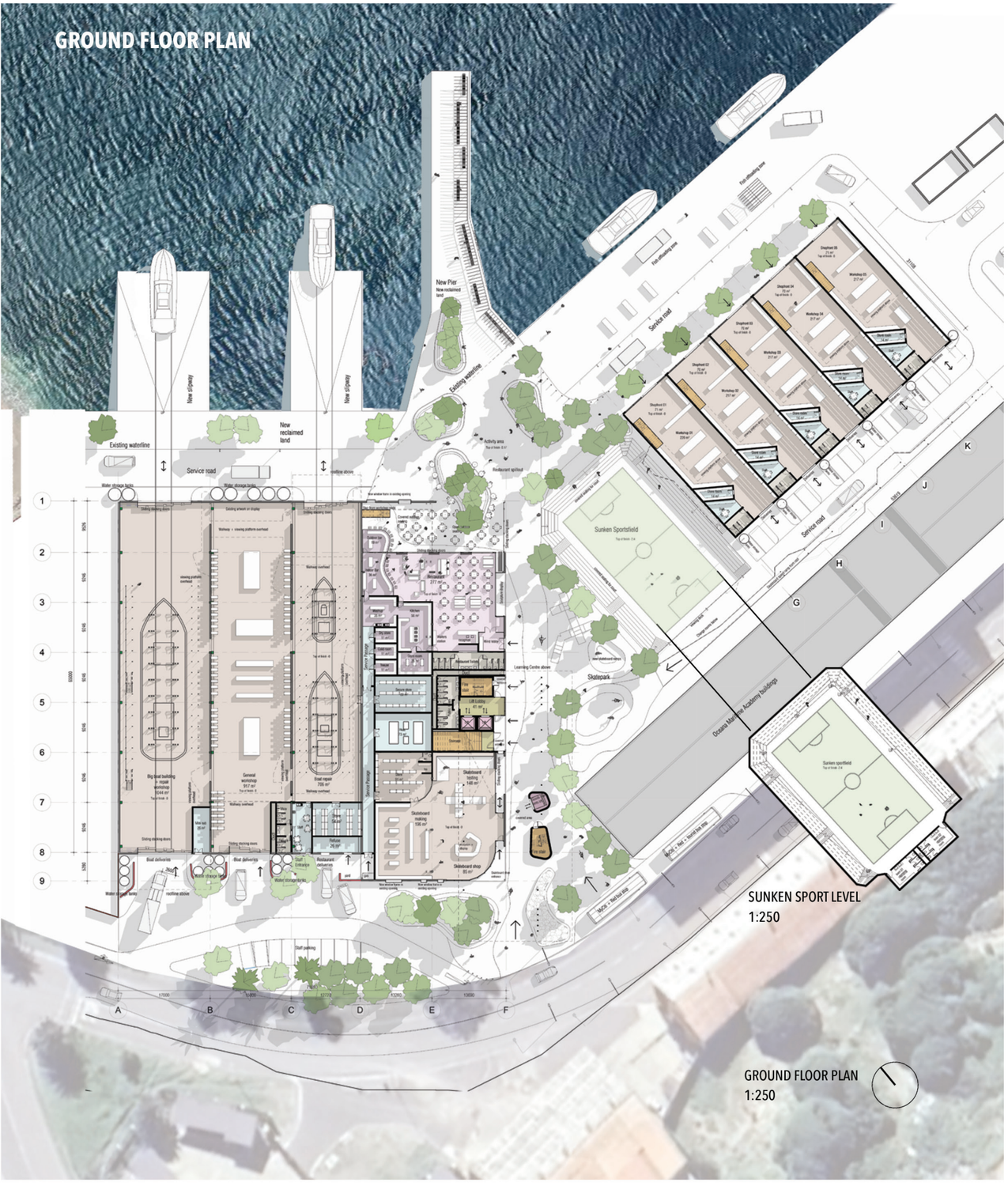
Fig. 157 – Bird's eye view (Author, 2022)

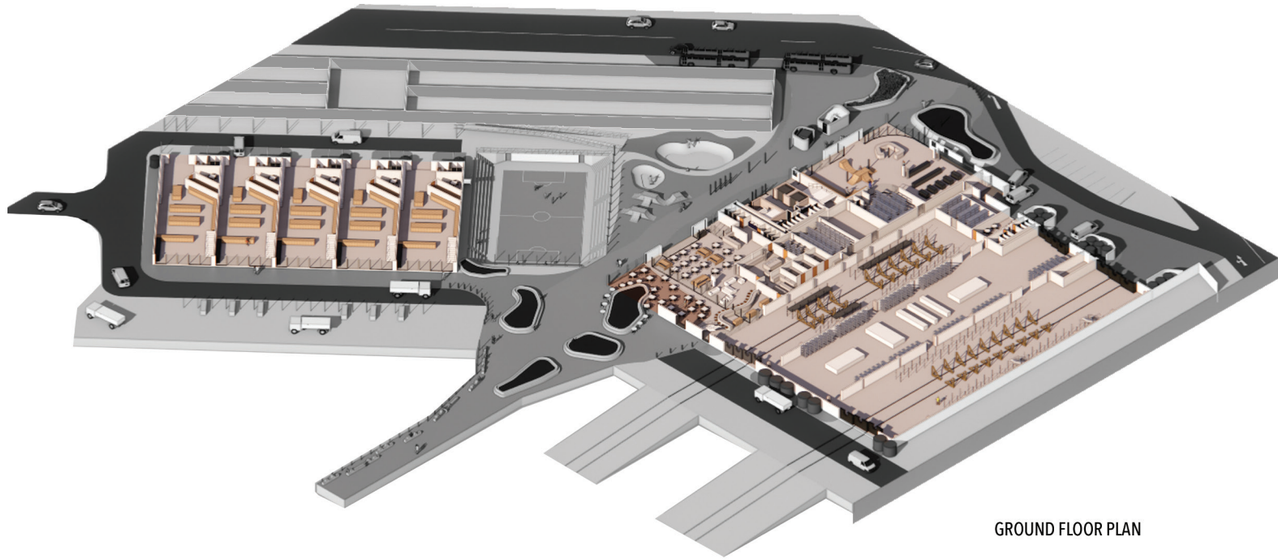
THE OUTPUT

FINAL DESIGN INTERVENTION | URBAN + ARCHITECTURAL

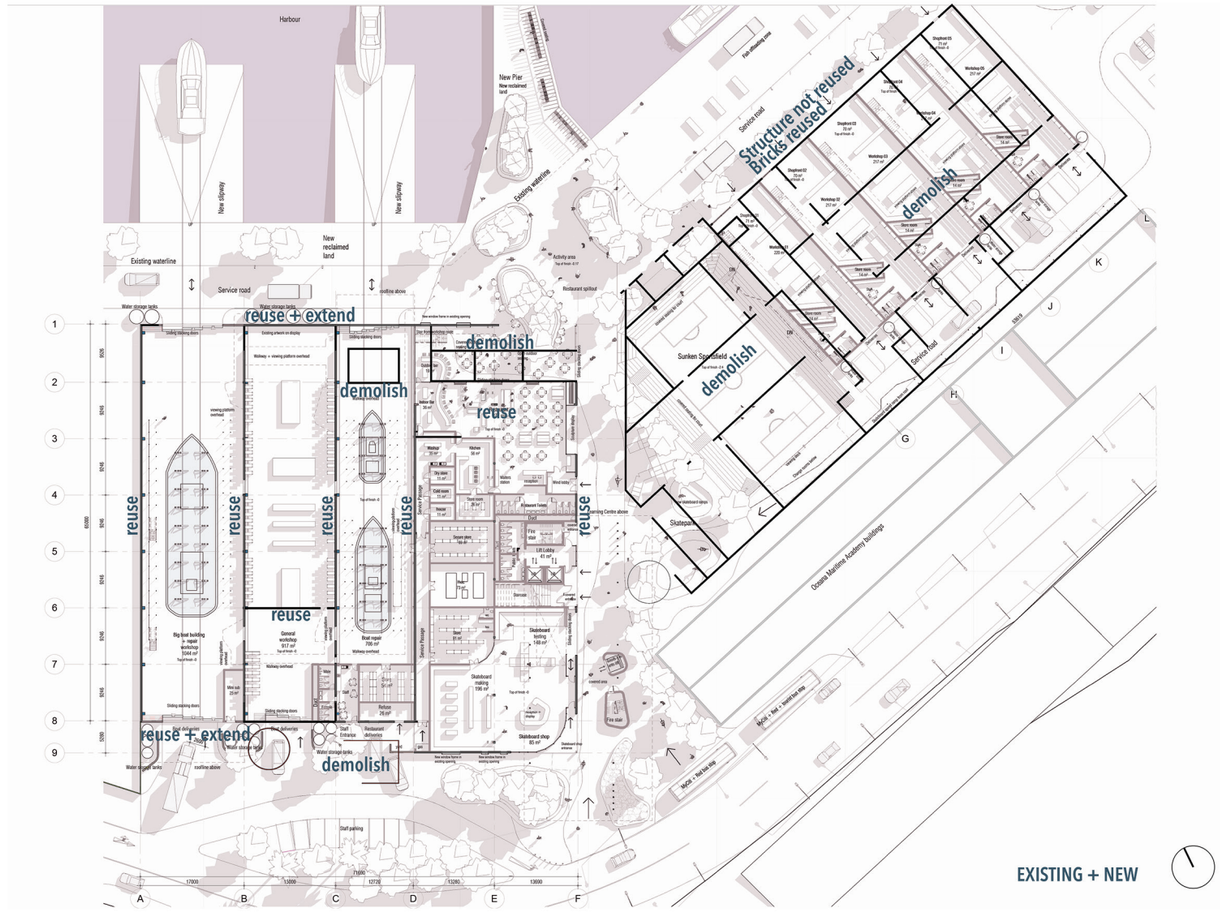


HARBOURING THE SURPLUS

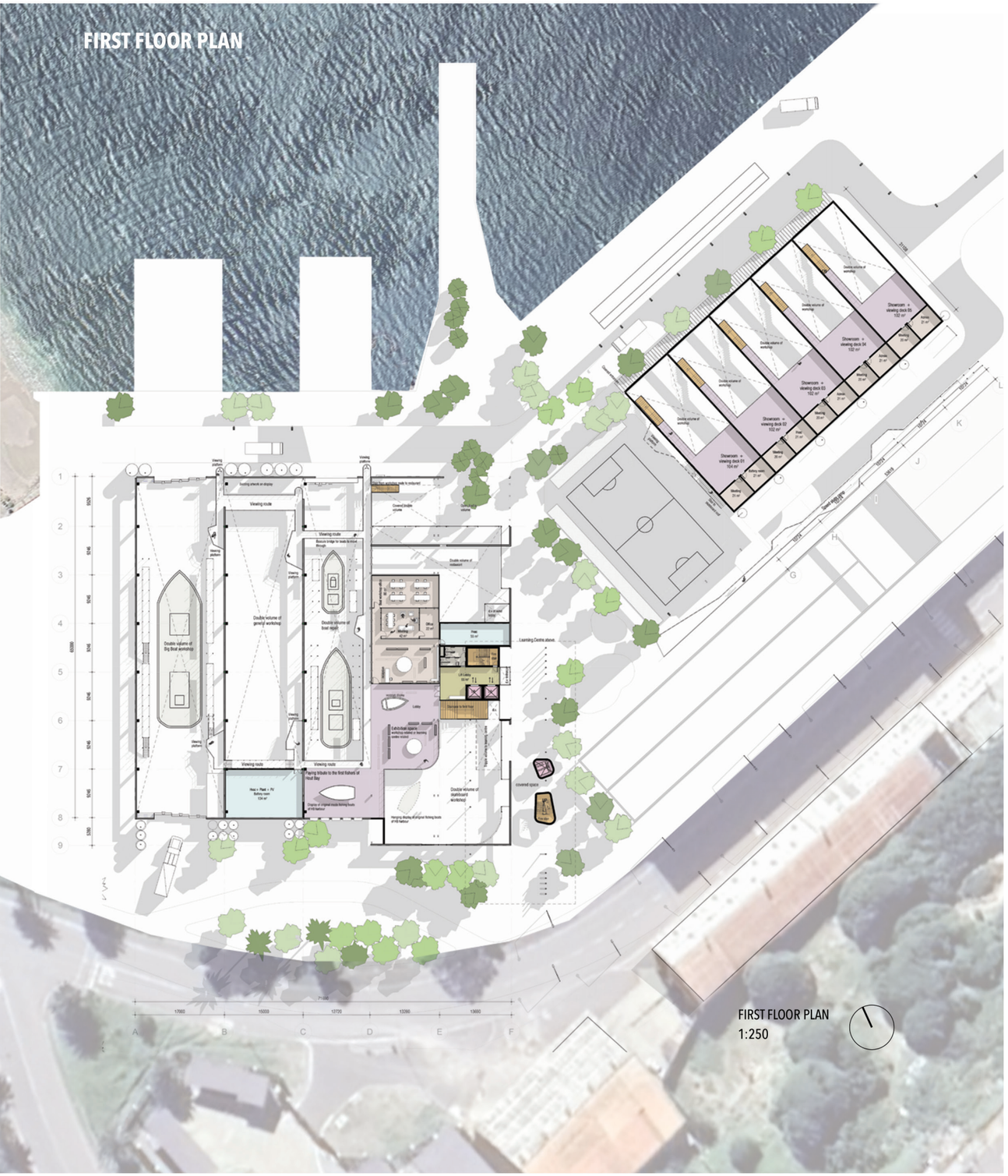




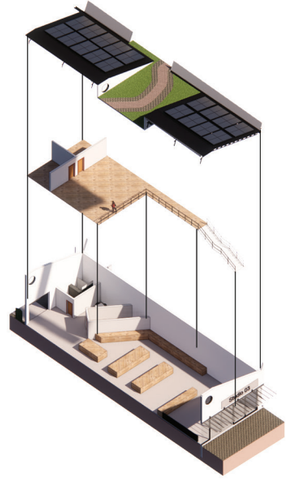
GROUND FLOOR PLAN

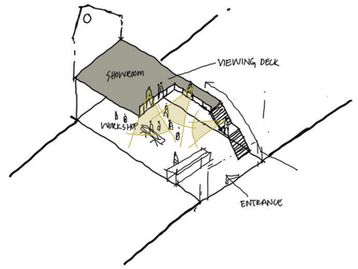


FIRST FLOOR PLAN

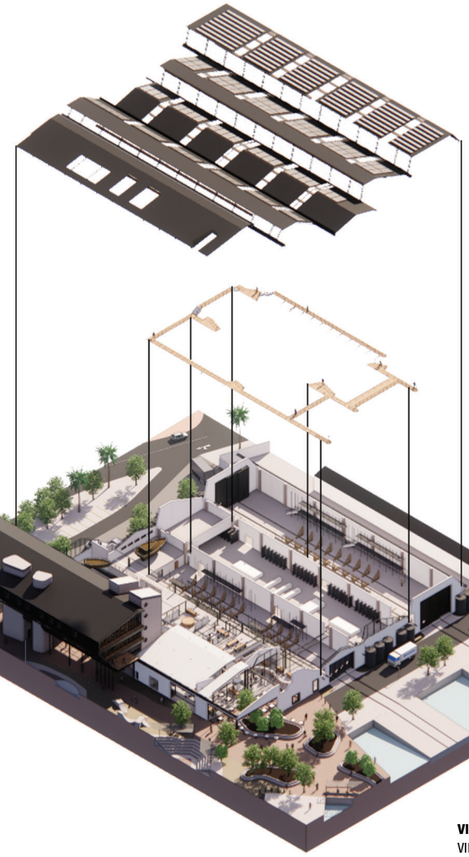


FIRST FLOOR PLAN
1:250

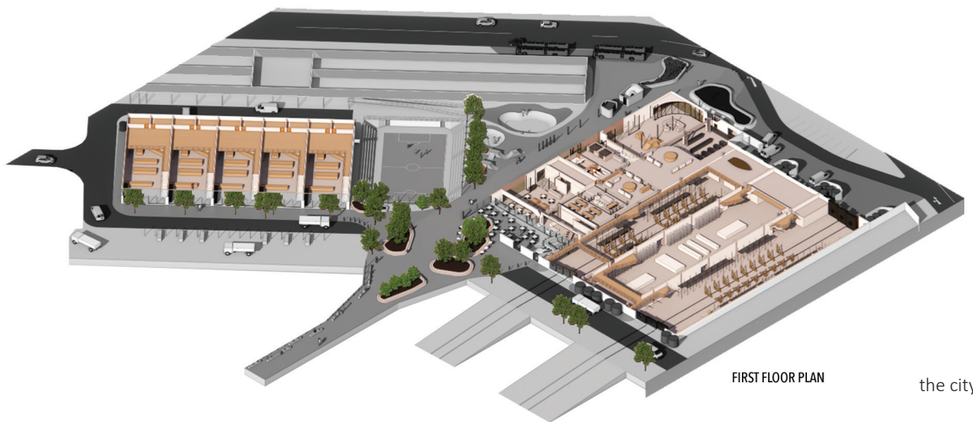




VISUAL CONNECTIONS
VIEWING DECKS IN SMALL WORKSHOPS

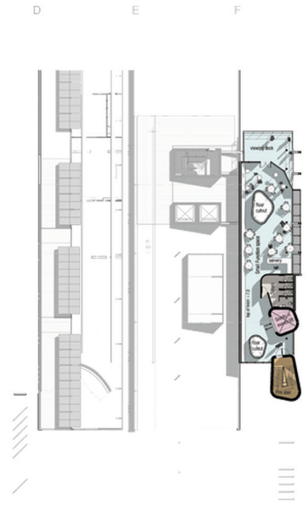


VISUAL CONNECTIONS
VIEWING WALKWAYS MEANDERING THROUGH BOAT WORKSHOP

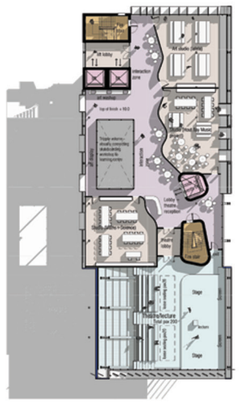


FIRST FLOOR PLAN

THE LEARNING CENTRE



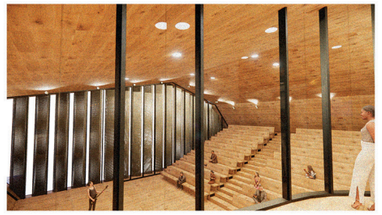
1 **Learning Centre - Level 01**
1 : 250



2 **Learning Centre - Level 02**
1 : 250

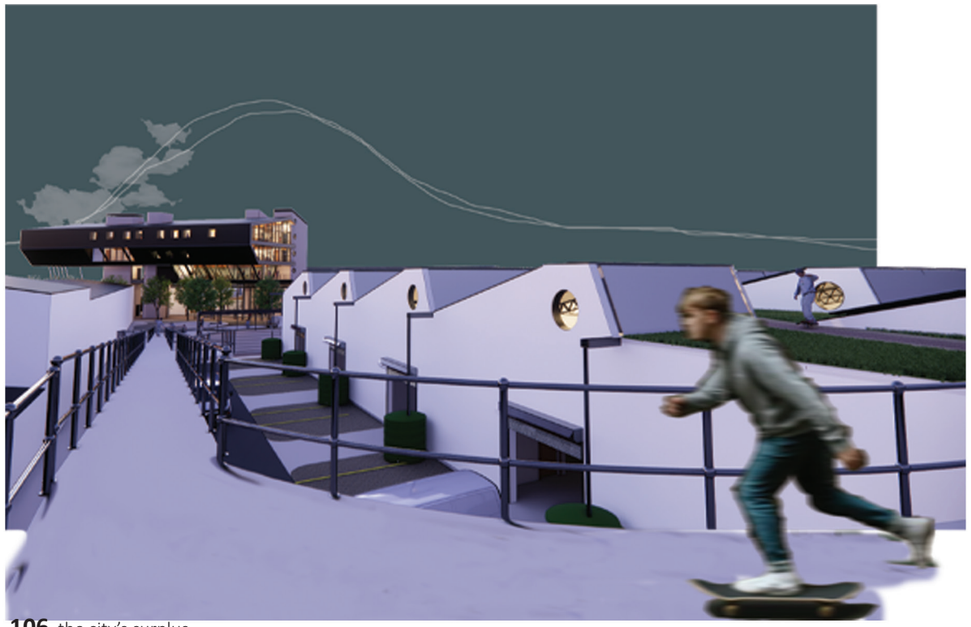
3 **Learning Centre - Level 03**
1 : 250

Theatre interior

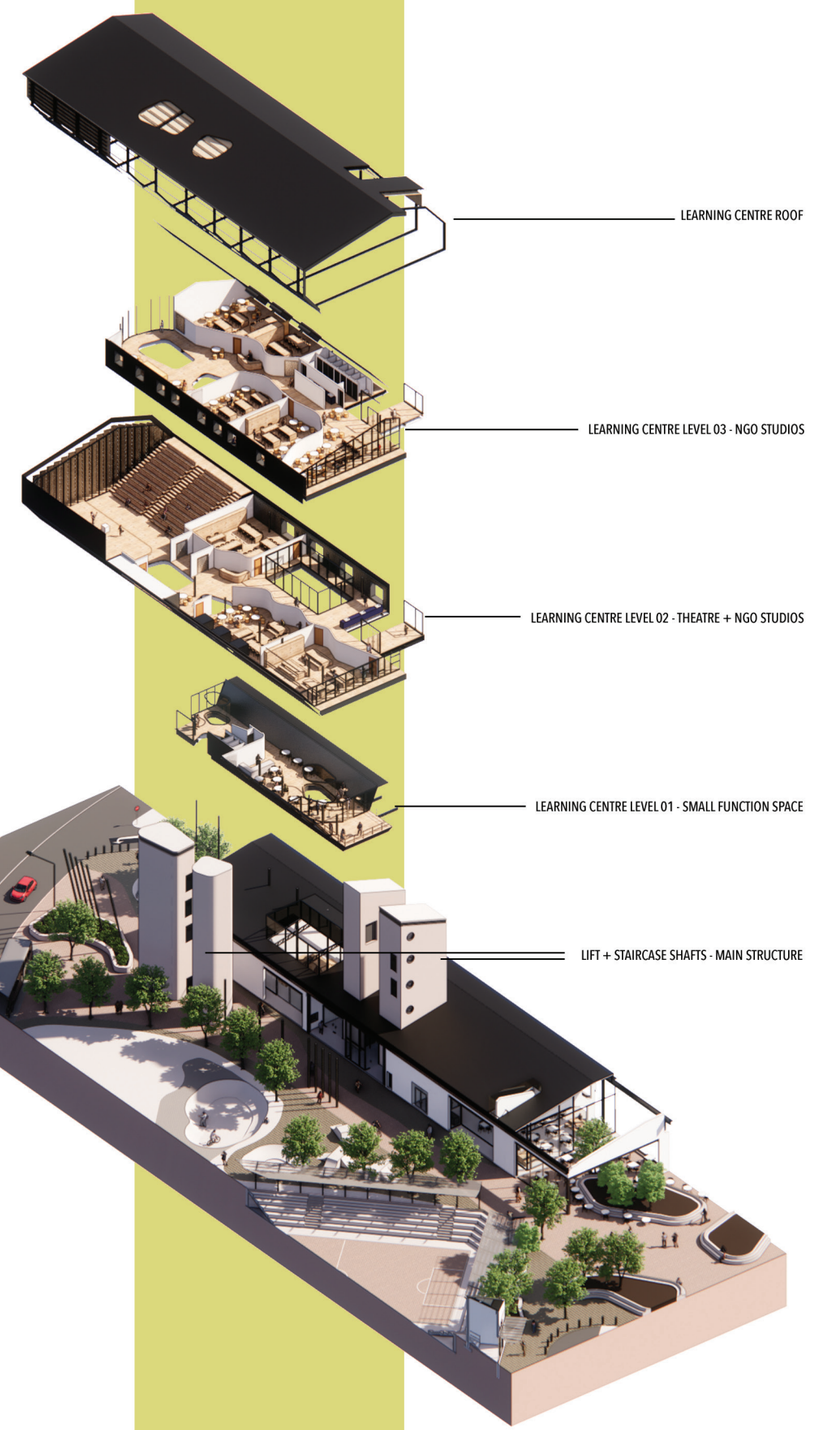


Looking from the top floor viewing deck into the theatre

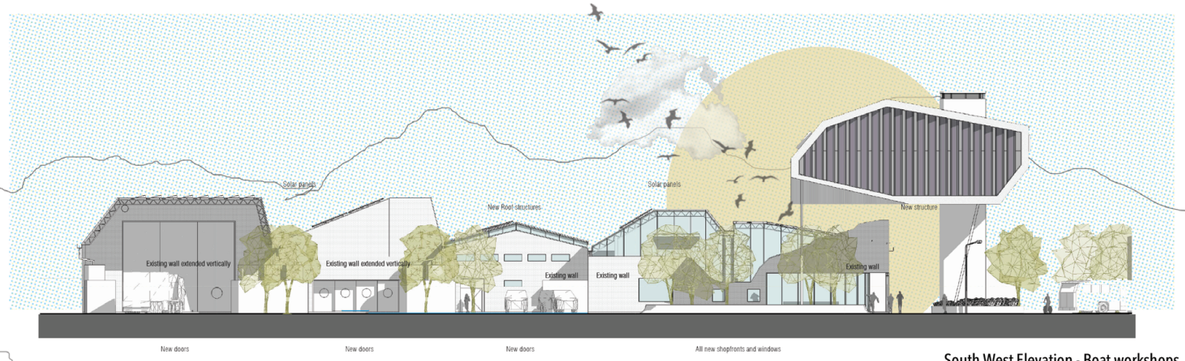
Top floor of the Learning Centre looking toward the harbour



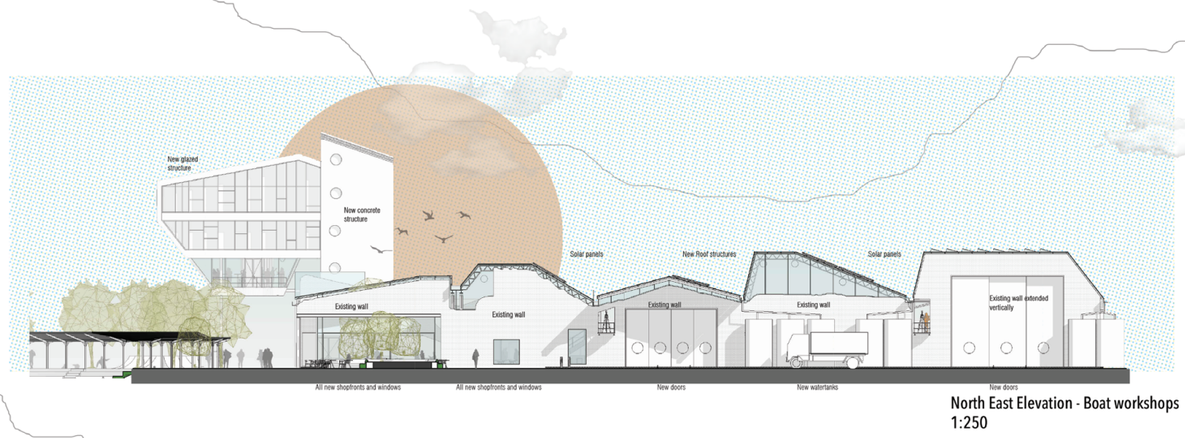
Skateboarding down speed ramp



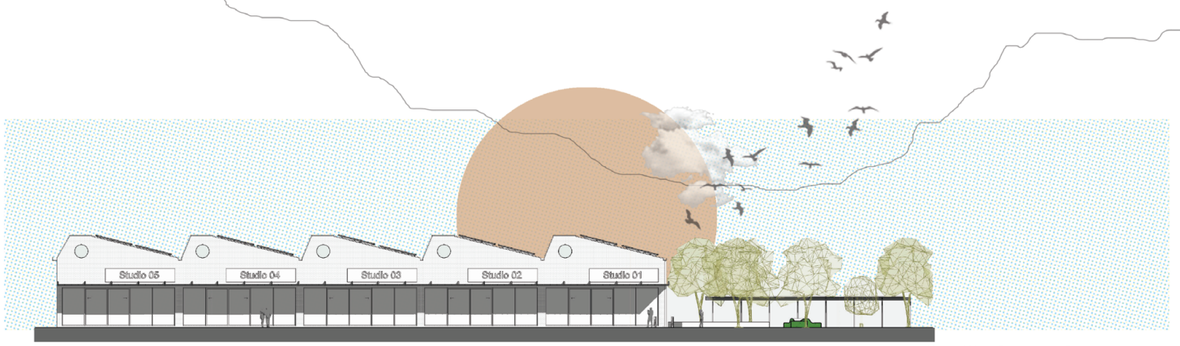
North East Elevation Perspective



South West Elevation - Boat workshops
1:250



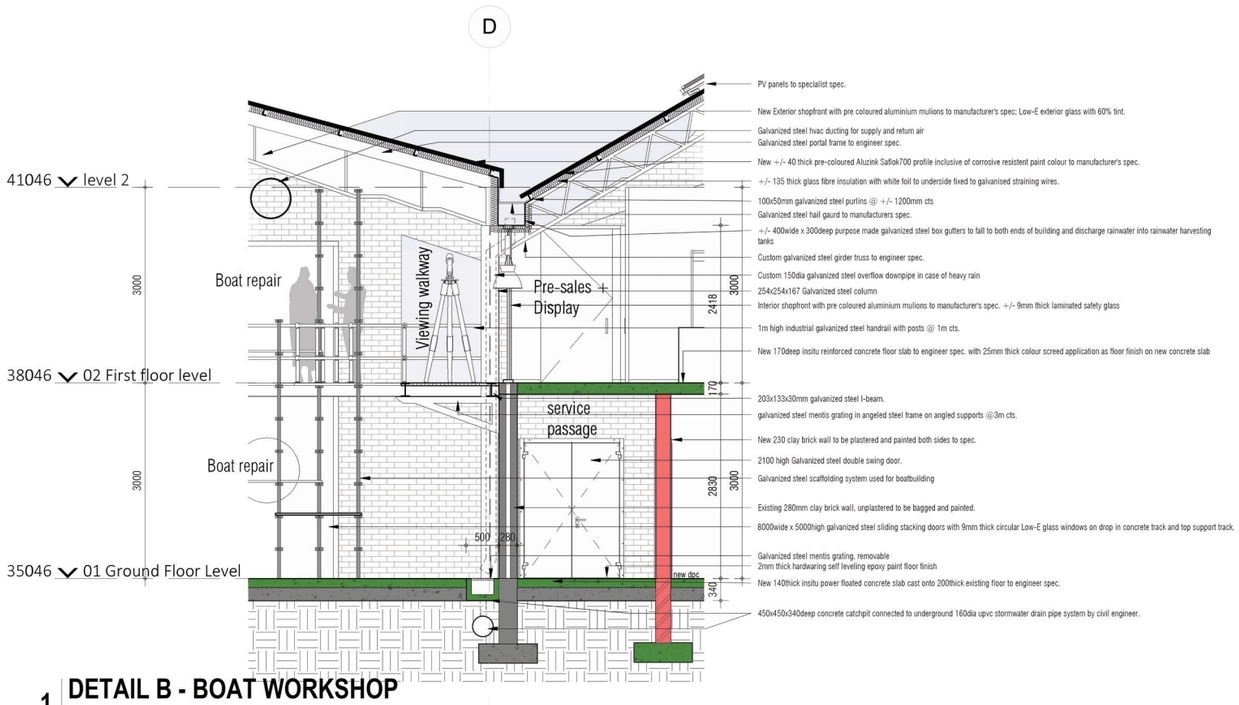
North East Elevation - Boat workshops
1:250



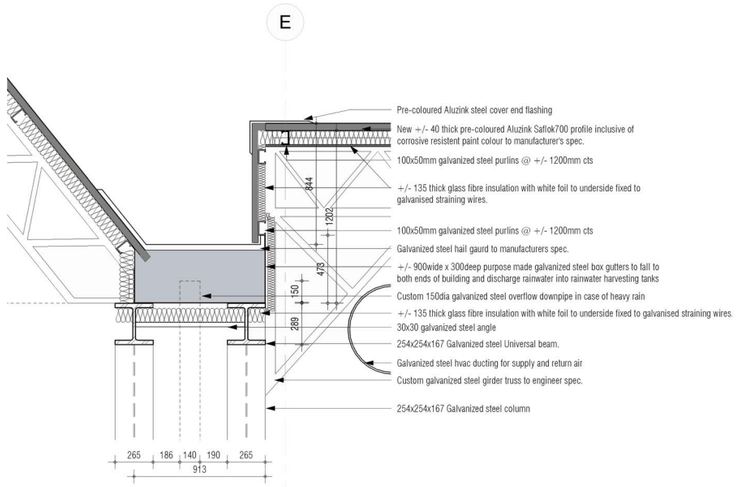
North West Elevation - Small workshops
1:250

South East Elevation - Small workshops
1:250

HARBOURING THE SURPLUS



1 DETAIL B - BOAT WORKSHOP
1 : 50



2 DETAIL A - GUTTER
1 : 20

MISCELLANEOUS
M1. - +/- 135 thick glass fibre insulation with white foil to underside fixed to galvanised straining wires.
M2. - Galvanized steel hail gaurd to manufacturers spec.
M3. - 35x35 galvanized steel u-channels
M4. - 25x25 galvanized steel angle
M5. - Galvanized steel hvac ducting for supply and return air
M6. - Galvanized steel scaffolding system.
M7. - Hardwood timber skateboarding ramps varnished for foot and wheel traffic to specialist spec.
M8. - PV panels fixed to roof structure to specialist spec.
M9. - Toilets to manufacturer spec.
M10. - HWB to manufacturer spec.
M12. - Galvanized steel adaptable shelving
M13. - Galvanized steel boat stands
M14. - Moveable cupboards.
M15. - +/- 450wide x 300deep purpose made galvanized steel box gutters
M16 - Premade rainwater catchment tanks to specialist spec.

DOORS
D1. - 9000wide x 8000high galvanized steel sliding stacking doors with 9mm thick circular Low-E glass windows on drop in concrete track and top support track.
D2. - 8000wide x 5000high galvanized steel sliding stacking doors with 9mm thick circular Low-E glass windows on drop in concrete track and top support track.
D3. - 2100 high Galvanized steel double swing door.
D4. - 2100 high timber door.
D5. - Pre-coloured aluminium frame sliding stacking doors with +/- 9mm thick Low E glass
D6. - Pre-coloured aluminium frame single leaf swing door with +/- 9mm thick Low E glass

ROOFS
R1. - New +/- 40 thick pre-coloured Aluzink Safiok700 profile inclusive of corrosive resistent paint colour to manufacturer's spec.
R2. - New +/- 40 thick Safiok700 profile translucent sheeting to manufacturer's spec.

WALLS
W1. - Existing 280mm clay brick wall, unplastered to be bagged and painted.
W2. - New 280mm clay brick wall, plastered and painted to spec.
W3. - New 230mm clay brick wall, plastered and painted to spec.
W4. - New Interior shopfront with pre coloured aluminium mullions to manufacturer's spec. +/- 9mm thick laminated safety glass
W5. - New Exterior shopfront with pre coloured aluminium mullions to manufacturer's spec; Low-E exterior glass with 60% tint.
W6. - New 300mm insitu reinforced concrete wall to engineer's spec., plastered and painted
W7. - New +/- 40 thick pre-coloured Aluzink Safiok700 profile inclusive of corrosive resistent paint colour to manufacturer's spec.
W8. - 120thick drywall system to specialist spec.
W9. - 90mm CLT timber wall to specialist spec.

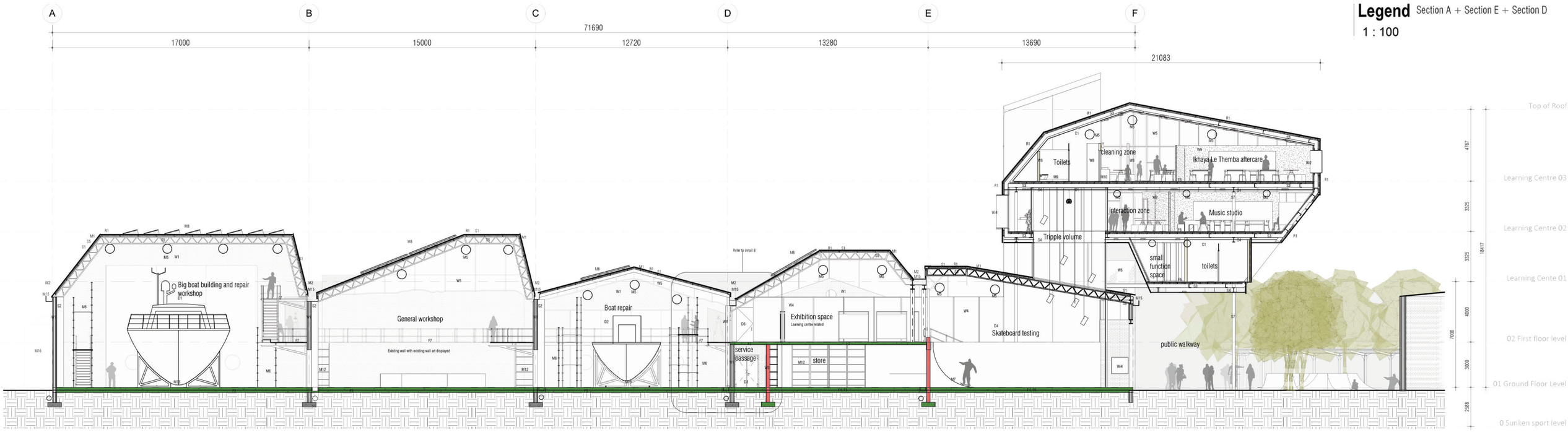
WINDOWS
W01. - New Exterior shopfront with pre coloured aluminium mullions to manufacturer's spec; +/- 9mm thick Low-E glass with 60% tint.
W02. - Epoxy coated colour on galvanized steel box windows with 500mm deep seating space to interior of wall, double glazed glass with 60% tint in pre-coloured aluminium frame.
W03. - Epoxy coated colour on galvanized steel circular window, double glazed glass with 60% tint.
W04. - Epoxy coated colour on galvanized steel box windows, double glazed glass with 60% tint in pre-coloured aluminium frame.

FLOORS
F1. - Existing concrete floor slab
F2. - New 170deep insitu reinforced concrete floor slab to engineer spec.
F3. - 85deep insitu power floated concrete slab cast onto existing floor to engineer spec
F4. - 125deep insitu power floated concrete floor slab cast onto damp proof membrane on ant poison and well compacted fill to eng. spec.
F5. - 25mm thick colour screed application as floor finish on new concrete slab
F6. - 32x120 wide tounge and groove hardwood floor planks varnished for foot traffic, counter sunk brass screws for wood to steel fixing.
F7. - galvanized steel mentis grating in angeled steel frame on angled supports @3m cts. with 1m high industrial galvanized steel handrail with posts @ 1m cts.

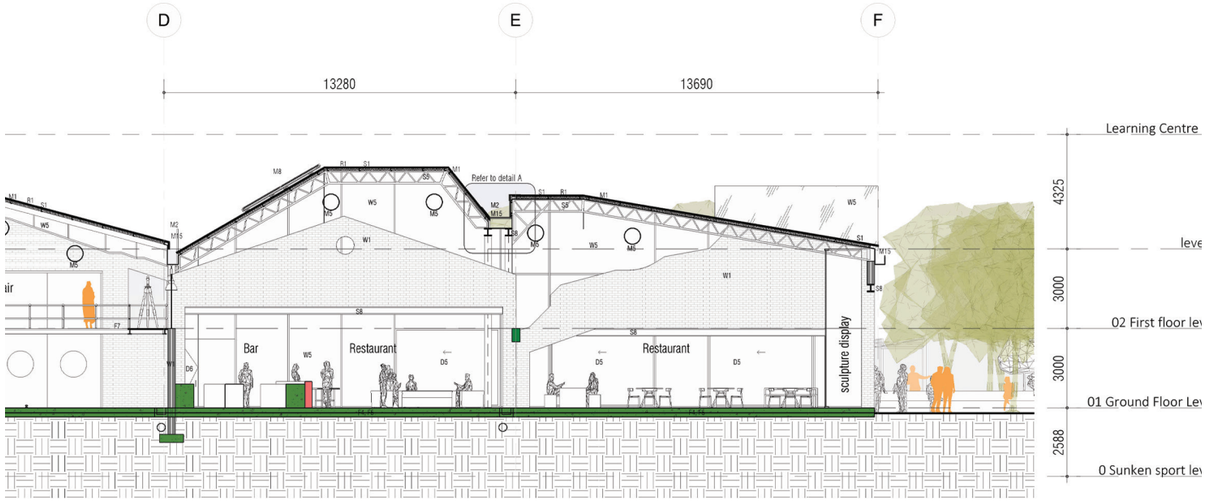
STRUCTURE
S1. - 100x50mm galvanized steel purlins @ +/- 1200mm cts
S2. - New 450x450 insitu reinforced concrete columns with shamfered corners, fairface.
S3. - 254x254x73 Galvanized steel I-beam @ 4500mm cts
S4. - 305x165x50 Galvanized steel I-beam
S5. - Custom galvanized steel girder truss to engineer spec.
S6. - 200x100mm galvanized steel C-section.
S7. - 200mm dia galvanized steel columns to engineer spec.
S8. - 254x254x167 Galvanized steel Universal beam.

CEILINGS
C1. - 1200x600 standard suspended acoustic ceiling tiles in standard drop-in suspended frames.
C2. - 100wide x 18thick varnished hardwood ceiling slats butt jointed fixed to suspended lightweight standard ceiling grid.

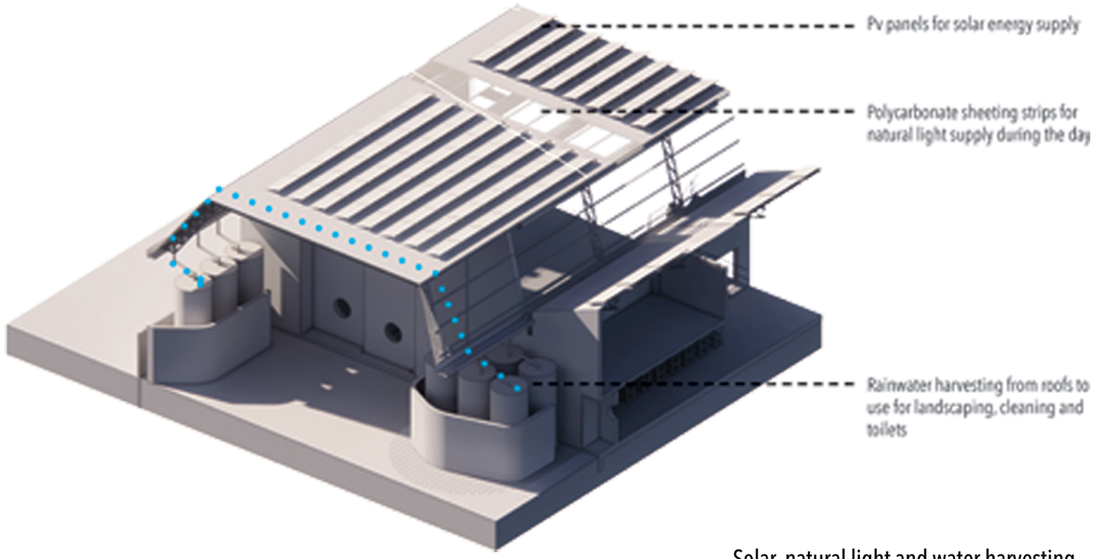
Legend Section A + Section E + Section D
1 : 100



Section A
1 : 100



Section E
1 : 100



Solar, natural light and water harvesting

Looking into general workshop from viewing walkway deck

Looking into boat repair workshop from viewing walkway deck

Looking to harbour and existing wall art from walkway

Looking from exhibition space to skateboard workshop and hanging boat display

Entrance

Harbour Road

MyCiti + Red Bus stop

Theatre

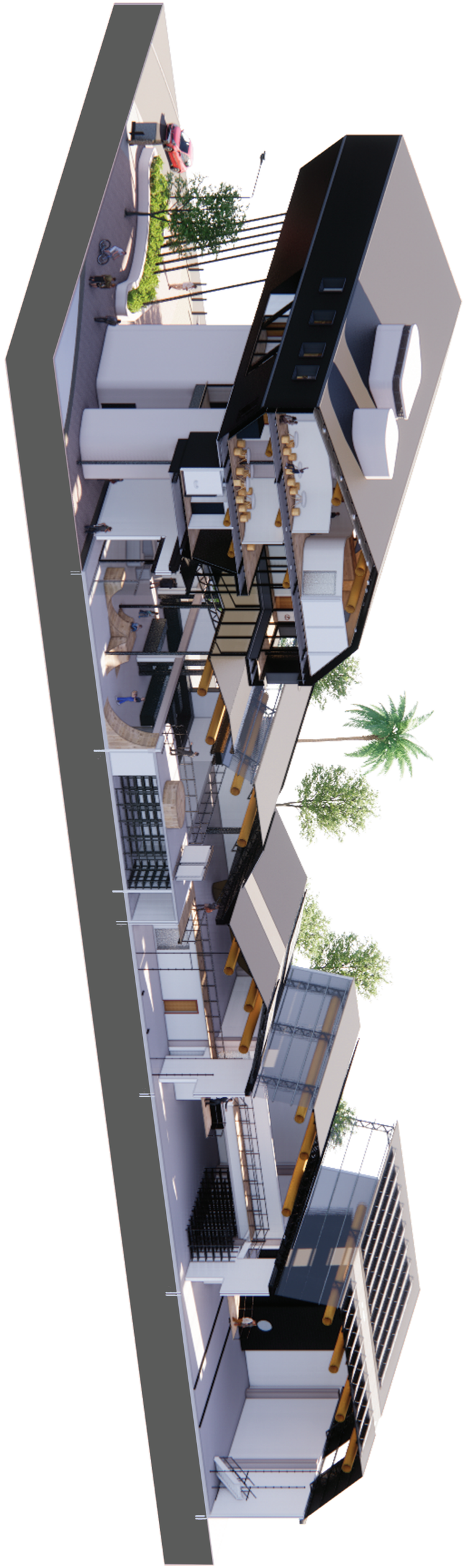
Entrance from Bus stop

FIre Stair +
events lift

Public walkway framed
by learning centre

Learning Centre

Tripple volume cutting into
Skateboard workshop



Exhibition area looking into
skateboard workshop

Boat repair workshop
+ Viewing walkways

General workshop

Boat building workshop

9 8 7 6 5 4 3 2 1

81527

5080 9246 9246 9246 9246 9246 9246 9526

Top of Roof

Level 03 - LC

Level 02 - LC

02 First floor level

01 Ground Floor level

0 Sunken sport level

3225

3000

1417

1588

Theatre/Lecture hall

Viewpoint to Intaka

Tea zone

Ikhaya Le Themba aftercare

Ikhaya Le Themba aftercare

Lobby

Music studio

Art studio

HARBOUR ROAD

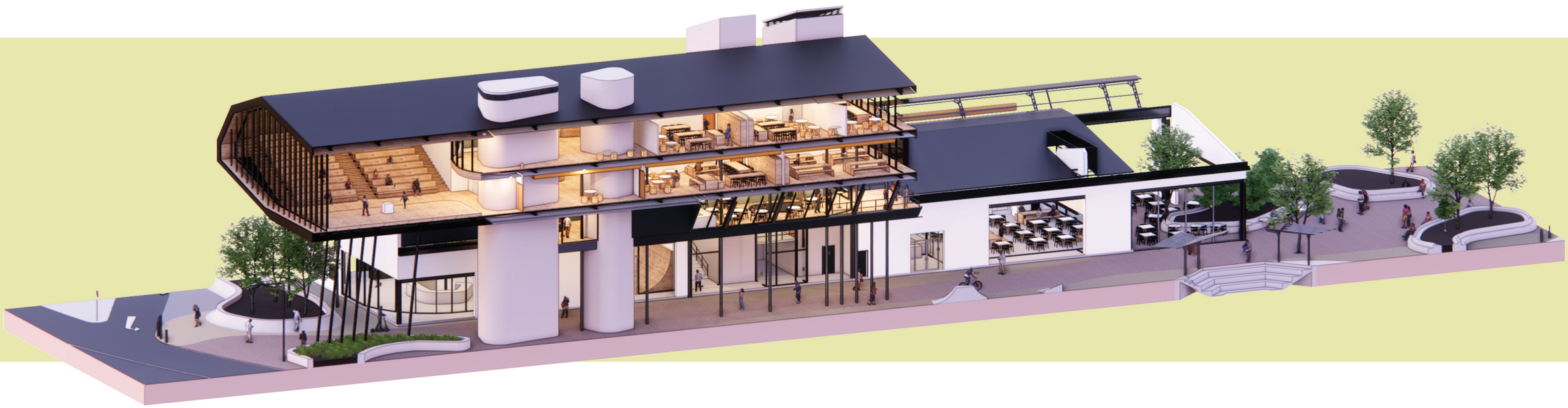
Skatepark

Activity zone + seating area + restaurant spillout

Sunken sportfield

1 Section D

1 : 100



VISTAS - THE RUIN FRAMING THE HARBOUR + NATURE

Vista of Harbour side framed by old and new buildings

Vista of harbour and ice machine framed by cut in facade - walkways punctures through existing facade.

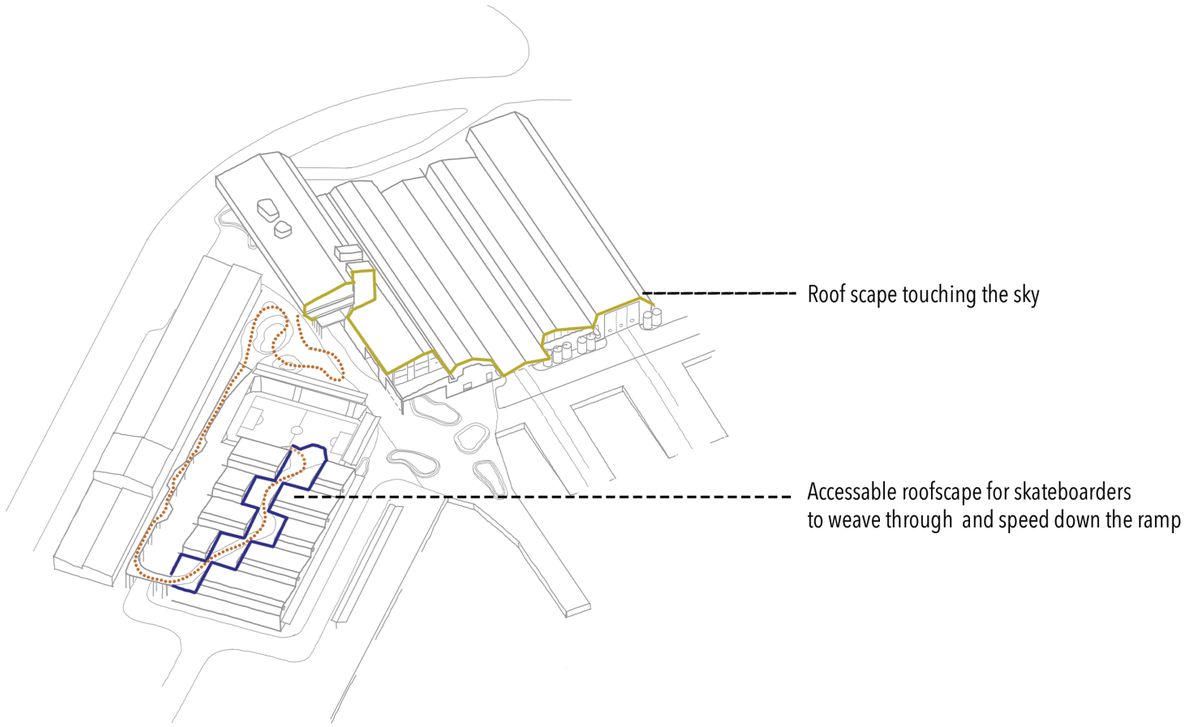
Vista of Sentinal Peak created by roof line

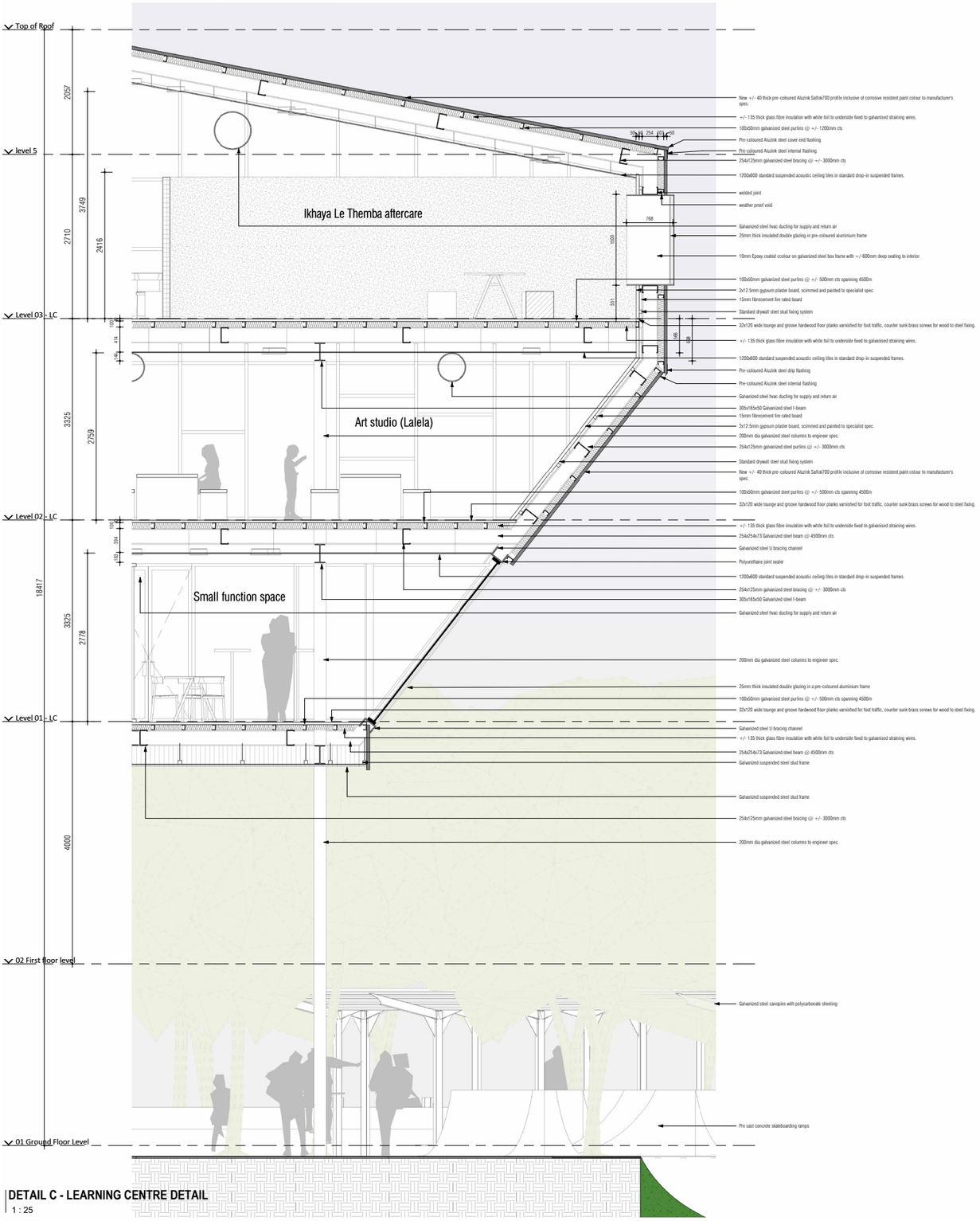
THE ROOFSCAPE - THE MOUNTAINSCAPE

The roofscape of the factory buildings pre-ruin. The structure is purely designed to house the activities within and for them to take place with ease

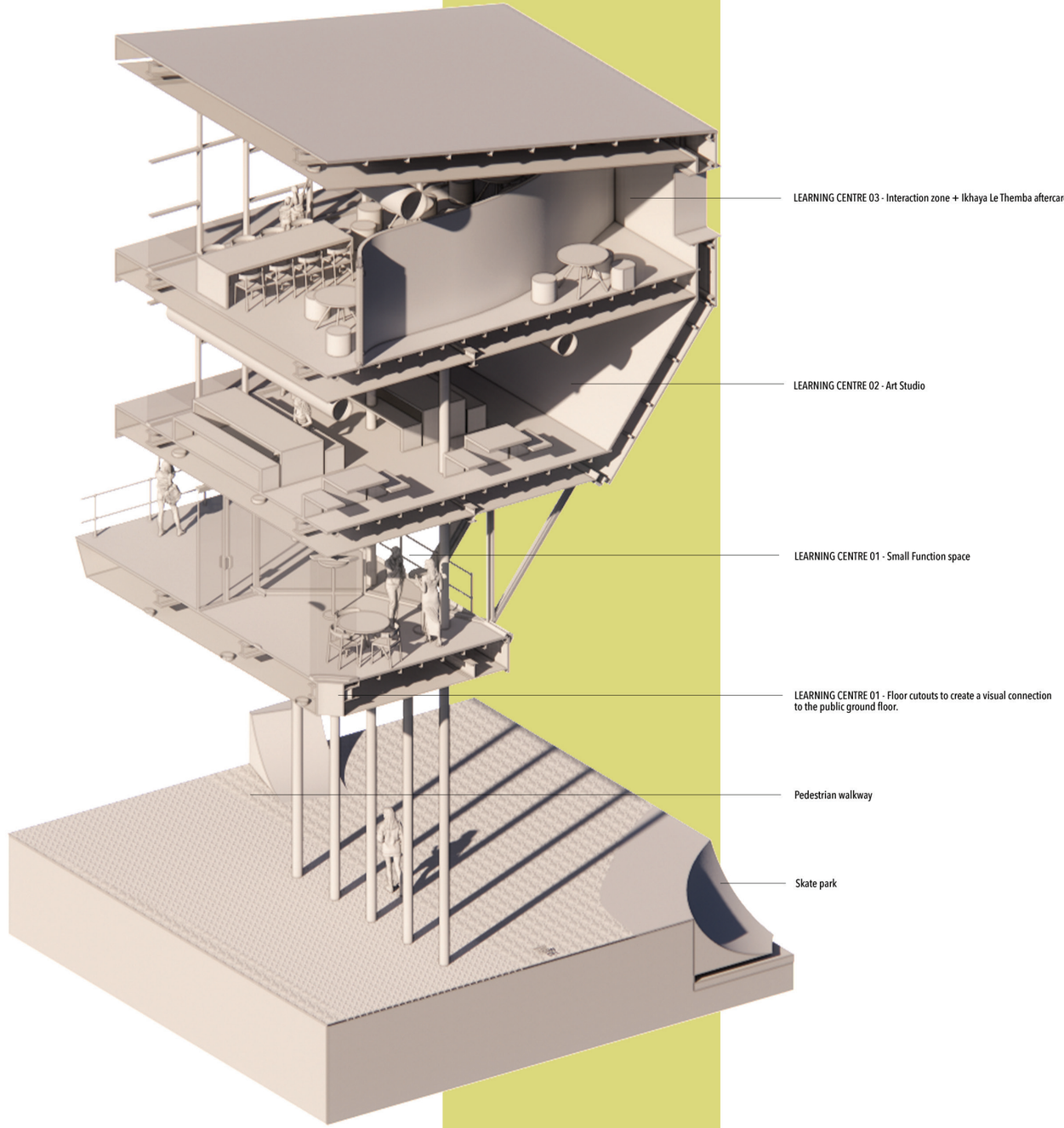
Currently there is no roofscape, only the fragmented memory of one

The new roofscape is influenced by the existing and the mountain backdrop. It allows for large interior workshop spaces as well as an aesthetic exterior.





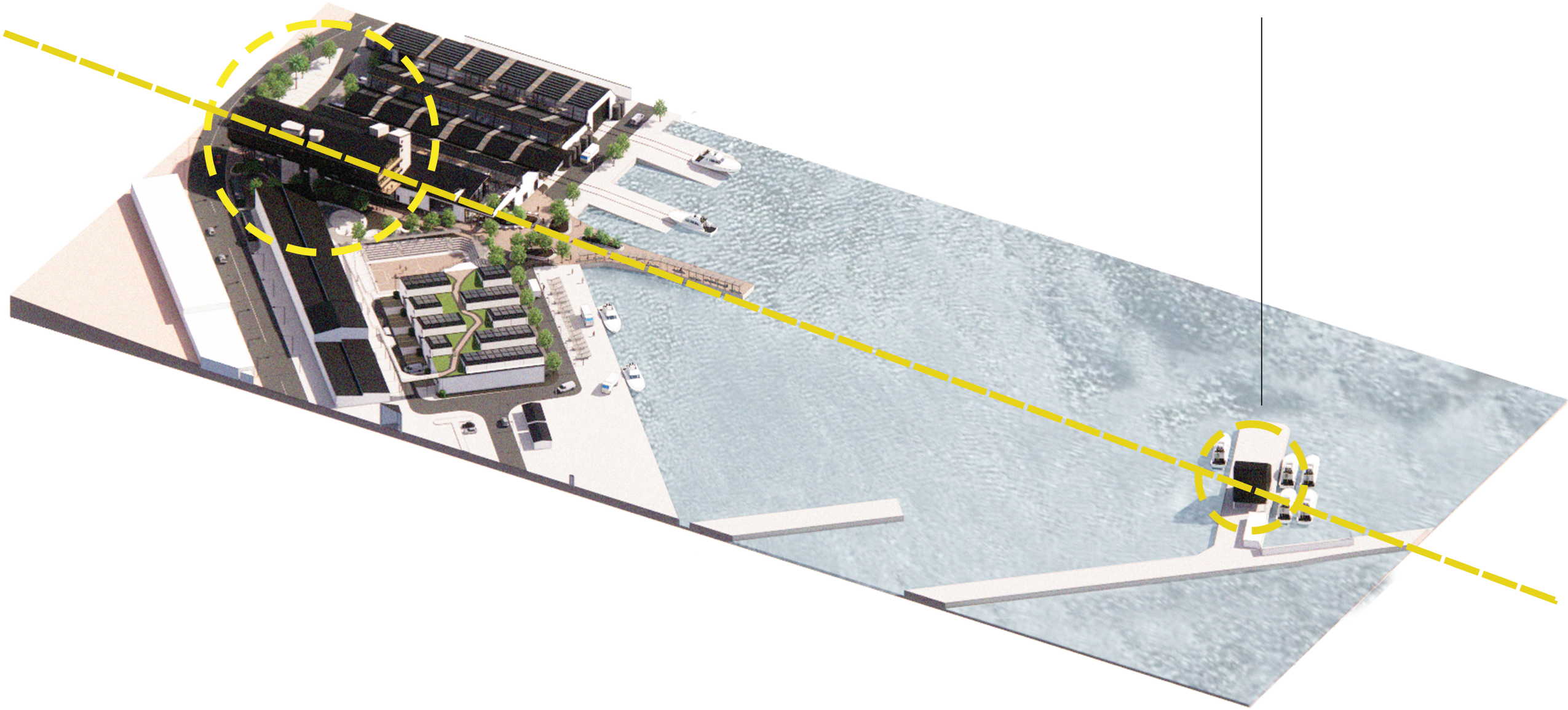
DETAIL C - LEARNING CENTRE DETAIL
1 : 25



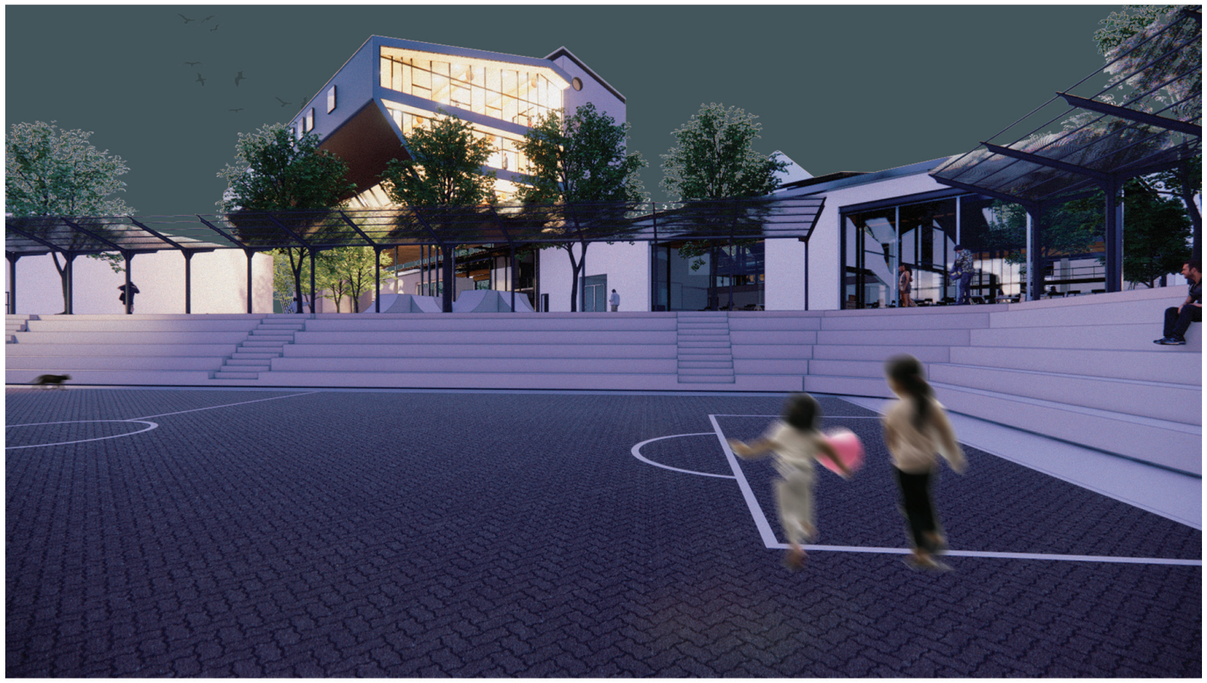
HANGBERG

LEARNING CENTRE

ICE MACHINE EATERY



From skateboarding shop looking to skatepark



From sunken sportfield looking to the learning centre

Looking toward learning centre from harbour side

Looking from the new pier back to Hangberg

Looking toward the repair shop

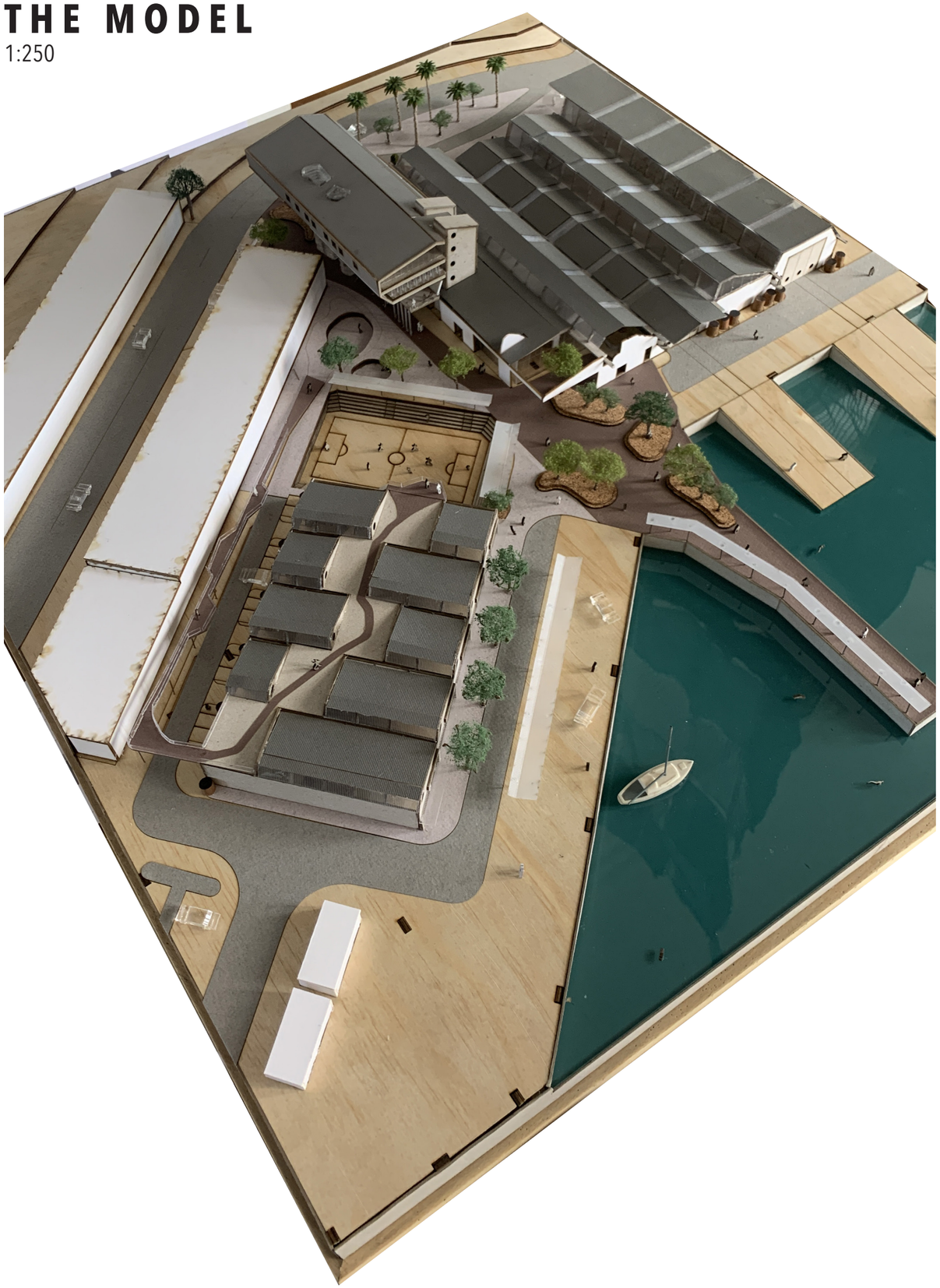
Looking toward the ice machine + the mural

General workshop

Exhibition space with hanging boat display and skateboarding workshop underneath

THE MODEL

1:250



A WAY FORWARD

C O N C L U S I O N

Inspired by the animation Wall-E, this design dissertation set out to explore mitigating strategies of living with and within waste. It is set in the Anthropocene. The dissertation shifts its focus to think of waste as valuable and considers and investigates how it could inform an architectural intervention that supports and inspires the immediate context, community and visitors.

The surplus invades our landscape in many ways in time and space: wasted urban space, wasted buildings, wasted objects and even wasted human lives. Every part of the city has become accustomed to, part of, the producer of, or the end zone for the surplus. However, it is evident through looking at precedents that cities have untapped value assets in their surplus.

After gaining an understanding of the surplus and surrounding spaces of the Hout Bay Harbour through investigating the intangible, the visual and the physical, it allowed a holistic view of how waste and surplus affect the urban landscape, environment and the inhabitants thereof.

Collage proved to be a valuable method to approach the analysis of the surplus, both by making and looking through the lens of collage. It aided in exploring the existing contextual condition which in itself is a collage and which has become a palimpsest. This harbour is a collage of the layering of cultures, trades, languages, skills, materials, sea life, nature and politics.

This context was unpacked and reimagined through the methods of re-urbanism and adaptive reuse. These methods bring forward the notion of reuse and revitalisation as the continuation of growth. The theory aids in attempting to reweave holes in the urban fabric of the harbour which results in a series of intricately woven narratives of place and people.

This dissertation used waste as a lens to look through in selecting the site. The site is a ruin of the recently vacated buildings of the Oceana Fish Meal Plant in the harbour. This ruin was found to be hole that needs to be rewoven. It was also found to be a good location along the harbour strip that could act as a catalyst for harbour regeneration.

A building, through the thoughtful organisation of program, should provide fluid spaces for users, no matter the program, be it industrial or social. By incorporating vastly different activities alongside one another it attracts a different crowd which aims to create spaces rich in diversity. It aids in connecting different people and different activities where people can learn from one another. This has proven to be the magic of mixed programming. Thus, an organisation of programs is proposed for the buildings that intend to achieve this.

Based on what was learnt from the 'scapes': the landscape, waterscape, mountain-scape, harbour-scape, roofscapes and the waste-scape, the proposed form of the design aids to respond to the existing site and context in order to create active and vibrant spaces that invite and guide visitors of all ages and economic classes; it responds to the climatic context to create beneficial interior climatic conditions and the form accommodates the proposed programs in such a way that it encourages and causes people to connect at many different points in the design.

The complexity of layers found in the site results in an intervention that is born out of the site in order to ultimately serve it and the surrounding community of Hangberg and Hout Bay.

Throughout this study it was repeatedly found that the relationship humans have with their environment requires change. The focus needs to shift from a relationship of take and want to one of reciprocity. In the same way the relationship we have with surplus and waste needs to change in order for us to mitigate living with and within it.

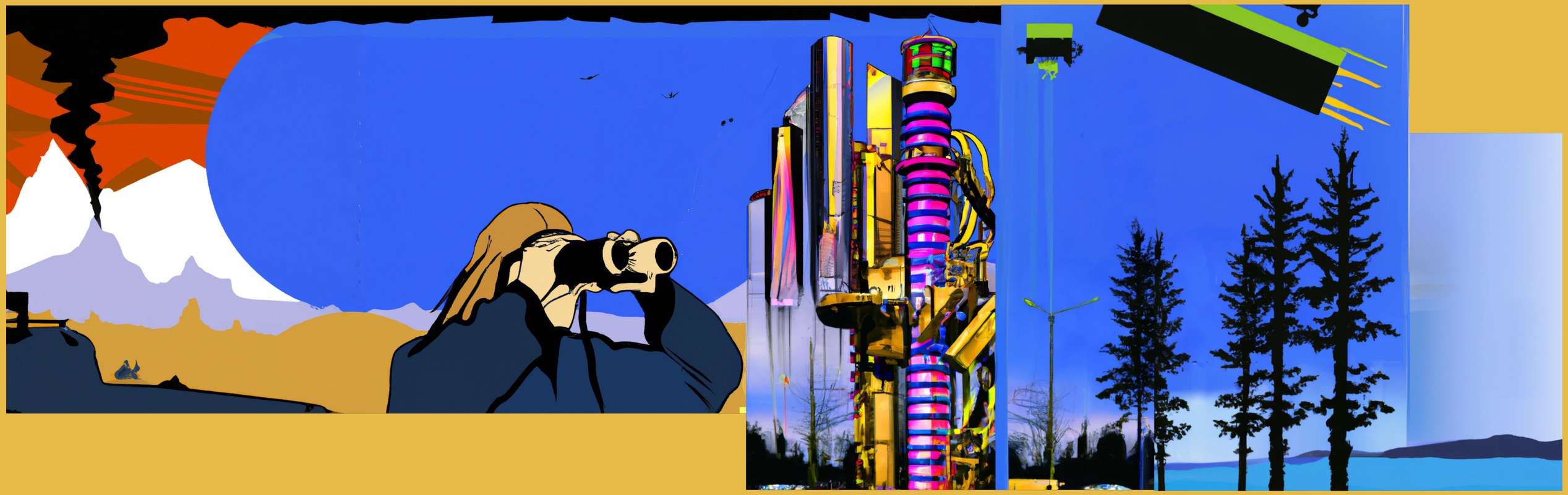
World of chaos, battle and decay in the background, movie poster style

person on hill looking through binoculars in a movie poster style

futuristic city with skyscrapers and bright neon lights, movie poster style

Flying cars with trees under them on the ground, movie poster style

Trees on the ground with a ocean next to them, movie poster style



This is a collage created on DALL·E 2 through word desprictions by the author.

DALL·E 2 is a new AI system than can create art from a description in a natural language.

This image represents humans (me) looking towards a future of high technology with sustainability in all its forms as the main goal. The person in the artwork turns her back on a world torn apart by the surplus.

[https://openai.com/dall-e-2/]

The text above the collage were the descriptions used to generate the images.

Fig. 158 – Looking toward the future (Author, 2022)

LIST OF REFERENCES

Anciano, F. & Piper, L. (2019) *'The Republic of Hout Bay: A house divided'*, in Democracy Disconnected. 1st edition [Online]. Routledge. pp. 29–52.

ArchEyes. 2022. *SESC Pompéia Factory in Sao Paulo / Lina Bo Bardi.* [online] Available at: <https://archeyes.com/sesc-pompeia-factory-lina-bo-bardi-architecture-sao-paulo/> [Accessed 10 July 2022].

Bigrentz.com. (2021). *23 Construction Waste Statistics | BigRentz*. [online] Available at: <https://www.bigrentz.com/blog/construction-waste-statistics#:~:text=As%20much%20as%2030%25%20of,tons%20of%20waste%20in%202018.> [Accessed 15 March 2022].

Businesswire.com. (2019). *ByFusion Recycles 100 Percent of Plastic Waste into Building Material, Creating Structures in LA and Kauai for World Oceans Day*. [online] Available at: <https://www.businesswire.com/news/home/20190604005824/en/ByFusion-Recycles-100-Percent-of-Plastic-Waste-into-Building-Material-Creating-Structures-in-LA-and-Kauai-for-World-Oceans-Day> [Accessed 7 March 2022].

Brandon, E., (2022). *This startup is turning nonrecyclable plastic into building blocks fit for construction.* [online] Fast Company. Available at: <https://www.fastcompany.com/90714272/this-startup-is-turning-non-recyclable-plastic-into-building-blocks-fit-for-construction> [Accessed 7 March 2022].

Brown, A., 2018. *Mungo Weaving Mill in Plettenberg Bay.* [online] Visi. Available at: <https://visi.co.za/mungo-weaving-mill-in-plettenberg-bay/> [Accessed 13 July 2022].

ByFusion Global Inc. n.d. *Blocker - ByFusion Global Inc.*. [online] Available at: <https://www.byfusion.com/blocker/> [Accessed 15 February 2022].

Carte Blanche - Full Response: Hout Bay Harbour. 2022. *Full Response: Hout Bay Harbour.* [online] Available at: <https://www.dstv.com/m-net/en-za/show/carte-blanche/season/35/news/full-response-hout-bay-harbour/news> [Accessed 26 July 2022].

Cutieru, A., 2020. *Urban Acupuncture: Regenerating Public Space Through Hyper-Local Interventions.* [online] ArchDaily. Available at: <https://www.archdaily.com/948304/urban-acupuncture-regenerating-public-space-through-hyper-local-interventions> [Accessed 28 July 2022].

Dauden, J., 2020. *Lina Bo Bardi and the Generosity of the Streets*. [online] ArchDaily. Available at: <https://www.archdaily.com/941823/lina-bo-bardi-and-the-generosity-of-the-streets> [Accessed 11 July 2022].

Dordley, L., 2020. *Foul-smelling fishmeal factory closes in Hout Bay.* [online] CapeTown ETC. Available at: <https://www.capetownetc.com/news/foul-smelling-fishmeal-factory-closes-in-hout-bay/> [Accessed 26 July 2022].

Ferraz, M., 2012. T*he Making of SESC Pompéia by Marcelo Ferraz - Lina Bo Bardi Together.* [online] Lina Bo Bardi Together. Available at: <https://linabobarditogether.com/2012/08/03/the-making-of-sesc-pompeia-by-marcelo-ferraz/> [Accessed 10 July 2022].

Frichot, H., (2021). *Wasteocene: the dirty architecture of progress* - Architectural Review. [online] Architectural Review. Available at: <https://www.architectural-review.com/essays/keynote/wasteocene-the-dirty-architecture-of-progress> [Accessed 4 March 2022].

Geach, C., 2020. *The hell riders of Hout Bay: Kids risking their lives on skateboards*. [online] iol. Available at: <https://www.iol.co.za/weekend-argus/news/the-hell-riders-of-hout-bay-kids-risking-their-lives-on-skateboards-42306350> [Accessed 23 July 2022].

Gridsecondlife.it. n.d. *Bernard Tschumi Architects – Le Fresnoy–National Studio for Contemporary Arts* – GRID SECOND LIFE. [online] Available at: <https://www.gridsecondlife.it/progetto/le-fresnoy%E2%81%A0-national-studio-for-contemporary-arts/#WHO> [Accessed 11 July 2022].

Haas, T. & Locke, R. (2018) *Reflections on The Reurbanism Paradigm: Re-Weaving The Urban Fabric for Urban Regeneration and Renewal.* Quaestiones geographicae. [Online] 37 (4), 5–21.

'Harbouring Criminals' (2022) Carte Blanche. Mnet 101. 29 May.

Human, L., 2022. *Huge factory building stripped bare in Hout Bay harbour while Public Works department dithers*. [online] GroundUp News. Available at: <https://www.groundup.org.za/article/huge-factory-building-stripped-bare-hout-bay-harbour-while-public-works-department-dithers/?fbclid=IwAR3FhZikkUHSqtOHi_2AKsyt5dJ4eekr9cQ7TK3cPNauWZ2cGhX8w28n4YQ_aem_AefQEcAiMFlGkOjomwOIhhuYpUSa1VRSX0Vq3p_Cb-Bu415kygnu0Np75-QxfcZOSlKPZnawiPbU14Jr0E0gfsm4eE6Y9QneA96qyoOLPXFyhQrIP2YT9OaPAaR-wBjkPwY> [Accessed 20 July 2022].

Hoskins, T., 2022. *Urban mining: Using our existing waste to save the planet.* [online] openDemocracy. Available at: <https://www.opendemocracy.net/en/oureconomy/urban-mining-reuse-recycle-old-goods-electronics-save-planet-climate-crisis/> [Accessed 26 August 2022].

Lavin, S., 1997. *Inter-Objective Criticism: Bernard Tschumi and Le Fresnoy.* ANY: Architecture New York, [online] 21(How the Critic Sees: SEVEN CRITICS ON SEVEN BUILDINGS), pp.32-35. Available at: <https://www.jstor.org/stable/41856048> [Accessed 13 July 2022].

Louw, M. & Papanicolaou, S. (2019) *Buildings reimagined: a dialogue between old and new.* Mulgrave, Victoria, Australia: Images Publishing Group.

Loriers, M., 1997. T*ussen twee daken. Bernard Tschumi: Le Fresnoy / Between two roofs. Bernard Tschumi: Le Fresnoy - Archis*. [online] Archis. Available at: <http://archis.org/volume/tussen-twee-daken-bernard-tschumi-le-fresnoy-between-two-roofs-bernard-tschumi-le-fresnoy/> [Accessed 13 July 2022].

Malewar, A., (2022). *ByFusion transforms non-recyclable plastic into bricks for construction.* [online] Inceptive Mind. Available at: <https://www.inceptivemind.com/byfusion-transforms-non-recyclable-plastic-bricks-construction/23052/> [Accessed 1 April 2022].

Musgrave, L., 2013. *Capital assets: providing framework for 21st Century cities - Architectural Review.* [online] Architectural Review. Available at: <https://www.architectural-review.com/essays/city-portraits/capital-assets-providing-framework-for-21st-century-cities> [Accessed 9 June 2022].

OCEANA [JSE:OCE]. 2015. *Oceana outlines its Hout Bay history* | Fin24. [online] Available at: <https://www.news24.com/Fin24/Oceana-outlines-its-history-in-Hout-Bay-and-why-it-plans-to-shut-down-its-factory-20150831> [Accessed 26 July 2022].

O'Donnell, C. & Pranger, D. (2020) *The Architecture of Waste: Design for a Circular Economy*. [Online]. Milton: Taylor and Francis.

O'Neal, M. (2017) *Roadmap to ReUrbanism: Identifying and Overcoming Barriers to Building Reuse.* Forum journal (Washington, D.C.). 31 (4), 41–49.

Paton, C., 2015. *Oceana outlines its Hout Bay history* | Fin24. [online] Fin24. Available at: <https://www.news24.com/Fin24/oceana-outlines-its-history-in-hout-bay-and-why-it-plans-to-shut-down-its-factory-20150831> [Accessed 20 July 2022].

Pilzweger, S. (2014) *Fluidity and time-based architecture: a community centre in Hout Bay harbour*. University of Cape Town. pp. 10-12. [Accessed 17 May 2022]

Pinto, T., 2021. *SESC Pompéia, São Paulo, Brazil – The Twentieth Century Society.* [online] C20society.org.uk. Available at: <https://c20society.org.uk/building-of-the-month/sesc-pompeia-sao-paulo-brazil#dismiss-cookie-notice> [Accessed 10 July 2022].

Piotrowski, C. E-mail correspondence. 1 July 2022

Recycle Track Systems. 2021. *What is Urban Mining.* [online] Available at: <https://www.rts.com/blog/what-is-urban-mining/> [Accessed 26 August 2022].

Slessor, C., 2017. *Reading the ruins - Architectural Review*. [online] Architectural Review. Available at: <https://www.architectural-review.com/essays/reading-the-ruins> [Accessed 28 July 2022].

Thomson, G. & Newman, P. (2018) *Urban fabrics and urban metabolism – from sustainable regenerative cities.* Resources, conservation and recycling. [Online] 132218–229.

Till, J. (2009) Architecture depends. Cambridge, Mass: MIT Press.

Tran, D., 2020. *Fishmeal factory emissions in Hout Bay, Western Cape, South Africa.* [online] Ejatlas.org. Available at: <https://ejatlas.org/print/fishmeal-factory-emissions-in-hout-bay-south-africa> [Accessed 26 July 2022].

Turning livelihoods to waste (2019) Directed by Y. Kruger [Short Film]. United Kingdom and South Africa: Substance Films.

Weissman, A., 2019. *What is it about humans and waste?* | Greenbiz. [online] Greenbiz.com. Available at: <https://www.greenbiz.com/article/what-it-about-humans-and-waste> [Accessed 11 June 2022].

Wolff Architects. 2014. *Watershed - Wolff Architects.* [online] Available at: <http://www.wolffarchitects.co.za/projects/all/watershed/> [Accessed 11 August 2022].

Wong, L. (2017) A*daptive reuse: extending the lives of buildings*. Boston: Birkhäuser.

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Fig. 86 – ciam. (2019). Allocation diagram. [image, jpeg] viewed July 2022, <https://www.gridsecondlife.it/progetto/le-fresnoy%E2%81%A0-national-studio-for-contemporary-arts/#WHO>

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APPLICANT'S DETAILS		
Name of principal researcher, student or external applicant		MARIA MALAN
Department		ARCHITECTURE, PLANNING AND GEOMATICS
Preferred email address of applicant:		mlnmar@myuct.ac.za
If Student	Your Degree: e.g., MSc, PhD, etc.	MArch(Prof)
	Credit Value of Research: e.g., 60/120/180/360 etc.	120
	Name of Supervisor (if supervised):	Michael Louw
If this is a researchcontract, indicate the source of funding/sponsorship		
Project Title		The City's Surplus _ Architecture + Trash

I hereby undertake to carry out my research in such a way that:

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
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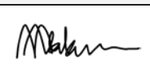
Principal Researcher/ Student/External applicant	Maria Malan		25/04/2022
SUPPORTED BY	Full name	Signature	Date
Supervisor (where applicable)	Michael Louw		04/05/2022

APPROVED BY	Full name	Signature	Date
HOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section 1; and for all Undergraduate research (Including Honours).			
Chair: Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the questions in Section 1.	Prof. H. von Blottnitz		13/06/2022

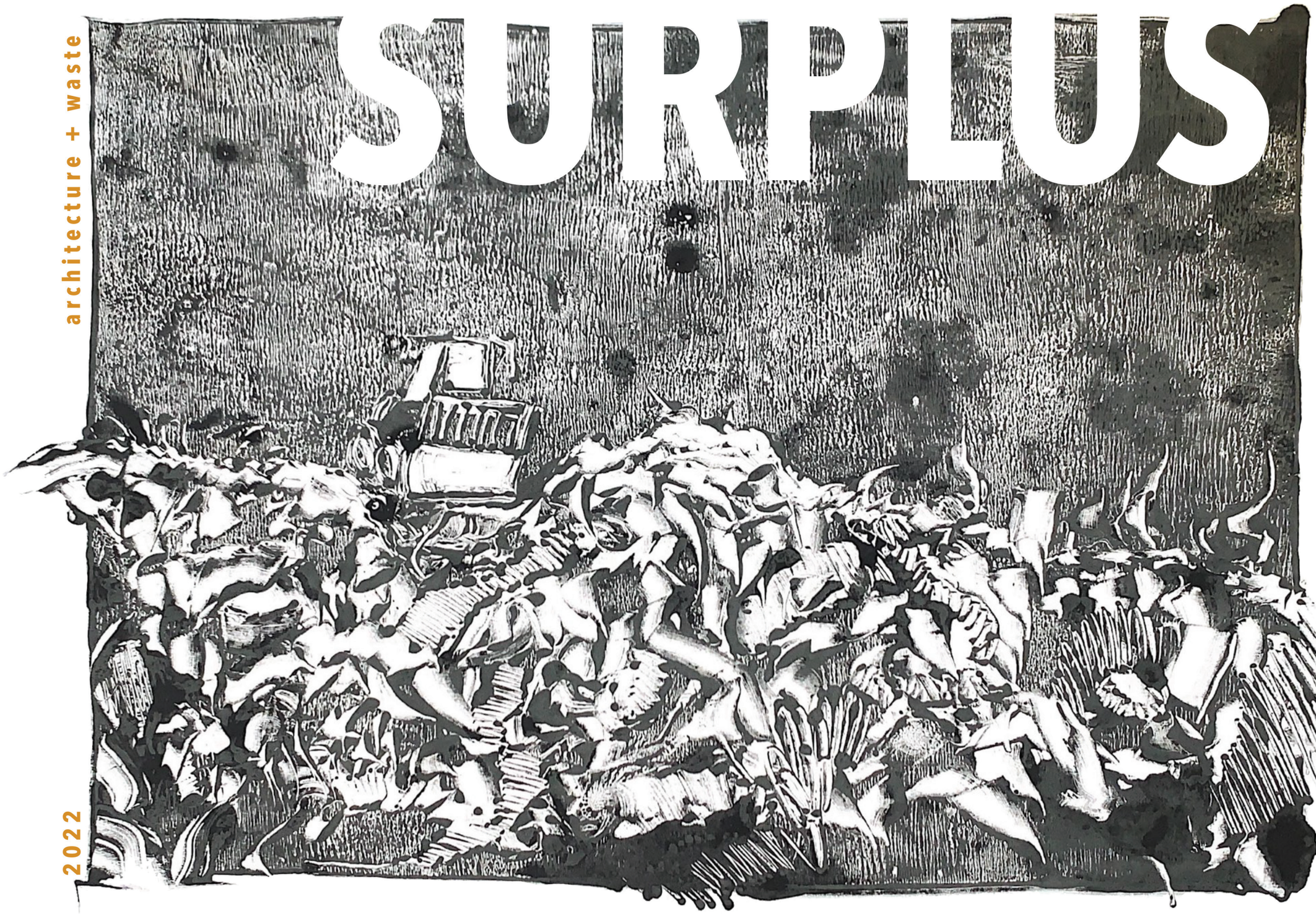


Fig. 159 – Surplus monoprint (Author, 2022)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