

# NEW BREATH FOR JOHANNESBURG

Adaptive Reuse of Ponte Tower and the Imagining of Witpoortjie Tower as Catalysts that Foster Urban and Social Growth

Located in Downtown Johannesburg, South Africa - Hillbrow Neighborhood

ARCH 772 Design Thesis

New Breath For Johannesburg  
ARCH 772 Design Thesis  
Revit, Lumion, Photoshop, Illustrator

Joseph Seelhammer



Maswengeng, S. (2018) City Buildings with View of the Ponte Apartments. [Photo]



Cole, E. Woman Sitting on a European Bench During Apartheid. [Photo]



Msimango, R. (2021). Sewage Fills the Streets of Hillbrow. [Photo]



By 2summers on Twitter. (2017). View from the Top of Nugget Hill in Hillbrow. [Photo]

SABC. (2023). Crime statistics Paint a Gloomy Picture. [News]



orningLiveSABC



# CRIME STATISTICS PAINT A GLOOMY PICTURE

Pindral, B. (2018). Burning Tires During Protest in Johannesburg. [Photo]



eNCA News. (2024). Terror Within Joburg Communities. [News]



CRIME IN SA

# TERROR WITHIN JOBURG COMMUNITIES



Magakoe, P. (2021). Looting During Protests. [Photo]



# Statistic Reasoning

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South African unemployment rate as of the fourth quarter of 2023 is 32.1%

According to statista.com, the suburb of Johannesburg Central has the highest number of contact crimes in South Africa. These crimes include murder, assault, and sexual offenses (South Africa, n.d.).

According to the Johannesburg Inner City Partnership and its Johannesburg Homelessness Network (JHN), **it is estimated that there are between 8,000 and 20,000 people living homeless in Johannesburg** (“Johannesburg Homelessness Network (JHN),” n.d.).

These stats show the need for a project of this typology. Witpoortjie Tower would supply an estimated **1,800 office jobs** based on 20 floors of offices totaling roughly 300,000 sqf. It would create another **50-100 jobs** with the 10 floor hotel block on top.

**This thesis proposes to reserve as many jobs as possible for homeless or in-need persons**, although it is known that many office worker jobs require degrees that many people living homeless do not have access to. The hope is that this project would create an economic status in the neighborhood that allows more people to attend universities and get help with housing, food, etc.

Remsberg, E. (2024). Cape Town Street Market. [Photo]



Tourism Media. (2017). Walter Sisulu Botanical Gardens. [Photo]



Seelhammer, P. (2023). Braai in our Backyard. [Photo]



Seelhammer, P. (2023). View from Hike in the Botanical Gardens [Photo]





University of the  
Witwatersrand Johannesburg  
(WITS)

PROJECT SITE



1 LILY AVE

University of Johannesburg  
Dorobule Campus

JOHANNESBURG STADIUM

Central Johannesburg College  
Ellis Park Campus

ELLIS PARK STADIUM



JOHANNESBURG CBD



Seelhammer, P. (2023). View of Ponte. [Photo]



Latilla, M. (2011). Pretoria Street Looking East. [Photo]



Seelhammer, P. (2023). View of Ponte. [Photo]

# Case Studies:

## #1 - Casa Nova & The Muse

Designed by Barcode Architects in Rotterdam, The Netherlands



The CasaNova is a tower designed in tandem with the existing Muse Tower. The two towers share a plinth and mutual community spaces such as a rooftop garden and kitchen, fitness area, meetings rooms, and parcel room. The fluid circulation and casual encounters of residents from each tower is essential to allow residents to form a sense of community and social cohesion. The plinth of the buildings include commercial, retail and entertainment opportunities available to all the residents of the city (CasaNova Building / Barcode Architects, 2023).

The relevance of these towers to this thesis lies in fostering community connections and the symbiotic use of shared spaces. The project's vision involves establishing a new tower in proximity to Ponte Tower, connected by an elevated walkway. This walkway aims to link community spaces reminiscent of the gathering spaces and lush greenery seen on the plinth of the CasaNova and Muse Towers.

- + Community Connections
- + Walkway Connection Similarities
- + Adding New Construction on an Old Building

Wilschut, H. (2023). View of Towers. (Right tower is CasaNova, left is The Muse). [Photo]

# Case Studies:

## #2 - Shenzhen Women's and Children Center

Designed by MVRDV Architects in Shenzhen, China



“The MVRDV-designed Shenzhen Women & Children’s Centre transforms an old mixed-use tower built in 1994 into a vibrant and colourful skyscraper hosting a hotel and a wide range of facilities for the welfare of women and children: a library, an auditorium, a children’s theatre and “discovery hall”, as well as therapy rooms and offices for staff.” (Shenzhen Women & Children’s Center / MVRDV, 2023).

A wonderful example of adaptive reuse, the new tower serves the community as a new hub of activity and happiness. The Shenzhen project's emphasis on community involvement and urban revitalization draws a parallel to this thesis's objectives. By actively engaging communities and reinvigorating neglected buildings, both the Shenzhen project and this thesis aim to address the critical issue of underutilized urban spaces, fostering an environment where people are encouraged to actively participate and thrive within their city centers.

- + Adaptive Reuse
- + Community Involvement
- + Encouraging Public Use

# Case Studies:

## #3 - Quay Quarter Tower

Designed by 3XN Architects in Sydney, Australia

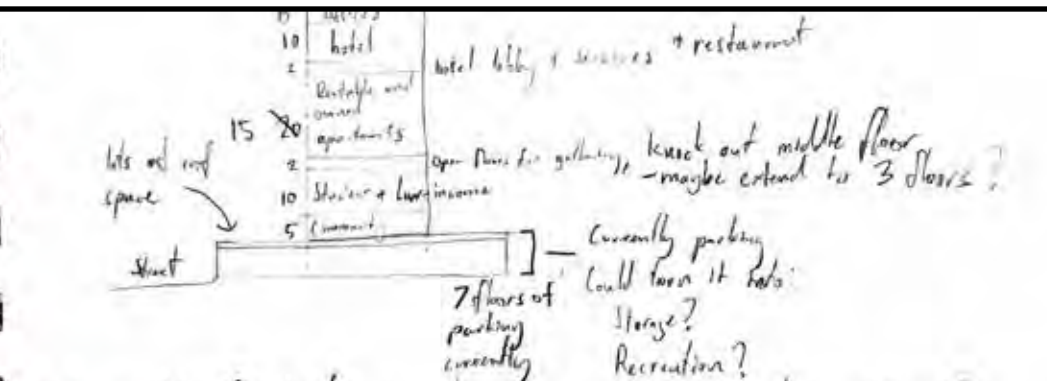


The Quay Quarter Tower is one of the largest adaptive reuse projects in the world, being formed around an old mixed-use tower, the AMP Center. Built in 1976, the tower was reaching the end of its life cycle and was in need of a solution to revive it. By reusing 65% of the original structure and 95% of the original core the project was able to attain a embodied carbon saving of 7.3 million kilograms (Quay Quarter Tower / 3XN, 2023).

This project is a prime example of large-scale adaptive reuse and the benefit it has on the environment. Its relation to this thesis is the embodied carbon savings. By saving the concrete structure and core it allows for the same type of embodied carbon savings as Quay Quarter Tower. Although Ponte won't involve a full re-design like this tower, it will still be a fresh addition to the Johannesburg skyline.

- + Adaptive Reuse
- + Carbon Savings on Concrete

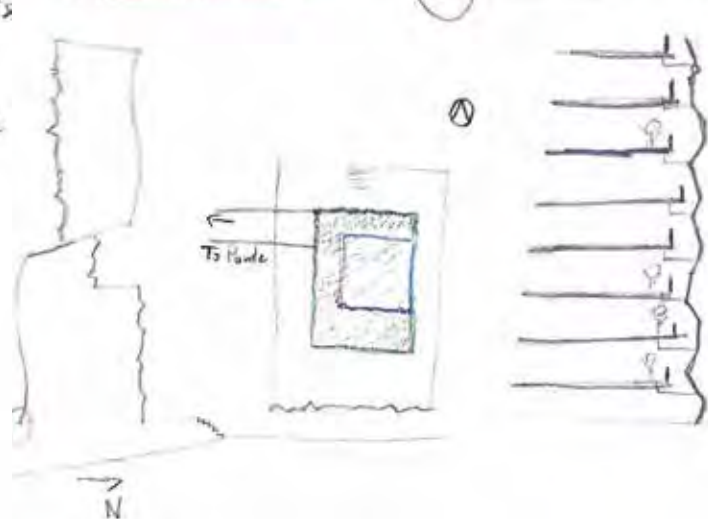
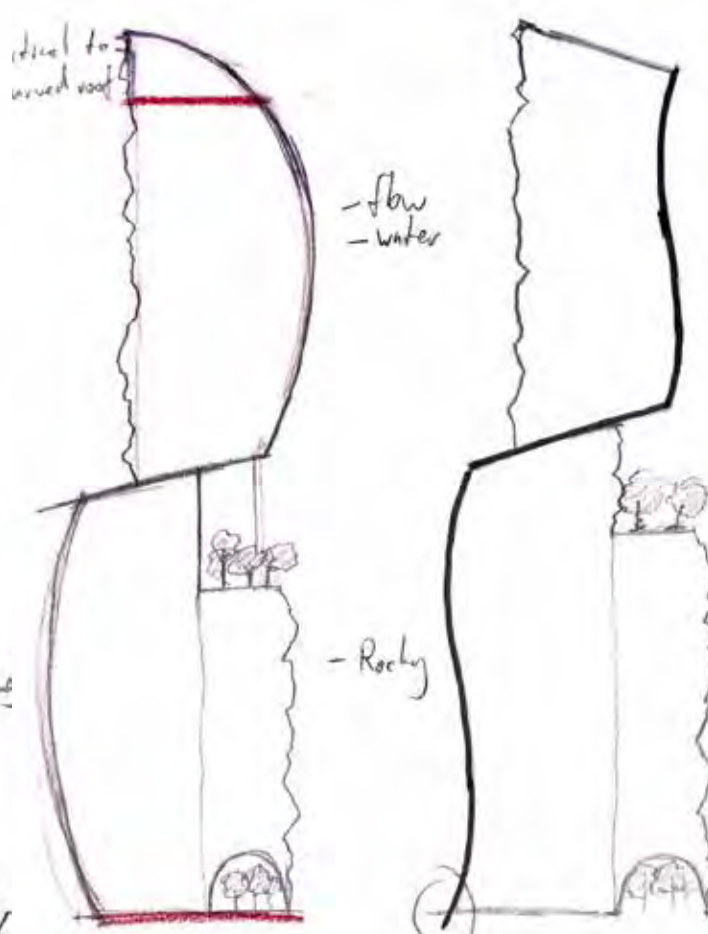
# Sketches and Process



Ponte is latin for bridge  
 Symbolizes the bridge  
 from heaven to earth



Paint is gradient  
 from white at top to  
 green or brown at the  
 bottom?

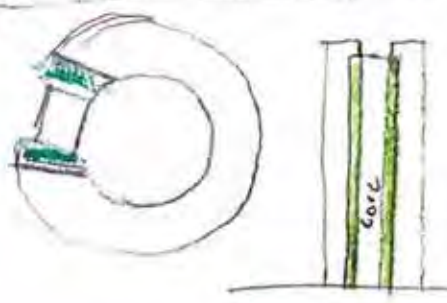
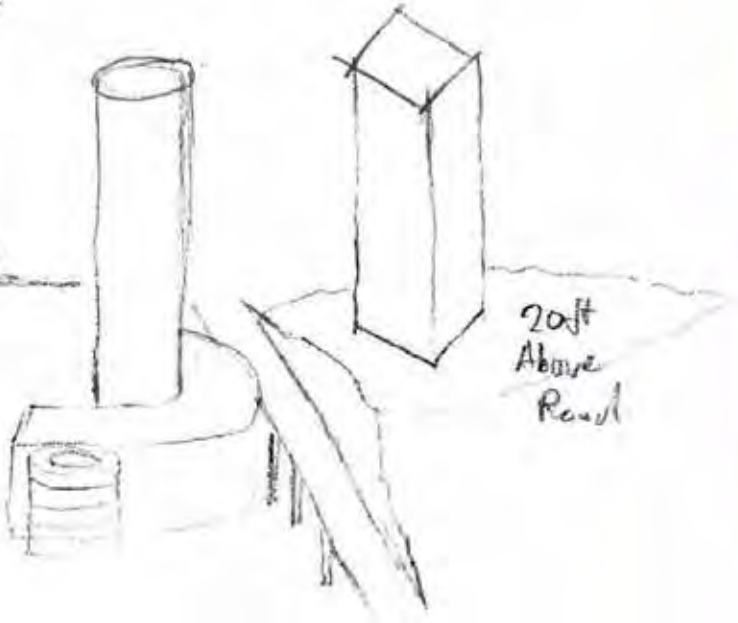
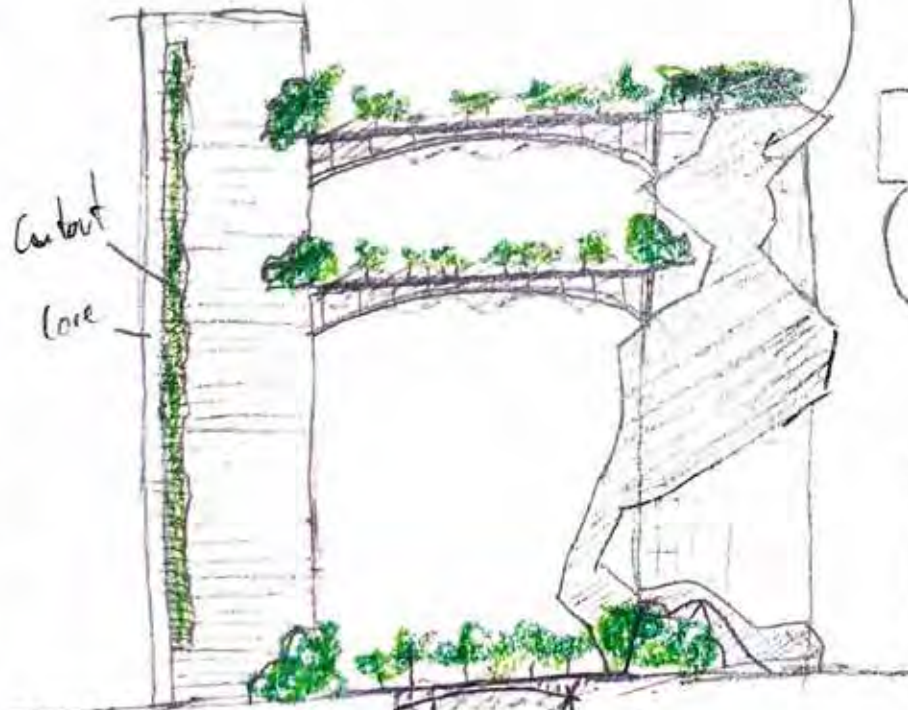
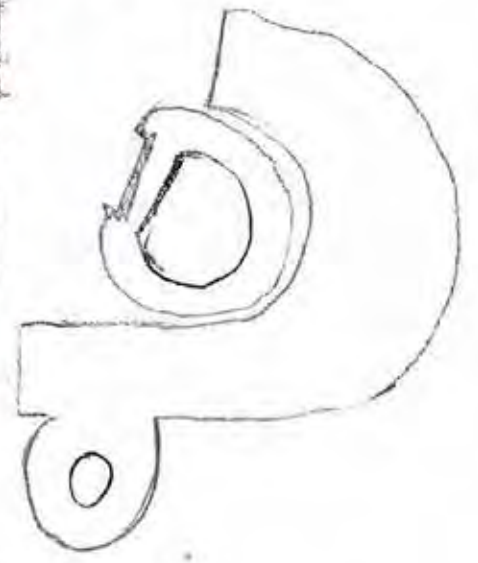


Colour of rock  
Material:



\* Two buildings, 1ft?  
intertwined,  
into one ecosystem

Model Plates



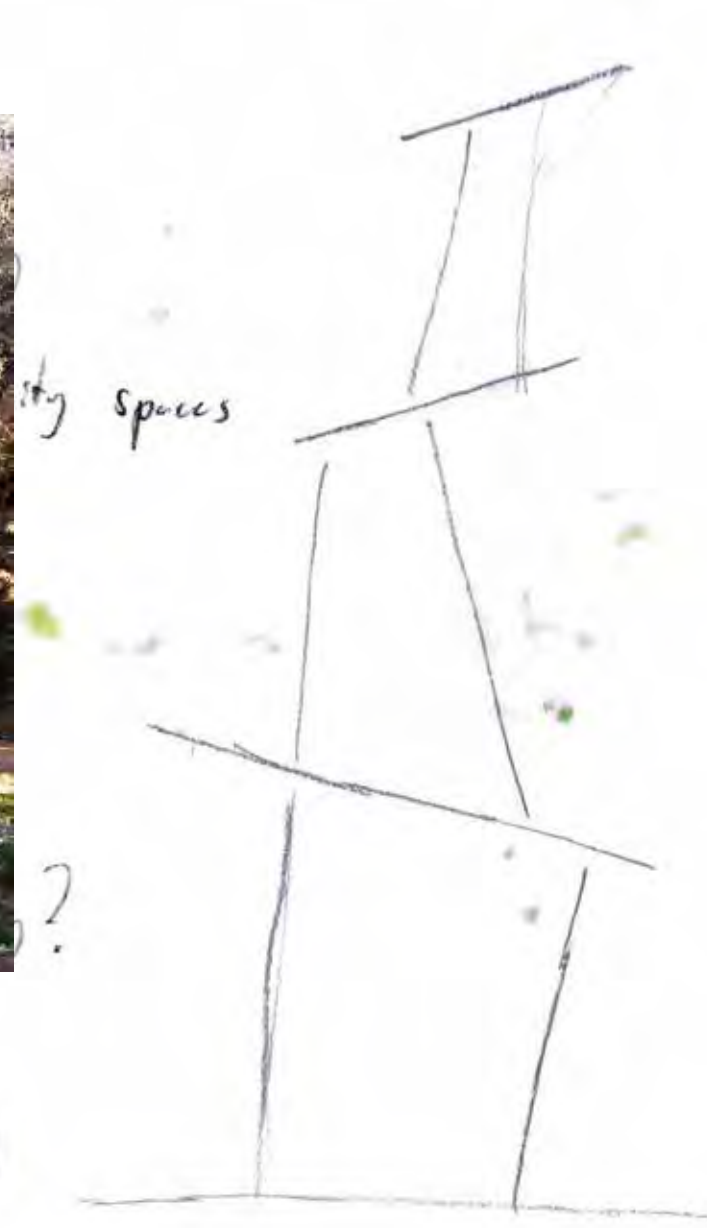
Bridge act as  
sound barrier  
for balconies etc

20ft  
Above  
Road

The form of Witpoortjie Tower is inspired by Witpoortjie Waterfall in the Walter Sisulu Botanical Gardens located in Krugersdorp, Johannesburg. The cutting and pushing of water was the inspiration for the angled form and the cut-out balcony spaces. I used this image of the waterfall to get inspiration for my parti design process



Firelight Tours. (2022). Witpoortjie Falls. [Picture]



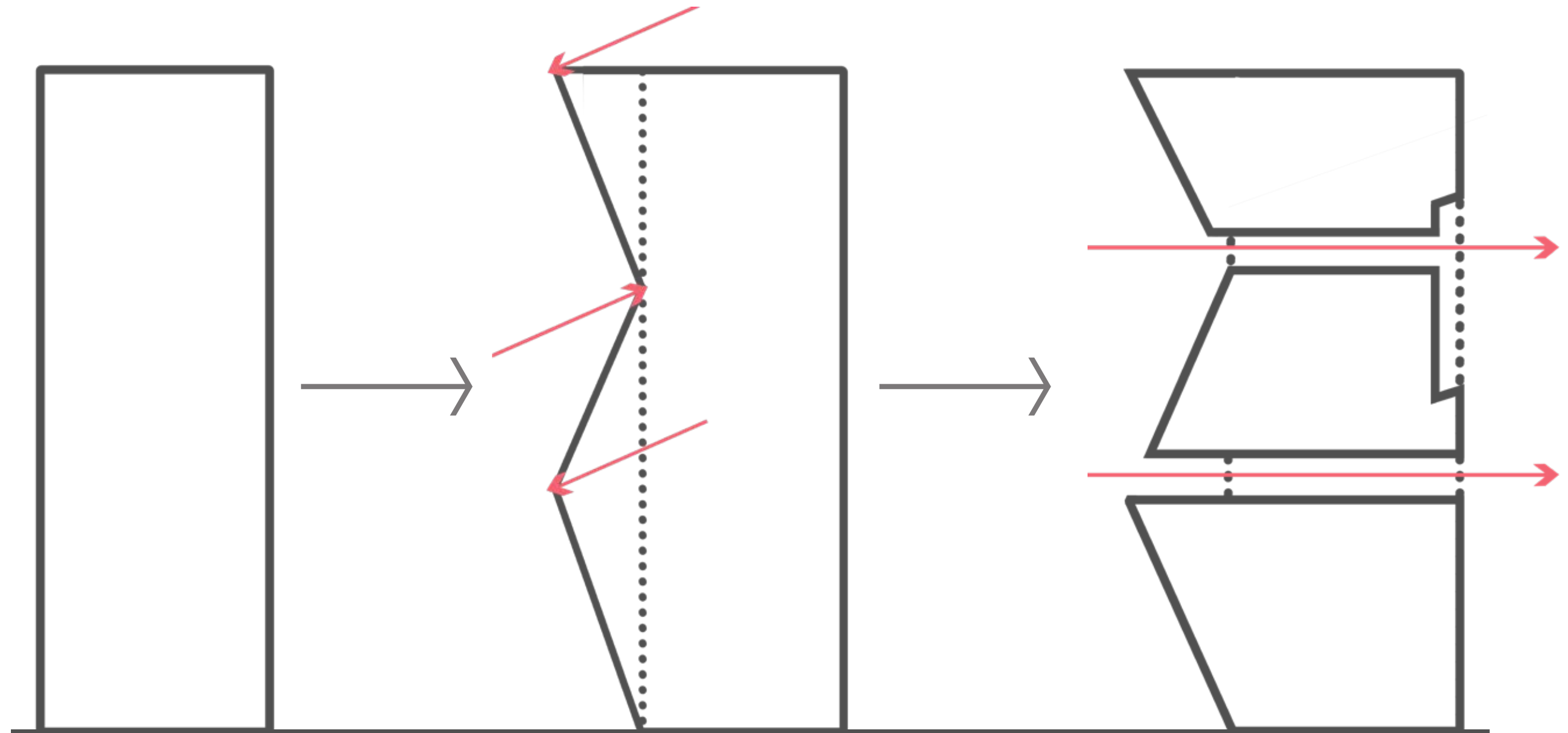
Parti  
Water  
cuts  
Stone

Design keywords:  
Cut  
Grow  
Flow  
Connect  
Interweave

Original specs of Ponte  
6 level parking  
1 level shopping on top of parking  
567 ft tall - exclude sign and parking floors  
55 stories, 54 of residential  
Elevators on both sides go to 45th floor  
Stairs shown on bottom of core come up from parking  
Cut presentation boards

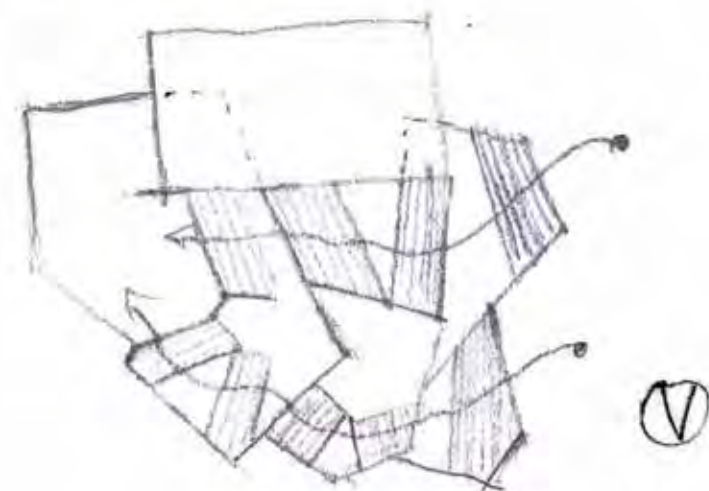
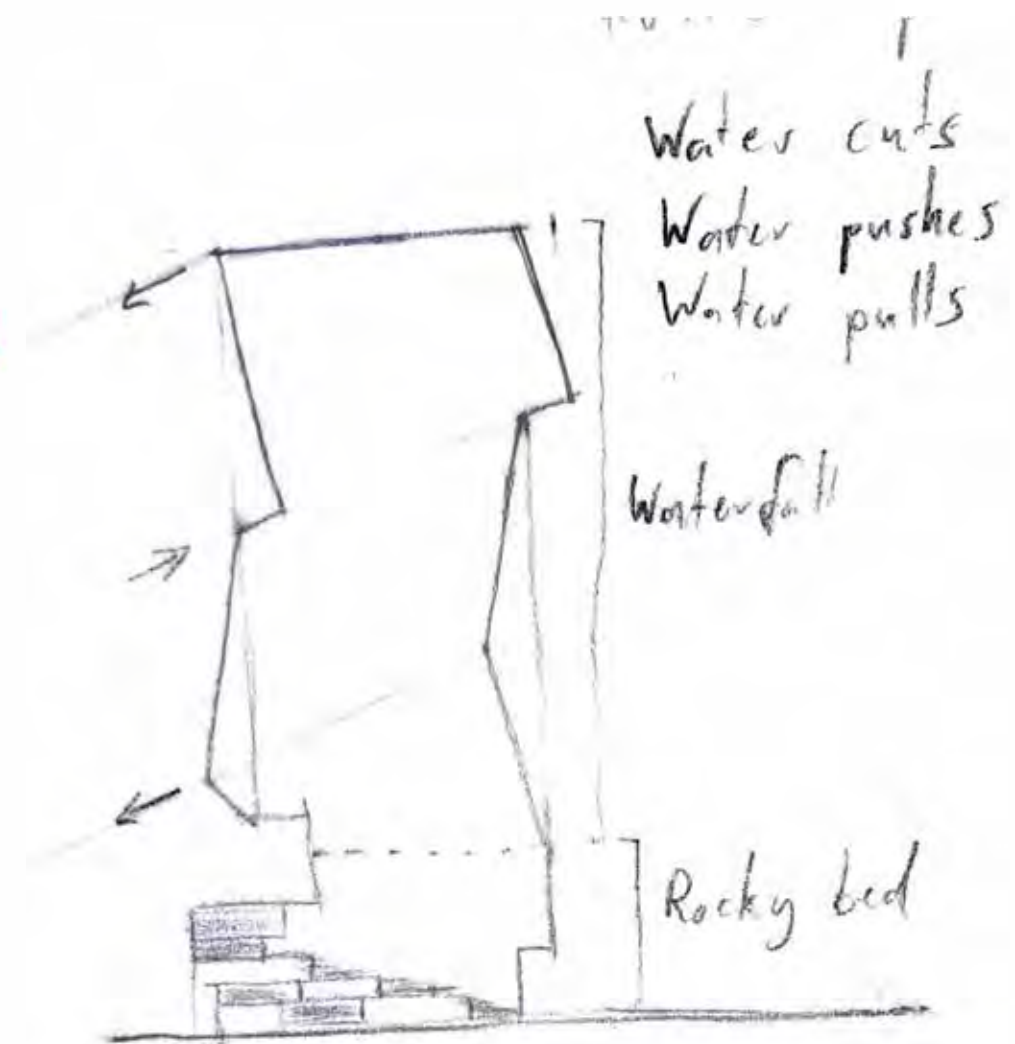
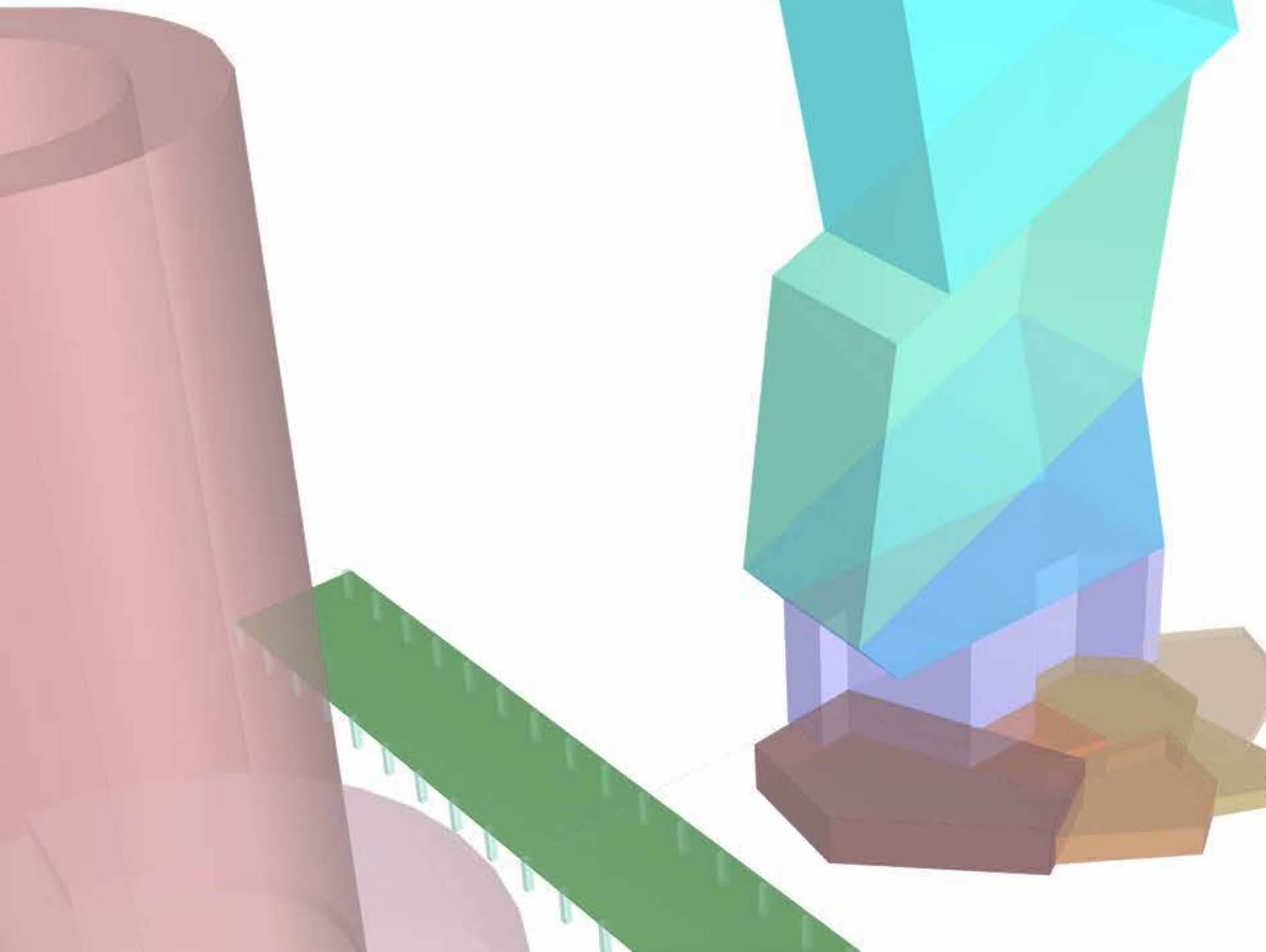


# Final Parti



Witpoortjie Design Process Based on Water Pushing and Cutting Rock

# Early Mass Model





# PROJECT SITE - 1 LILY AVE

Ponte Tower

Witpoortjie Tower

Johannesburg Stadium



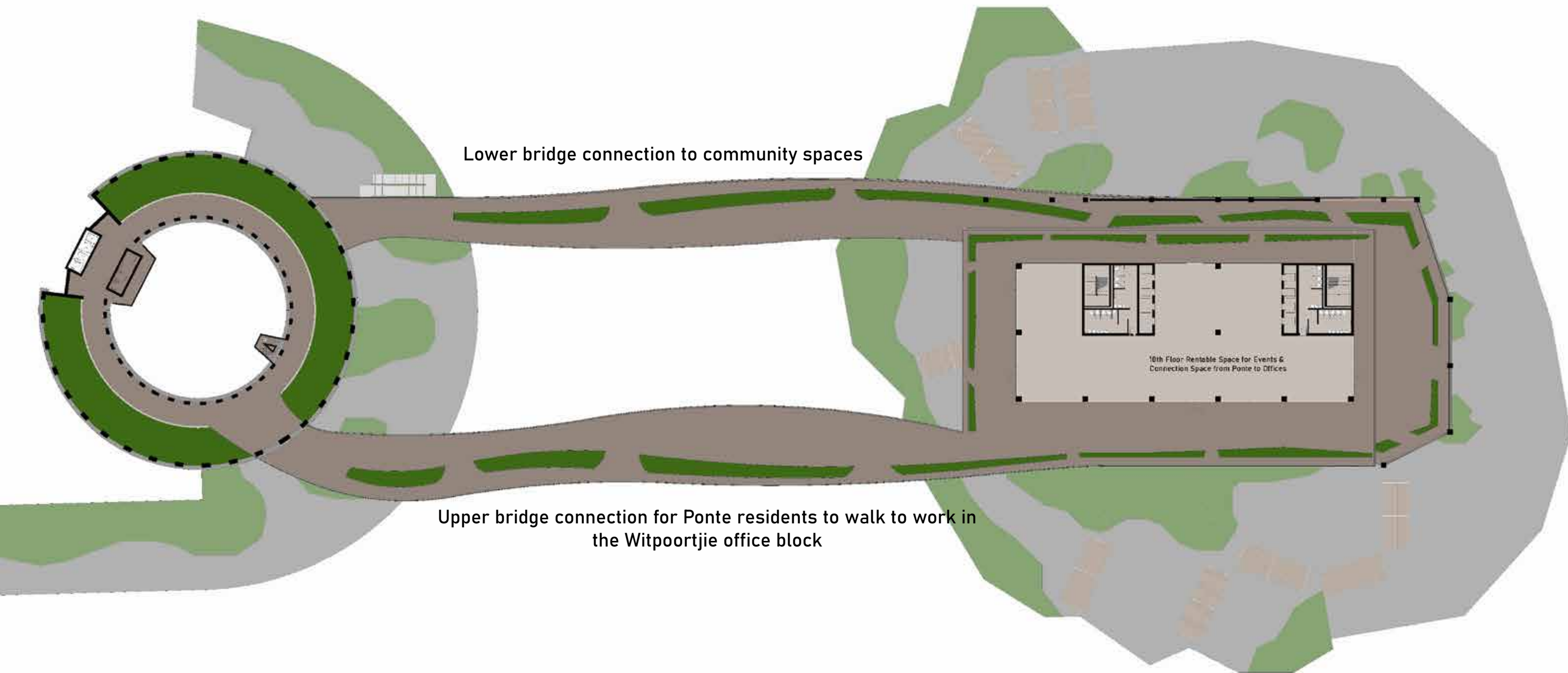
# Witpoortjie Ground Floor and Stepping Stones







# Plan Showing Bridge Connections

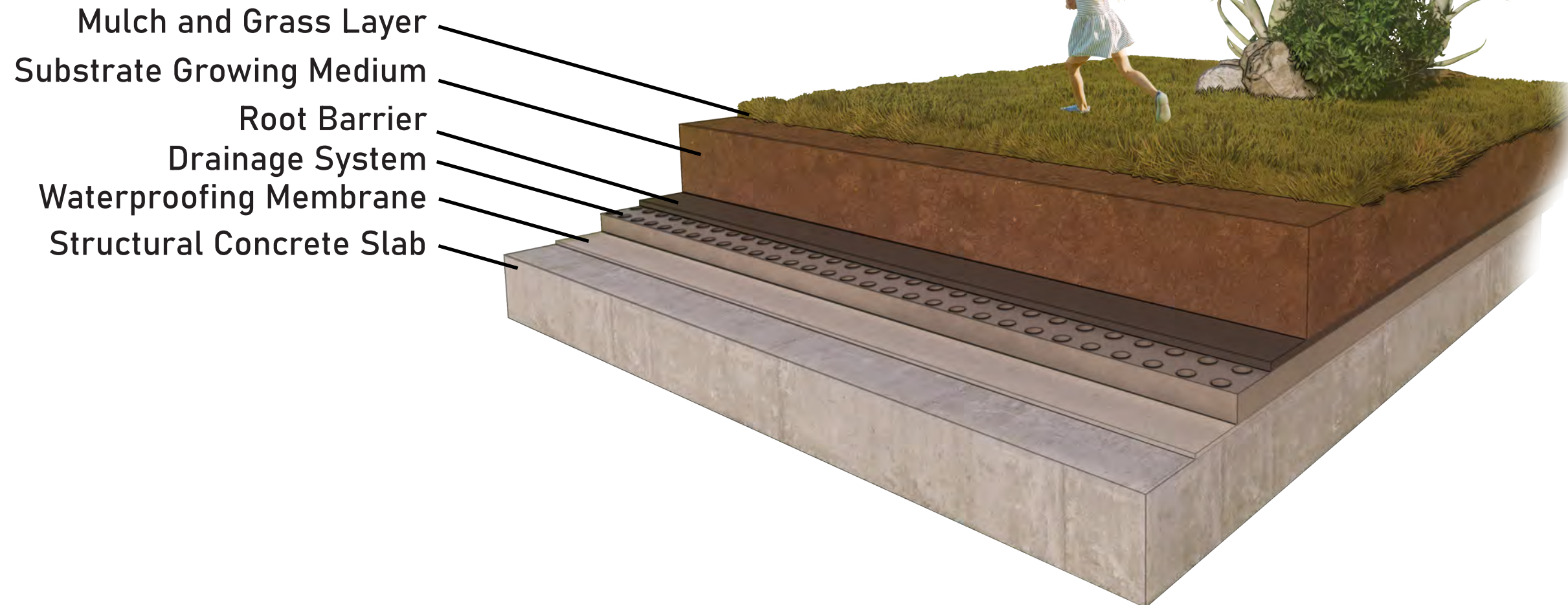


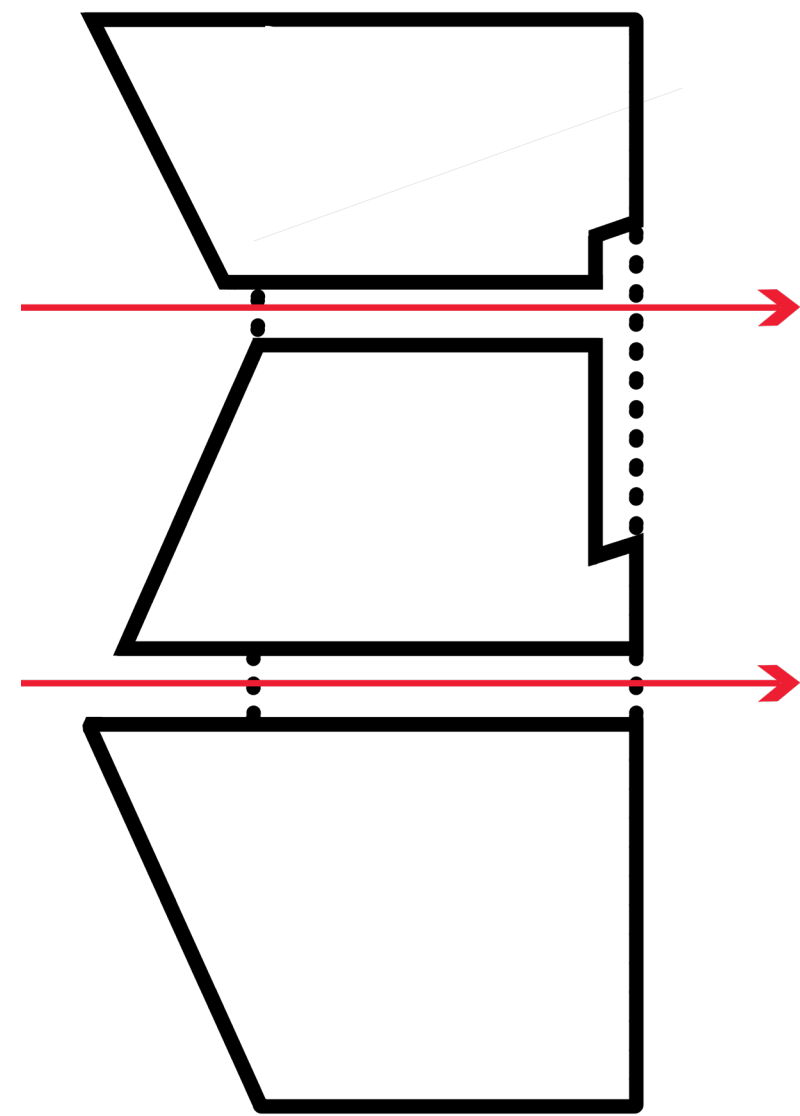
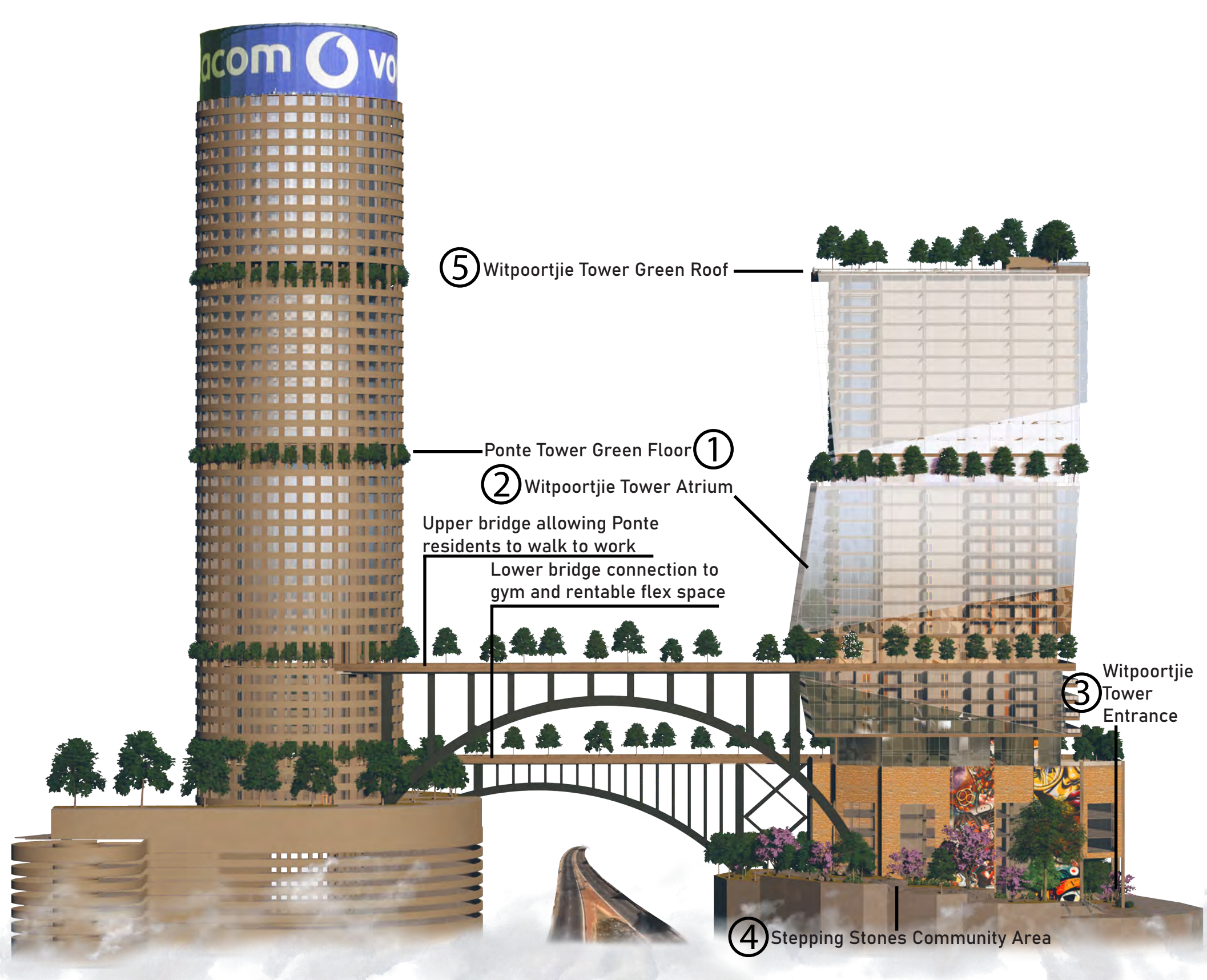


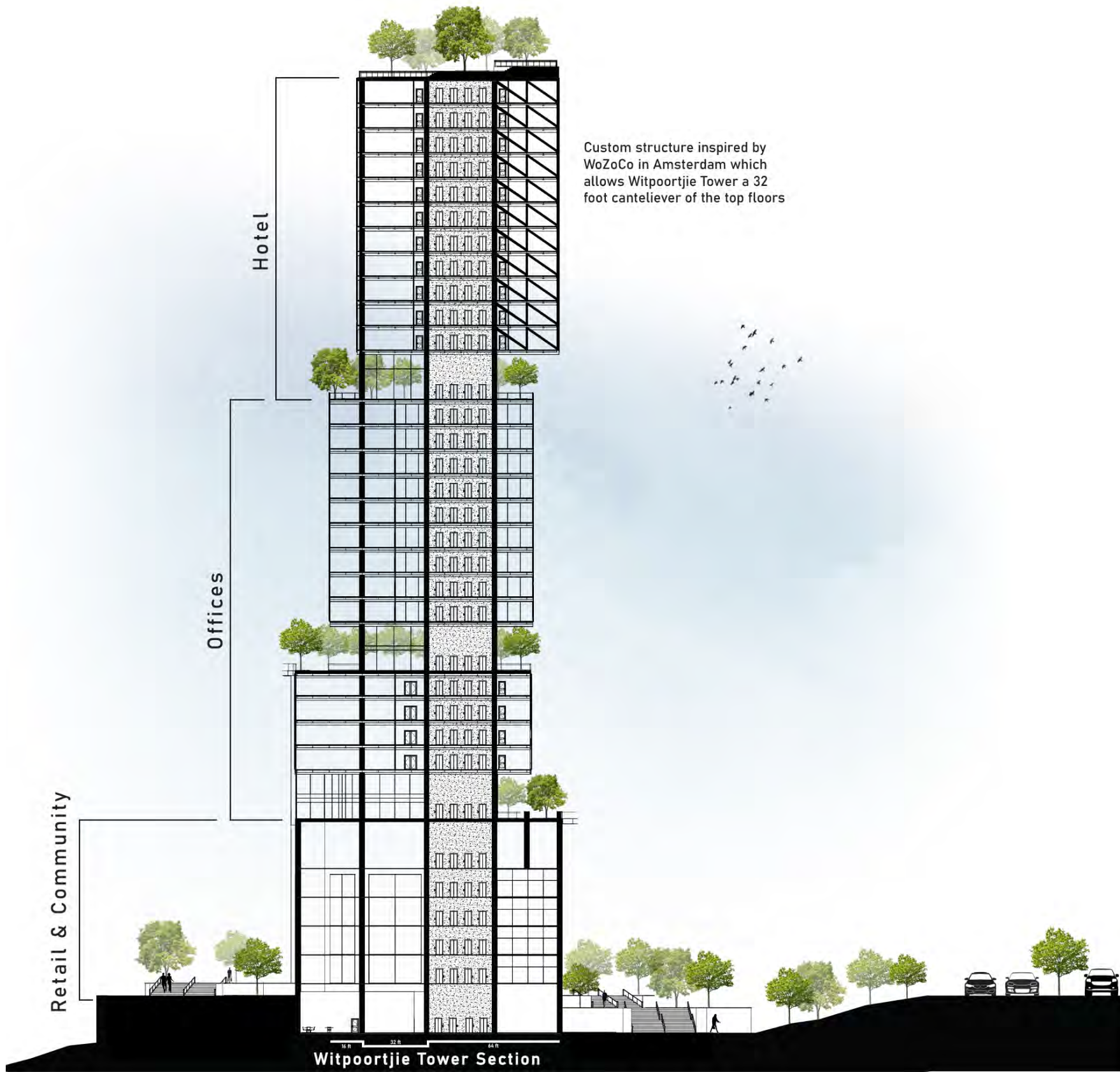




## Green Roof/Floor Composition







Retail & Community

Offices

Hotel

Custom structure inspired by  
WoZoCo in Amsterdam which  
allows Witpoortjie Tower a 32  
foot cantilever of the top floors

16 ft 32 ft 64 ft  
Witpoortjie Tower Section

