

Sultan Alfaisal
Portfolio
AAD
2020

My GSAPP Planet

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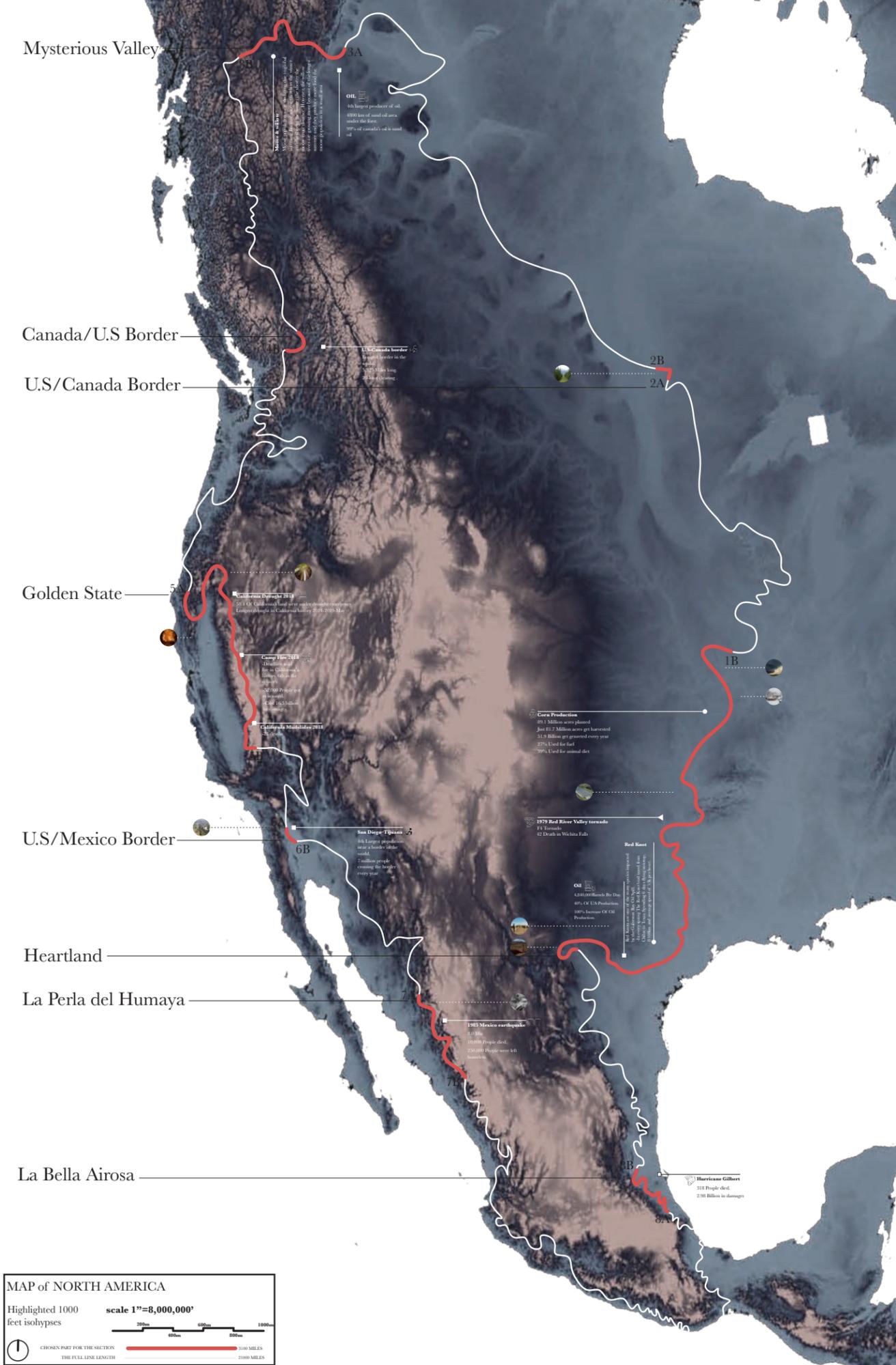
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Advanced Architecture Studio
 Isohypse

Marco Ferrari

1000 foot

The 1,000 foot Isohypse is a continuous line that travels through North America. The line travels through regions of natural disaster, barren lands, and political unrest.

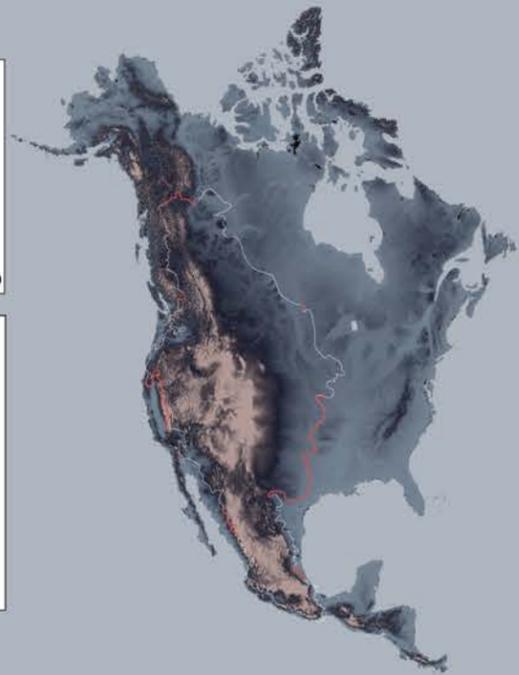
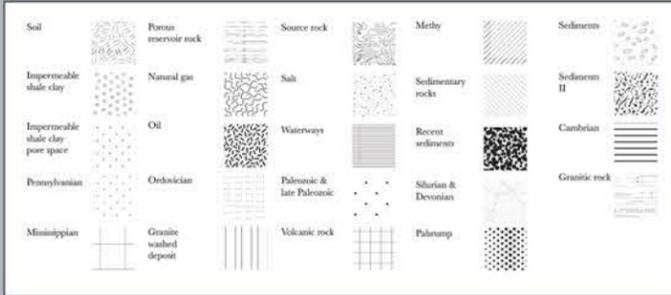


SECTION of NORTH AMERICA

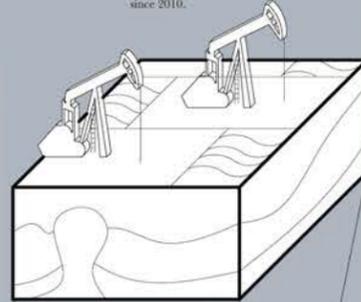
Scale 1"=1,000,000'



Marco Ferrari / Sultan Alfaisal 10.9 mm 1k AAD

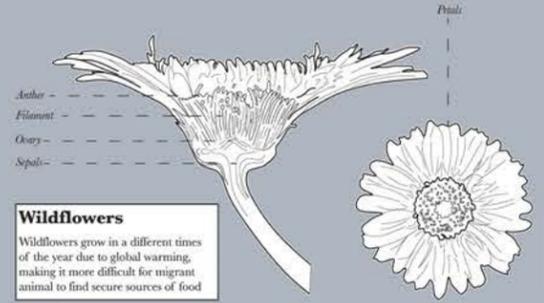
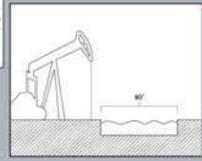
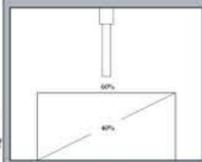
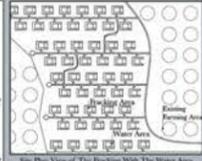


RED KNOT journey
Red Knot travels from Chile to Texas every spring spending 6 days flying nonstop. (8100km and average speed of 55k per hour). Red Knot's last stop would be the Arctic which by the time they arrive would be already warm and no food to feed their nests.

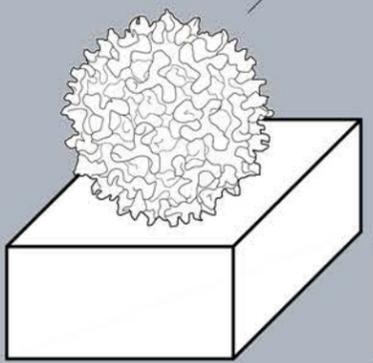


Oil
 4,840,000 Barrels Per Day
 40% Of U.S. Production
 100% Increase Of Oil Production since 2010.

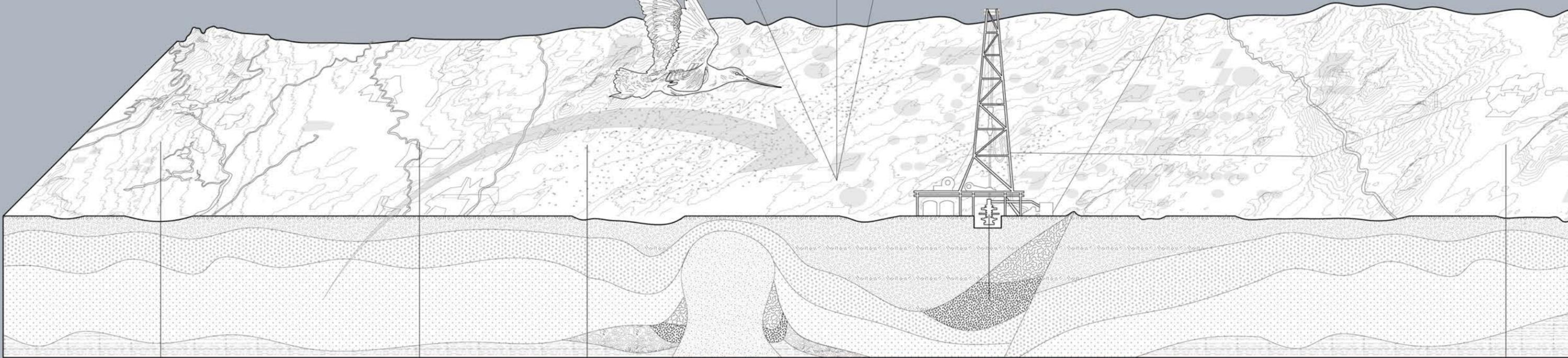
Oil and The Red Knot SOLUTION
My proposal is to re-use the land of the land oil rig by creating multiple ponds all over the old fracking area. This will create a food source for the migrated red knot. The red knot will survive the spilled oil on the land because it was one of the few animals that was get effected by the BP oil spill.



Wildflowers
 Wildflowers grow in a different times of the year due to global warming, making it more difficult for migrant animal to find secure sources of food



BTV virus is taking advantage of global warming by spreading faster than ever.

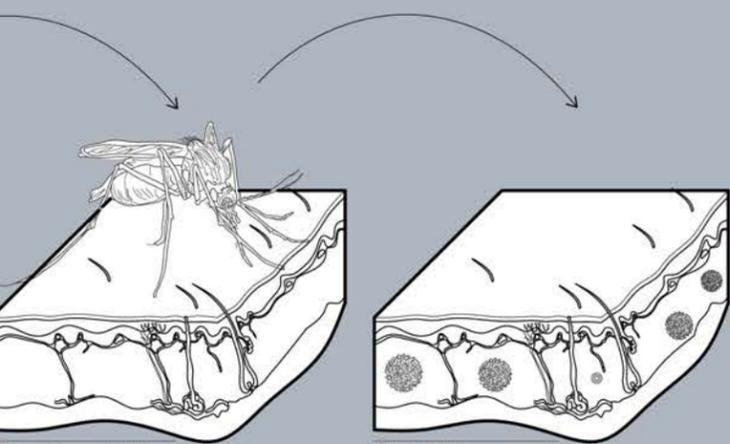


Del Rio
 Population: 40,549
 Density: 2,000sq/mi

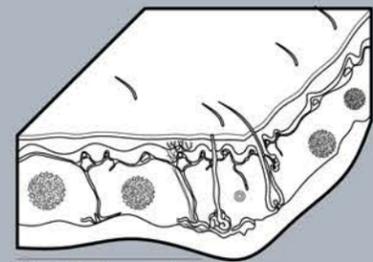
San Antonio
 Population: 1,511,946
 Density: 3,241sq/mi
 GDP: \$83 billion dollars

Monahans
 Population: 6,990
 Density: 290 sq/mi
 Household Income \$64,773

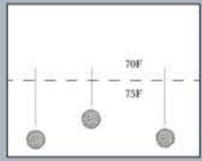
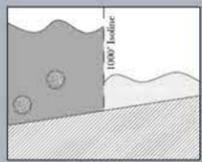
Fort Worth
 Population: 874,168
 Density: 2,181sq/mi
 GDP: \$457.4 billion



BTV get transmitted by animal usually using a third body such as mosquitoes or other midges.

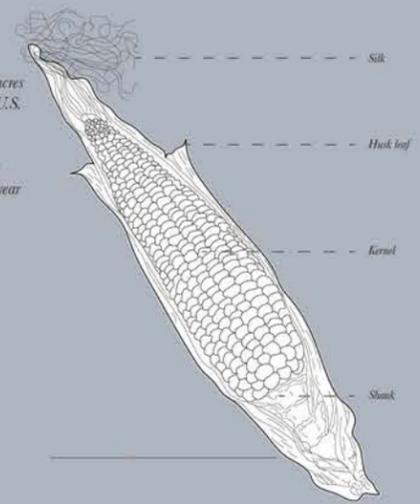


The BTV virus uses the host body to be transported to other area until a second midges carry it to other host body

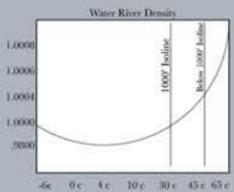
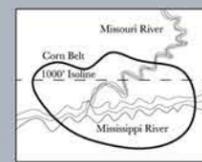


over 50 years BTV will cover the 1000 rainfall

CORN
89.1 Million acres planted in the U.S. and almost 52 billion dollar generated to the economy every year



Corn journey
Corn is an important element to the U.S. economy. The U.S. is the largest corn producer in the world making more than 27% of the corn production. Most of the production happens in what it called the corn belt. The temperature is rising mostly in the eastern side of the belt due to the lower elevations. An expected journey need to happen in the next 30 years to move all the corn field to a higher elevation

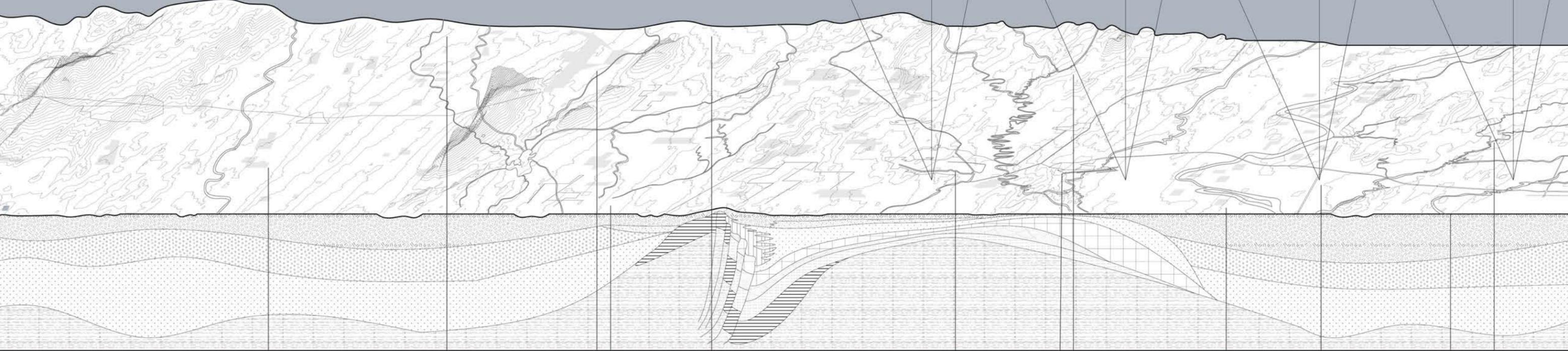


Before Corn
Corn has been domesticated since 8,700 years ago there has never been a wild corn before because human in South America has modified the plant to generate a vegetables that can produce seeds yearly

Harvesting Corn
Corn needs around 90 days to reach harvest. And that cannot be reached due to global warming and the lasting frost line. The US alone harvest 13.7 million acre of corn producing more than 2.36 billion bushels

Floods
Missouri river flooded five times in the last ten years. Each flood did a large damages to infrastructure and also farming fields. A corn crops can not stand water for longer than three days.

After Corn
after a corn field is moved from a field the land would not be affected from the previous harvesting. The suggested migration would not show a foot print of the land.



Vernon
Population: 11,002
Density: 1,358sq/mi

Ada
Population: 17,140
Density: 1,077sq/mi

Shawnee
Population: 29,857
Density: 706 sq/mi

Wichita Falls
Population: 104,553
Density: 1,500sq/mi

Oklahoma city
Population: 649,021
Density: 930 sq/mi

El Dorado
Population: 13,141
Density: 1,500 sq/mi

Emporia
Population: 24,816
Density: 2,100 sq/mi

Topeka
Population: 125,904
Density: 2,100 sq/mi

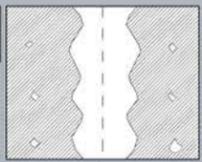
Kansas City
Population: 151,709
Density: 1,100 sq/mi

Norman
Population: 12,3471
Density: 661 sq/mi

Enid
Population: 49,379
Density: 670 sq/mi

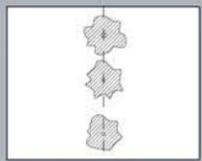
Kansas City, Mi
Population: 491,918
Density: 1,400 sq/mi

The US and Canada border has what it called a no touching zone. Which is an empty line goes throughout the border with no trees or any built structure.



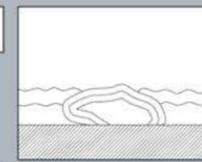
NOW

The forest coverage is shrinking between the United States and Canada. This shrinking will leave no choice to both government other than planting trees or maybe a wall.

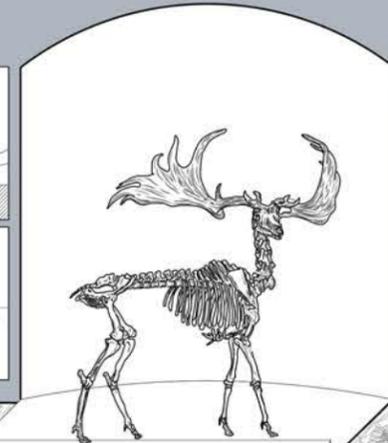
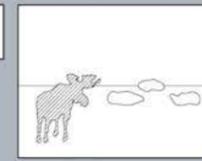


AFTER 90 YEARS

The hemlock tree started to grow more because of global warming, the amount of snow dose not cover the trees anymore.



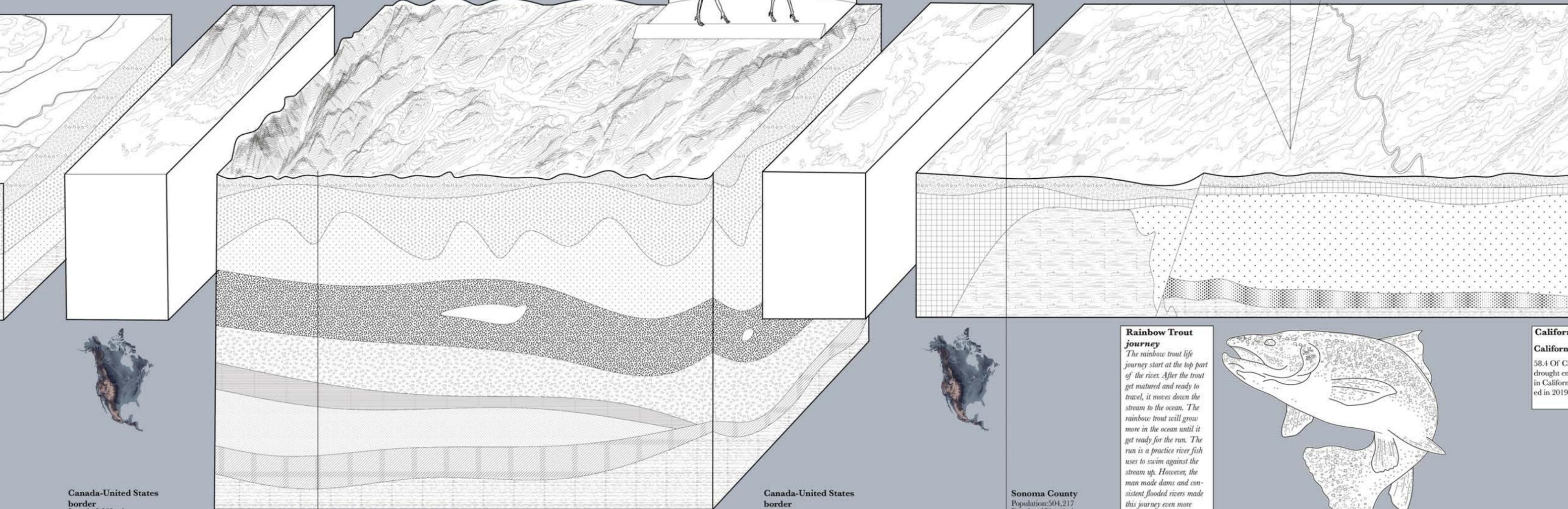
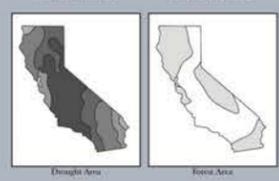
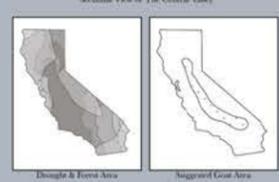
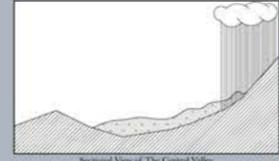
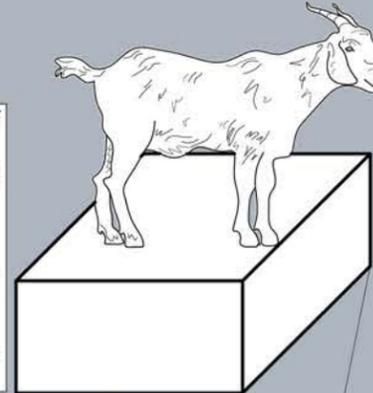
The amount of grew of the hemlock tree helped the moose population to grew too. This will help to bring the moose numbers back again.



DRY LEAVES SOLUTION GOAT

Bringing goat to California drought would be the best solution to get rid of the dry plants.

Nowadays, California burns the dry leaves in the middle of highways to prevent fire from moving to unprotected area. This solution is proven to be unhealthy for the environment and the surrounding plants due to ash covering the trees.



Canada-United States border
Length: 5,525 mi

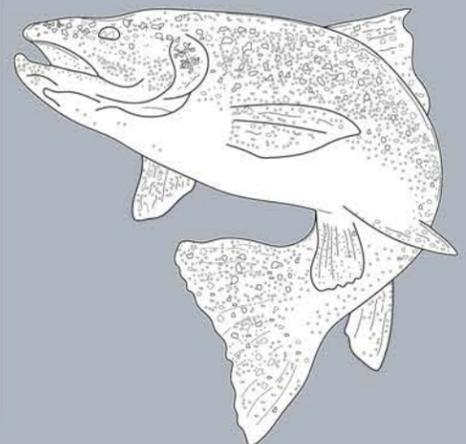
Canada-United States border
Length: 5,525 mi

Sonoma County
Population: 504,217
Density: 270 sq/mi

NORTHERN ROCKY MOUNTAIN PARK
Area: 2,370.3 sq/mi

Rainbow Trout journey

The rainbow trout life journey start at the top part of the river. After the trout get matured and ready to travel, it moves down the stream to the ocean. The rainbow trout will grow more in the ocean until it get ready for the run. The run is a practice river fish uses to swim against the stream up. However, the man made dams and consistent flooded rivers made this journey even more harder than just swimming against the stream.

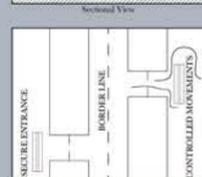
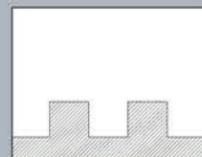
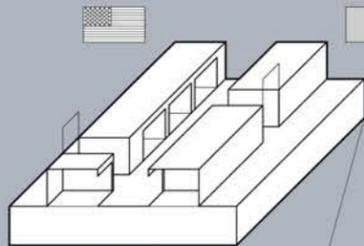
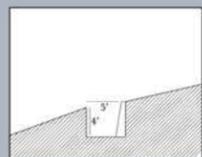
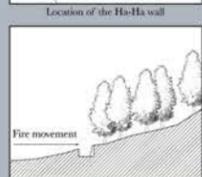
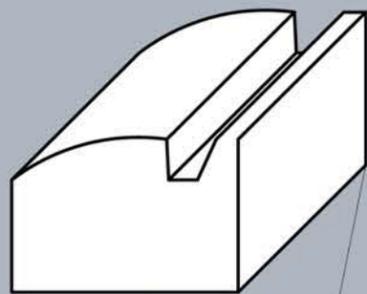


California
California
58.4 Of C
drought en
in Californ
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FIRE SOLUTION

Ha-Ha wall
 architect has been using Ha-Ha wall since the 18th century. The main use were segregation and for cows to not move to the unwanted side.

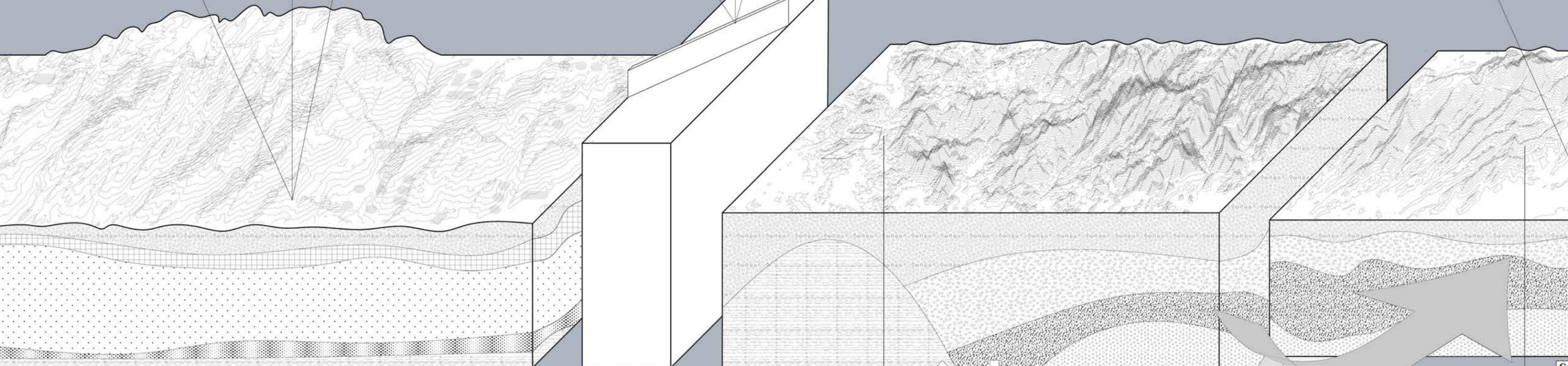
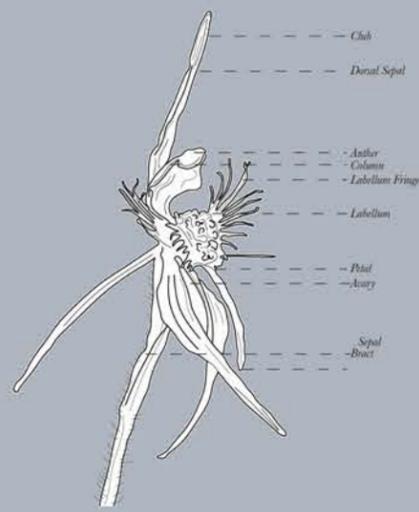
I am proposing to re use this invention to stop fire from moving to the other side.



Border migration
 The number of people migrating from Mexico to the United States is dropping, due to political reasons. The number used to be 1,600,000 in 2000 and ended with just 396,000 people migrating from Mexico to the U.S. every year

SPIDER ORCHID confusions

Spider Orchid can handle the global warming heat and also can survive multiple natural disasters. However, because it is a sexually-deceptive plant and by the time it blooms which did not affected by the heat rising the spiders and the Other bugs are already missed the session. Spider orchid should be transported to a colder climate so it can keep up with the rest of natural habitat.



California natural disasters journey

California Drought 2018
 California's land were under emergency Longest drought in California history started 2011 end May

Camp Fire 2018
 Deadliest wild fire in California's history and the 6th in the country. 52,000 People got evacuated and it estimated cost 16.5 billion in damages.

California Mudslides 2018
 responsible of the death of 23 people. During the 2018 fire, the burning plants release gases that permeates the soil and that creates sloppy soils.



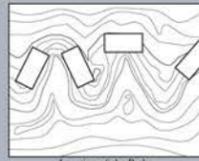
United States-Mexico border
 Length: 1,954 mi



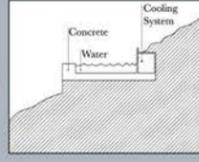
Sinaloa
 Population: 321,600
 Density: 14 sq/mi
 GDP: \$13,749,376 dollars



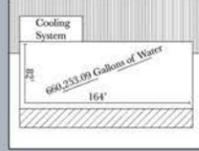
Hidalgo
 Population: 360,000
 Density: 360
 GDP: \$15,540,000,000



Location of the Baths



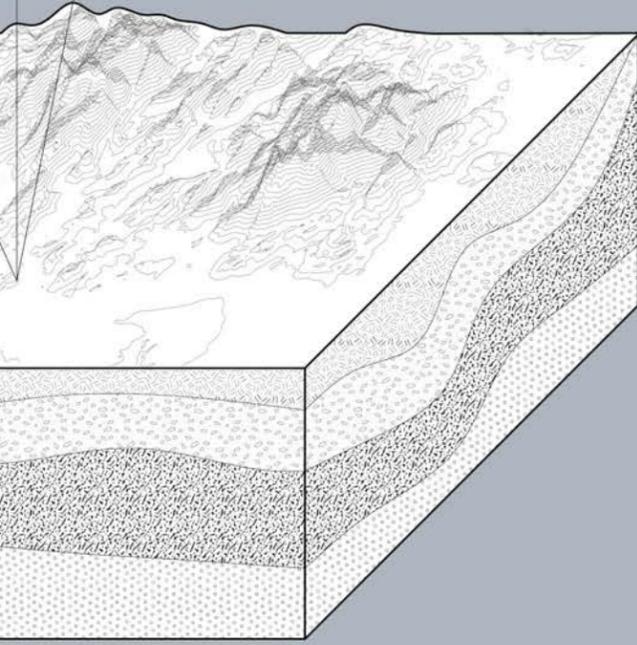
Cooling System



Cooling System

660,233.09 Gallons of Water
164'

CYCLONE BATH
 Cyclone gain energy from the hot humid air. Due to the extremely hot climate surrounding the gulf of Mexico.
 I'm proposing to create a large cold water baths. The cold water will grab all the energy from the cyclone when they interact with each others.
 The baths will be used as a public baths before and after the cyclone and it been created to be child to in 2 days time



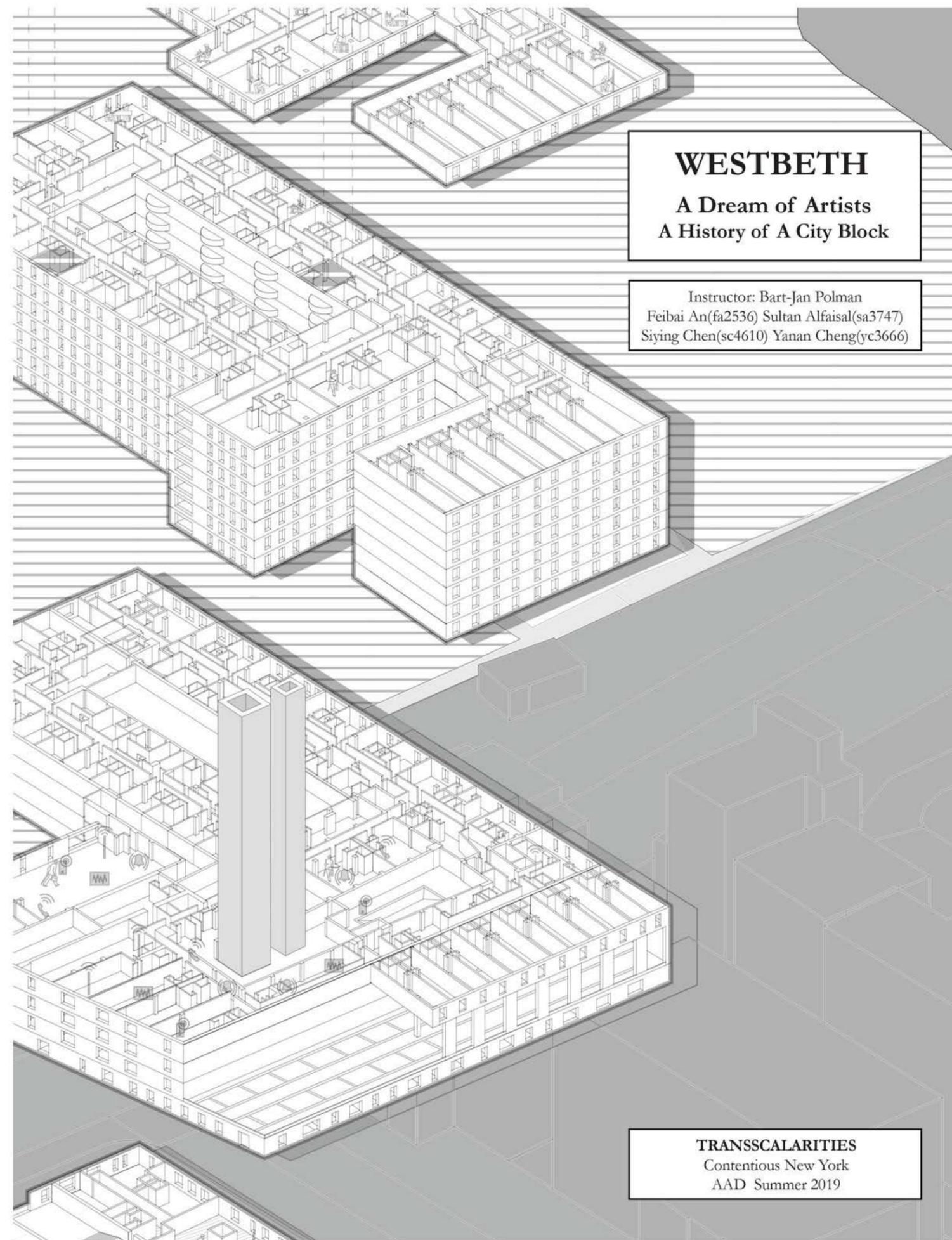
Cyclone end journey
 cyclone is a strong wind that blows in a circular. The cyclone journey ends when it hits a higher elevation.

TRANSSCALARITIES

A Dream of Artists
A History of A City Block

Andrés Jaque
Bart-Jan Polman

Feibai An, Siying Chen, Yanan Cheng



WESTBETH
A Dream of Artists
A History of A City Block

Instructor: Bart-Jan Polman
Feibai An(fa2536) Sultan Alfaisal(sa3747)
Siying Chen(sc4610) Yanan Cheng(yc3666)

TRANSSCALARITIES
Contentious New York
AAD Summer 2019

Westbeth Artists Housing

Westbeth Artists Housing is a nonprofit housing and commercial complex dedicated to providing affordable living and working space for artists and arts organizations in New York's West Village. Its campus comprises the full city block bounded by West, Bethune, Washington and Bank Streets in the West Village neighborhood of Manhattan, New York City; the complex is named for two of these streets, West and Bethune.

The building was built for Bell Telephone Laboratories in 1898 and was designed by Cyrus Eidlitz¹. At the time Bell lab was the largest industrial research center in the United States and responsible for inventing broadcast, color TV, telephones, vacuum, and other electronics. In 1966 the building faced its first friction when Bell Lab had not only outgrown the space, but noise and vibrations from trains and traffic made certain experiments impossible, and the Laboratory decided to move out of New York city to a campus in Murray Hill, New Jersey². Due to its original use as a laboratory, Westbeth's interior spaces had double height ceilings and expansive open spaces which would later lead to the architect, Richard Meier, having a conflict with city planning over loft renovations and zoning.

Two main shareholders of the artist housing shared the same vision of the project. The National Endowment for the Arts (NEA) and J. M. Kaplan Fund. Both the NEA and the Kaplan Fund

agreed on creating artist housing using an old industrial building because it was the move back then for artist to live wherever they produce, that was also supported by the end of the industrial era in west village. Because the area was zoned as industrial, and the city of New York initially would not allow a loft live-work space a situation that was challenged by the NEA and the Kaplan Fund. Furthermore, because of the unprecedented program, there was no architectural office that had experience with a similar task, and initially no architect was suggested by the NEA or the Kaplan Fund. Richard Meier just opened an office in New York with just two houses in his portfolio and got selected by the National Endowment and the J. M. Kaplan Fund. Meier had been suggested by Richard Kaplan, Meier's classmate from Cornell who was also the son of J. Kaplan.³

Richard Meier wanted to re-create Le Corbusier's Unite d'Habitation in New York was unsuccessful due to FHA rules and zoning law. FHA rules stated that units had to be designed for family sizes rather than catered to artists' occupation. This forced the architect to create open shared studio spaces in the ground floor, taking space from the renting income which created tension in the first years of the project between the tenants themselves. Meier's office had a concept of creating commercial spaces on the ground floor to be the main income generator for the project, which unfortunately did not turn out to be a successful design at that time. It was not easy to find a tenant to rent the space in the late 60s and early 70s. The vacant space was used mostly as a gallery space for the artist.

¹ "A Landmark Anniversary for Westbeth - GVSHP: Preservation: Off the Grid." GVSHP, March 14, 2016. <https://gvshp.org/blog/2015/10/23/a-landmark-anniversary-for-westbeth/>.

² "Westbeth-National Register of Historic Places." Westbeth-National Register of Historic Places. New York.

³ "Westbeth-National Register of Historic Places." Westbeth-National Register of Historic Places. New York.

The New York City Planning Commission created the first special zoning district to accommodate live work spaces. Westbeth is a complex of 3 buildings of which the main building is for artists' housing, the L Building used by the New School; and the I Building has artists' studios and commercial spaces. 383 live-work spaces for artists of all disciplines and their families are created in this ambitious renovation project. The design concept of Westbeth was an integrated, self-sufficient community that would provide the residents not only with loft space in which to live and work, but also with gallery space, theatrical facilities, and film, photography, and dance studios. Within such a community, artists will have a total environment in which to pursue their work, from conception to performance or display.

The Artists Housing was raised thirteen floors. The main structure was built between 1889 and 1920, providing over 600,000 square feet of floor space with high ceilings, large windows, and thick masonry walls. The building has views on three sides: West to the Hudson River, North to upper Manhattan and south to lower Manhattan. A narrow existing courtyard is the organizational focus for the whole complex. Richard Meier's Office removed one roof and two floors, allowing this courtyard to be opened to the sky to create a spatial environment in the old industrial complex. The main entrance to the building is located at one end of the courtyard, which controls the public access to the structure.⁴ The previous users of building Bell lab had the high line track cutting through it, and the train has been used to transport goods and equipment.

⁴ "Landmarks Preservation Commission." BELL TELEPHONE LABORATORIES COMPLEX (Including the Former Western Electric Company and Hook's Steam-Powered Factory Buildings) (Now WESTBETH ARTISTS' HOUSING), October 25, 2011, 1–43. <http://s-media.nyc.gov/agencies/lpc/lp/2391.pdf>.

However, the newly planned high line by James Corner Field Operations, Diller Scofidio + Renfro, and Piet Oudolf did not extend to the artist community.⁵

Life in Westbeth was affected by crime and a rundown neighborhood. Westbeth turned from being an artist sanctuary to a difficult place to create art. This became worse over time with 19 suicides over 30 years. Westbeth was described as "Death-beth" by one resident in her documentary video made in 1995⁶. Another resident taped the children of long-term residents saying the "dark side" of Westbeth, including that they come across the bodies of people who had thrown themselves from the roof while walking to school. With a prime Hudson River-front location in Manhattan, its rent goes from \$900/month studios to \$2,400/month three-bedrooms today. The competition for the apartments is fierce and there is usually a ten-year long waitlist for the applicants who had been accepted. The tenant started handing their apartments down to their children and grandchildren who were non-artists and such action obey the rule of Westbeth as an artists' community.⁷

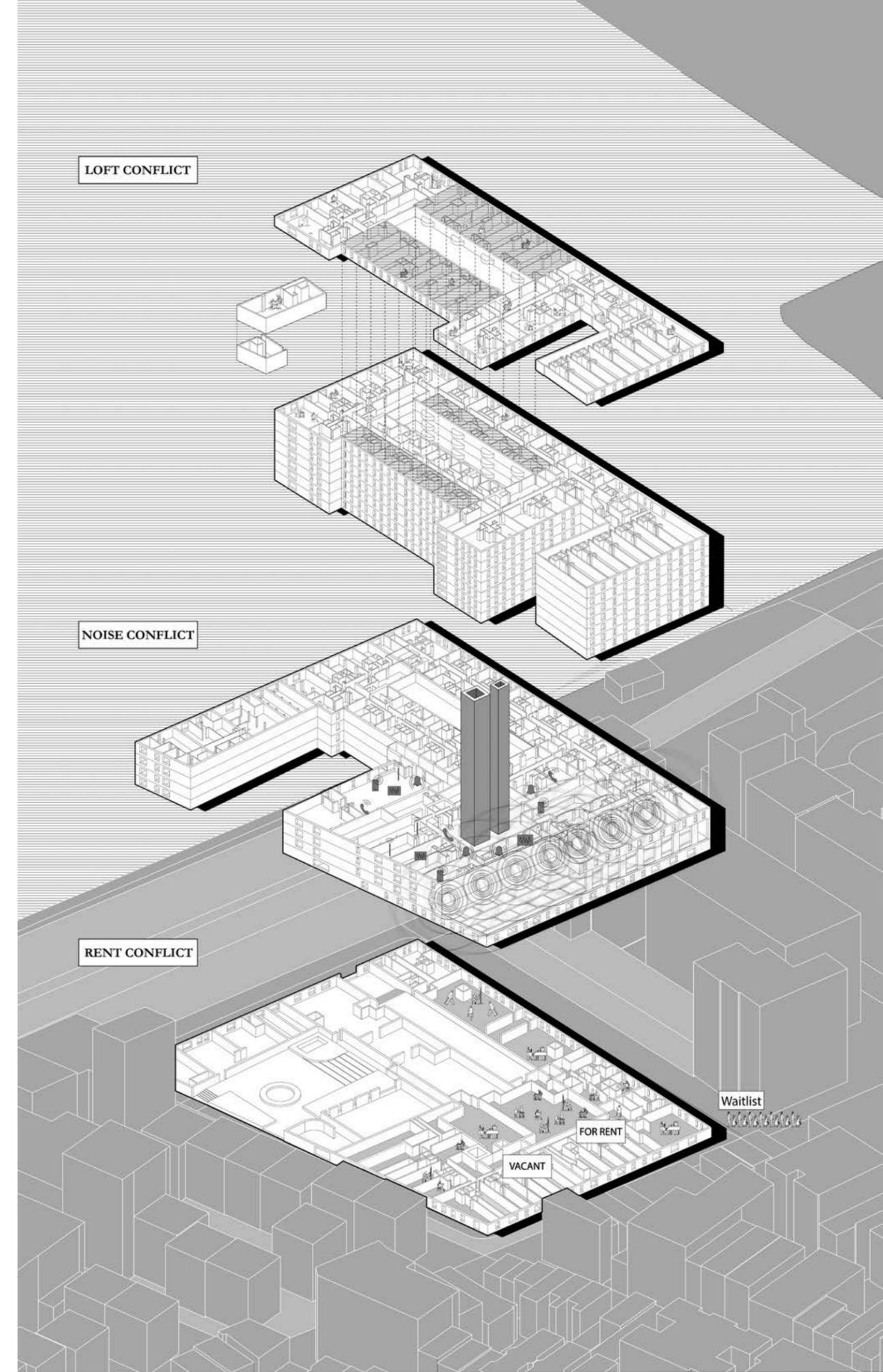
This neighborhood became more gentrified overtime. The busy neighborhood did require more attention from the metro system and it became one of the busiest hubs in the city of New York. The building is located a few blocks south of the high line and Whitney Museum. The building was recognized by the city for being first historical and later landmarked.

⁵ "Design." The High Line. Accessed August 8, 2019. <https://www.thehighline.org/design/>.

⁶ Tracie Rozhon. "Westbeth, a Canvas Still Taking Shape." The New York Times, May 25, 2000. <https://www.nytimes.com/2000/05/25/garden/westbeth-a-canvas-still-taking-shape>.

⁷ Schulz, Dana. "Westbeth Reopens Highly Coveted Waitlist for Artist's Housing, Starting at \$900/Month." 6sqft, March 18, 2019. <https://www.6sqft.com/westbeth-reopens-highly-coveted-waitlist-for-artists-housing-starting-at-900month>.

Moreover, the bohemian artists' life style that Meier imagined had become something more of a retirement home. Westbeth is struggling now with over 60% over the age of 60 and 30% over the age of 70 years old. Westbeth is considered now a naturally occurring retirement community more than an artist Housing.⁸



⁸ Kim Velsey. "Finding Her Place at Westbeth." *The New York Times*, December 10, 2018.

Argument

Andres Jaque
Jana Berankova

Formafantasma

Formafantasma

In a world of materiality when people stand in line for a new phone we can not avoid this type of consumerism. Formafantasma is an artistic firm that focuses most of its works on informing the public of the dangers of e-waste. As it has been written on their website, *orestreams.com*, “The website collects the research outcomes and compiles an archive of documents, videos, books and articles on the topic.”

Formafantasma uses disposable and e-waste materials to create a fully developed anti-waste manifesto therein causing more waste, contradicting their own theory.

Formafantasma is design firm based in The Netherlands. Andrea Trimarchi and Simone Farresin created Formafantasma in 2009. They take the mission to experiment with materials and to explore the issues of traditional works. They can be categorized into two categories: first the recycling manifesto, and second the produced artworks. The two paths that Formafantasma took are contradicting each other. They work to inform the public of the dangers of e-waste while creating another type of waste.

In our age of technology, the media is the largest platform to convey an idea. Media is the fastest way to transfer a concept to others. It is helpful to create books and videos to teach the public about e-waste. However, it can be looked at as a one time use material. Formafantasma gathered a large amount of materials creating a one-

time object that will only be sold to the elitists and could be categorized under the art category. Or, as Adam Smith advertised it, as luxury goods that will make people happy and proud of themselves. Simone Farresin argued in the lecture by saying that Formafantasma needed to make money to pay for the overhead of their business.

In order to understand Formafantasma we need to know Karl Marx. Marx was born in 1818 in Germany. The system in Germany back then, or Prussia, made him leave to England. Marx was always on the side of the workers and the union. Marx disliked Capitalism and the second industrial revolution as much as Formafantasma disagreed with modern e-waste strategies. Karl Marx and his work were adopted by Friedrich Engels, a rich Englishman whose wealth came predominately from the industrial revolution.

The relationship between Karl Marx and Friedrich Engels is complicated regarding the economy of it. Karl Marx's side will argue that this is the time when Capitalism had to pay for Socialism or Communism. The other side will say Karl Marx lived a lavish life that was paid for by the workers of Friedrich Engels. I will argue that it does not matter the economical system Marx used to promote his work, the issue is that Marx had to use capital to survive and to promote his work.

Formafantasma's strong manifesto can be seen on their website, videos and also in interviews. They always start by repeating:

“Currently, electronics are the fastest growing waste stream. Electronic waste is considered especially valuable due to the use of precious metals such as gold and silver in the production of chip boards. While there are efforts to improve the recovery of metals, only 30% of the West's e-waste makes its way to the appropriate recycling facilities. The remaining 70% are often shipped illegally to developing countries where they are disassembled in poor working conditions and where, with no better options, toxic components of electronics are disposed of inappropriately. This is harmful to both the environment and labourer.”

Formafantasma is developing the idea of making recycling become manual. This new mode of production can be useful for future generations. If we attempt to understand Formafantasma from Karl Marx's perspective we can say that we have two sides. The Proletariat, the recyclers. The Bourgeoisie, the tech companies. The Proletariat needs the old components from the Bourgeoisie to recycle them. This modern way of looking at this loop will see that recycler, Proletariat, are working for the tech, Bourgeoisie. To simplify this into an everyday scenario; if a person bought a phone from Apple, it would cost them 1,000 dollars. A year later, the person can bring the phone back and get 200 dollars as credit for the next purchases. Someone will argue that at least you got paid for the used phone. However, Marx will argue that you got paid less than the real value and that difference of the two prices can be looked at as the surplus value.

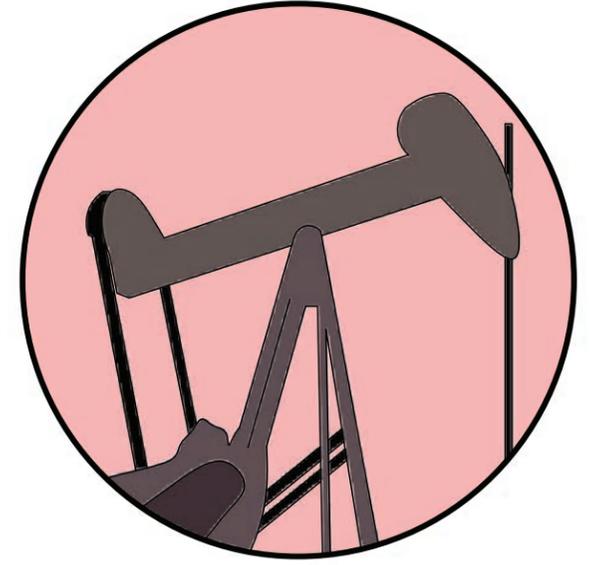
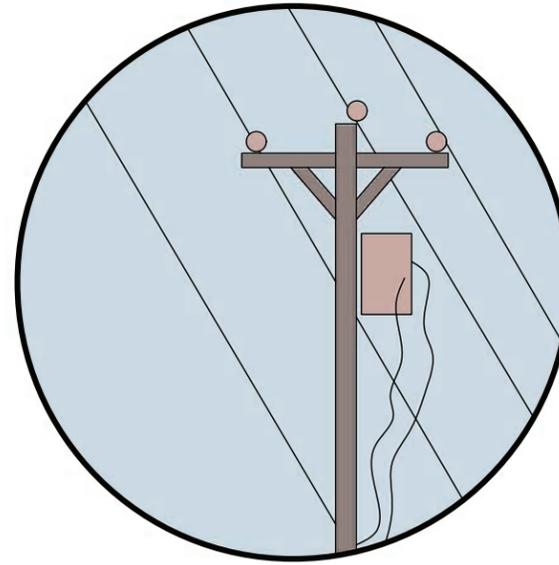
Formafantasma creates two types of work. The manifesto for better recycling and the artistic office equipments. Formafantasma states in their website clearly that

the fetishized art works as it holds multiple parts from multiple machines, some can contain gold or silver. They've displayed the office equipments in a classical museum between large canvases of Romanticism paintings. This idea of the commodity fetishism trapped Formafantasma as it did trapped Karl Marx by the end of his life. A question from one of the AAD students to Simone Farresin about this market of selling art works at the same time as promoting a minimalistic life style or as Farresin said "I have the oldest iPhone in the room". Farresin smiled to the student and justified it because he has responsibilities to pay workers at the end of the day.

Karl Marx and Formafantasma share some of the same ideas. Ideas such as not giving the workers a mindless job, creating a safer environment for the workers, and not to be fooled by the commodity fetishism. Both Marx and Formafantasma have optimistic ideas of living in peace. Marx calls for sharing wealth as Formafantasma calls for the sharing of information. However, Marx and Formafantasma heavily used the capitalist system, both having used the capitalist system like any other capitalist would do. Marx started buying what Adam Smith promoted as the luxury goods, while Formafantasma started creating them from the unwanted objects.

I will argue and say in order to promote a vision, one should first change themselves before changing others. Yes, it is complicated to live and survive in this world with the capitalist systems surrounding us. I can also recycle Marx's idea that humans are not as good at survival in the wild as Marx and Formafantasma couldn't survive the real world without being part of capitalism.

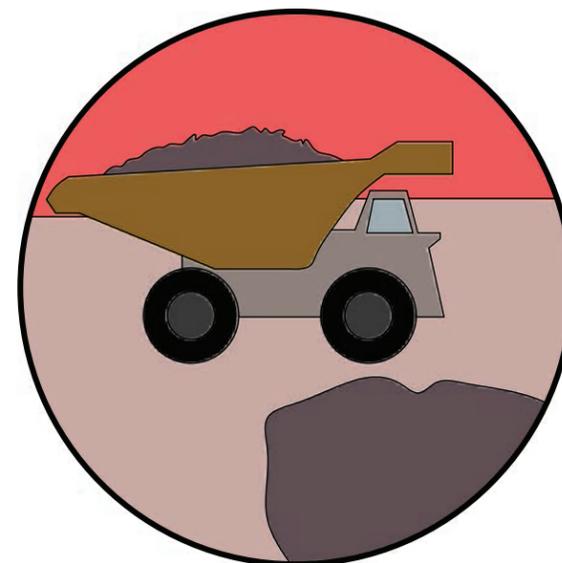
Formafantasma uses disposable and e-waste materials, creating a fully developed anti-waste manifesto and artworks. This type of work does not overlap and does not support their own beliefs. Formafantasma took on the mission by changing the concept of buying commodities. Formafantasma brings up in their videos the small changes like picking colors other than black for wires, that will save the environment. After watching the video essay by Formafantasma about the colors of the wire, I did in fact start to buy colored wire for the greater good. All of us have learned one or more concepts from Formafantasma to save the environment. Formafantasma has to learn all the lessons from Formafantasma to not contradict their own mission.



ADVANCE STUDIO V

Jimenez Lai

Wyoming state is one of the leading states in agriculture. Around 90% of 27.2 million acres of agricultural land dedicated to livestock grazing and 2.72 million acres are dedicated to farming. Due to the unique and strategic location of Wyoming, the farming industry started to thrive and grew. The main crops that grow there are hay, barley, beans, sugar beets and corn







The state of Wyoming stands to be one of the largest producers of hay and barley in the United States. The farmers in the state of Wyoming received in the year of 2018 a total of \$30.4 million in subsidies. The largest share of the subsidies goes to Laramie county with the total of \$6,338,273 in the year 2018. However, 82 percent of farmers did not take advantage of the federal program in the state of Wyoming. (1)

With two conflicted views about the federal program, this has resulted in multiple million tons being wasted every year. Since the Morrill Act of 1862, the government has played a large role in the agricultural economy. In the year 1929, the government signed the Agricultural Marketing Act, which leads the farm boards to buy and stockpile crops to rise the market price (2). The "Freedom to Farm" law was signed in 1996 which allowed the farmers to take control of their farms and harvest what ever crop they deem valuable to them. This law came with the multiple subsidies such as Conservation Reserve Program, Agriculture Risk Coverage (ARC), among others. The ARC subsidy pays the risk of fallen benchmarks and guarantees the payment to the farmer. This is to secure the debt the farmer took on hoping for a stabilized market.

The federal subsidy were created to boost the agricultural economy in the United States of America. Many farmers are saved by the subsidies from being bankrupt by the unstabilized market or any trade wars. Many crops were wasted in 2018-2019 due to the trade agreements which many crops were just piled and created a fire in some farms around the US.

The angle of repose is the slope each material creates when it is piled. Each material, be it sand or corn, will create a unique cone form. The angle of repose is calculated by the percentage of moisture and the size of the particles.

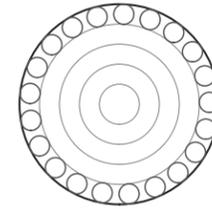
Many methods have been used to calculate the angle of repose such as the tilting box method, revolving cylinder methods and more commonly the fixed funnel method. The fixed funnel method is when the material is poured through a funnel, the funnel tip should be closer to the ground and raise up as the martial piles.

Due to the unique angle of each material, piling multiple materials next to each others will create multiple angles that would be unique and gifted by nature.

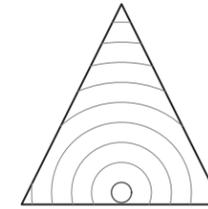
The degree of angle of repose can vary from material to other material. A wet sand will stand at a 45° angle while water filed sand will stand just 15° angle, and a dry sand will stand approximately 34° angle. Moreover, corn's angle of repose is from 30°-40°, where as wheat 45° and malt can go up to 45°.

Pure forms reduce the architecture to its basic origin. Since the beginning of time, pure forms were kept just for the monuments; such as the tombs in Egypt, temples in South America or memorials in France. The symbolic view of the pure forms became the main painting matter since Kazimir Malevich painted the black square in 1913. Symbolism is the most unify concept between art and architecture and from that creating a symbolic structure that hosts an artists residence would be the ideal space for creating art. A large cone created from the angle of repose of a grain will form the three main pure forms. Circular floor plan, triangular height

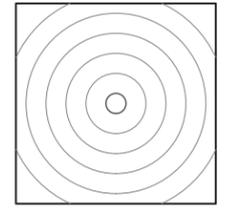
Pure Shape



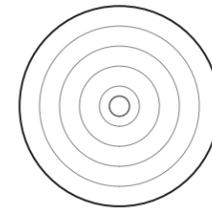
Inward-Looking section
Cénotaphe à Newton (1784)



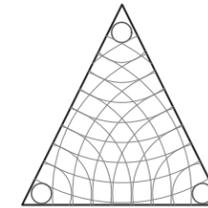
Inward-closed-looking section
The Great Pyramids (2563 BC)



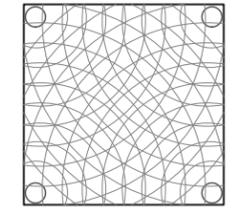
Internal looking section
Aldo Rossi: Modena Cemetery (1971)



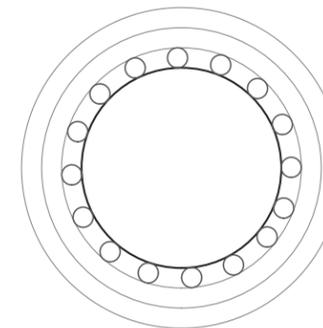
Center Oriented
RAK Convention and Exhibition Centre (2008)



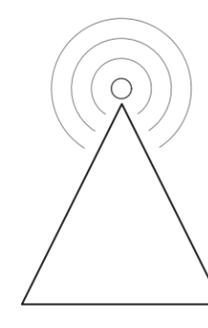
Corners Oriented
Pyramid of Cestius (1747)



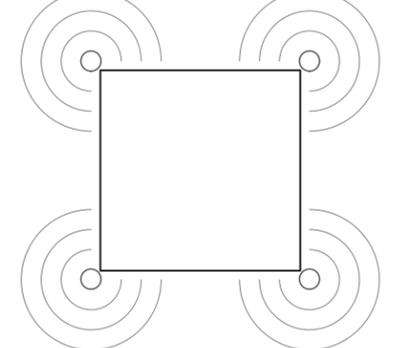
Multiple Hierarchies
School of Management and Design (2006)



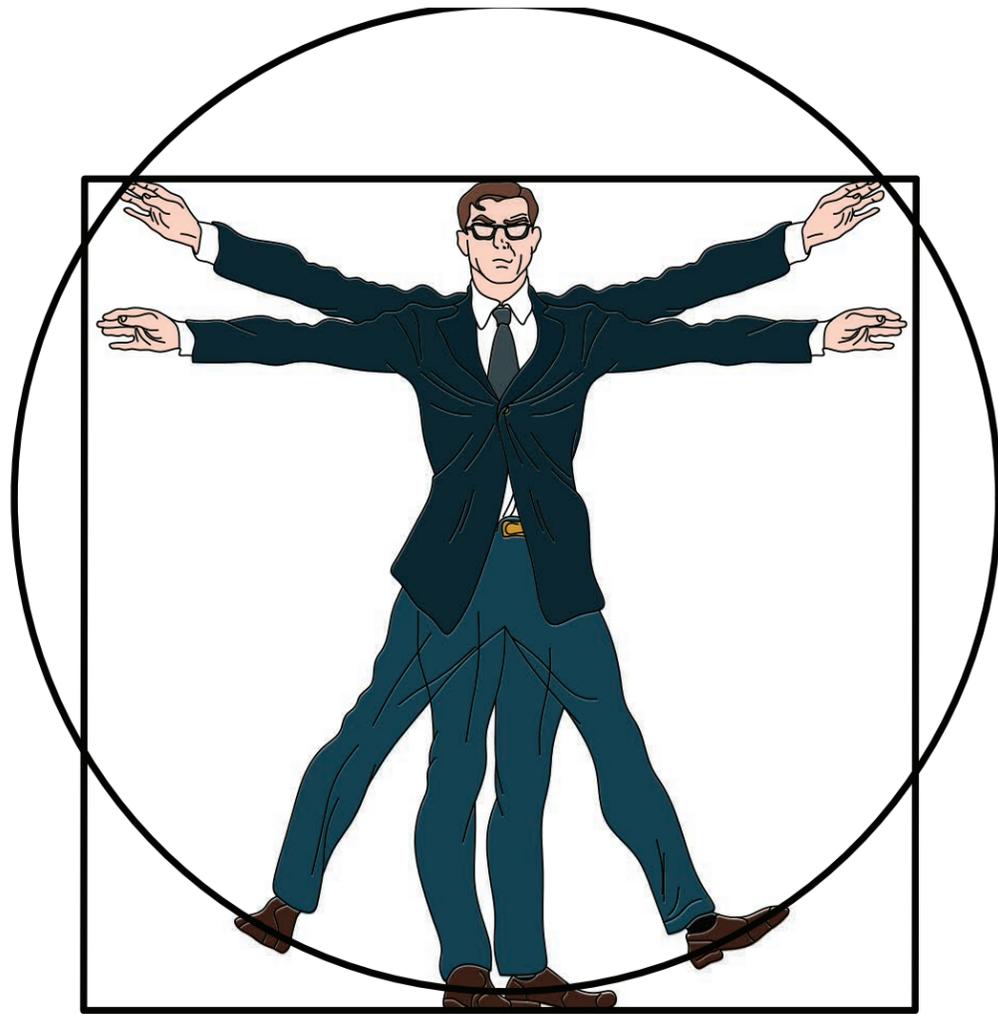
Outward Looking
Spaceship Earth (1983)



Top-Outward looking
Palace of Peace and Reconciliation (2006)



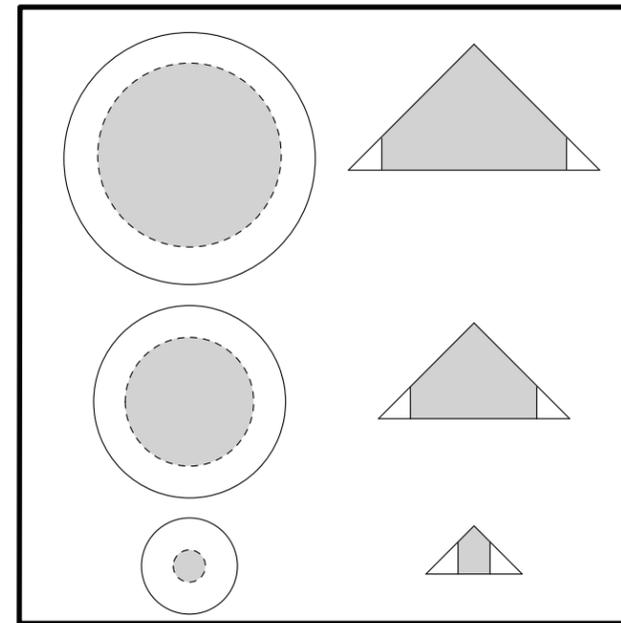
Oblique Oriented
Colosseo Quadrato (1942)



Angle of Repose

IF WE LOOK AT THE HUMAN SCALE AND THE CONE FORM, WE WILL NOTICE THAT HUMAN CAN'T FIT IN THE TINY SPACE'S. SO, WE MEASURED EVERY ANGLE OF REPOSE AND THE BEST HEIGHT AND WIDTH TO ACCOMMODATE THE GUESTS.

WE CREATED THREE DIFFERENT SIZES.



FROM SMALL TO LARGE.

IF THE WIDTH IS 21 FEET THE AREA OF THE SPACE WOULD BE 54 SQUARE FEET. HOWEVER, THE USABLE AREA WOULD BE JUST 2.8 SQUARE FEET.

THE PERCENTAGE OF THE USABLE SPACE WILL GROW TO DOUBLE THAN THE SIZE OF THE FORM - AND THAT IS BECAUSE THE ANGLE OF REPOSE OF THE CORN 45°.

AT 42' WIDTH, THE AREA WILL BE 215 SQUARE FEET, AND THE USABLE AREA WOULD BE 44% FROM 1%. BUT THE GROWTH OF THE USABLE SPACE WILL SLOW WHEN WE MAKE THE LENGTH AT 55'.

THE INTERESTING THING IS, WHEN WE COMBINE MULTIPLE CONES TOGETHER - WE GAIN MORE AND MORE OF THE USABLE SPACE

WE KNOW THAT THE ANGLE OF REPOSE OF THE CORN WILL STAY THE SAME NO MATTER HOW LARGE THE CONE CAN BE. SO WE LOOKED AT MANY OPERATIONS OF HOW WE POUR THE CONCRETE OVER THE CORN AND WHAT POSSIBILITY WE CAN END UP WITH.

THE POSSIBILITIES OF JOINING THE CORN CONES AND DIFFERENT WAYS OF POURING THE CONCRETE STARTED TO EXPLODE AND STARTED TO CREATE MORE AND MORE INTERESTING FORMS.

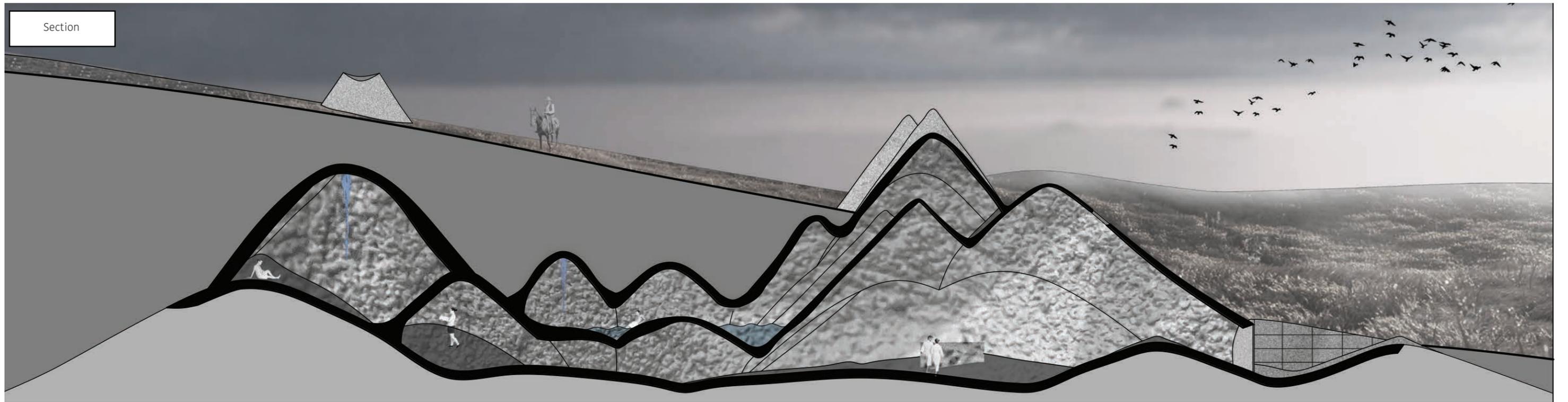
LIKE HERE IF WE POUR THE CONCRETE OVER BOTH OF THE CONES AT THE SAME TIME OR AFTER EACH OTHER, THE LITTLE MOVEMENTS START TO CREATE A BIGGER EFFECT.

OR IF WE DIDN'T POUR CONCRETE ALL OVER THE CONE BUT WE CREATE DOORS AND WINDOWS OR EVEN A SKYLIGHT

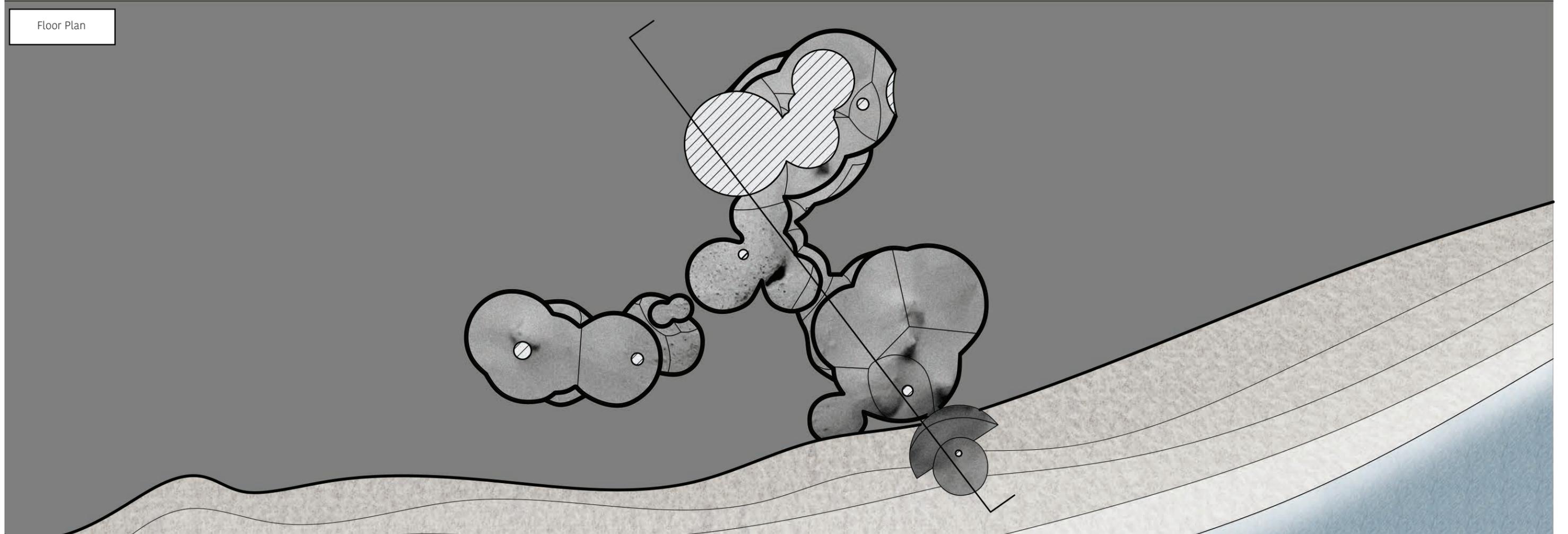
BIGGER IS BETTER

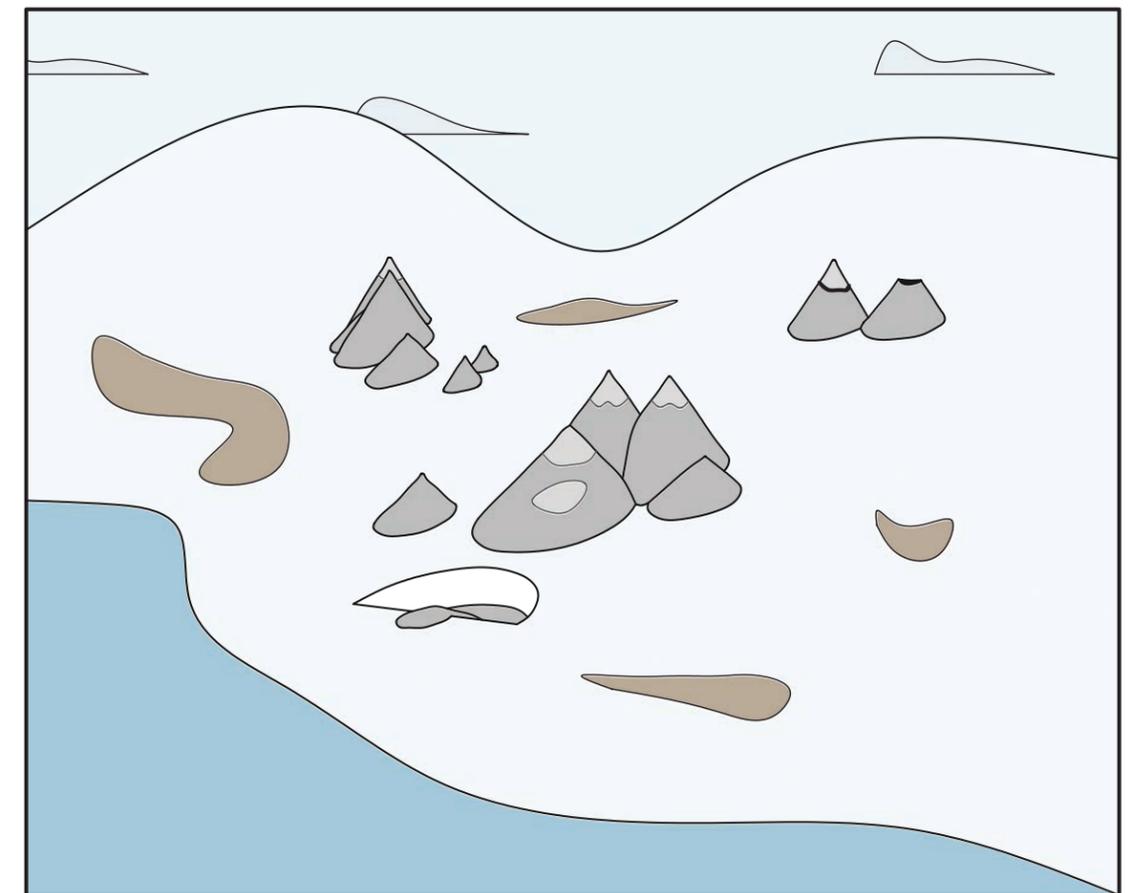
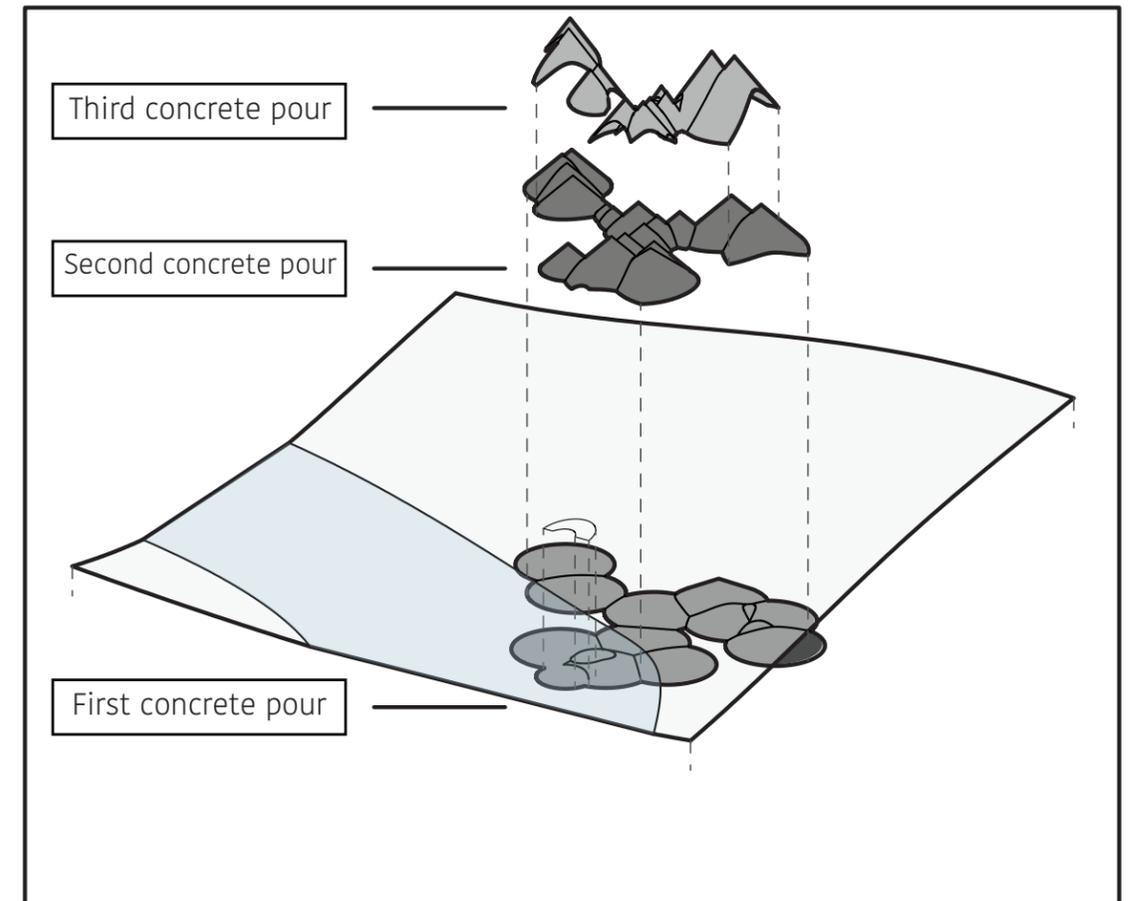
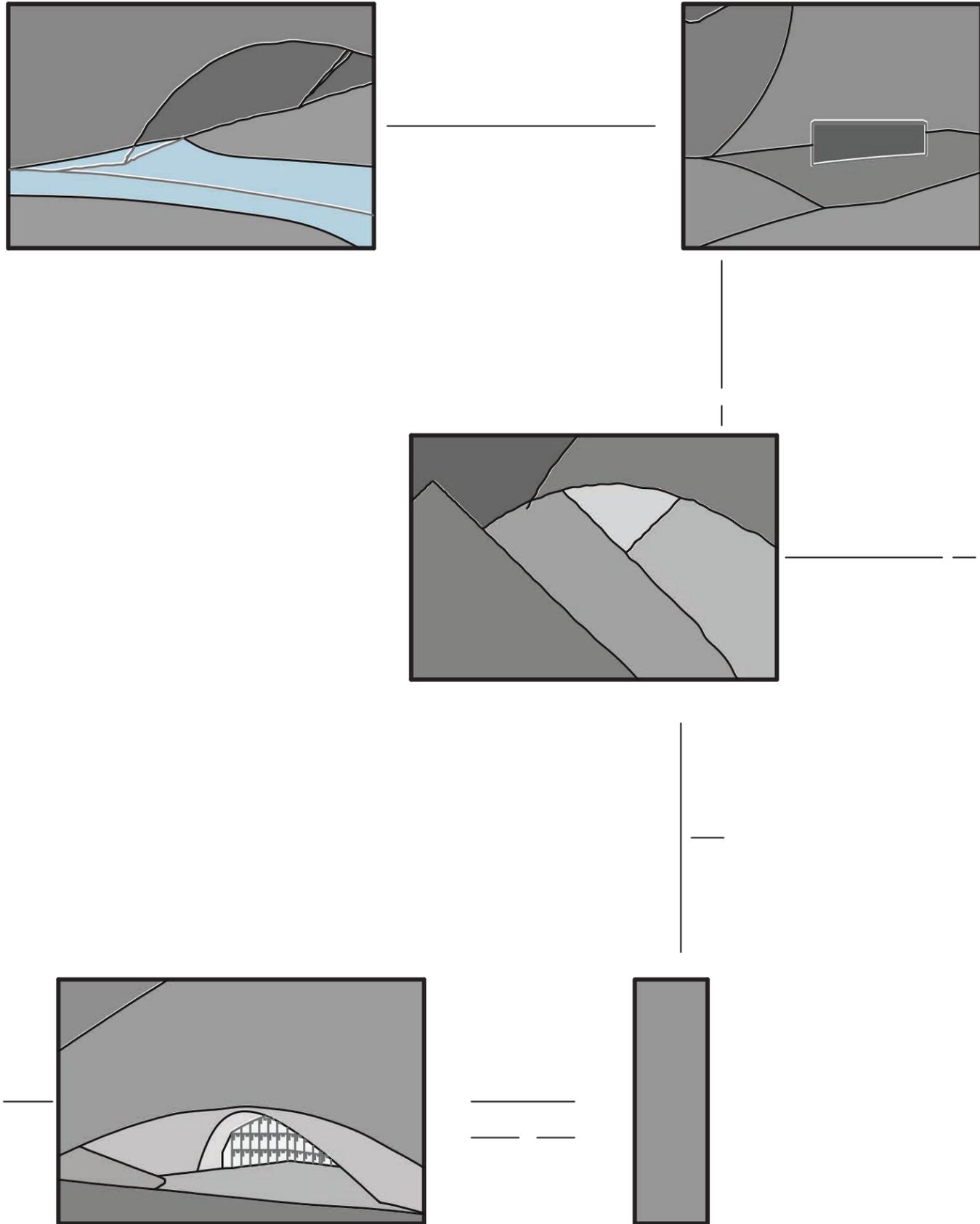
WITH ALL THE KNOWLEDGE WE KNOW ABOUT THE HUMAN SCALE AND THE NATURAL ANGLE OF REPOSE OF EACH MATERIAL, WE CAN CREATE A LOT OF INTERESTING FORMS THAT USE A SIMPLE MODERN BUILDING METHOD ALL AROUND THE GLOBE USING A LOCAL MATERIAL.

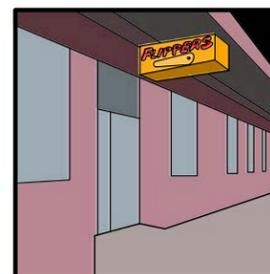
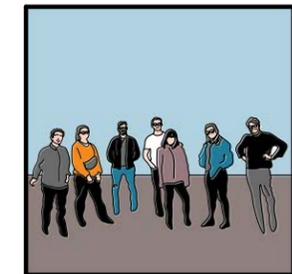
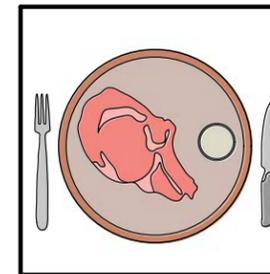
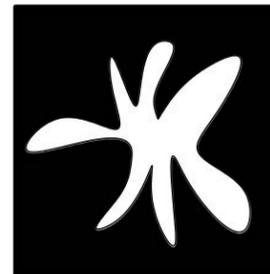
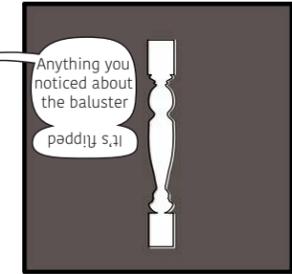
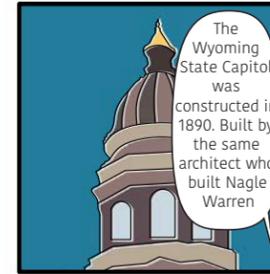
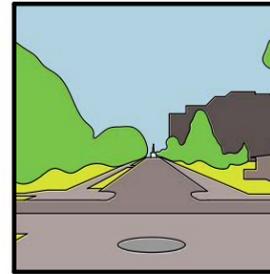
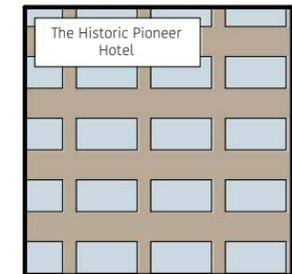
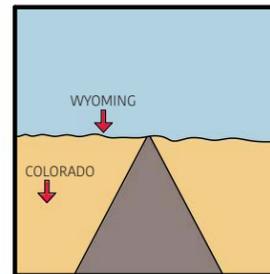
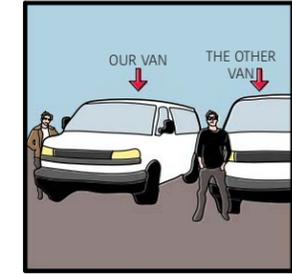
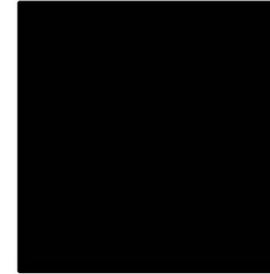
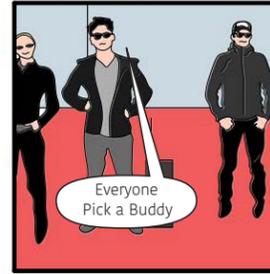
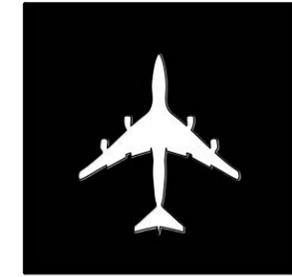
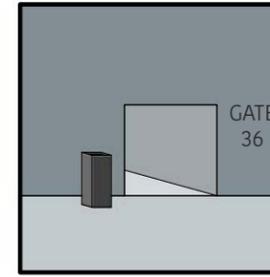
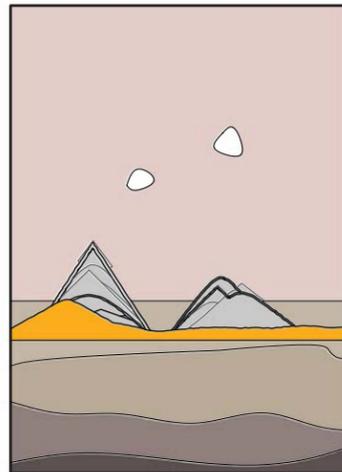
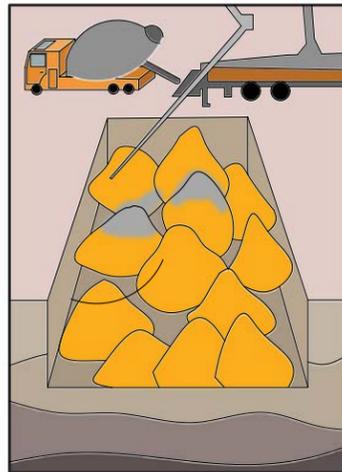
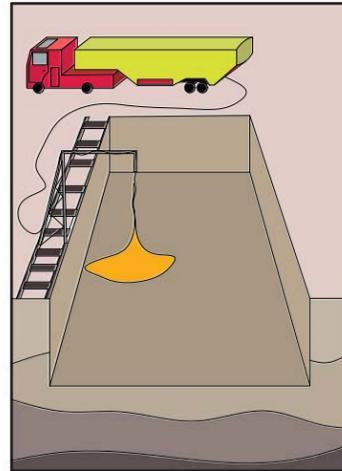
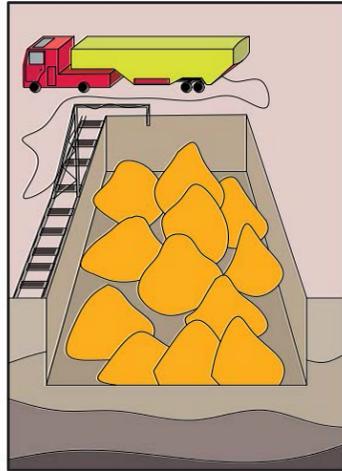
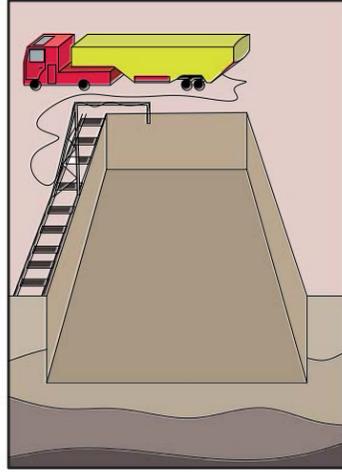
Section



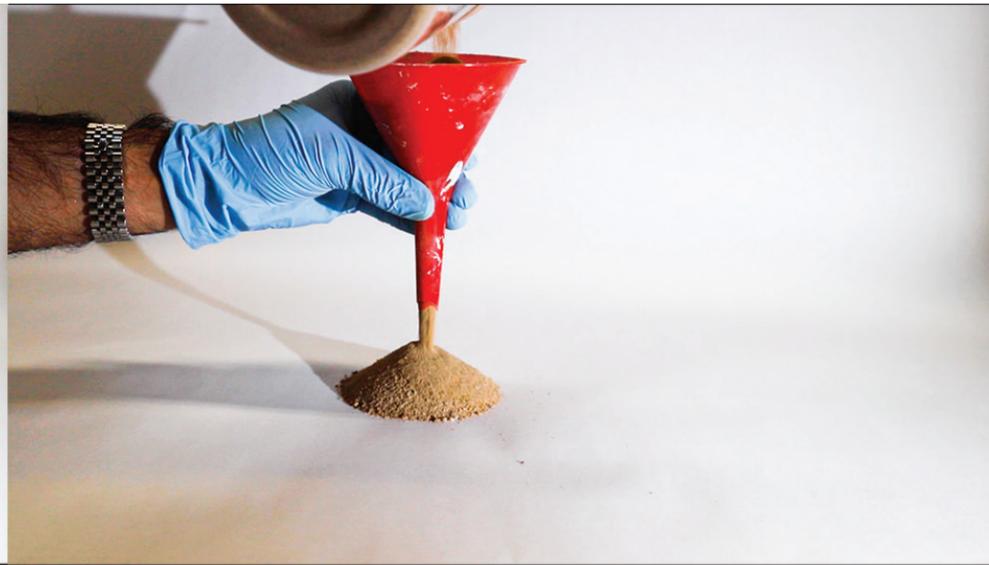
Floor Plan

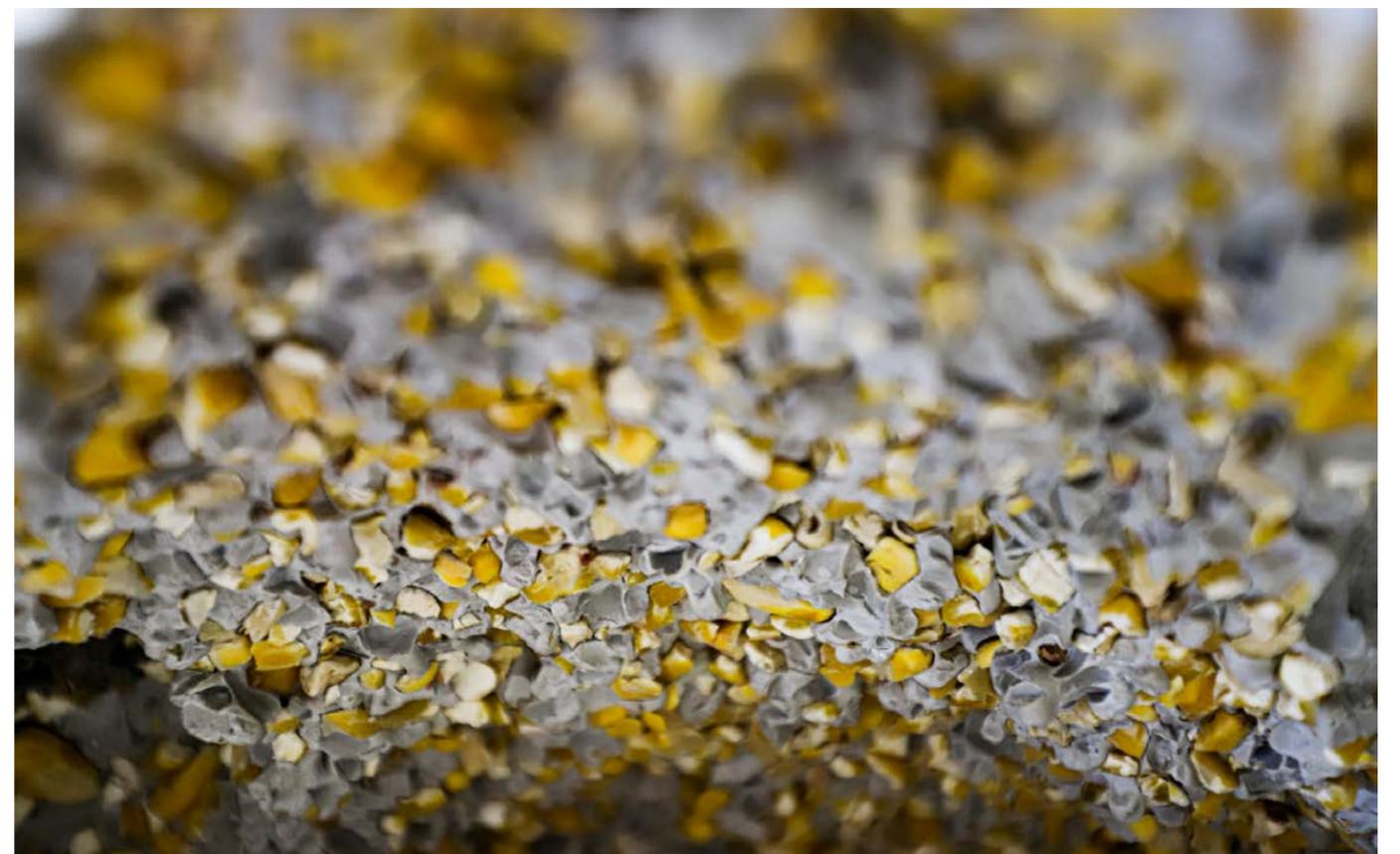
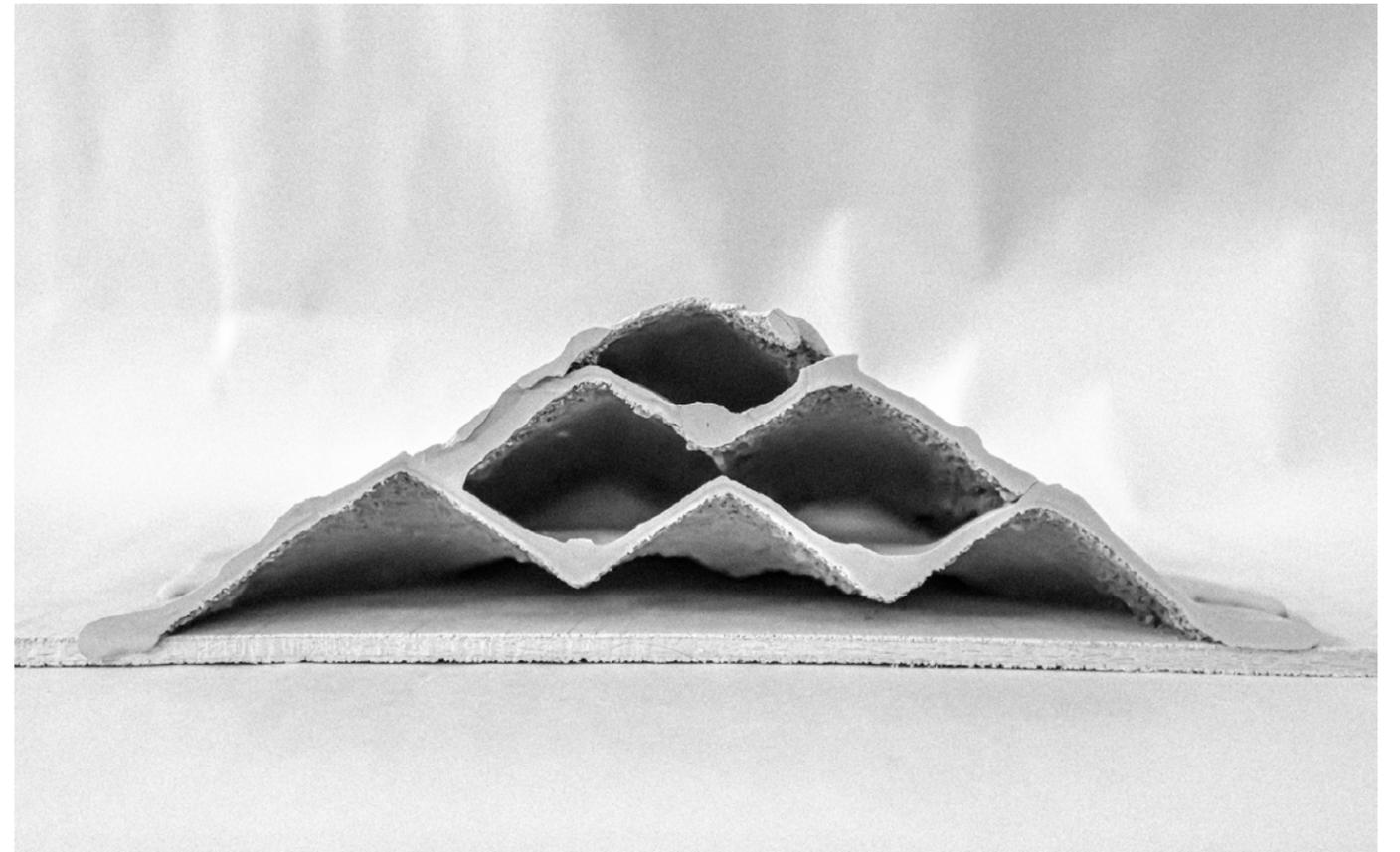












THEORY OF CITY FORM

Vishaan Chakrabarti

Luyun Shao, Tal Fuerst, Victoria Vuono, Sebastian Andersson

HYDRO-MINE 00001

TO MEET OUR CARBON NEUTRAL NEEDS WE HAVE DEVELOPED A
NEW HYDROPOWER STATION, CAPTURING THE POWER OF THE
GULF STREAM USING TIDAL AND WIND TURBINES.

THESE POWER STATIONS MUST BE MANNED AND MONITORED.

HOUSING FOR STATION WORKERS WILL BE PROVIDED.

DURING HURRICANE SEASON THE GRID CAN BE OCCUPIED BY
HURRICANE SURVIVORS AS THEY AWAIT PROCESSING TO
ACCESS THE MAIN LAND.

TEST SITE - MIAMI, FLORIDA, USA

MIAMI, FLORIDA



ANDROS ISLAND, BAHAMAS

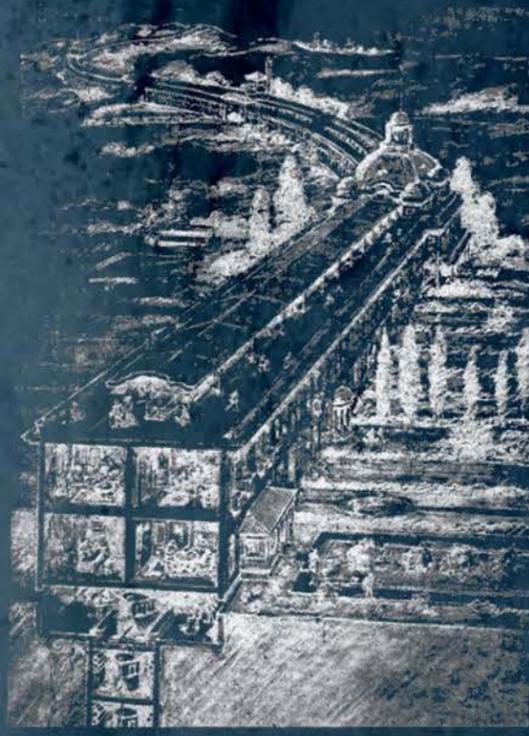
THE CHOSEN SITE STRETCHES FROM MIAMI TO THE BAHAMAS. A CHAPLET OF LARGER AND SMALLER GARDEN CITIES HAS FORMED ALONG THE REFUGEE ROUTE BETWEEN THEM, FORMING A CONTINUOUS URBAN BELT. THIS BELT IS NOW AN INTEGRAL PART OF THE AREA'S URBAN FABRIC.



HIGHER TEMPERATURES AND RISING SEA LEVELS ARE AFFECTING PEOPLE ALL OVER THE WORLD. PEOPLE IN COASTAL AREAS FACE PERHAPS THE GREATEST IMMEDIATE THREAT - THAT OF THEIR HOMES AND THE INFRASTRUCTURE SURROUNDING THEM SUCCUMBING TO THE OCEAN. IN THE MID-21ST CENTURY, MANY COASTAL CITIES - ESPECIALLY SO-CALLED DELTA CITIES - ARE EXPERIENCING CONSTANT FLOODING THAT ON A VERY FUNDAMENTAL LEVEL IS TEARING THEM APART. MUCH OF THE HARM IS DONE IN ASIA, BUT CERTAIN REGIONS OF THE US ARE ALSO SEVERELY AFFECTED.

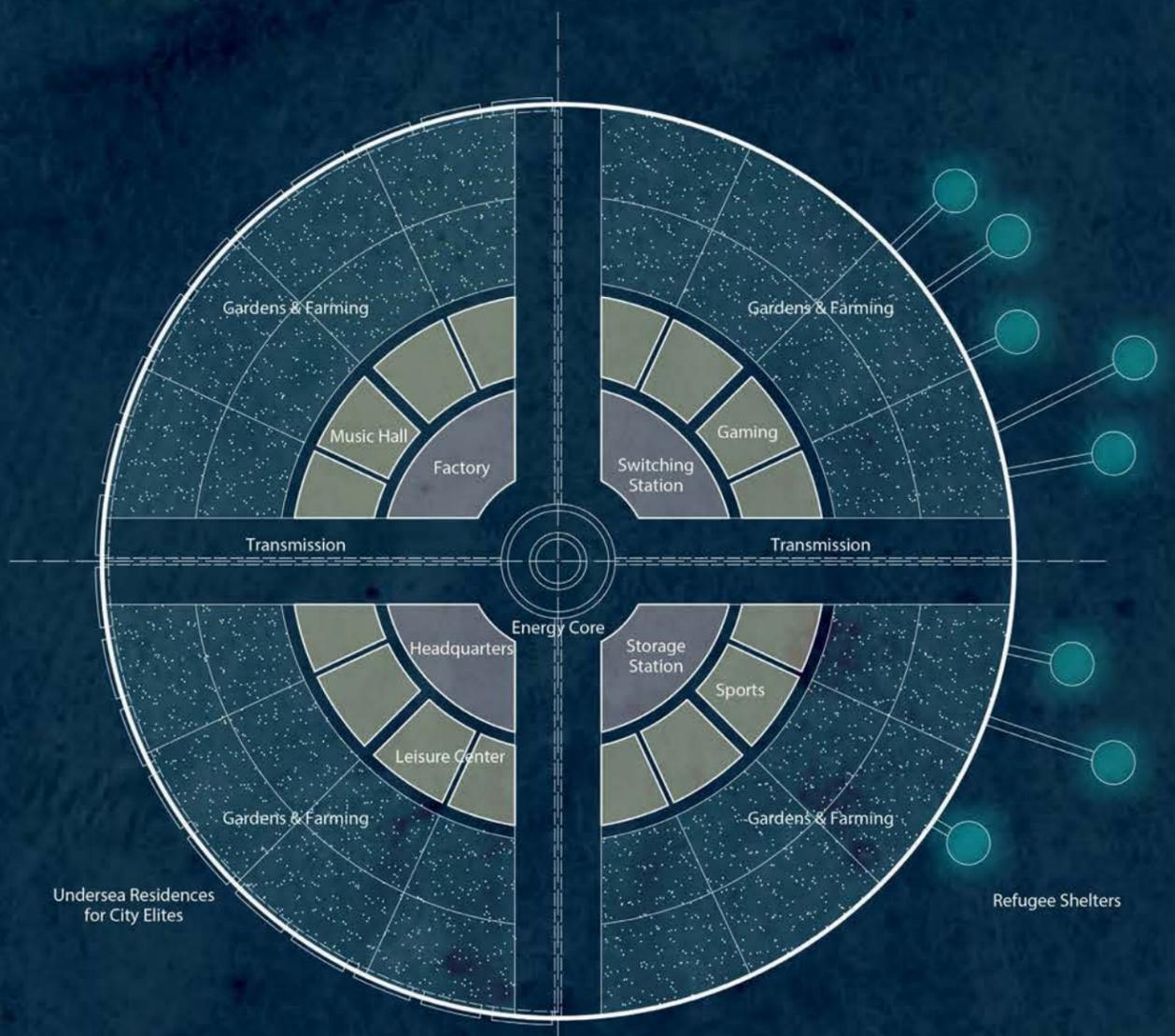
INTIMATELY LINKED TO THIS AND THE OVERALL QUESTION OF CITIES' DEVELOPMENT IS THE ISSUE OF TECHNOLOGICAL ADVANCEMENT. STARTING WITH THE ADVENT OF THE SMART CITY CONCEPT IN THE EARLY 2000S, CITIES ARE NOW LARGELY AUTOMATED AND HIGHLY COMMUNICATIVE ENTITIES. THE HUMAN ASPECT REMAINS UNCHANGED, HOWEVER, AND INHABITANTS CLING ONTO THEIR HOMETOWNS AS WELL AS THEY CAN. GREEN TECHNOLOGIES HAVE GONE THROUGH SEVERAL PARADIGM SHIFTS OVER THE PAST 50 YEARS, AND ARE NOW THE FUNDAMENT OF OUR SOCIETIES' GROWTH AND PROCESSES.

IN THIS CONTEXT, HYDRO-MINING CITIES HAVE EMERGED AS A FEASIBLE ALTERNATIVE FOR AN EDUCATED MIDDLE CLASS - OFFERING A MORE COMFORTABLE LIFE THAN WHAT IS OFFERED IN THE CONSTANTLY FLOODING CITIES. THE CITY HOUSES ENGINEERS, MAINTENANCE WORKERS, AND TECHNICAL STAFF, AS WELL AS THEIR FAMILIES. THE CITY ALSO HOUSES A RANGE OF OTHER KINDS OF WORKERS, NECESSARY FOR THE CITY'S SMOOTH RUNNING, SUCH AS FARMERS, SUPPORT STAFF, AND LOGISTICS WORKERS.



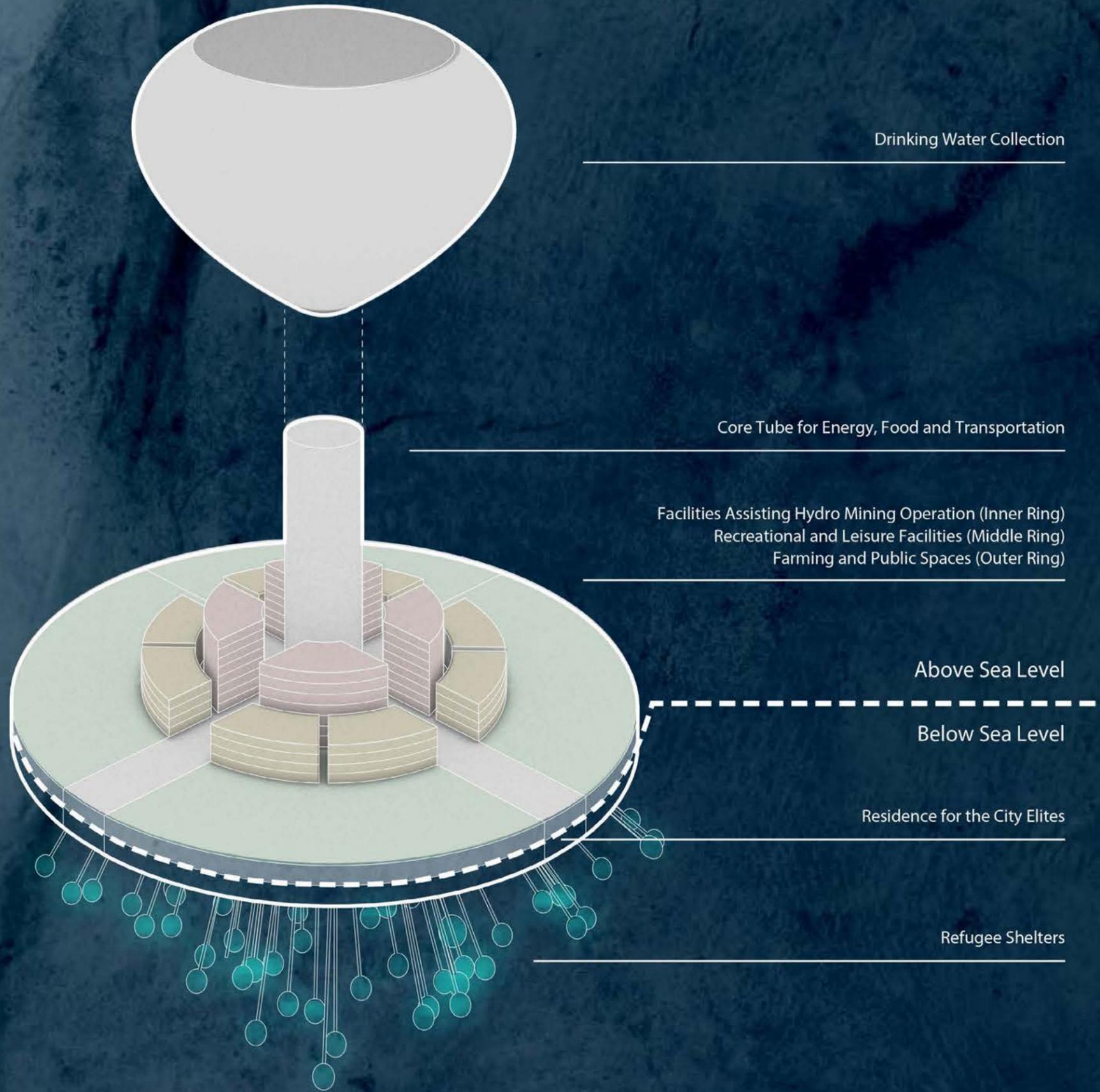
This city - offering a plausible alternative for an educated middle class from Miami - is essentially a floating garden city fueled by energy from tidal waves and hurricanes.

The city also has a key vertical element to it. Towering above the city is the core tube, or the spine, a wind turbine, as well as a top section for collecting fresh water. Spatial hierarchies have been turned upside down - the traditional city form is here fundamentally a luxury, with refugees being bundled off to the ocean depths.



Undersea Residences for City Elites

Refugee Shelters



Drinking Water Collection

Core Tube for Energy, Food and Transportation

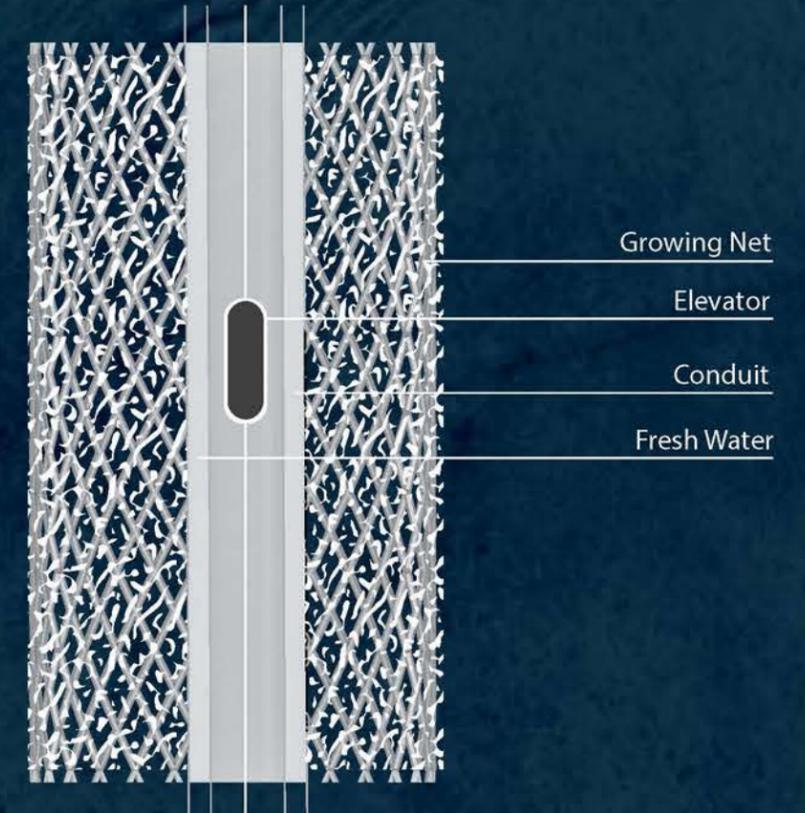
Facilities Assisting Hydro Mining Operation (Inner Ring)
 Recreational and Leisure Facilities (Middle Ring)
 Farming and Public Spaces (Outer Ring)

Above Sea Level

Below Sea Level

Residence for the City Elites

Refugee Shelters



Growing Net

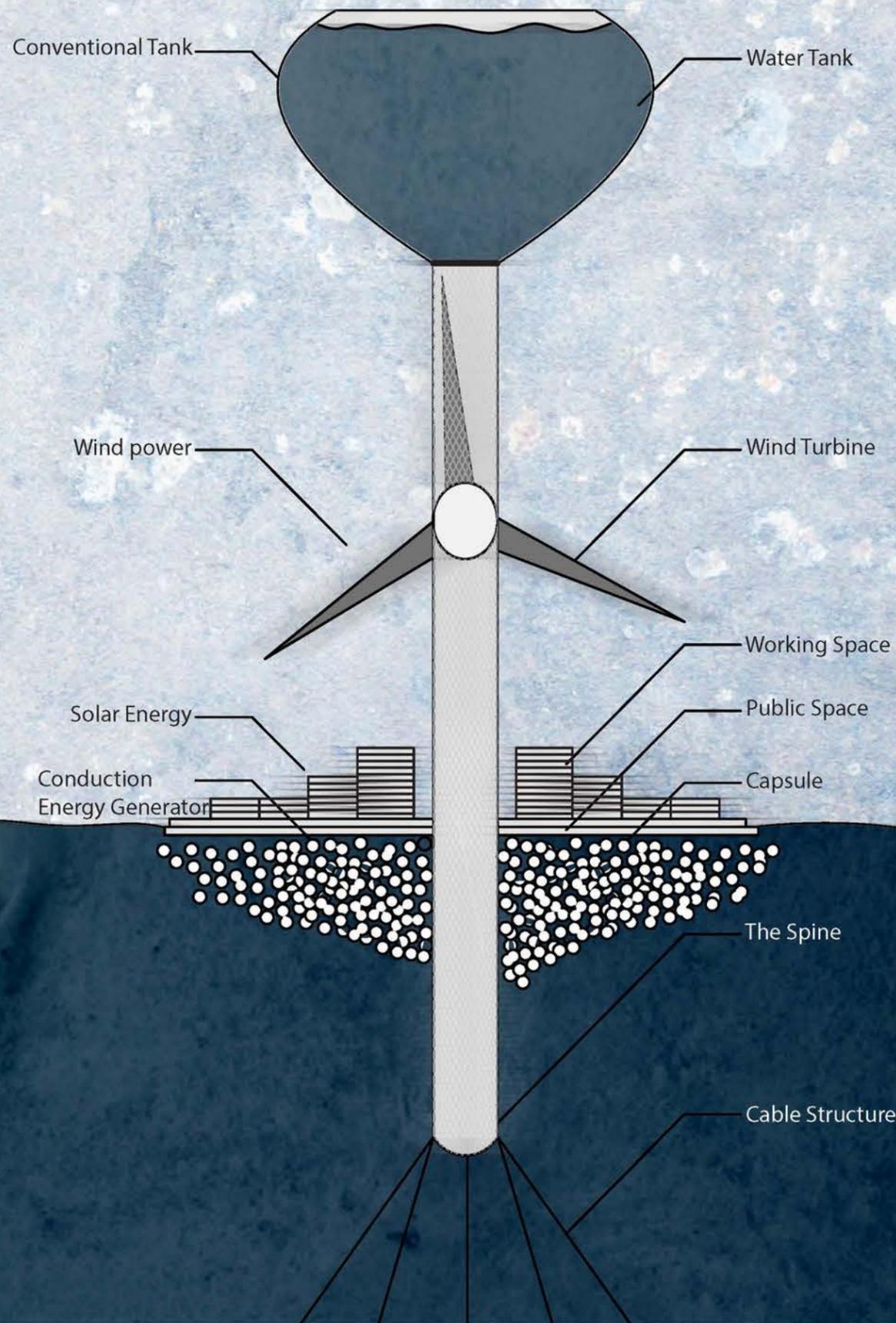
Elevator

Conduit

Fresh Water

THE HORIZONTAL ASPECT OF THE CITY IS INFORMED IN PART BY PRACTICAL NECESSITIES; IN PART BY SOCIAL DYNAMICS. AS LIGHT AND AIR ARE COVETED COMMODITIES WITHIN THIS CITYSCAPE, RESIDENTS WILL NOT ALLOW REFUGEES TO IMPEDE ACCESS TO THESE. REFUGEE PODS ARE THUS LOCATED UNDER WATER AND DO NOT FORM A SPATIAL OBSTACLE. GIVEN THE TRANSIENT NATURE OF THE REFUGEES AND THEIR PODS, THEY ARE NOT CONFORMING TO THE SURFACE CITY FORM, AND ARE CONFINED UNDER WATER.

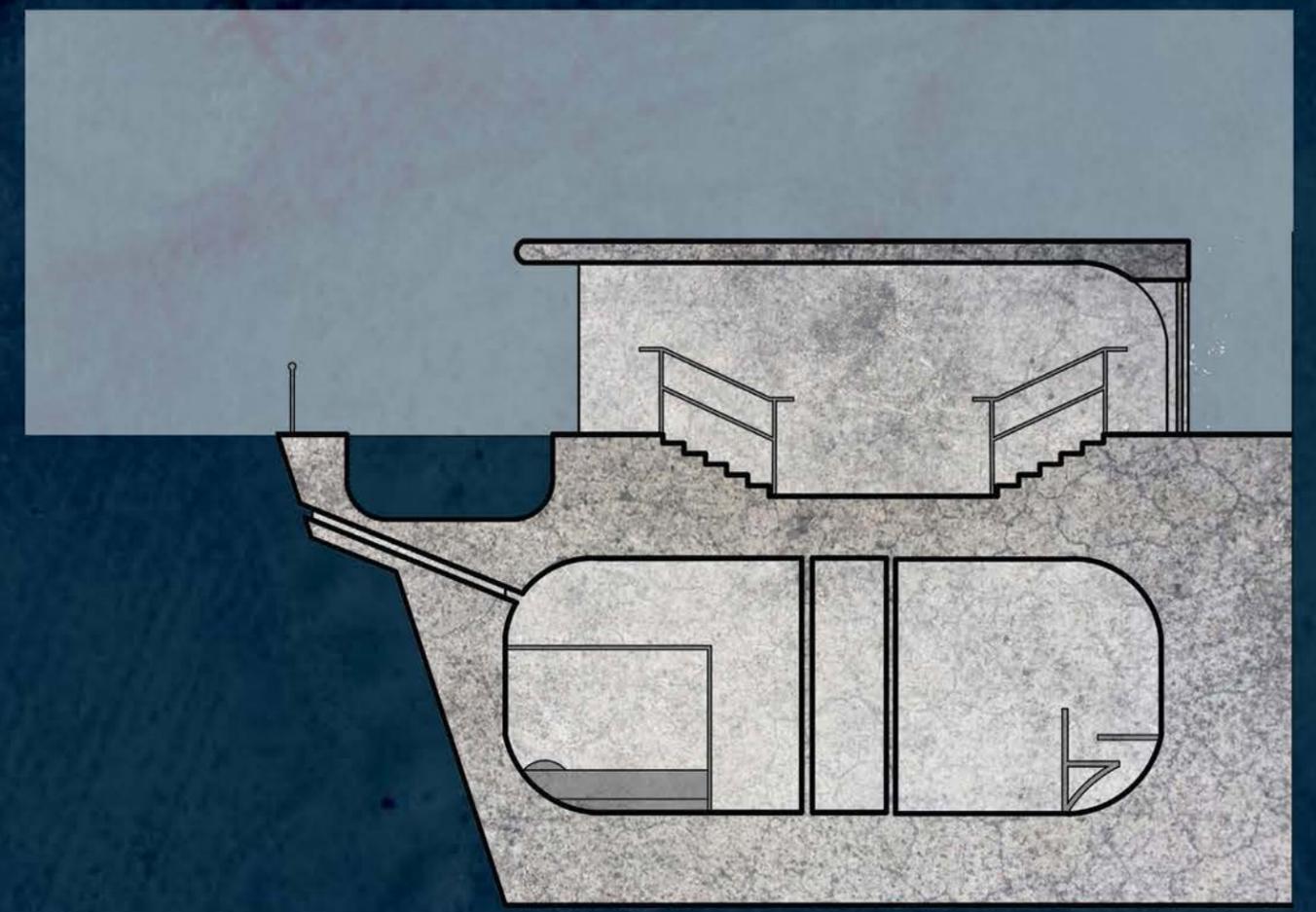
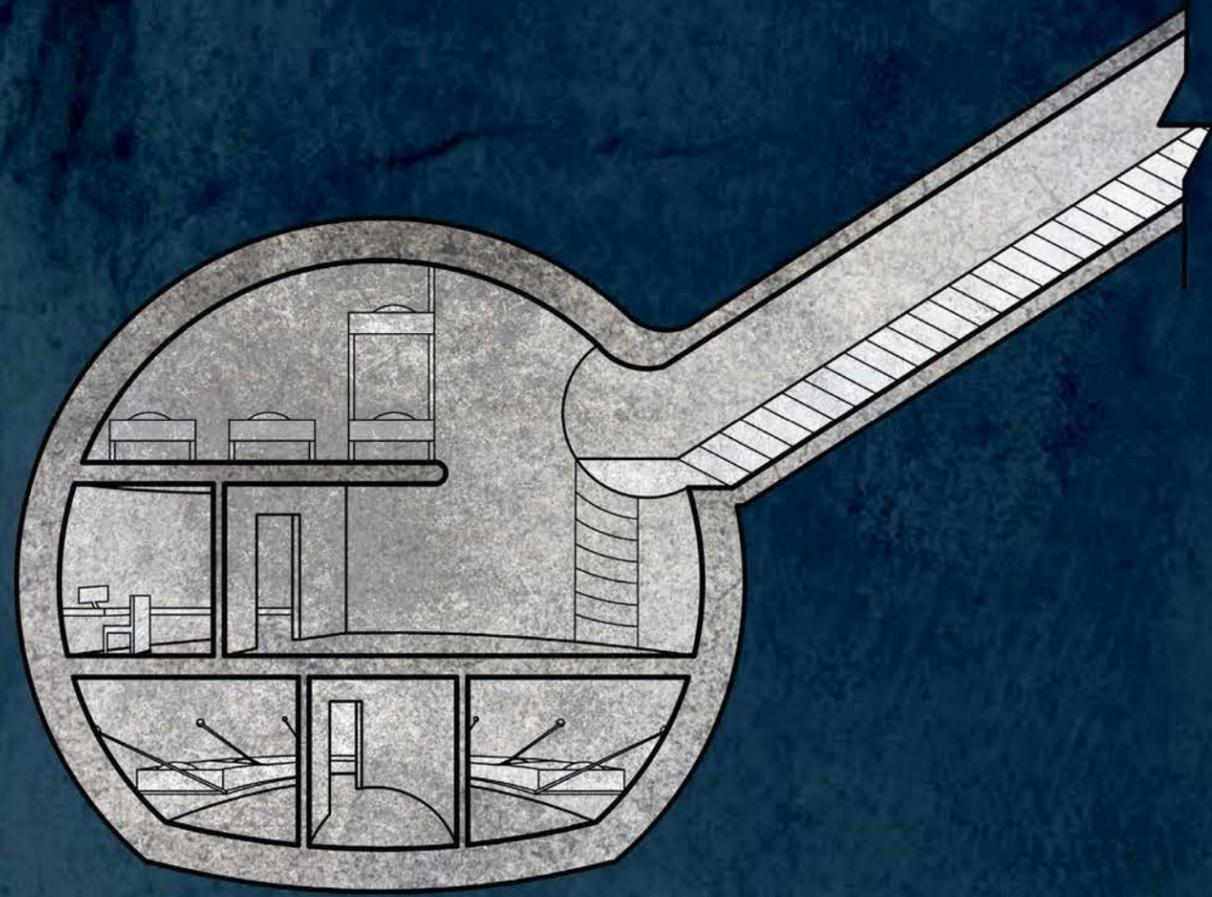
THE SPINE CONTAINS AN ELEVATOR, AN ELECTRIC CONDUIT, AND A FRESHWATER PIPELINE - ALL ENCIRCLED BY A GROWING NET. AT THE TOP OF THE STRUCTURE WE FIND A FRESHWATER COLLECTION UNIT, WHICH PROVIDES WATER FOR THE WHOLE CITY. THE NET COATING THE SPINE IS USED TO GROW PLANTS AND SEAWEED, WHICH IN TURN IS WATERED BY THE COLLECTED FRESHWATER AS IT TRICKLES DOWN TO THE CITY.

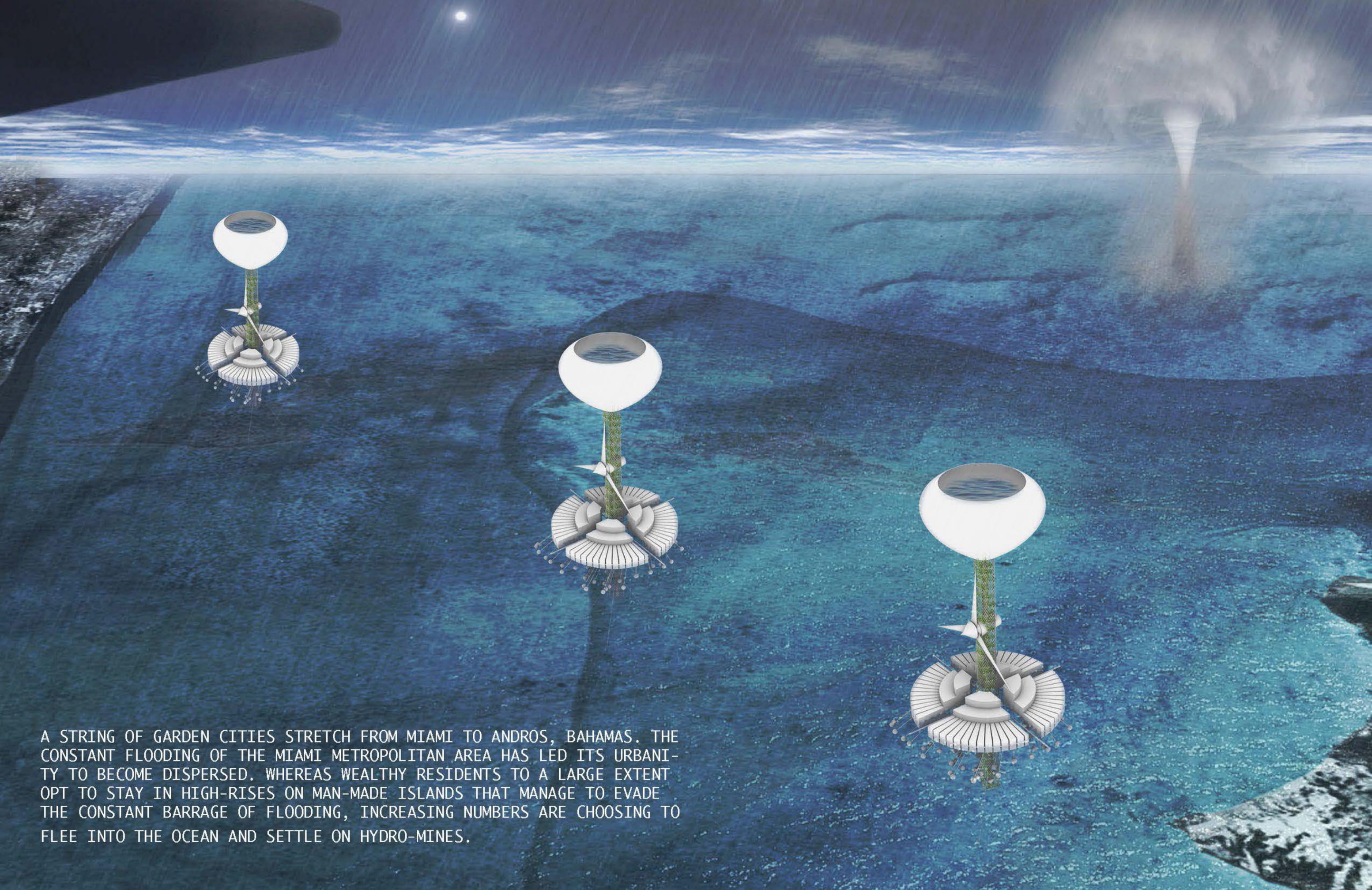


WITH THE ADVENT OF IMMENSE CLIMATE CHANGE AND FLOODING, SUBMERGING RESIDENTIAL UNITS UNDER WATER BECOMES A WAY OF COPING. SYMPTOMATIC OF HUMANITY'S INCREASINGLY COMPLEX RELATION TO WATER AND THE OCEAN, THE SUBMERSION CONSTITUTES A DEFENCE MECHANISM AGAINST THE VERY WATER ITSELF.

CLIMATE REFUGEES CLUSTER TOGETHER UNDER THE GARDEN CITY IN WHAT WE CALL SINGULAR SUBMARINE BIDONVILLES, OR PODS. THESE PODS INFORM A WIDER INFORMAL URBAN STRUCTURE THAT CHANGE ACCORDING TO THE HURRICANE SEASON AND THE CLIMATE. THEY ARE CONNECTED TO THE OVERLAYING CITY VIA ACCESS TUBES THAT PROVIDE A PHYSICAL CONNECTION AS WELL AS OXYGEN AND PROVISION.

THE TYPICAL RESIDENTIAL UNIT IN THE CITY IS LOCATED UNDER THE GARDEN SECTION. THE POSITIONING OF THESE UNITS UNDER THE WATERLINE PROVIDES PROTECTION AGAINST THE ROUGH SEA CLIMATE, ESPECIALLY DURING HURRICANE SEASON. BALCONIES ARE BUILT ABOVE WATER, AS THEY ARE LESS SENSITIVE.





A STRING OF GARDEN CITIES STRETCH FROM MIAMI TO ANDROS, BAHAMAS. THE CONSTANT FLOODING OF THE MIAMI METROPOLITAN AREA HAS LED ITS URBANITY TO BECOME DISPersed. WHEREAS WEALTHY RESIDENTS TO A LARGE EXTENT OPT TO STAY IN HIGH-RISES ON MAN-MADE ISLANDS THAT MANAGE TO EVADE THE CONSTANT BARRAGE OF FLOODING, INCREASING NUMBERS ARE CHOOSING TO FLEE INTO THE OCEAN AND SETTLE ON HYDRO-MINES.

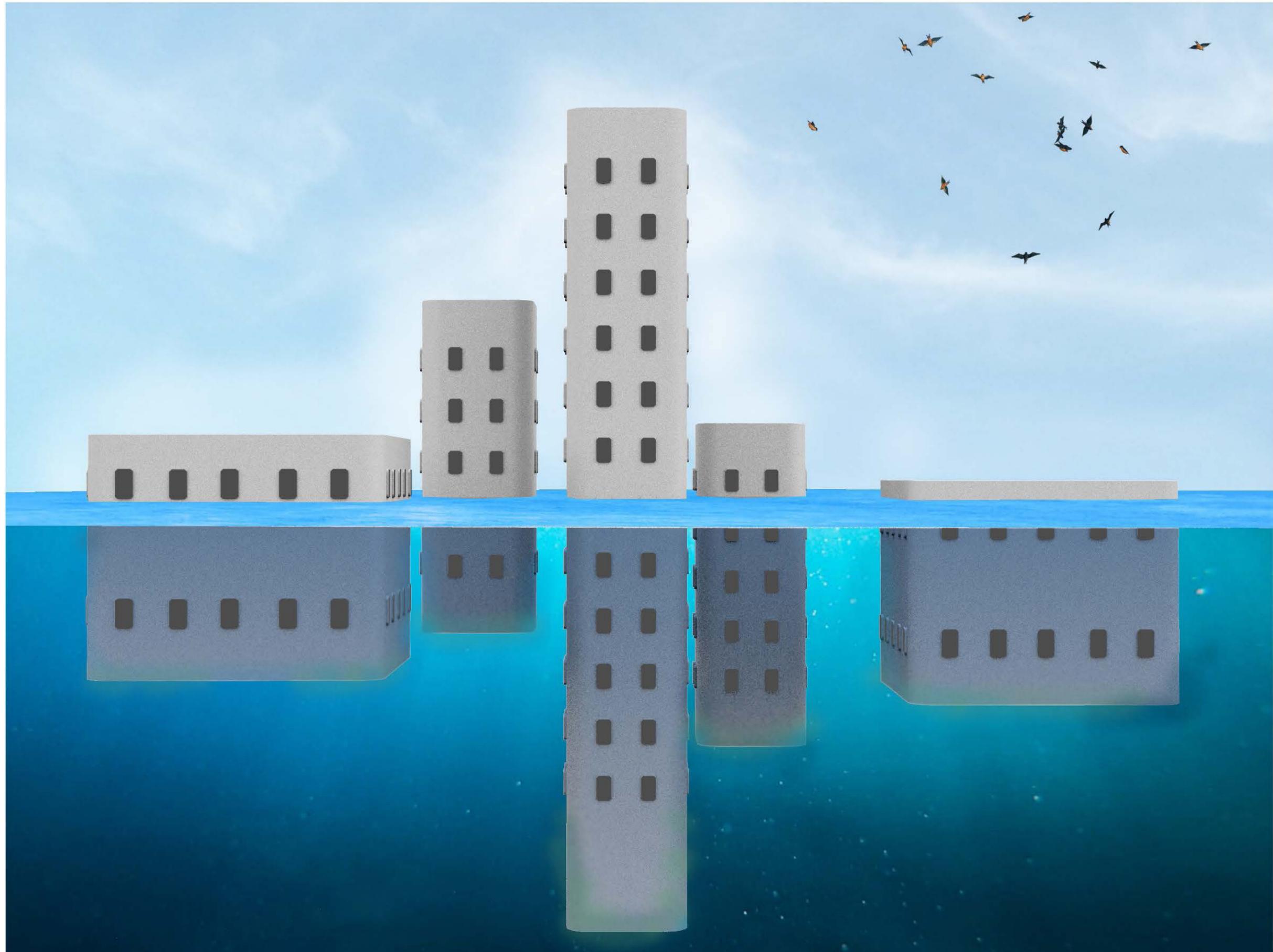
ADVANCE STUDIO VI

Mario Gooden

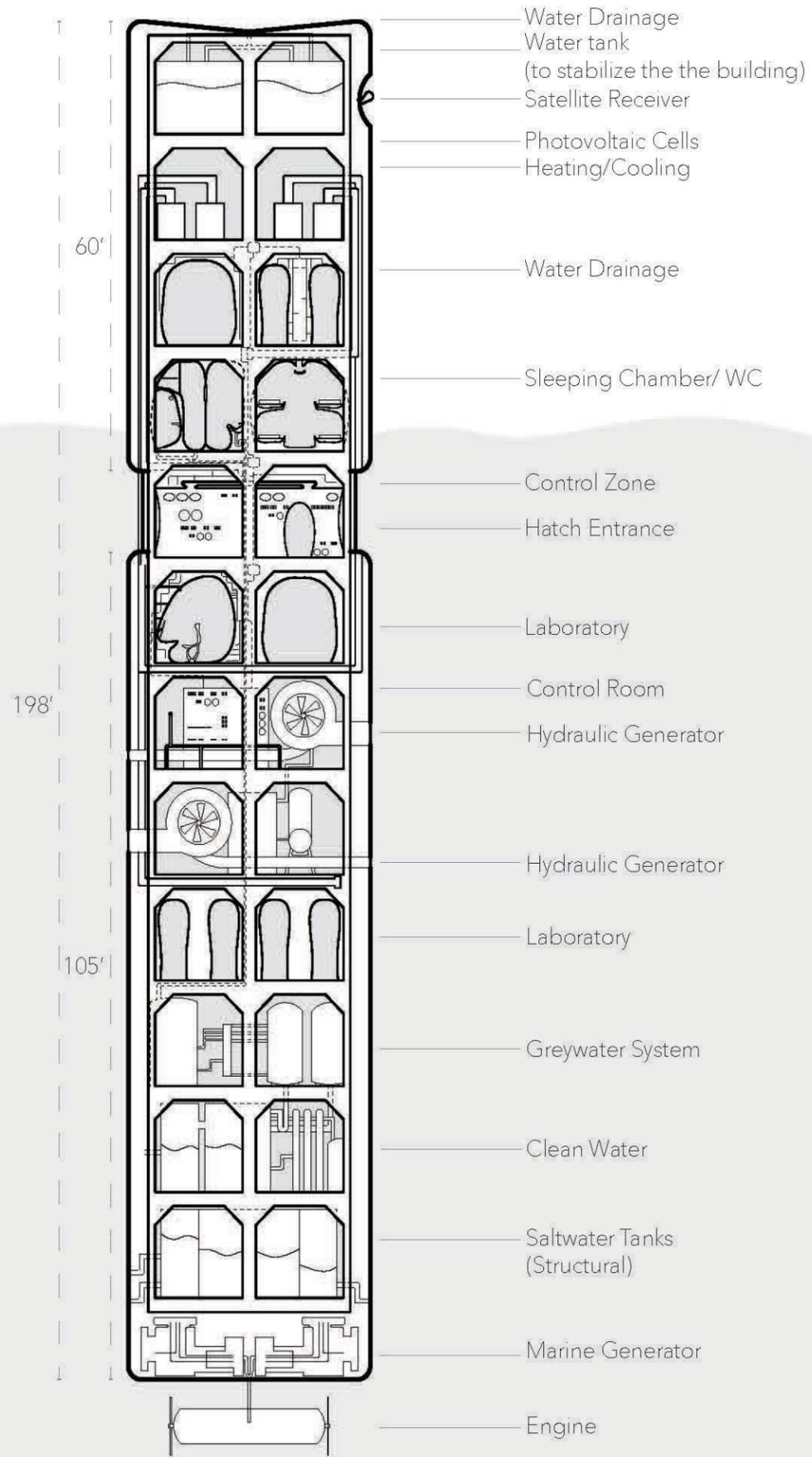
When human interfere with nature the outcomes would be unprecedented. Human need to extract the earth to survive and to continue to be the top of the pyramid. The effect can be tremendous with no going back. In 2010 the United States government allowed an open oil extraction from the sea, twenty days later Deepwater Horizon oil rig exploded in the Mexican gulf near the shore of Louisiana. Can it be a sign of how much human can take from the earth or is just lack of safety. Yes, deepwater Horizon took the lives of eleven human. however, it took the life of over three-hundred thousand animals, birds and sea lives.

Human traveled from all over the US to save the brown pelican, turtles or any animal that needs help. They took them from their land that they used to nest and breeds for centuries to a cages and zoos in Texas and Maryland. Nine years later we hear that those birds are getting used to the new areas and they are mutating the new ground. Who would know if human really saved the brown pelican or the brown pelican showed humanity how large their changes can effect others.

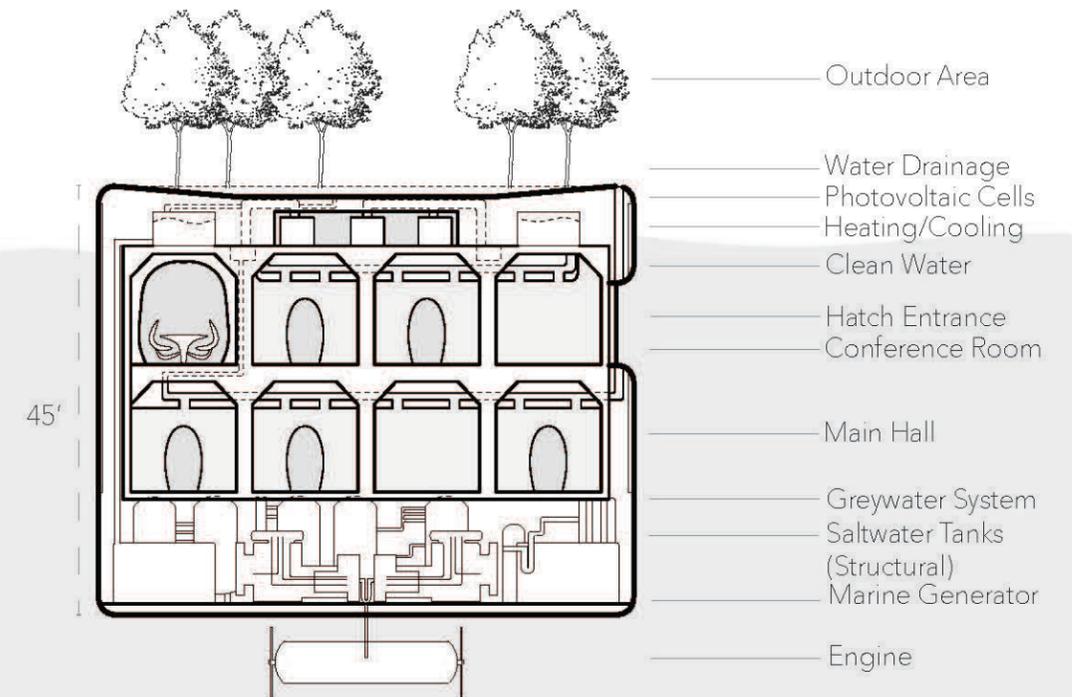
What can be the future when we inject random species in a random land. Would they evolve differently, would that create a stronger type of species or it would make it vulnerable to any small changes, or would it create a species that will wait for human to carry them wherever they sense danger and becomes dependent on human forever.



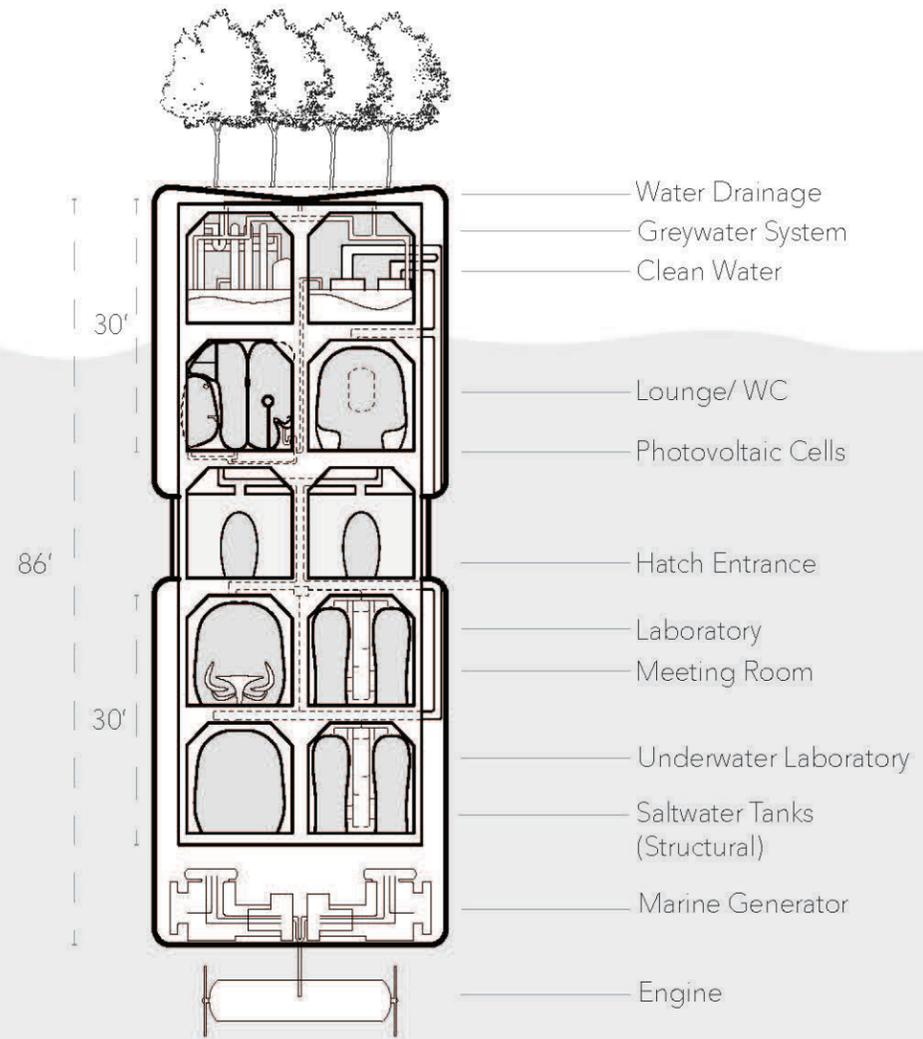
Building 1



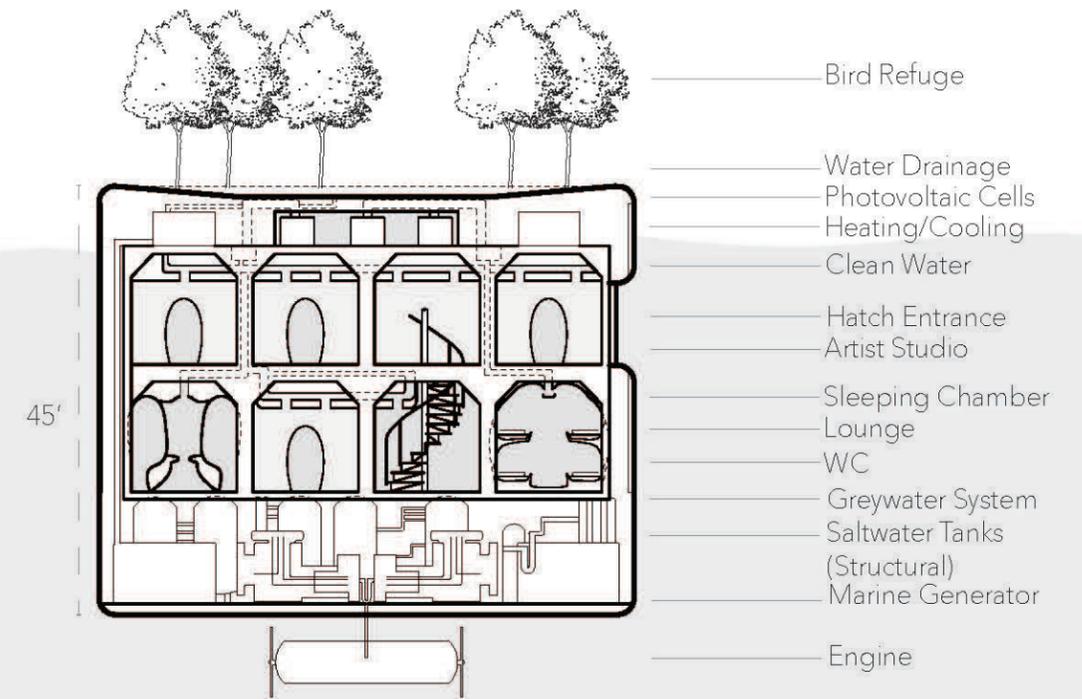
Building 2



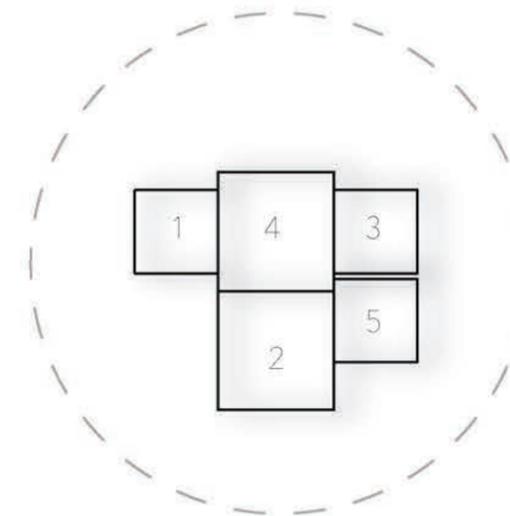
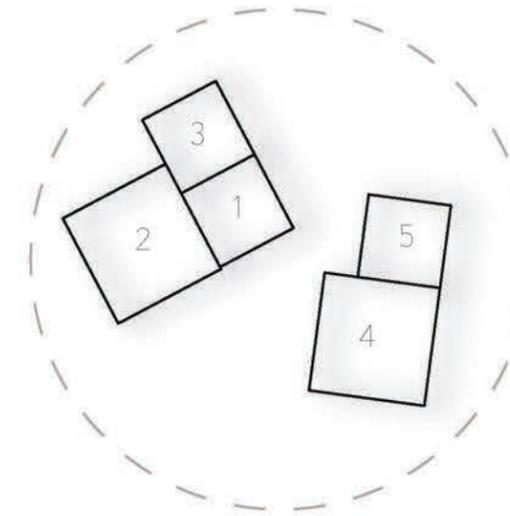
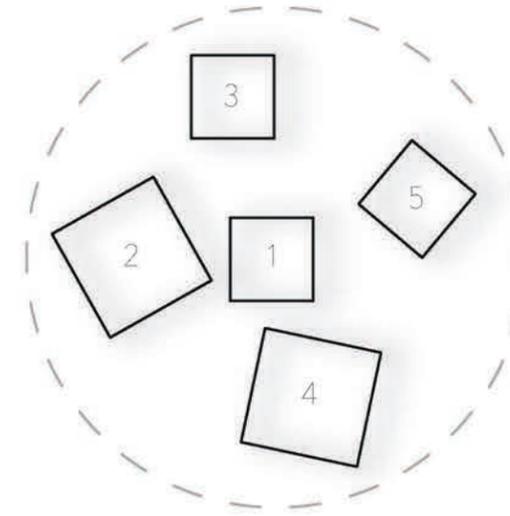
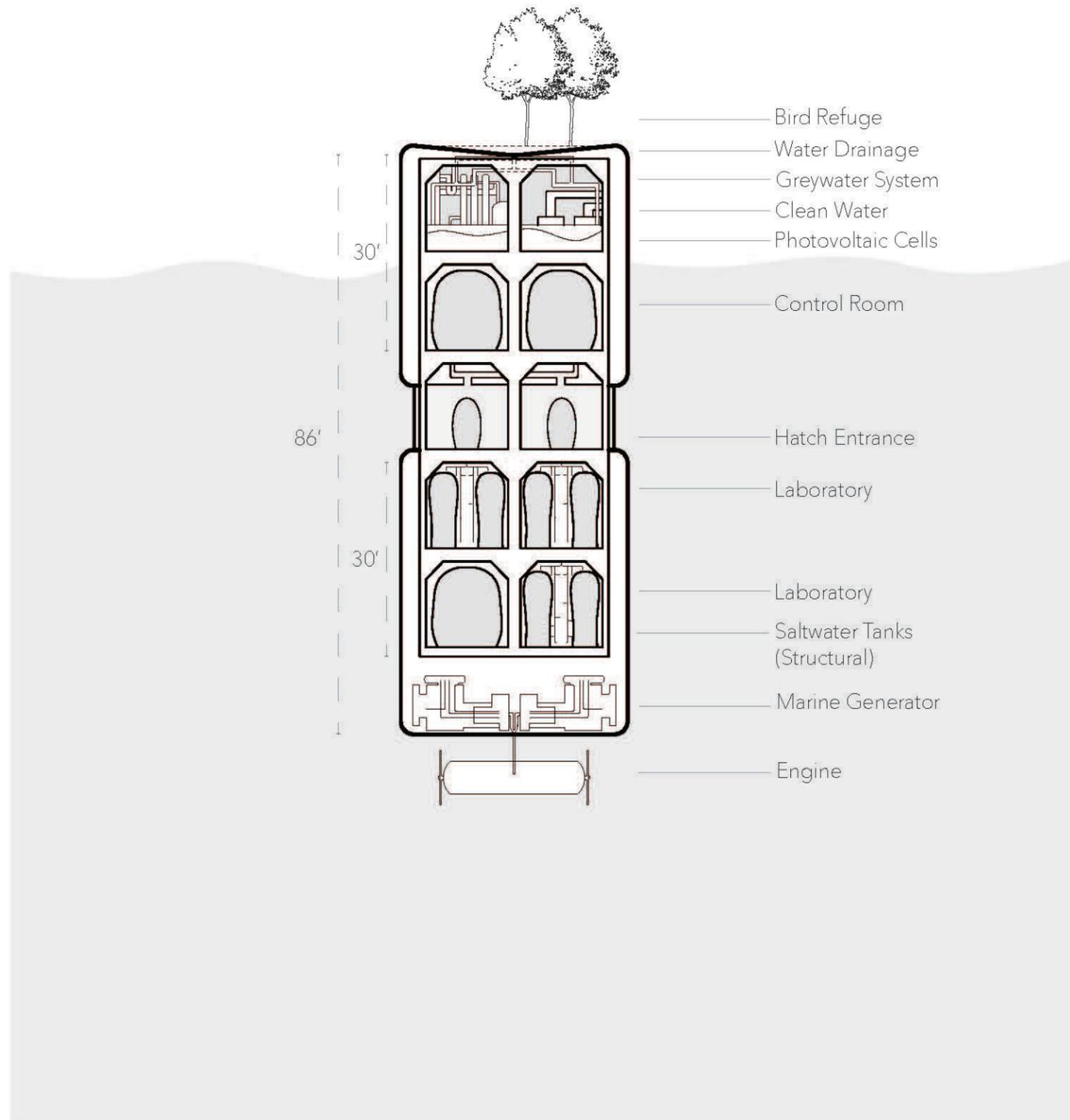
Building 3



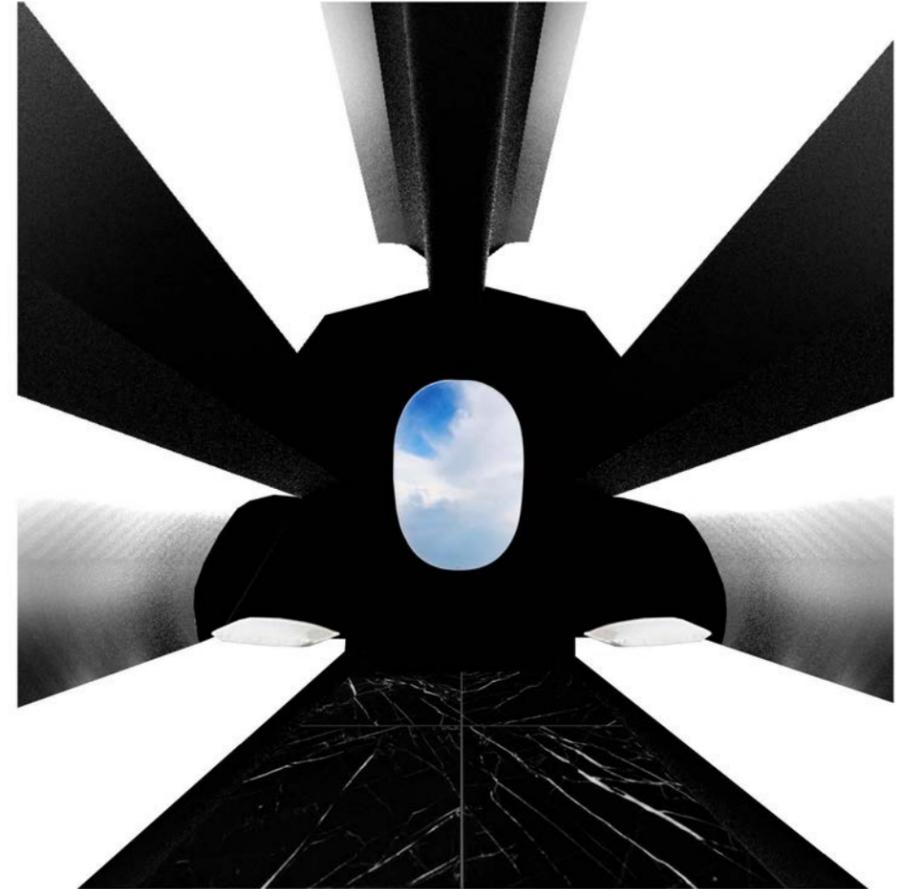
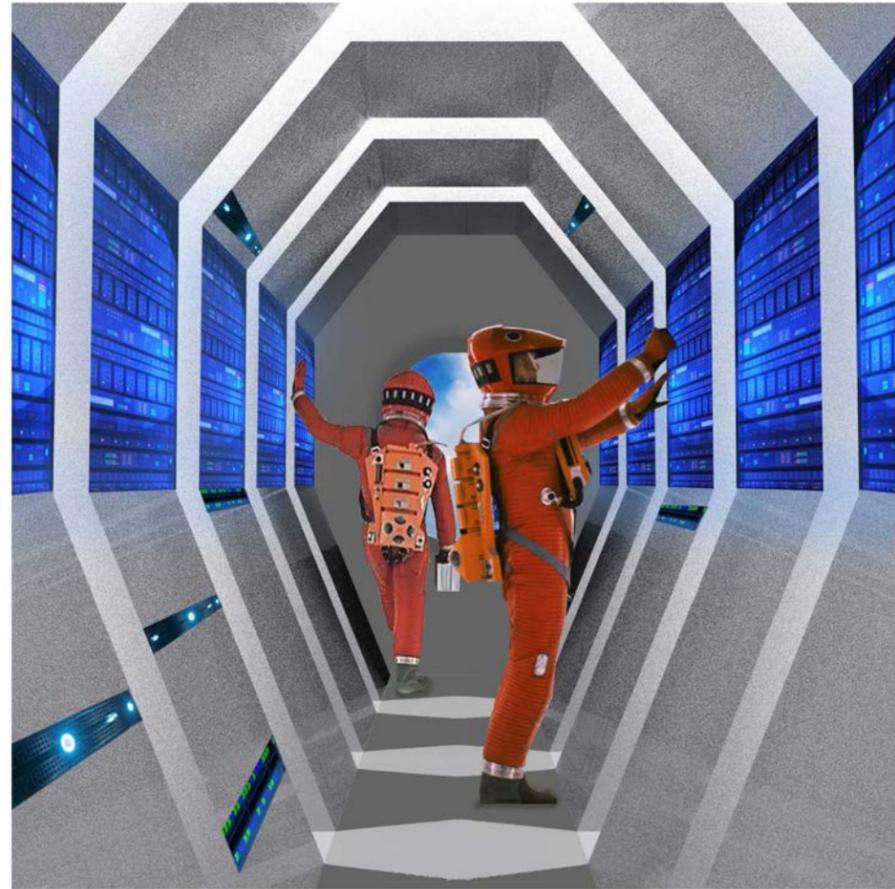
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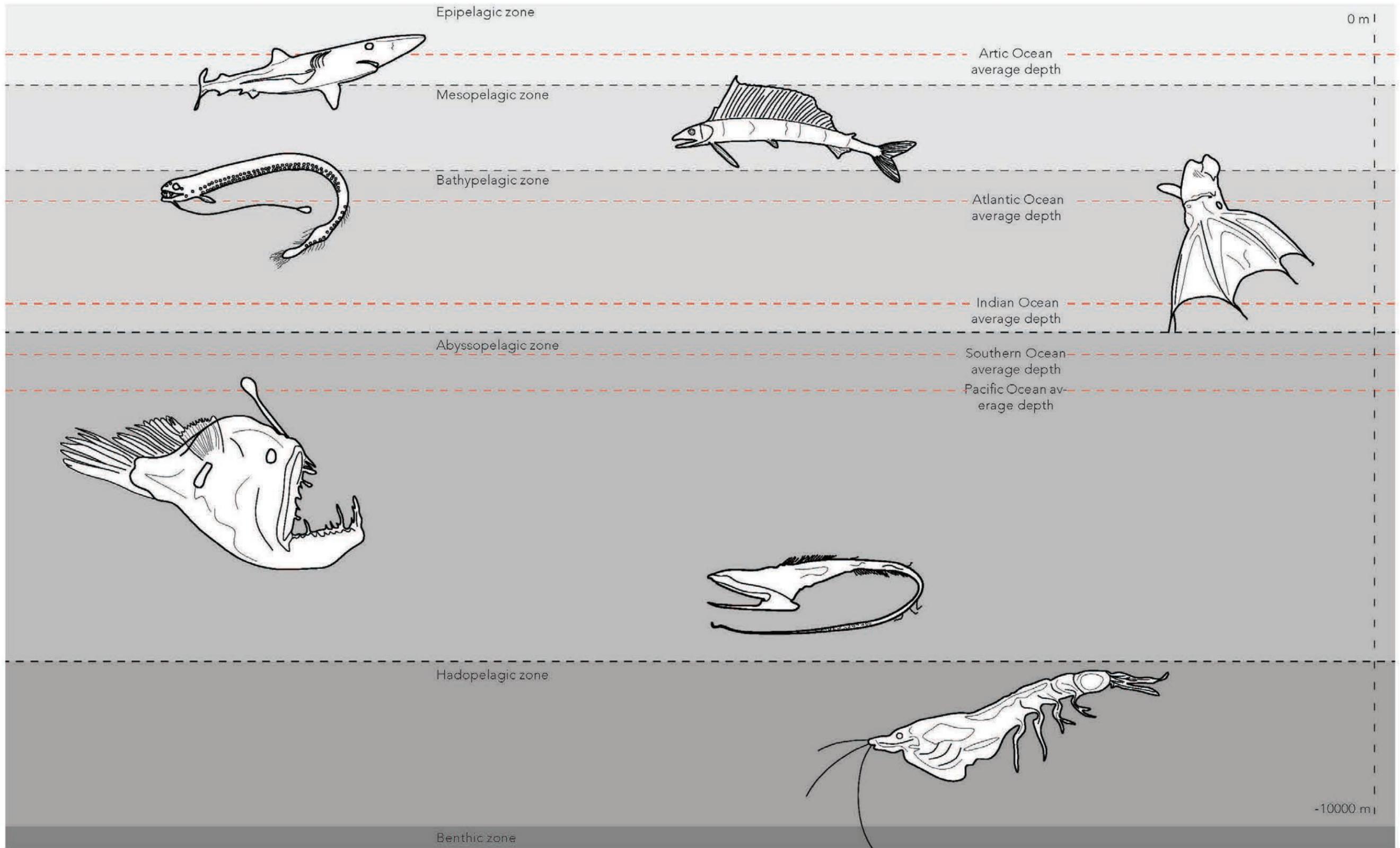


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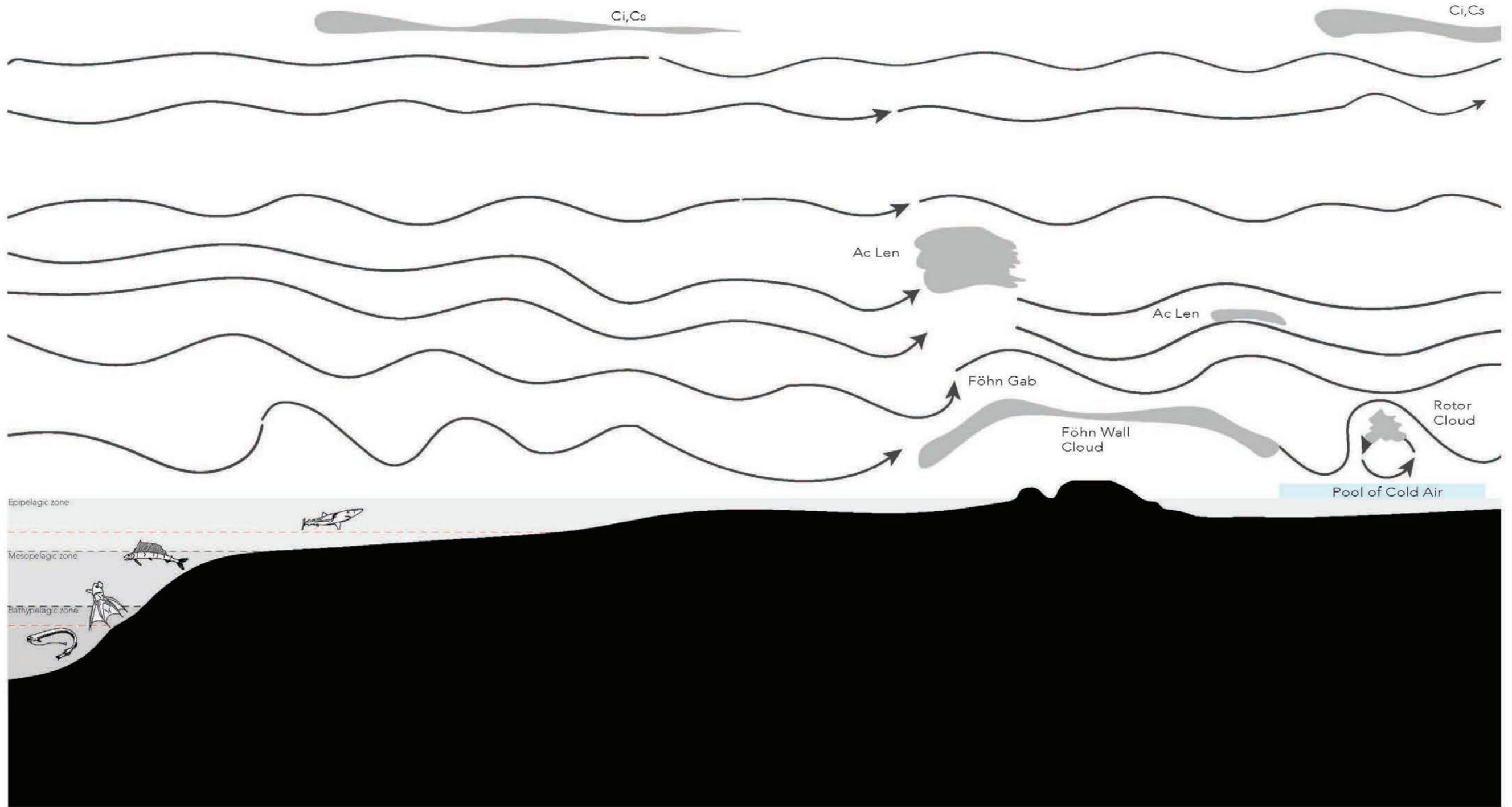
- 1 Laboratory
- 2 Main Hall
- 3 Underwater Laboratory
- 4 Artist Studio
- 5 Laboratory

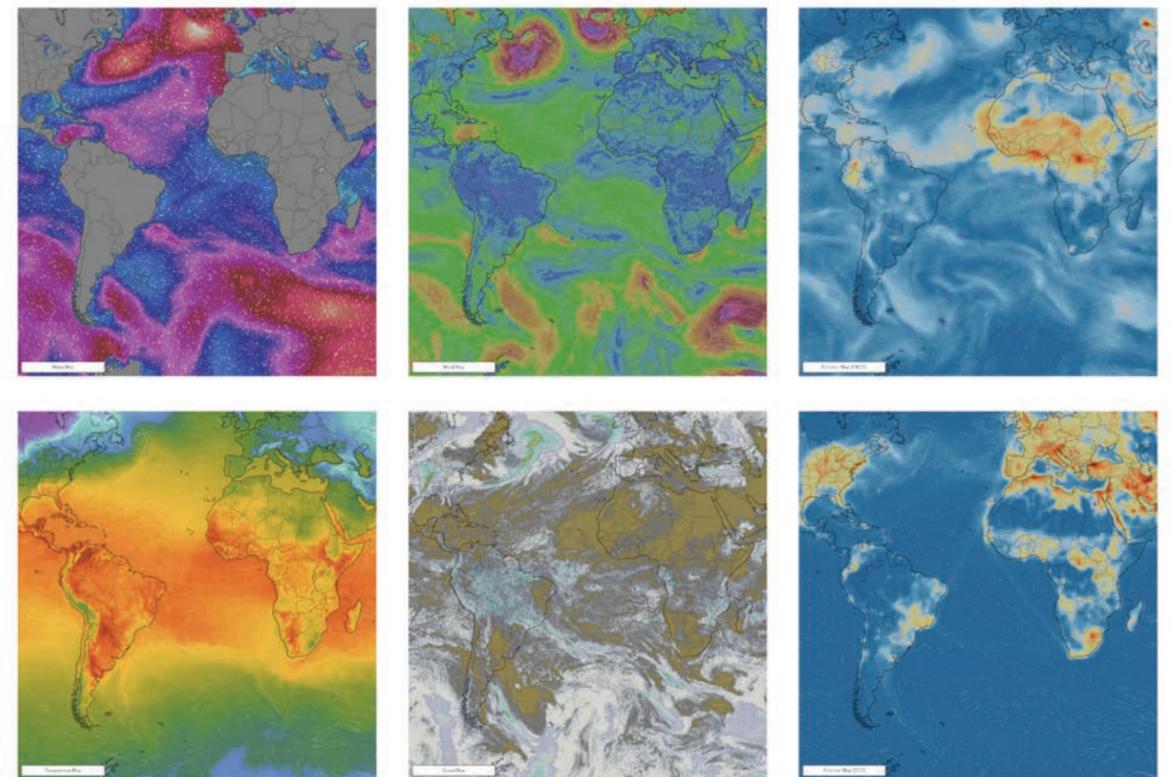
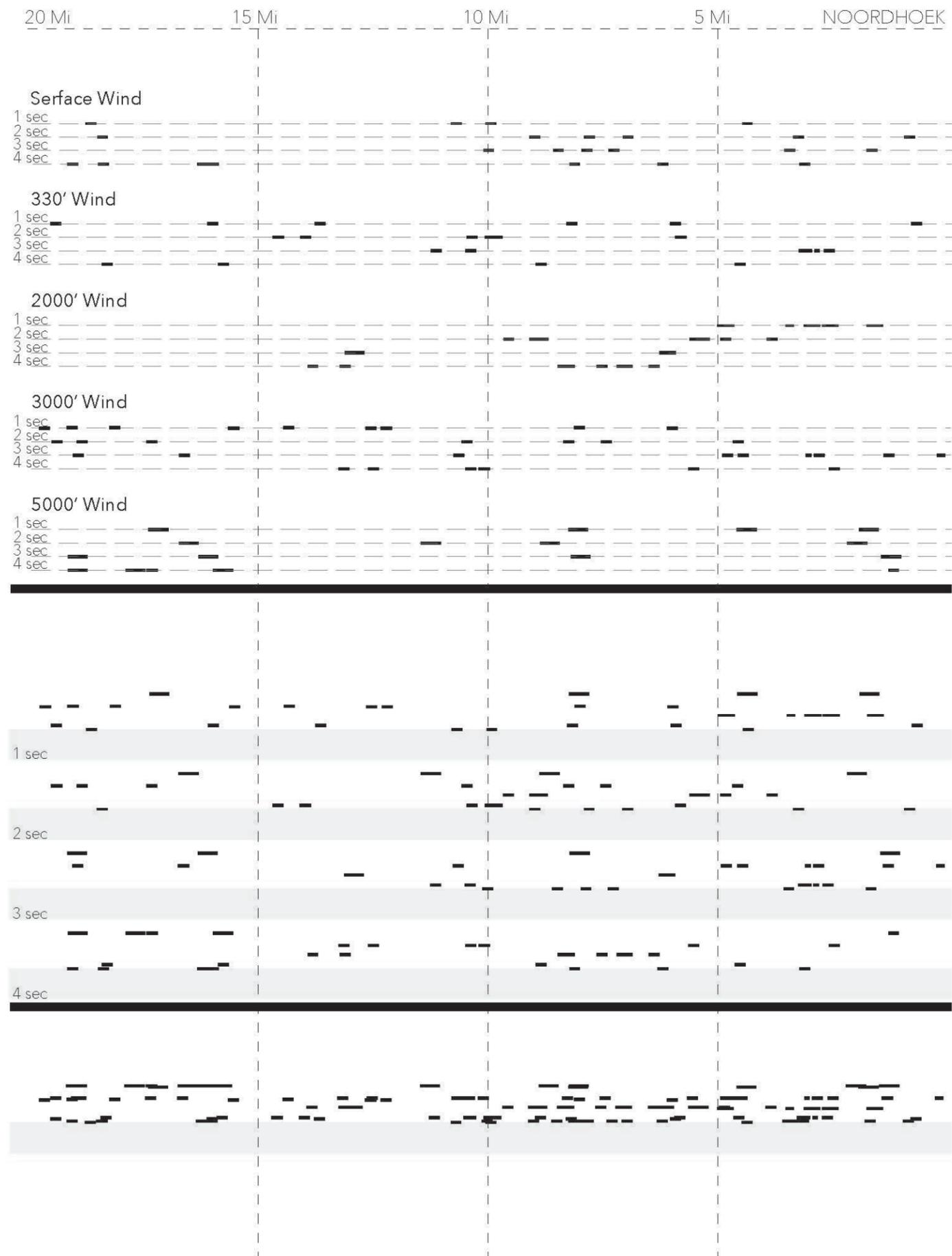


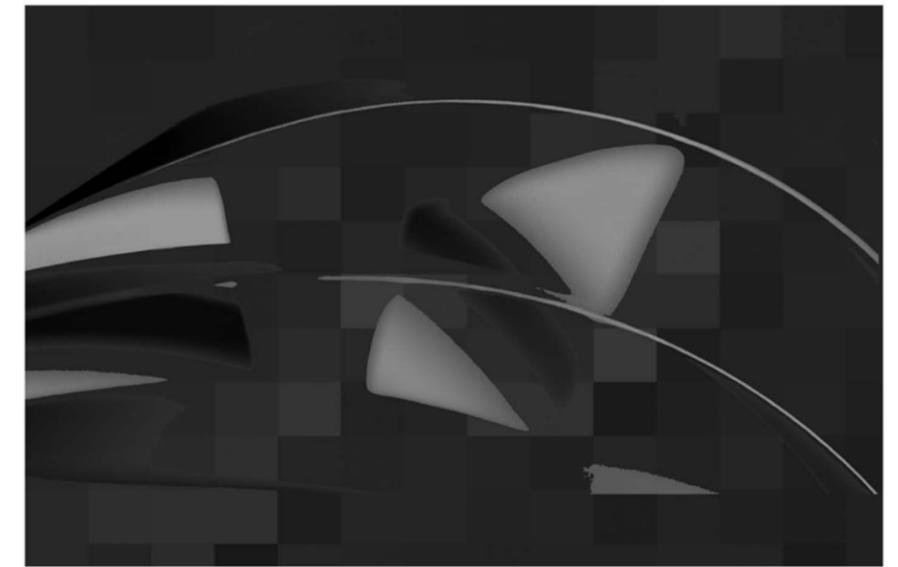
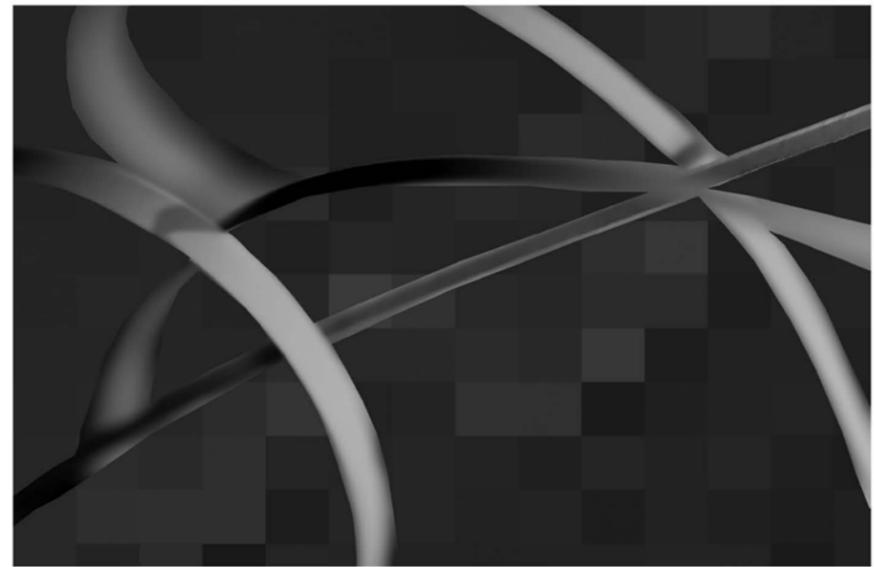
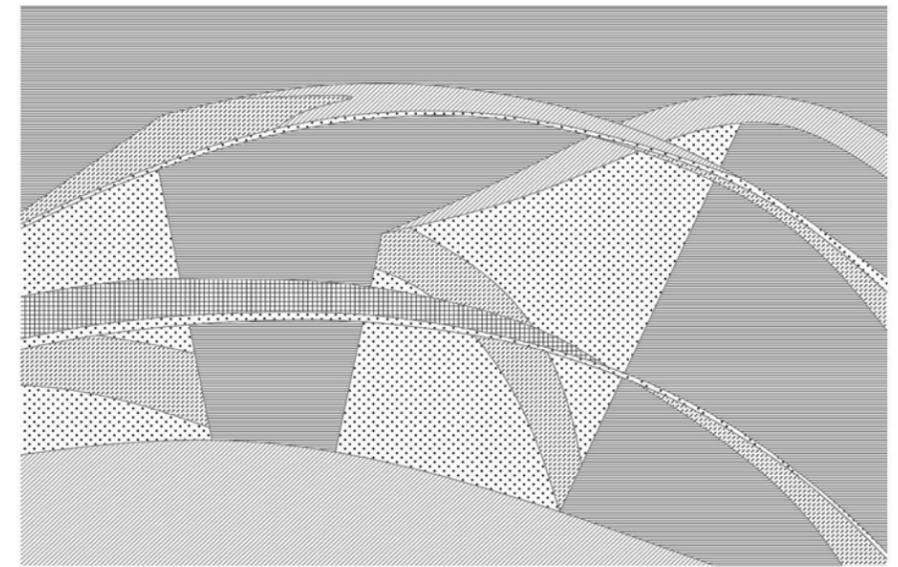
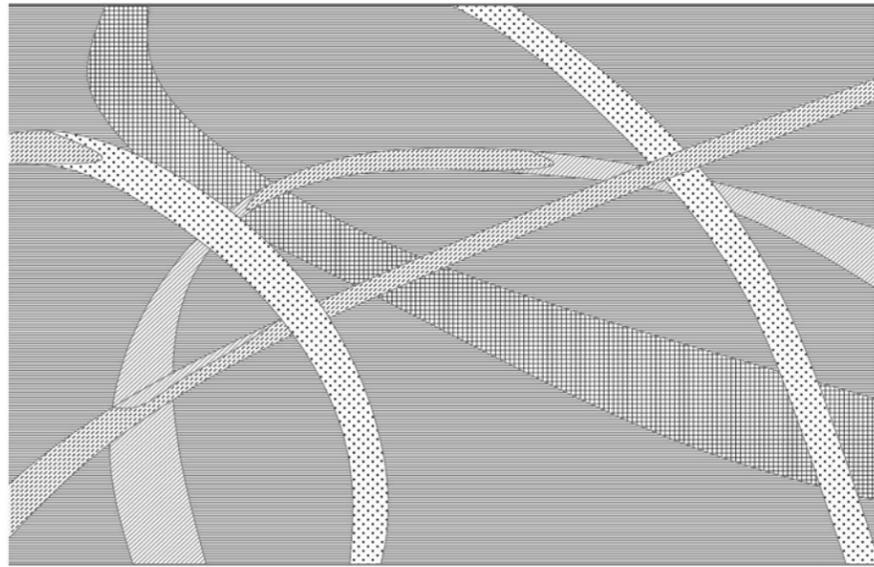
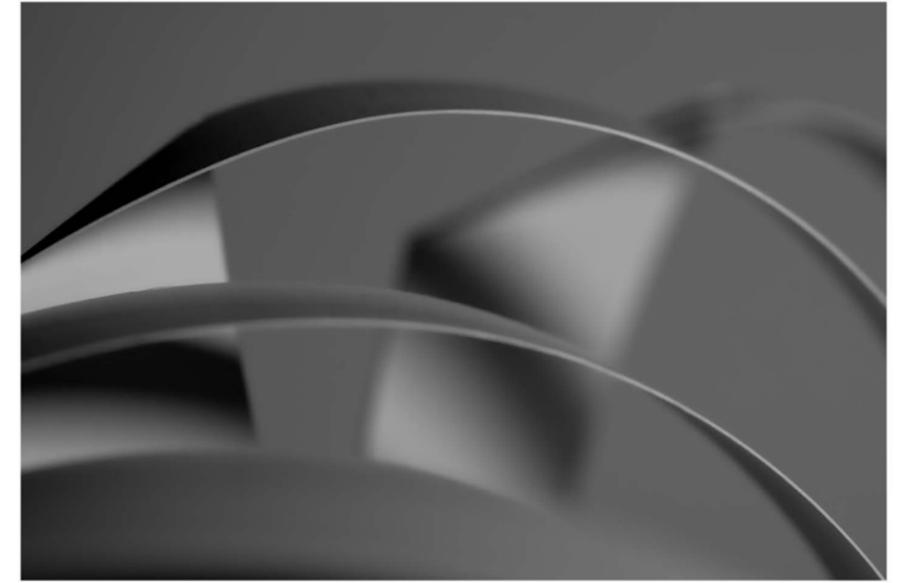


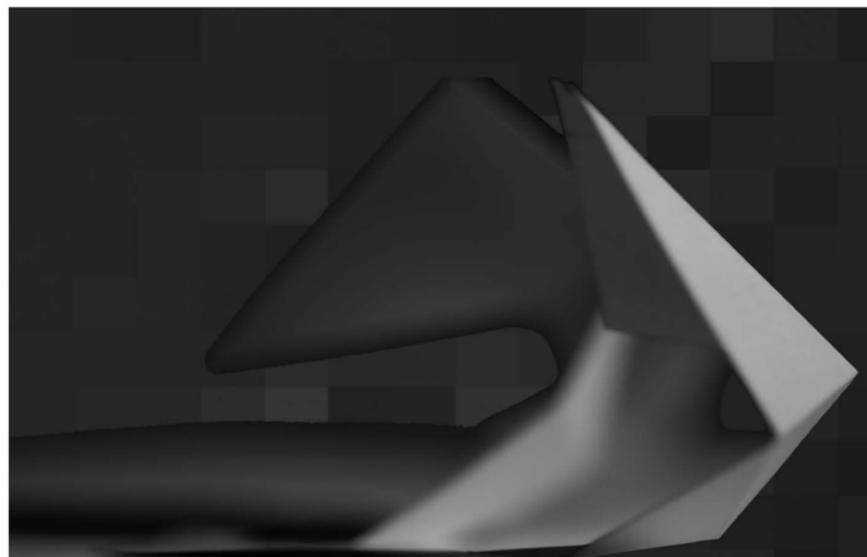
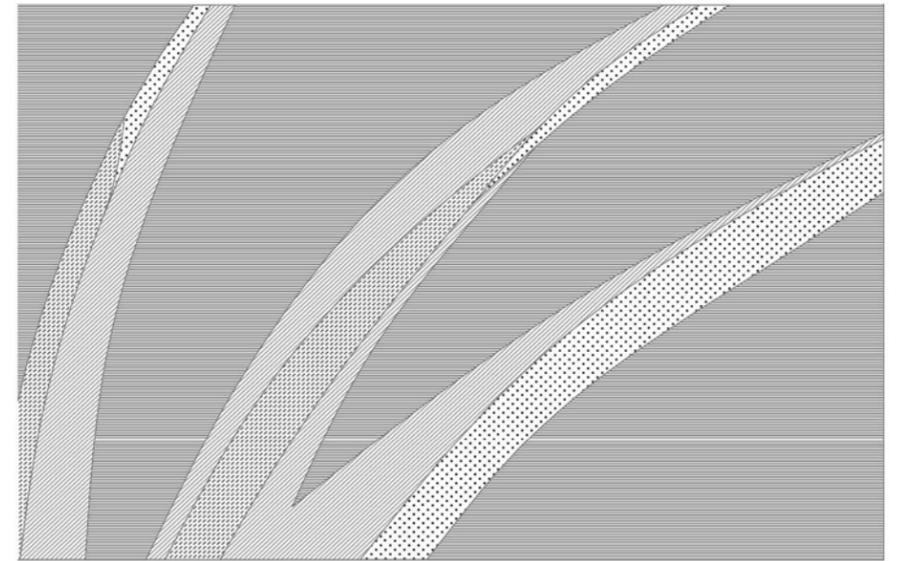
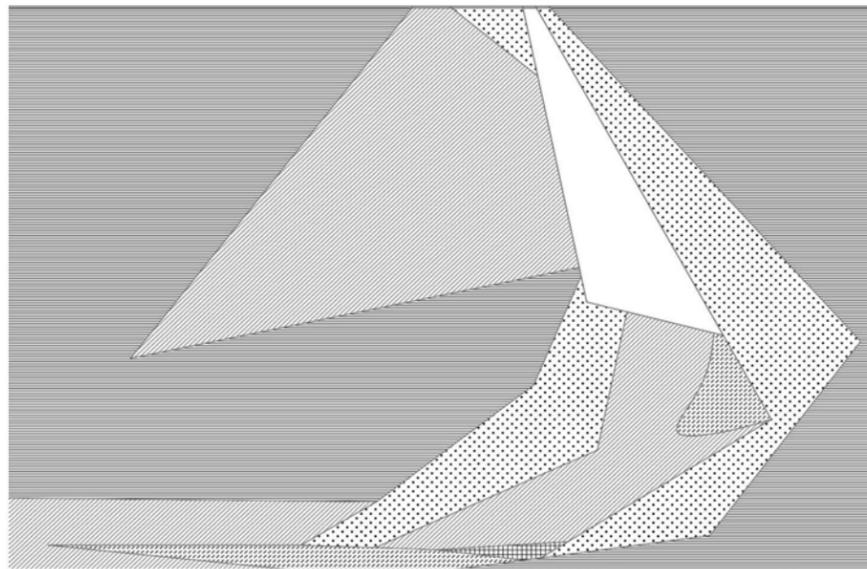
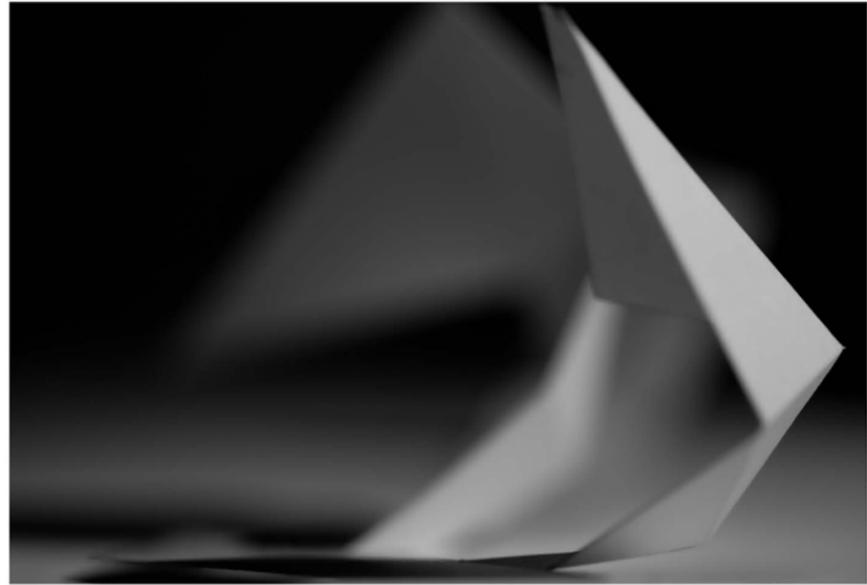
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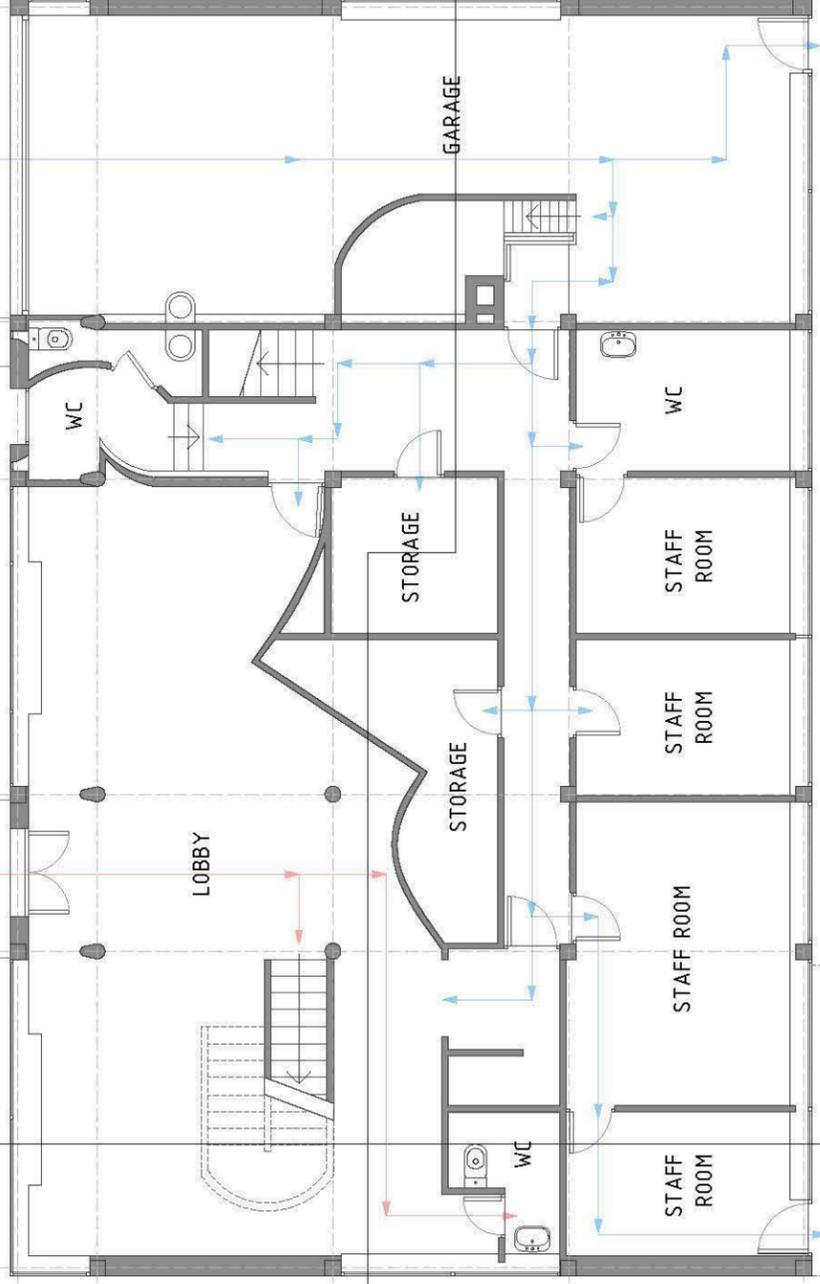
LE CORBUSIER

Kenneth Frampton

Jolene Jussif



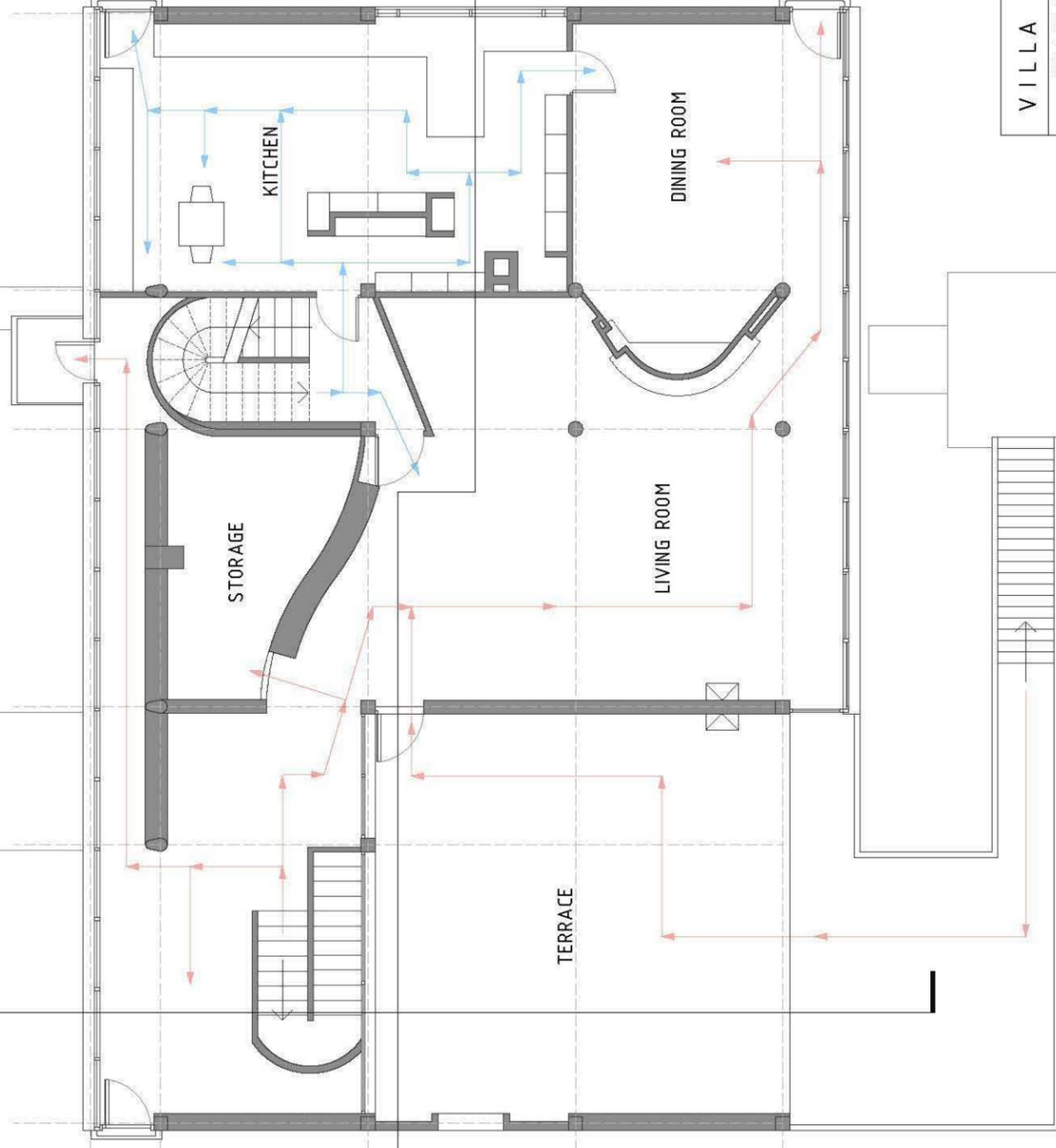
SECTION 2



SECTION 1

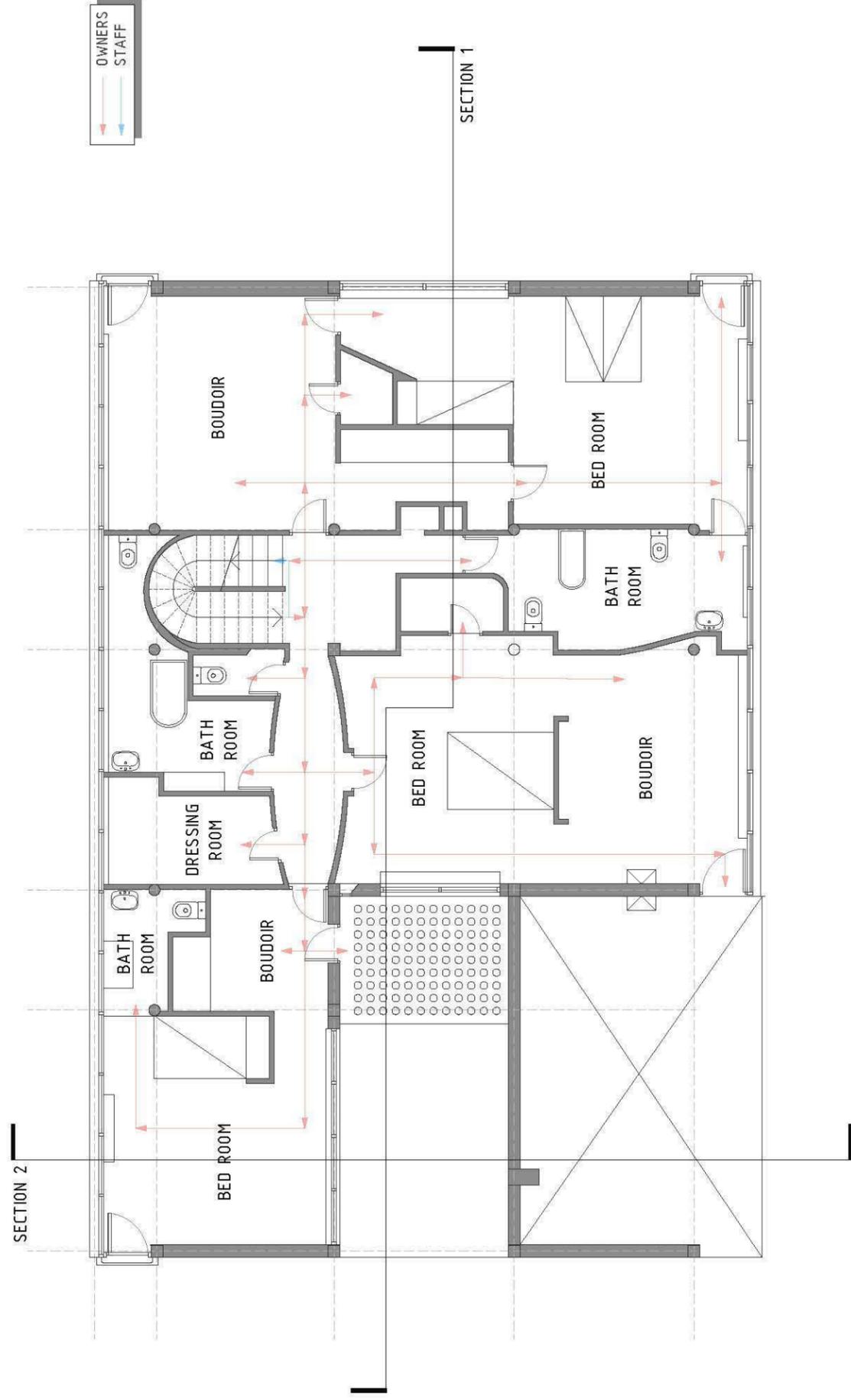
VILLA STEIN-DE MONZIE
 ARCHITECT : LE CORBUSIER
 COMPLETED : 1926 GARCHES, FRANCE
 PREPARED BY: JOLENE JUSSIF & SULTAN ALFAISAL
 R.D.C

SECTION 2

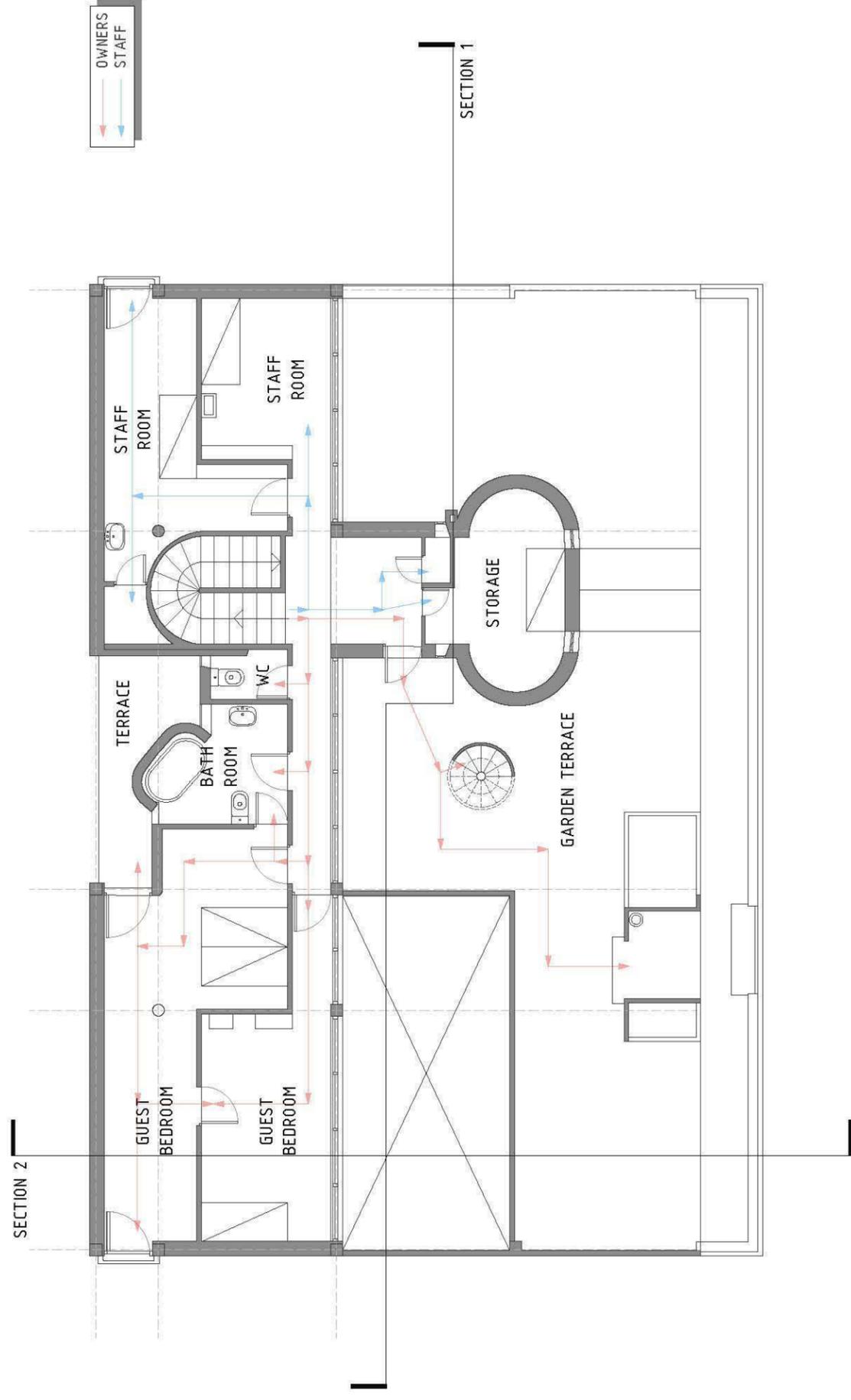


SECTION 1

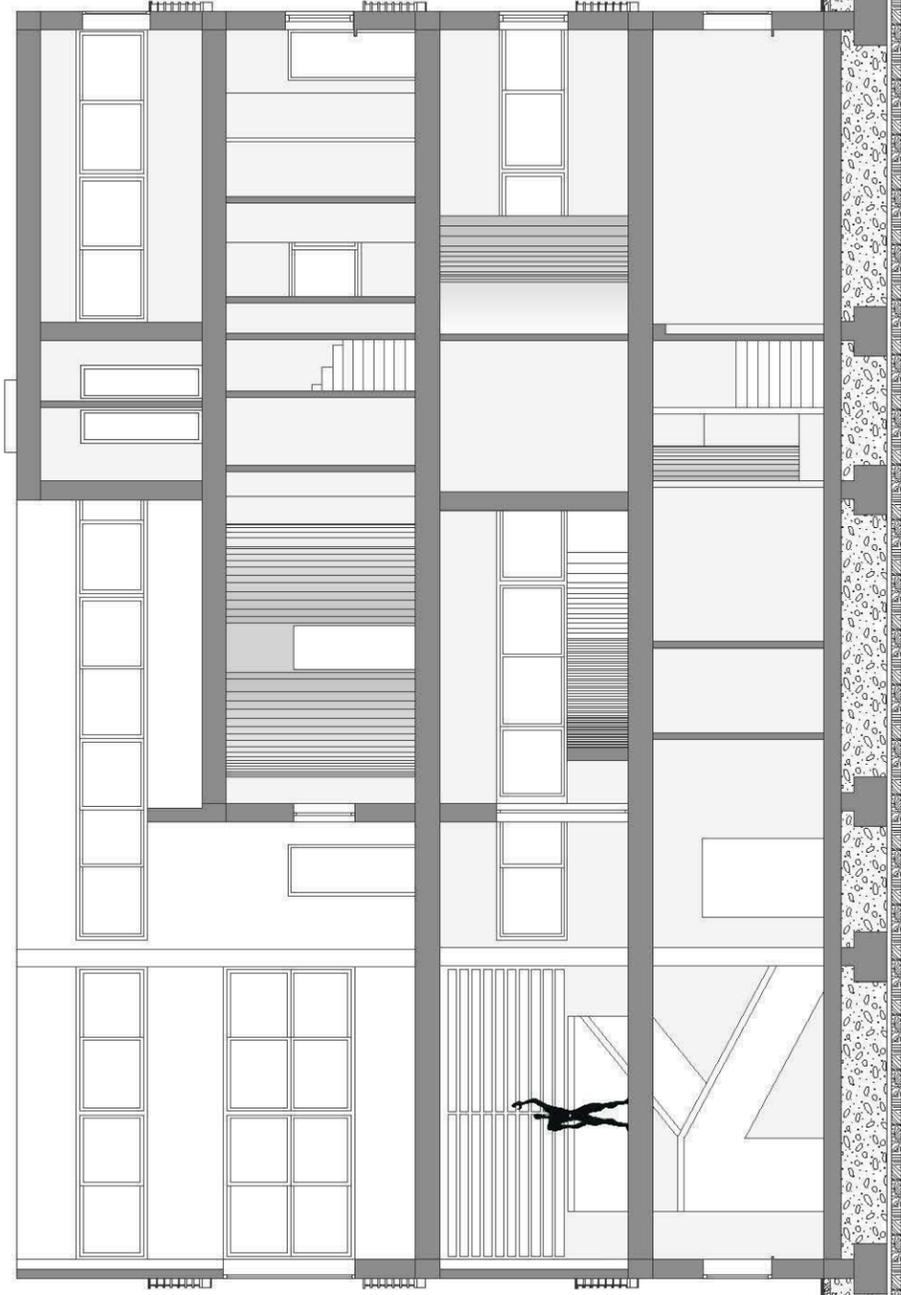
VILLA STEIN-DE MONZIE
 ARCHITECT : LE CORBUSIER
 COMPLETED : 1926 GARCHES, FRANCE
 PREPARED BY: JOLENE JUSSIF & SULTAN ALFAISAL
 LEVEL 1



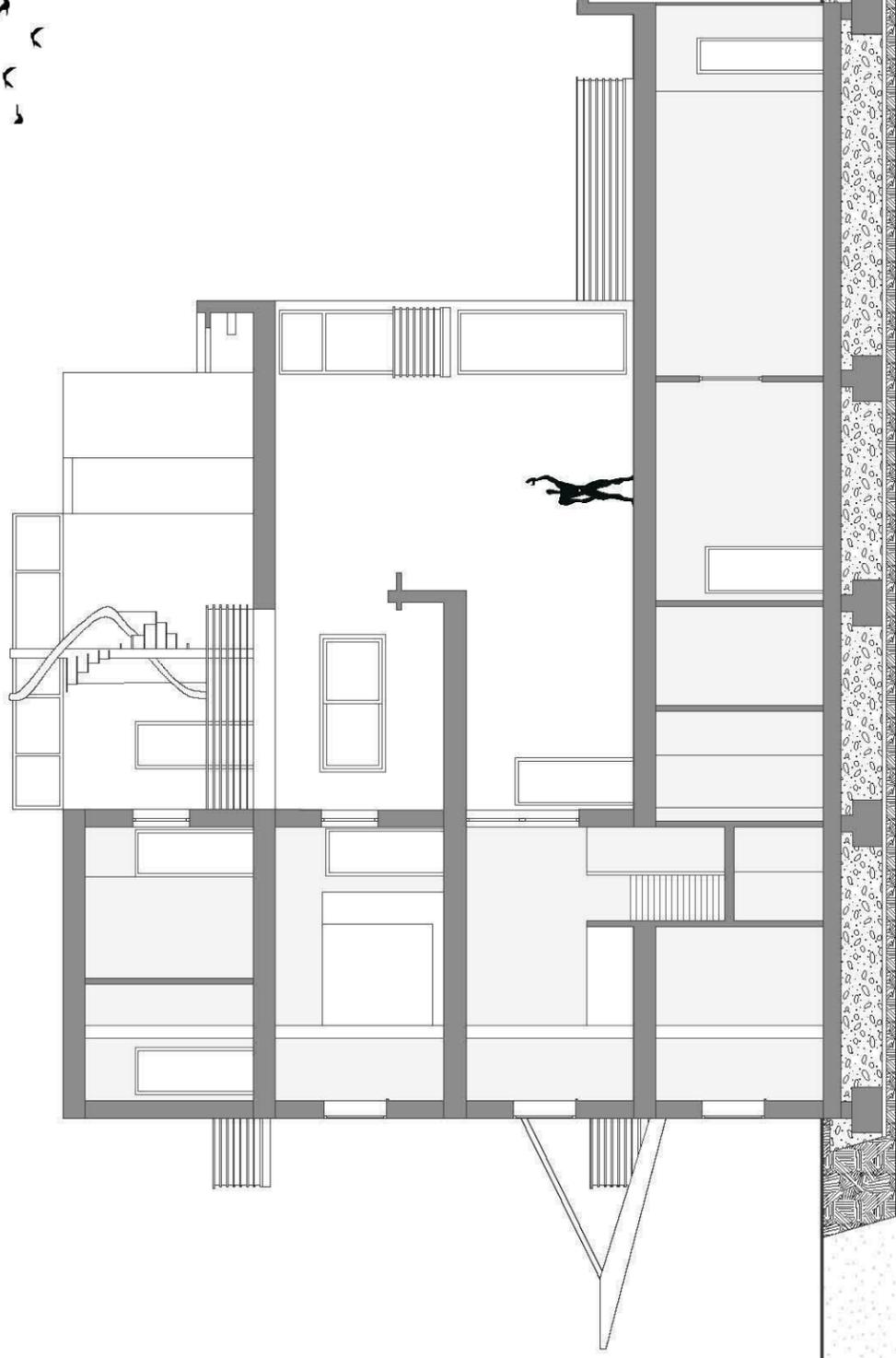
VILLA STEIN-DE MONZIE	
ARCHITECT : LE CORBUSIER	
COMPLETED : 1926	GARCHES, FRANCE
PREPARED BY : JOLENE JUSSIF & SULTAN ALFAISAL	
LEVEL 2	1 5 10



VILLA STEIN-DE MONZIE	
ARCHITECT : LE CORBUSIER	
COMPLETED : 1926	GARCHES, FRANCE
PREPARED BY : JOLENE JUSSIF & SULTAN ALFAISAL	
LEVEL 3	1 5 10

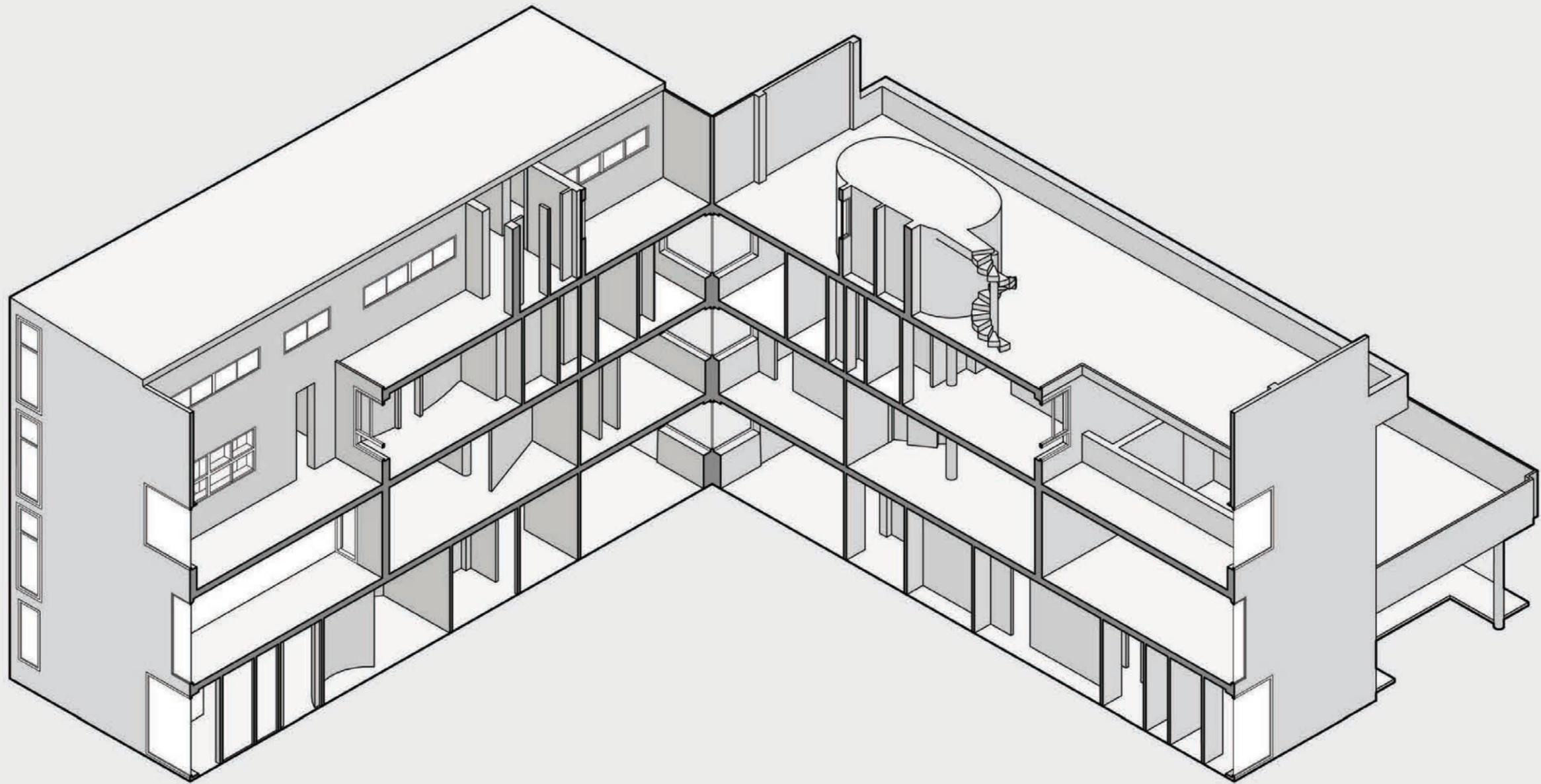


VILLA STEIN-DE MONZIE
 ARCHITECT : LE CORBUSIER
 COMPLETED : 1926 GARCHES, FRANCE
 PREPARED BY: JOLENE JUSSIF & SULTAN ALFAISAL
 SECTION 1

VILLA STEIN-DE MONZIE
 ARCHITECT : LE CORBUSIER
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 SECTION 2





VILLA STEIN-DE MONZIE	
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PREPARED BY: JOLENE JUSSIF & SULTAN ALFAISAL	
OPENED SECTIONAL PERSPECTIVE	

SEMINAR OF SECTION

Melnikov House

Marc Tsurumaki

