

American University of Beirut
Maroun Semaan Faculty of Engineering and Architecture

Department of Architecture and Design

a BArch thesis

... let there be trash

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Beirut, Lebanon

05/28/2020

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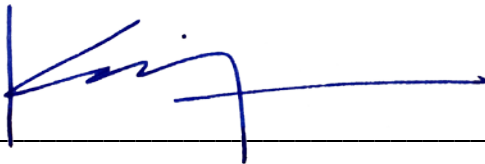
... LET THERE BE TRASH

by
Elio Moussa

ARCH 508/509– FINAL YEAR THESIS I & II
FALL/SPRING 2019-2020

ADVISOR: Karim Nader

Approved by Thesis Advisor:



Karim Nader, Senior Lecturer
Department of Architecture and Design

Date of Thesis final presentation: May 19, 2020

Abstract

The story begins where it all once ended, at the tank farm of Ghazieh in the South of Lebanon, a few kilometers south of Saida. Twenty-two cylindrical structures atop of a small hill and overlooking the highway stand as monuments of contemporary archaeology. Once a junction between the transarabian pipeline and the world, the site fell into abandonment in the 1980s. However, the petro-power dissipated from the pipes of Ghazieh to the various byproducts of the black gold.

Arguably one of the most important human inventions, plastic has rapidly switched from being an amiable material to a vilified one. Tracking the origins of plastic all the way back to the oil industry, and following the processes of extraction, refining and exporting, we notice how the petro-cash and petro-power have changed appearance to become plastic goods. Originally designed to be of single use, plastic goods became a hassle to dispose of, hence, the emergence of the trade of plastic trash, a reincarnation of the petrol trade with different players. Capitalizing on this emerging need of making the plastic disappear, plastic waste became as much of a tool of nuisance as it is an apparatus of power. In order to manifest itself on the surface of the ground, oil inhabited tank farms especially built to celebrate the black gold, many of them now abandoned. Joining the two forms of oil on an infrastructurally-dense location can't but affirm the embedded power this resource has on us. In creating a consumption haven around plastic on such site, ranging from an abyss of gluttony to a whimsical derive of gambling, one could affirm the necessity of plastic in allowing humanity to thrive. A direction with an ambiguous orientation. Thriving for a greener world or a more plastic society, a personal choice one makes in every decision.

...let there be trash

Thesis by Élio Moussa

Advisors: Sandra Richani and Karim Nader

*I would like to thank Sandra, Karim and
my friends.*

To trash!

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Episode 1

...let there be trash

The eighth day

Thesis by Élio Monssa

Advisors: Sandra Richani

"And on the seventh day God finished the work that he had done, and he rested on the seventh day from all the work that he had done." (Genesis 2:2)

And on the eighth day Man created trash.

On the summer of the 2016, the policies about the national waste management system in Lebanon had reached new height, both actually and figuratively. The amassing of the trash produced by the Lebanese citizens proved to be of great force. What was once “out of sight” resurfaced and many pairs of eyes had to face the reality of what trash is and the extent of its reach. Taking over highways and suffocating alleyways, looking our trash in the eye had titillated an overwhelming sensation among Lebanese citizen. Although the act of piling up trash was not something totally novel to the public eye, as large landfills were already growing and obstructing views to the sea, the fact that mounds of trash were emerging in their non-designated areas was somehow upsetting. The flow of trash into the daily flow of the people lead to a dynamic that resulted in new formations of the mounds. Just when the phenomenon of the “garbage mountain” had become a familiar sight, the “garbage river” surged to the public eye as a shocking formation.

What once was a mere refuse has now become a geomorphic entity.

Looking at the evolution of the popular opinion throughout that crisis we notice the very literal reenactment of the saying “out of sight, out of mind”. Once the formations of trash were taken “away” the overall sentiment of concern and general calamity were dissipated at the same time. We hence conclude that the story of trash ends with one’s field of vision.

Out of the many materials and forms present in the geographical (de)formations of landfills, we will be interested in plastics. A very versatile material. Ranging from liquid to solid, from malleable to indestructible, crystal clear to opaque...and the list of antonyms goes on. At the dawn of the 20th century, synthetic plastic came to be, and its uses vary as much as its forms if not more. From the casual mundane form of bread bags to the most elaborate polymers in aircrafts, plastics have become very much embedded in the convenient lifestyle of Humans. One of the many properties of plastic is that it does not disintegrate back to nature as many other materials would. It has hence rightfully gotten the title of the “eternal material”. Even when submitted to the weathering conditions, the plastic infinitely breaks down into smaller pieces. From the object scale to the microscopic scale, plastic never really disappears.

As the material gains potency and in the realm of consumption goods and backed up by the ever-greedy distribution chains and markets of the Capitalist system, the mass production of goods engendered the mass production of plastic as well. With the rising amounts of plastic being used comes the issue of where to dispose them. Given the resilience the material has against the natural elements the task of disposing of the plastic waste becomes harder, and rather impossible.

Plastic stays. Sometimes it migrates. Intercontinental travels, local processes of treatment and other forms of transit contribute to getting the plastic trash “out of someone’s sight” only to put them into another’s.

The finality of plastic waste is not to disintegrate nor to disappear, but rather a finality that resembles something more of a longevity.

As the plastic proliferates in the many landscapes and seascapes around us, and as it is meant to stay, one could consider this amassing as being a marker of the passage of human on Earth. Drifting with the natural flows of erosion, washed away by the sea current or even ingested by the fauna, plastics are in a constant state of movement. The once-still object on the shelf of a supermarket becomes an agent of change and a means of transformation.

One very notable example of plastics agglomerating due to natural forces are the garbage patches in the five oceans on the planet. The Great Pacific Garbage Patch is, as suggested by its nomenclature, the most important of the many garbage patches. Located in the Pacific Ocean between the archipelago of Hawaii and the Western coast of the United States of America, one expects to find an island made of plastic; however, the patch is not seen to anyone approaching it. The patch is constituted of broken up pieces of plastic down to a microscopic level, and their concentration is high enough to have a large impact both spatially and environmentally on where the gyres are keeping it. Many marine creatures are feeding on these small particles, some of them end up dead, and others end up in our plates. Whatever is the result, the finality of plastic is still the same. Plastic is here to stay.

Regardless of the immediate repercussions this growing layer on the Human well-being, this plastic layer is forming an independent entity that is at the same time manmade and self-made. It is caused by the direct intervention of man making plastic, and when disposed ends up forming mounds and patches. Would this plastic invasion be described as Paranthropocenic? The growing mass of plastic is becoming an intimidating problem for mankind. It is out of the Human control and yet it has direct linkage to the Human realm. It would be difficult to imagine a time when mankind could carry on existing and the paranthropocenic landscape not growing along, and perhaps morphing into new states.

Opposite to the discourse of sustainability, recycling and deferring waste from going to the landfills, one must acknowledge the fact that everything comes to an end. Seemingly an evident statement, but not for plastic. Some believe that by implementing policies to encourage recycling, and reduce the use of plastic, one could prevent the “destruction” of the environment. Managing the way we deal with plastic will not avoid the inevitable.

No matter how massive the interventions of mankind on the planet are, they remain the most vulnerable entity in the dialogue between Man and Nature. Nature has the ability to heal itself, clean itself and regulate the anomalies it is facing. The massive flow of plastic waste going across land and sea has proven itself of being yet another force of Nature. What once was a fossil fuel deep in the crusts of the Earth has now become a human-scale commodity roaming around the surface of its once-host. Plastic is hence a power of Nature.

The creator has lost control of his creation. Plastic is slowly taking over the environment in ways beyond the Human grasp. However, looking at plastic as an ally rather than an enemy the power balance between Man and Nature. What once was a losing battle for Man can become a more beneficial one.

Hence, in this thesis, I will be looking at plastic trash being an apparatus of power shift through the processes of landscape reclamation and policies of denationalization.

In 1983, Joel-Peter Witkin caught on film a woman breathing through a mask in a piece he called "Sanitarium".

Around that same time, when the last few functions of the refinery in Ghazieh were shutting down, an image of her was found in one of the abandoned warehouses. Maybe this woman picked her sanctuary.

Similar to the Venus of Willendorf, this woman deserves a divine title of the Ba'lat of Ghazieh.



Sanitarium (1983), Joel-Peter Witkin

Chapter 1

Tails of Trash

But first,

The plan of the Trans-Arabian pipeline was to arrive to Haifa where all the refining and exporting would have taken place. But in 1947, with the formation of Israel, the plans for the pipeline got deferred, and Lebanon was the new host of that Trans-Arabian pipeline.

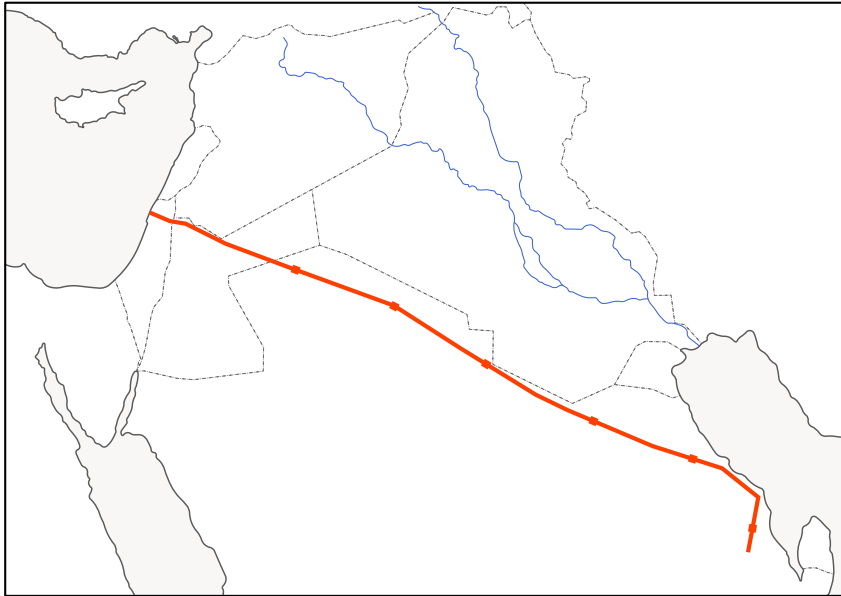
In 1967, some disputes in the Joulan heights between Syria and Israel hindered the flow of oil for a while, but the Israelis allowed the oil to flow anyway.

Later, few issues surfaced between Lebanon and Saudi Arabia and Syria and Saudi Arabia over transit fees. The solution was to stop pumping crude oil through these two countries.

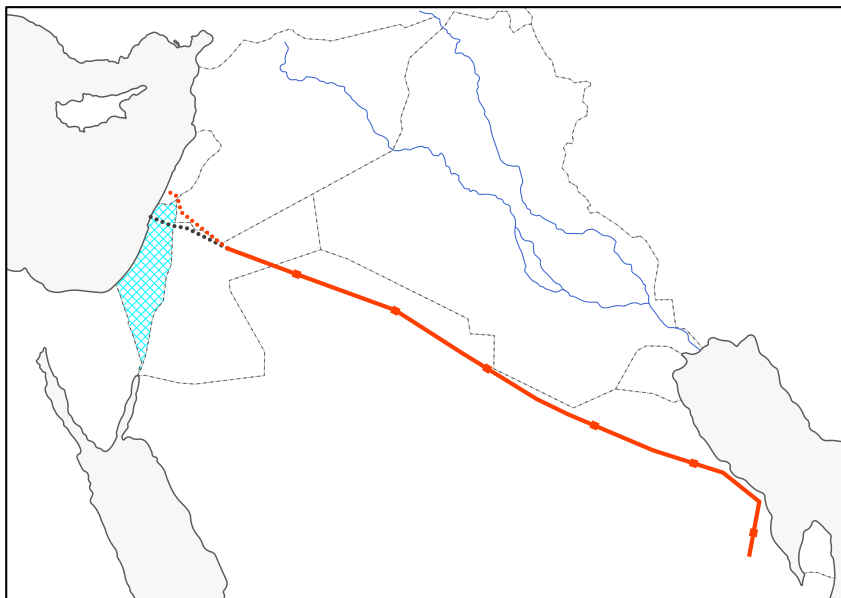
In 1990, Jordan supported Irak in the war, which led Saudi Arabia to stop pumping oil through Jordan, making the Trans-Arabian pipeline finally useless.

The project of the pipeline had a very powerful impact in the areas where it was passing through. It transported liquid power in the form of crude oil. Economies, industries, cities and societies were formed around this metallic oasis. The linear oasis brought to the people around it a sense of security and power that backed their economic development and prosperity.

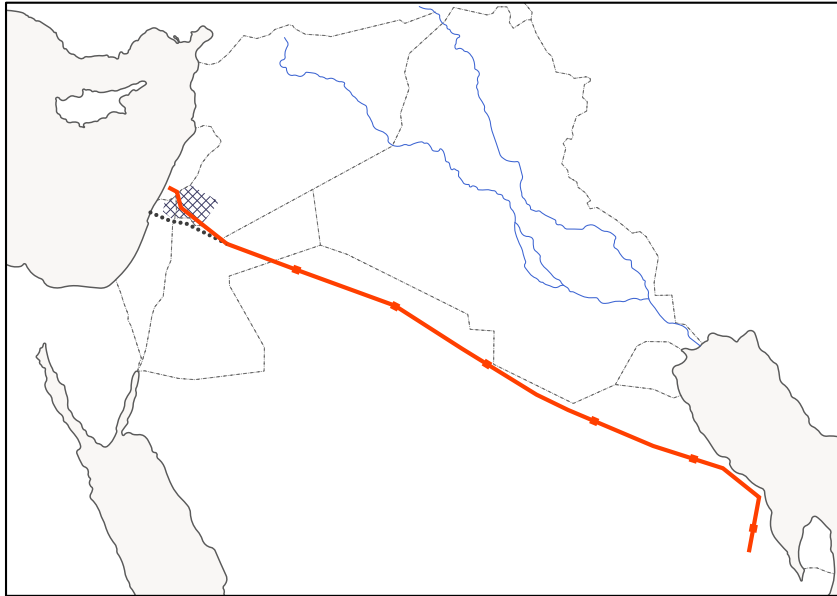
Despite the multiple incidents that faced the pipeline or were caused by it, the pipeline and the oil it carried represented hope and opportunities that were very important to all parties to take care of. Binding yet dividing, the dichotomy of oil ranges from total power to the absolute abyss.



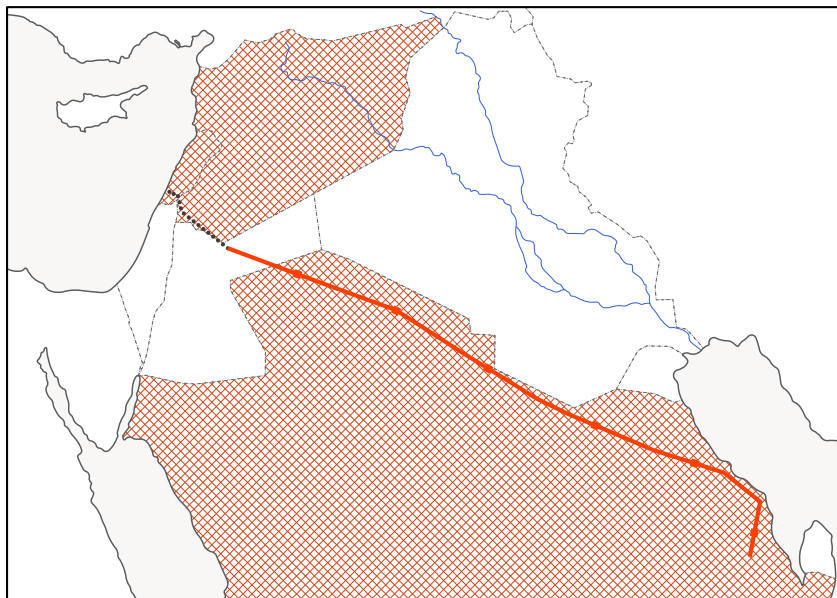
1945



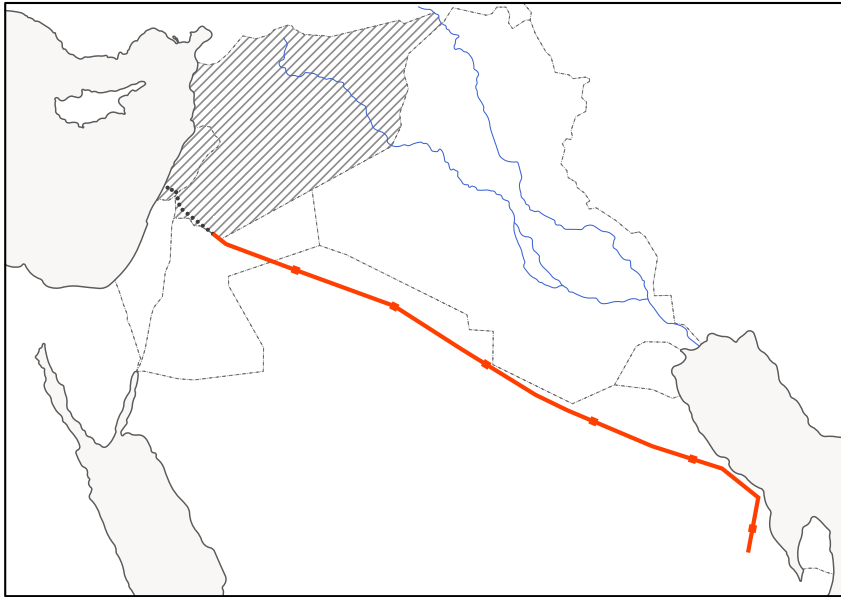
1947



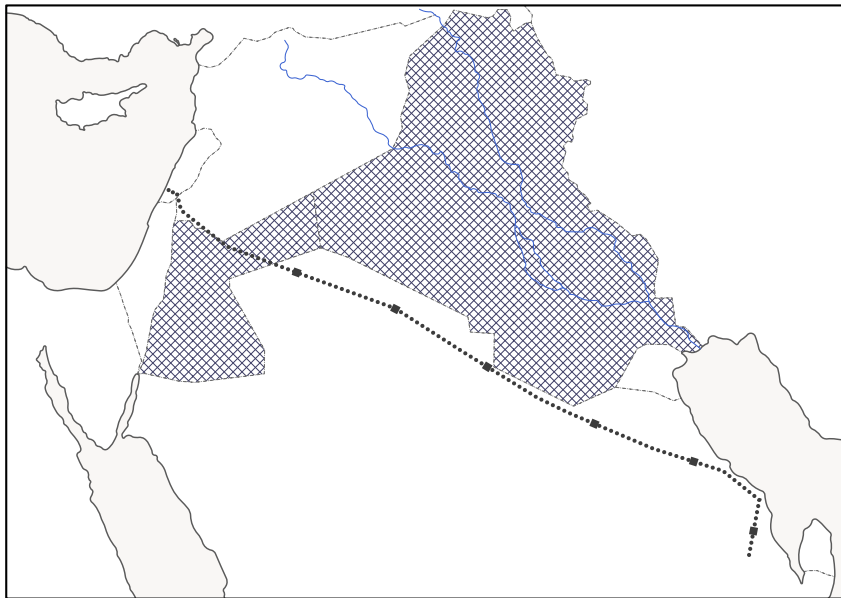
1967



1975



1976



1990

If and don't

Oil has a certain energy to it, one of hope. Whether in its crude form, its prospects, its variations and its derivatives.

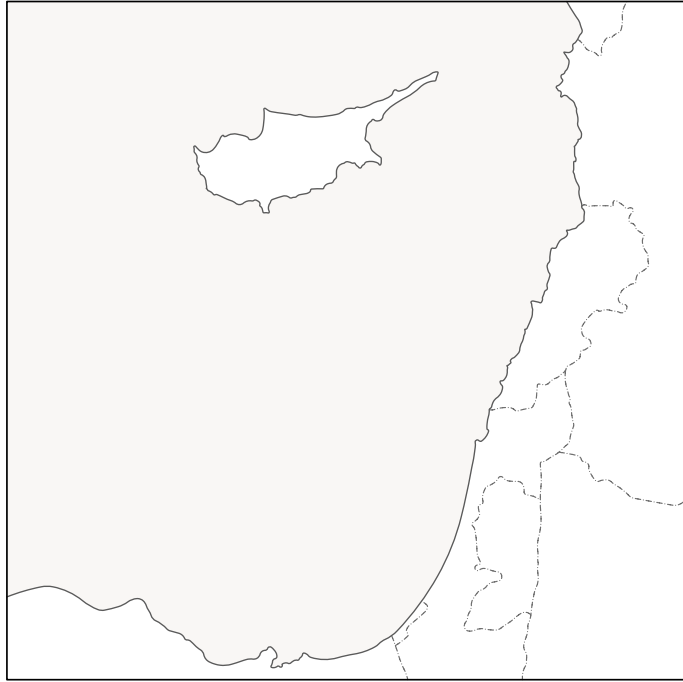
In recent days, the news of possibly having oil fields in the Lebanese exclusive economic zone titillated the hearts and minds of the Lebanese people.

Many scans took place made by multiple resources and specialists in the field, and all affirm the potential of having oil field in the Levantine basin of the Mediterranean Sea. However, the size of these fields is yet to be determined, the biggest disappointment would be having oil fields economically not viable.

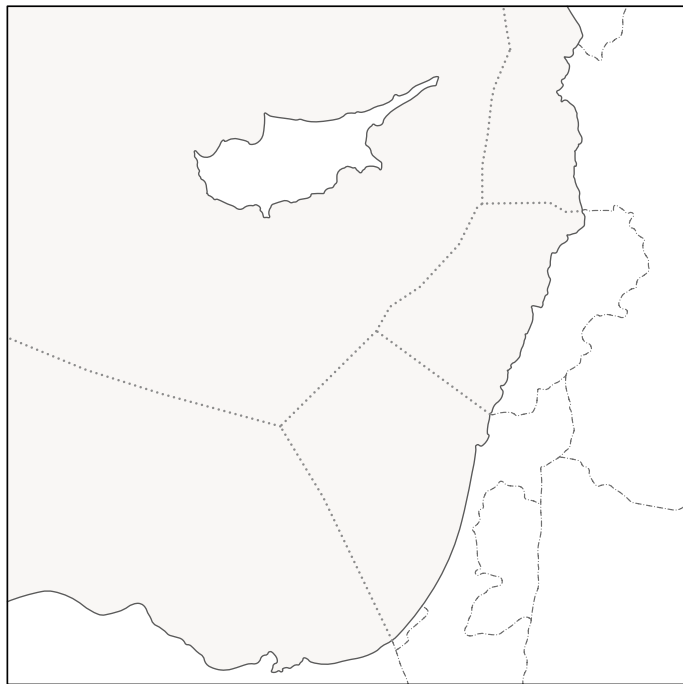
Though not a new topic, as the conversation about Lebanese oil started as far as the French mandate in 1946 where surveys by the French geologists, and the soundings they have done, confirm the presence of oil in the Bekaa valley. In the mid twentieth century, the cost of extracting that oil were to double the price of the barrel locally. Authorities decided to drop the plan then. The repetition of the same scenario is unlikely, but not impossible.

The conversation about oil it uncovered other issues, especially the ones regarding the delimitation of the country. Borders and limits became an urgent topic, issues of wealth are at stake. The exclusive economic zone of Lebanon is limited by three others: Syria from the north, Cyprus from the west and Israel from the south. The bigger issue lies in the south, as Lebanon and Israel have overlapping economic zones due to the different references they are basing their measures on. Given the lack of diplomatic exchange between the two states, resolving the issue is a tedious one, yet a fervent discussion nonetheless.

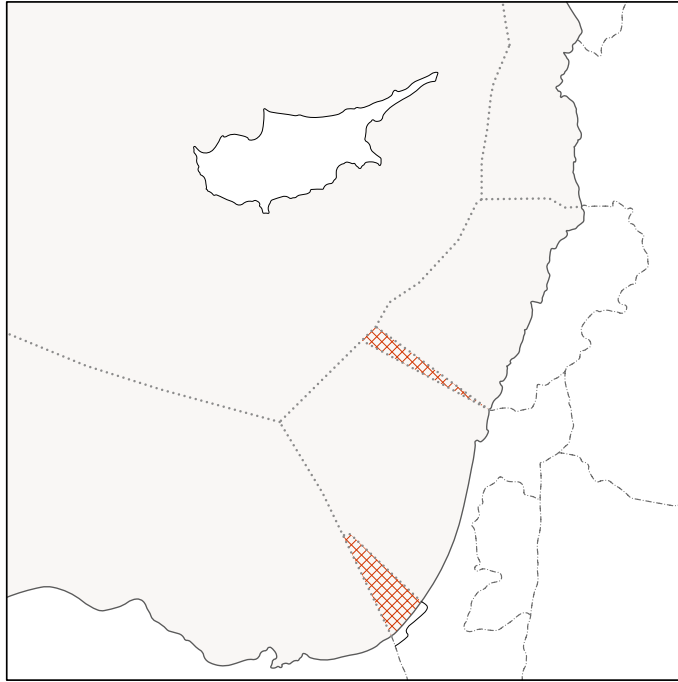
Diplomatic endeavors, voluntary scans of the sea bed, plans for the future...all fueled by the prospected energy of oil.



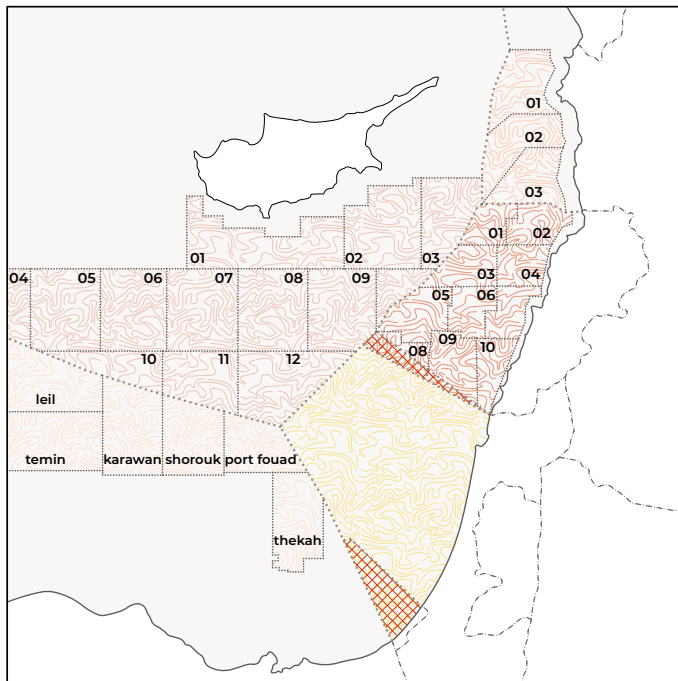
Levantine basin



Exclusive economic zones



Disputed areas



Parcelled oil fields

Plastic, oil and Ghouta

Under a violent siege in 2015, the sub-urban centers and villages of Eastern Ghouta got cut off from having the basic necessities in terms of services and products. The ongoing violence and physical blockade exerted got very little coverage by the media. One of the services that got cut off the villages of Ghouta was electricity, along many products such as medical supplies, food and fuel that got barred from entry or exit the area.

Being cut off from the national grid, hospitals and basic amenities started relying on stand-alone generators to be able to sustain a minimum of services. As the reserves of fuel got scarce, the need to find an alternative to keep the generators running was urgent.

Hence, oil was extracted from the houses, the fields, and bombing sites.

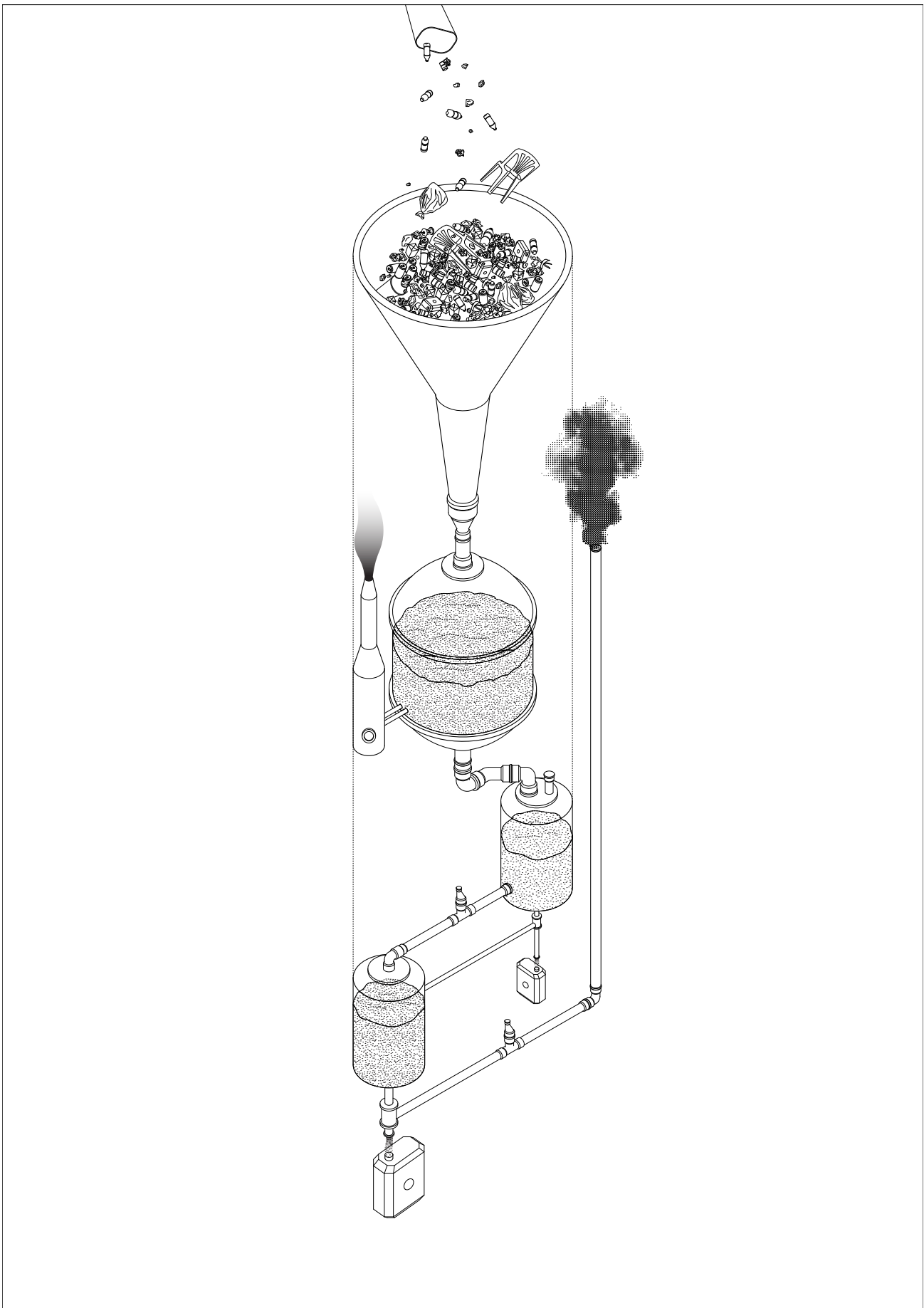
Locals of Ghouta started collecting plastic from their garbage, and bombed rubble sites. The collected plastics are broken down, shredded into pallets, melted and then distilled using highly toxic processes. The obtained fuels got locally classified into two types: one variant of diesel, and another variant of benzine. The produced fuels got sold according to the price of their closest variant. Plastic oil became such a highly priced commodity, and only the households that could afford the luxury of the electric current only benefited from one to two hours of ration due to the high cost of running the generators.

What kept the villages of Ghouta running was not only the fuel produced, but rather the plastics that were found all around. These plastics that got mass-produced in all shapes, sizes and colors. That got exported across all the regions of the world, in every country and community.









The process of pyrolysis

The process

The process of transforming plastic back into oil is called pyrolysis.

Pyrolysis is the thermal decomposition of materials at elevated temperatures in an inert atmosphere. It involves a change of chemical composition and is irreversible.

The process starts with the collection of plastics. The big parts are then broken up into smaller pieces, that, in turn, shredded into small pellets to make melting them a bit easier.

A furnace annexed to the main heating chamber runs to produce very high temperatures. As the plastics start to melt, they produce oil and gas. The gas is channeled and contained, and the oil goes through further stages of refinement and condensation. One distillation after the other, the oil changes in quality and consistency. In the case of Ghouta, two kinds of oil were obtained, one similar to diesel, and one similar to benzine.

The yield of the process of pyrolysis varies according to the temperature. The higher the temperature the higher the yield. Although a small portion of the reaction ends up as solid “waste”, the produce is minimal and can be mixed with other components such as asphalt for the roads, or in concrete for certain construction projects.

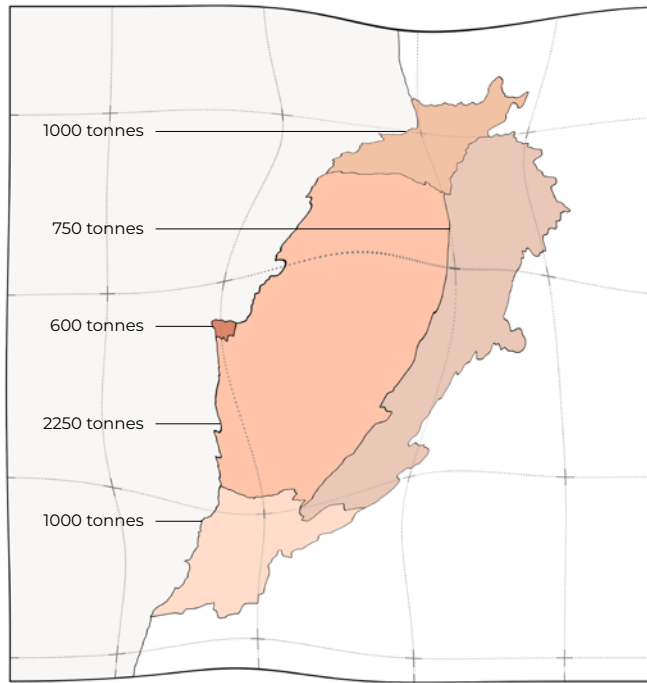
Approximately, one kilogram of shredded plastic can produce up to one liter of oil product. Lower temperatures produce a lesser quantity, and a higher temperature higher the quantity of oil produced.

Locally

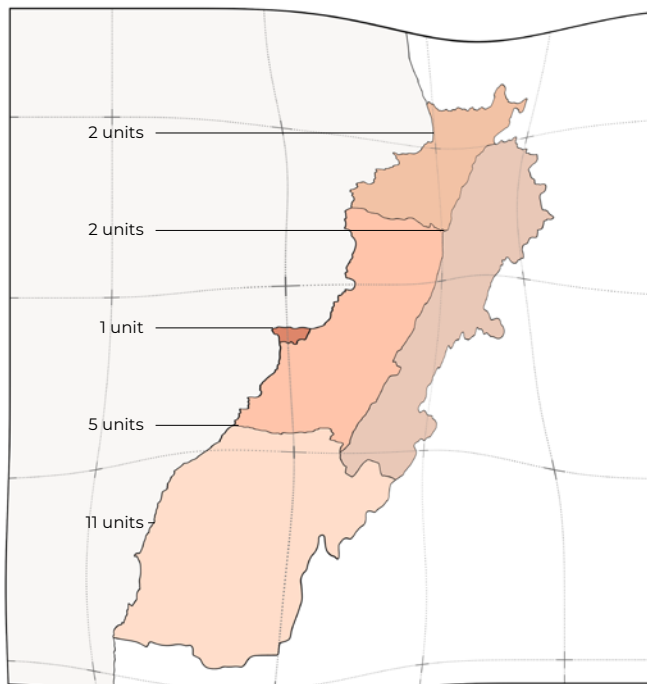
While it had always been considered a serious threat to communities all over Lebanon, with laws, though rudimentary, being put as early as the thirties, the solid waste issue has become of increasing concern in the 1990. Several attempts have, since then, been put in place, whether through national or international initiatives, support and funding, to be often faced with a lack of political will or enforcement thereof. However, although the privatization of this sector in terms of collection and treatment during the last ten years has set the ground for the apparent improvement of solid waste management, a significant number of communities and municipalities are still facing major problems with the treatment and disposal of waste, hence directly affecting the environment and creating serious economic and social problems.

An estimated 2.04 million tons of municipal solid waste will be generated in Lebanon in 2013. While most of the waste is organic, paper/cardboards and plastics constitute a significant proportion, with glass and metal contributing largely too. Future waste generation is uncertain, and no detailed comprehensive data is available on which to base estimates, particularly for the rural areas outside Greater Beirut.

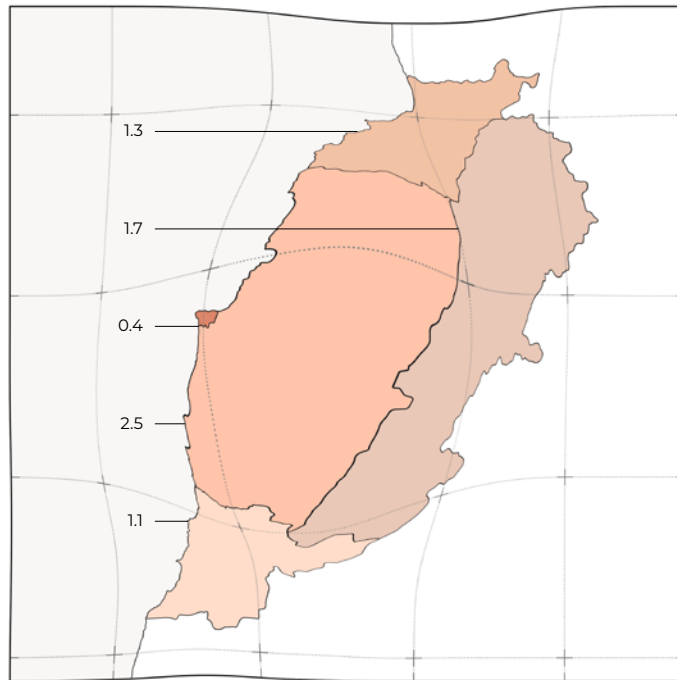
Most municipal solid wastes is managed in landfill sites that serve Greater Beirut and the central Bekaa valley. While the evolution of landfilling over open dumping is a positive development after the closure/rehabilitation of Normandy dumps in Beirut and the construction of Naameh and Zahle Sanitary Landfills, leachate at the Naameh site serving Beirut is hauled for disposal in the Mediterranean.



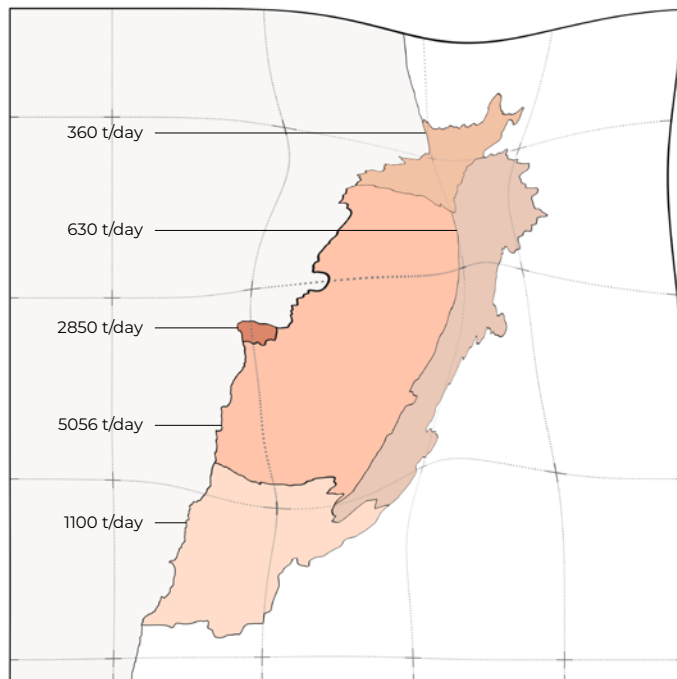
Daily production of waste per district



Number of processing facilities per district



Waste production per capita per district



Quantity of waste processed per district

Summer of 2015

Plastics along many other refused goods flooded the streets and landscapes of Lebanon in the summer of 2015 in an uncontrollable manner. Landfills refused to take in the municipal waste generated, and there was nowhere to go with the great amounts of trash piling up other than the roads and alleys.

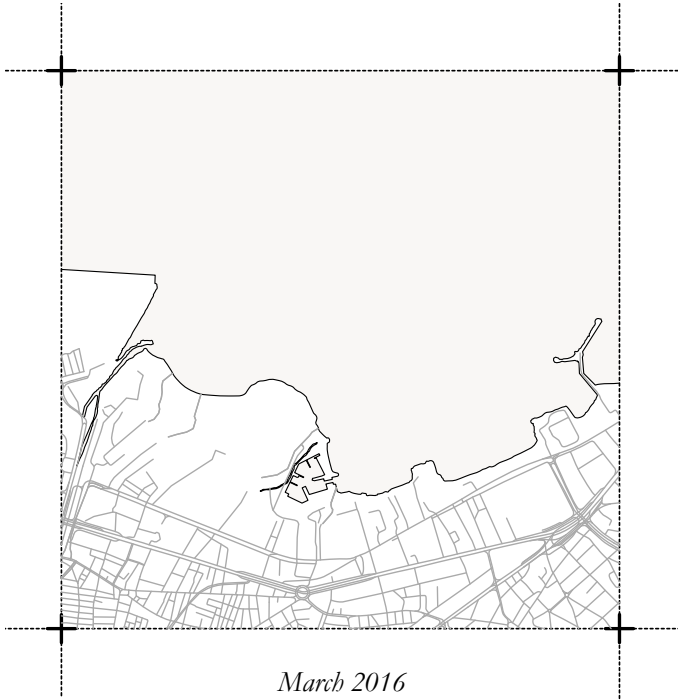
The discourse of waste mismanagement is not new, and the fact of having existing trash formations either, but the sight of rapidly growing mountains and streams of trash, at such close proximity to the daily flow of people, created a sense of urgency to get rid of what was once out of sight and harmless. The mingling between Man and trash was not pleasant.

Improvising creative ways to hide trash back was a necessity, hence new formations started to appear. A sea wall, a port, then a plain. These are the steps in which new forms of waste disposal. No more land filling, sea filling has become the way to go.

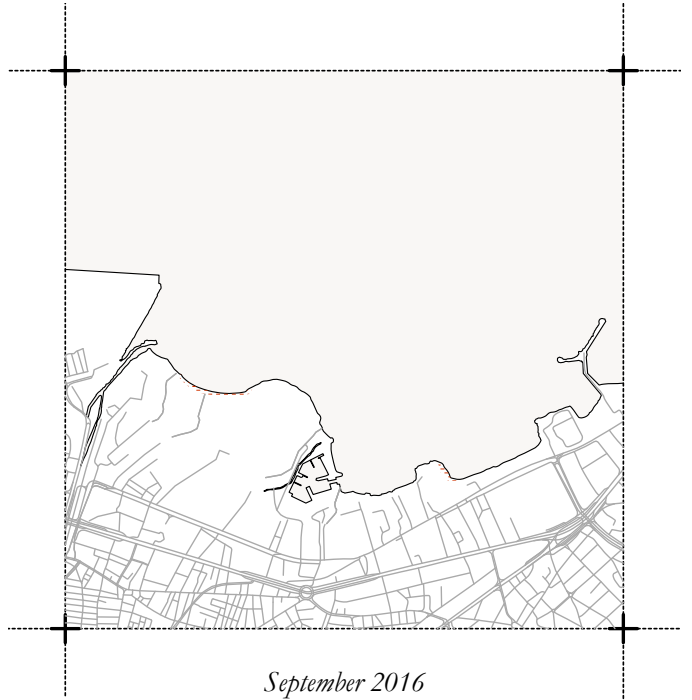
Landfills such as the ones in Costa Brava and Bourj Hammoud are some of the examples of hiding trash in plain sight, and concrete manifestation of the sea filling technique.

In both these sites we notice a similar pattern for creating previously-non-existent land. First a sea wall is built, that later evolves into a port, to be later filled and expanded to become a plain. The base made of trash and wave breakers is covered in a layer of dirt to allow for wilderness to camouflage the deed.

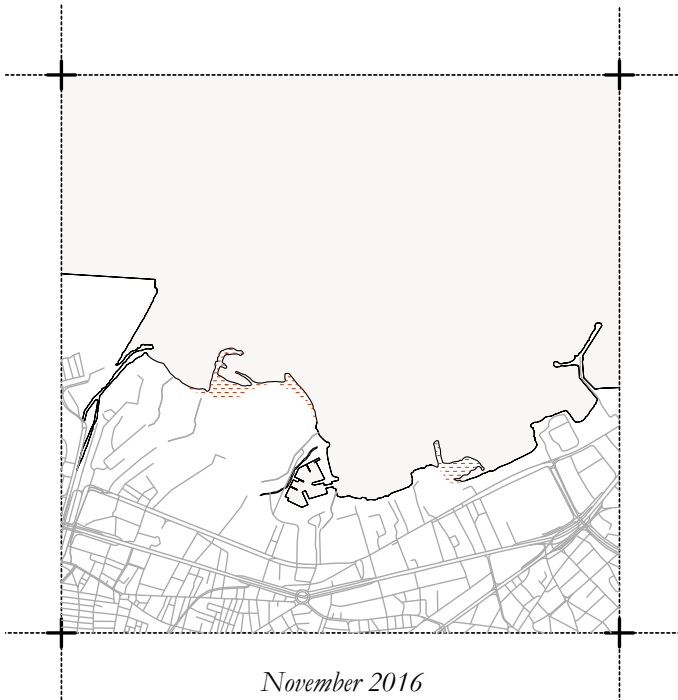
Claiming territory over the sea, trash is proving to be an effective geomorphic force, creating anthropogenic formations in the landscape. Formations that were not to morph or emerge in the way that they are without the heavy intervention and iteration of Man.



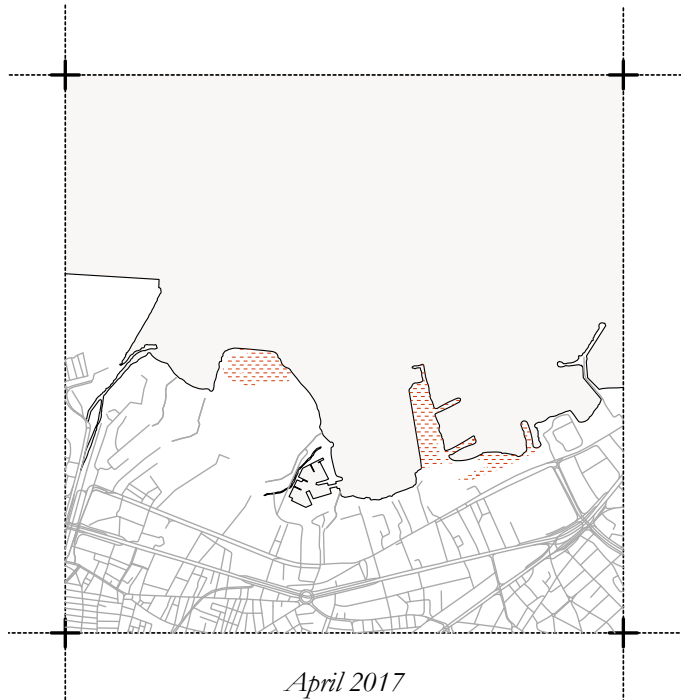
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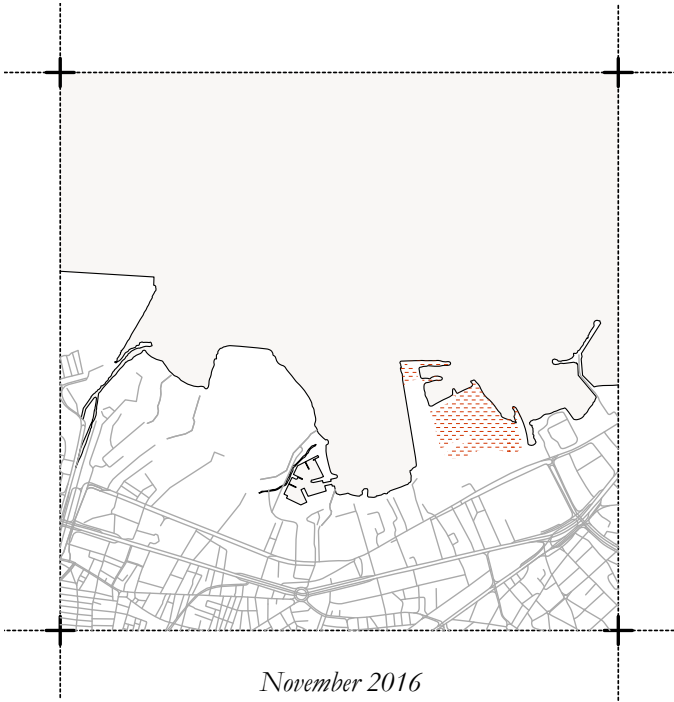
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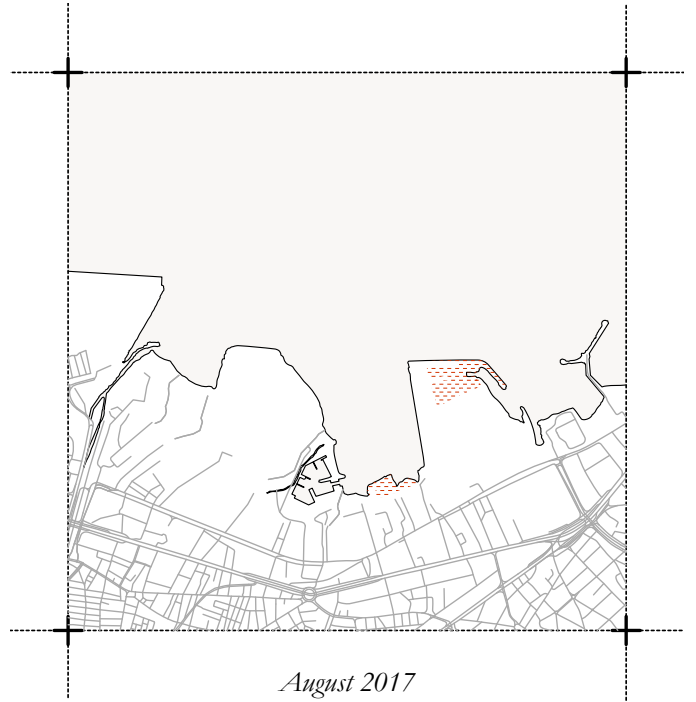
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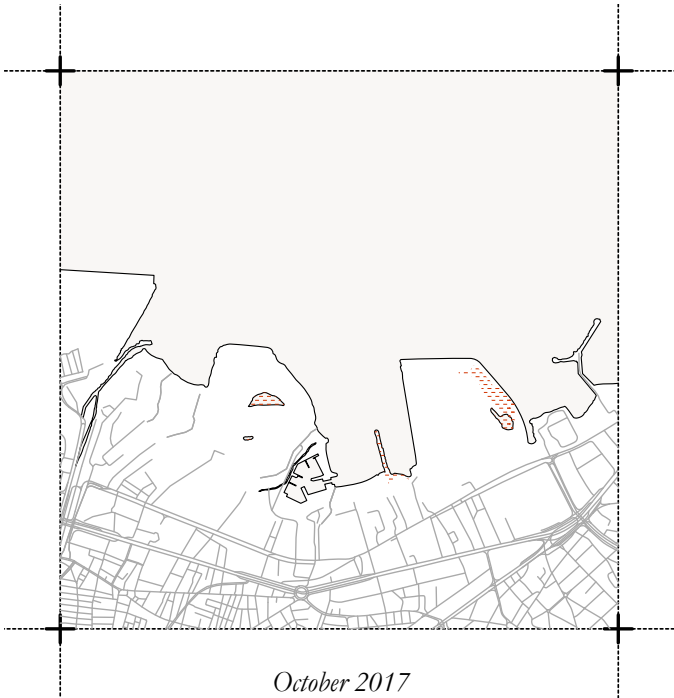
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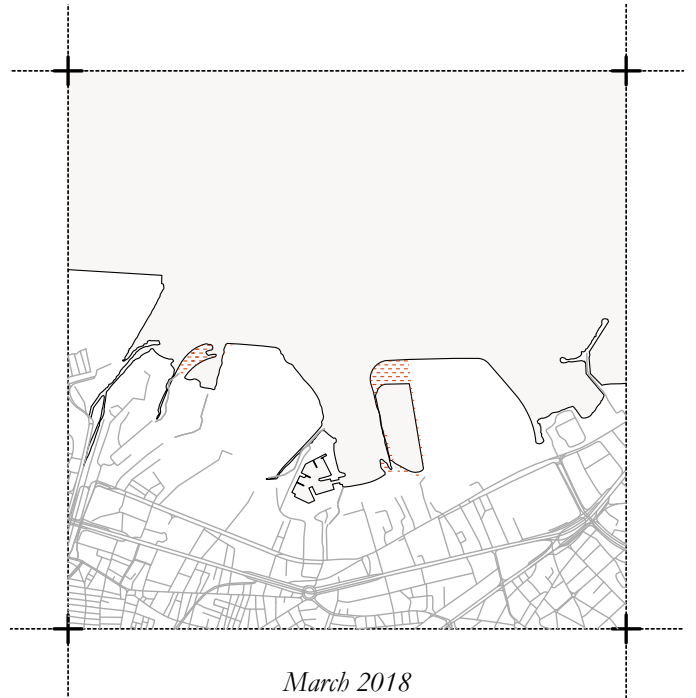
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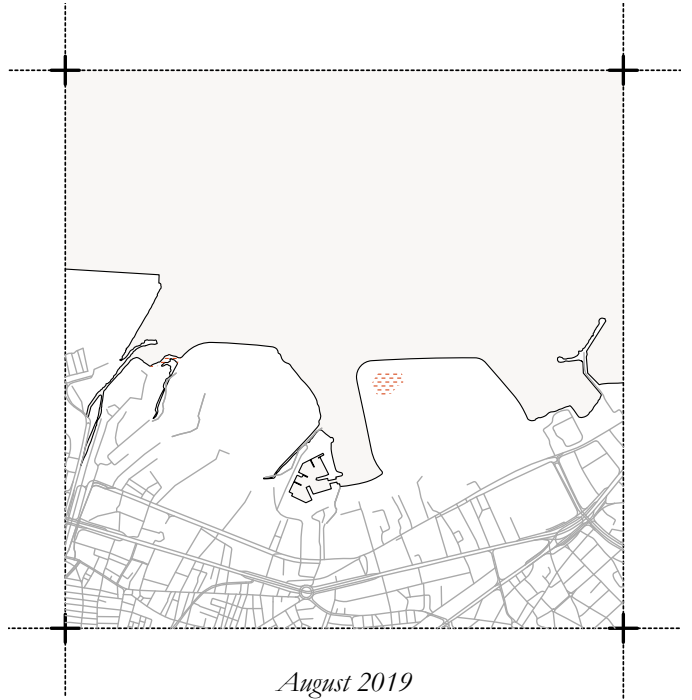
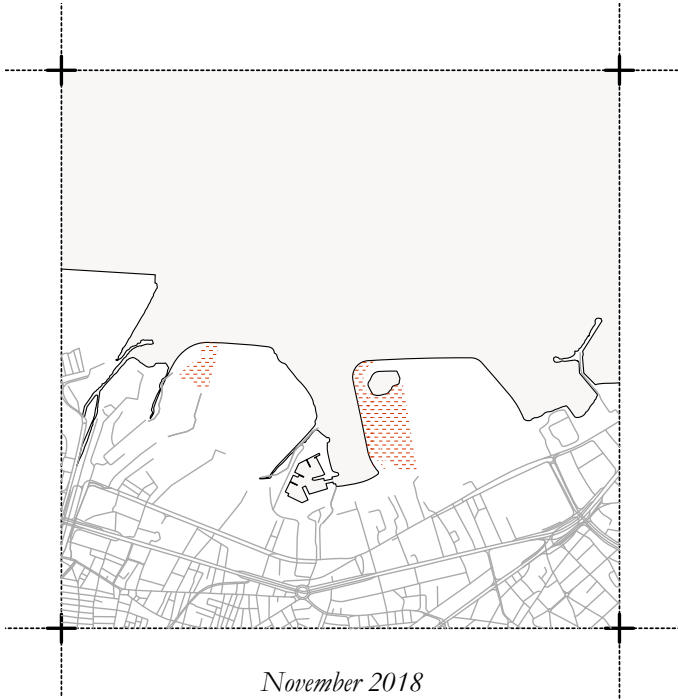
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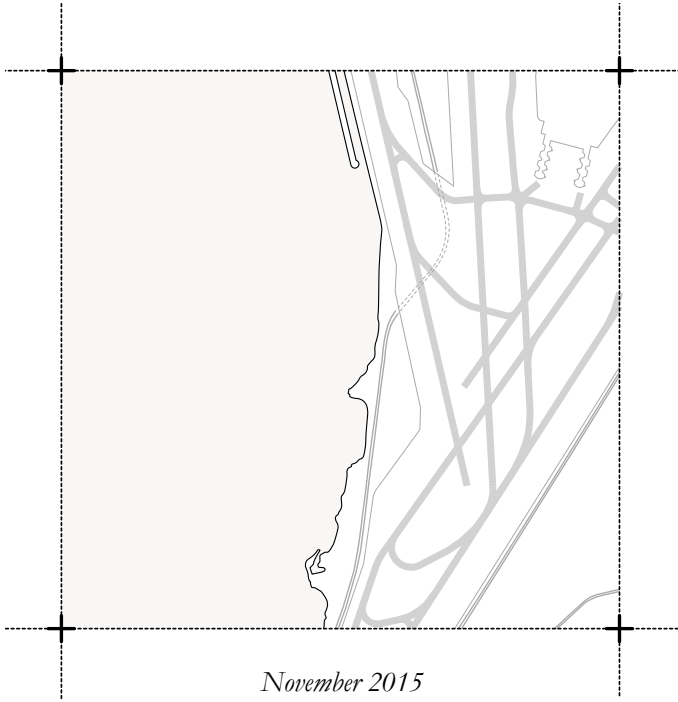


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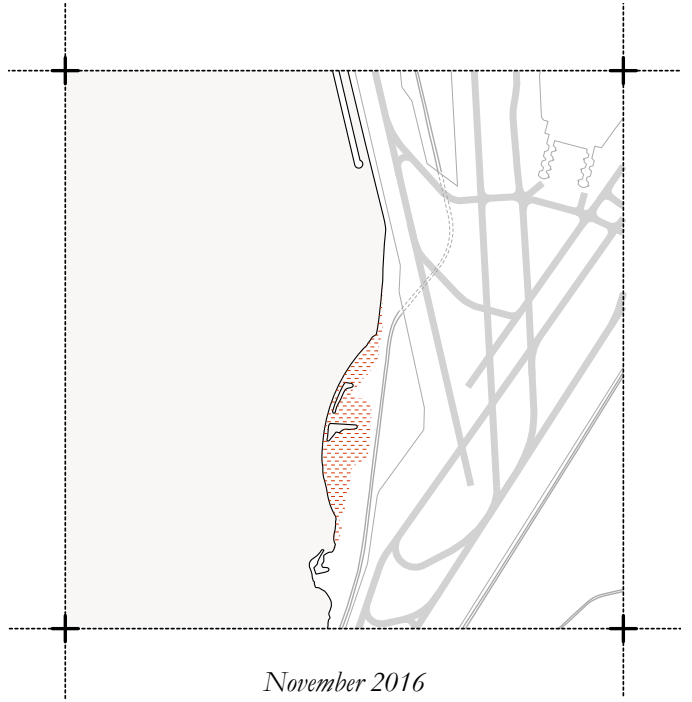


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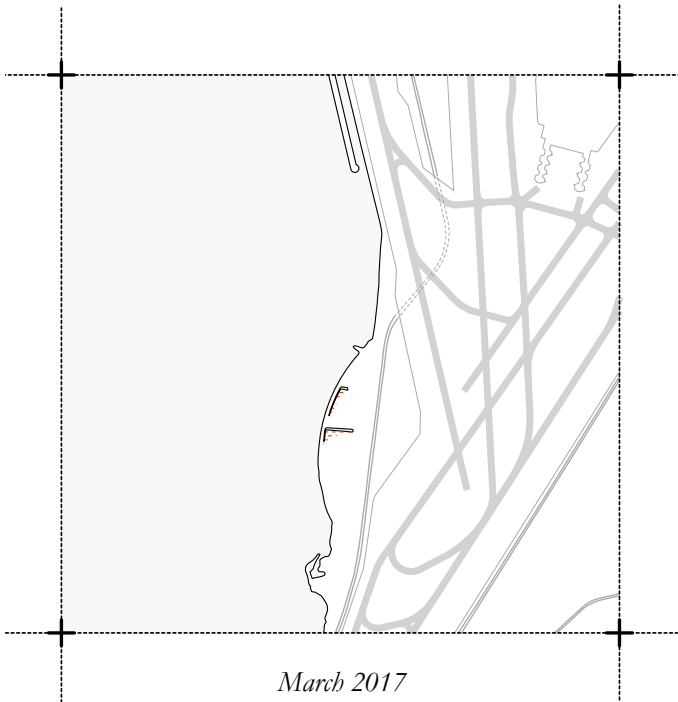




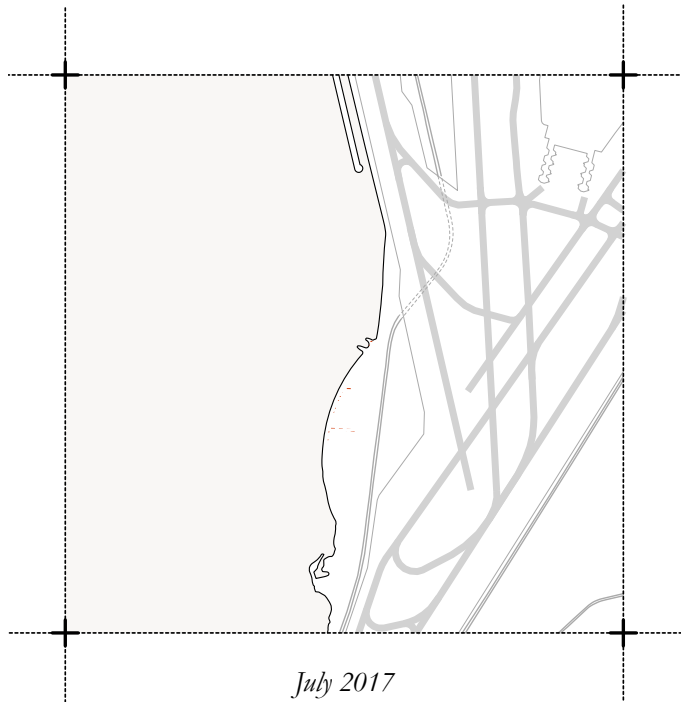
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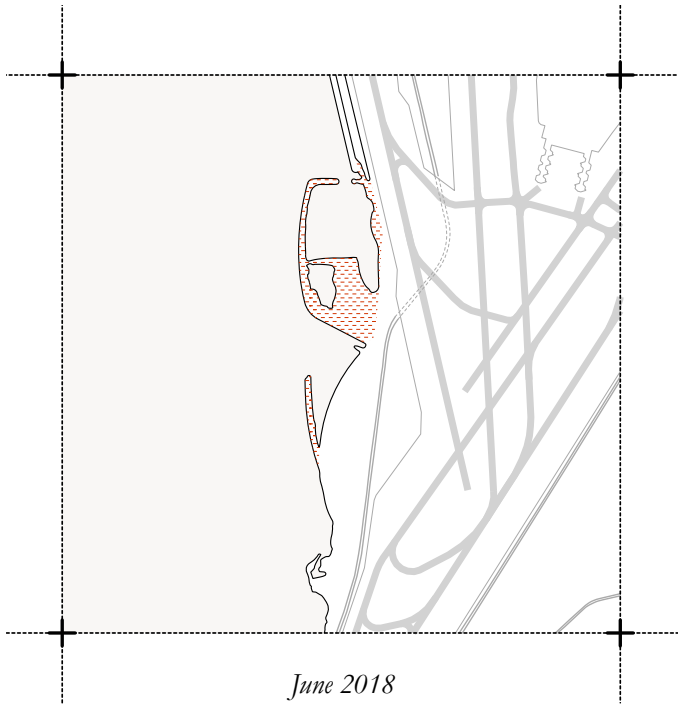
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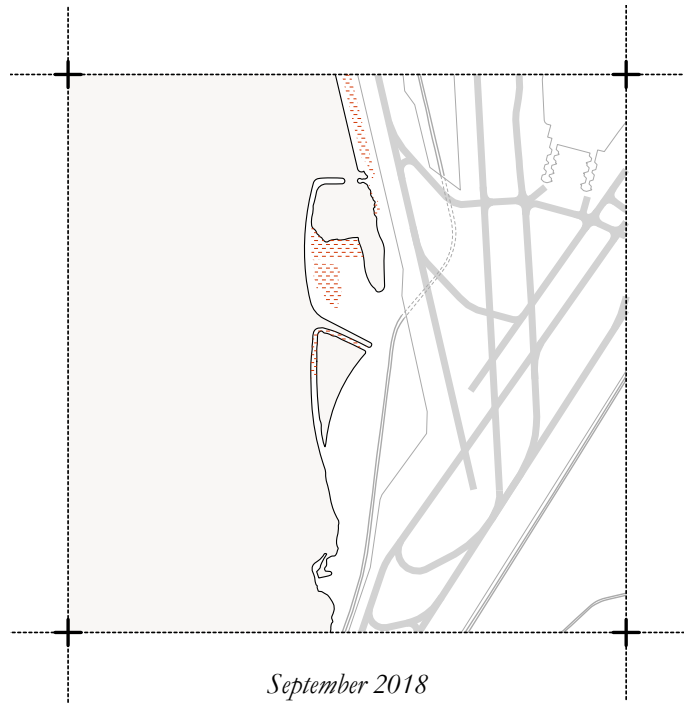
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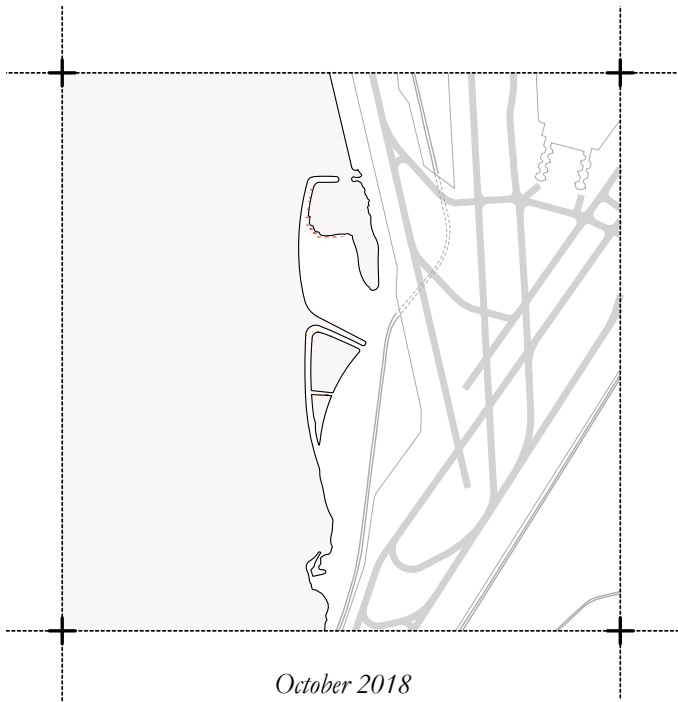
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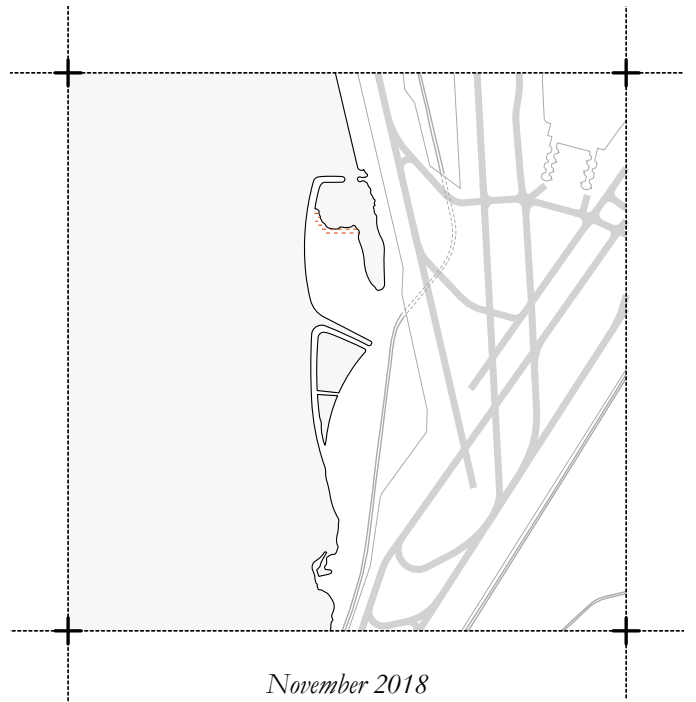
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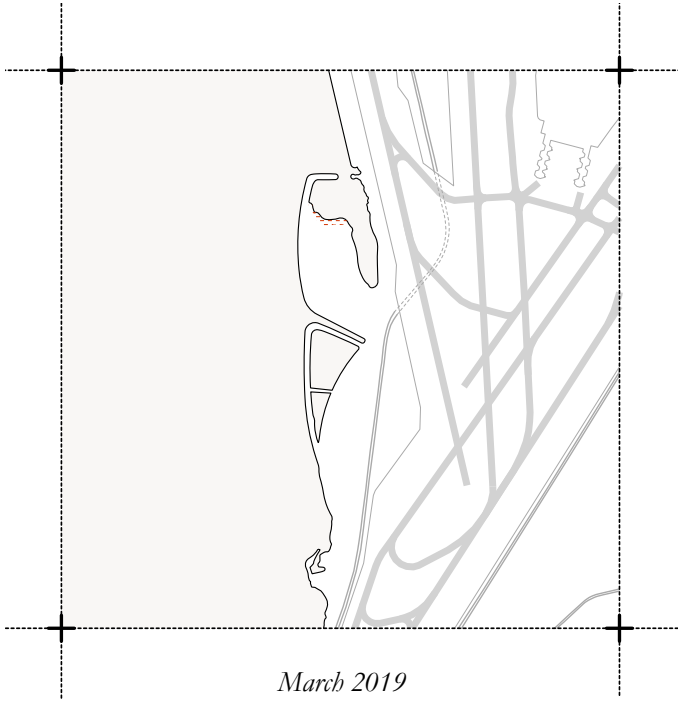
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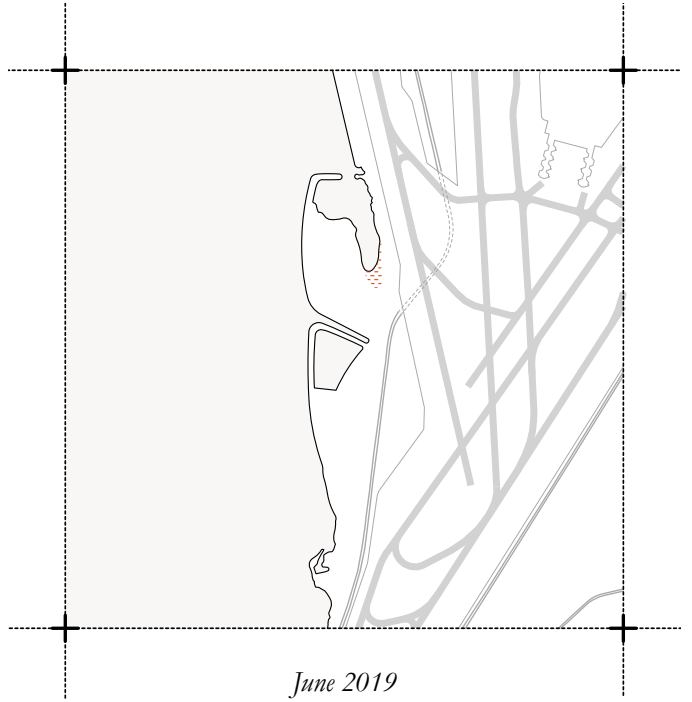
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November 2018



March 2019



June 2019

Leakage

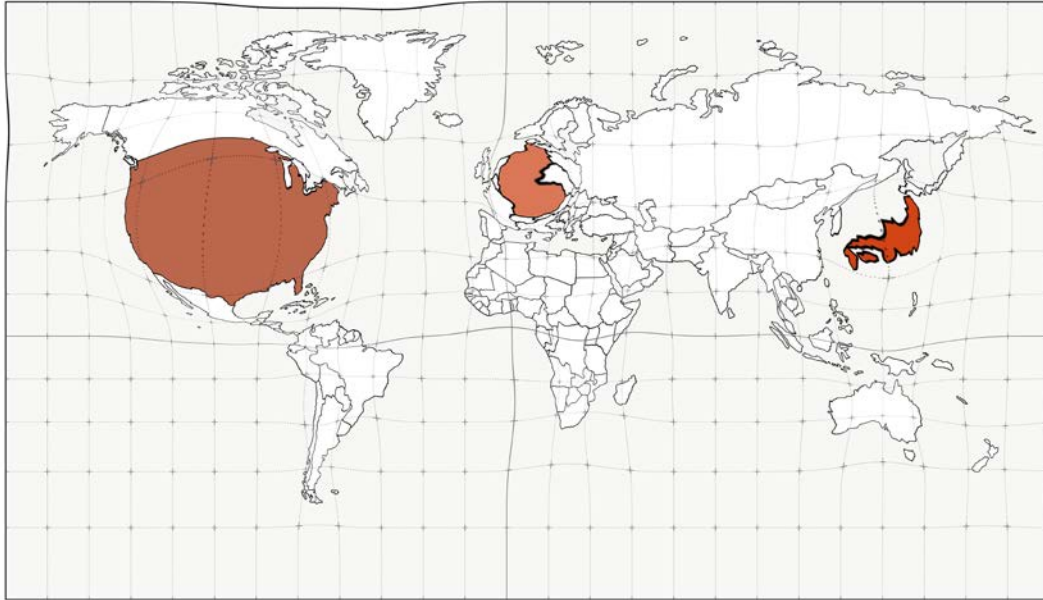
We are not alone facing such a problem, it is a plurinational problem, that bleed out of the countries to form a network of import and export at an international scale.

Many countries have nowhere to go with their plastic waste, and certainly not in their landfills. At instances where landfills impose themselves as real-estate moguls, throwing out becomes a pricey act. As a more affordable way to deal with the mass of waste, some of the richer and more powerful countries chose to export their plastic refuse to less fortunate countries to sort and recycle that plastic.

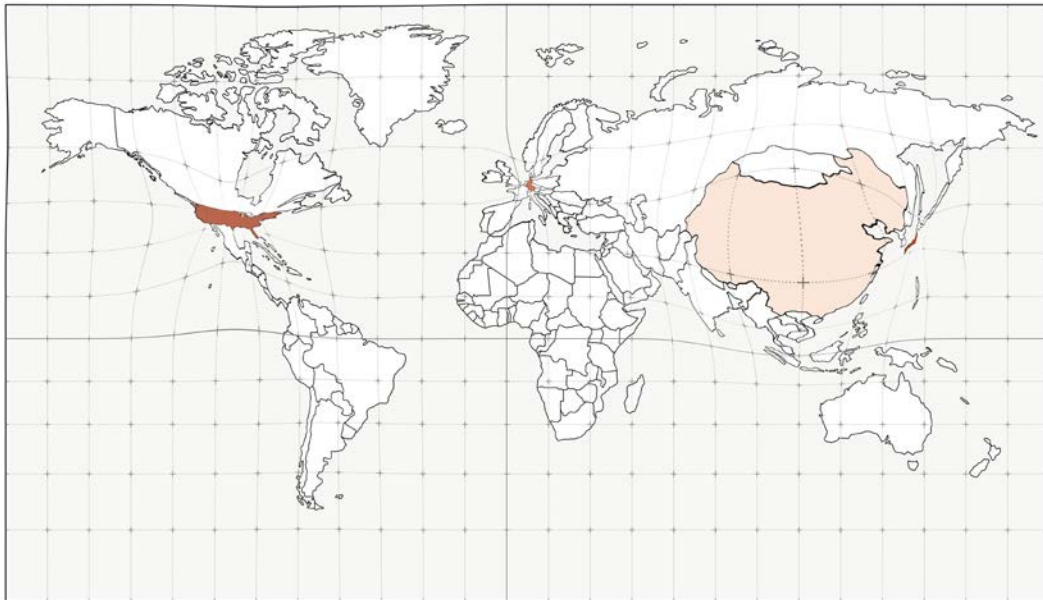
However, reality is overwhelming, and the receiving countries are in turn overwhelmed with the amassing of foreign waste. The trade of plastic waste is only delaying the fact that someone at some point in time will have to deal with the ever-growing formations of plastic.

One's "out of sight" is another's "in your face".

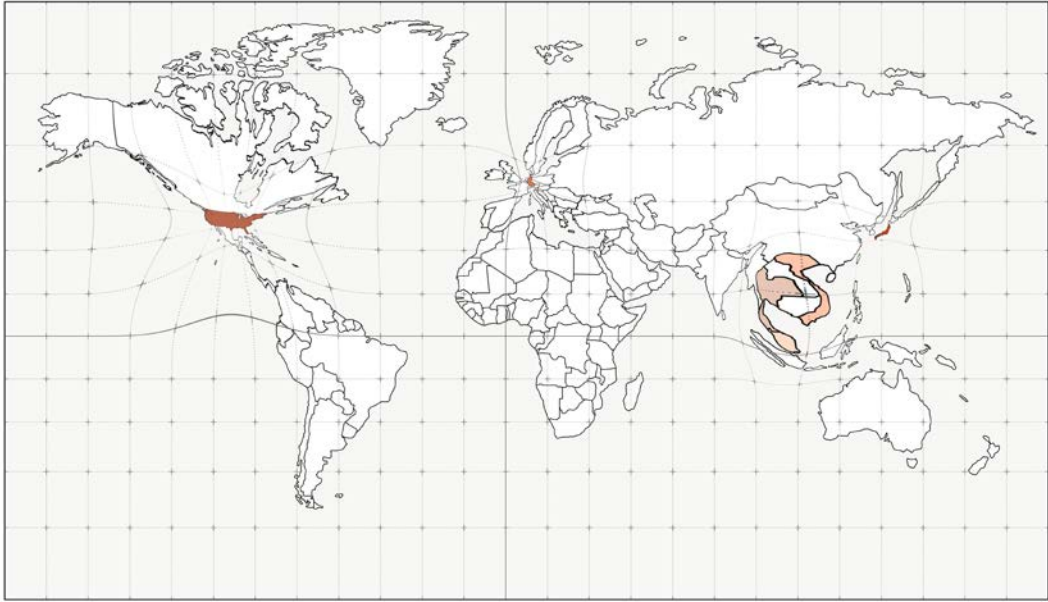
At the end, it comes down to policies of extraction that transform to policies of accumulation, in simpler terms: what goes around comes back around.



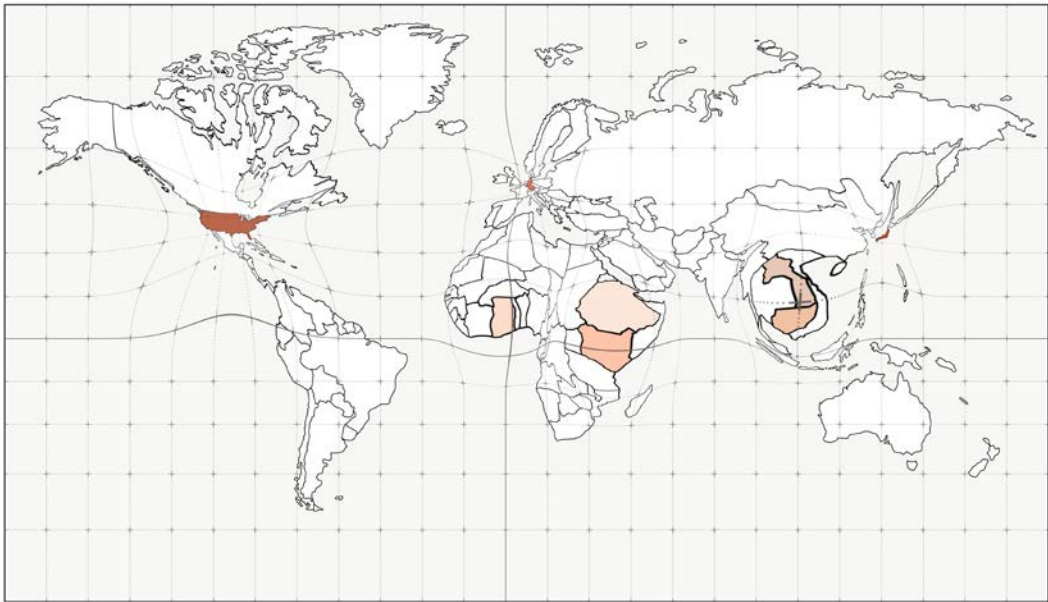
Largest exportes of plastic waste



Largest importers of plastic waste until 2016



Largest importers of plastic waste between 2016 and 2017



Largest importers of plastic waste after 2017

Chapter 2

The Flood

The flood

As one country gets overwhelmed by plastic trash after the other, the sight would be quasi-apocalyptic, as if a flood were to happen.

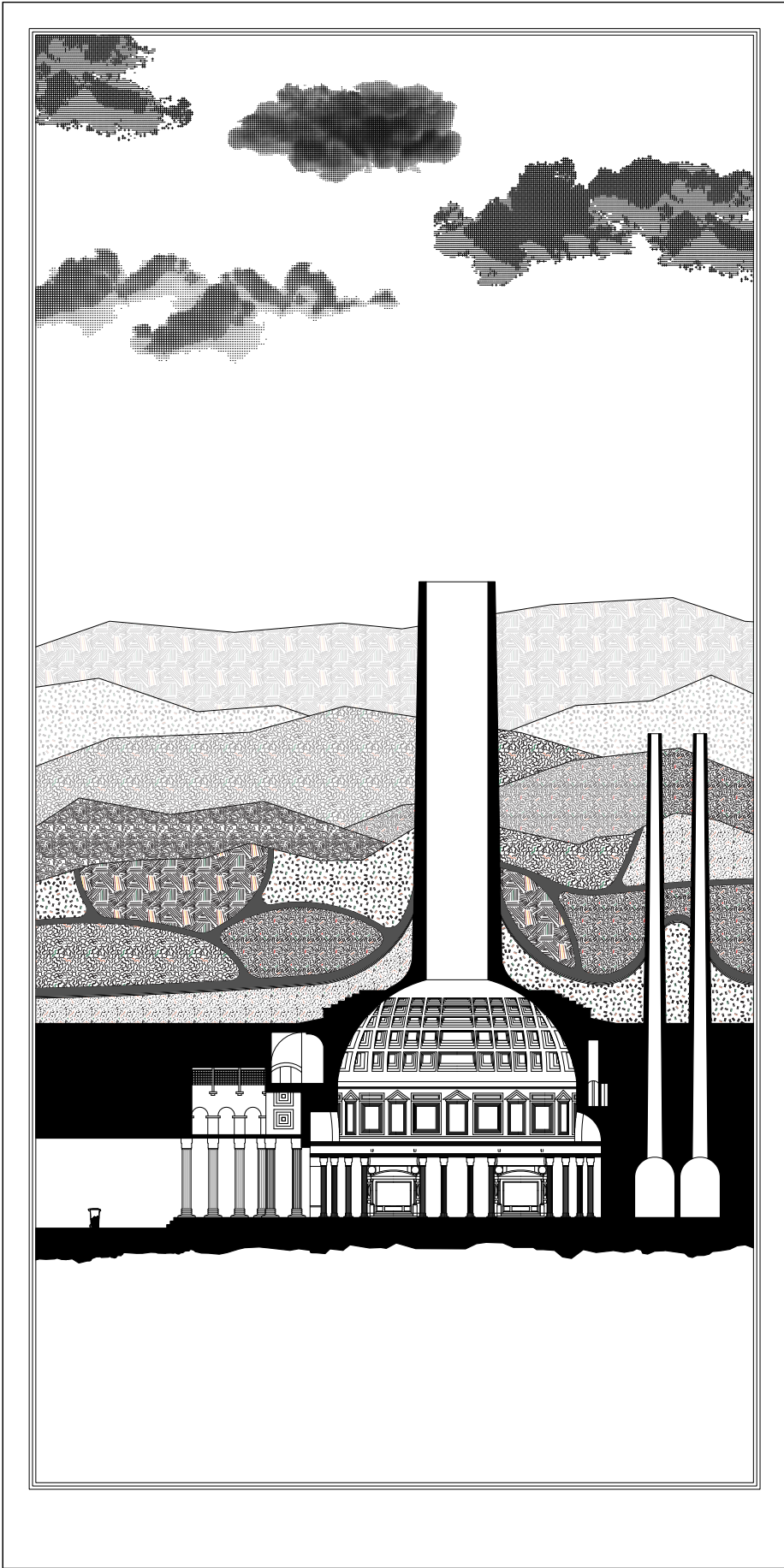
But what if the flood of trash really happened?

These speculative sections here represent how a few monuments would react to the flood of trash, and how these beacons of the human existence can adapt to embrace trash while leaving room for a possible mingling between man and the newly formed landscape.

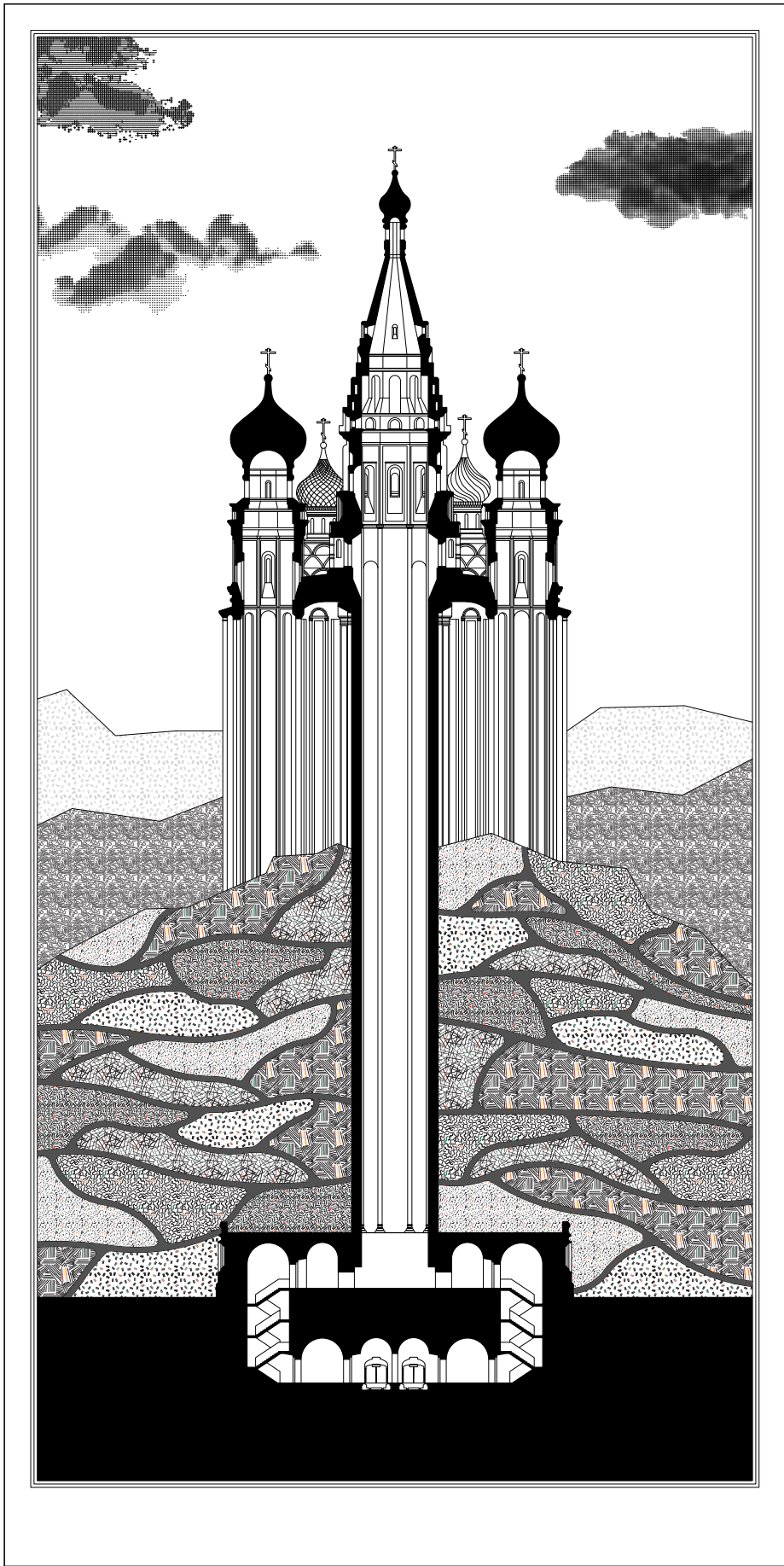
These monuments range geographically from around the equator all the way to the arctic circle, no area will be spared from the deluge of plastic trash.

A new datum forms, and according to that new datum will these monuments dictate a certain allowability for humans to flow in and out of them. Whether under, through, along or on top the landscape of trash, the monuments present chimneys, transportation systems, galleries...a series of speculative additions and modifications that suggest the creation of new functions. Incinerators, underground stations, chapels... the interpretations of the created spaces are relative.

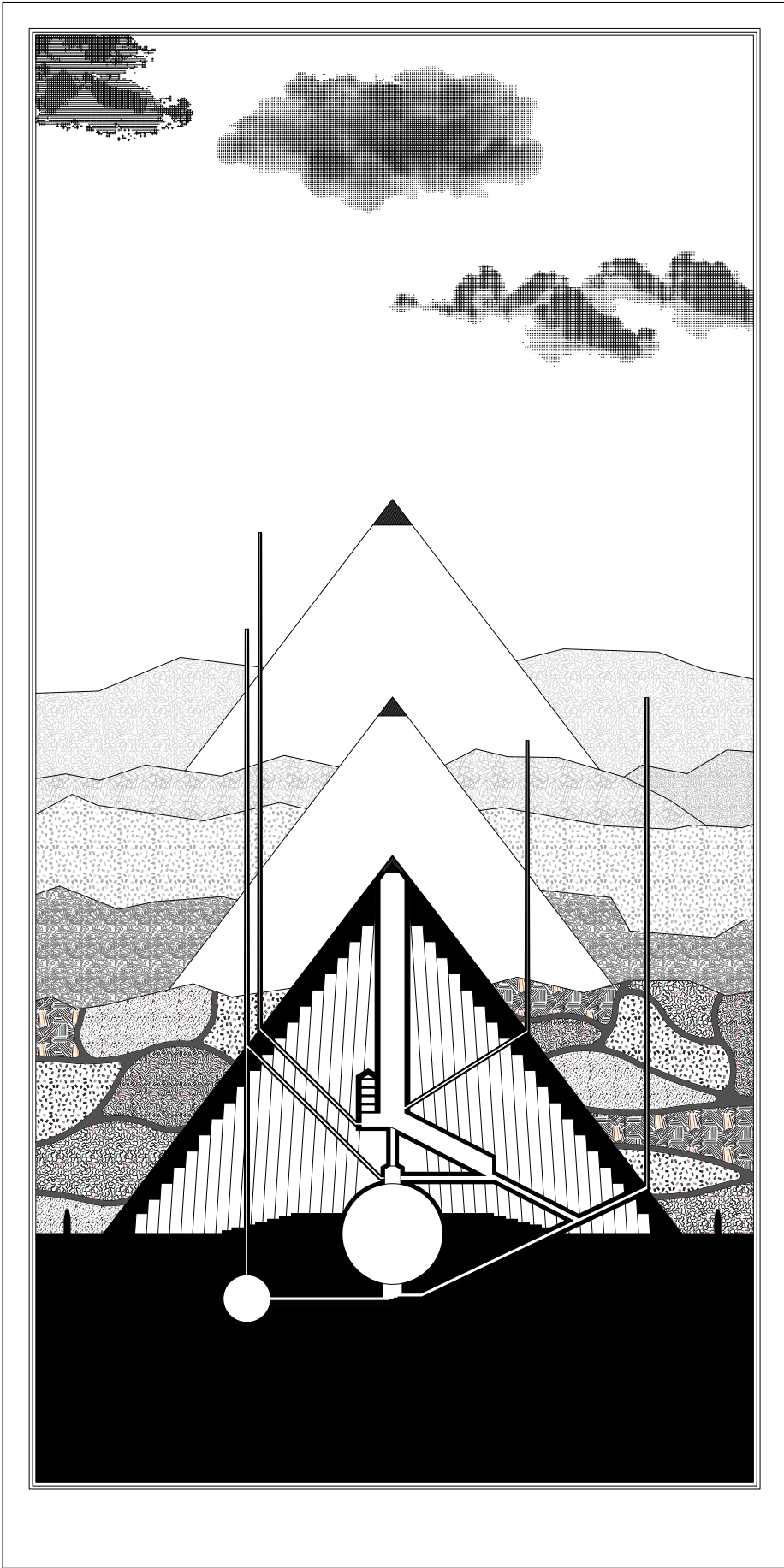
As trash takes over what is left is for adaptability to operate.



Monuments of trash, the Pantheon

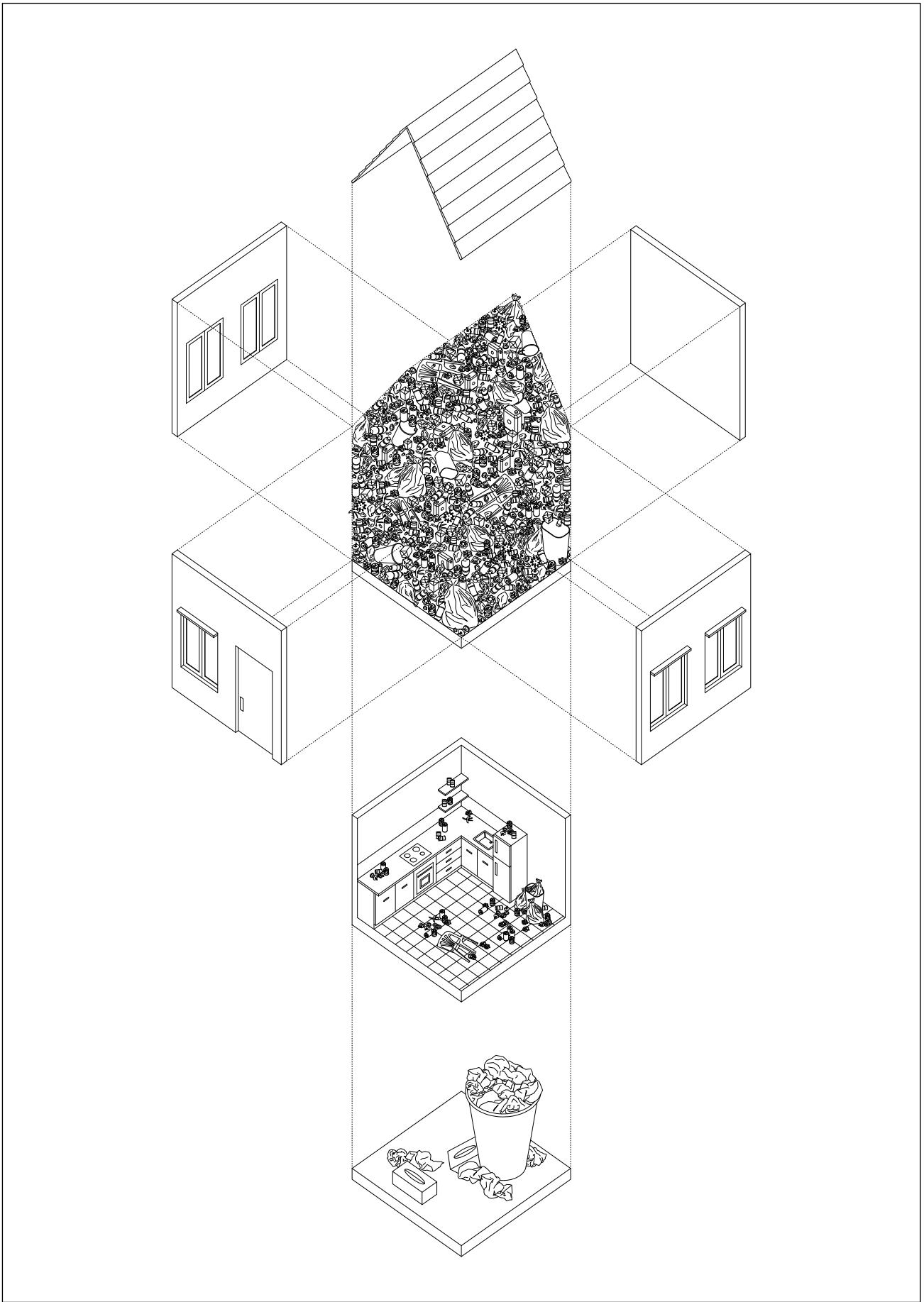


Monuments of trash, St. Basil's Cathedral



Monuments of trash, the Pyramids

Let Dr. Frankenstein's sin serve as a parable for political ecology. At a time when science, technology, and demography make clear that we can never separate ourselves from the nonhuman world — that we, our technologies, and nature can no more be disentangled than we can remember the distinction between Dr. Frankenstein and his monster. (Latour.2008)



House of trash

The prophecy

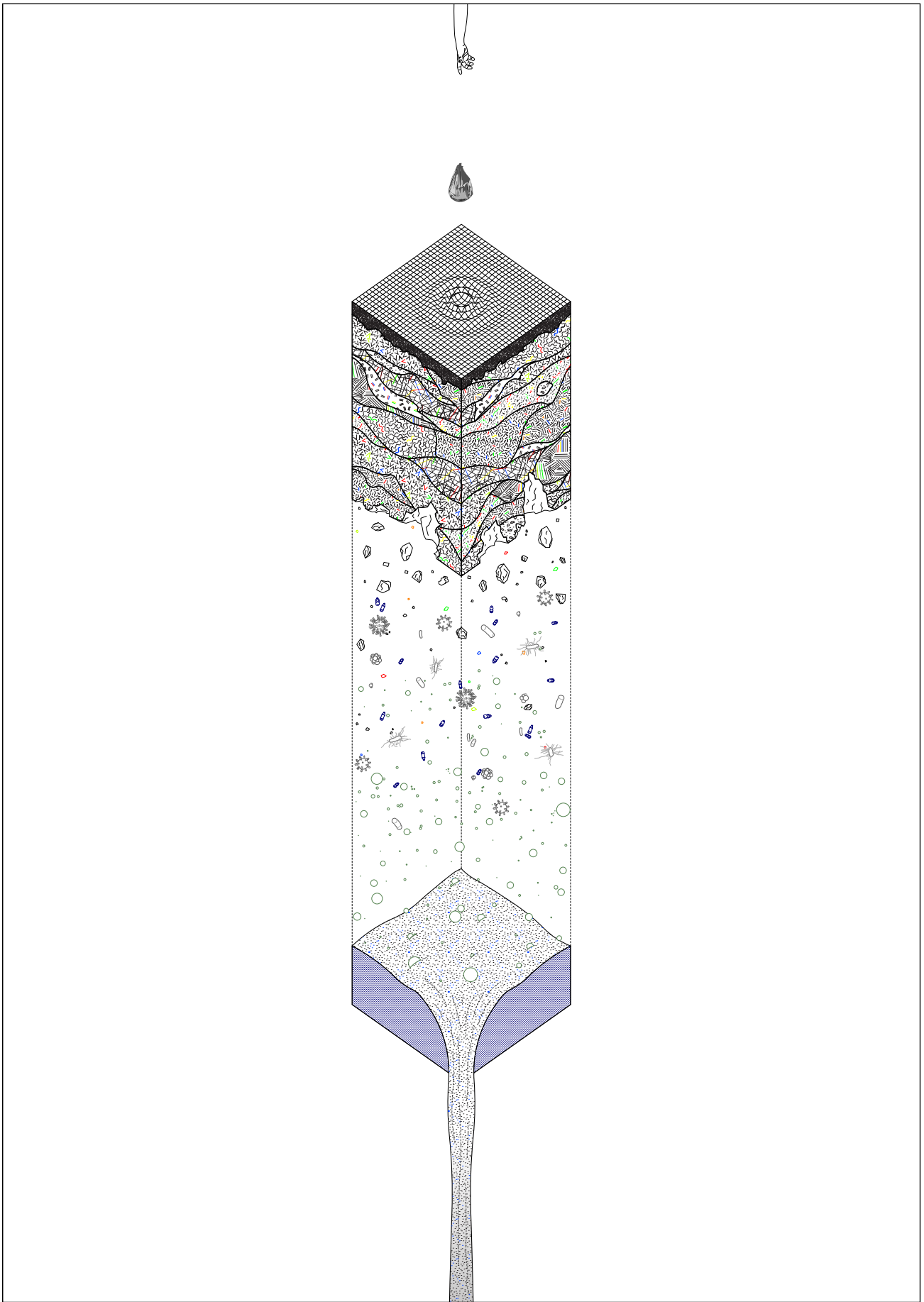
Tracing it back to where it all starts, the prophecy of the flood happens by the side a bed, where one throws a used tissue, or throws a gift wrap.

That smaller trash can is later discharged in the bin of a kitchen along other refuse items. One kitchen bin after the other, and one household after the other, the flood becomes a sure plan. Slowly but surely the level rises, and the anticipation of a greater happening is warmer.

Once disposed, the many refused entities get layered, one on top of each other, and let nature take over. Constituted of many elements and materials, trash surrenders to Nature, microbes, natural elements, and time. Some of the more organic elements find unity with nature, other find a dwelling, but plastic...it stays.

It gets smaller but stays.

Nature for Plastic is a playground of migration, shifts and travel. From the macroscopic to the microscopic scale, plastic particles flow in water streams, animal bodies, and human food.



Disregard

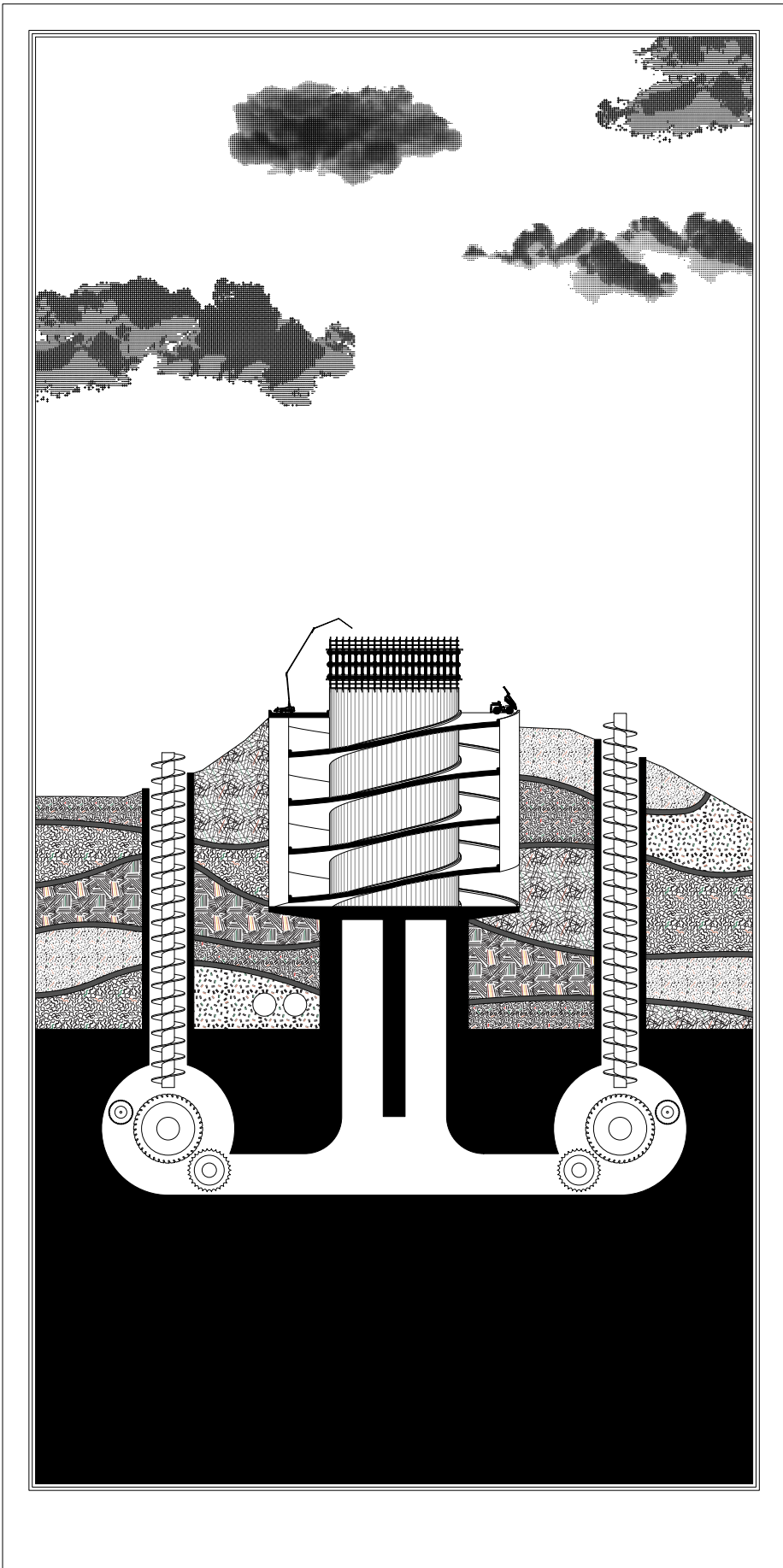
The...garbage hills are alive...there are billions of microscopic organisms thriving underground in dark, oxygen-free communities ...After having ingested the tiniest portion of leftover New Jersey or New York, these cells then exhale huge underground plumes of carbon dioxide and of warm moist methane, giant stillborn tropical winds that seep through the ground to feed the Meadowlands' fires, or creep up into the atmosphere, where they eat away at the...ozone...One afternoon I...walked along the edge of a garbage hill, a forty-foot drumlin of compacted trash that owned its topography to the waste of the city of Newark....There had been rain the night before. So it wasn't long before I found a little leachate seep, a black ooze trickling down the slope of the hill, an espresso of refuse, In a few hours, this stream would find its way down into the...groundwater of the Meadowlands; it would mingle with toxic streams...But in this moment, here at its birth,...this little seep was pure pollution, a pristine stew of oil and grease, of cyanide and arsenic, of cadmium, chromium, copper, lead, nickel, silver, mercury and zinc. I touched this fluid – my fingertip was a blush caramel color – and it was warm and fresh. A few yards away, where the stream collected into a benzene-scented pool, a mallard swarm alone. (Bennett, 2010)

Chapter 3

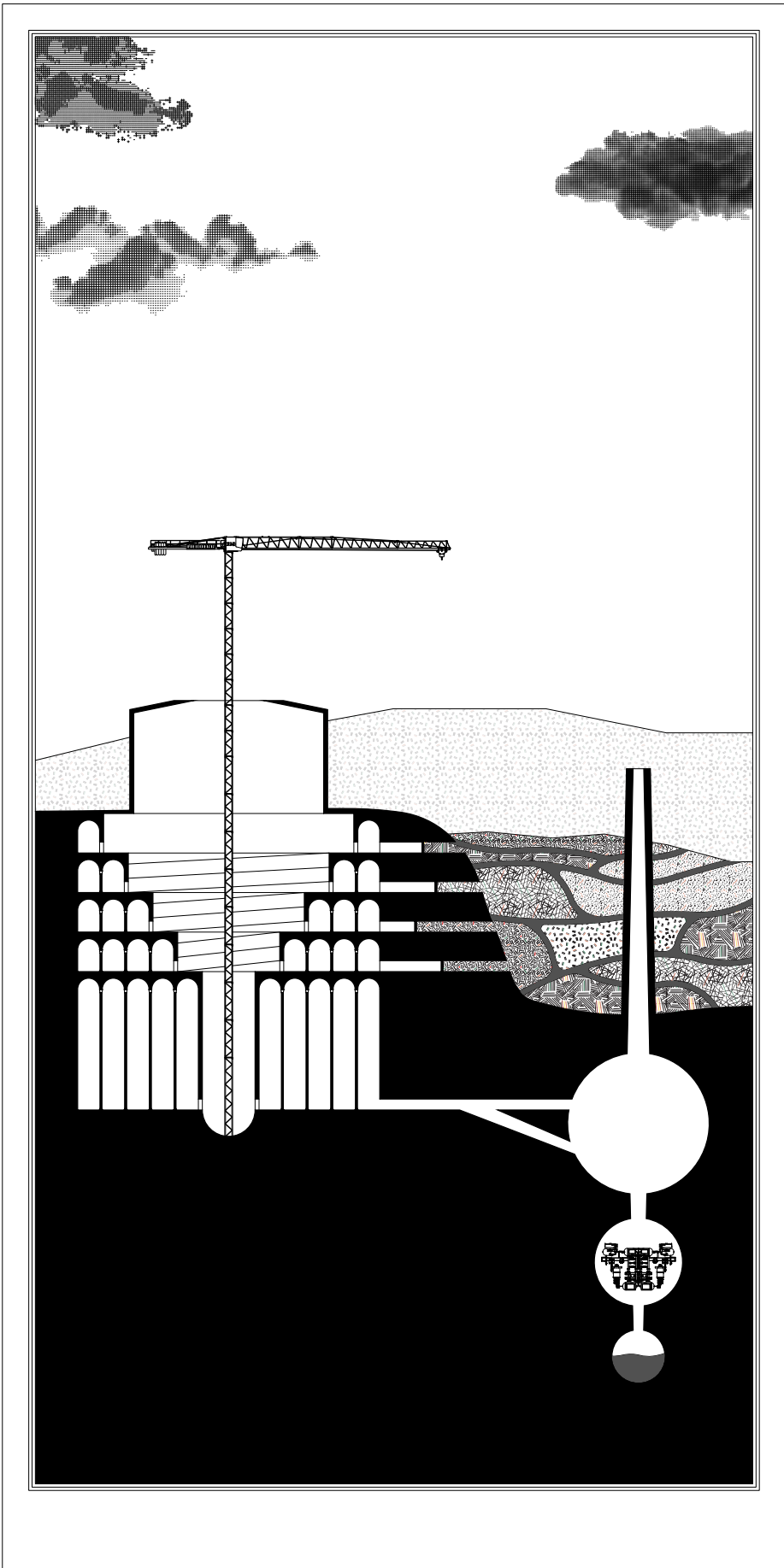
Ghazieh



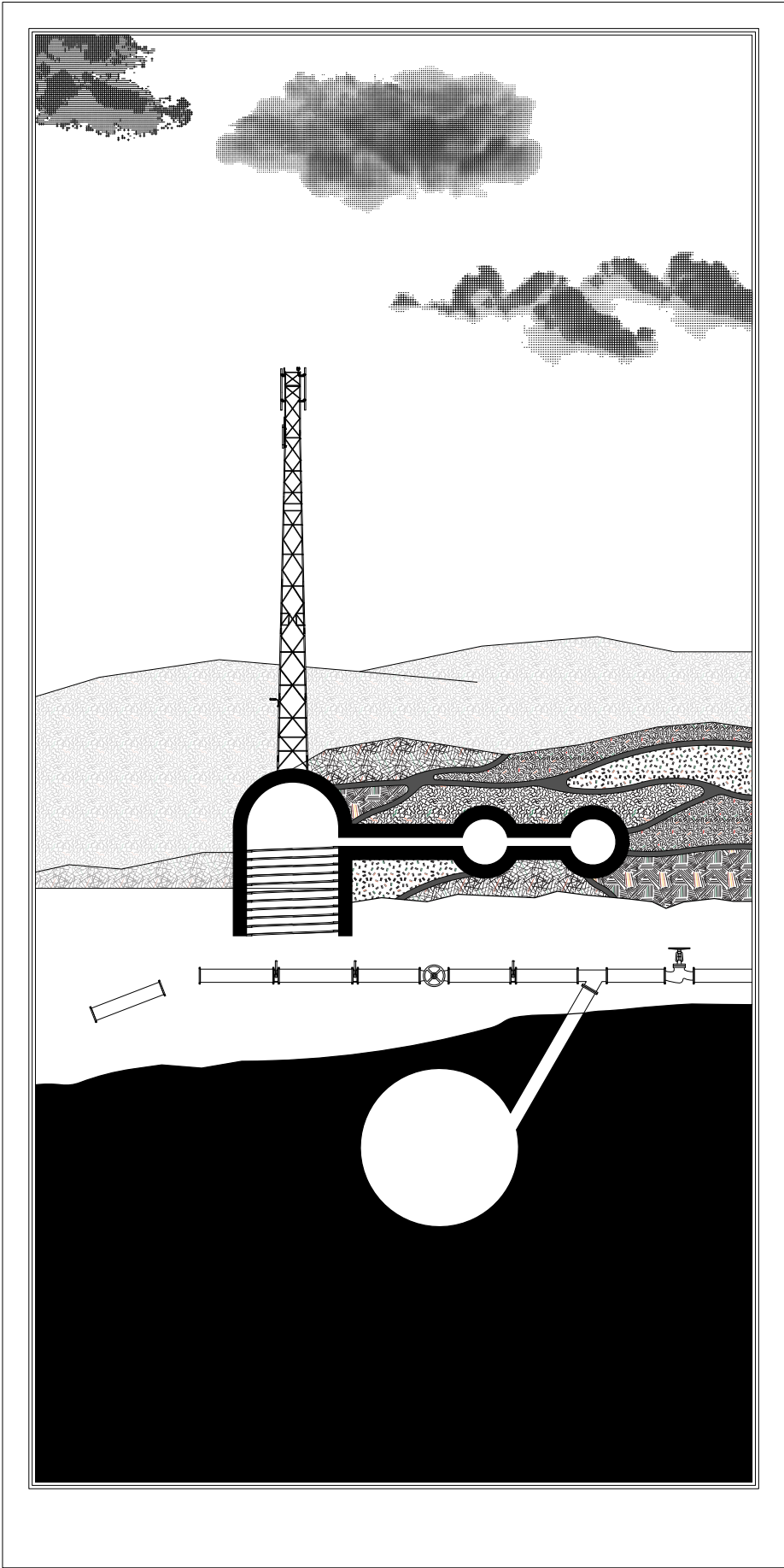
Ghazieh, the site



Collect



Process



The site

Looking at the site of Ghazieh, and looking at its history, we see that it is the climax of a flow of power. That power being crude oil, coming all the way from Saudi Arabia through Jordan and Syria. Once the pipeline stopped pumping oil to the site, it was slowly abandoned. Ghazieh saw its glory days vanish, and with them the hope of any prospect of change.

Put in context and taking into consideration the process of transforming plastic back to oil, we can extract three verbs that could summarize the journey of plastic waste to become oil: collect, process and export.

By taking three strategic section, one at the main highway, one at the oil tanks and one by the sea, the site of Ghazieh can be seen through a new eye.

The act of collecting takes advantage of the continuity of the road to allow vehicles to organically dump their refuse on the site and carry on with their journey.

Processing takes place in the oil tanks where plastics are treated and transformed into oil. The facility is a distillery rather than a mechanistic process where producing oil is more of a procession.

Exporting the end product to the ship tanks happens despite the ramping mounds of trash over the coastline. Submerged monitoring facilities make sure the infrastructure is well laid out while ensuring proper communication with the outside world.

Through this process, the local oil, or oil balade, will enable us to set free from the claws of foreign multinationals that will make us pay for resources we already have but cannot extract by ourselves. That's how, in the context of Ghazieh and Lebanon, plastic waste plays yet another role of power, one that helps claim independence and sovereignty.

"What God has cleansed you must not call common!"

In a vision to St Paul, a celestial voice confirms to him that all what God created cannot be blasphemous, and all what is at the disposition of Man in Nature is hence holy.

But...Vanity.

Vanity, the pure expression of self-love and self-idolatry.

Man, creator of plastic and extractor of oil, decides of what goes and what stays. In a moment of judgement, a commodity becomes refuse and joins the invisible realm of profanity, and what once was deeply hidden inside the many layers of the Earth evaporates straight up into the atmosphere.

It is only fair for a creature of God to construct its own hell. One scented with the fumes of fossil fuels and raised on a pedestal made of plastic.

The useful plastics rapidly lose their importance and are rapidly shifted out of sight. Though we very much acknowledge their presence, once plastics turn into waste, we actively demonize their presence. The ever-growing mass of plastics discarded becomes abhorrent, and the love of the material turns to hate. Along with the other "immoralities" the repression of this made-up taboo is bound to resurface. From a Freudian perspective that is very plausible theory. Trash, hence becomes the profane, a repressive force that is to be dealt with, at a moral level, logistical level, national or even international level.

As much as Hell can persuade people of doing good, the hateful and fearful vision we have towards trash and plastics can equally shape certain patterns and behaviors. The obsolescence of waste has an undeniable force of shaping and creating our set of values, and evidently policies.

Where to go? What to do? What was once a mere plastic bottle, or a banal straw have become a rather massive problem.

Are we going to ever pronounce the words: I remember when earth was soil? or resort to loving our monsters? Dissociate Frankenstein from his creation.

Anyways, to be able to deal with the overwhelming rise of the trash, one must have a clear enough mind, or dare I say, start from a tabula rasa. One where the tables turn, and the creation floods the creator. At that moment only, will the innate hypocrisy of humanity shatter, and trash gets acknowledged as an apparatus of power, and man will understand trash, and in trash will he trust.

Episode 2

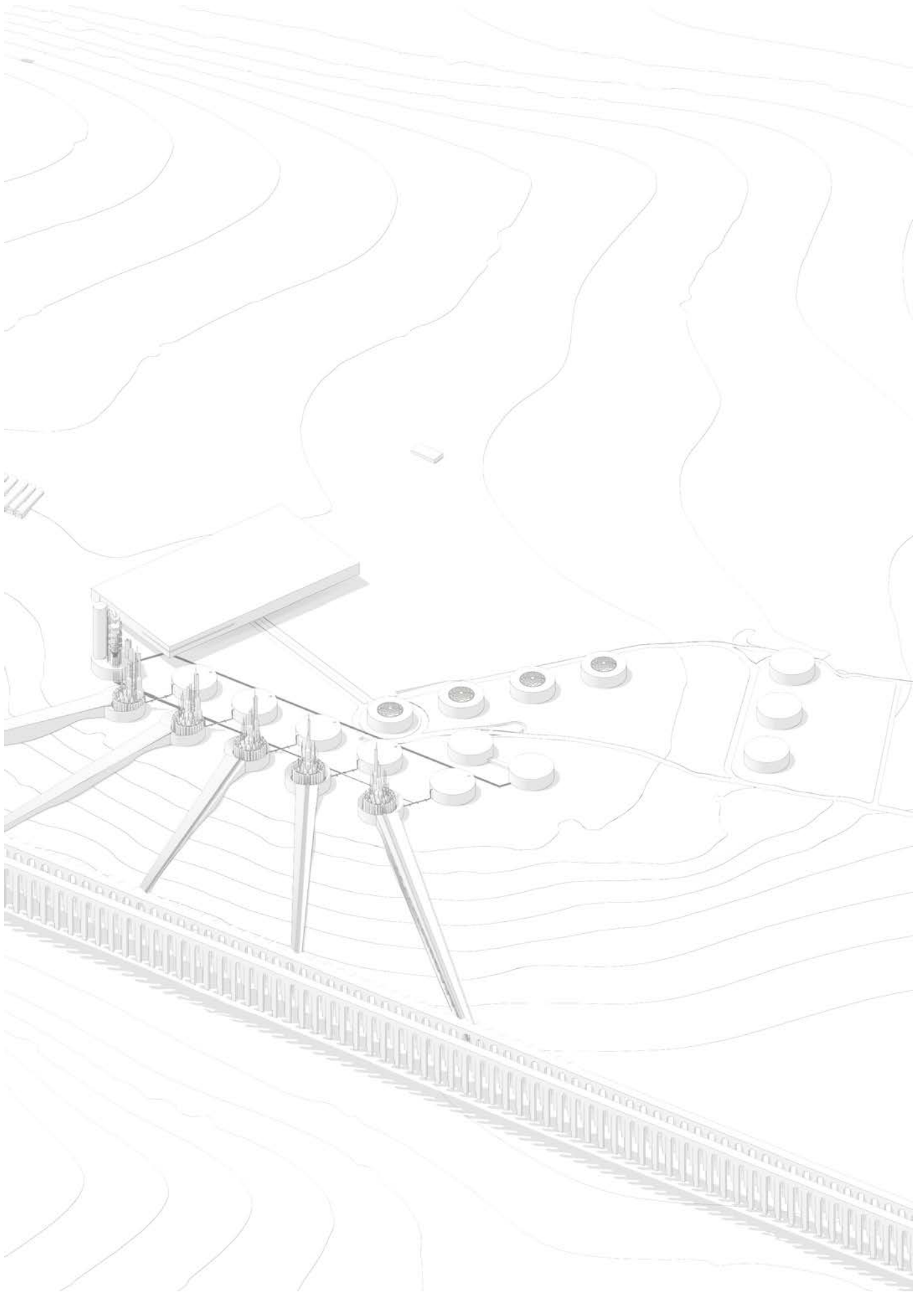
...let there be trash

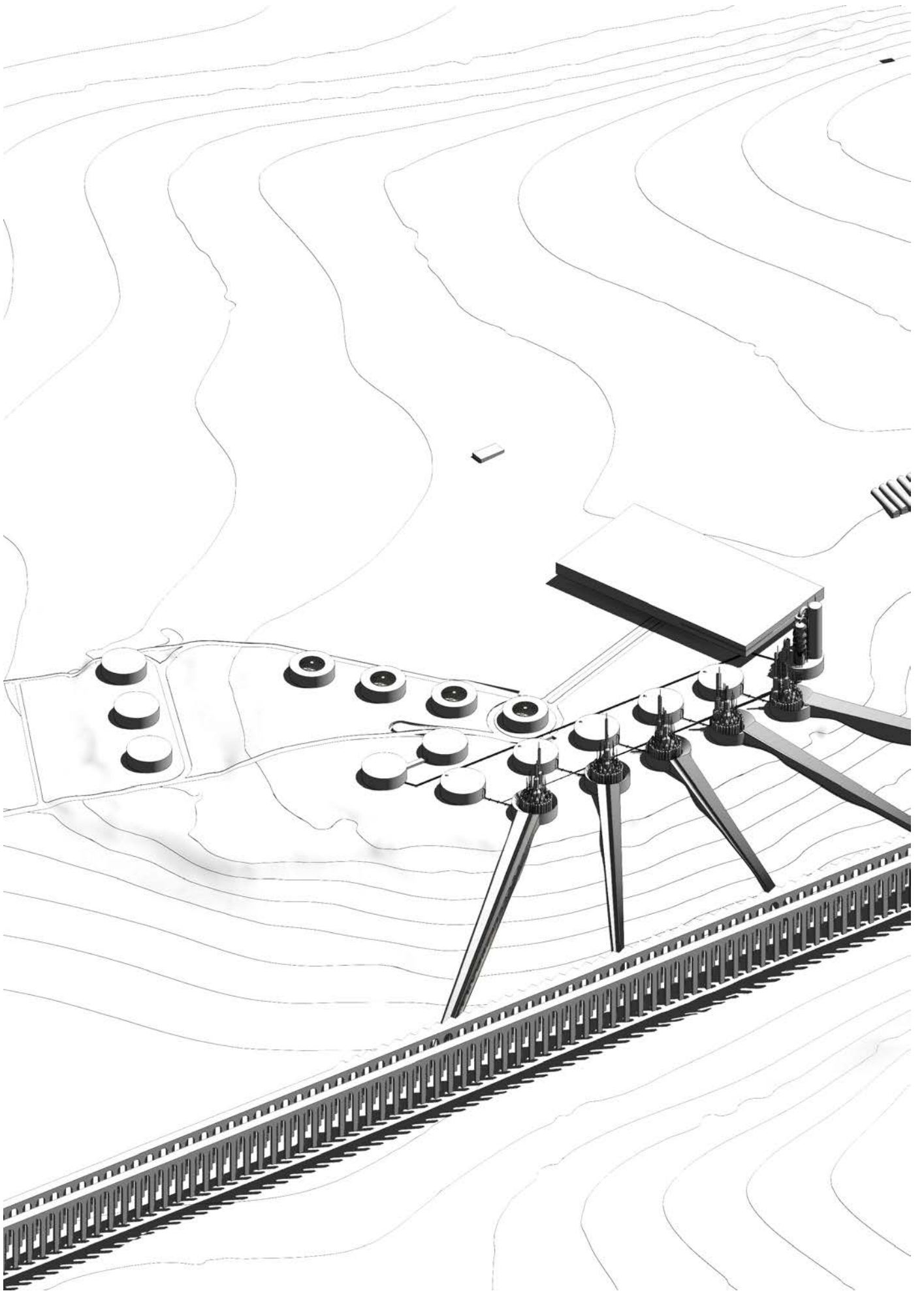
In Epiphany

Thesis by Élio Moussa

Advisor: Karim Nader

From fuels to plastics, the legacy of the oil industry is very alive among us, however very vilified. The glistening image of a greener more sustainable living is very tempting; however, it comes at a price. Anyone ready to pay the price of abandoning plastic is the most welcome. Green technologies and green living seem to betray the big dreams generated by the black gold and set a new standard of living exclusive for a few people.



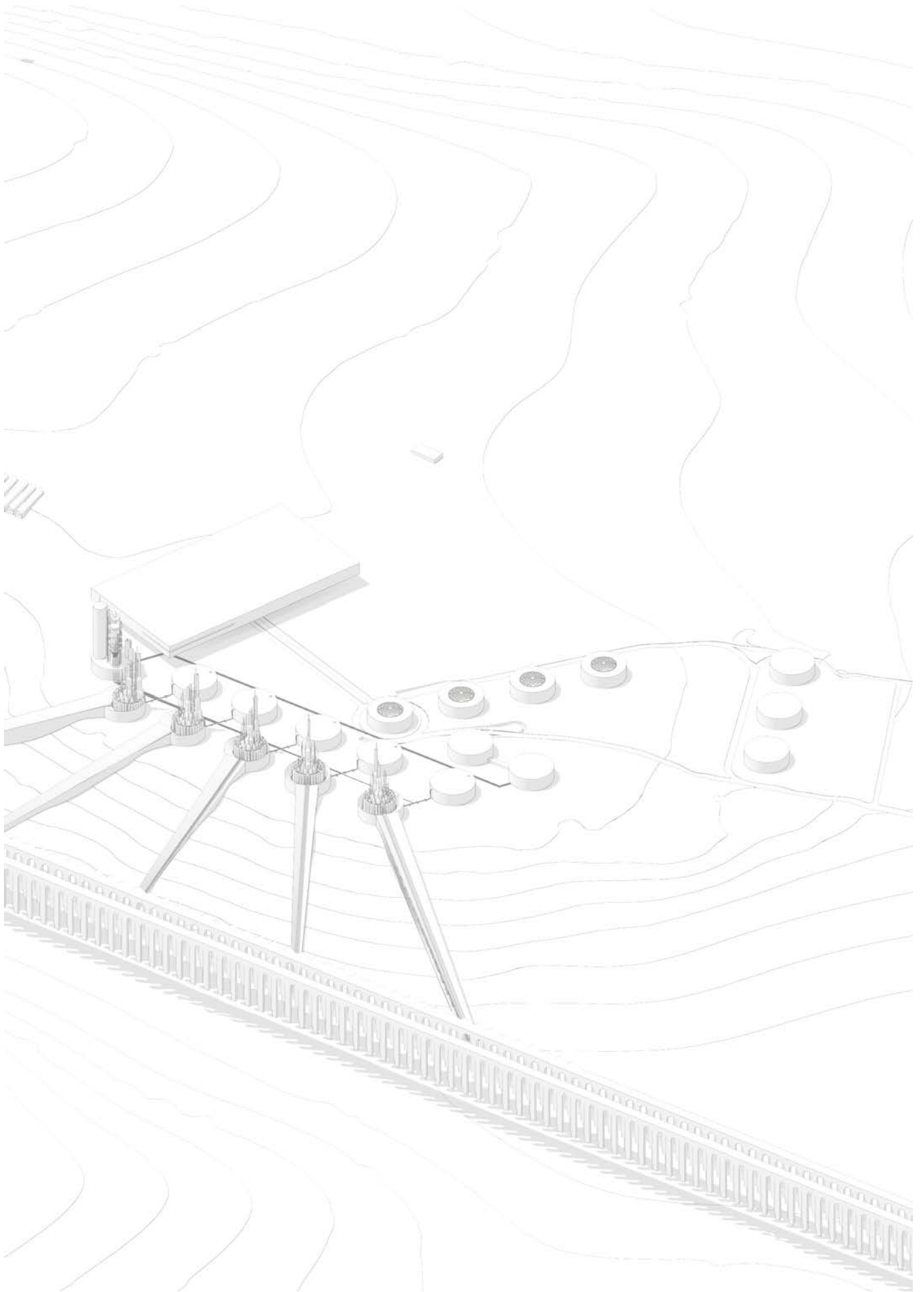


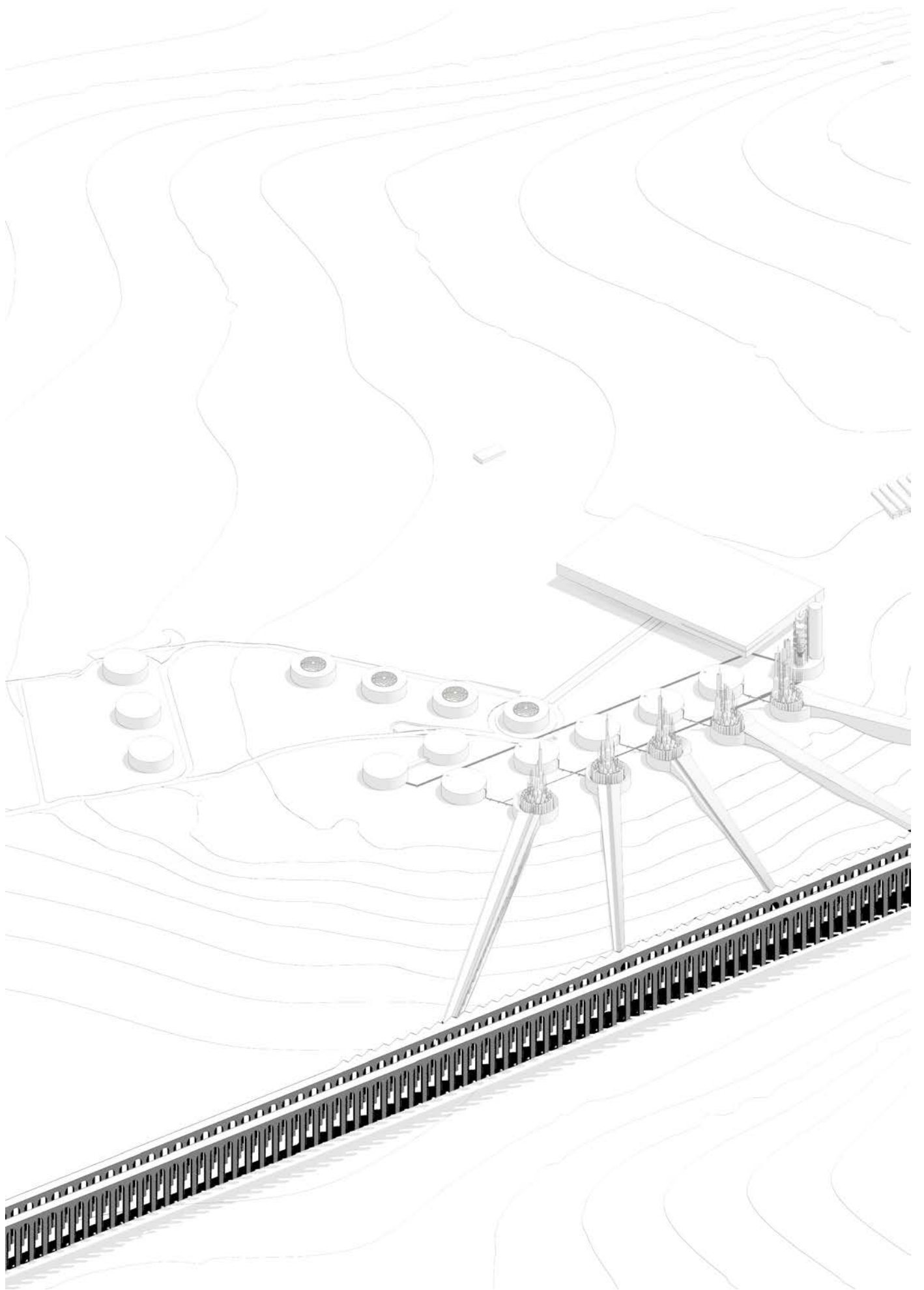
The site

The story begins where it all once ended, at the tank farm of Ghazieh in the South of Lebanon, a few kilometers south of Saida. Twenty-two cylindrical structures atop of a small hill and overlooking the highway stand as monuments of contemporary archaeology. Once a junction between the transarabian pipeline and the world, the site fell into abandonment in the 1980s. However, the petro-power dissipated from the pipes of Ghazieh to the various byproducts of the black gold.

Getting the tank farm of Ghazieh to celebrate oil and plastic in their many forms, is a tour de force to prove the viability of oil, plastics and trash.

Through the programming of the tanks, the site becomes divided into 2 main elements, the production and the consumption. Separate yet complimentary.

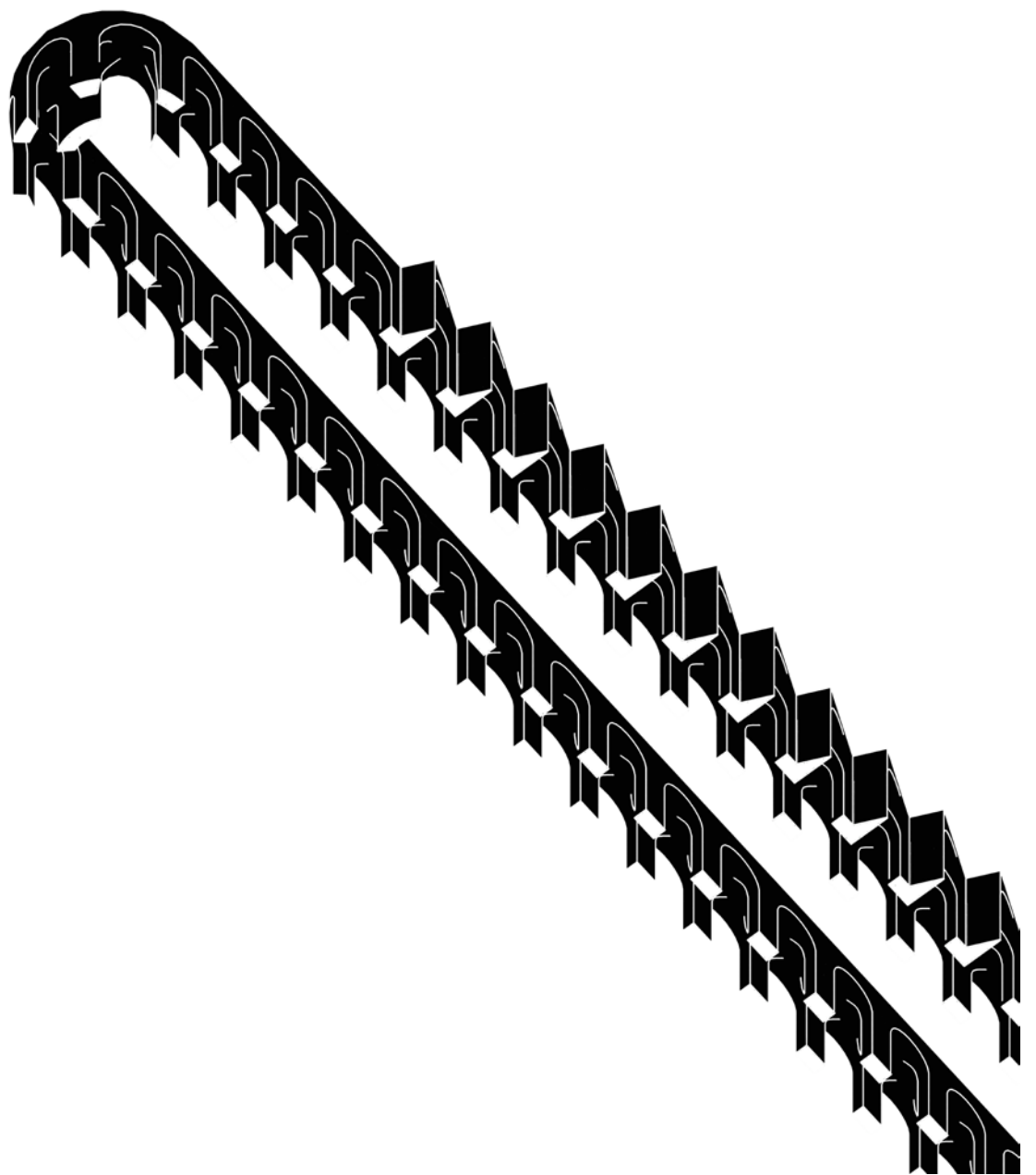




The aqueduct

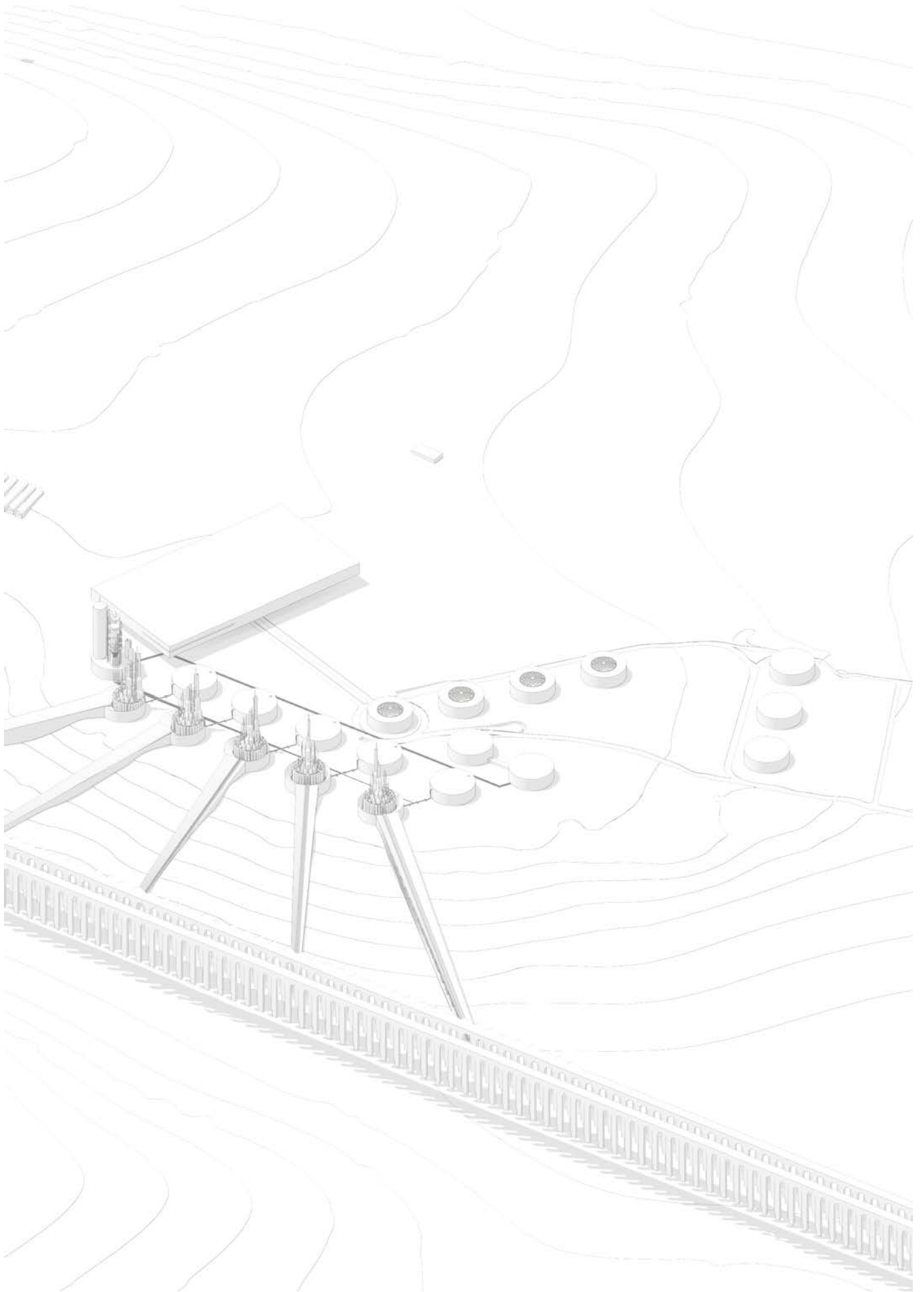
Branching out of the highway, the aqueduct ejects the vehicles from the main route onto its platform in order to dispose of the plastic waste in the natural way of dumping.

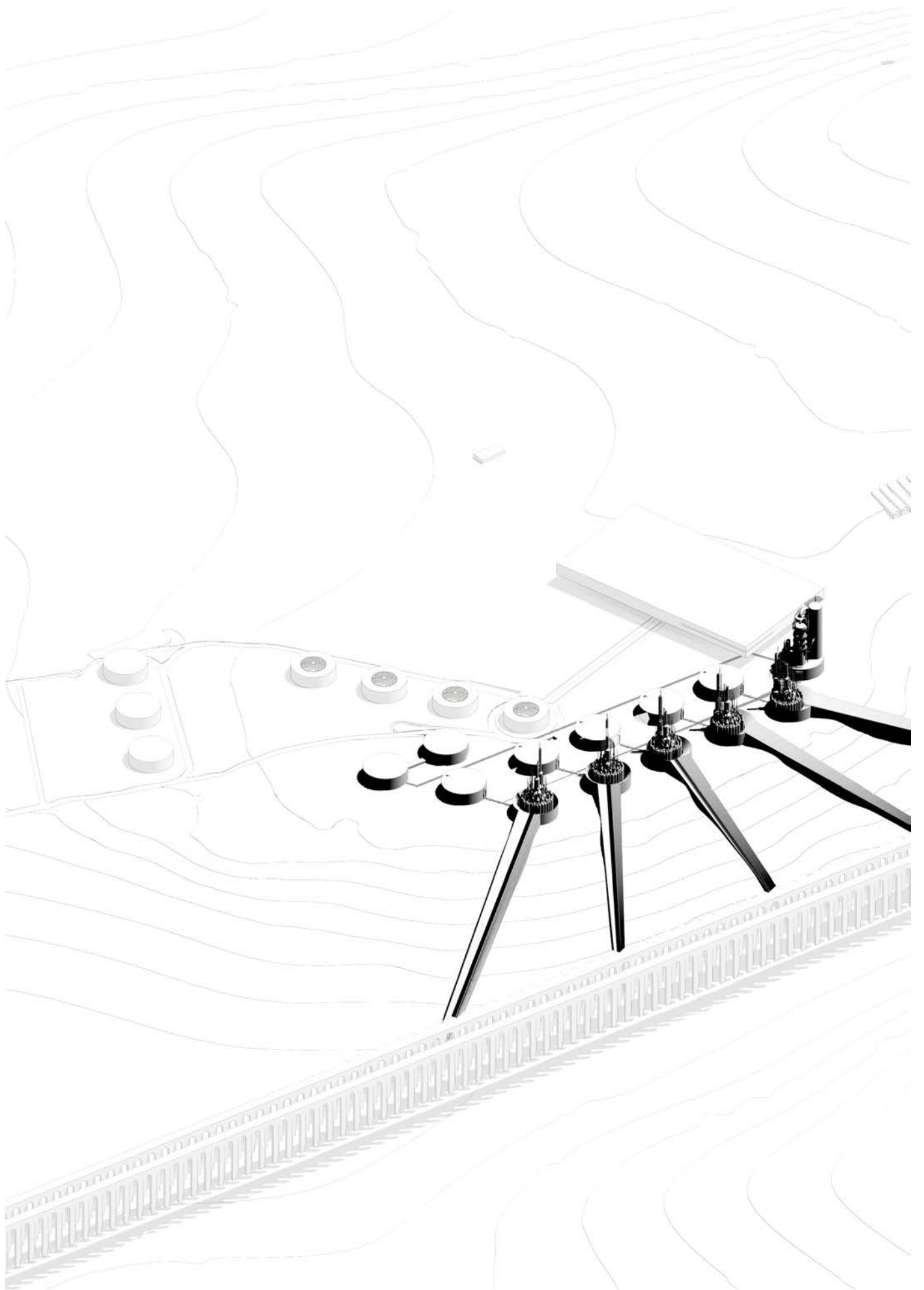
Trucks, cars, or any motorized vehicle can go through this procession to dispose of the plastic.



The material falls into the valley and forms mounds that perpetually change the aspect of the valley.

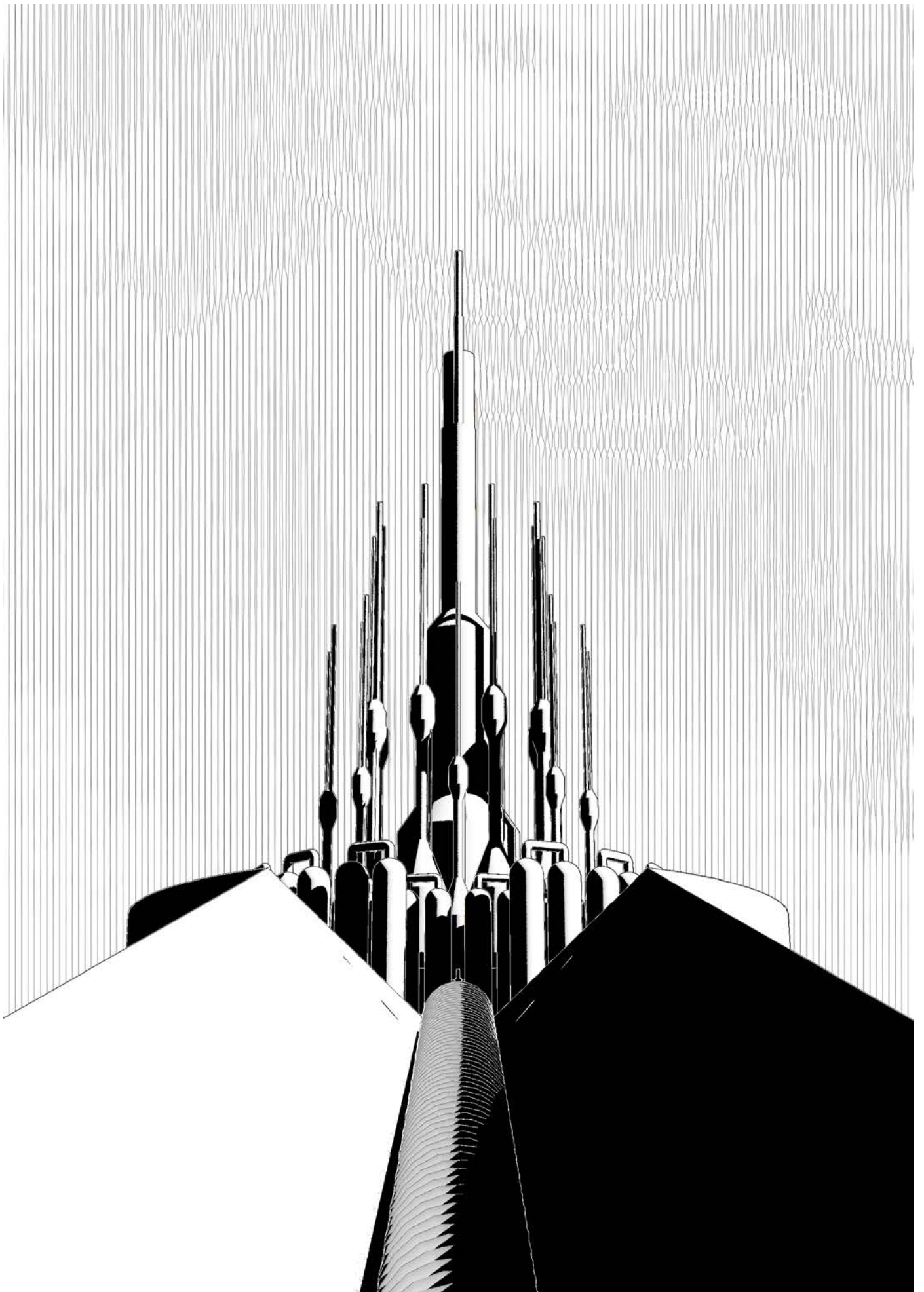






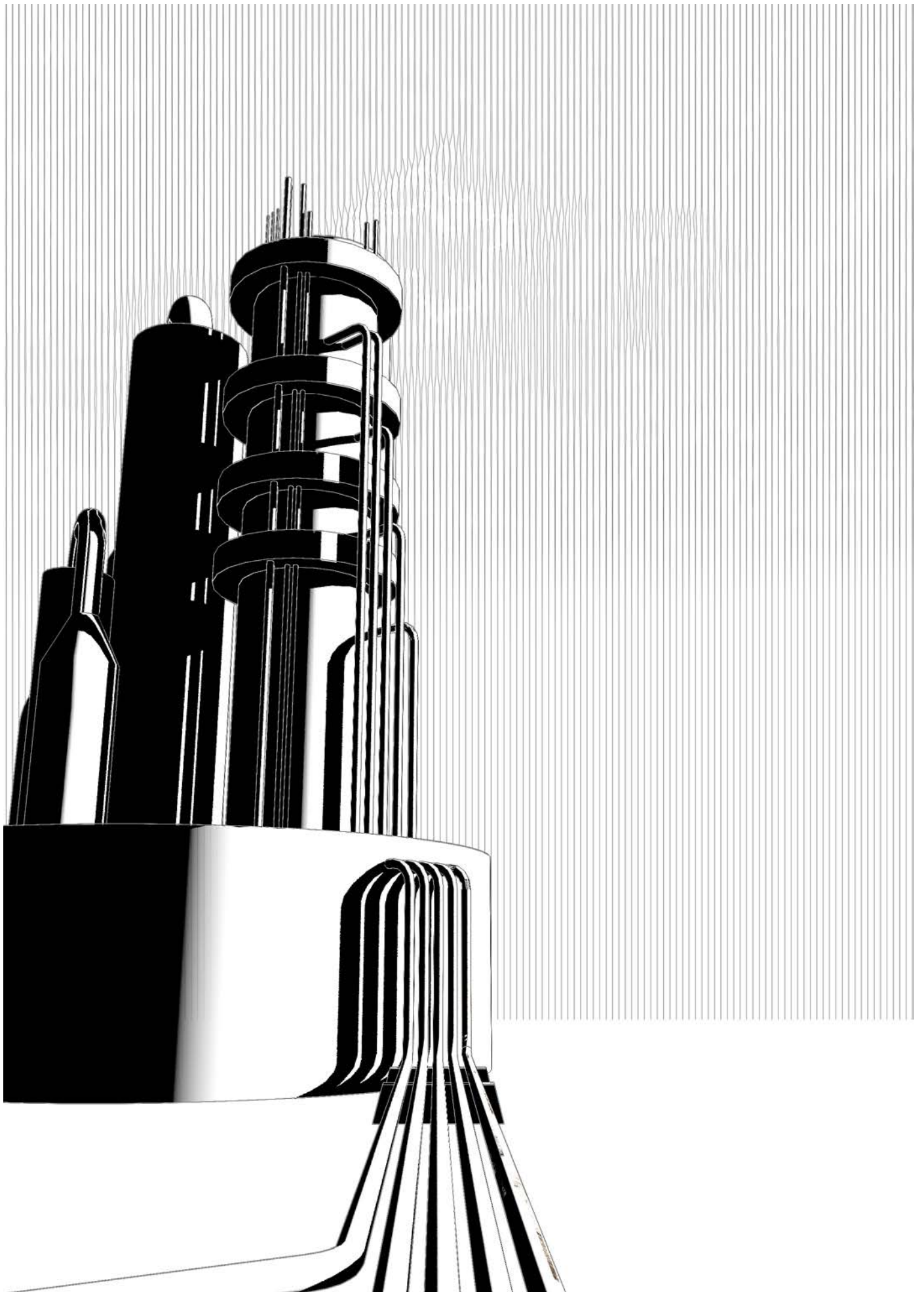
The processing facility

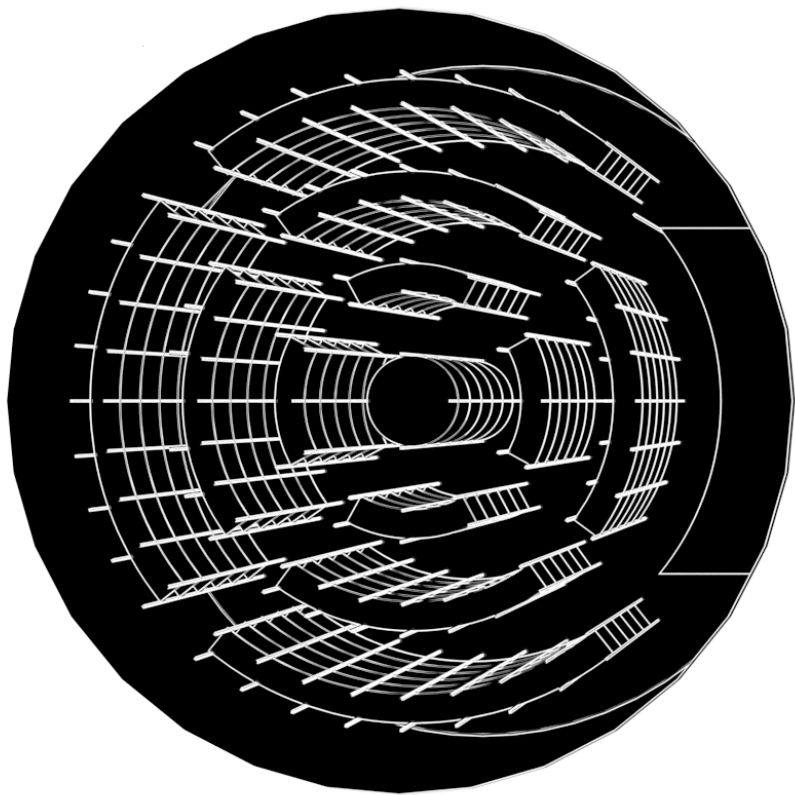
The dumped material is lifted from the valley by large Archimedes screws connected to the pyrolysis plants. There, the plastic is shredded, processed, and separated into oil and gas to fill the annexed storage tanks.

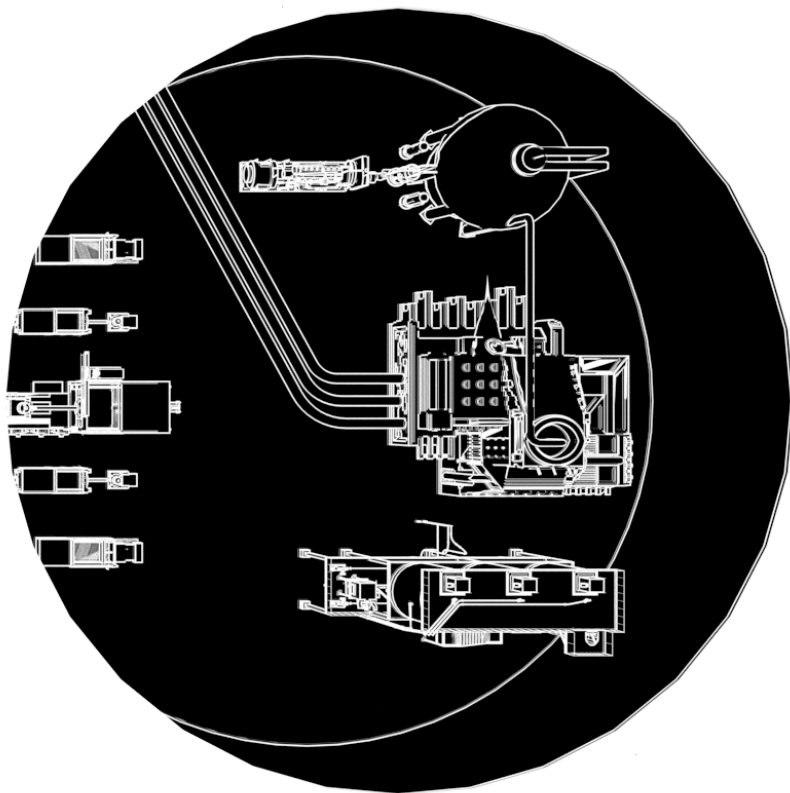


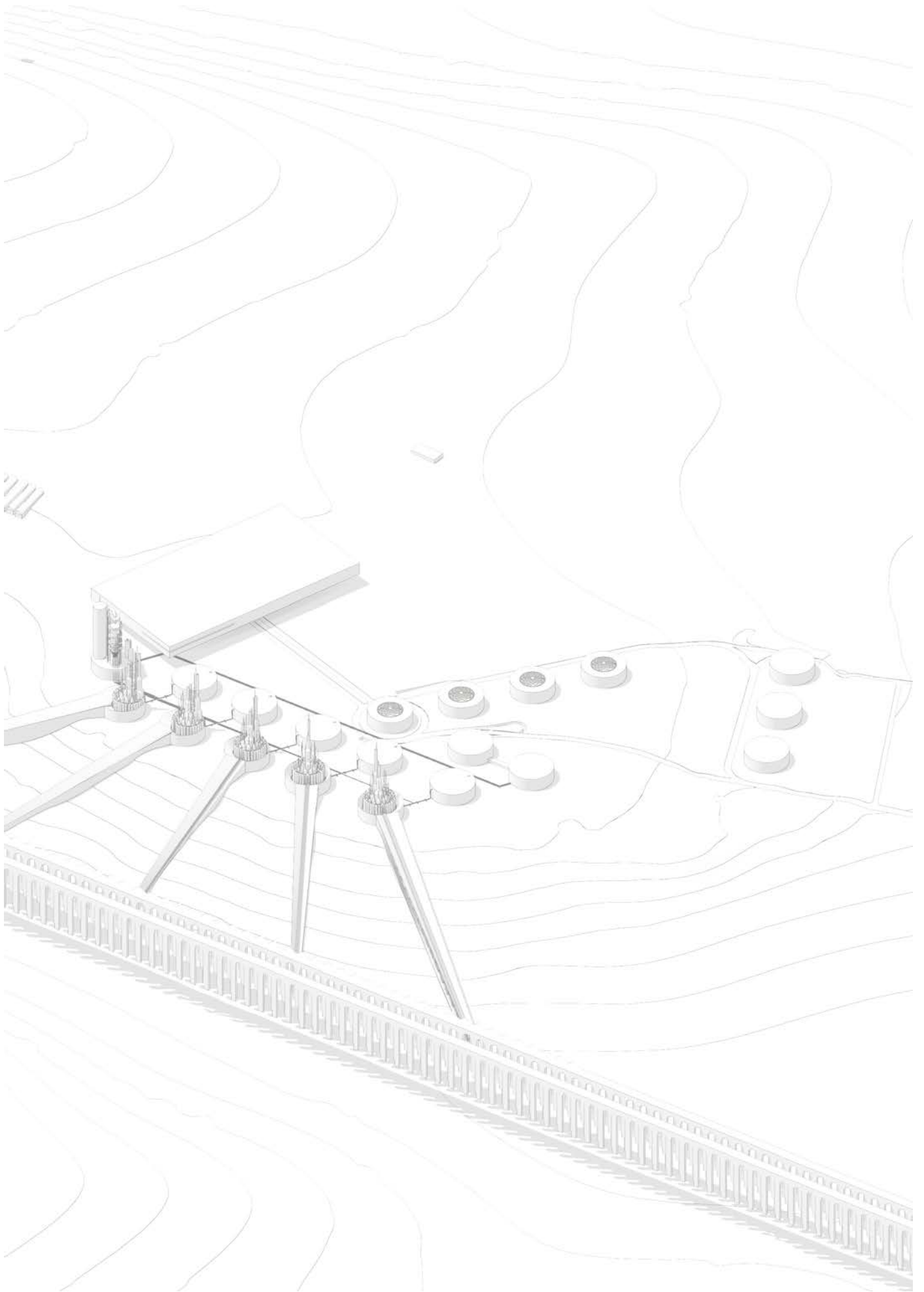
The extracted fuel passes through a refinery to extract various derivatives and products for different application

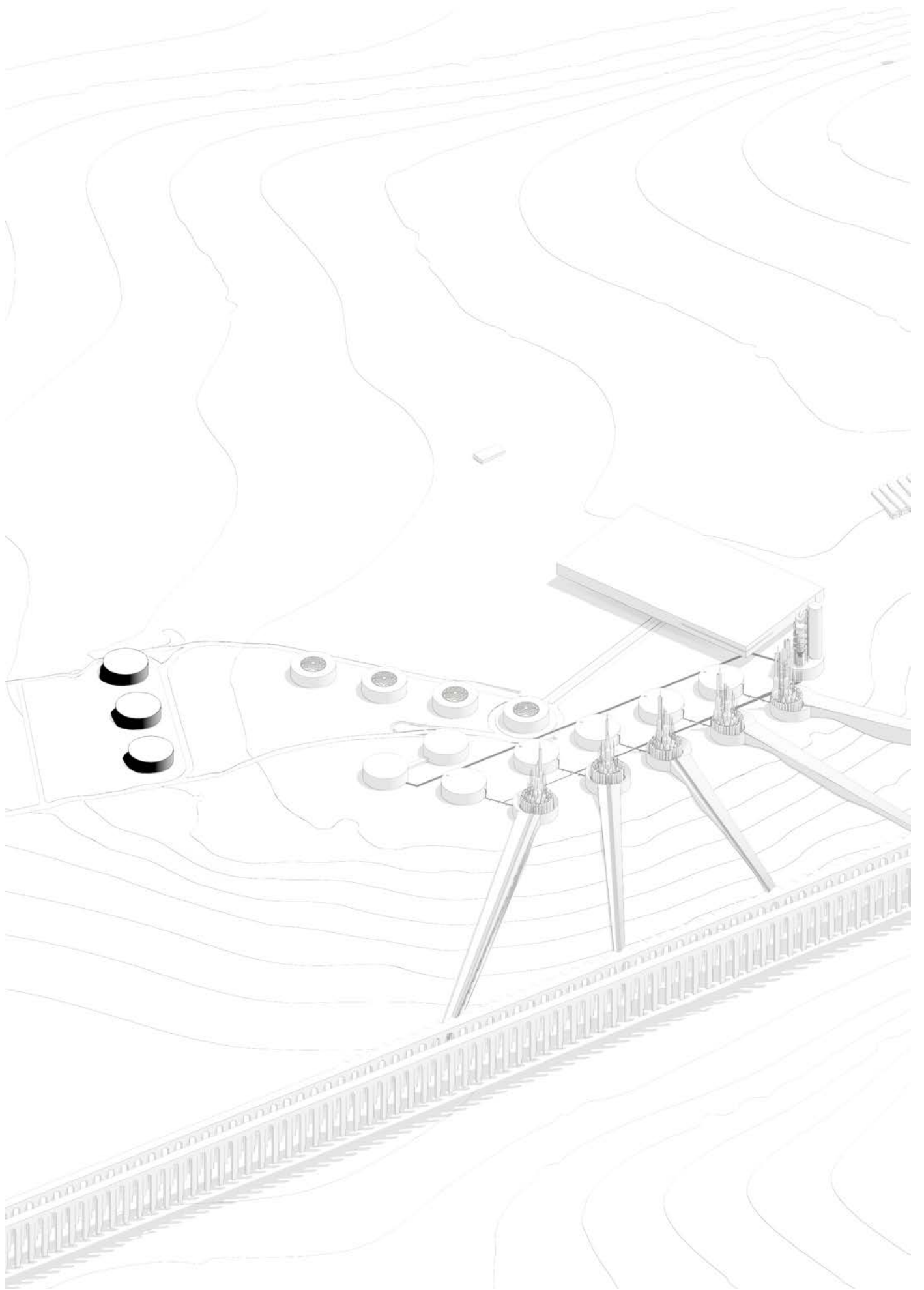
The refined oil then ends up in an automated plastic injecting factory where different objects are made, from plastic tables, plastic chairs to plastic cutlery, all to be used in the food court.









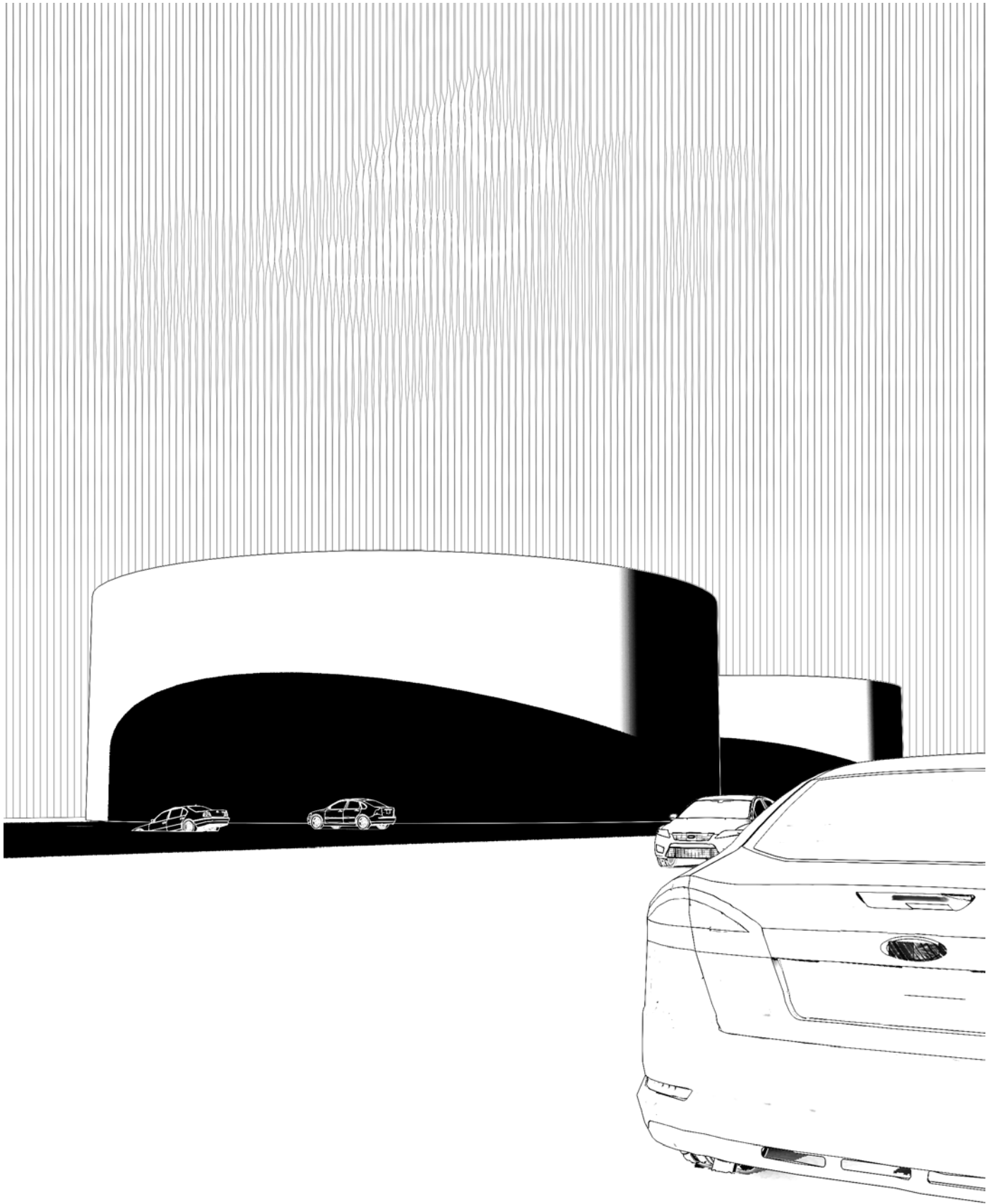


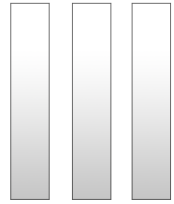
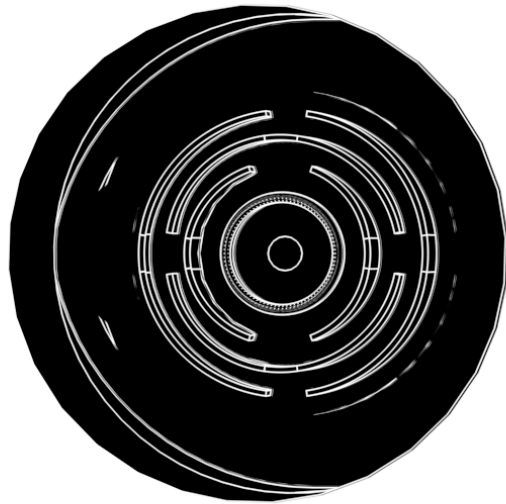
The supermarket

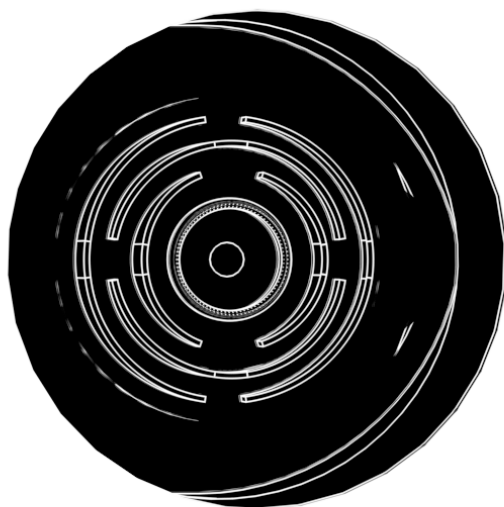
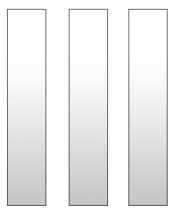
As you access the site from the existing road network, you get welcomed by three tanks located at a lower level than the others. The supermarket.

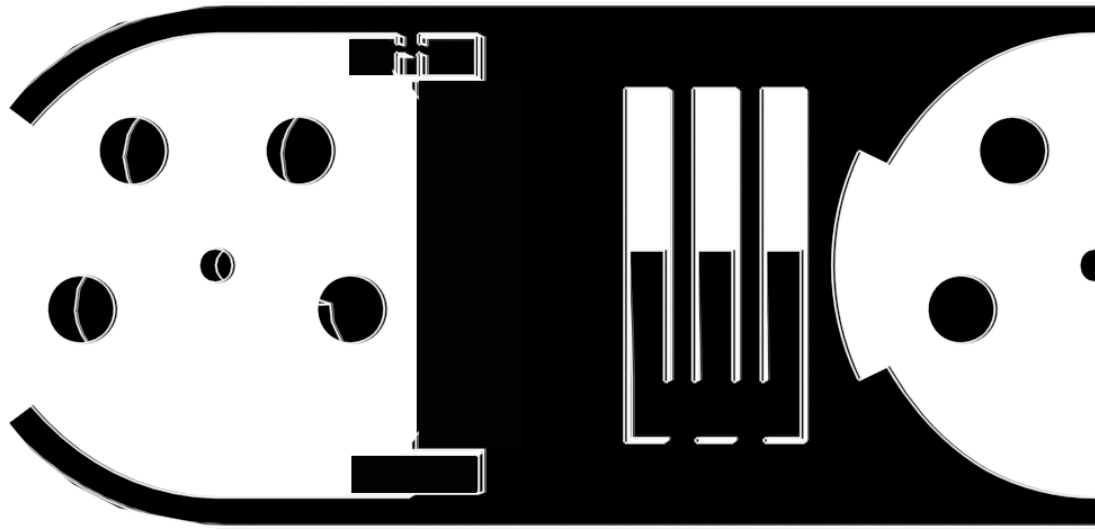
The cars go down the ramps leading to an automatic parking platform. From there, the shoppers have the choice between three tanks serving different products.

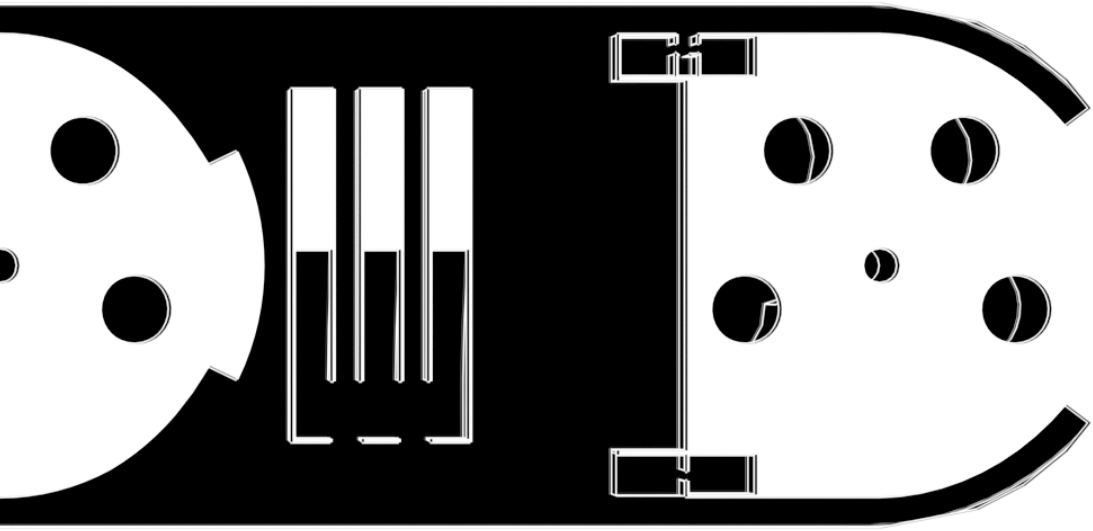
The interior surface of the tanks is covered with a screen that projects movies. Projected movies have an influence on the time spent in each tank, and the judgement of the shoppers while choosing their products.

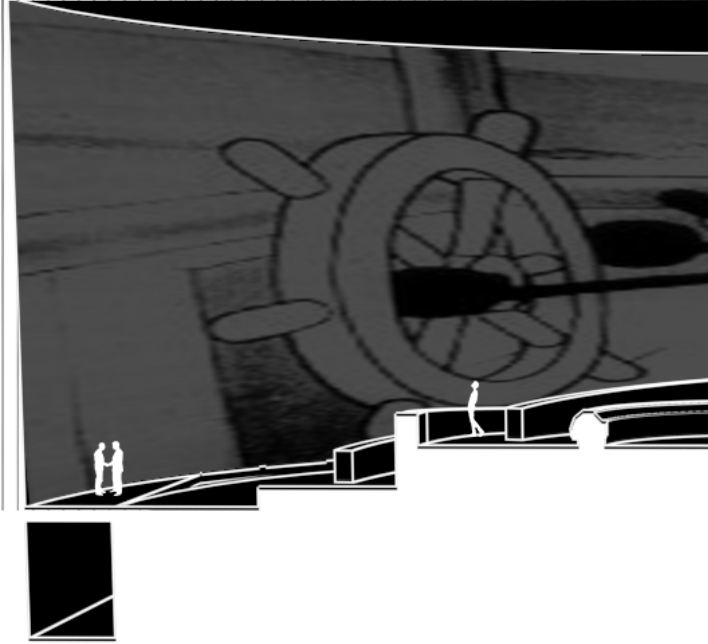
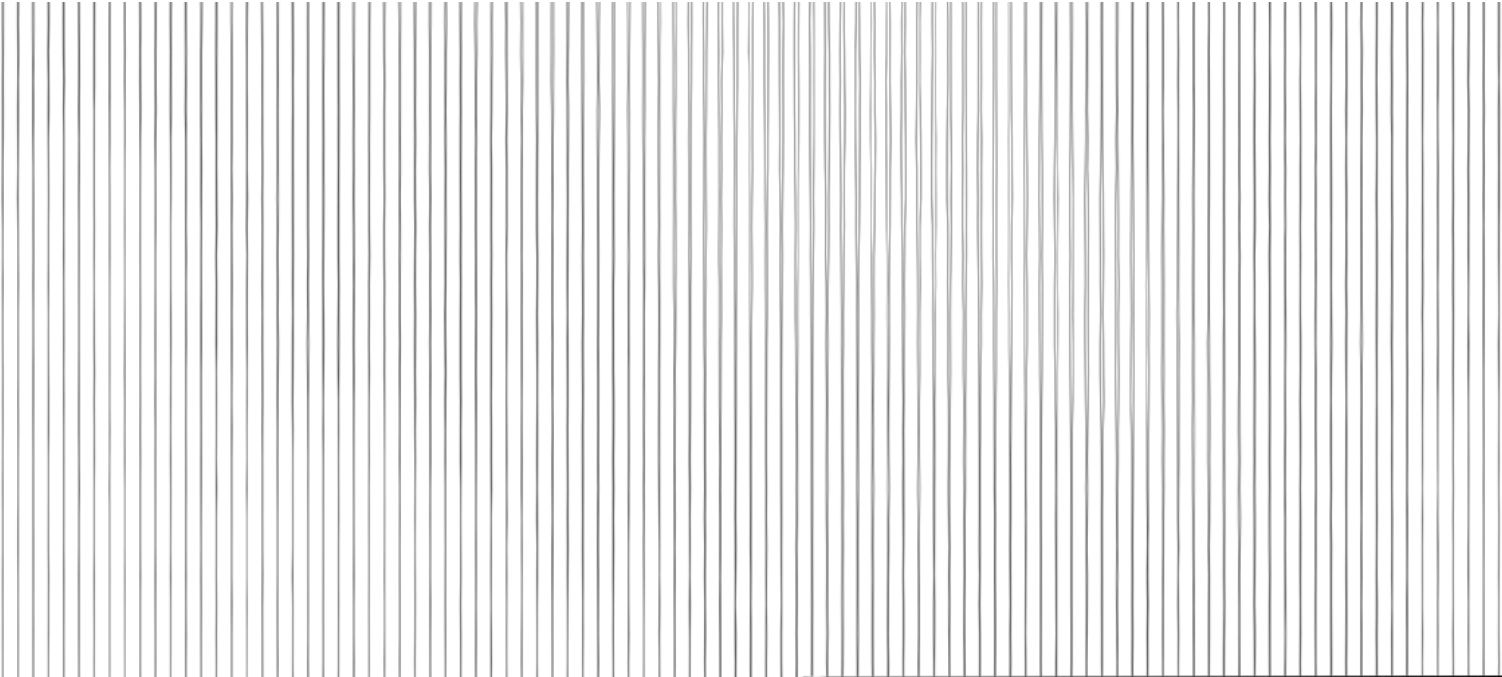


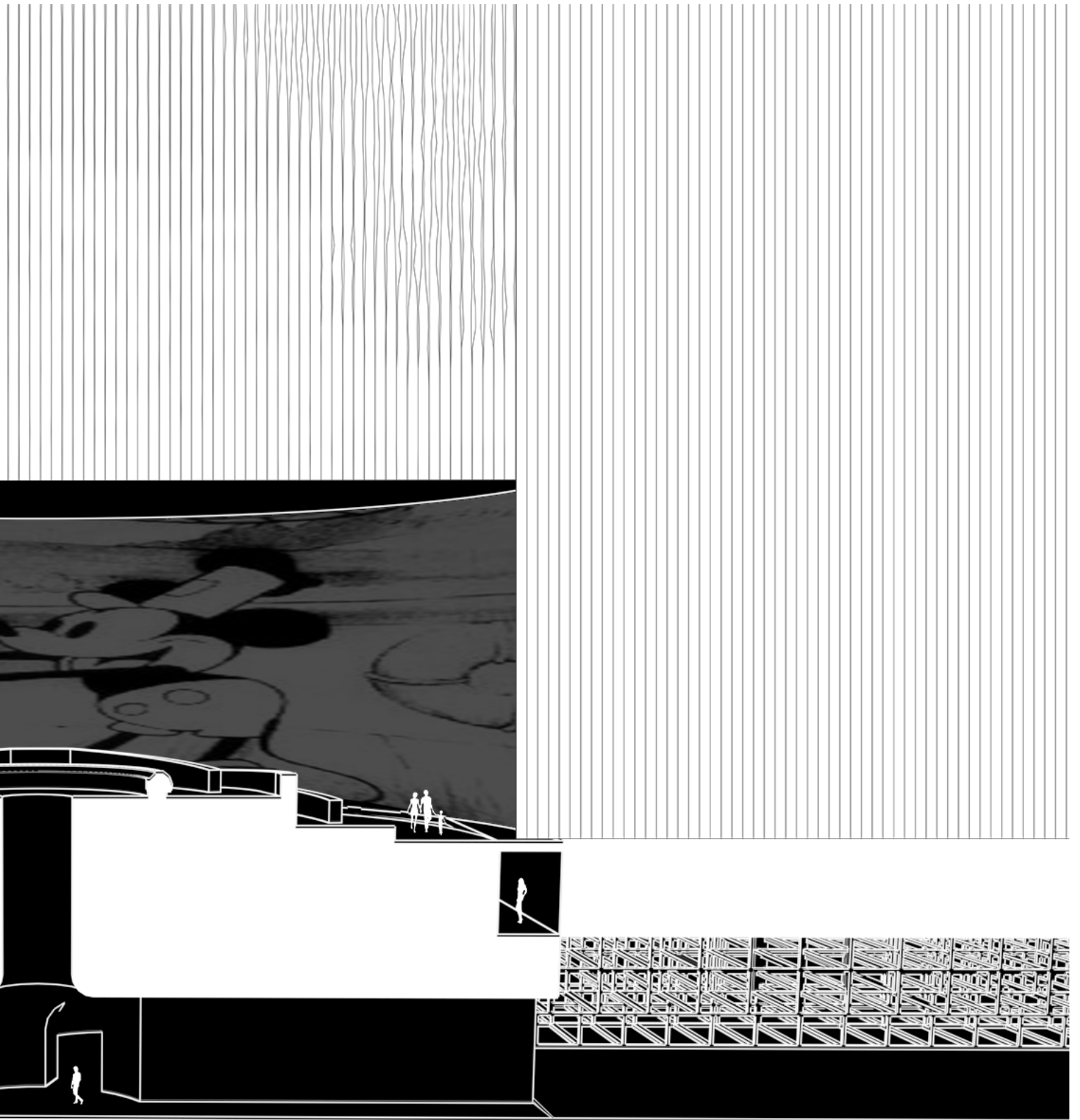


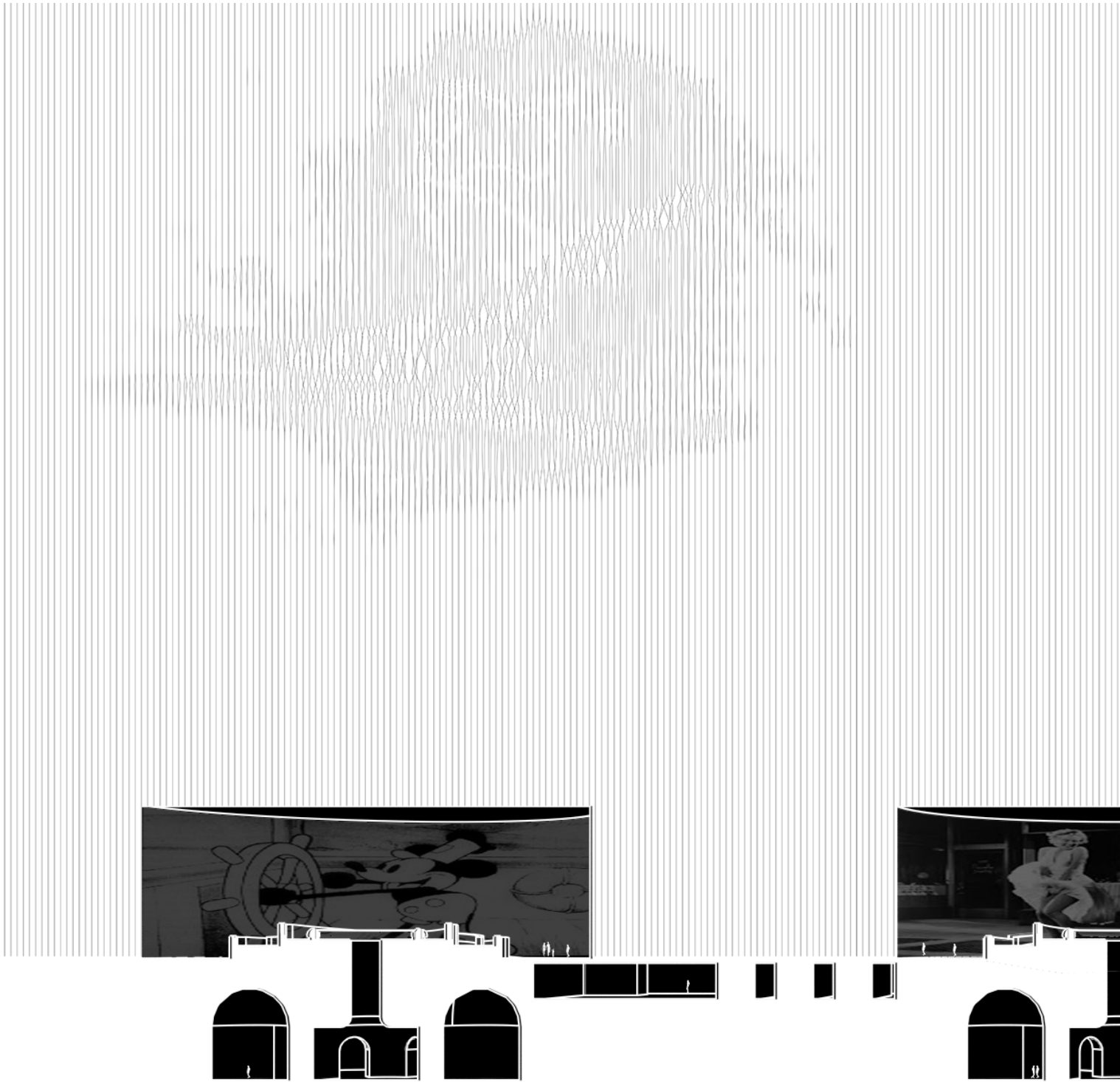






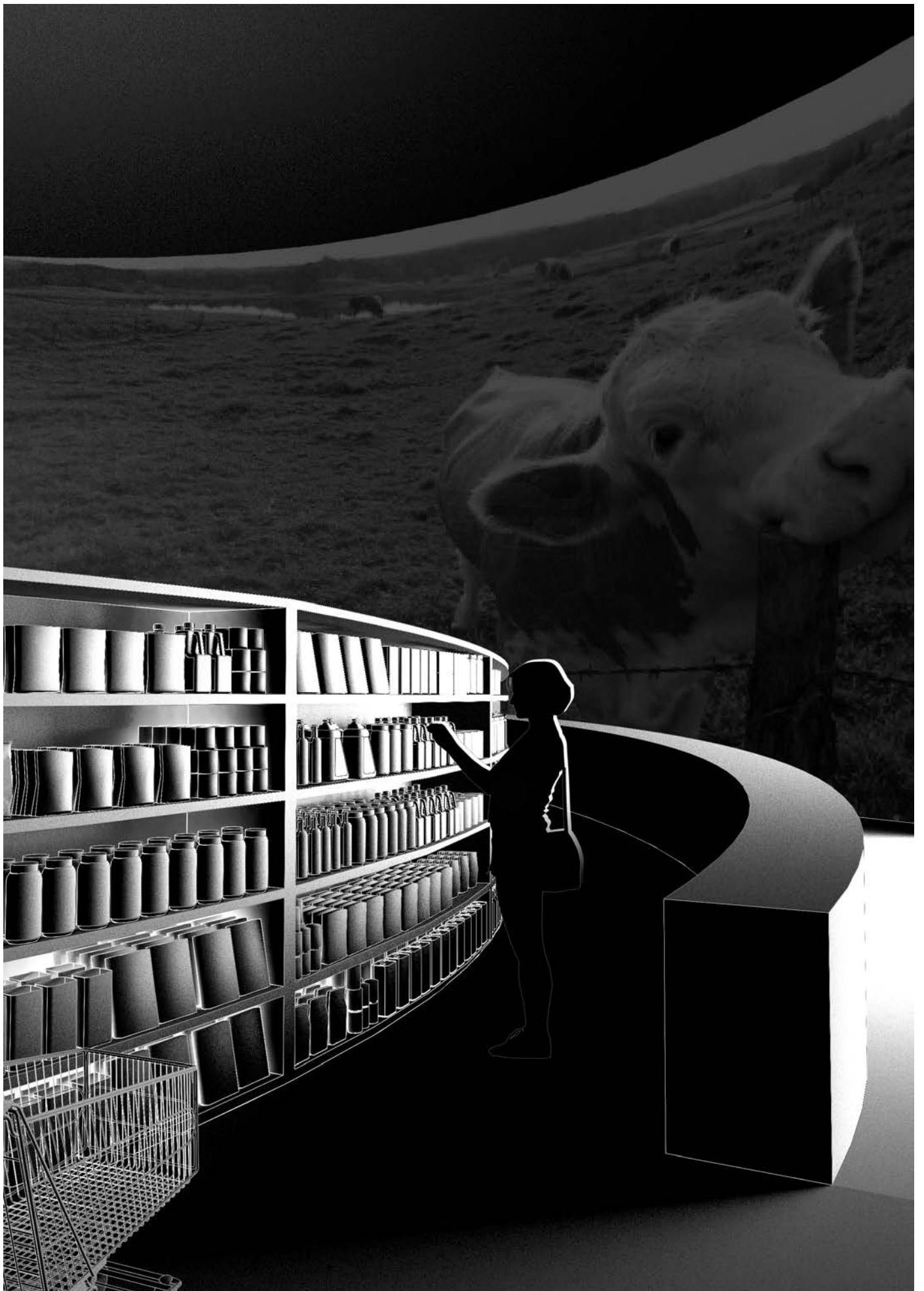


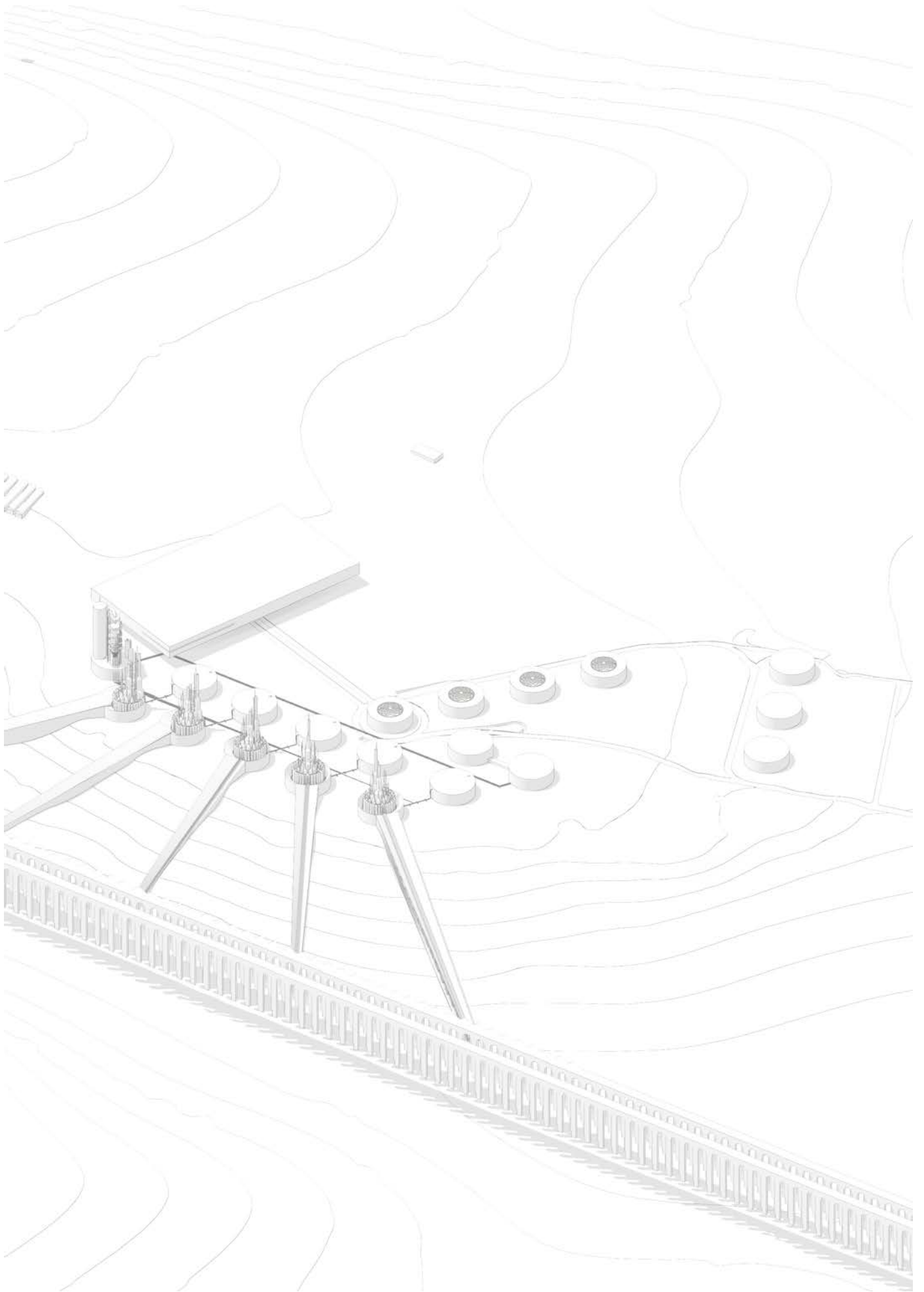


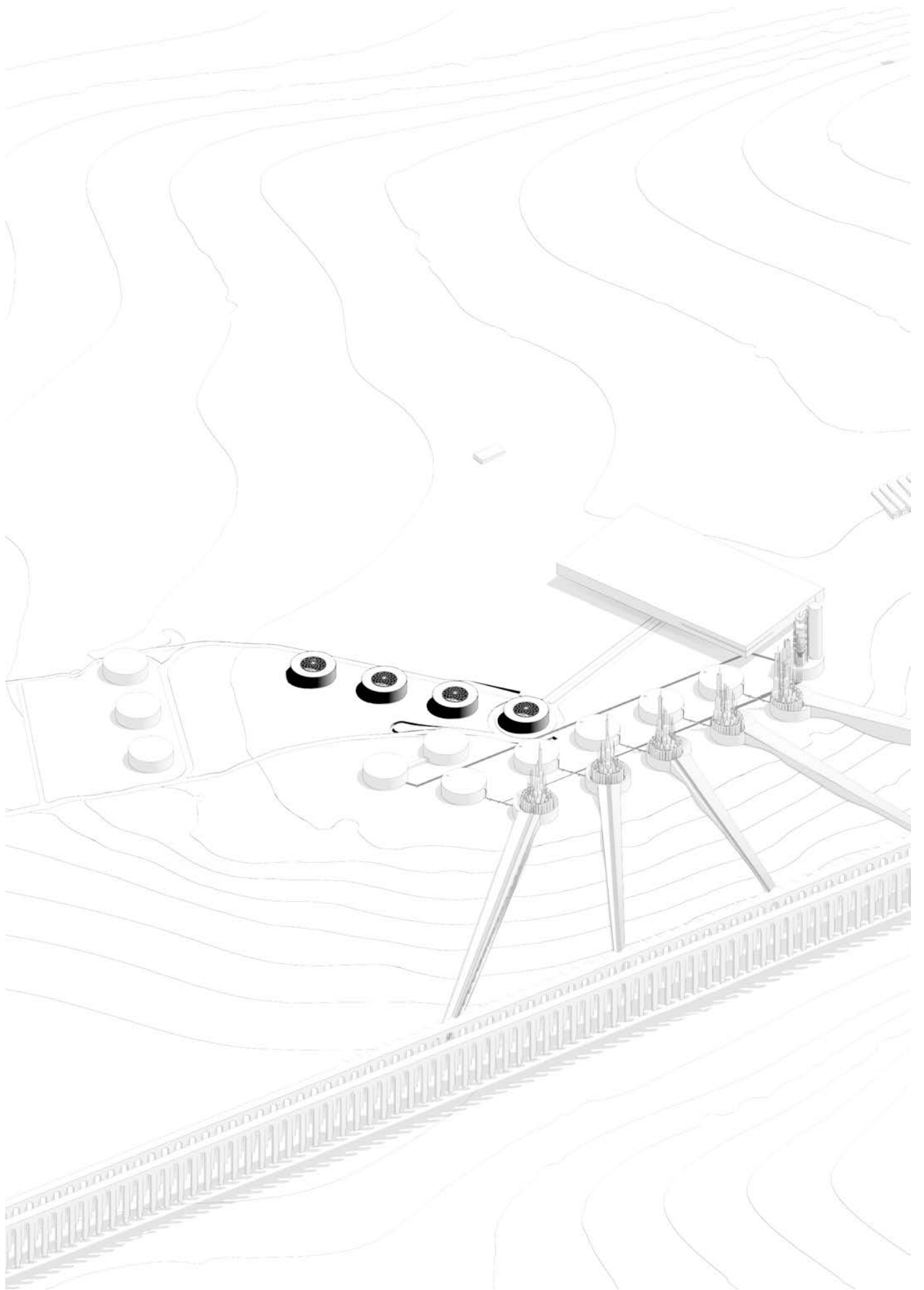




Inside the tank is a series of ramps with an array of products leading to a platform housing a fresh products display serving dairy, meat or vegetables with storage spaces accessible via a platform and serviced by its own entry.



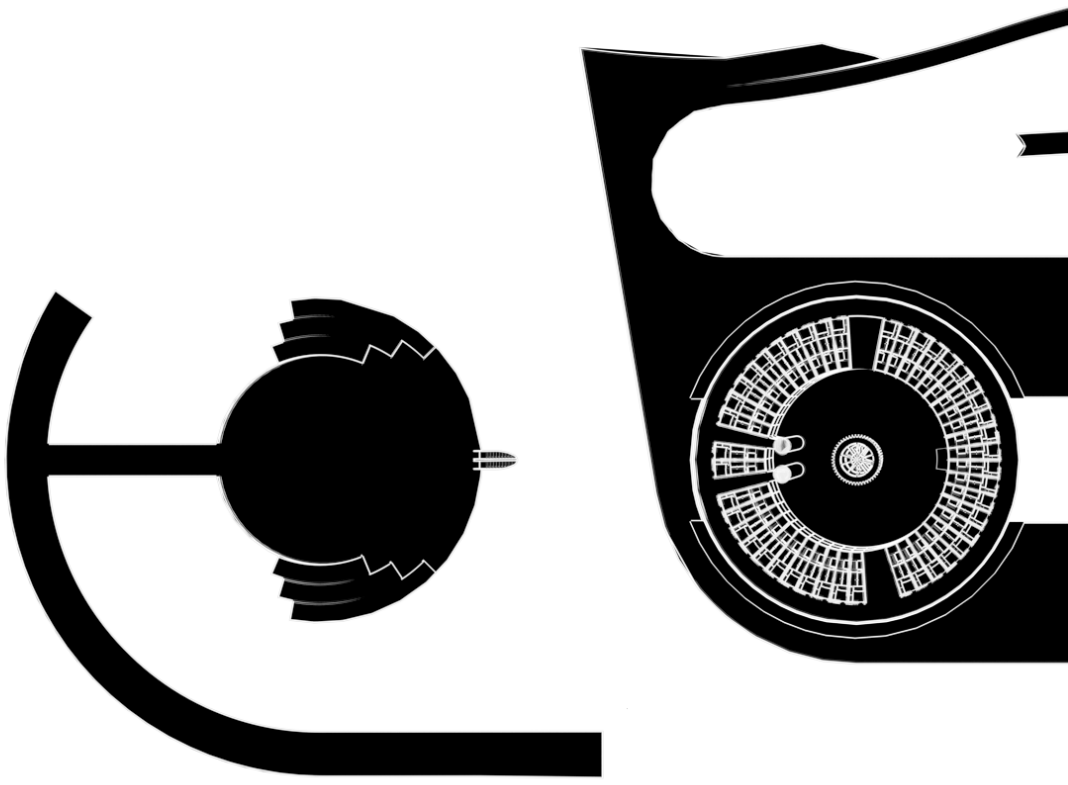


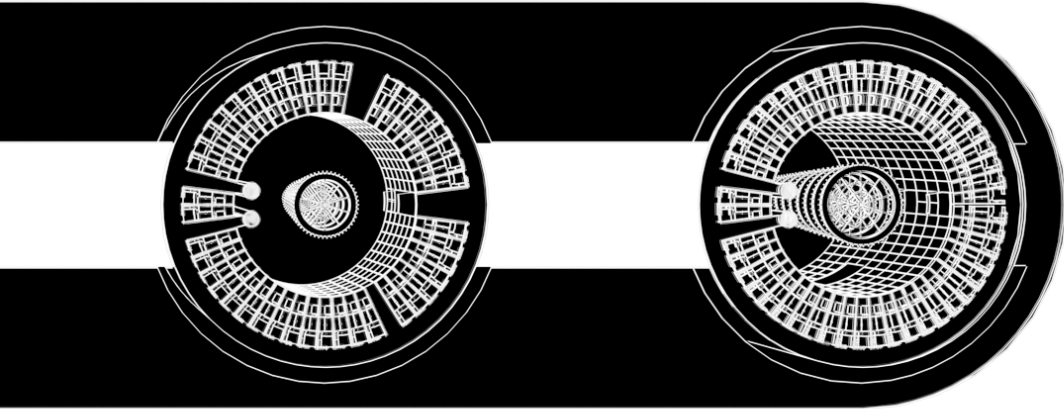


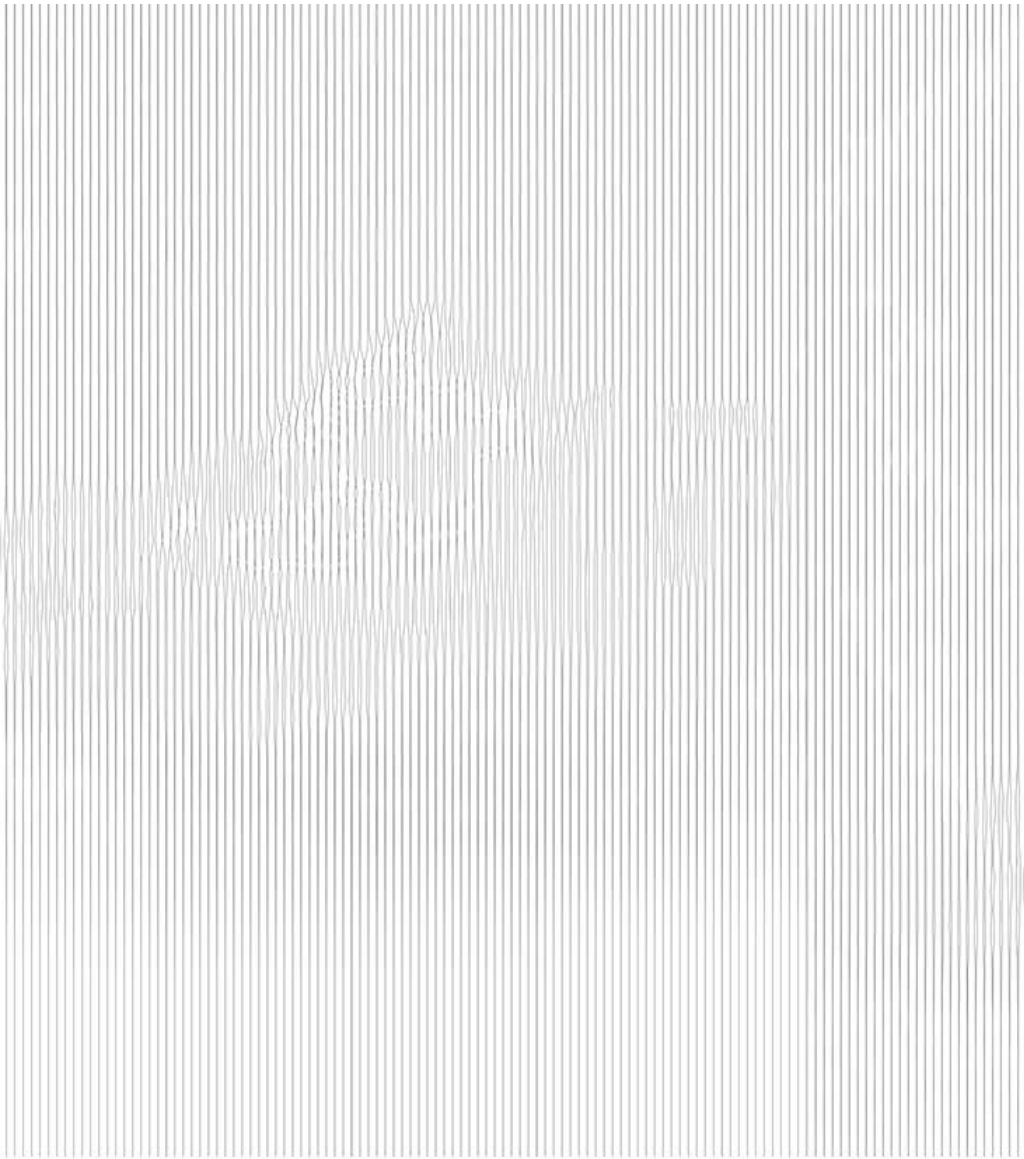
The food court

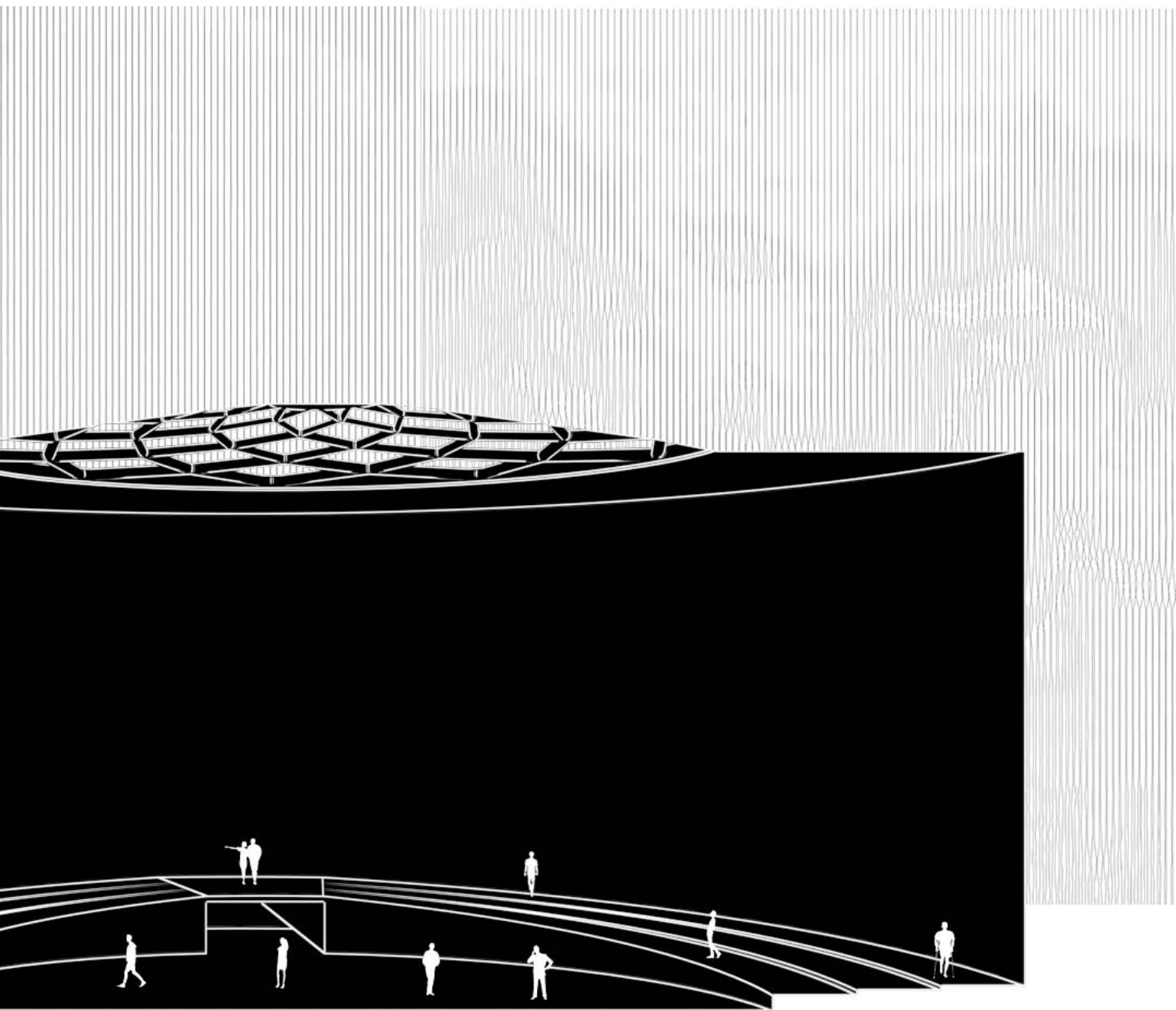
Another program is the food court. Celebrating the act of eating and producing plastic waste through unwrapping prepackaged foods from vending machines on plastic furniture.

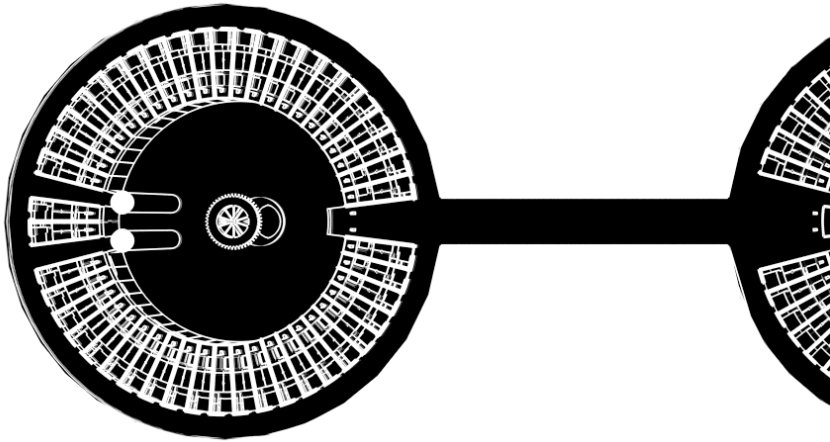
Spread across four tanks, one for casual gathering space, and three others for three different courses in a meal. Each food court is an open space with no set furniture, users can get their tables, chairs and cutlery from various vending machines at the periphery of the court to place them wherever they want, much like a picnic area.

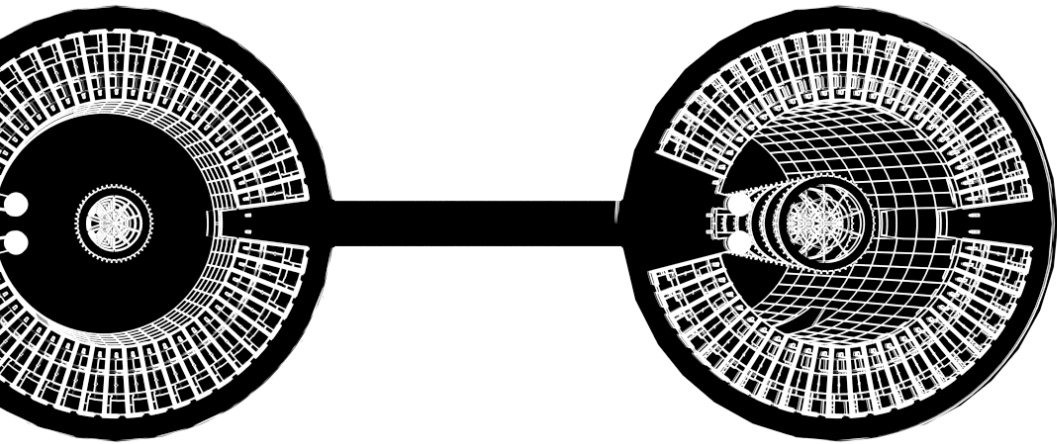




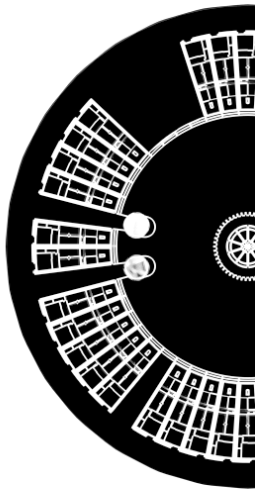
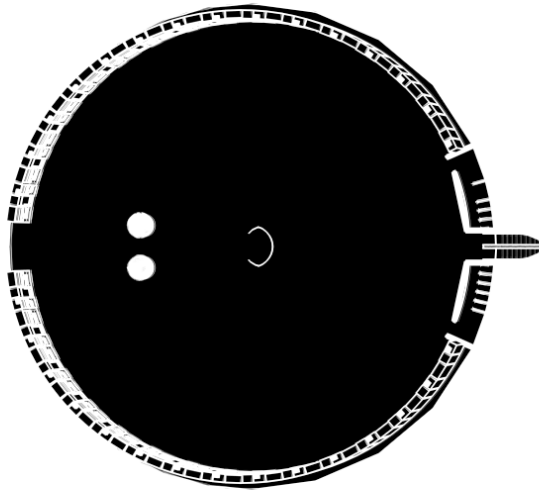


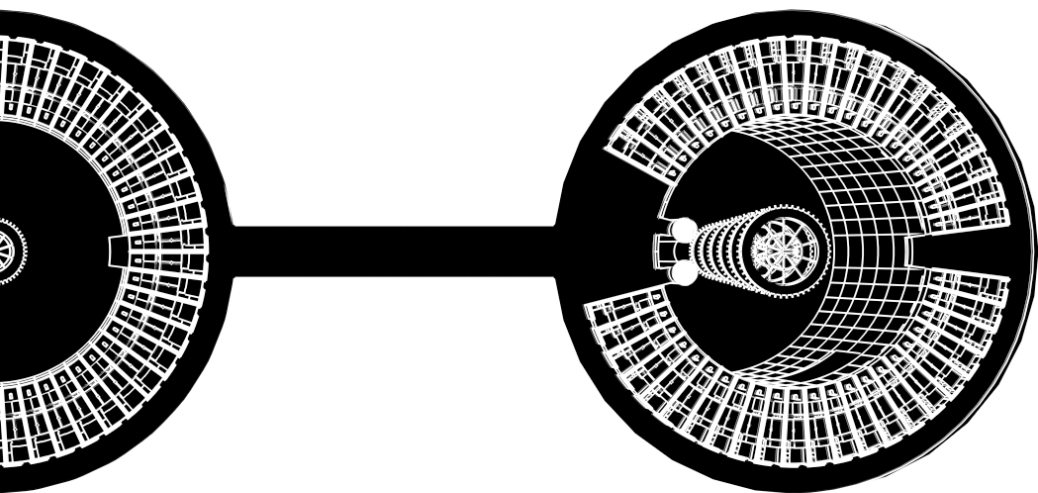






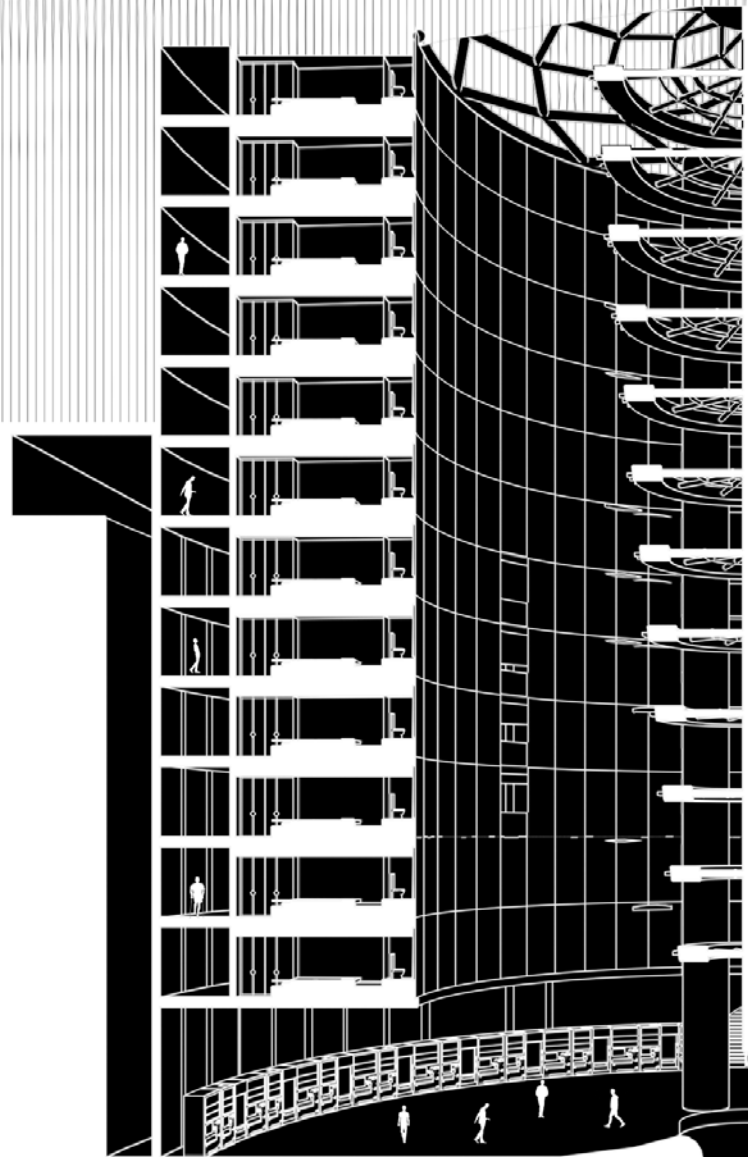
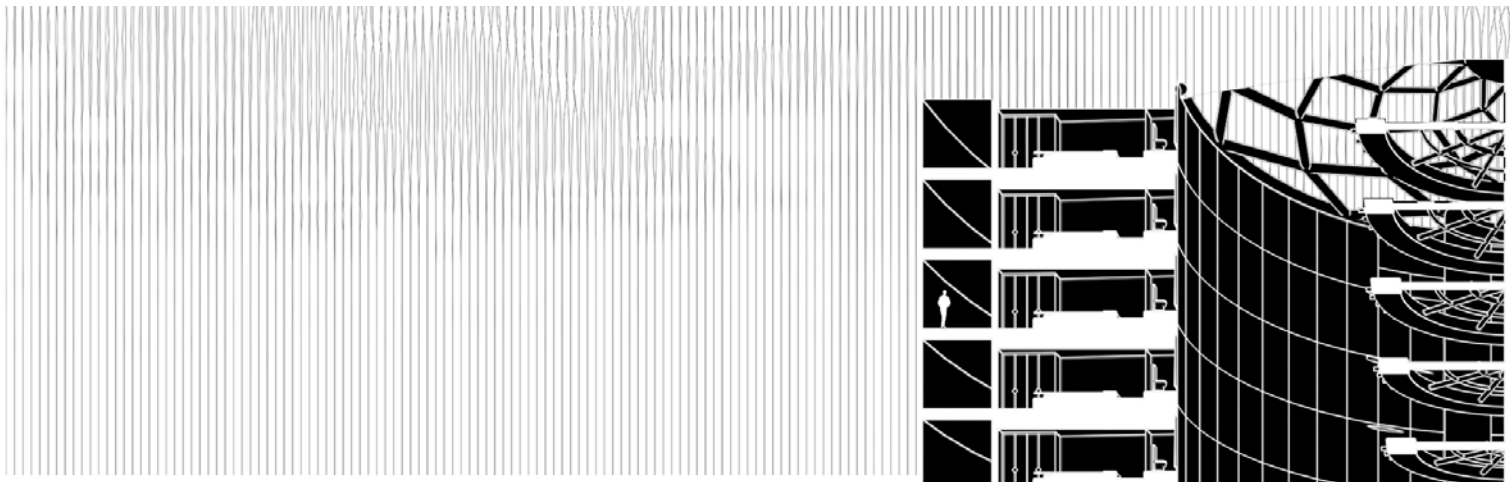
At the centers of the courts are shoots. These shoots are for the disposal of the plastic waste. A central gesture for a ceremonial effect of the act of throwing plastic. The dumped plastic is transported back to the processing facility where it will go through yet another process of transformation.



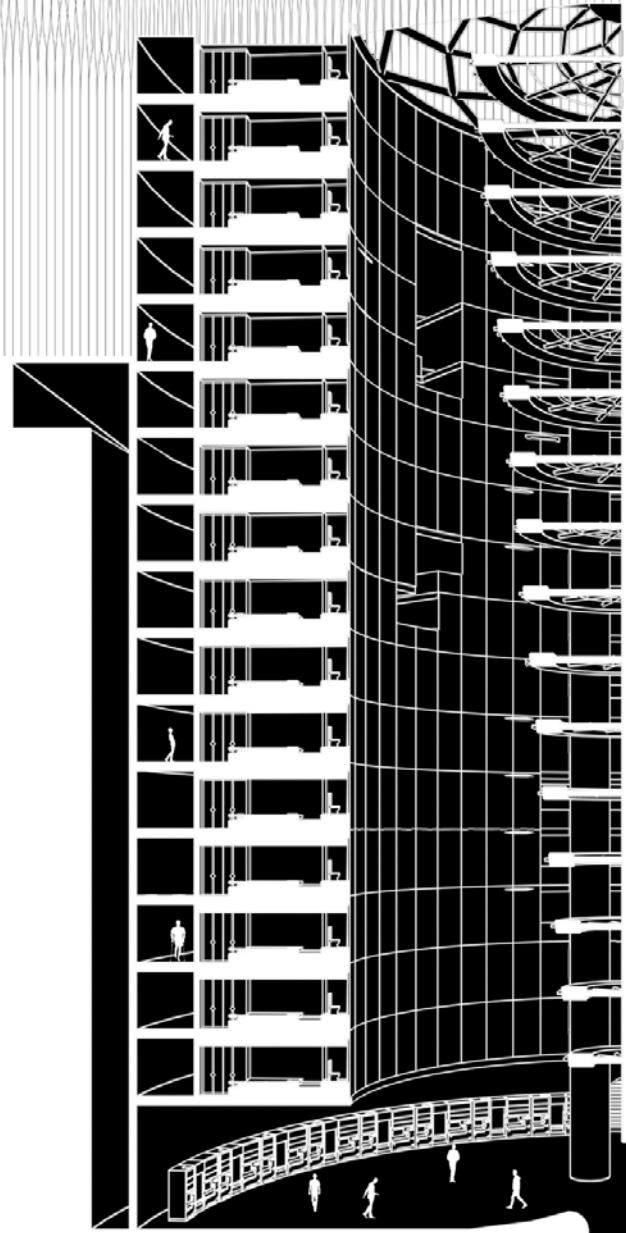
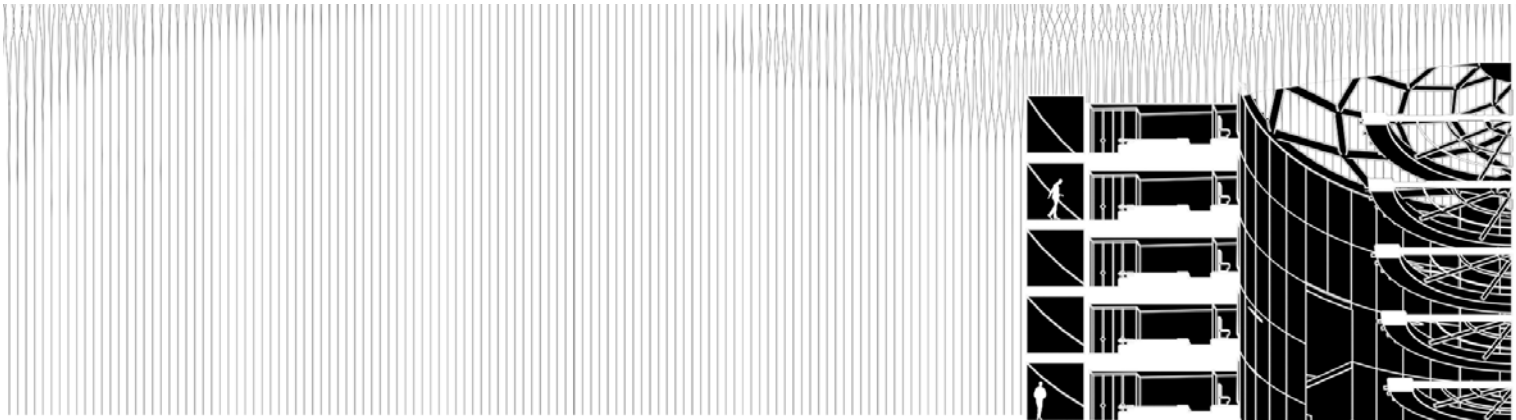


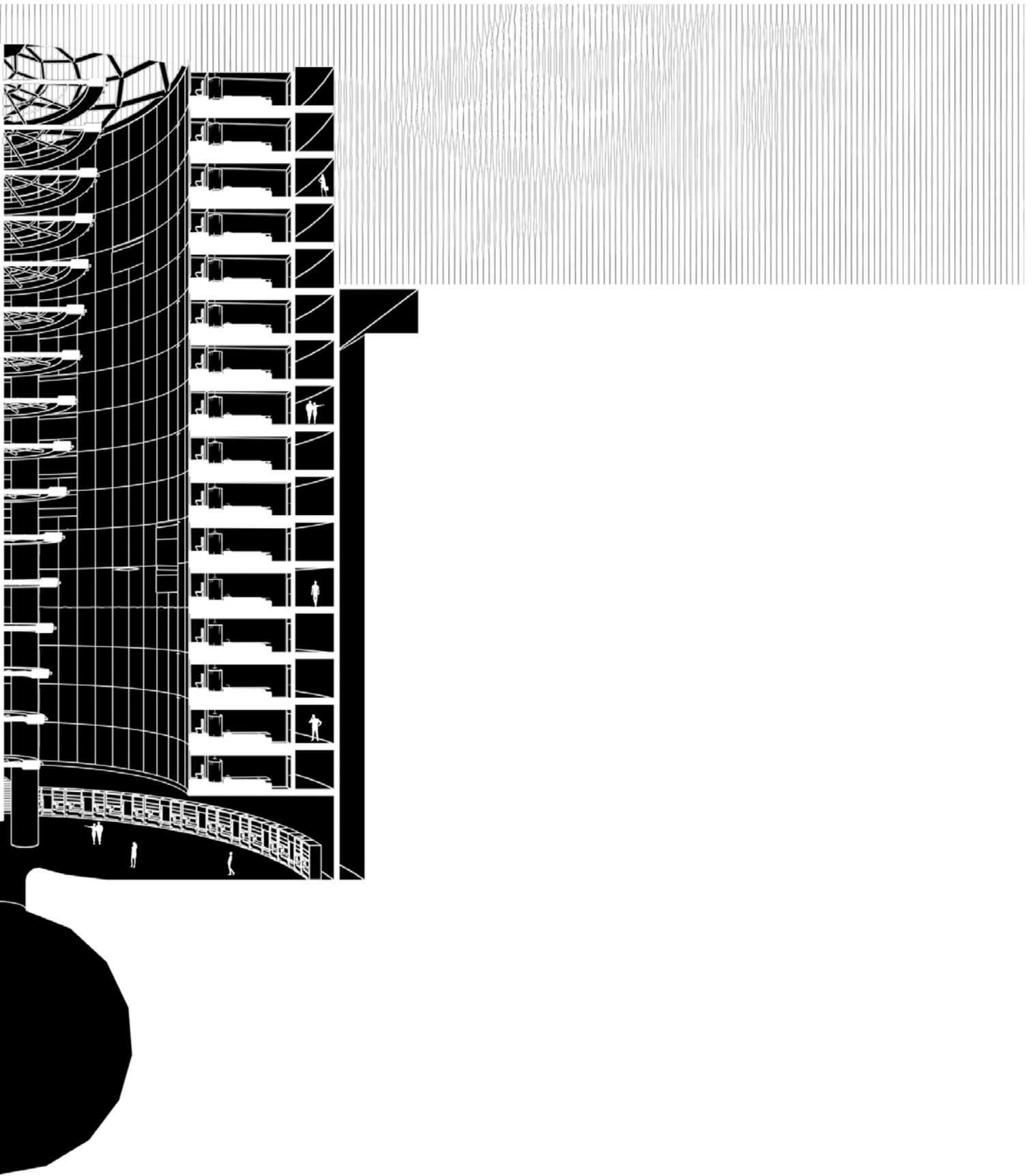








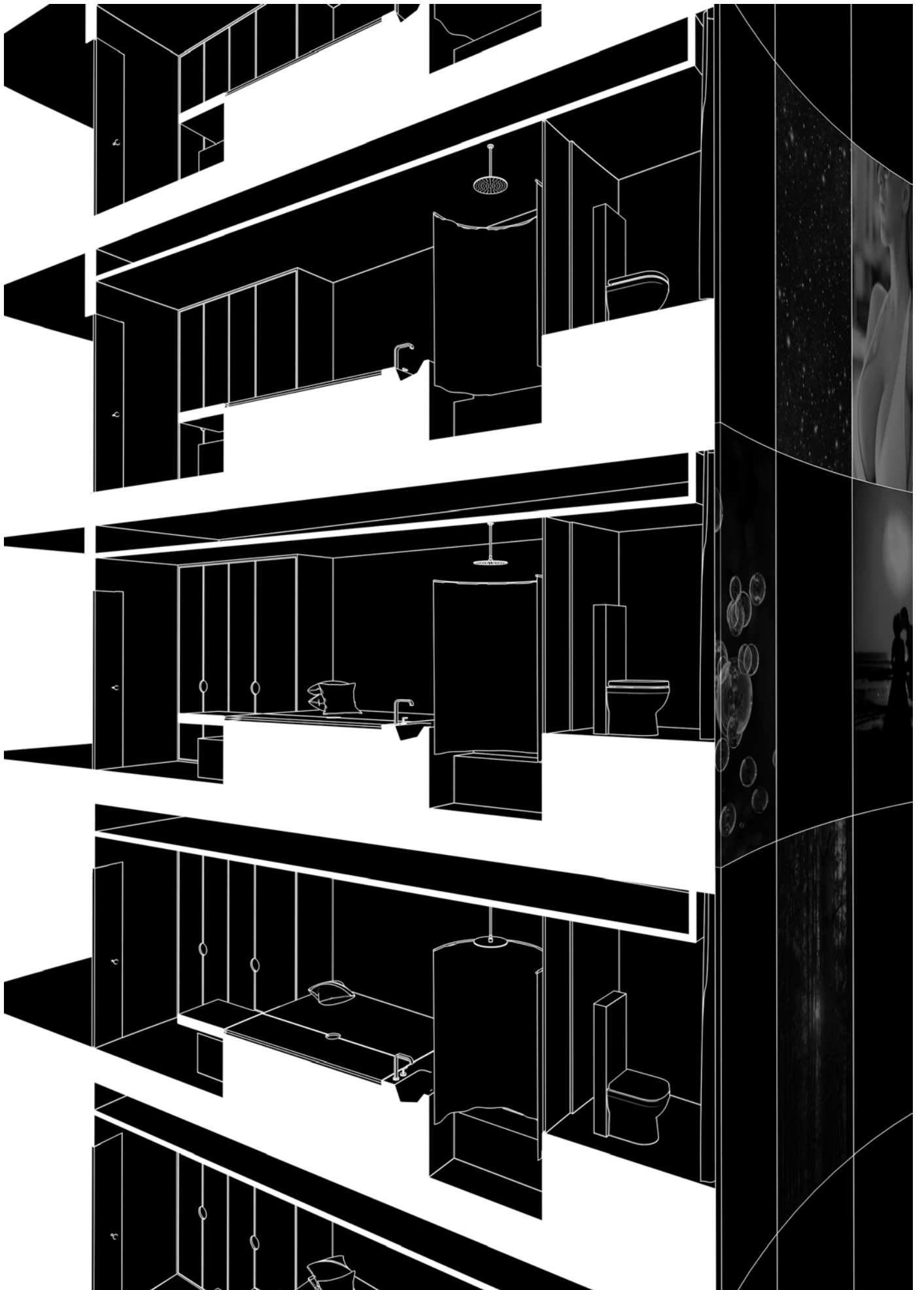




The deeper you are in your meal, the deeper you get in the tank, making it harder to come out of the abyss of gluttony. That's why I have provided various rooms above the food courts to cater for extensive periods of eating and relaxation.

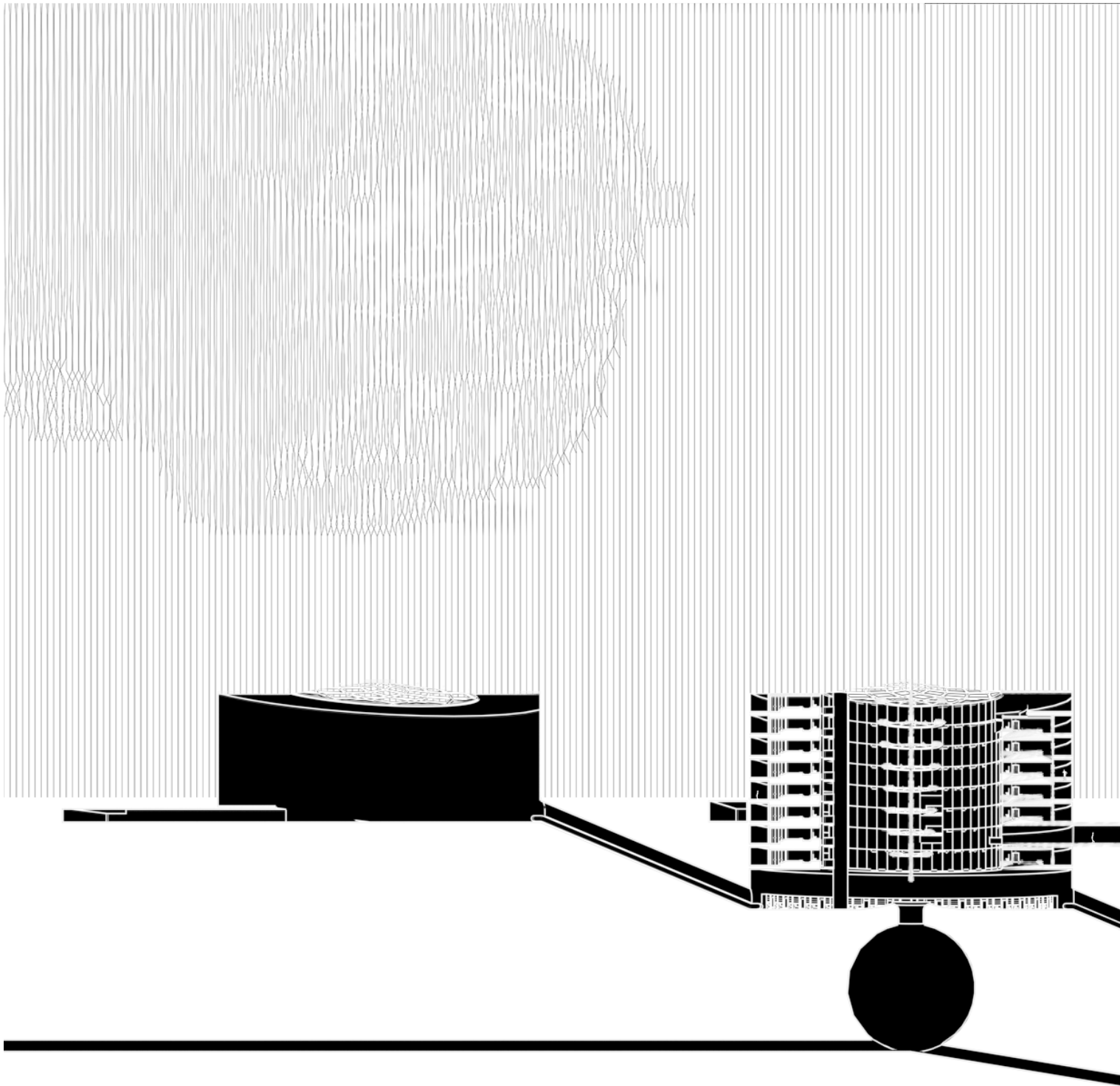


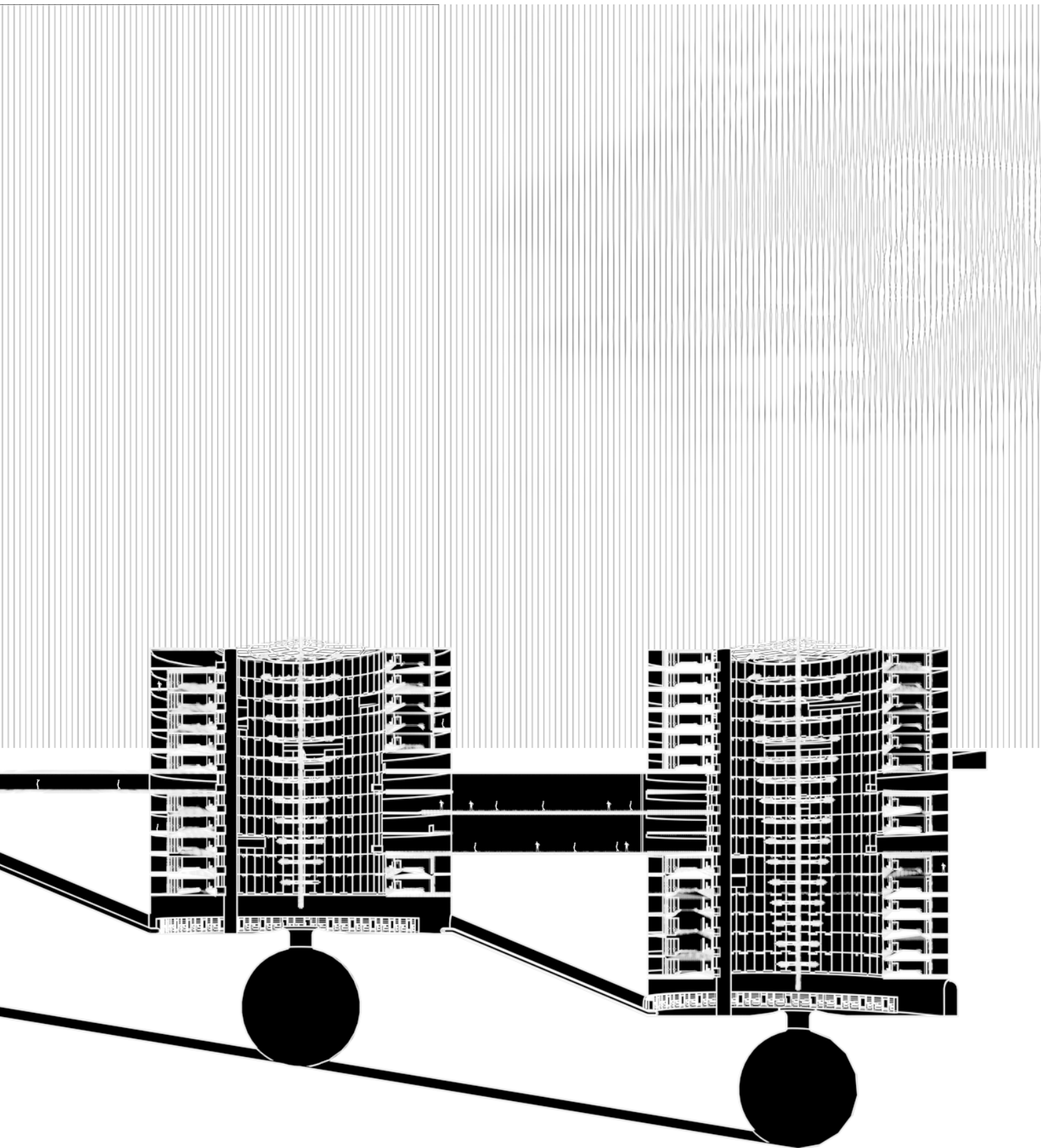
These rooms have the purpose of soothing and relieving the person inhabiting them to allow them to go through yet another round of eating. Hence the climax of the bedroom being at the WC, the ultimate manifestation of relief. Giving on to the courtyard, the WC serves as a WC, chair and a throne.



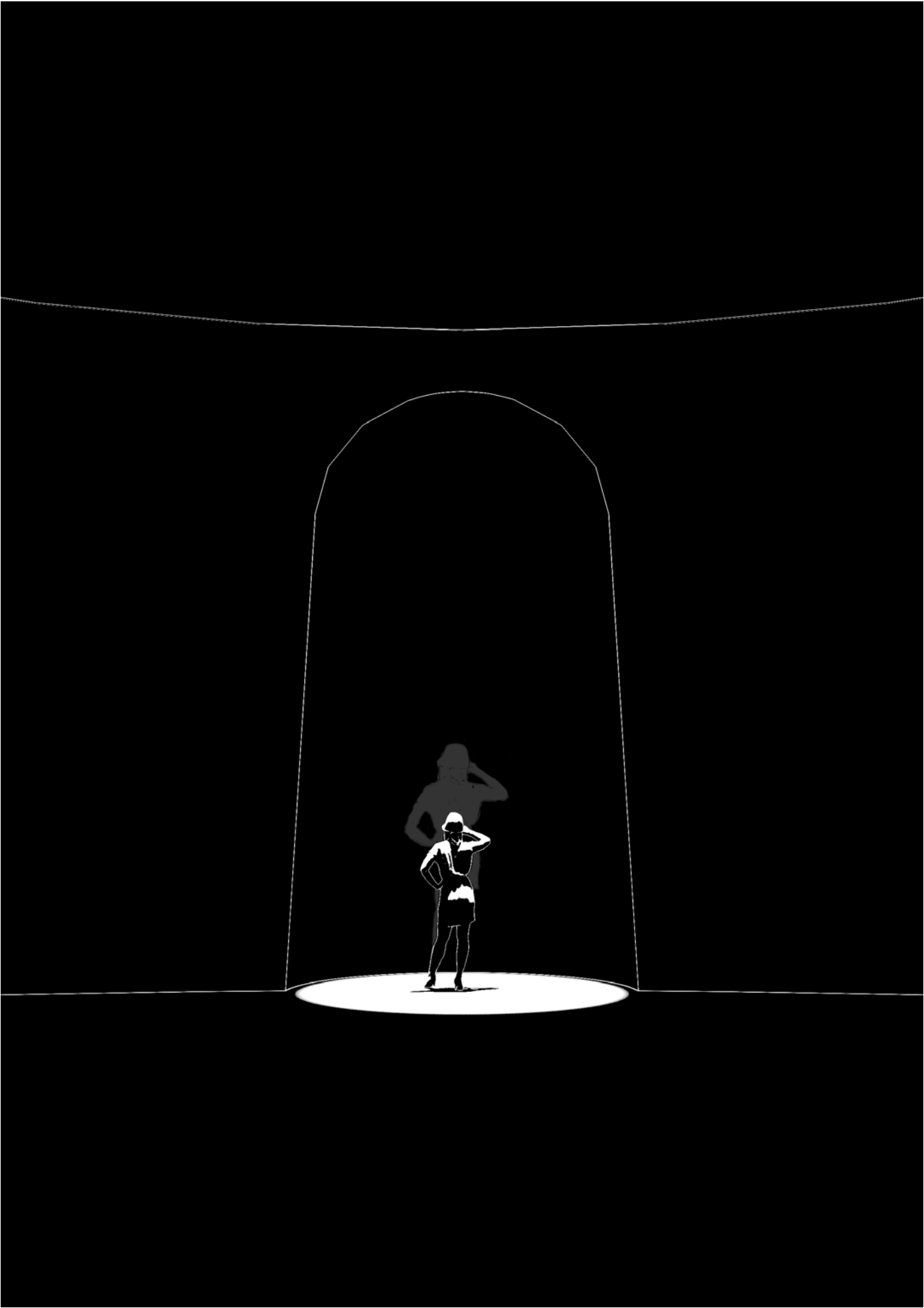
While the glass facade of the bedroom might be an enjoyment for voyeuristic individuals, it is also a surface of projection to set up a mood in the room, or enjoy a projection of your choice, such as movies or the news.

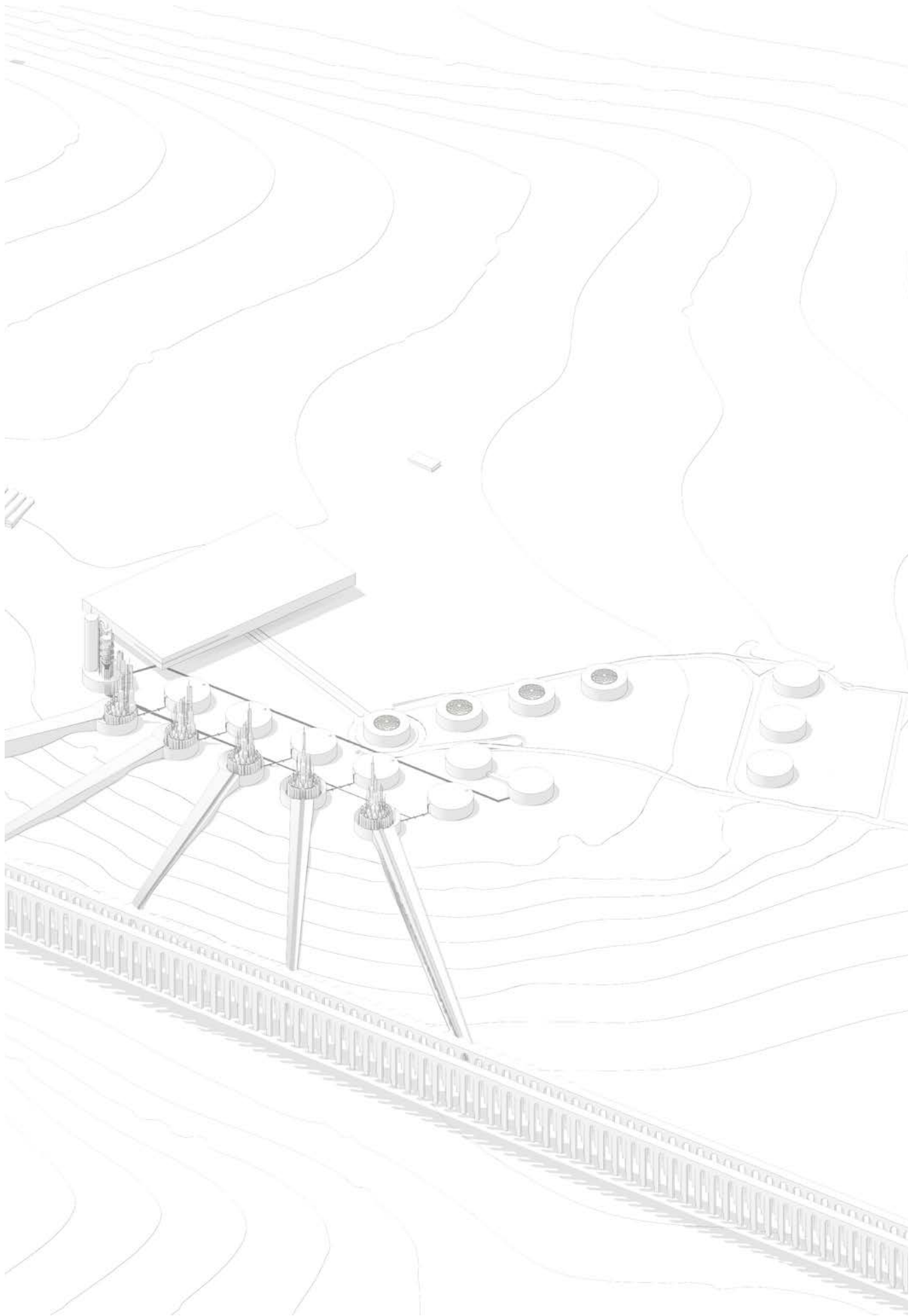


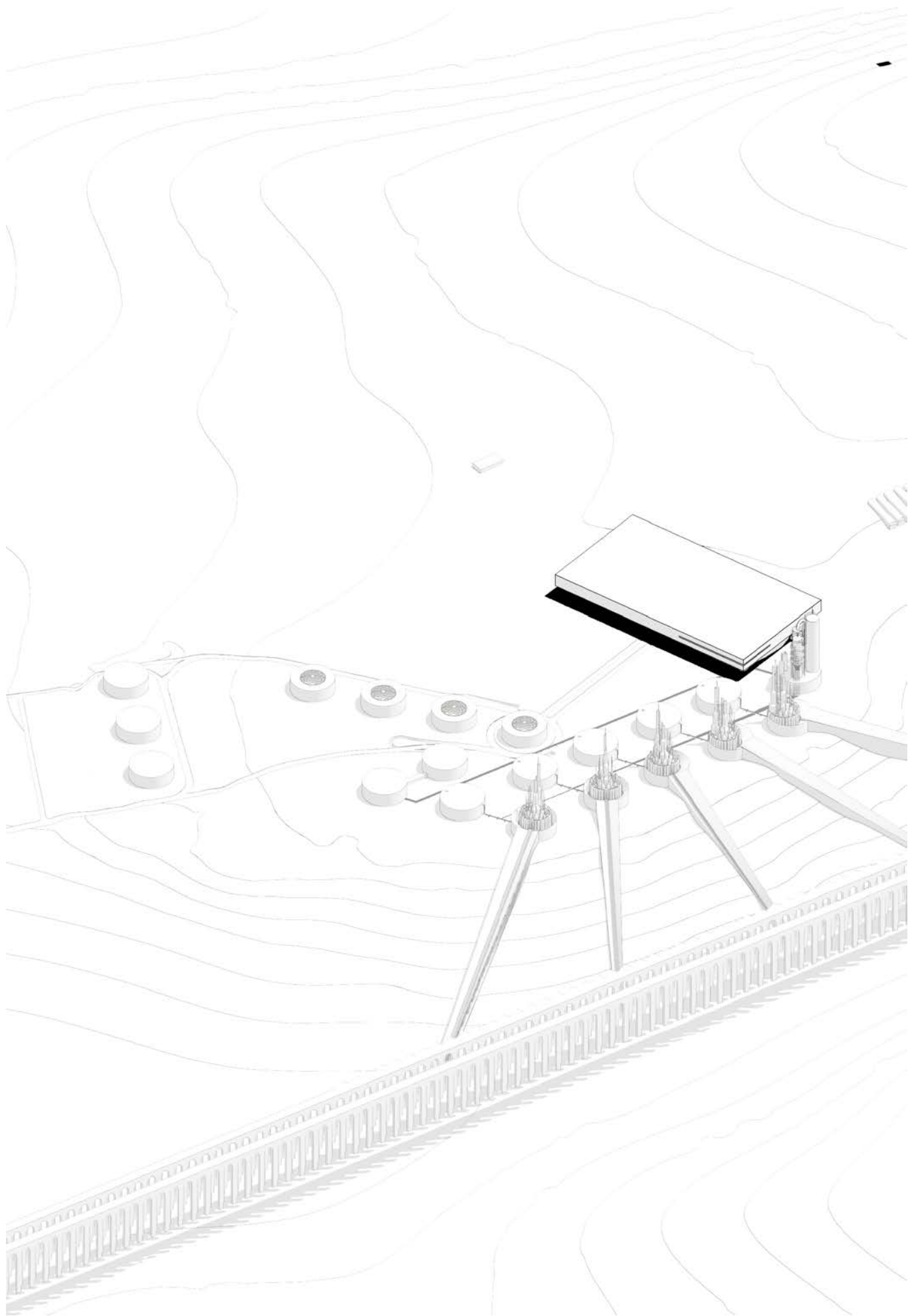




At the deepest court, and at the end of this abyss you get faced with a reflective *mihrab*, a focal point guiding the journey from the road through the different levels of the food court. A moment of self-reflection for being at the center of the journey of consumption.

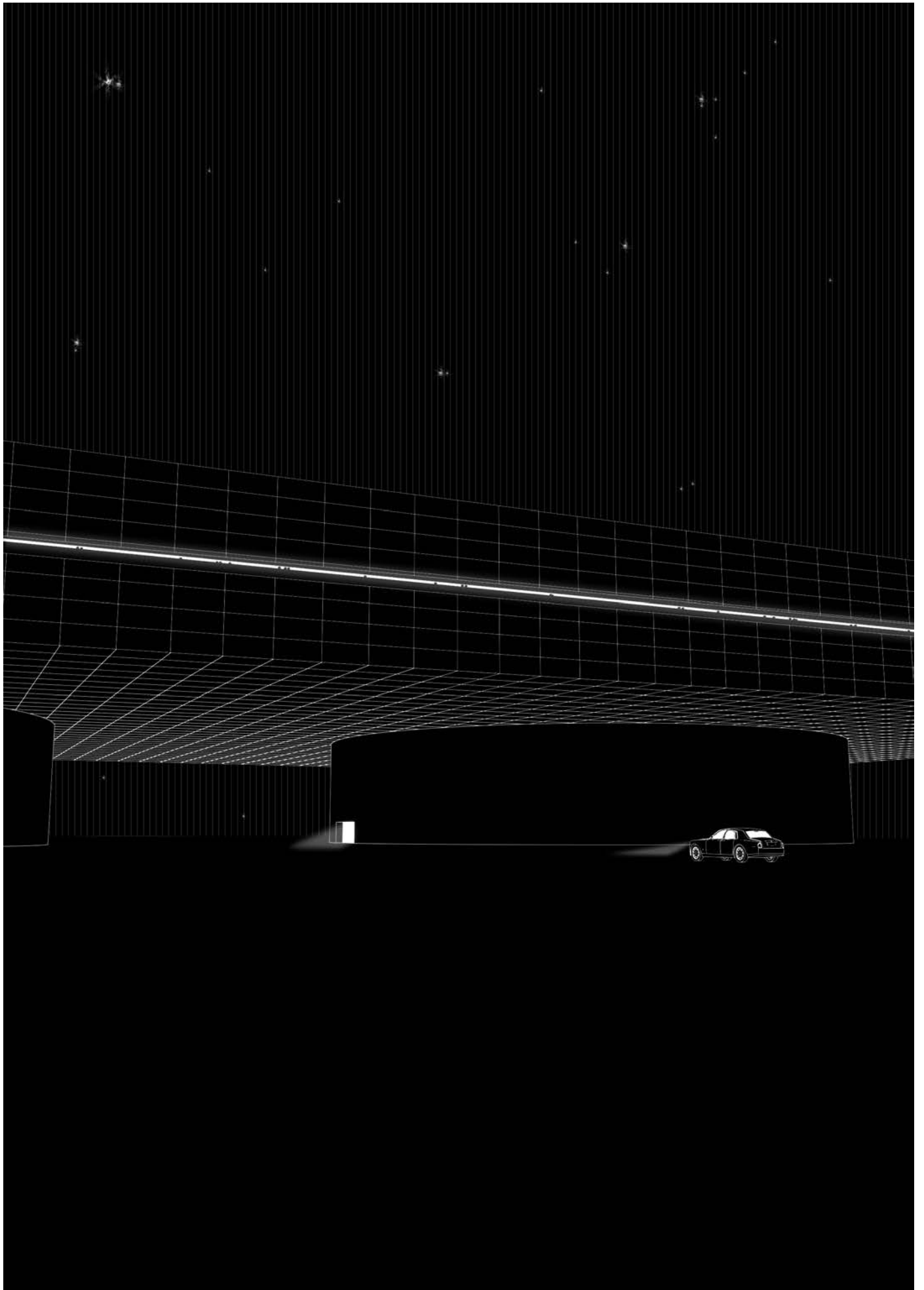


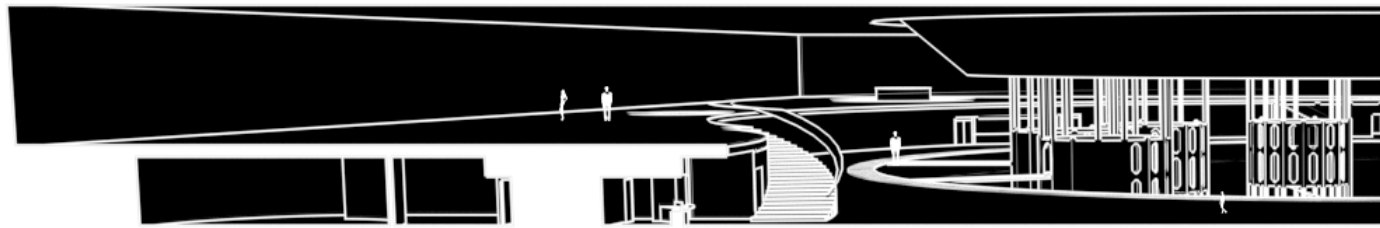


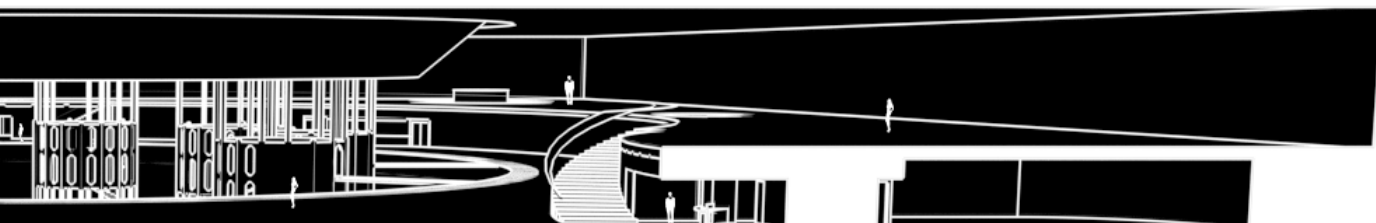


The casino

Crowning the two largest tanks on site, a marble volume hosts the casino, where plastic is law. As paper money sublimates, plastic arises as the ultimate currency. Round, colorful plastic chips become the new measure of wealth, power and control. All hopes of joining the high-performance green society become possible at the hold of a chip. A hope not necessarily met, but essentially fueled by solid oil.



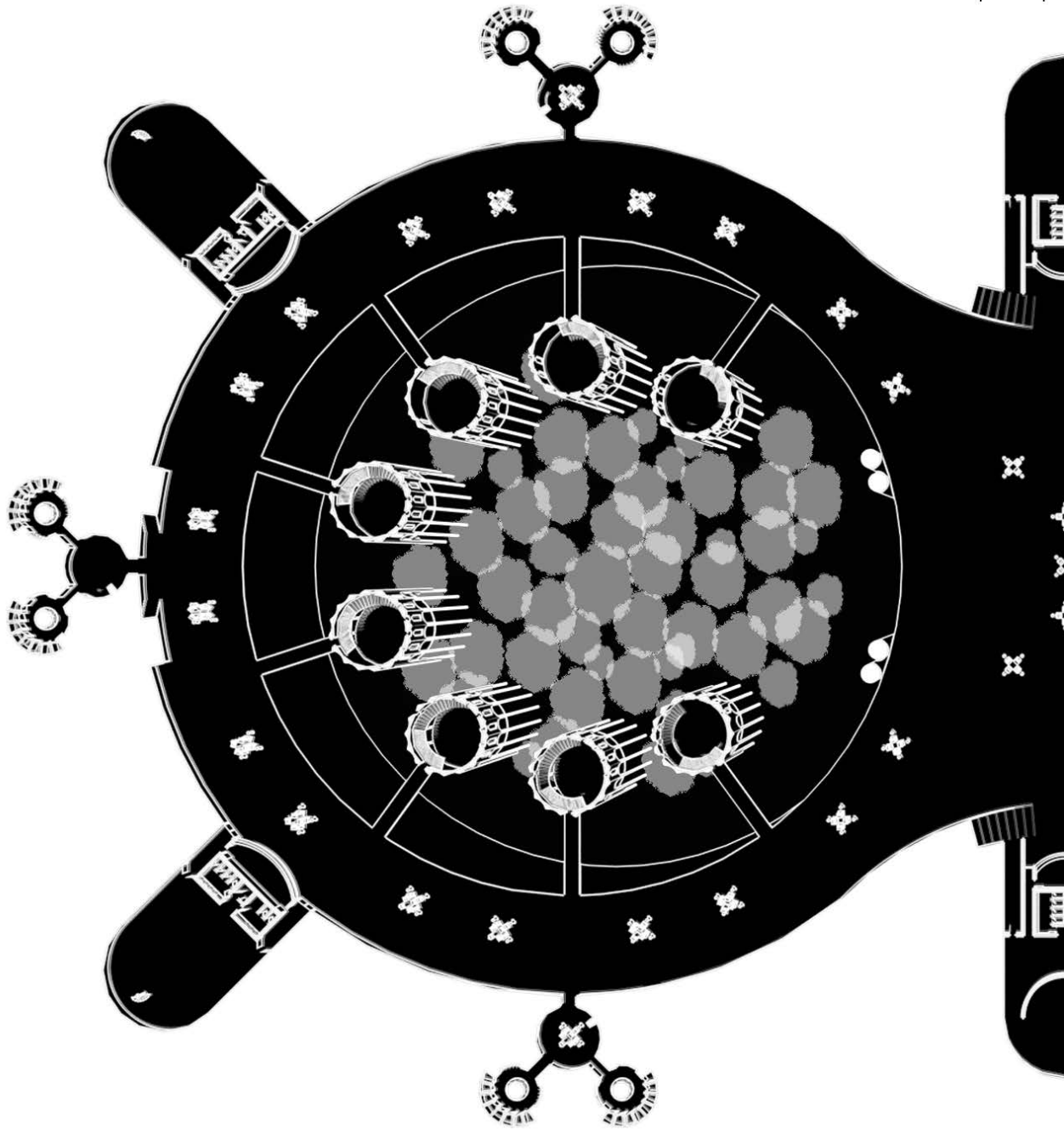


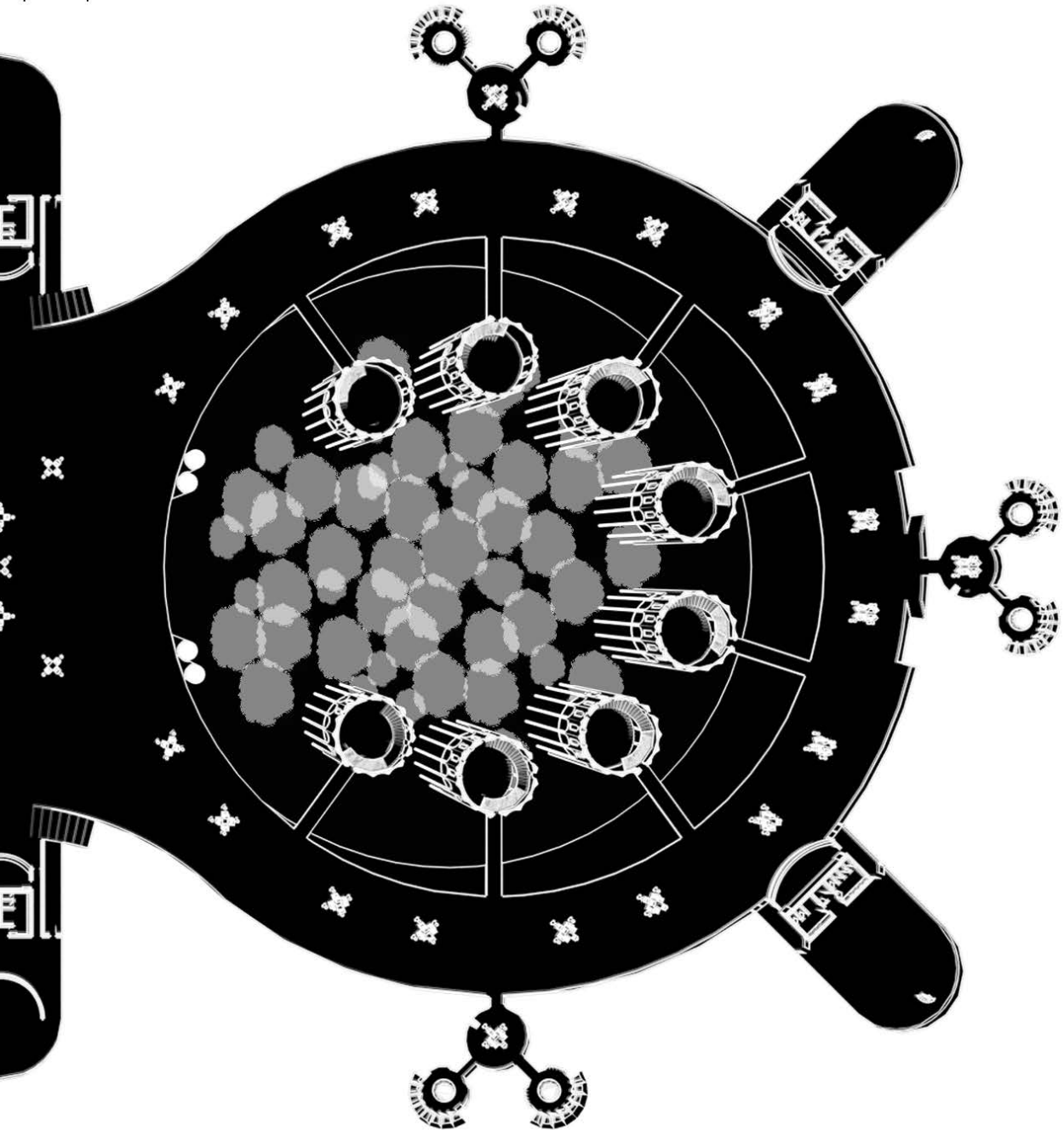


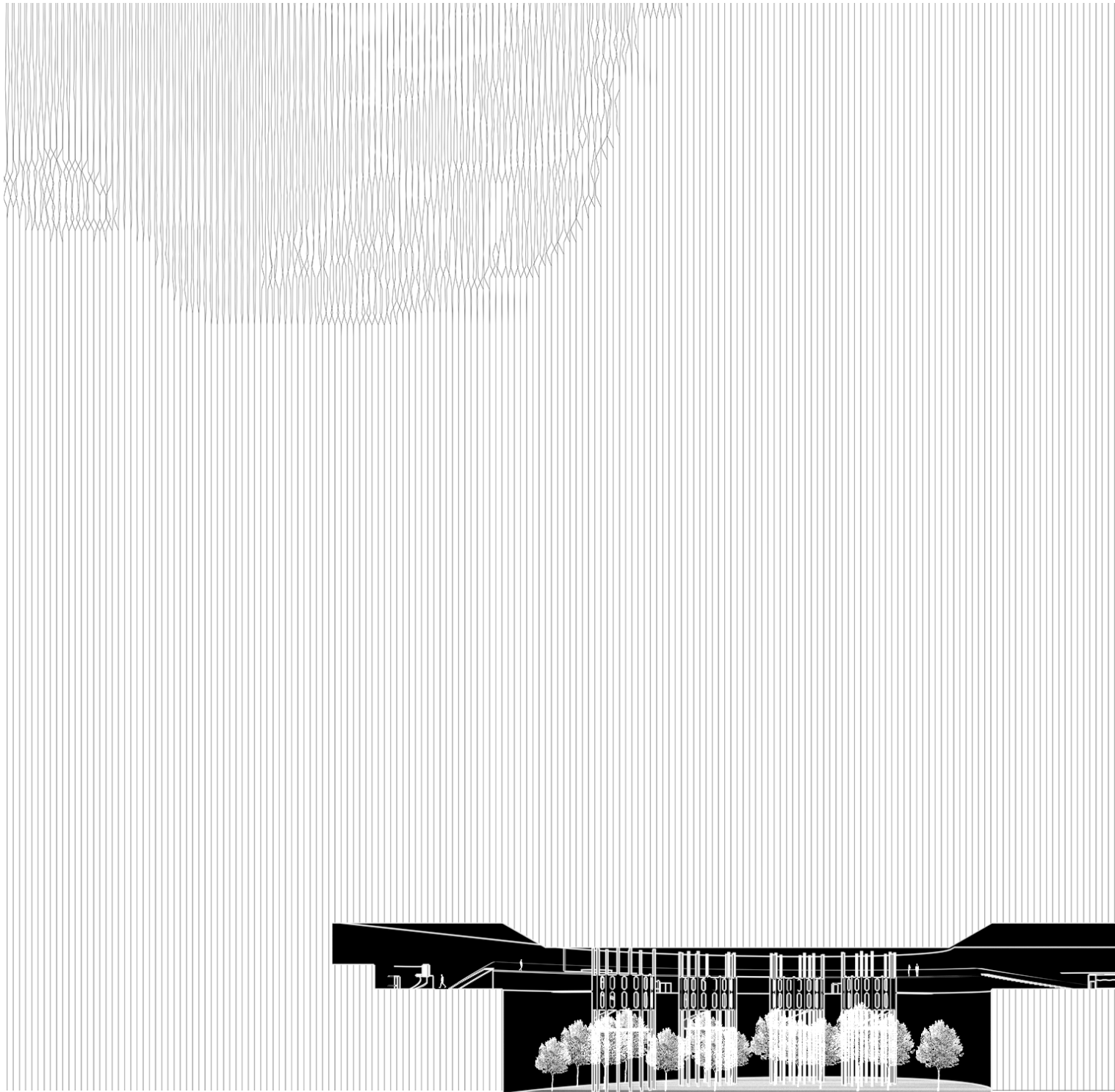
The journey to the casino starts at the driveway that deposits you at the bottom of the tank. Through an elevator you join the first playground level. There, you have access to the private rooms that are planted in the tanks among a dense forest, symbol of luxury amid plastic. This floor also hosts the services as well as the administrative function of the casino.

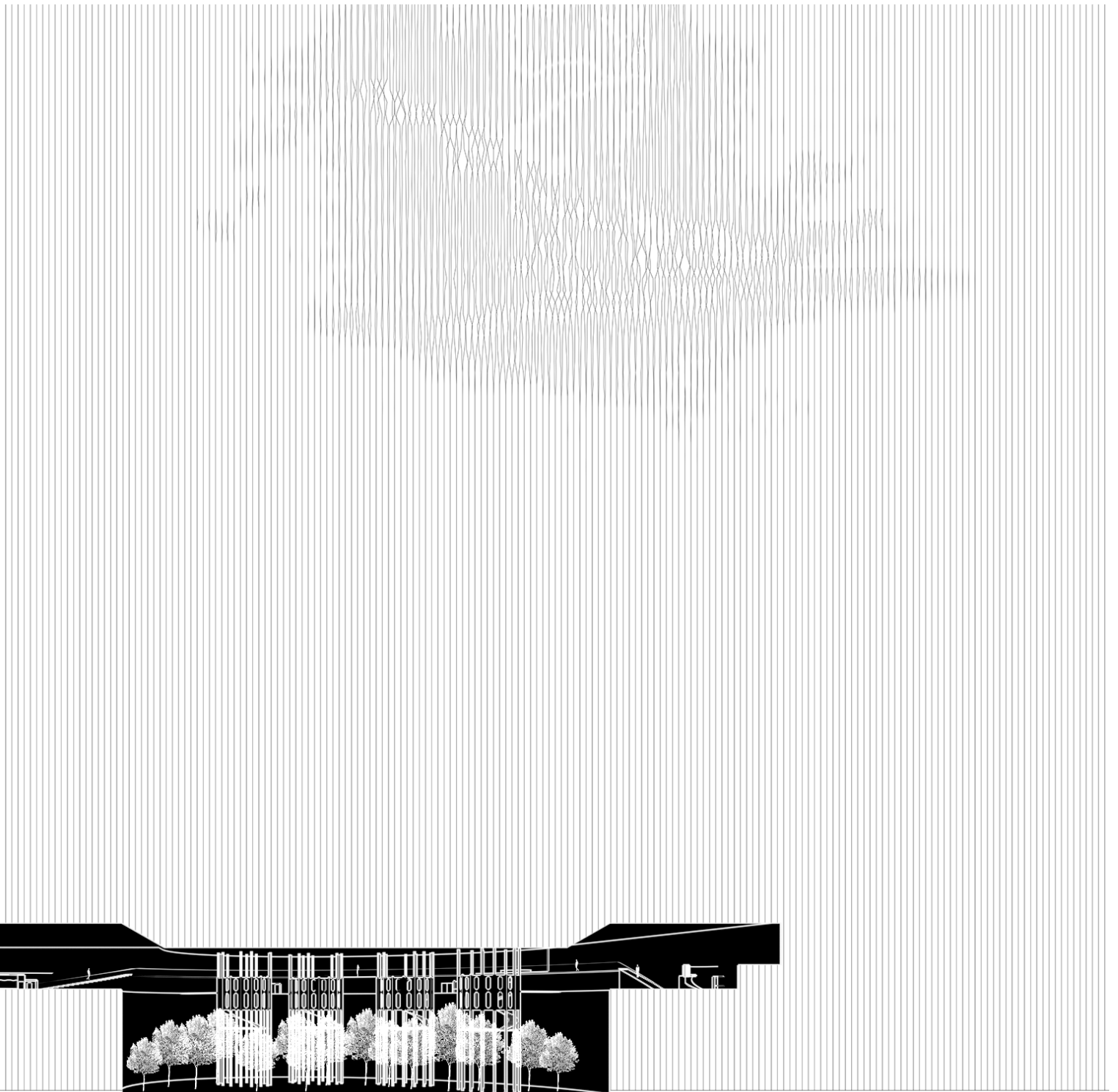
The second playground floor hosts an array of games scattered around the two large tanks.



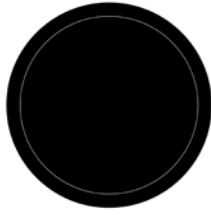






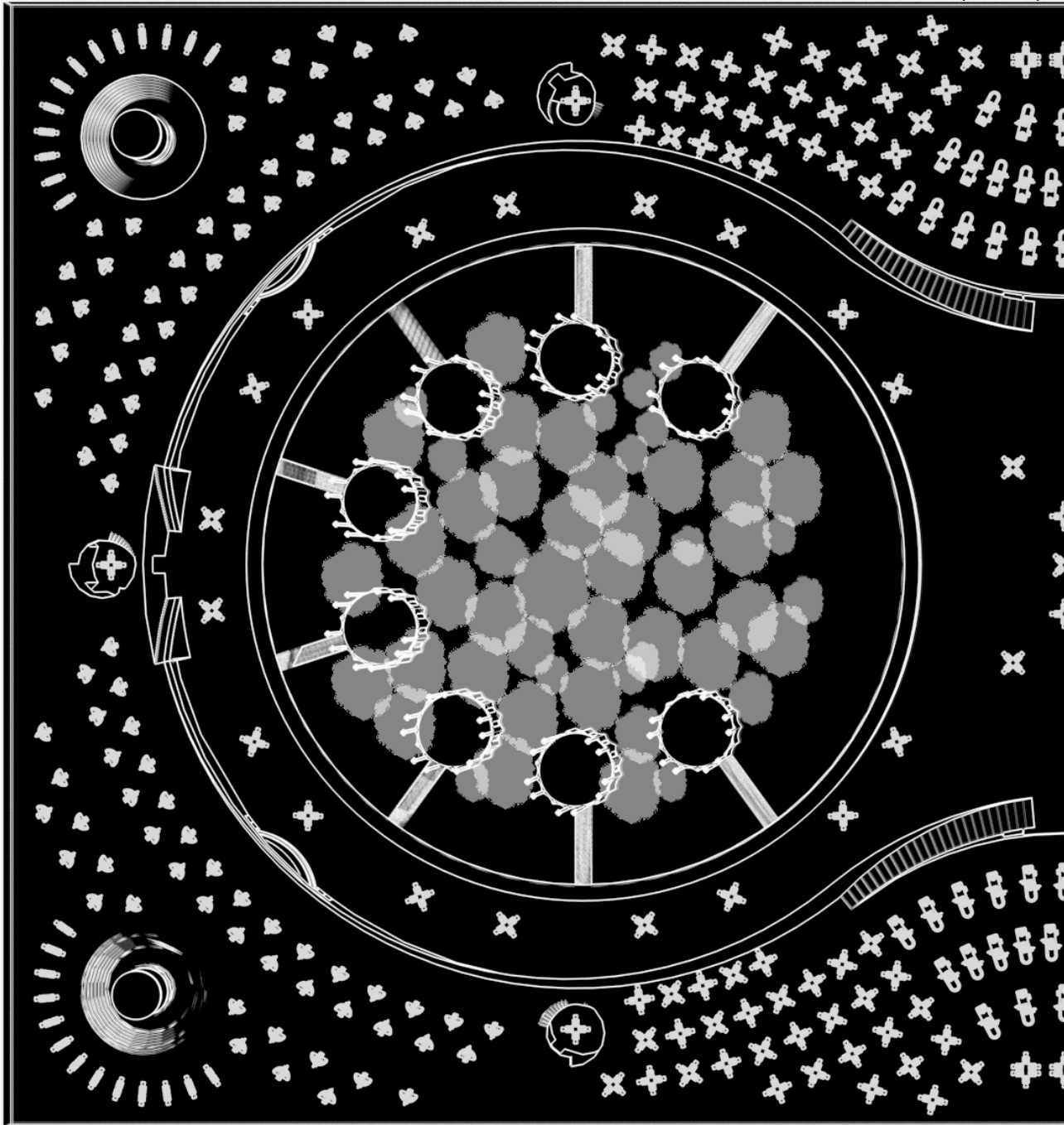


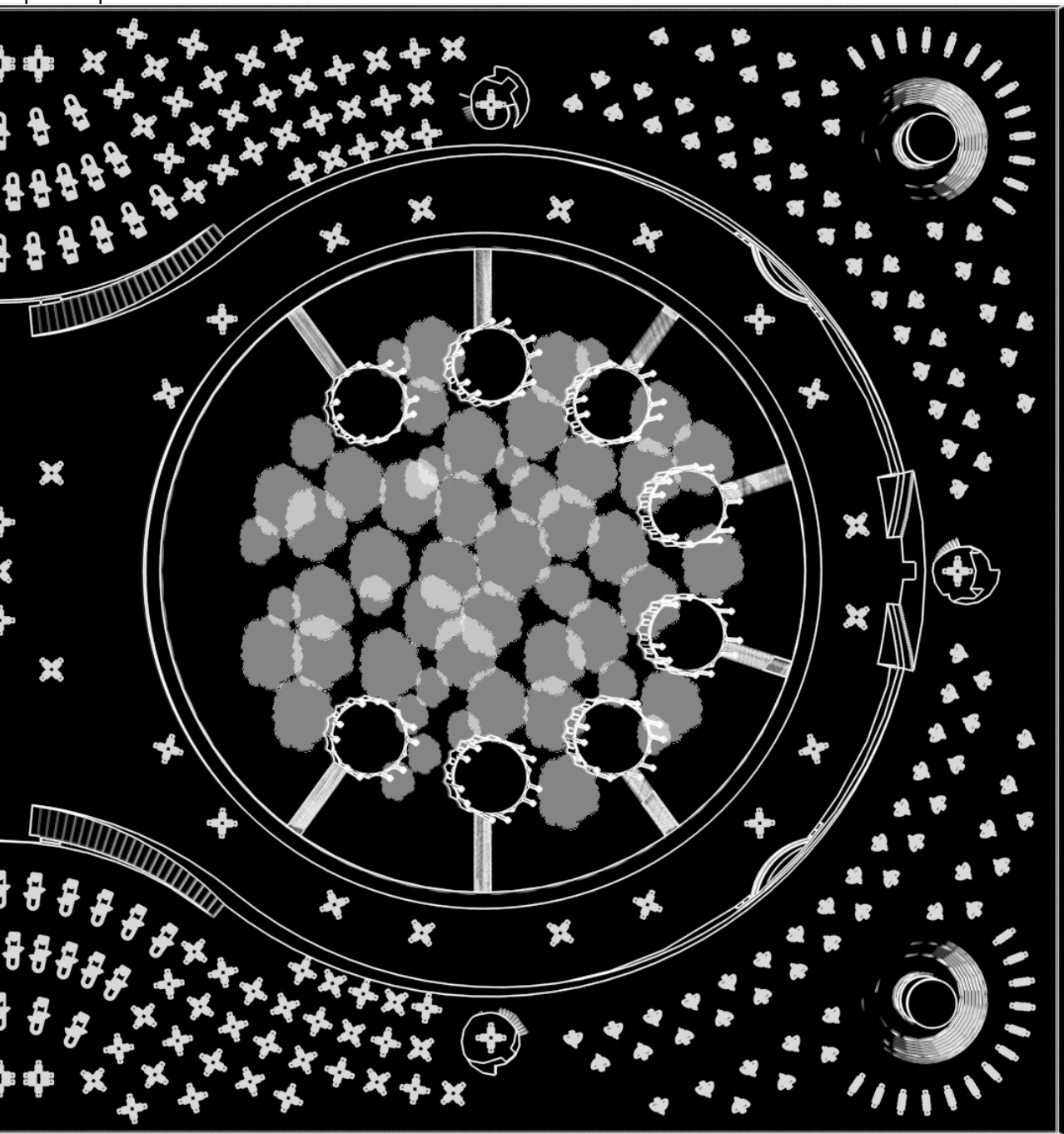
In the northern forest, we can find a monopteros, a small shrine dedicated to Baalat of Ghazieh, patron goddess of the waste.



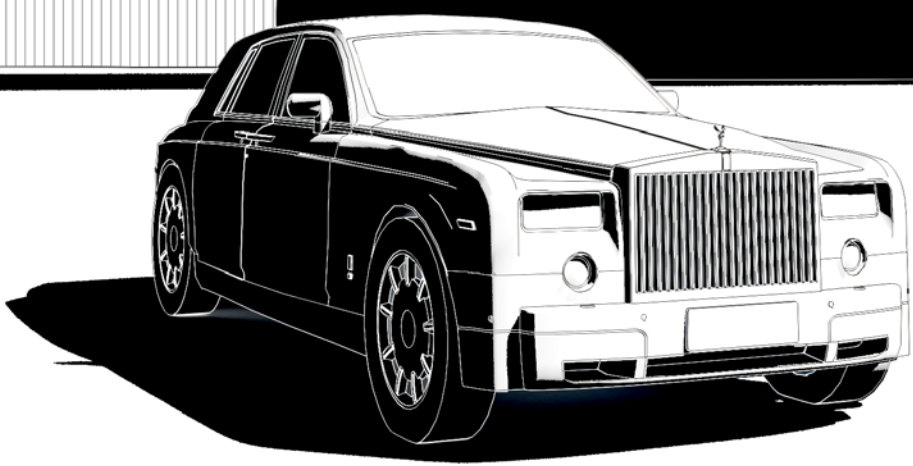
And on the eighth day Man created trash.







As the morning rises on the marble block, some players decide to leave Having disposed of their chips. Maybe more indebted, maybe free at last, those plastic chips are the only witnesses.



References

- Bennett, Jane. *Vibrant Matter: a Political Ecology of Things*. Duke University Press, 2010.
- Blanchfield, Caitlin. *Climates: Architecture and the Planetary Imaginary*. Columbia Books on Architecture and the City, 2016.
- Ghosn, Rania.
- Ghosn, Rania, and El Hadi Jazairy. "Geographies of Trash." *Journal of Architectural Education*, vol. 68, no. 1, Feb. 2014, pp. 68–81., doi:10.1080/10464883.2013.817179.
- Ghosn, Rania, and El Hadi Jazairy. "Georama of Trash." *ARQ (Santiago)*, no. 93, 2016, pp. 98–105., doi:10.4067/s0717-69962016000200012.
- Latour, Bruno. "Love Your Monsters Why We Must Care for Our Technologies as We Do Our Children." *Breakthrough Journal*, 2011, pp. 19–26.
- Leonard, Annie. *The Story of Stuff: How Our Obsession with Stuff Is Trashing the Planet, Our Communities, and Our Health-and a Vision for Change*. Free Press, 2011.
- Pye, Gillian, and Simone Schroth. *Trash Culture: Objects and Obsolescence in Cultural Perspective*. Peter Lang, 2010.
- Sassen, Saskia. "Globalization or Denationalization?" *Review of International Political Economy*, vol. 10, no. 1, 2003, pp. 1–22., doi:10.1080/0969229032000048853.
- Sassen, Saskia. *Expulsions: Brutality and Complexity in the Global Economy*. The Belknap Press of Harvard University Press, 2014.
- Simons, Massimiliano. "The Parliament of Things and the Anthropocene." *Techné: Research in Philosophy and Technology*, vol. 21, no. 2, 2017, pp. 150–174., doi:10.5840/techne201752464.
- Zaera-Polo, Alejandro, and Jeffrey S. Anderson. *Imminent Commons: the Expanded City*. Actar, 2017.

