

A R C H I T E C T U R E O F D E

— T E N S I O N

FYP 1 - Fall 2019  
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UNDERGRADUATE DESIGN THESIS  
IN  
ARCHITECTURE  
THE X-STREAMLINE  
by  
CARL YAMMINE  
ARCH 508/509– FINAL YEAR THESIS I & II  
FALL/SPRING 2019-2020  
ADVISOR: SINAN HASSAN

AMERICAN UNIVERSITY OF BEIRUT

UNDERGRADUATE DESIGN THESIS  
IN  
ARCHITECTURE

SUBMITTAL FORM

THE X-STREAMLINE

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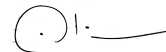
ADVISOR: SINAN HASSAN

Approved by Thesis Advisor:

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[Prof. SINAN HASSAN, Senior Lecturer]  
[Architecture and design]



Date of Thesis final presentation: [May 18, 2020]

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## INTRODUCTION

Crime is inevitable in a society, trying to stop it is futile. What we can change is how we react to crimes and how we punish them. That is turn has the potential to affect crime rates positively.

In the thesis, I am thoroughly rethinking the concept of Punishment in our society and the purpose of a prison, its position, program, typology and architectural language.

what is punishment?

how has it changed through history?

why do we punish?

what is justice?

what is the purpose of a prison?

where should it be placed?

what programs to add to a prison?

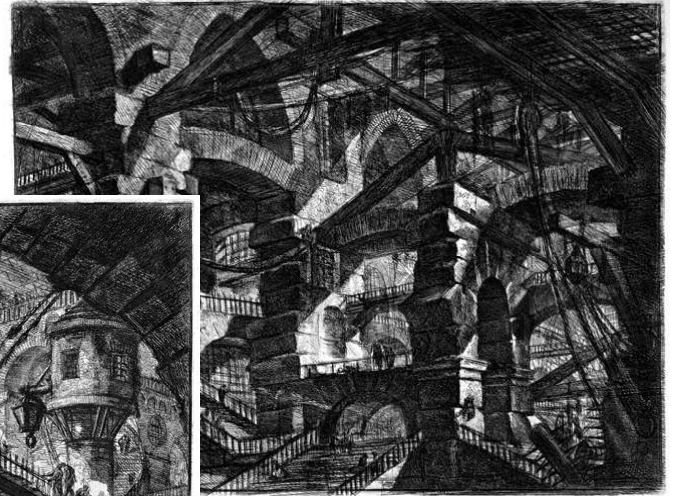
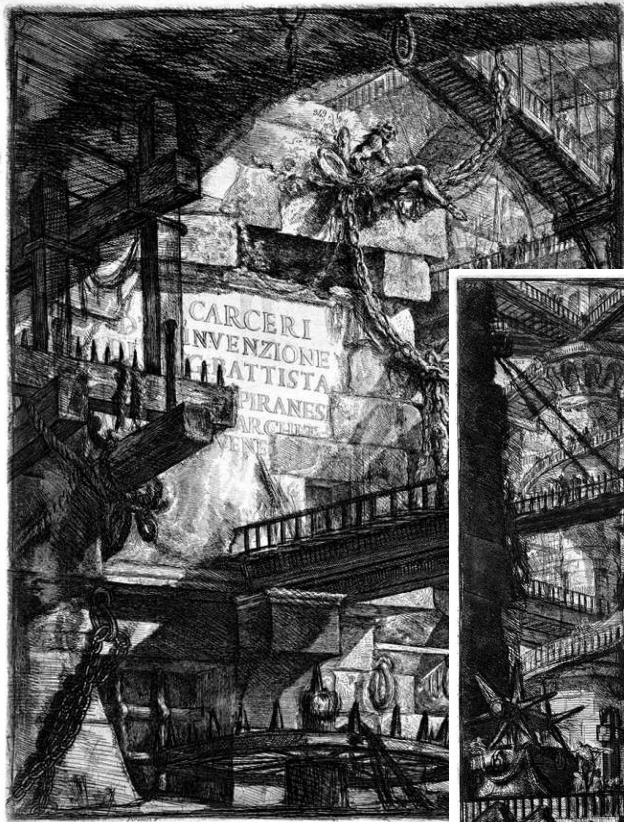
what typology to adopt?

what is the role of the architectural language?

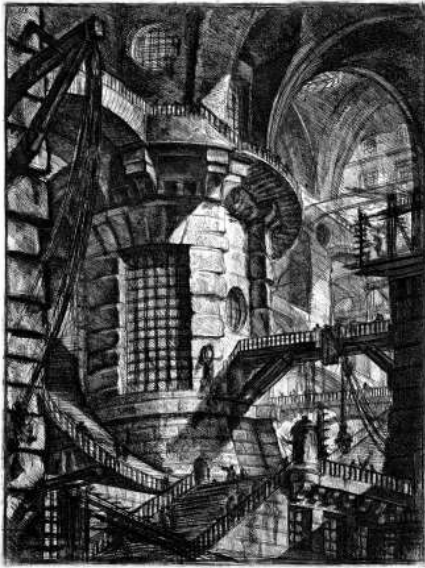
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prisons in **art**







### The “Imaginary Prisons” by Giovanni Battista Piranesi (1720-1778)

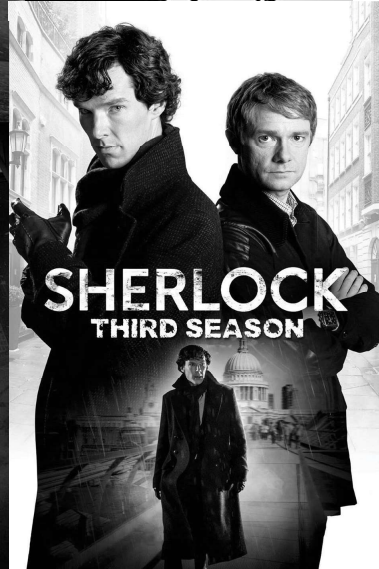
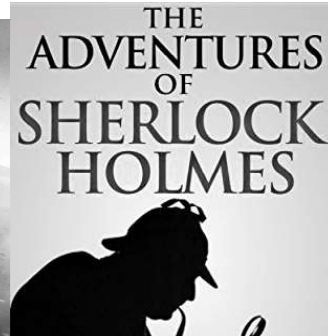
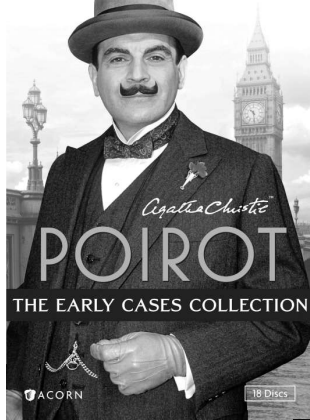
According to the Belgian writer Marguerite Yourcenar, the sixteen prints that the Venetian artist created between 1745 and 1750 represent the “negation of time, incoherence of space, suggested levitation, intoxication of the impossible reconciled or transcended”.

They have the same quality of dreams. Or, rather, of nightmares. Piranesi revolutionized the stylistic canons for the representation of prisons – an iron cage, or a cell surrounded by massive bars – and expressed the deep angst that stems from seeing life as an unstoppable, eternal return of pain and evil.

crime in **culture**



NOW REMASTERED & IN ORIGINAL U.K. BROADCAST ORDER



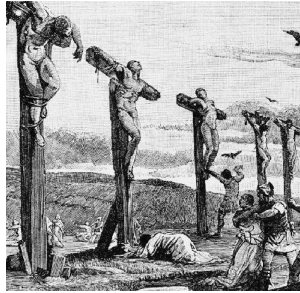
L I T E R A T U R E

# P

# PUNISHMENT

what is punishment?  
how has it changed through history?

the **idea** of punishment has always been present but the **method** of punishment has changed throughout history



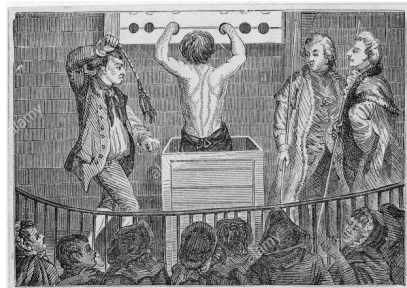
crucifixion



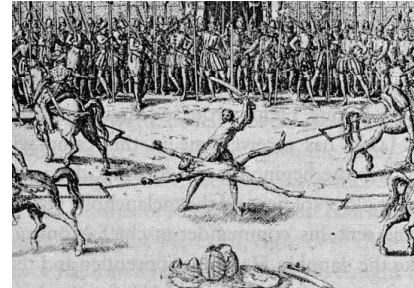
burning



breaking wheel



flogging

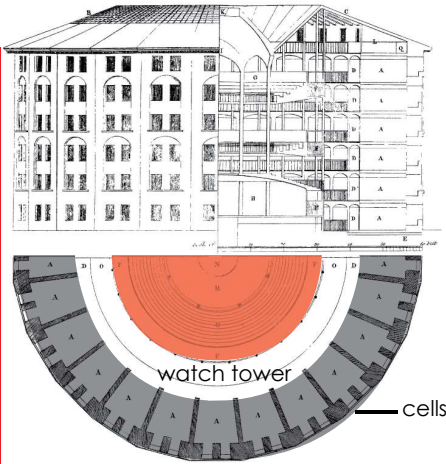


quartering

Punishment used to be **public**, violent and focused **physical** torture and pain

Prison used to be **temporary** until the actual punishment could be carried out

capital punishment is inhumane



## Jeremy Bentham's Panopticon

a circular prison designed to keep all the prisoners in watch by one guard. the prisoners wont know whether they are being watched or not which will keep them in check.

the first prison

1800

Prison became the **punishment**

Punishment became **private** and involved **mental** pain

However **crime** never stopped, **recidivism** rates are high, and prisoners are leaving prisons worse than they are going in

prisons are failing



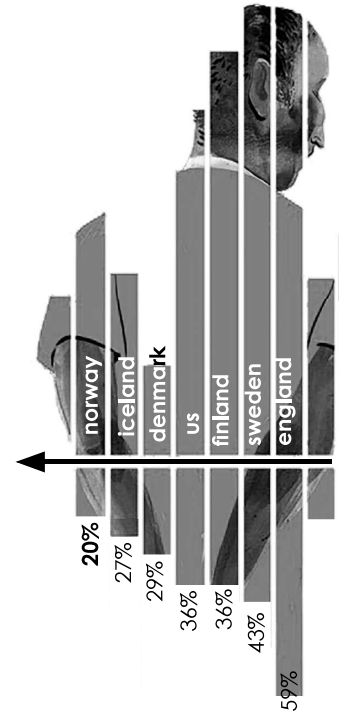
**Rehabilitation** as a form of punishment

It seems that systems that are more relaxed are the ones that work best but that the most **expensive** too.

Also, that does not mean we should copy their system or that it would universally work. In fact, their **culture** is very different.

rehabilitation centers are too expensive

recidivism rate





**Deterrence** the action of discouraging an action through instilling fear of the consequences

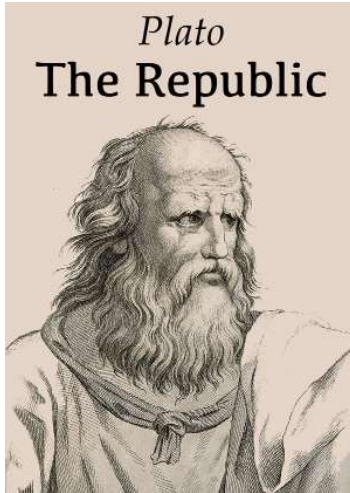


**Incapacitation** prevent criminals from committing crimes by physically detaining them



**Retribution** punishment inflicted on someone as vengeance for a criminal act

basically, we want **Justice**



## Plato's The Republic

Plato argues that justice is a **social contract** that keep people from hurting each other. If there was no justice and people were not punished for their wrongdoing, you wouldn't feel safe walking on the streets.



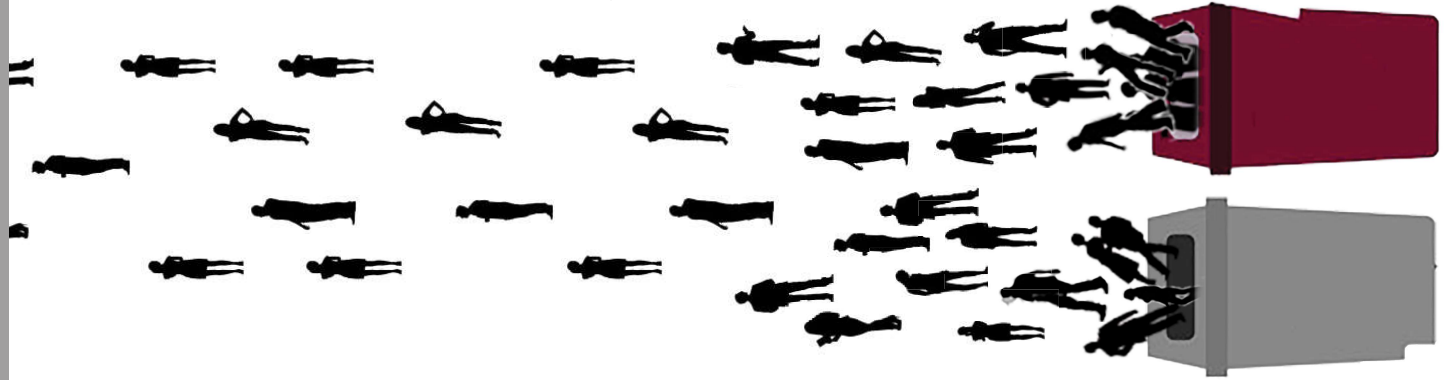
He also demonstrates that people only value justice and morality for its ability to make them look good and when their actions can be scrutinized. So if person was invisible (no one can see him), had no consequences for his actions, its only normal that he would act like a fool. That is just how humans are.

punishment is necessary

**Yes & No.** No, the penal system is not really failing, in fact it's working as expected and is fulfilling its role, which is to protect a society from wrongdoers.

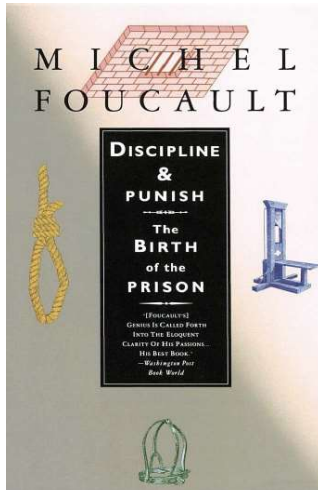
Where it is failing is in its ability to prevent crime.

What if punishment and prison are not supposed to prevent crime? What if they exist just to **filter** a society and protect the ruling class.





## Foucault's Discipline and Punish



Philosopher Michel Foucault argues that the penal system (law, courts, police, surveillance) exists to protect the power of the **ruling class** and not to prevent crime.

The function of the penal system is to recycle “waste product” (criminals, i.e. the ones not useful to the ruling class) into something useful or profitable.

This is why you see being lenient with job companies, because job creators are useful to the ruling class, but individuals are less useful. The penal system prioritizes certain types of crime.

Panopticon is a set of principles Bentham thought you could build panoptic schools, panoptic hospitals, panoptic mental wards... And even make a panoptic country.



**punishment** is necessary but prisons are failing

**rehabilitation** restoring someone to normal life through training and therapy after imprisonment, addiction, or illness

*“A **society** should be judged not by how it treats its outstanding **citizens** but by how it treats its **criminals.**”*

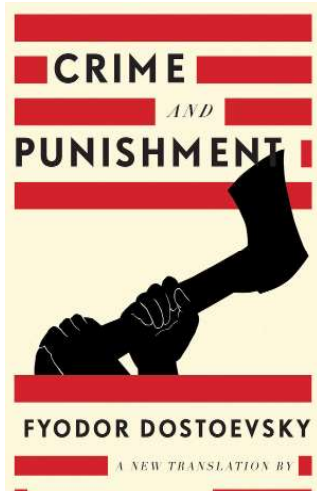
— Fyodor Dostoyevsky

**detainment** is not inherently a bad concept, it all depends on how you treat **inmates**

*“Treat people like **dirt** and they will be dirt. Treat them like **human beings** and they will act like human beings.”*

by making them more humane

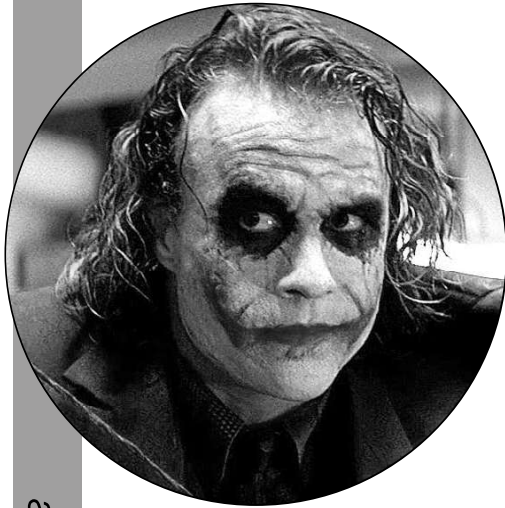
## Dostoevsky's Crime and Punishment



Crime and Punishment focuses on the mental anguish and moral dilemmas of Rodion Raskolnikov, an impoverished ex-student in Saint Petersburg who formulates a plan to kill an unscrupulous pawnbroker for her money.

Before the killing, Raskolnikov believes that with the money he could liberate himself from poverty and go on to perform great deeds.

However, once it is done he finds himself racked with confusion, paranoia, and disgust for what he has done. His ethical justifications disintegrate completely as he struggles with **guilt** and horror and confronts the real-world moral consequences of his deed



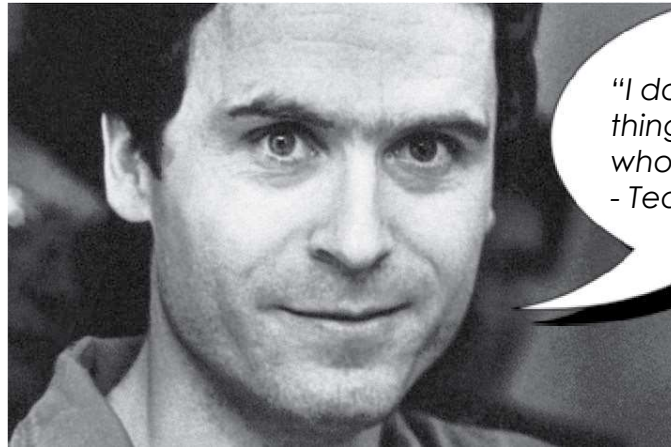
a **psychopath** feels no empathy or remorse towards his actions.

not all psychopaths are criminals.

a psychopath who is also a criminal is the most dangerous

25% of prisoners are psychopaths

"Ted Bundy is a sadistic sociopath who took pleasure from another human's pain and the control he had over his victims, to the point of death, and even after."



"I don't feel **guilty** for anything. I feel **sorry** for people who feel guilt."

- Ted Bundy



## Gen Urobuchi's Psycho-pass

The series takes place in the near future, when it is possible to instantaneously measure and quantify a person's state of mind, personality and probability of committing a crime.

This information is recorded and processed, and the term "Psycho-Pass" in the anime's title refers to a standard used to measure an individual's being.

When their "Crime Coefficient" index becomes too high, they are pursued and apprehended by police officers to maintain order in their seemingly utopian society.

## CRIME



### **felonies,**

serious crimes such as murder, robbery, rape and kidnaping, carries a year or more in state prison



## PUNISHMENT

1 or more years in a  
**HIGH SECURITY PRISON**



### **misdemeanors,**

less serious crimes such as shoplifting, DUI (driving under the influence of alcohol or other drugs), usually carries a fine and jail sentence of less than a year



less than 1 year in a  
**MINIMUM SECURITY PRISON**



### **juveniles,**

individuals under the age of 18 who committed crimes



**JUVENILE PRISON**



### **mentally-ill,**

Law-breakers who are deemed to be mentally unfit are sent to psychiatric prisons that are designed like hospitals



**PSYCHIATRIC PRISON**



## Tsugumi Ohba's Death Note

The plot of the series primarily revolves around high school student Light Yagami, who decides to rid the world of evil and crime with the help of a supernatural notebook called a Death Note.

He does that by writing the names of wanted criminals and outlaws and playing the role of God somehow.

He thinks he is doing the world a favor, not knowing that he himself has become a criminal in some way.

Punishment is necessary because Justice

Prisons (which is how we punish) are failing

Rehabilitation centers are too expensive

We can reform prisons by being more humane

Most criminals are reformable

Depending on the crime and the age of the offender, create a punishment

Keeping some ideas but reforming others

In order to create de-tension centers that work

**program** **p** **prison** philosophy  
**police** **p** **punishment** psychology  
private **pistol** panopticon **psychopath**  
**p** **position** problems public power



# C A S E S T U D I E S

**P** R I S O N **P** U R P O S E

The level of harshness and the purpose of prisons can vary

p u n i s h m e n t

p r o t e c t i o n

d e t e n t i o n

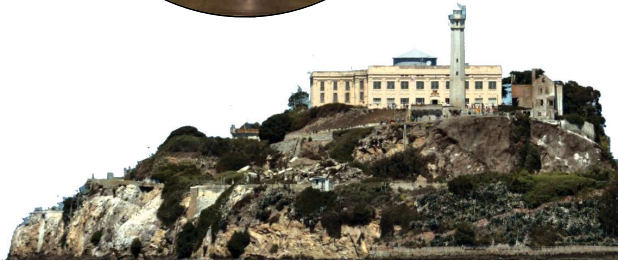
r e h a b i l i t a t i o n

c o r r e c t i o n

where should it be placed?  
**P**OSITION & GEOGRAPHIC LOCATION

Alcatraz Island, U.S. Army, 1847 (ofs)  
San Francisco Bay, USA

**site isolation  
on a island**

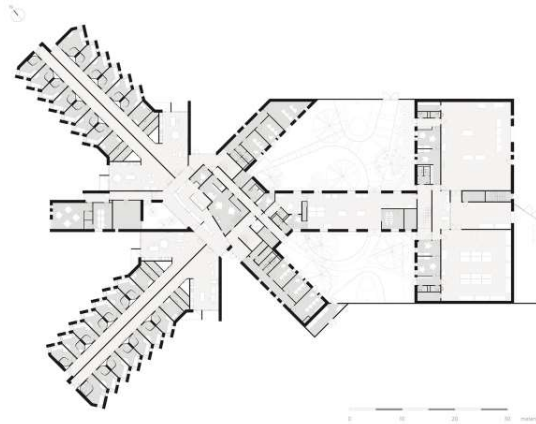


The most famous prison in the world

Alcatraz or "Rock" is located on a small island in the middle of the San Francisco Bay. It served as a federal prison till 1963 and no prisoner managed to escape from Alcatraz. Today Alcatraz is open for tourists.

Storstrøm Prison / C.F. Møller, 2017  
Storstrøm, Denmark

**outside the city**



Storstrøm Prison will be the setting for the world's most humane and resocializing closed prison, with architecture which supports the inmates' mental and physical well-being and also ensures a secure and pleasant workplace for employees.

Daylight and physical activity are important part of the architecture.

Juvenile Detention Center, Ali Khodr, 2014  
Beirut, Lebanon

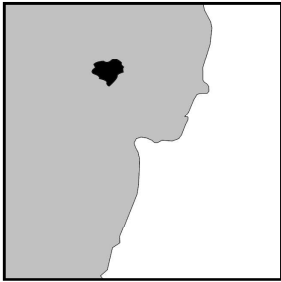


**contact  
inside the city**



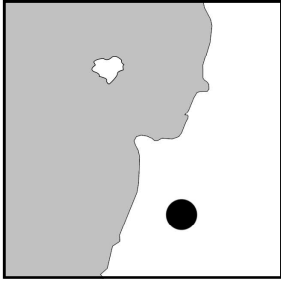
the detention center is in the middle of the Horsh Beirut as a way to establish a link between society and the delinquents in order to improve their respective views of each other. " The use of windows will also allow the public a glimpse into the delinquents' world thus removing the fear barriers and facilitating their reinsertion and acceptance back into society." The park even continues below it and is visible from the inside of the building as a way of hope for the residents, but at the same time torture because they can't go outside. In fact, the residents can see the whole city around them and not feel cut off from society.

# LEARNINGS



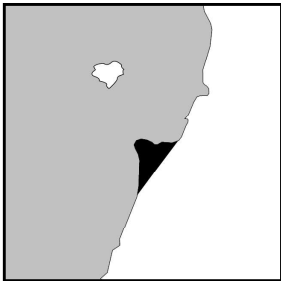
On an Island

**Isolates** the prison and hides reality  
Disconnects the prisoners from society

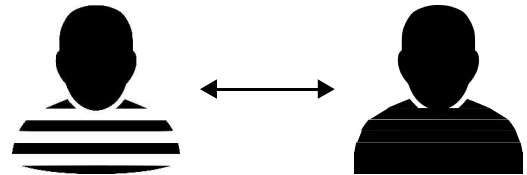


Outside the city

**Integrates** the prison and engages reality  
Connects the prisoners to society



Inside the city





what programs are a positive addition?

# P ROGRAM

Cebu Provincial Detention and Rehabilitation Center,  
Cebu City, Philippines

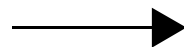
**rehabilitation  
dancing program**



A dancing prison



The prison became well known for its rehabilitation program in 2005-2010 based on a program of choreographed exercise routines for the inmates. Thus, while prisoners in other jails lift weights or play basketball, these orange offenders dance. Videos with their "dancing shows" including famous "Thriller" can be found online.



added meaning to the prisoner's lives

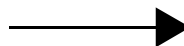
CERESO Chetumal,  
Mexico

rehabilitation  
boxing



Problems are solved through boxing

According to Warden Victor Terazzas there has been no violence in the prison for more than ten years. "When there is a disagreement, we have the inmates involved put on the gloves and get into the boxing ring," relates Terazzas "After about two rounds the dispute is usually over."



reduced violence

Justice Center Leoben, Joseph Hohensinn, 2004  
Leoben, Austria

**exercise**



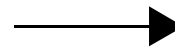
Exercise helps the inmates pass time and relieve stress

California State Prison,  
Los Angeles County, USA

**education**



Education or learning a trade will help them make a living in the outside world



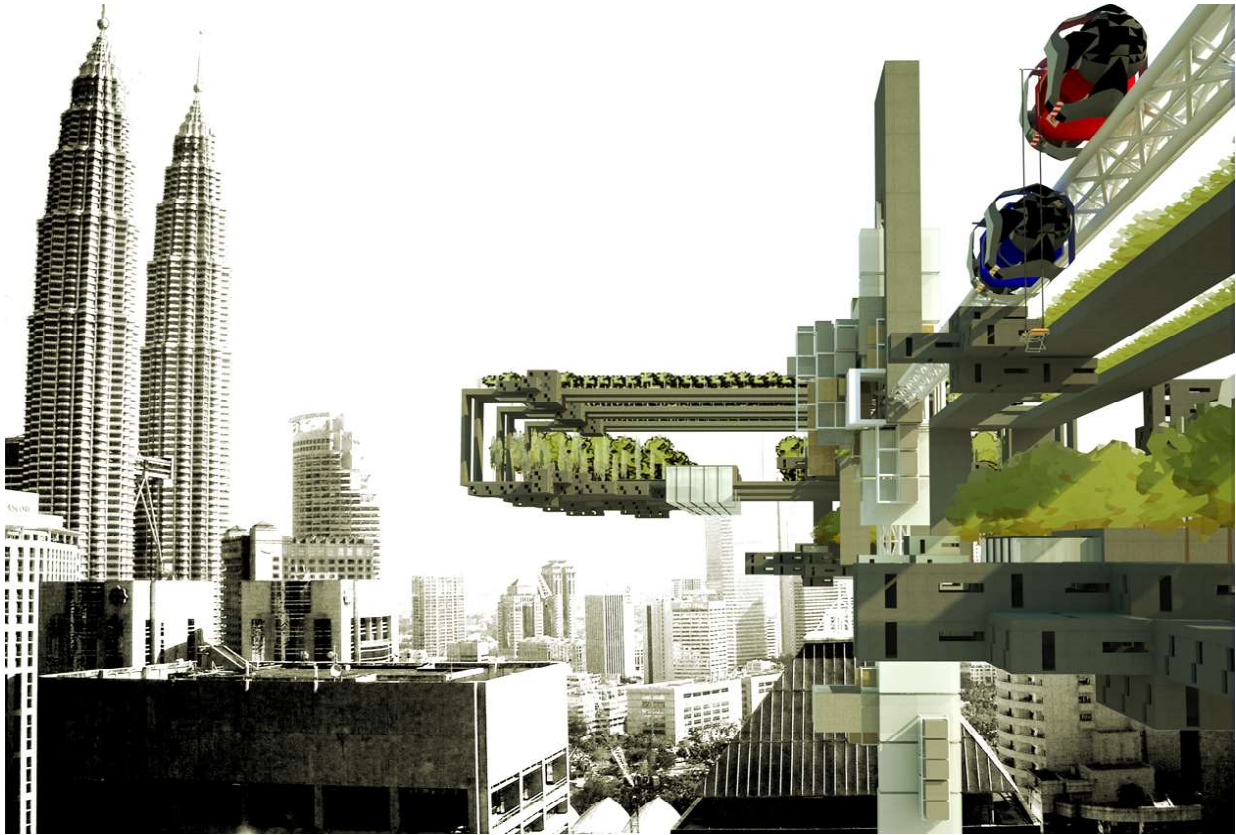
hope

Vertical Prison, Chow Khooon Toong & Ong Tien Yee, 2010  
Malaysia

**prison + industry**



waste management prison



agriculture prison

Introduction of **activites** or **work/study** program inside prisons order to reform the prisoners

# LEARNINGS



exercice



boxing



dancing



meditation



military training



factory work

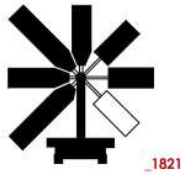


agriculture/farm work

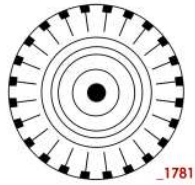


education

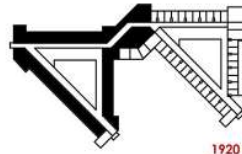
typical prison typologies



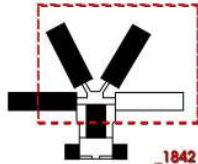
\_1821



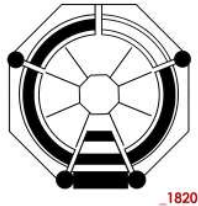
\_1781



\_1920

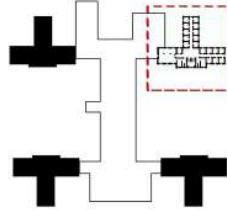


\_1842



\_1820

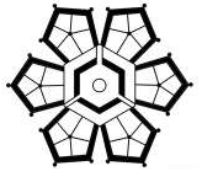
T-SHAPE BLOCKS [1963]



\_1930

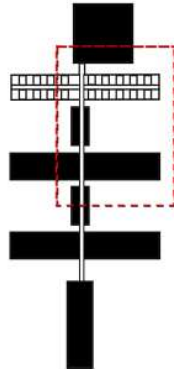


\_1885

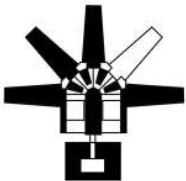


\_1821

LINER BLOCKS [2001]



\_1990



\_1877

what should its typology look like?  
should prisons be centralised?

# TYPOLOGY

Vertical Prison, Chow Khoun Toong & Ong Tien Yee, 2010  
Malaysia

**factory typology**  
**vertical prison**



waste management prison

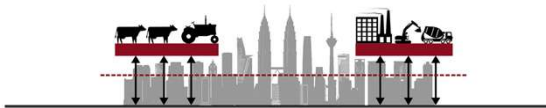




wall between city and prison becomes height



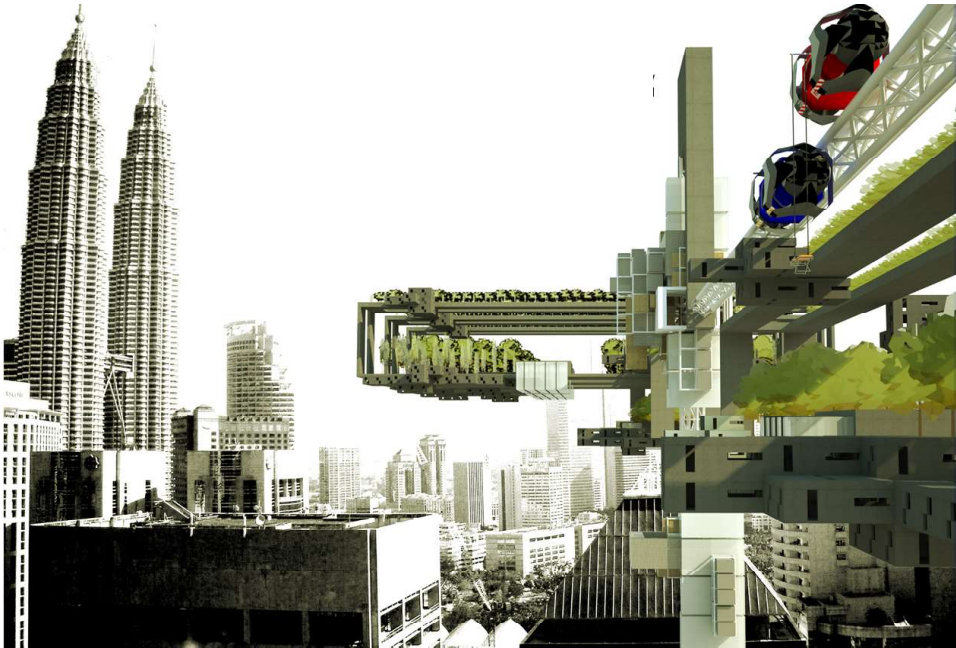
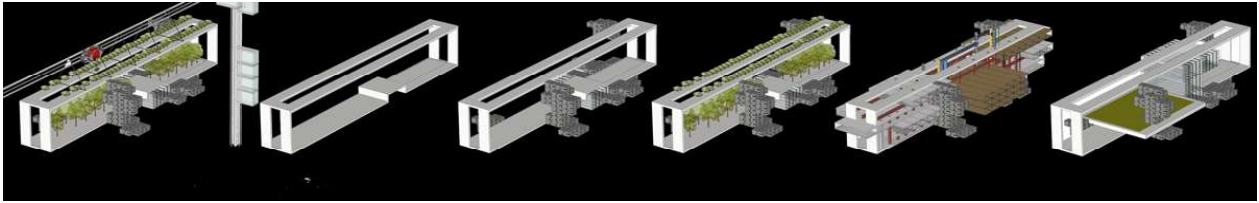
wall between city and prison becomes height



prisoners work and provide for the city as redemption

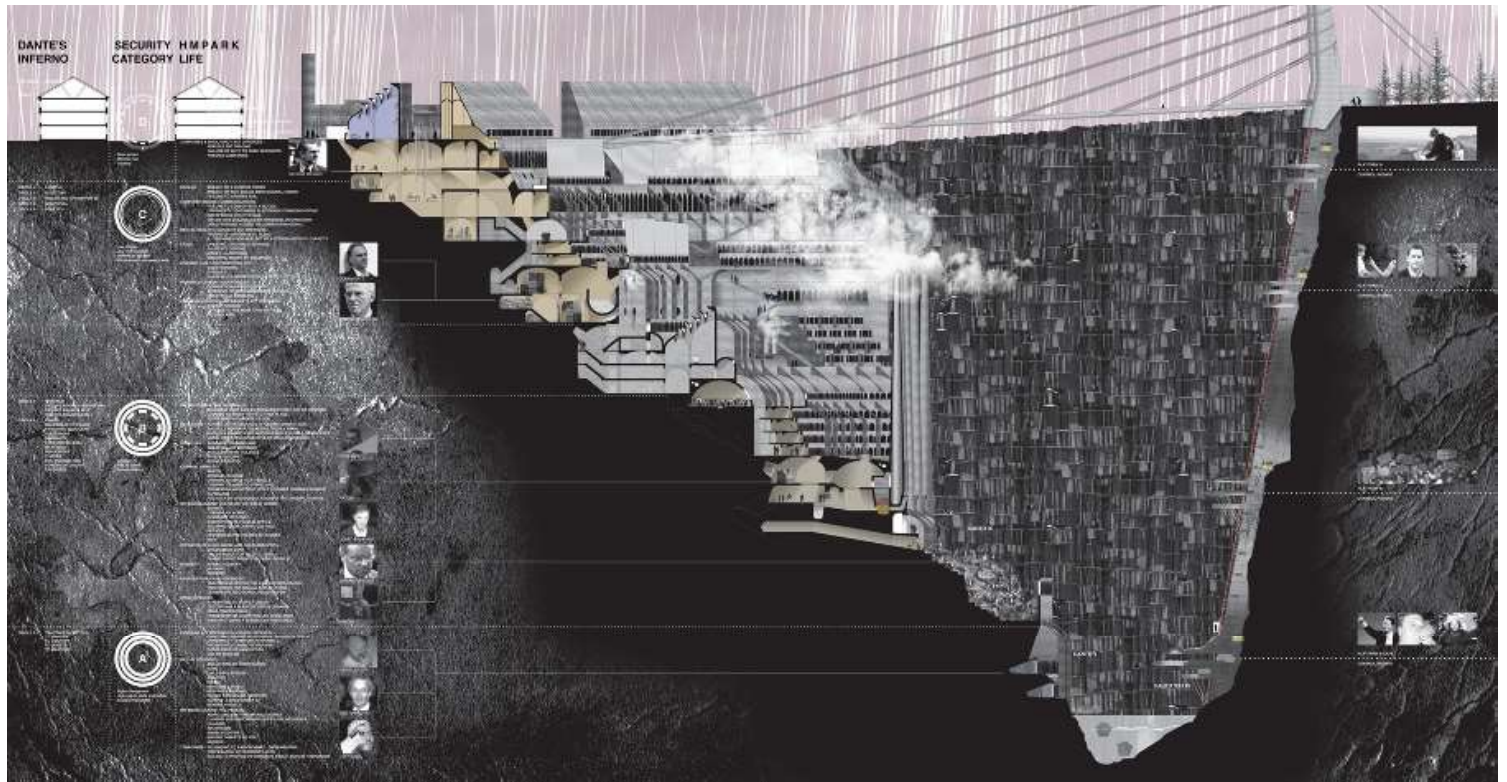
Some studies reveal that post-release offenses are very high and that criminal's imprisonment is just a temporal solution because they do not have the opportunity to rehabilitate in a desirable community.

This project examines the possibility of creating a vertical prison in the sky where inmates will have to work and live in a community that will contribute to the host city below. The prison will have agricultural fields, factories, and recyclable plants that will be operated by the offenders as a way to give back to the community. They will live "free" until they have completed their sentence and are prepared to rejoin their communities.



agriculture prison

HMPark Life, Alexis Kalli, 2012  
London, UK



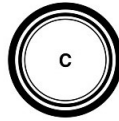
# infrastructure typology pit



- Highly dangerous
- High risk to state and public
- Escape to be made impossible



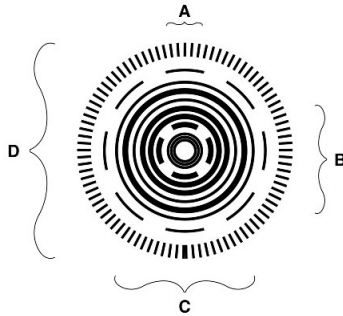
- Dangerous
- Risk to public
- Escape to be made difficult



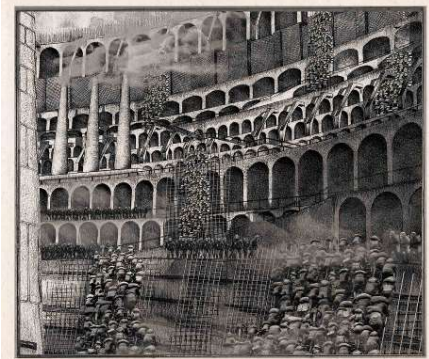
- Low danger
- Low risk to public
- Easy to escape



- Open prison
- Minimal risk
- Trusted



The project questions this drive to turn a prison population into a cheap labor force - one that works not just to provide skills to inmates in the name of rehab but forces offenders to be both visibly productive and punished to quench the public's ever-present blood thirst for justice. The prison is modeled on the concentric circles of Hell in Dante's *Inferno*: the higher the offense the harsher the punishment and the deeper within the Earth the sinner is sent.

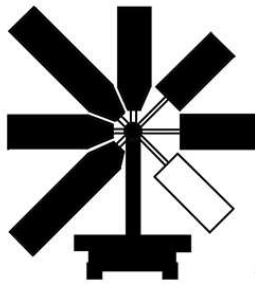


CANTO IX



CANTO XXXVI

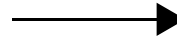
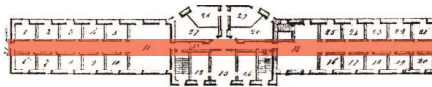
# LEARNINGS



Typical Typology

Radial, circular or triangular layouts

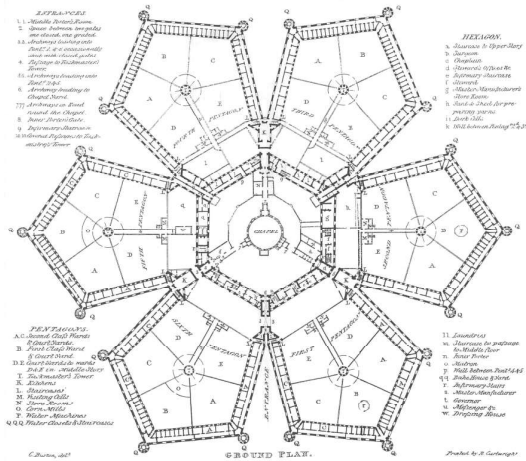
Efficient to move prisoners around, but restrict prisoners to linear passageways and corridors which in turn promotes tension and conflict.



Atypical Typology

Above or below earth

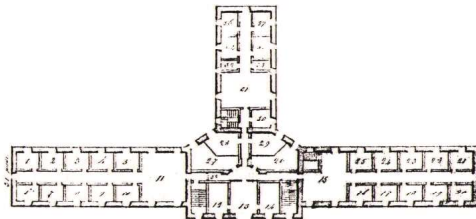
# centralisation



San Pedro prison, U.S. Army, 1847 (ofs)



Usually, in prisons, facilities are assembled into one big building. For example, a rectangular building around a central courtyard, or a cross plan... While these layouts are efficient to move prisoners around, they restrict prisoners to linear passageways and tight corridors which in turn promote tension and conflict.



**society within itself  
self governance**

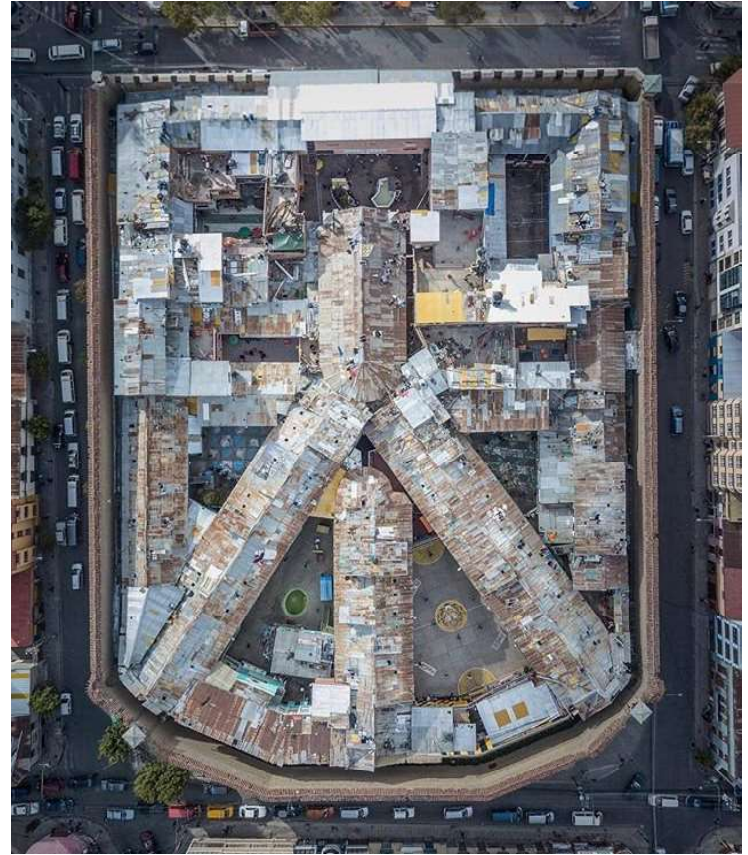


A prison where offenders buy their cells

San Pedro functions as a gated community with restaurants, market stalls, hairdressers and play-grounds. inmates have jobs inside the community, buy or rent their accommodation, and often live with their families. You will not find guards or metal bars.

wealthier inmates can buy luxury cells that may include three floors, a kitchen, hot tub and cable TV.

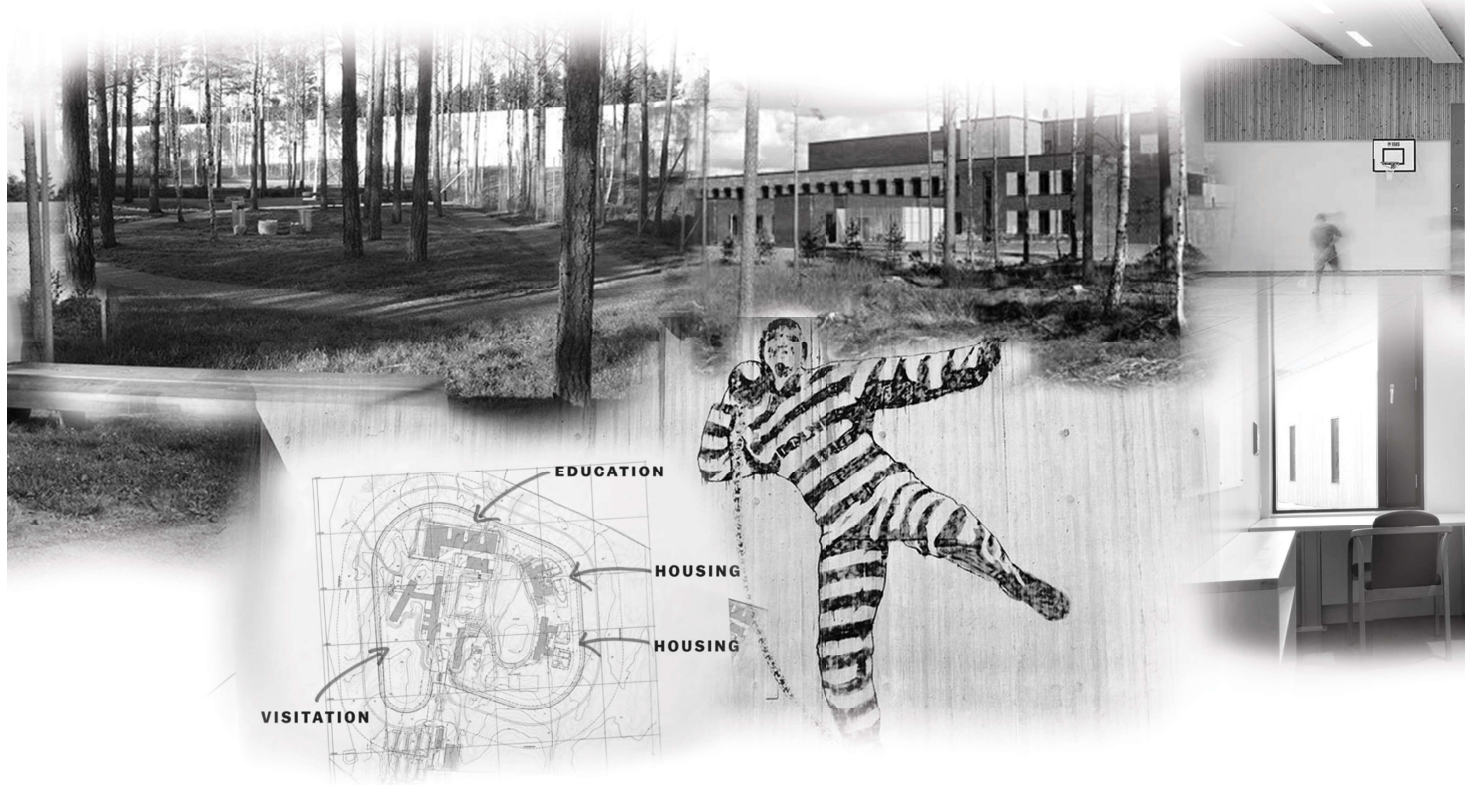
officers are only concerned with keeping inmates confined in the prison without regard to what happens to them inside.



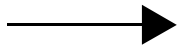
**corruption & anarchy**

Halden Prison, Erik Møller, 2010  
Halden, Norway

## campus typology decentralisation



In Halden, the approach is to create a campus like design where each facility is split and surrounded by green areas and outdoor physical activities. So inmates start their day with a walk as if there are living a normal life.



campus typology



creative prison, Will Alsop,

## enjoyable prison campus typology



### An enjoyable prison

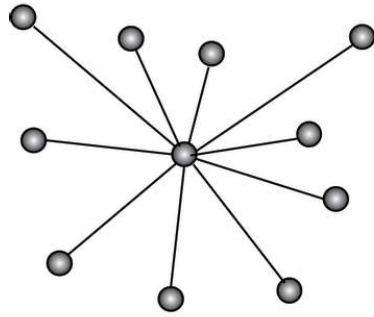
Yup, lock 'em up and throw 'em the key. The very idea that a prison might be useful and tolerable, if not enjoyable, is a hard one for us.

So if you're caught, you pay your dues, you are released, and then what? Chances are, you'll quickly re-offend. Because prison hasn't taught you to do anything else. This prison emphasizes rehabilitation and education, allowing the prisoner population to live in college campus-like 'modules' and interact with the outside world.

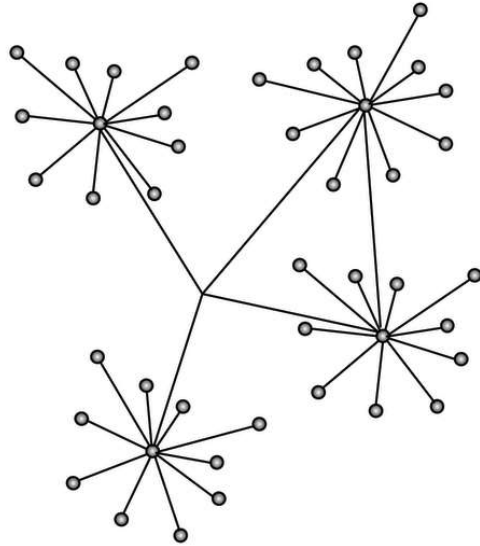
→ an educational and pleasant environment



# LEARNINGS



Centralized



Decentralized

what should its formal language be?

## ARCHITECTURAL MORPHOLOGY

Justice Center Leoben, Joseph Hohensinn, 2004  
Leoben, Austria

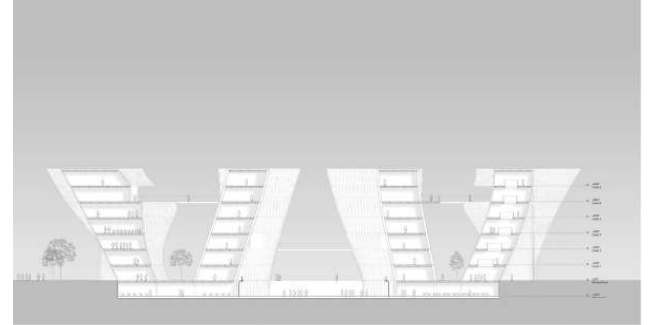


## Transparency



### A five-star prison

The building that meets all requirements of modern architecture and has beautiful glass windows resembles a 5-star hotel, rather than a prison. Most inmates of this luxurious prison are imprisoned for burglary. The rate of burglary in Austria is 40% higher than in the USA. It seems that Justizzentrum Leoben attracts burglars.

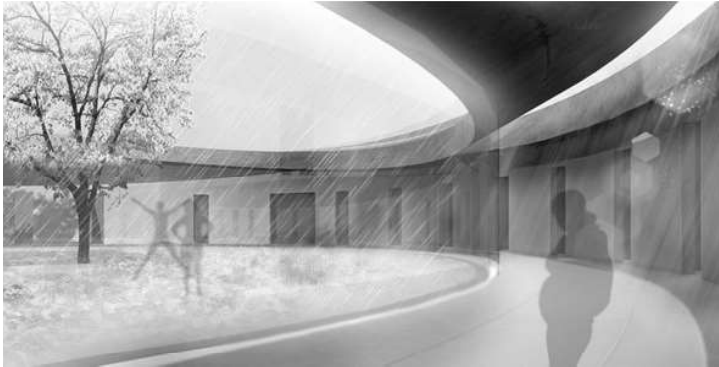
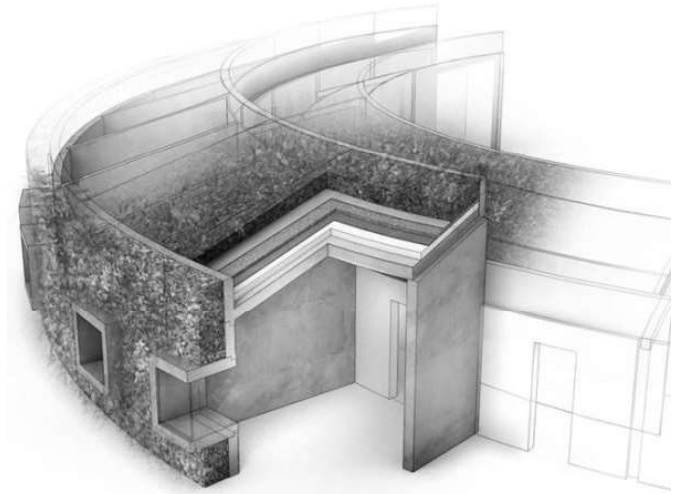


PriSchool - a prison which both integrates with a school of criminology and is embedded within the community

The complex is split into four buildings, consisting of (from West to East) the school of criminology, the prison itself, a 'pre-release' building and a community center.

Ooioo prison, Iceland

**nature**



Forgetting about dark spaces, small cells, and ugly grey concrete walls, they based the building design on natural light, open spaces, and natural green materials like peat, grass and flowers

Ny Anstalt Greenland's Correctional Facility,  
Schmidt Hammer Lassen Architects, 2013  
Nuuk, Greenland













## material diversity



focusing on the contrast between beauty and roughness as a guiding theme for the project. This concept is also present in the choice of materials: concrete, wood and corten steel, which is rooted in a desire to adapt the complex to the landscape

P R O G R A M

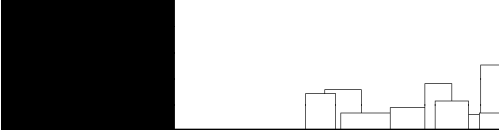

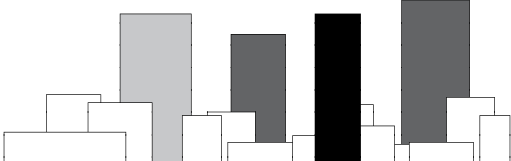
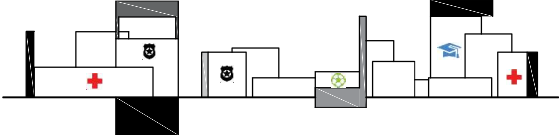
# PROGRAMATIC MATRIX





<p>AGE GROUP</p>	 juvenile 18-	 adult 18+			
<p>CRIME TYPE</p>	<p>ANY</p> <p>robbery murder</p>	<p>MISDEMEANOR</p> <p>DUI theft</p>	<p>MENTALLY-ILL</p> <p>mentally unfit</p>	<p>FELONY</p> <p>murder robbery rape</p>	
<p>SENTENCE</p>	<p>months to years</p>	<p>less than 1 year</p>	<p>months to years</p>	<p>more than 1 year</p>	
<p>FACILITY</p>	 education	 sports	 healthcare	 military	 police
<p>PROGRAM</p>	 education	 exercise	 nurse training	 military training	 police training

Focus on separating different inmates in different facilities depending on the type of crime



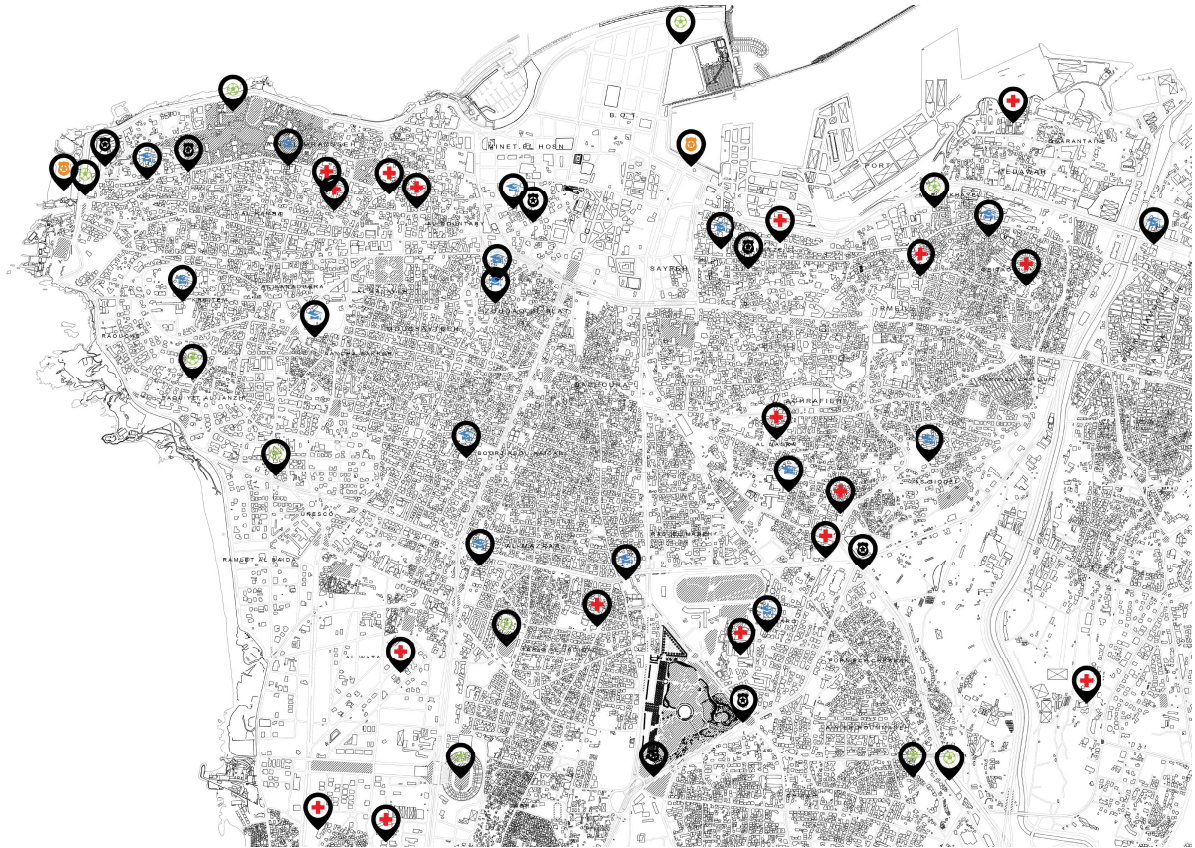
OUTCOME Urban decentralised network to reform inmates

	<p>BEFORE <b>centralized mono-functional</b></p>	<p>AFTER <b>de-centralized multi-functional</b></p>
<p>URBAN</p>	 <p>hides reality and disconnects prisoners from society</p>	 <p>engage reality and connect the prisoners to society</p>
<p>DISSOLVED</p>	 <p>Rather than build different facilities for different criminal categories</p>	 <p>I am attaching to already existing facilities for more efficiency and putting an end to the existence of prisons as we know it. Dissolving the stigma linked to prison institution with a minimal ecological footprint.</p>

<p>FACILITY</p>	 <p>Existing Facility</p>	 <p>Detention annex</p>
<p>TYPE</p>	 <p>Program</p>	 <p>Residential units Security</p>
<p>USERS</p>	 <p>Staff</p>  <p>Visitors</p> <p>By using existing facilities I make use of the existing program, building, services and staff</p>	 <p>Security Guards</p>  <p>inmates</p> <p>Adding an annex that is mainly residential units for the inmates, secured by security guards.</p>

S I T E

# Mapping of different types of urban facilities



sports facilities



military facilities



education facilities

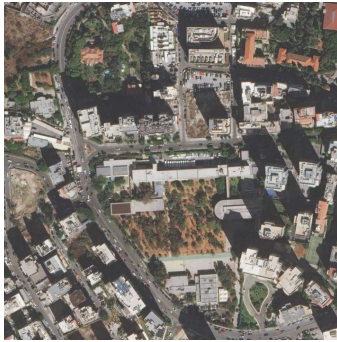


healthcare facilities



police departments





# potential sites

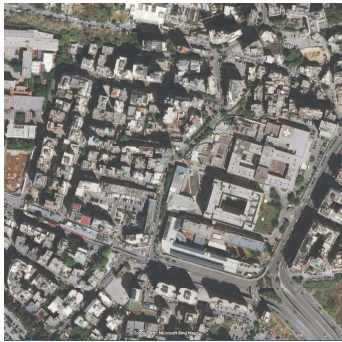


College Protestant Francais 

Private School  
Site Area: 23 000 m<sup>2</sup>  
surrounding programs: residential,  
commercial, educational, religious

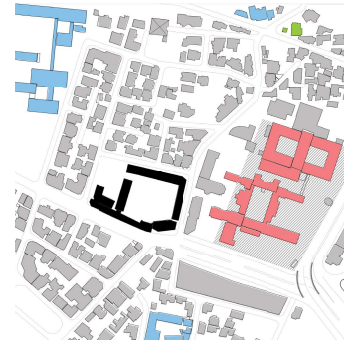


 Potential site	 Hospital
 School	 Sports

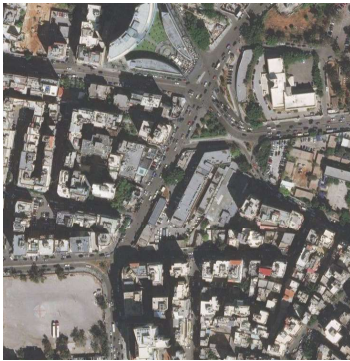


Hotel Dieu de France 

Urban Hospital  
Site Area: 22 000 m<sup>2</sup>  
surrounding programs: residential,  
commercial, educational, religious



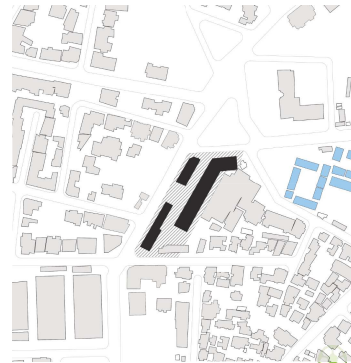
 Potential site	 Hospital
 Schools	 Police station




### Barbar Khazen Police



Urban Police Station  
Site Area: 5 000 m<sup>2</sup>  
surrounding programs: residential,  
commercial, educational, banks

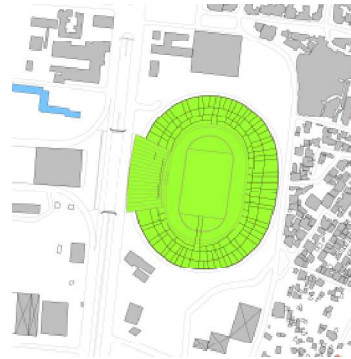





 Potential site     Police station  
 Schools



### Madina Riyadiyye

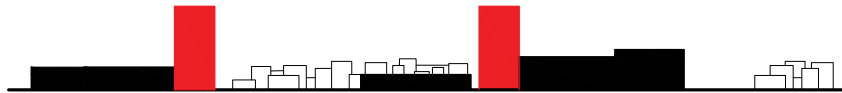
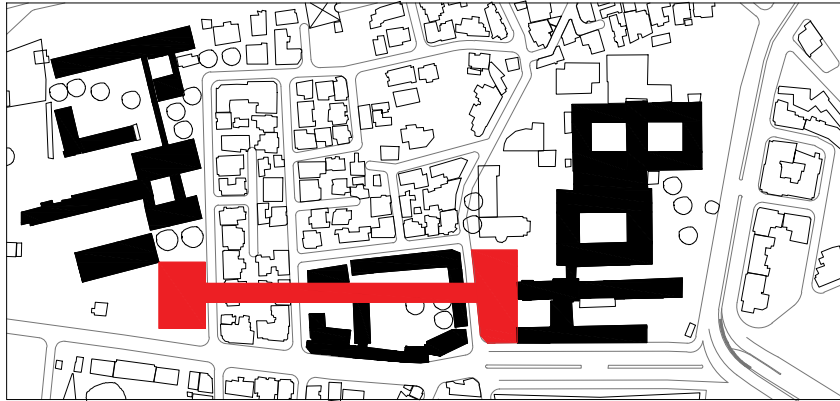
Public Stadium  
Site Area: 66 000 m<sup>2</sup>  
surrounding programs: residential,  
commercial, educational,



 Potential site     Sports  
 Schools

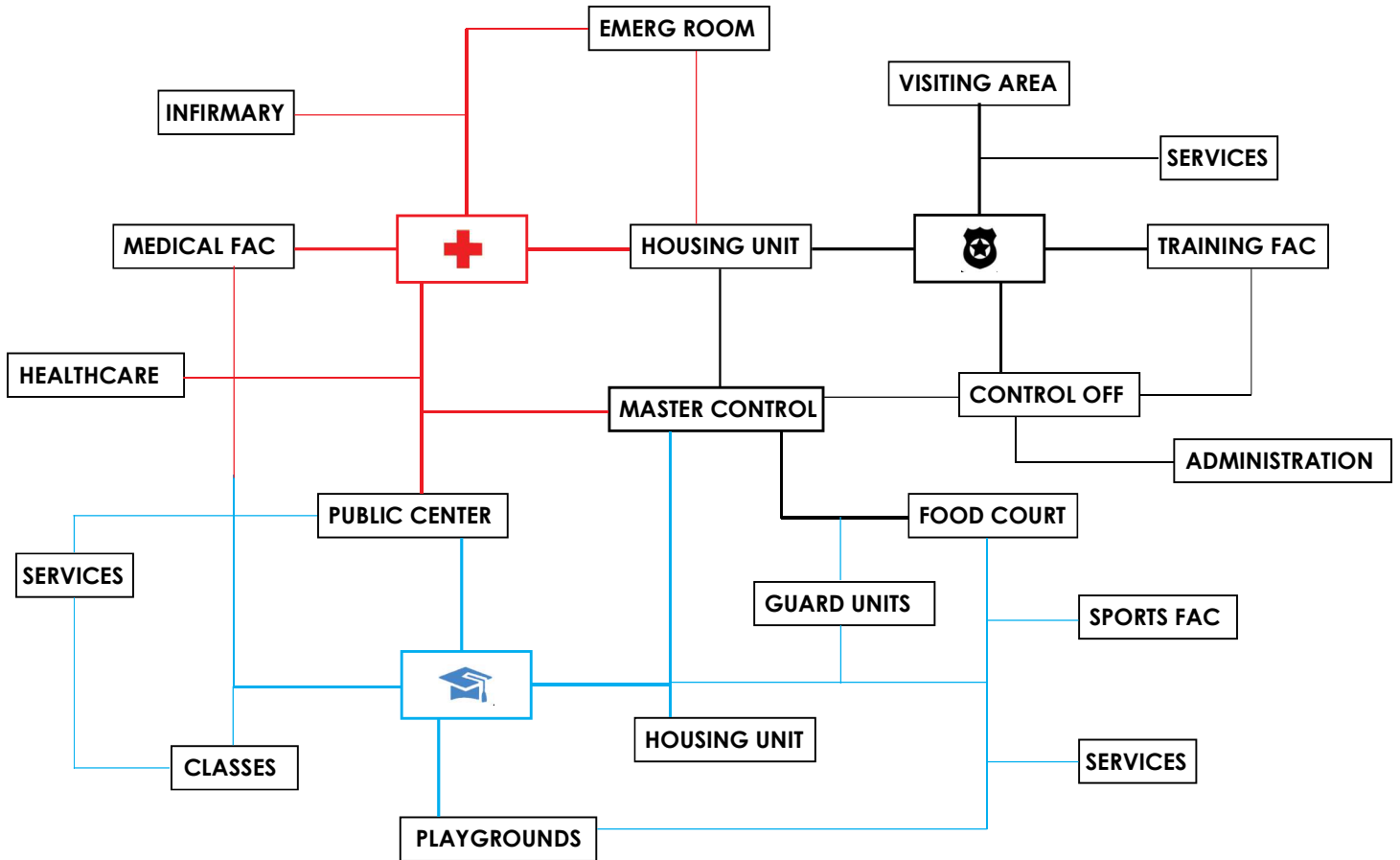
D E S I G N

# VISION FOR HOTEL DIEU SITE



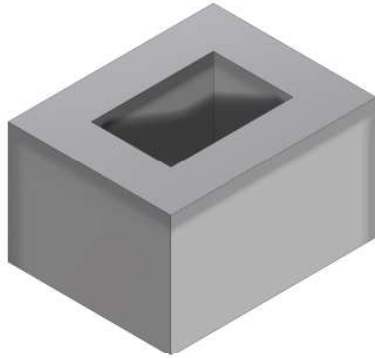


# A NETWORK

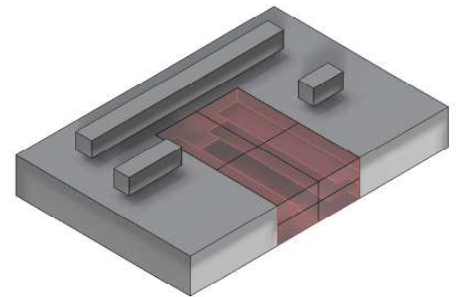
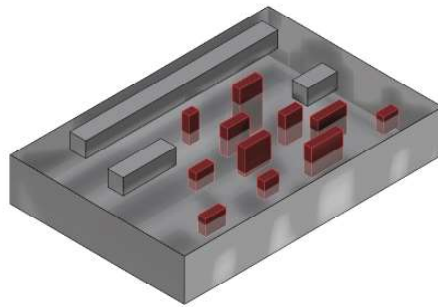
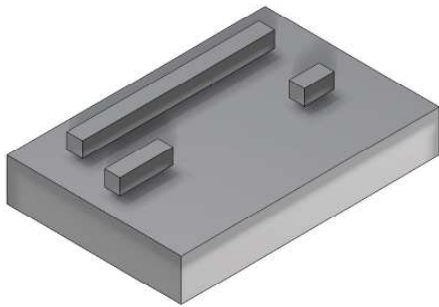
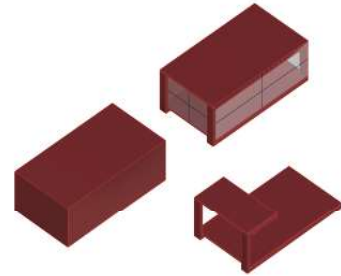


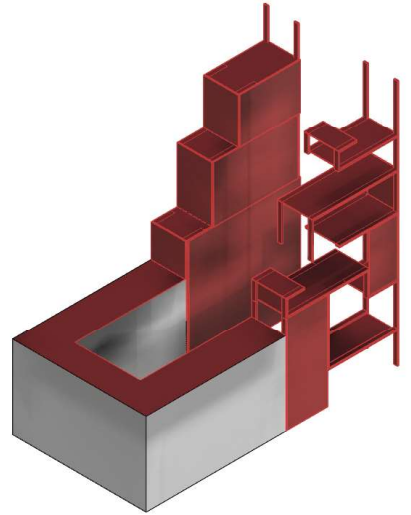
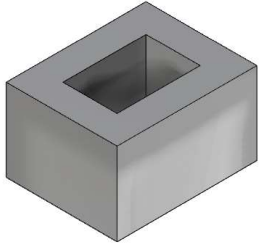
# A MIXED TYPOLOGY

## FACILITY TYPOLOGY



## THE INMATE "UNIT"







# THE X - STREAMLINE

INFRASTRUCTURAL DE-TENSION & RE-FORMATION PIPELINE

THESIS 2020 -

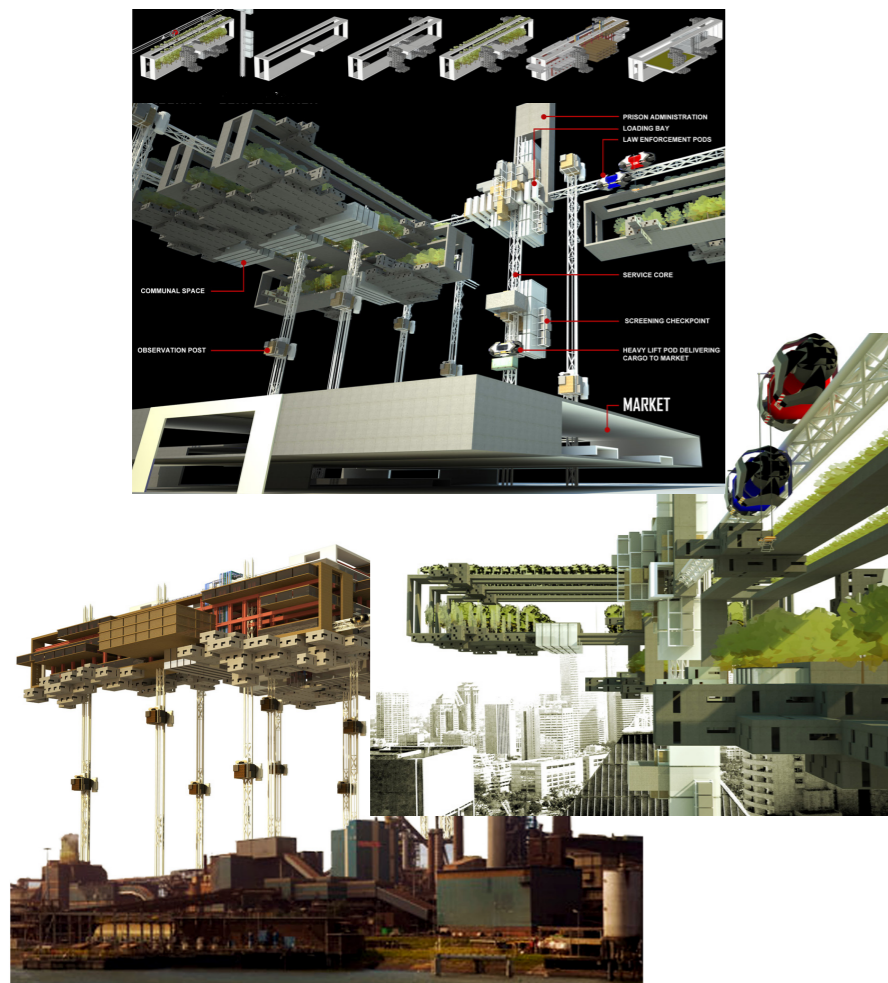
- BY CARL YAMMINE

CONCEPT

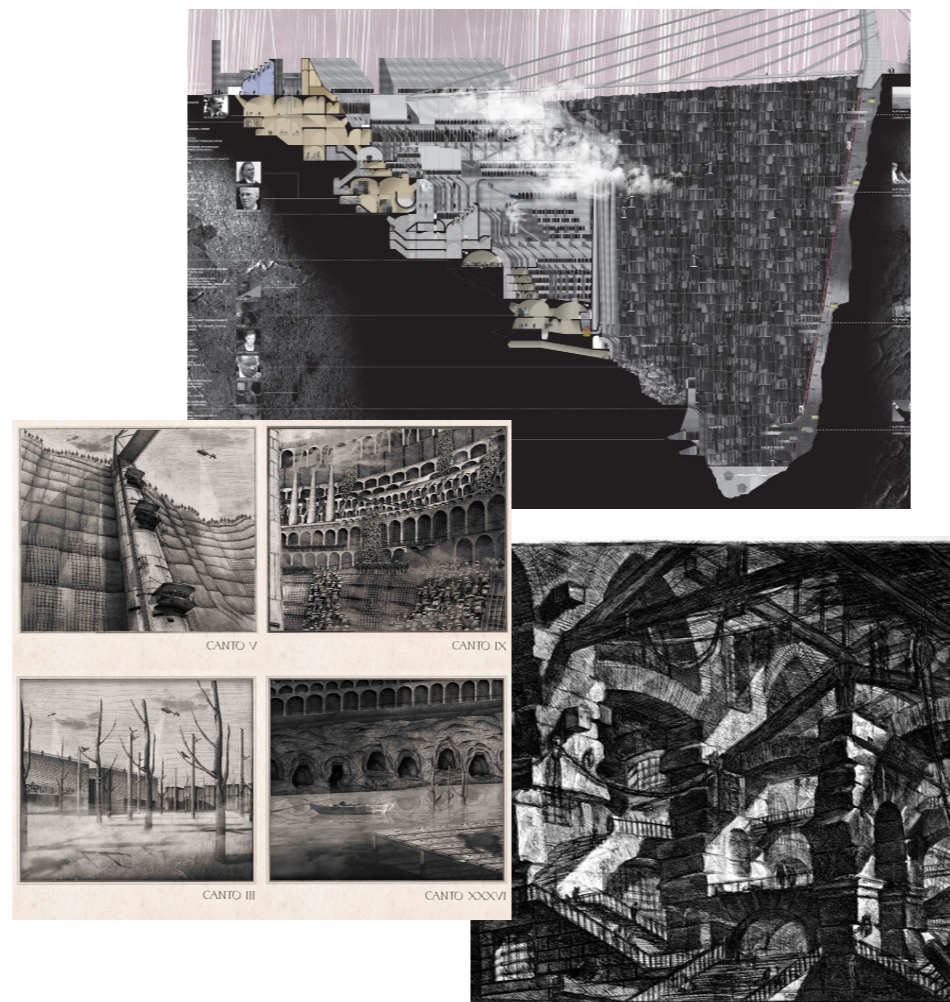
# THE MODELS

IN FYP 1 I WAS QUESTIONING THE PRISON INSTITUTION AND REFORMATION, QUESTIONING THE NAME, POSITION, TYPOLOGY, MORPHOLOGY AND PROGRAM. THESE CASE STUDIES ARE EXAMPLES OF AN ATTEMPT TO CHALLENGE AND QUESTION THESE ESTABLISHED NOTIONS OF THIS INSTITUTION. MY FYP GOES TO A DEEPER LEVEL OF QUESTIONING AND THIS WAS ONLY POSSIBLE TO ACHIEVE IN A UTOPIAN SETTING AND WITH A VISIONARY AGENDA. IT IS A UTOPIAN ARCHITECTURAL EXPLORATION.

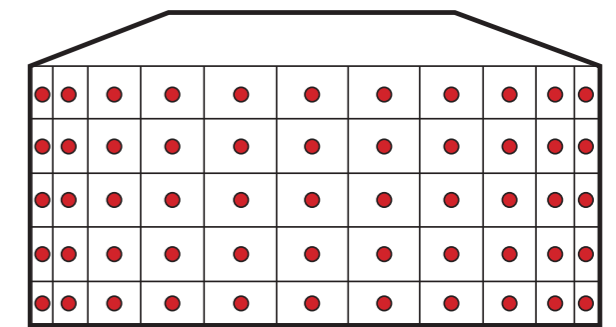
I- THE VERTICAL PRISON by C. K. Toong & O. T. Yee, Malaysia, 2010



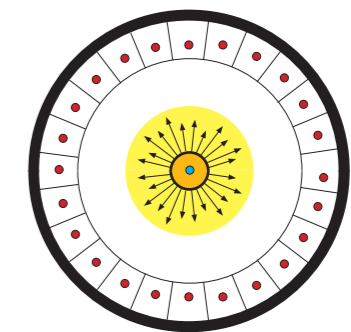
II- THE UNDERGROUND PRISON HMPark Life, by A. Kalli, UK, 2012



III- THE PANOPTICON Jeremy Bentham, 1800



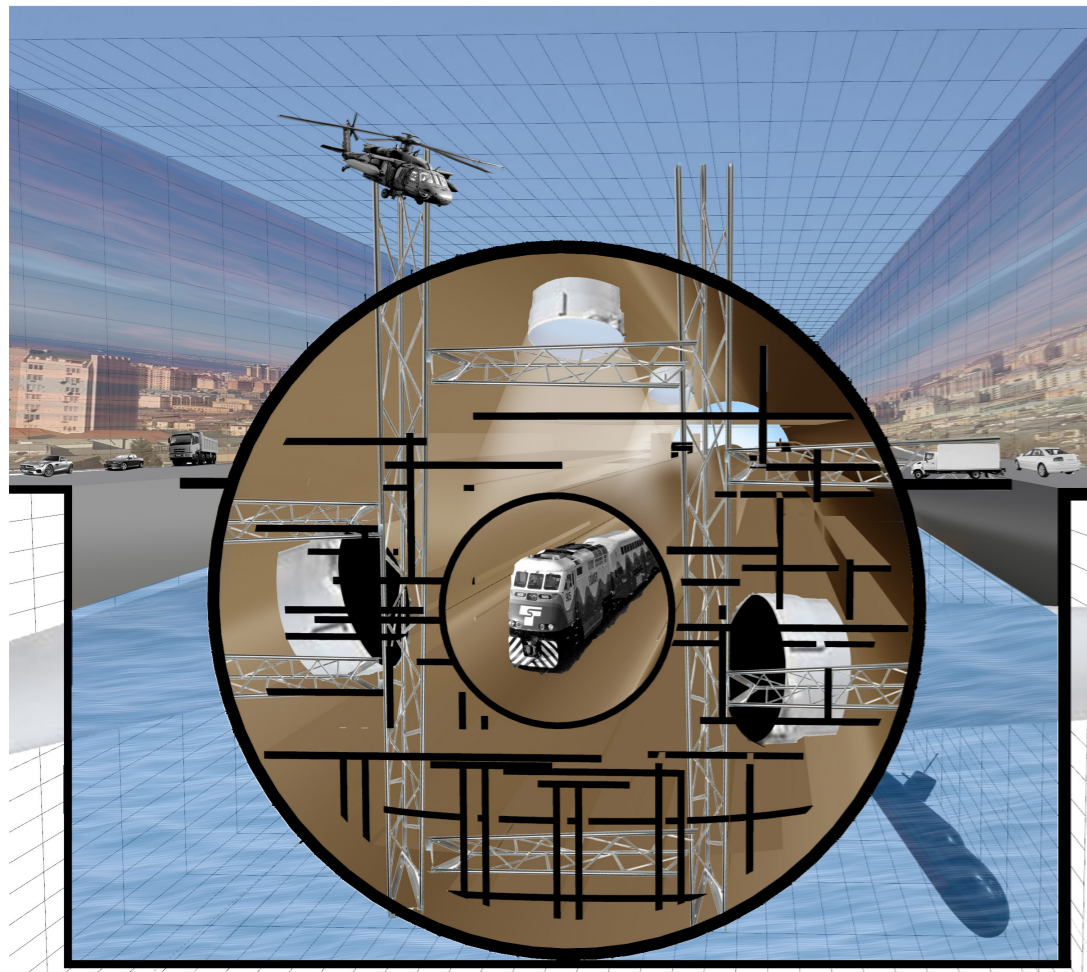
THIS MECHANISTIC APPROACH STARTS WITH THE PANOPTICON WHERE SURVEILLANCE IS MECHANISED



# THE VISION

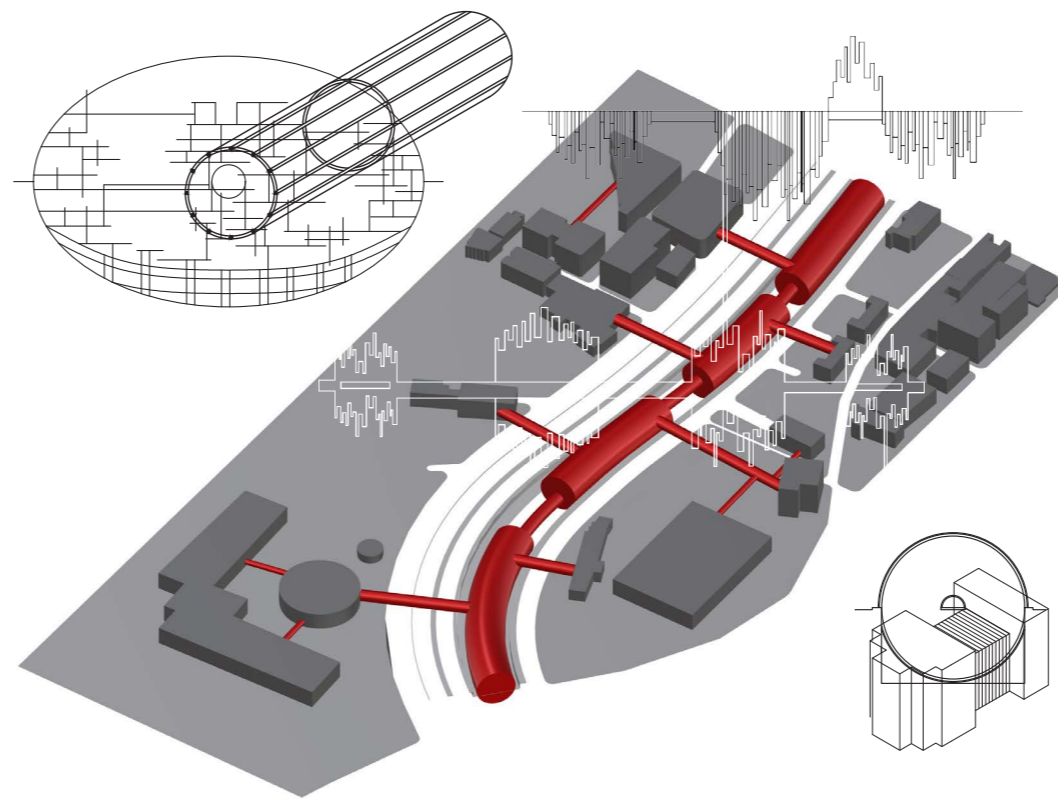
## THE INFRASTRUCTURE PRISON

MY VISION IS TO EXPLORE THE REFORMATION PROCESS AS AN INFRASTRUCTURAL NETWORK THAT CONNECTS TO THE EXISTING INFRASTRUCTURE OF THE CITY RATHER THAN BEING AN INDEPENDENT FACILITY.



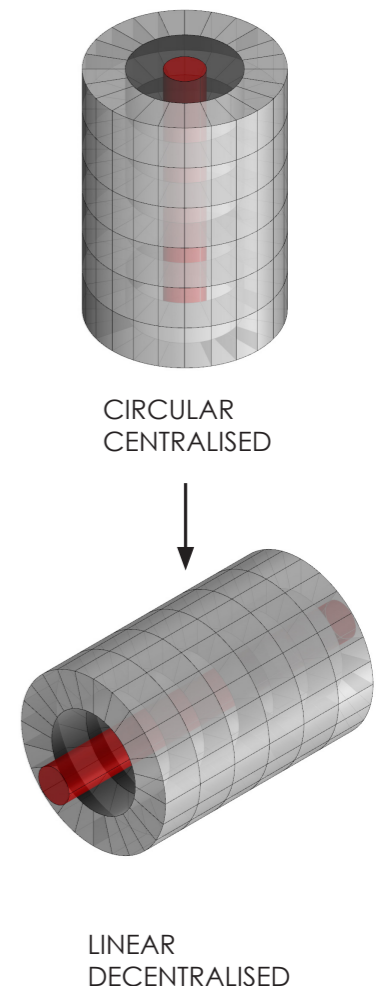
## AN URBAN DECENTRALISED REFORMATION NETWORK

AND TO CREATE A DECENTRALISED NETWORK THAT CONNECTS TO EXISTING INSTITUTIONS OR FACILITIES IN THE CITY FOR THEM TO BE USED IN THE PROCESS OF REFORMATION OF INMATES.



## A HORIZONTAL PANOPTICON

IT IS ALSO ABOUT RETHINKING AN EXISTING PRISON TYPOLOGY, *THE PANOPTICON*, AND ESSENTIALLY FLIPPING IT AND TRANSFORMING IT FROM CIRCULAR & CENTRALISED TO LINEAR & DECENTRALISED.





# MECHANISATION OF REFORMATION

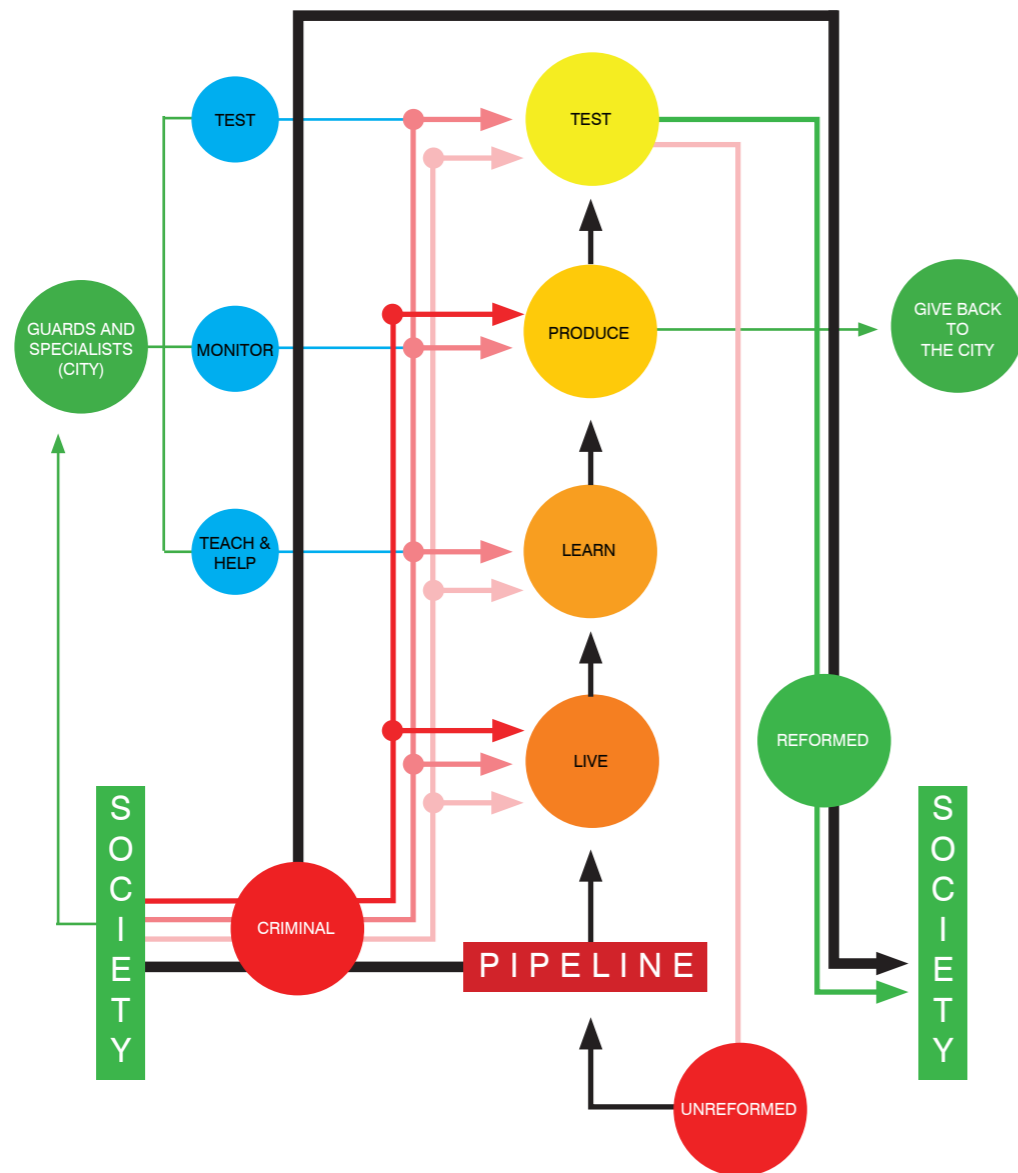
## THE MACHINE

SIMILARLY TO THE PANOPTICON, I AM INTERESTED IN MECHANING THE PROCESS OF DETENTION TO CREATE A HUMAN REFORMATION MACHINE.

REHABILITATION IS A TRANSFORMATIONAL PROCESS. SIMILARLY, THIS 'MACHINE' **REFORMS** THE PEOPLE INSIDE OF IT THROUGH A SPECIFIC PROGRAM IN ORDER TO MAKE THEM BETTER HUMAN BEINGS AND GET REINJECTED INTO SOCIETY WHEN THEY ARE READY.

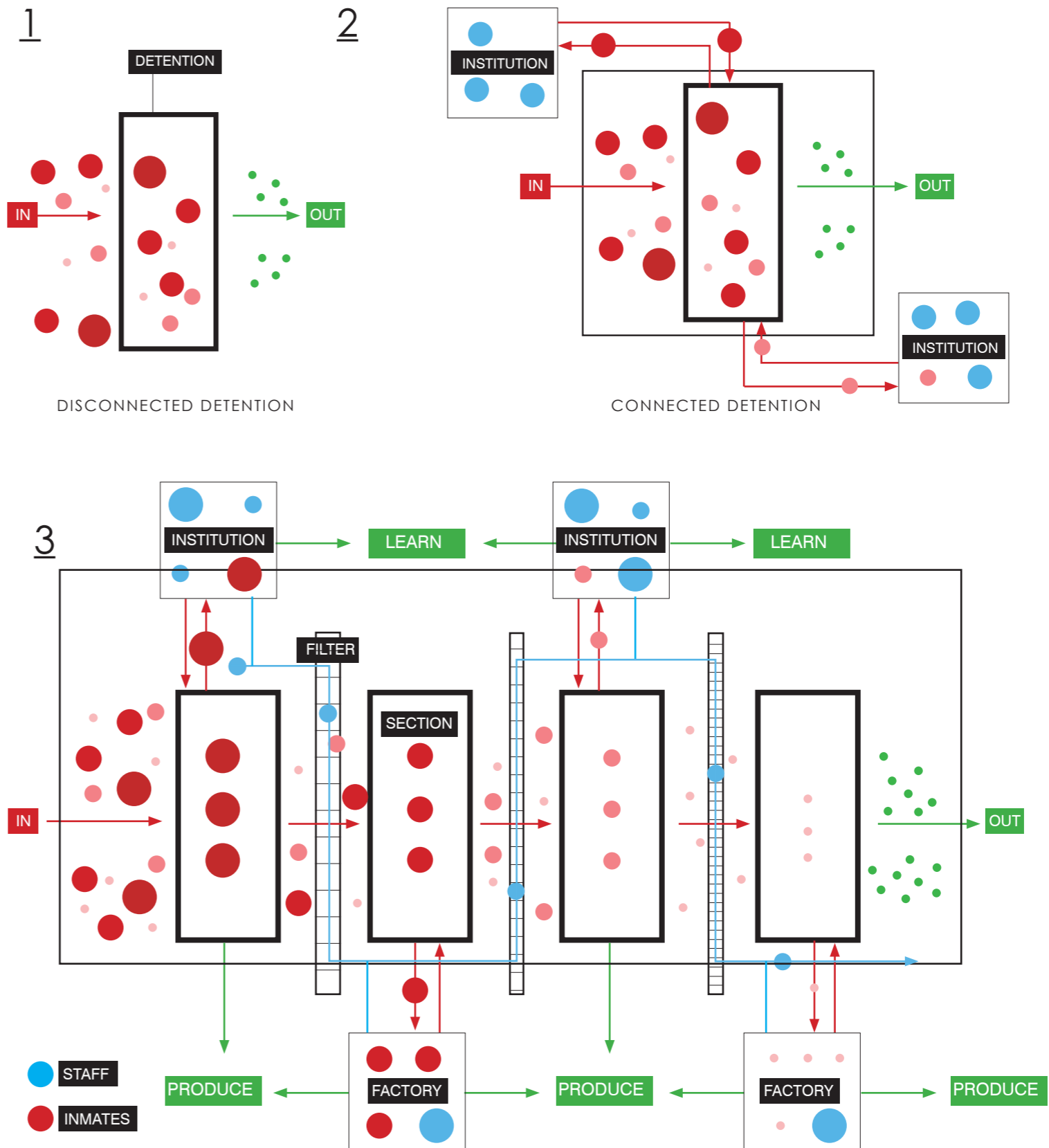
WHILE AT THE SAME TIME THE INMATES **PRODUCE** AS A WAY TO GIVE BACK TO SOCIETY.

HOWEVER, THIS INDUSTRIAL REFERENCE IS ONLY USED AS A METAPHOR, THIS PROJECT IS NOT A RAT LAB.



## THE HUMAN FILTERING

THIS PROJECT IS ASSOCIATING REFORMATION WITH THE LINEAR MECHANICAL PROCESS OF FILTERING THE "WASTE" OF SOCIETY.

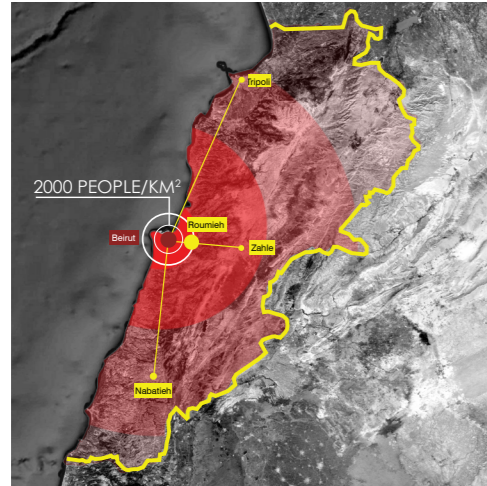


WHICH DOES 2 THINGS:

- 1- **FILTER:** THE GOOD CITIZENS FROM THE CRIMINALS AND THE DIFFERENT TYPES OF CRIMINALS
- 2- **CLEAN:** REFORMS THEM INTO BETTER HUMAN BEINGS

# POSITION

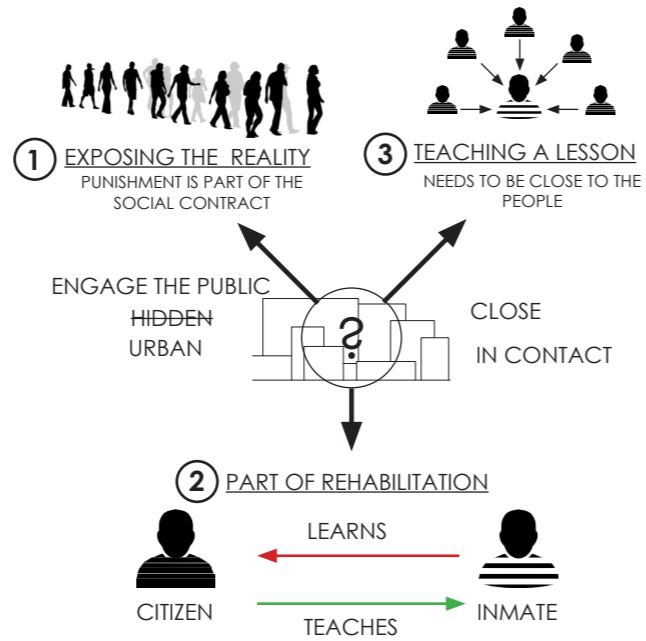
# IN THE CITY OF BEIRUT



QUESTIONING THE POSITION OF EXISTING PRISON FACILITIES

- 1 PART OF RETHINKING THE PRISON IS RETHINKING ITS CURRENT POSITION, IN RELATION TO THE CITY, AND CHALLENGING THE COMMON TREND OF ISOLATING IT (OUTSIDE THE CITY OR ON AN ISLAND). THIS PROJECT TAKES THE CHALLENGING APPROACH OF ENGAGING THE URBAN ENVIRONMENT OF BEIRUT. DETENTION IS A REALITY THAT SHOULD BE ACCEPTED, AS IT IS AN ESSENTIAL PART OF SOCIETY. HIDING IT IS HIDING REALITY.
- 2 INSIDE THE CITY, IT CREATES AN INTERESTING CONNECTION BETWEEN CITIZENS AND THE CENTER ITSELF. SOCIETY AND THE INMATES WOULD THEN BE ABLE TO INTERACT WITH EACH OTHER AND BREAK THE BOUNDARIES THAT USED TO SEPERATE THEM. THIS INTERSECTION HAS TO HAPPEN IN A VERY SENSIBLE WAY BECAUSE ISSUES OF SECURITY AND PROTECTION OF SOCIETY ARISE. BASICALLY THE BARRIER HAS TO BE THIN YET SECURE.
- 3 BRINGING THE DETENTION CENTER TO THE CITY, IS A REMINDER FOR THE CITIZENS THAT THERE IS A PLACE THAT WOULD HOLD THEM ACCOUNTABLE FOR THEIR ACTIONS. FOR THIS REASON, IT SHOULD ENGAGE THE PUBLIC AND BE IN CONTACT WITH THE CITY.

# WHY?



# IN THE RIVER OF BEIRUT

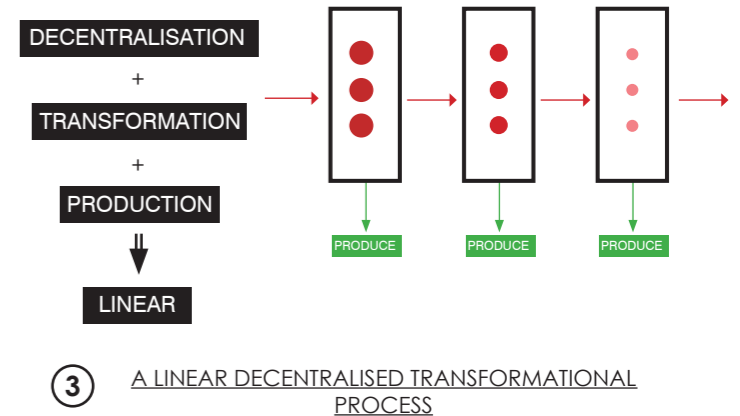


40M WIDE RIVER CONNECTED TO A CORE OF BEIRUT INFRASTRUCTURE

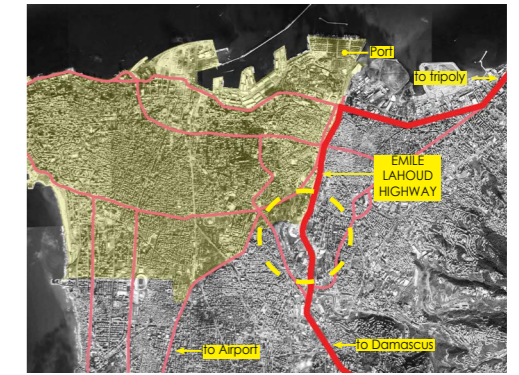


A TOPOGRAPHICAL BOUNDARY  
A NATURAL BUFFER, PERFECT FOR SECURITY AND PROTECTION OF SOCIETY

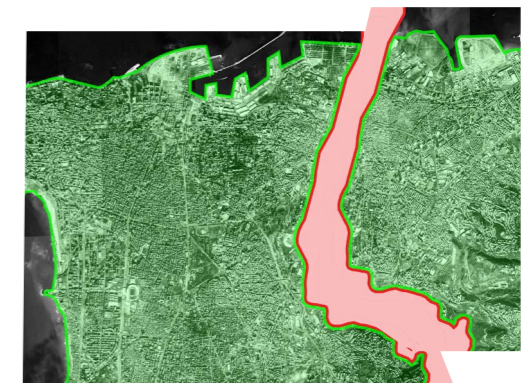
- 1 REFORMATION IS PART OF THE SOCIO-ECONOMIC INFRASTRUCTURE OF THE CITY AND THE RIVER IS LINKED TO THIS INFRASTRUCTURE AS A NATURAL HIGHWAY.
- 2 IN THE VISION, THE REFORMATION PROCESS IS A LINEAR & DECENTRALIZED TRANSFORMATIONAL PROCESS THAT IS COUPLED WITH A PRODUCTION LINE. THE RIVER, LIKE ANY LINEAR FORMATION FULFILLS THE NEED FOR THIS LINEAR PROCESS.
- 3 ALSO IT IS INTERESTING TO RETHINK ABANDONED INFRASTRUCTURE OF THE CITY AND THE RIVER OFFERS ITSELF AS AN ABANDONED, UNDERUSED TOPOGRAPHICAL BOUNDARY THAT CUTS THROUGH THE CITY WHILE AT THE SAME TIME LINKING TO DIFFERENT INSTITUTIONS, INDUSTRIAL FACILITIES AND STREETS.



# WHY?



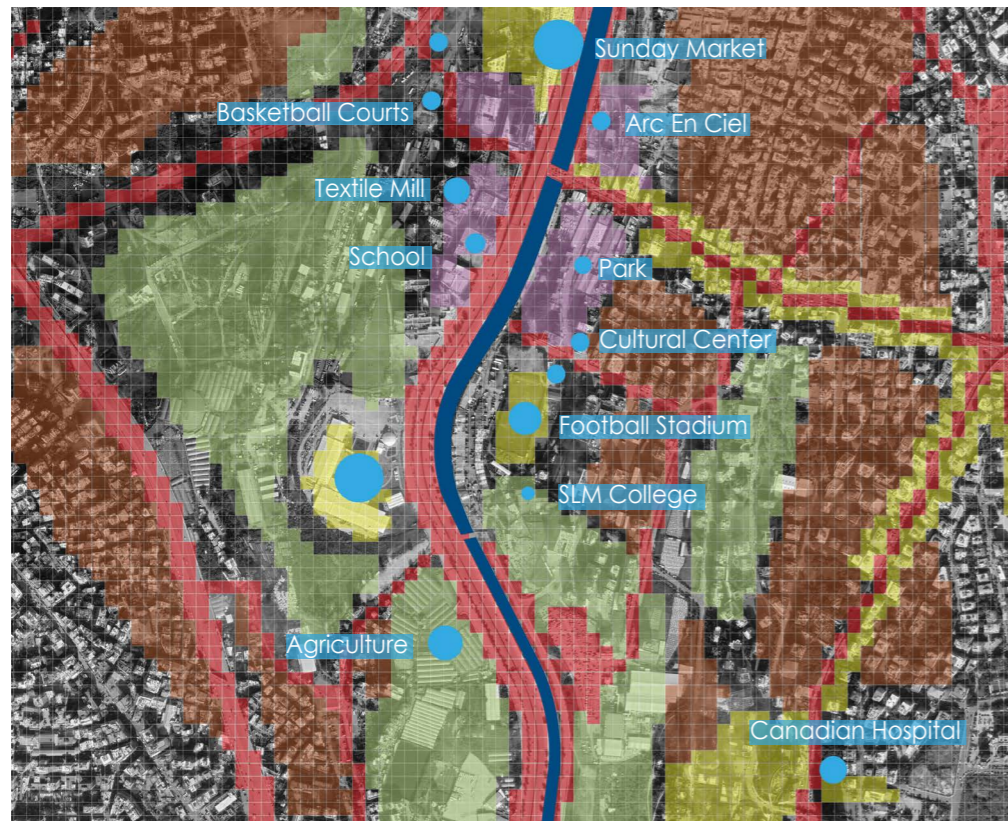
1 AN INFRASTRUCTURAL GIANT  
THE RIVER CONNECTS TO A VERY PROMINENT HIGHWAY WITH HIGH TRAFFIC FLOW



2 A SYMBOLICAL BOUNDARY  
CREATING A BUFFER BETWEEN CITIZENS AND INMATES WHILE STILL BEING PRESENT INSIDE THE CITY

3 A LINEAR DECENTRALISED TRANSFORMATIONAL PROCESS

# SITE ANALYSIS



*SOURCE:* "NAHR BEIRUT: PROJECTIONS ON AN INFRASTRUCTURAL LANDSCAPE" - SANDRA FREM

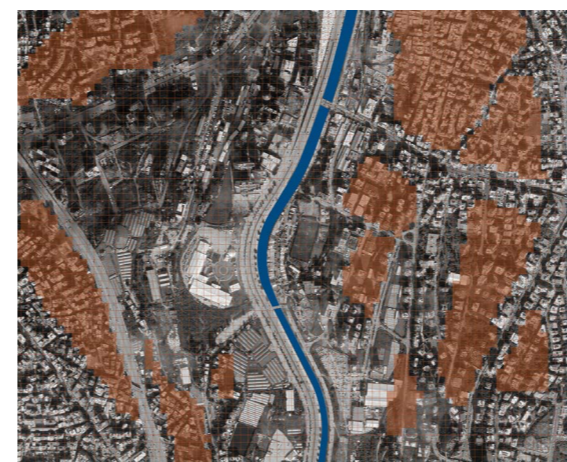
THE SITE ANALYSIS MAPS INFRASTRUCTURE, COMMERCIAL AND RESIDENTIAL HUBS, INDUSTRIAL AND AGRICULTURAL HUBS IN ORDER TO DETERMINE FACTORIES, AGRICULTURAL AREAS AND INSTITUTIONS WHERE THE PIPELINE AND THE CITY CAN INTERSECT



INFRASTRUCTURE



COMMERCIAL



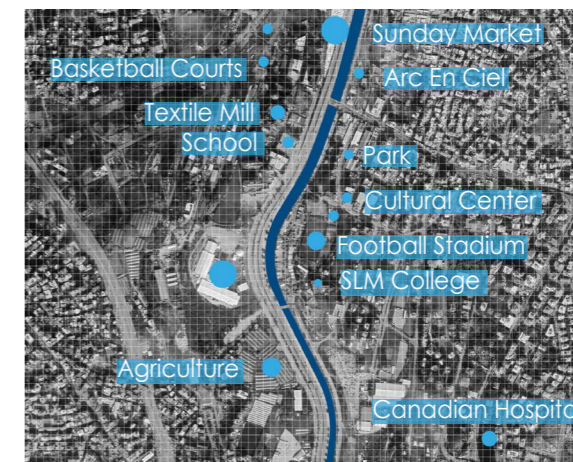
RESIDENTIAL



INDUSTRIAL



GREEN SPACES



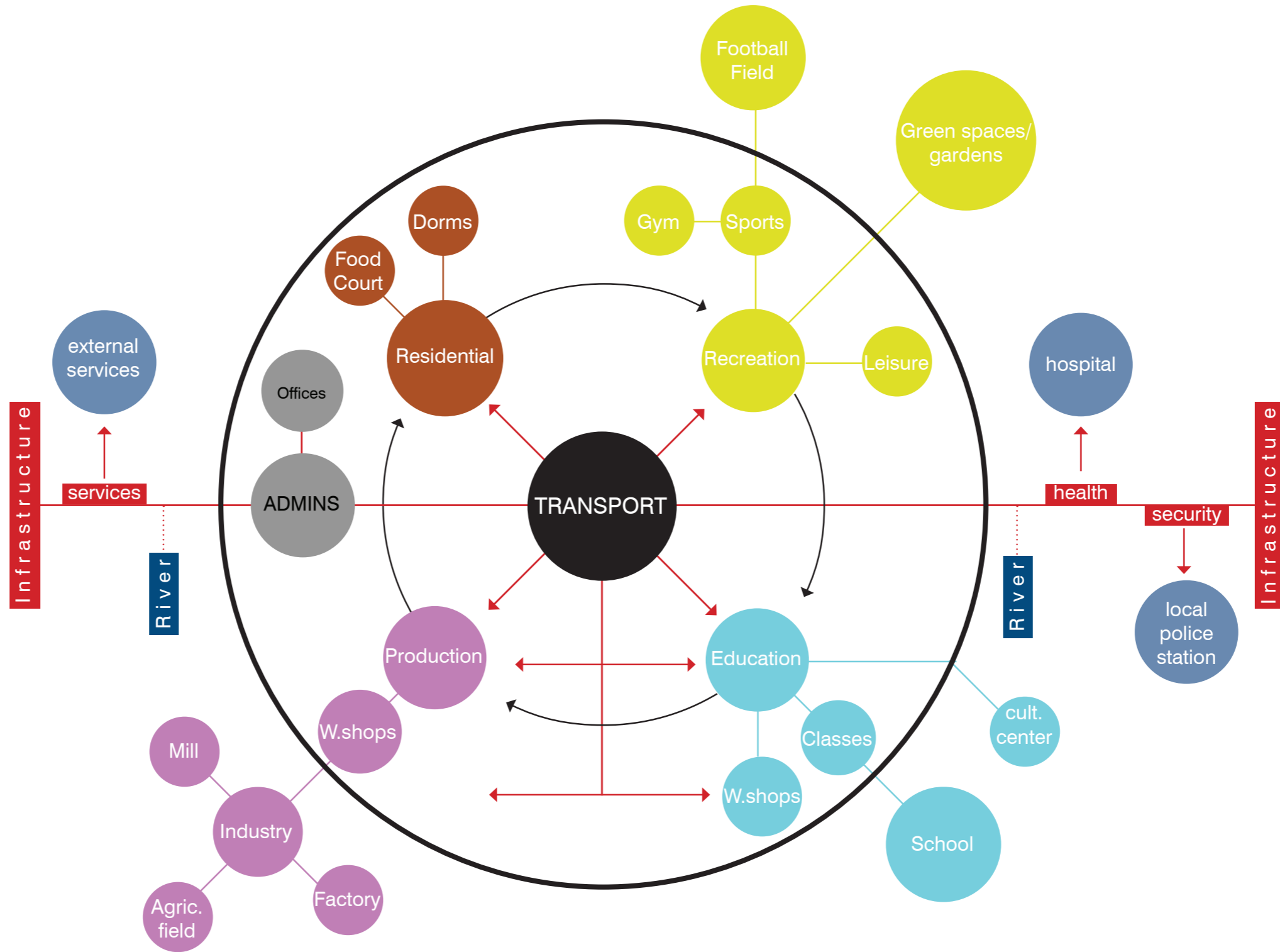
POTENTIAL INTERSECTION W/  
INSTITUTIONS

# PROGRAM

# REFORMATION PROGRAM

THERE ARE 4 AREAS TO THE PROGRAM: RESIDENTIAL RECREATIONAL PRODUCTION EDUCATION

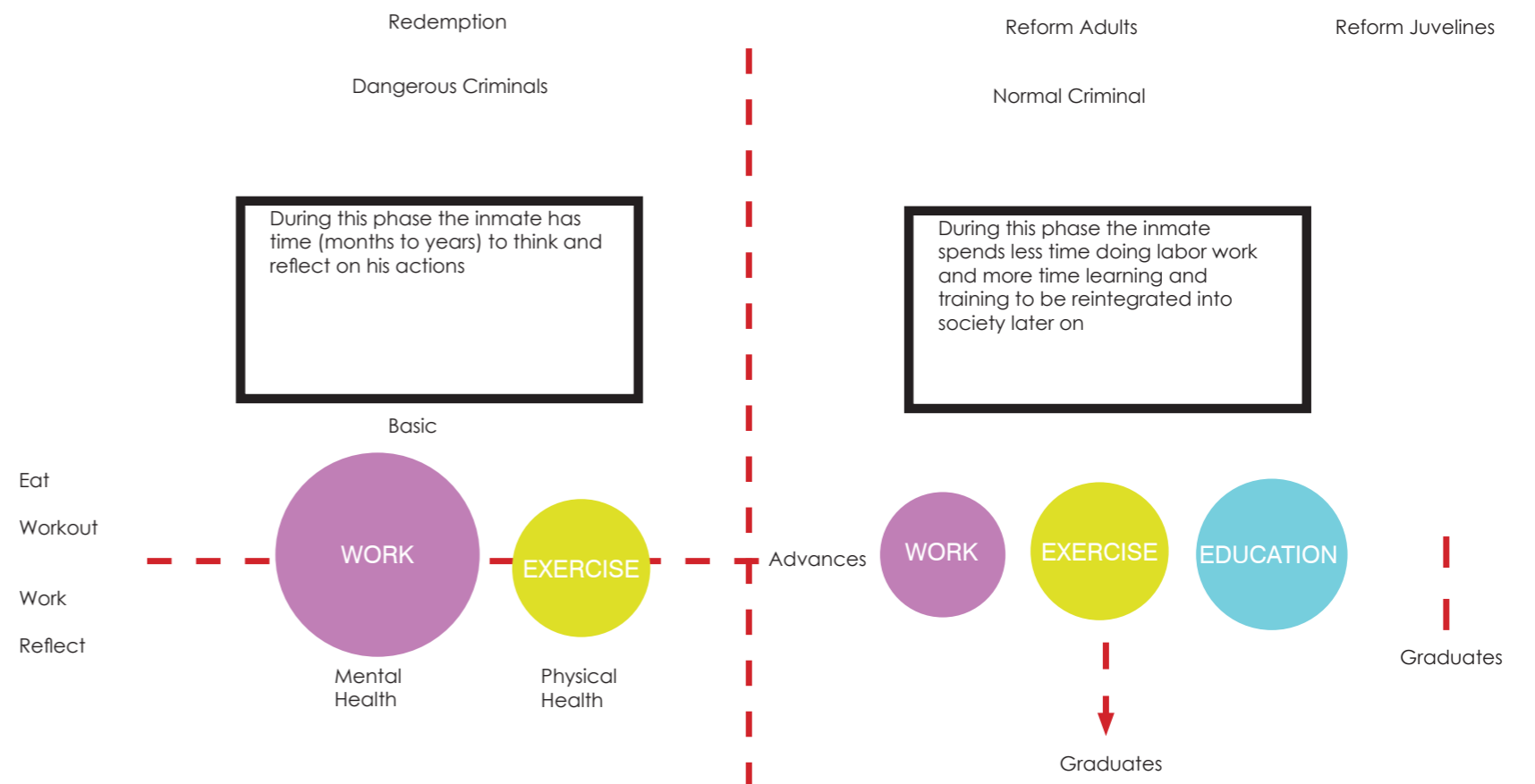
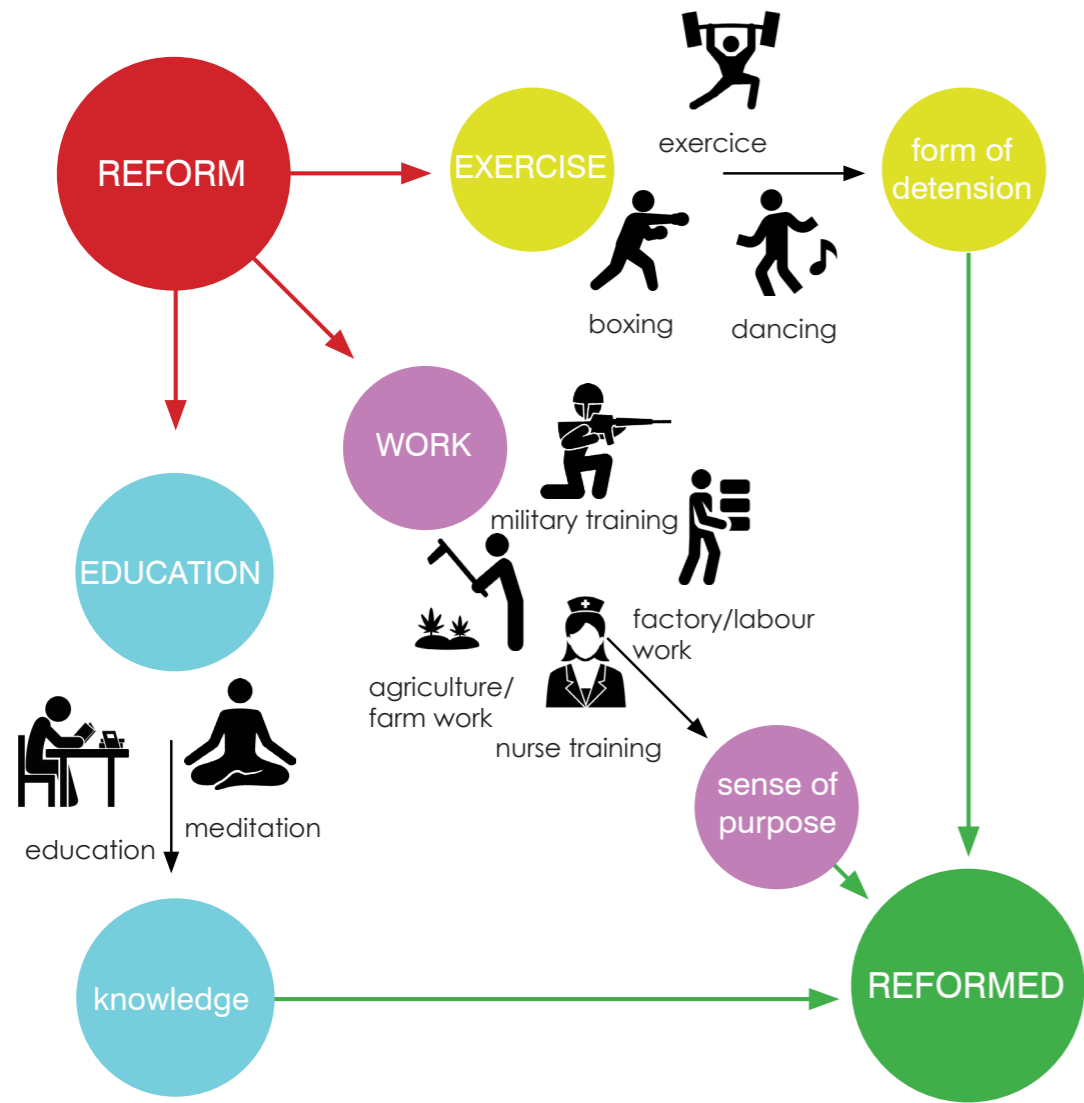
THE RESIDENTIAL AREA IS COMPOSED OF DORMS AND A FOOD AREA  
 THE RECREATIONAL, COMPOSED OF A GYM, LEISURE ACTIVITIES AND A FOOTBALL FIELD OUTSIDE THE PIPELINE  
 THE EDUCATIONAL COMPOSED OF CLASSES, WORKSHOPS AND CONNECTED TO A SCHOOL  
 AND THE PRODUCTION LINE COMPOSED OF WSHOPS AND CONNECTED TO AN AGRICULTURAL FIELD.



MAKING USE OF EXISTING FACILITIES NEAR THE RIVER FOR PART OF THE PROGRAM AND THE OTHER PART IS INSIDE THE PIPELINE


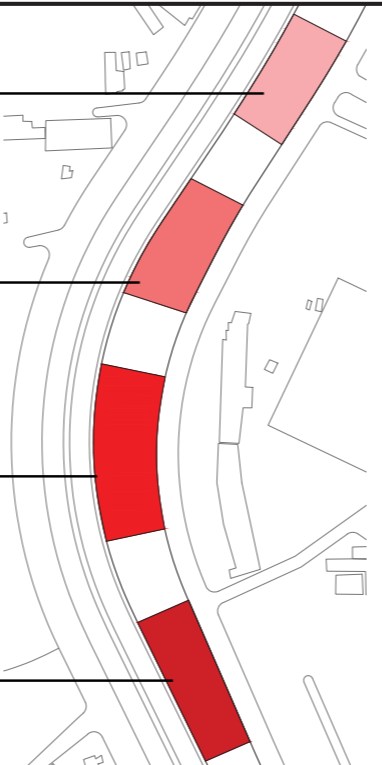

# HOW?

WHY THIS PROGRAM? BECAUSE IN FYP 1 I ESTABLISHED THAT REFORMATION IS MOST EFFECTIVE WHEN IT IS A COMBINATION OF EDUCATION, PHYSICAL EXERCISE AND WORK. EXERCISE IS A FORM OF DE-TENSION, WORK GIVES A SENSE OF PURPOSE AND EDUCATION DEVELOPS VALUES. THE PROGRAM IS ALSO CATERED FOR DIFFERENT AGE GROUPS AND CRIME TYPES

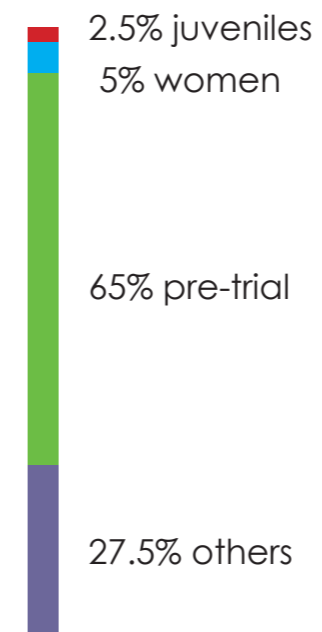


# USERS STRATEGY

THE PIPELINE IS SEGMENTED INTO 4 BLOCKS DEPENDING ON AGE AND CRIME TYPE TO CREATE A UNIFIED CONSISTENT PIPELINE. FROM THE FELONERS TO JUVENILES.

AGE GROUP	CRIME TYPE	SENTENCE	CATEGORISATION
 juveniles 18-	<b>ANY</b> theft-larceny assault truancy underage drinking/ driving	months to years	
 adults 18+	<b>MISDEMEANORS</b> vandalism traffic violations petty theft trespassing	less than 1 year	
	<b>MENTALLY-ILL</b> mentally unstable criminals	months to years	
	<b>FELONS</b> human/drug trafficking murder robbery rape	more than 1 year	

## DEMOGRAPHIC



I HAVE AN URBAN DESIGN STRATEGY THAT HAVE ME HAVE A UNIFIED CONSISTENT FORM BUT THE PROGRAMATIC COMPONENTS FROM WITHIN ARE DIFFERENT



THE X-STREAMLINE

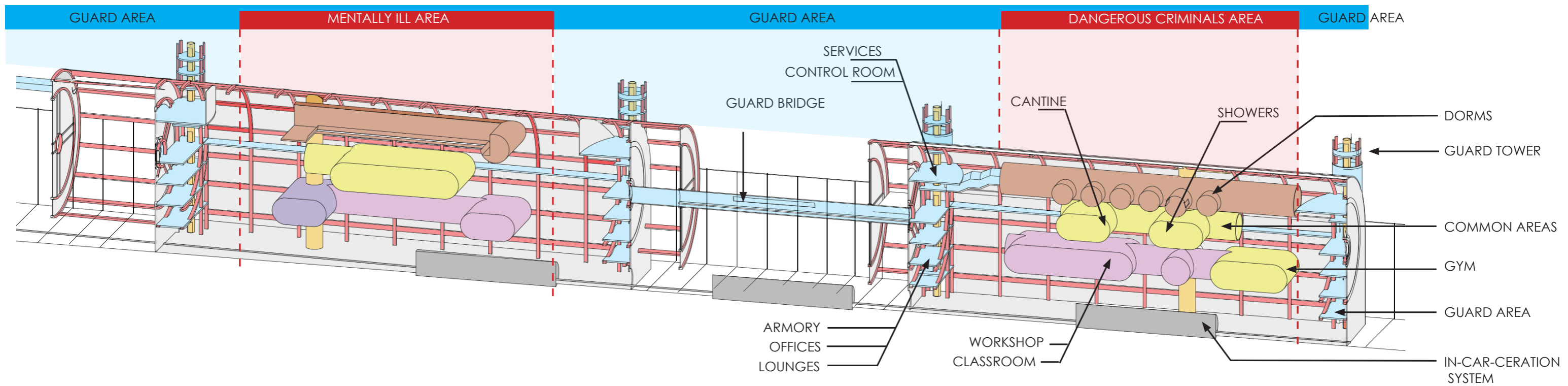
INFRASTRUCTURAL DE-TENSION & RE-FORMATION PIPELINE

THESIS 2020 -

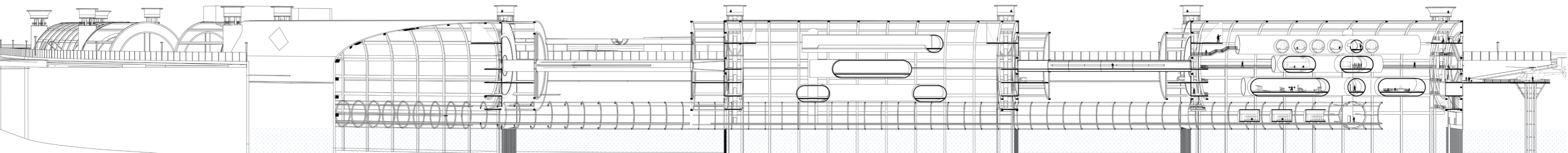
- BY CARL YAMMINE

DESIGN

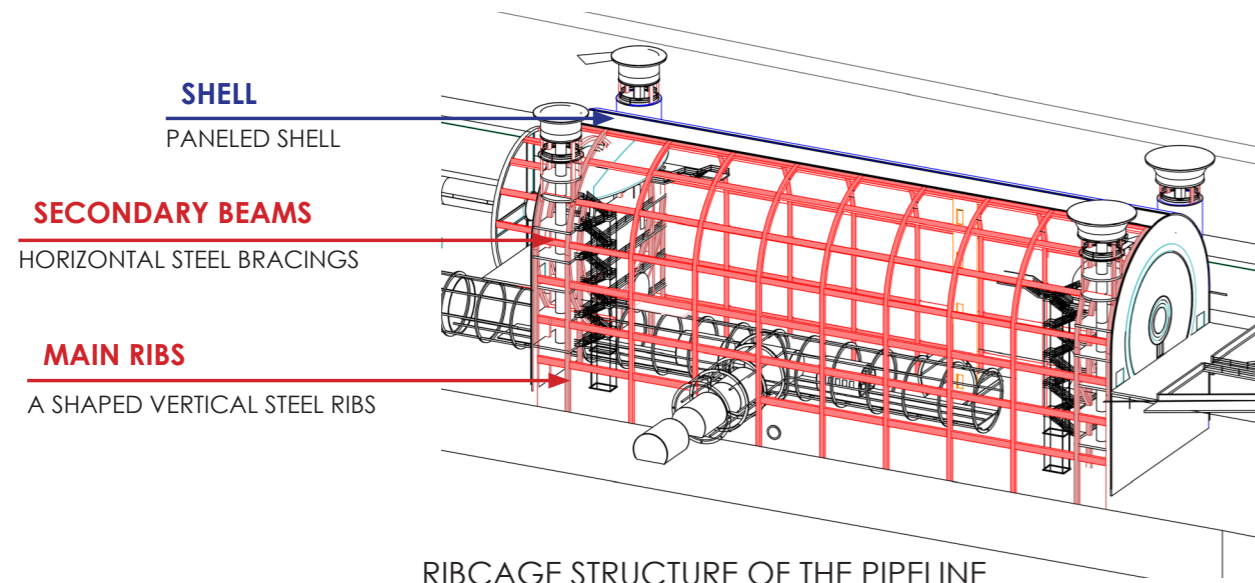
# ZONING DIAGRAM



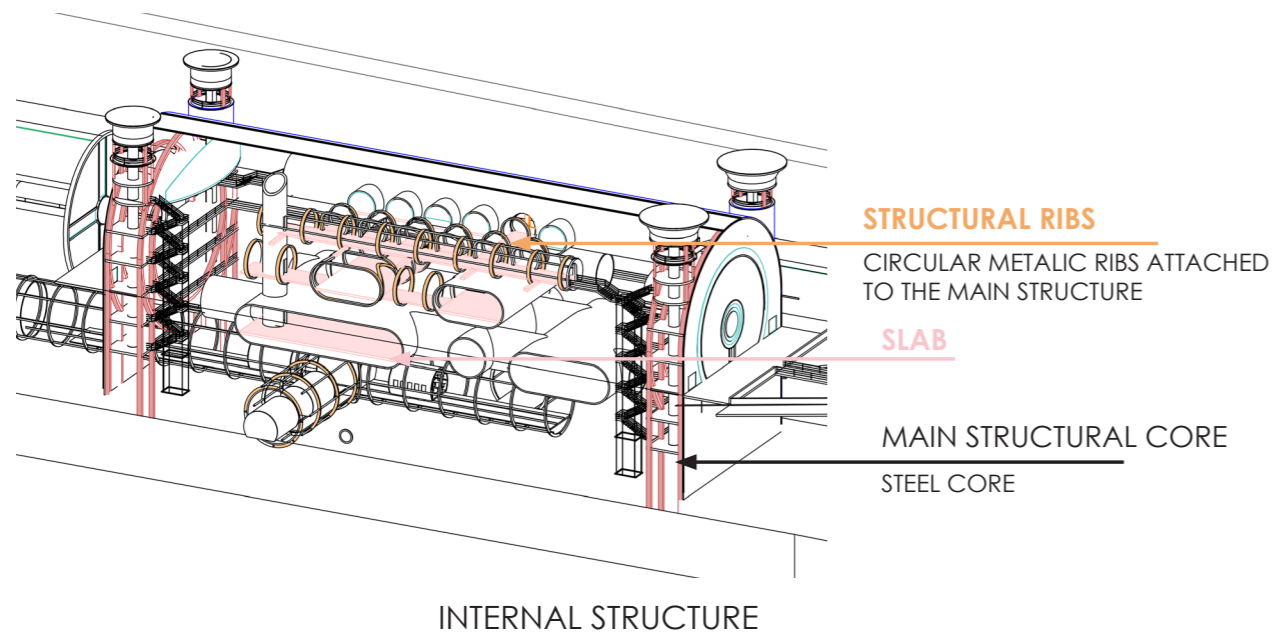
EACH SEGMENT HAS A SLIGHTLY DIFFERENT PROGRAM DEPENDING ON THE RESIDENTS. HOWEVER THE LAYOUT IS CONSTANT, THE GUARDS AREA ALWAYS SURROUNDS THE INMATES AREA, MONITORING AND CONTROLLING IT, HAS SPACES LIKE A CONTROL ROOM, ARMORY, OFFICES, LOUNGES. THE INMATE AREA IS WHERE THE REHABILITATION TAKES PLACE, WITH SPACES LIKE THE DORMS, WORKSHOPS, CLASSROOMS, GYM, COMMON AREAS AND THE IN-CAR-CERATION NETWORK AT THE BOTTOM WHICH TRANSPORTS INMATES BETWEEN SEGMENT AND INTO NEARBY FACILITIES.



## STRUCTURAL DIAGRAMS

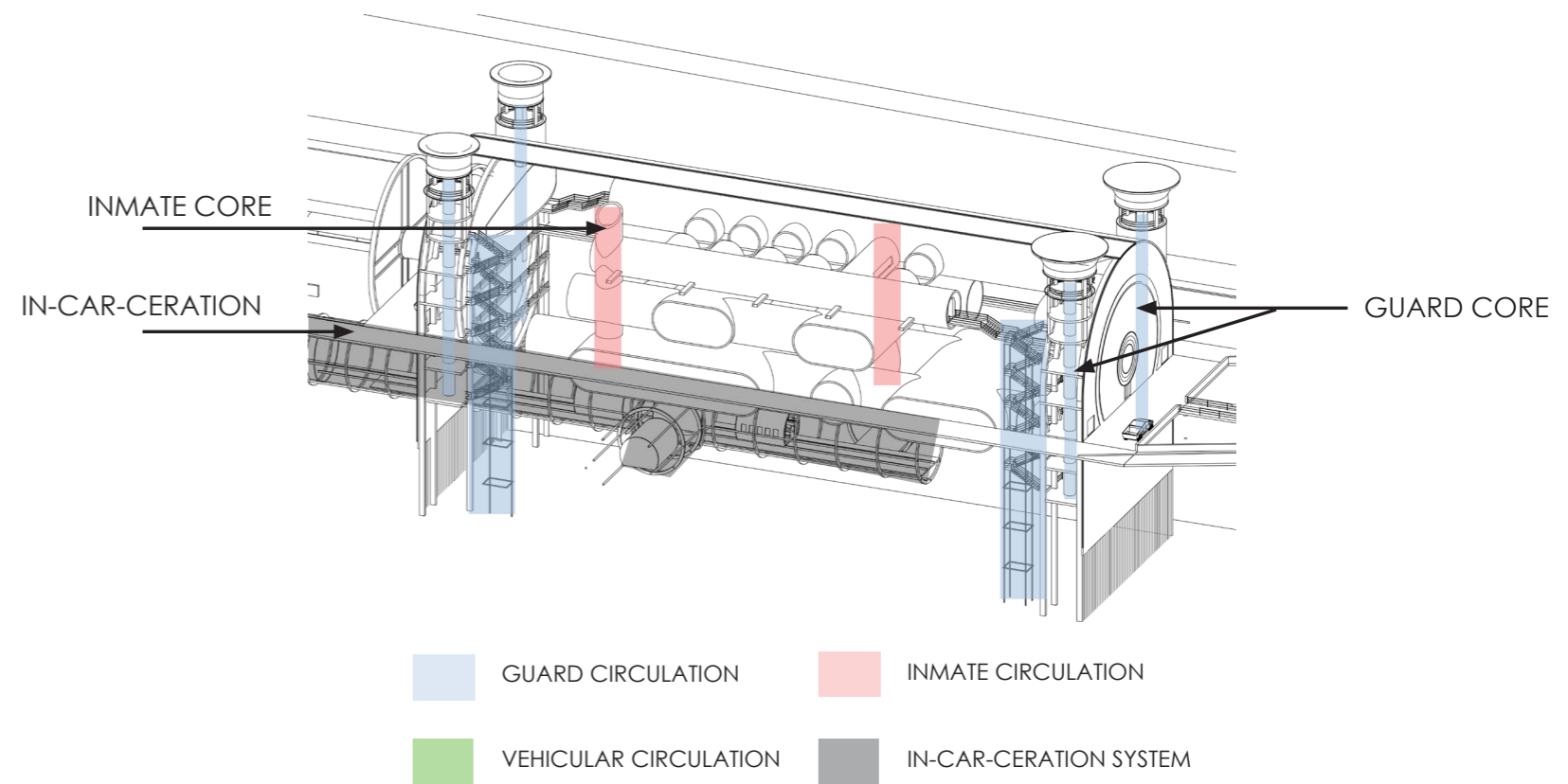
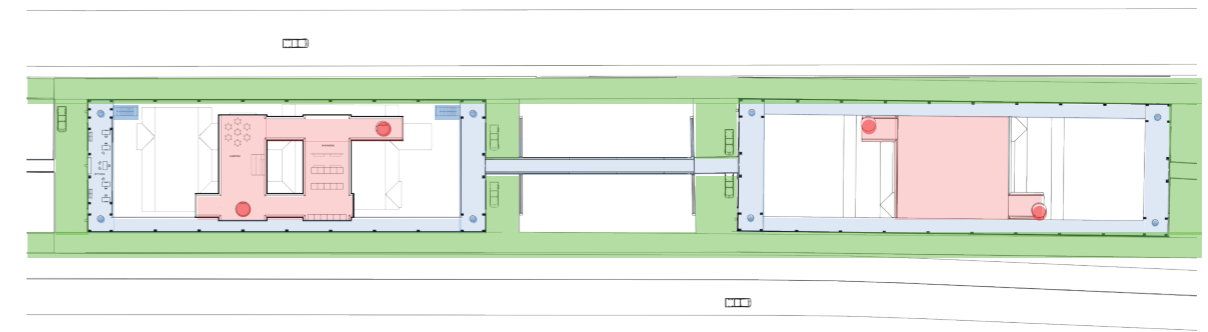


THE MAIN STRUCTURE IS A SERIES OF SUCCESSIVE RIBS BRACED BY HORIZONTAL BEAMS ALL ALONG TO FORM A RIBCAGE STRUCTURE THAT CREATES THE PIPELINE. ALLOWING THE WATER TO FLOW.

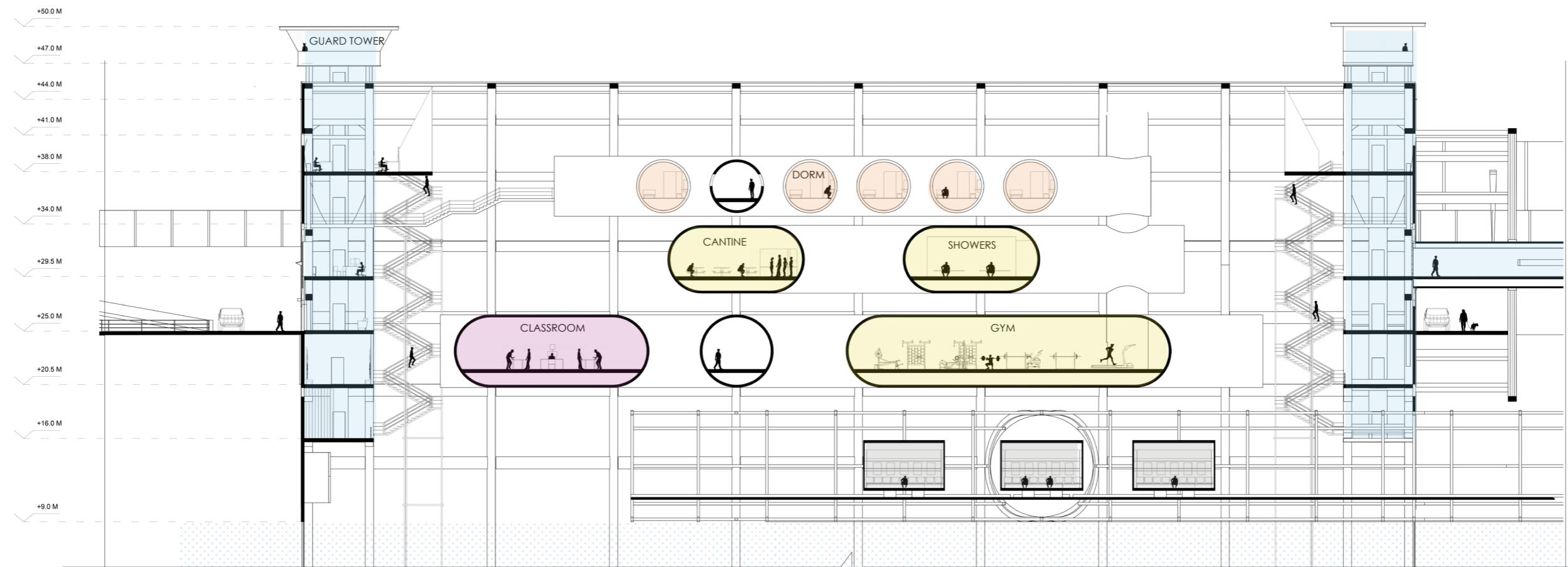


INSIDE THE RIBCAGE ARE A SERIES OF SMALLER CIRCULAR RIBS THAT TOGETHER CREATES ESSENTIALLY SMALLER PIPES CONNECTED TO EACH OTHER AND ATTACHED TO THE MAIN STRUCTURE. THE SPACE INSIDE THE PIPES IS THEN INHABITED BY SLABS.

## CIRCULATION SYSTEMS

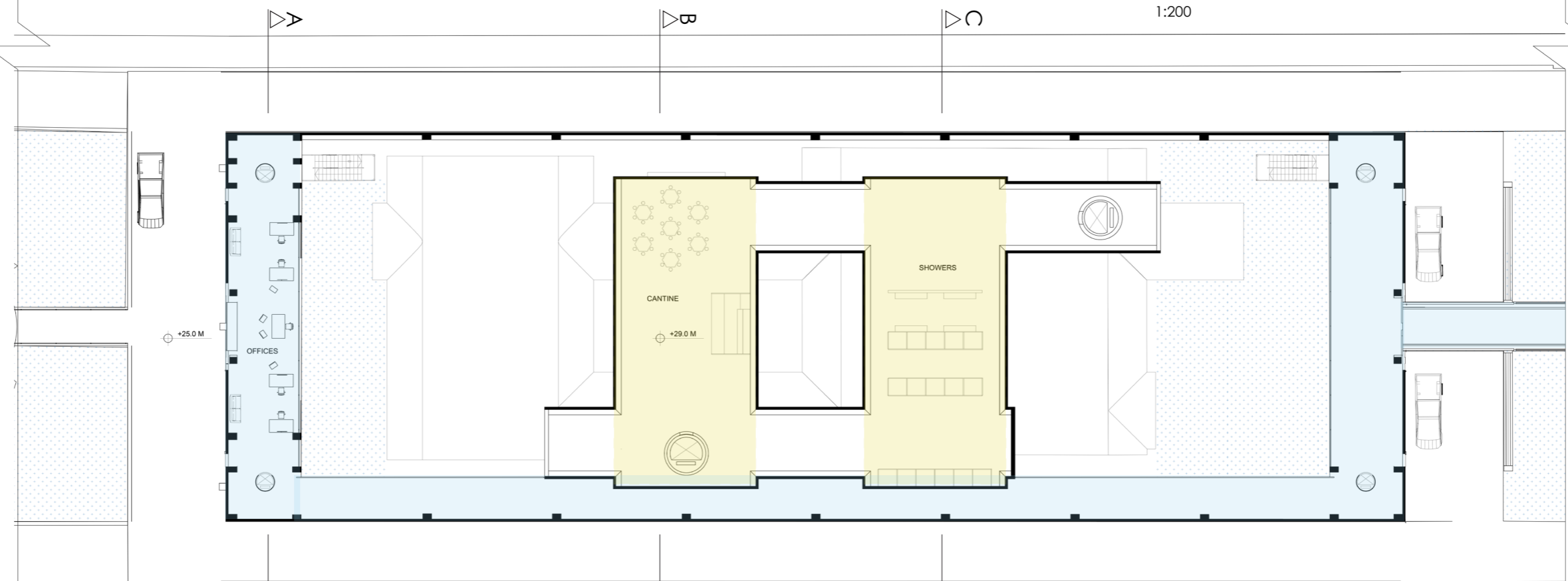


NATURALLY THERE ARE 2 SEPARATE CIRCULATION NETWORKS THE GUARD AND THE INMATES. THE CIRCULATION CORES FOR THE GUARD



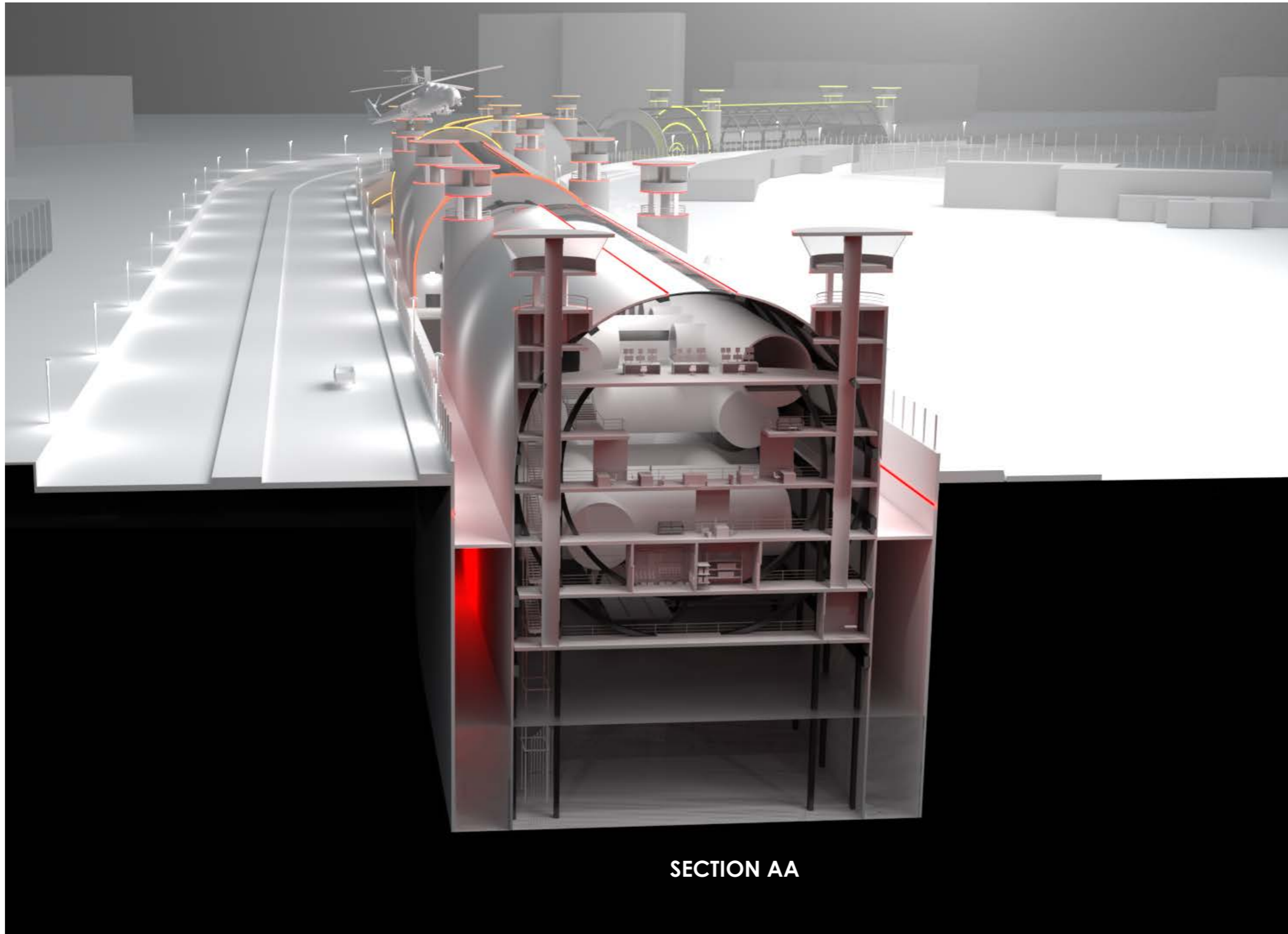
PARTIAL SECTION OF THE FIRST BLOCK

1:200

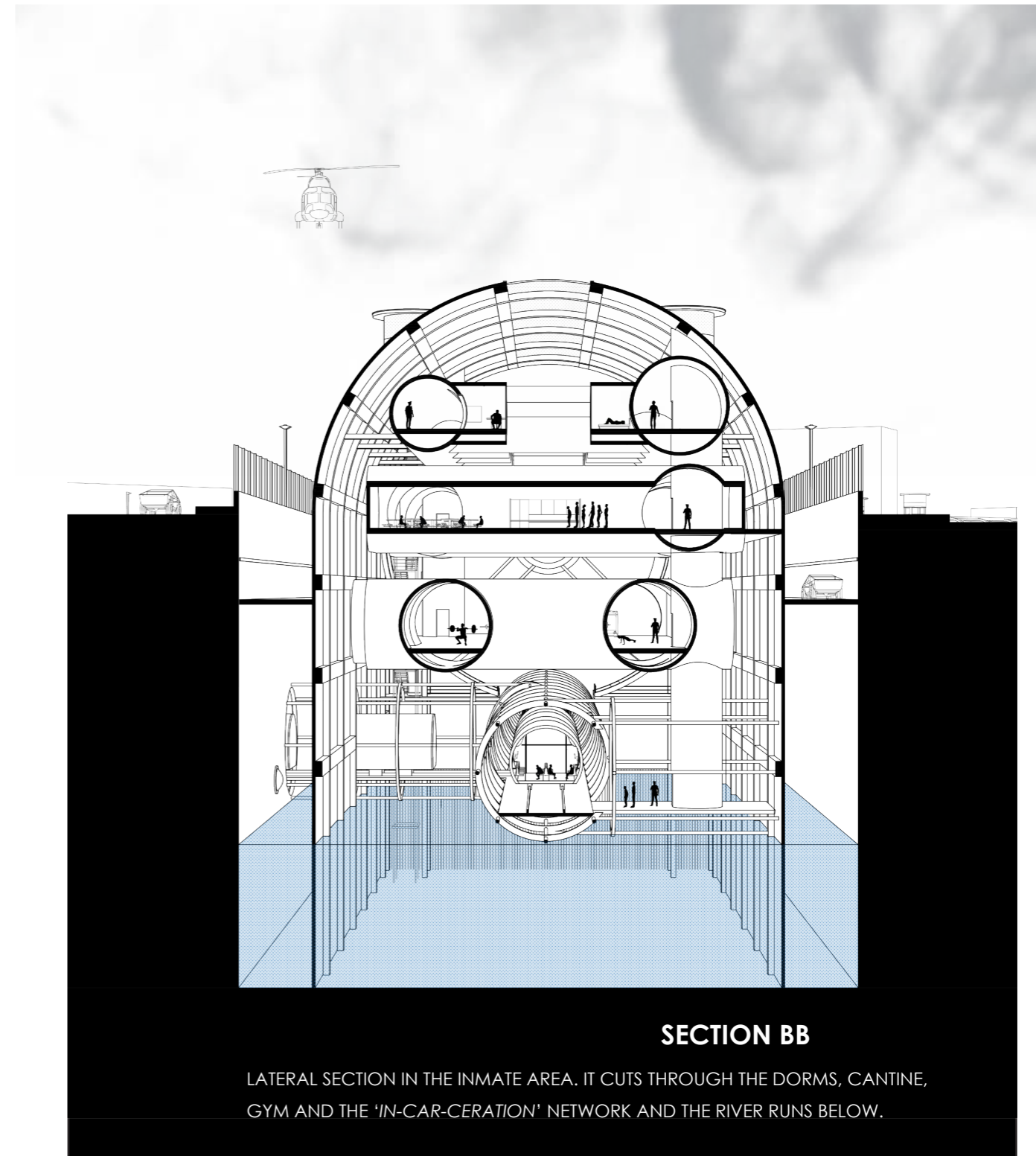
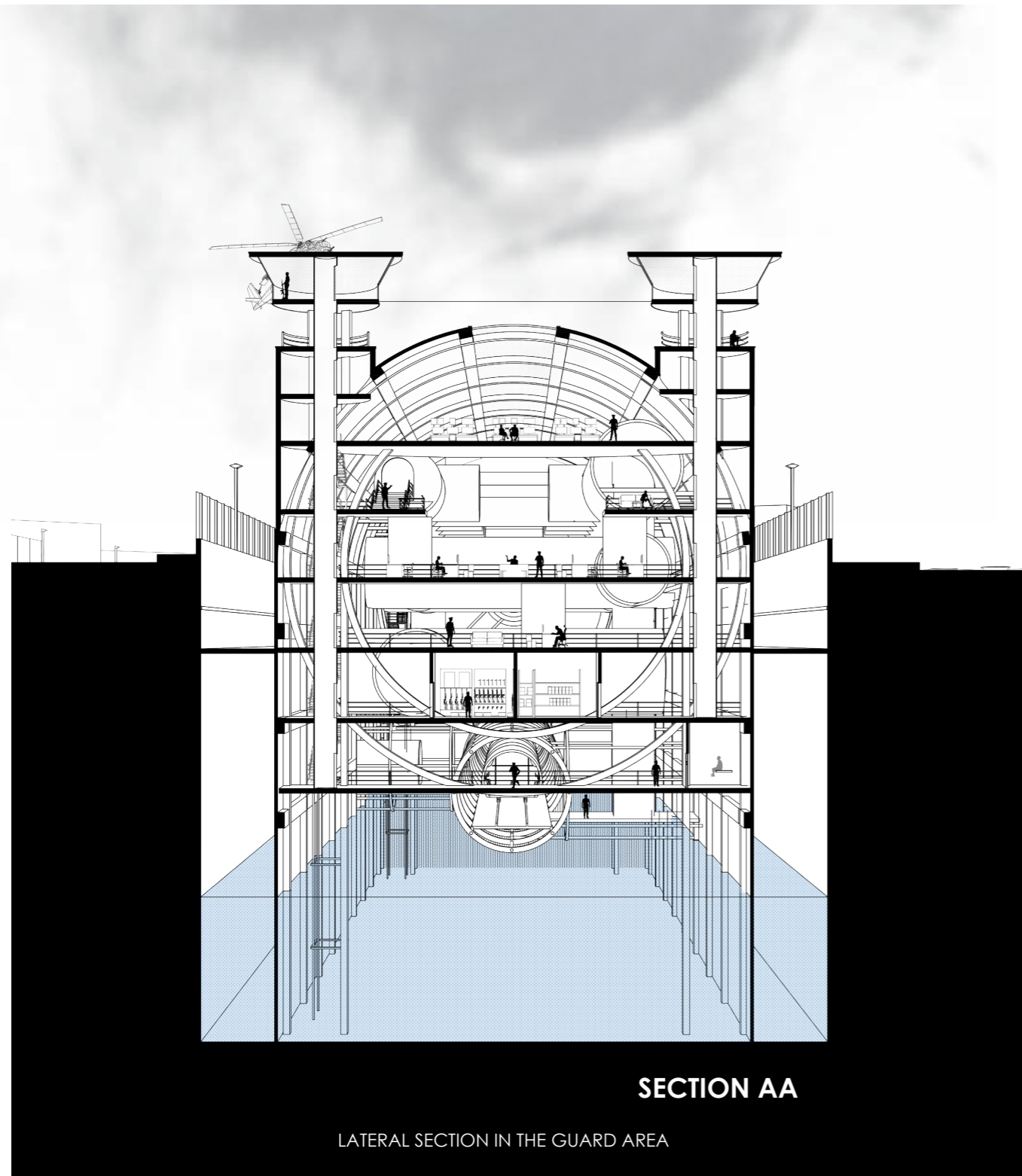


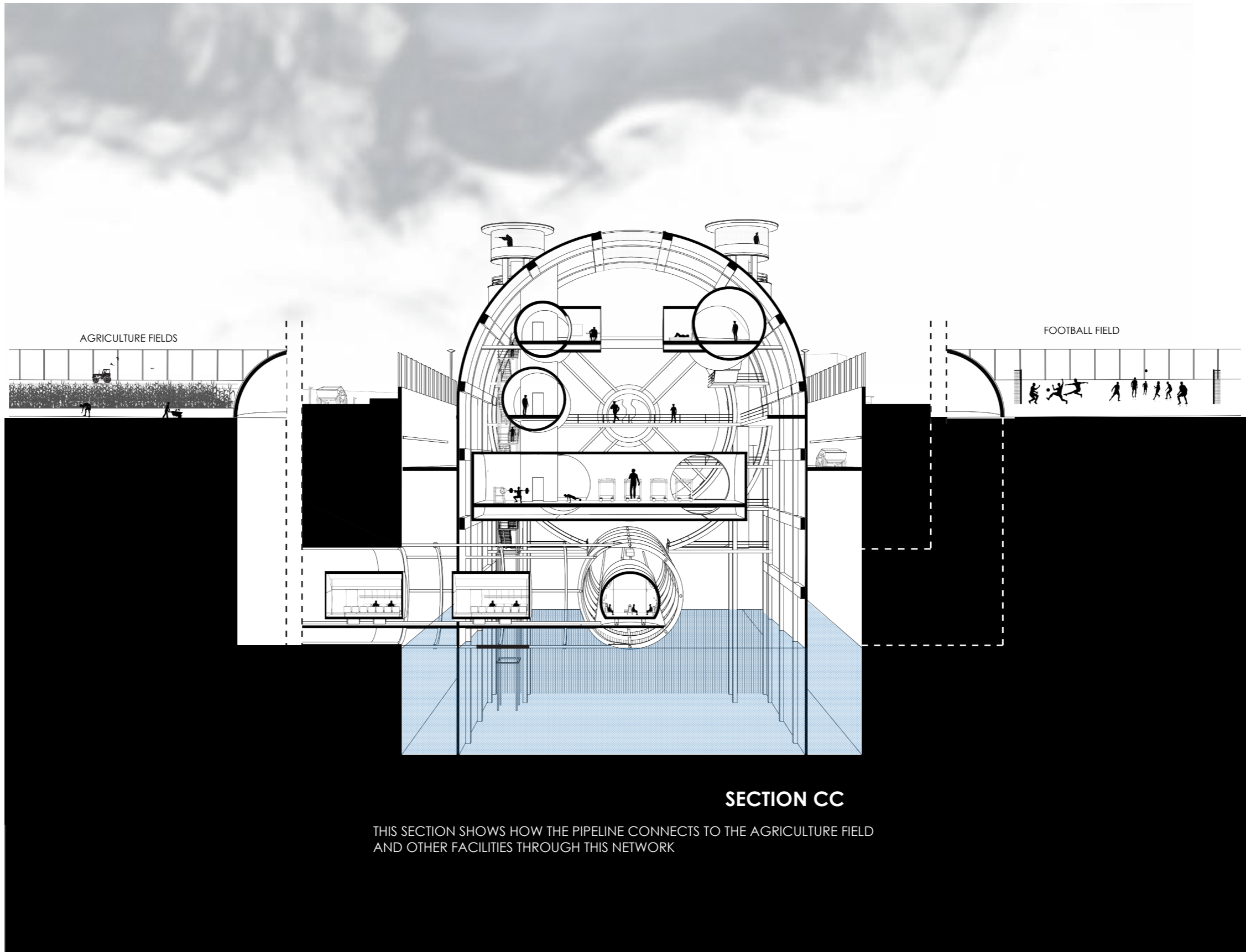
PARTIAL PLAN OF THE FIRST BLOCK

1:200



SECTION AA







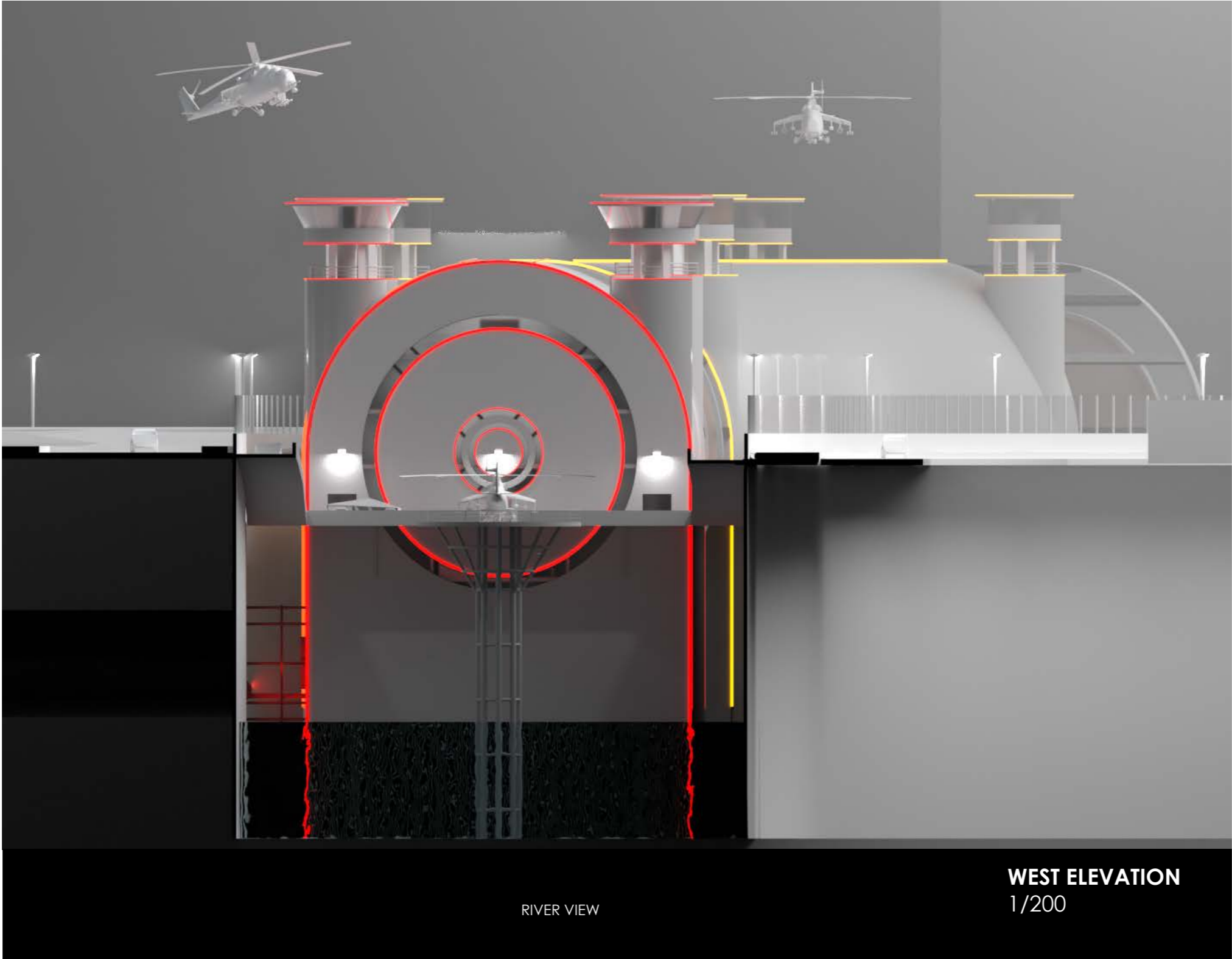
SECTION BB





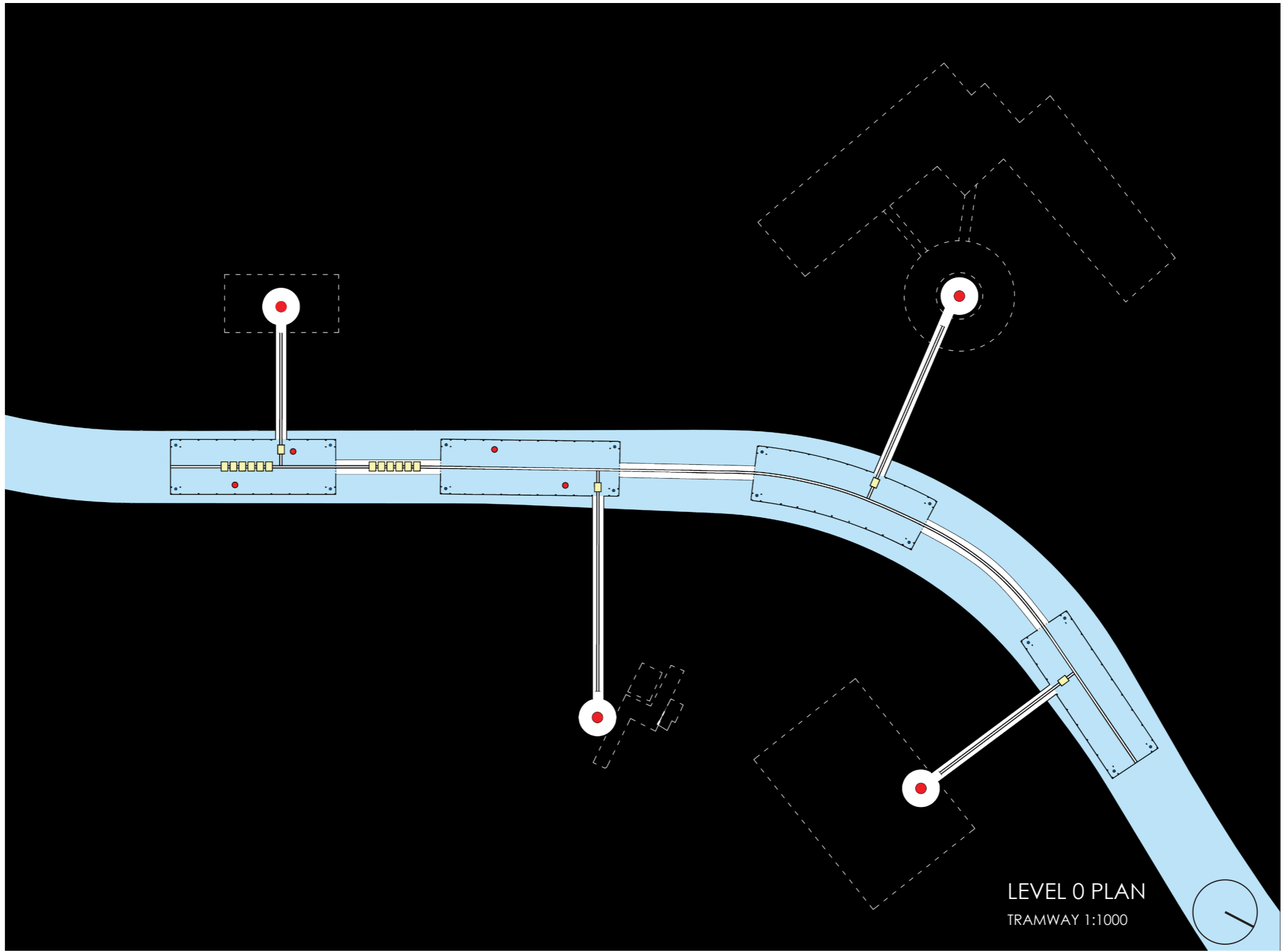
HIGHWAY VIEW

**NORTH ELEVATION**  
1/200



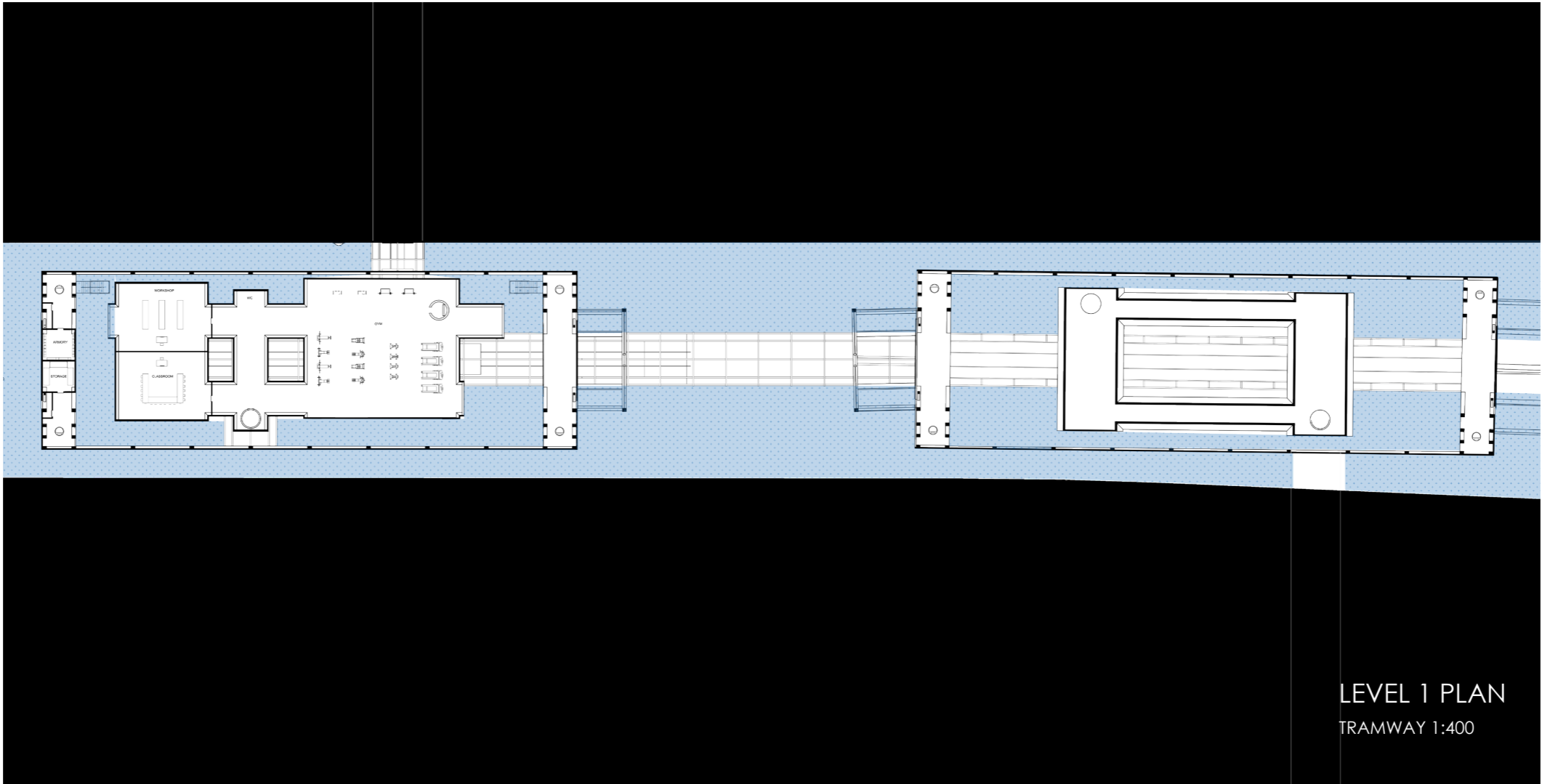
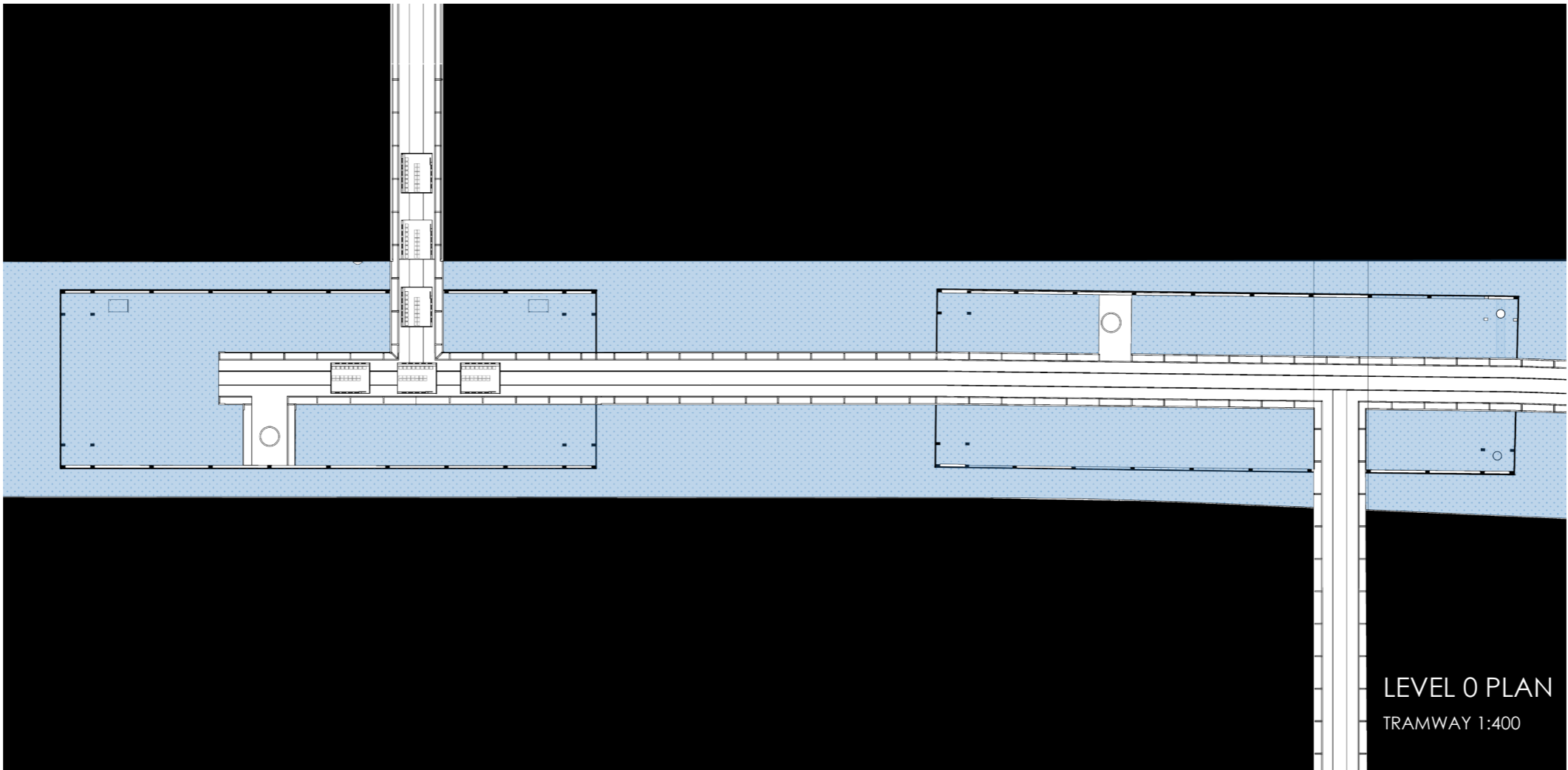
RIVER VIEW

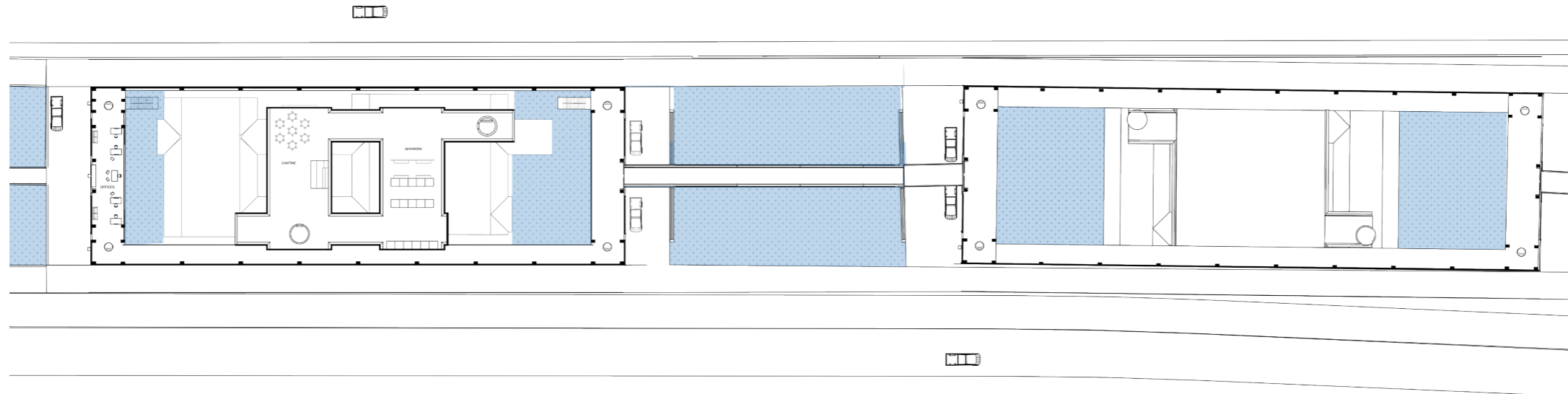
**WEST ELEVATION**  
1/200



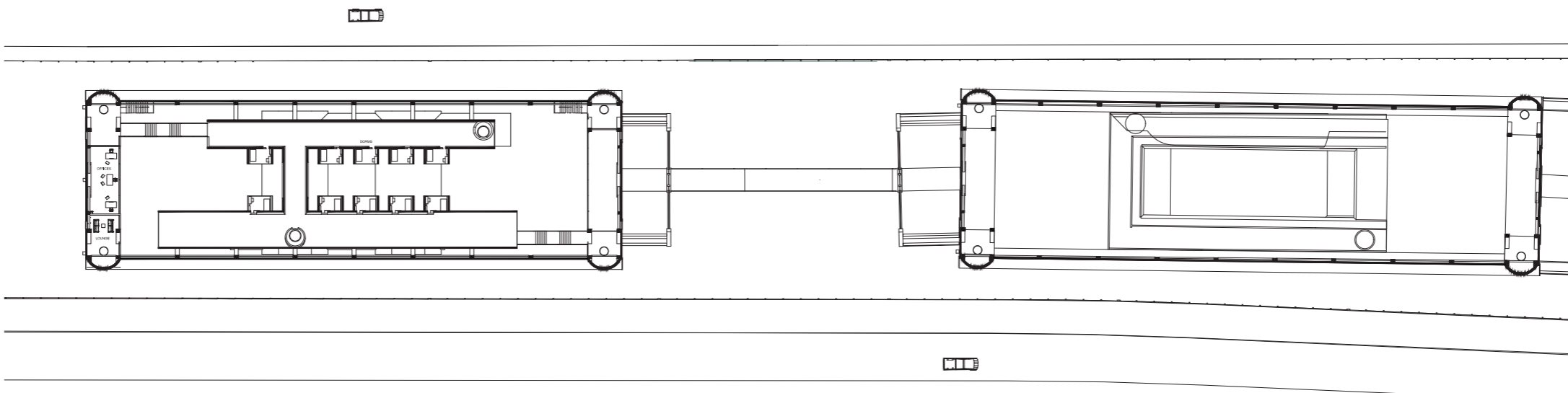
LEVEL 0 PLAN  
TRAMWAY 1:1000



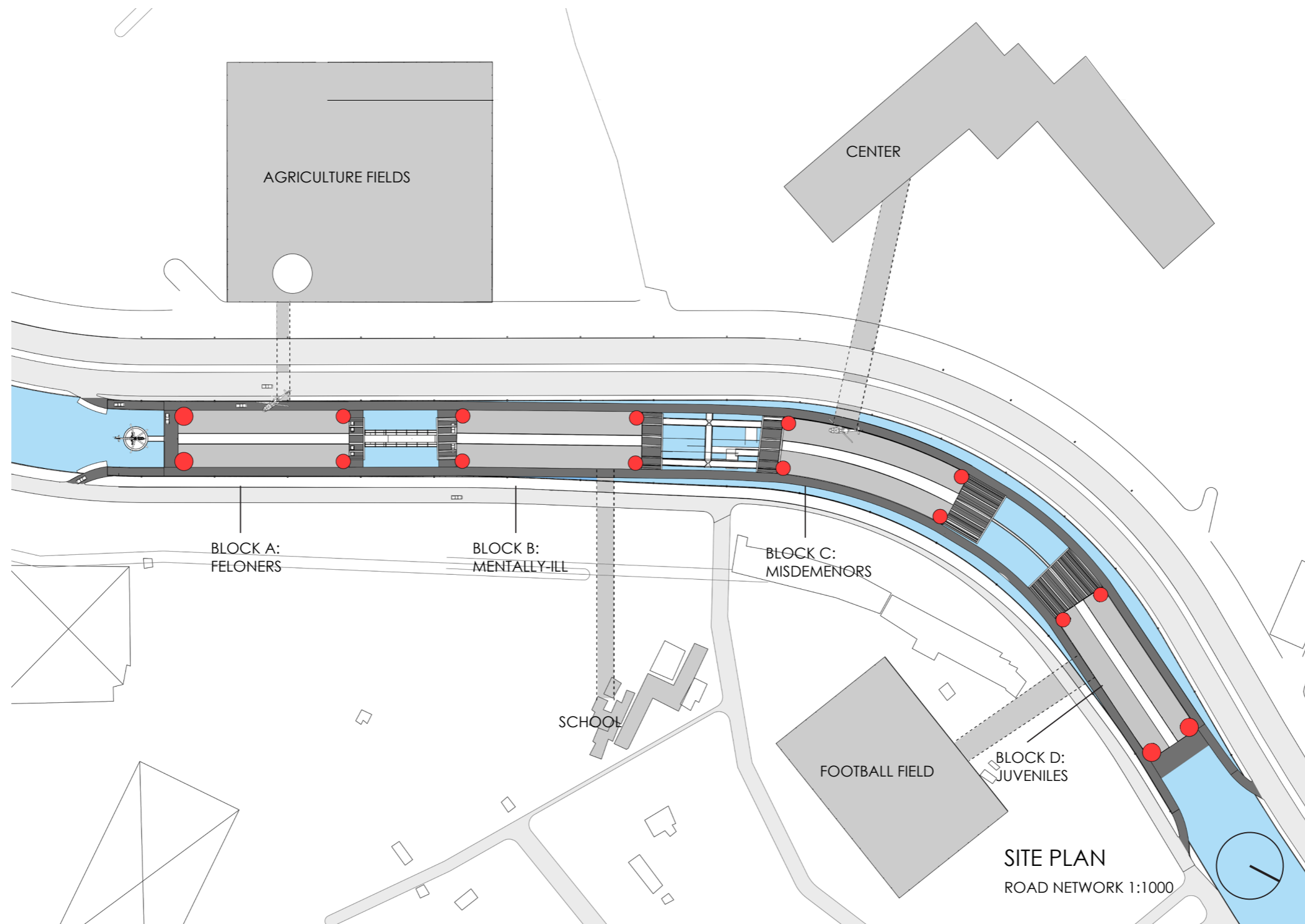




LEVEL 2 PLAN  
1:400

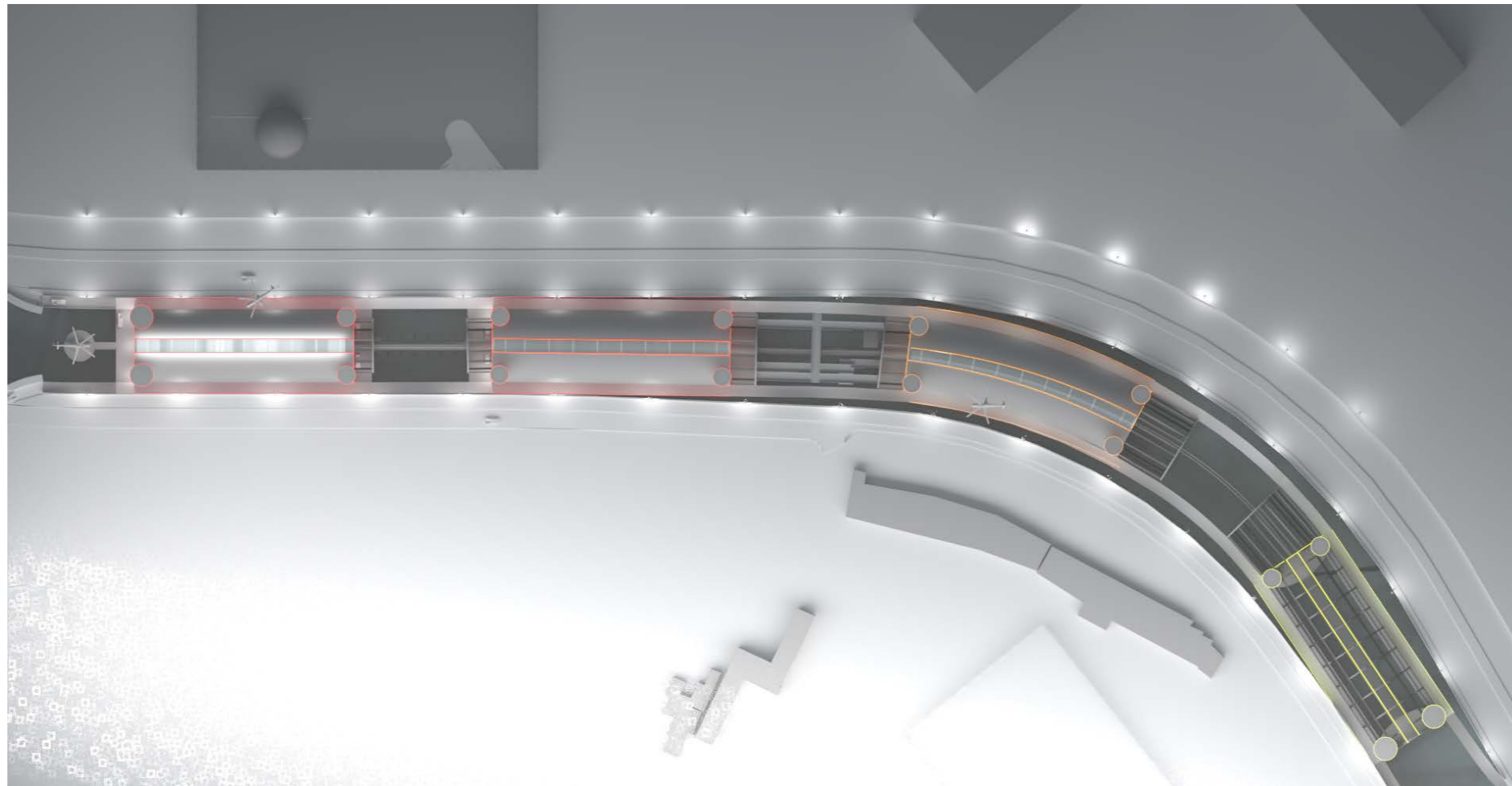


LEVEL 3 PLAN  
1:400

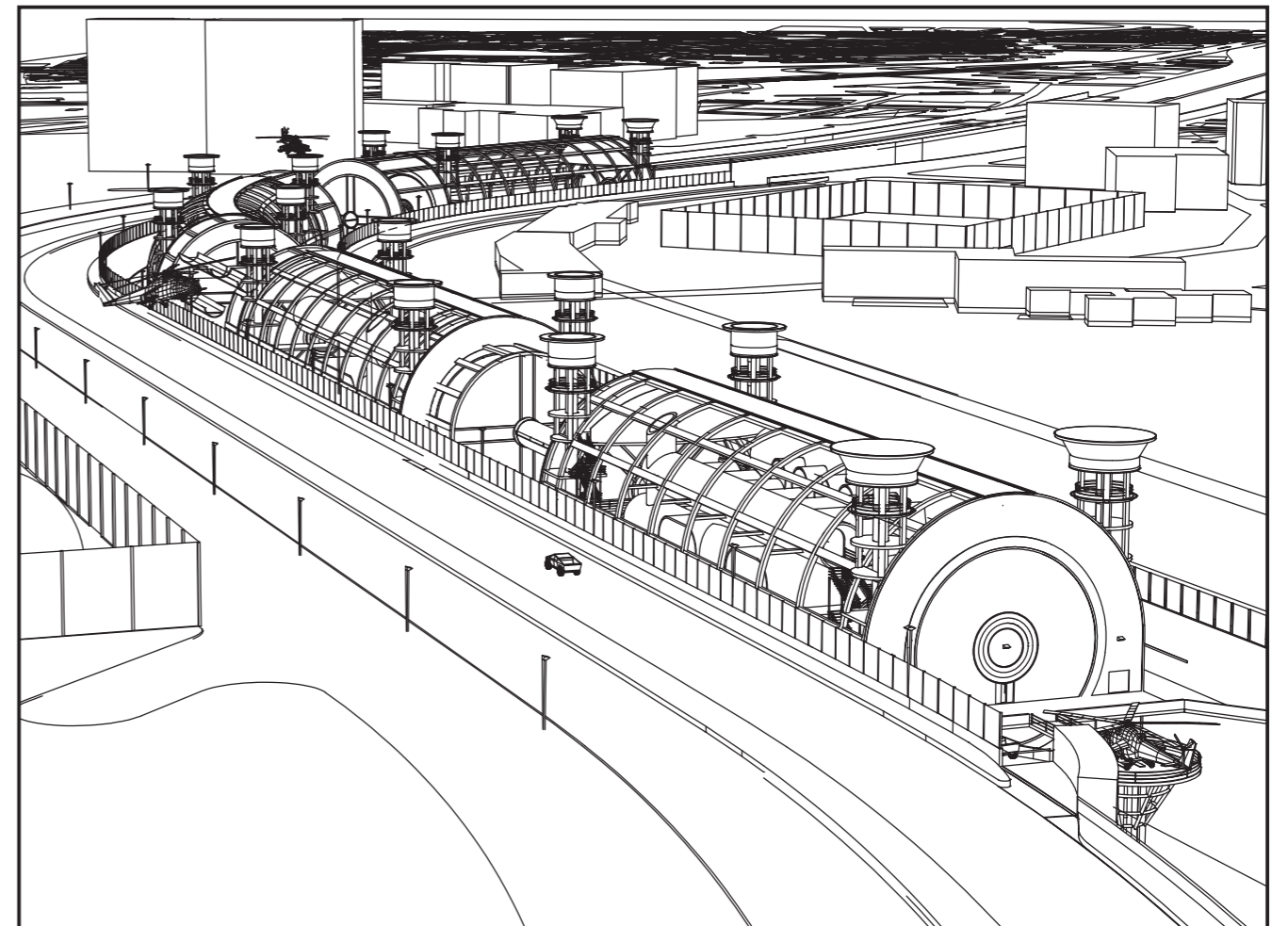
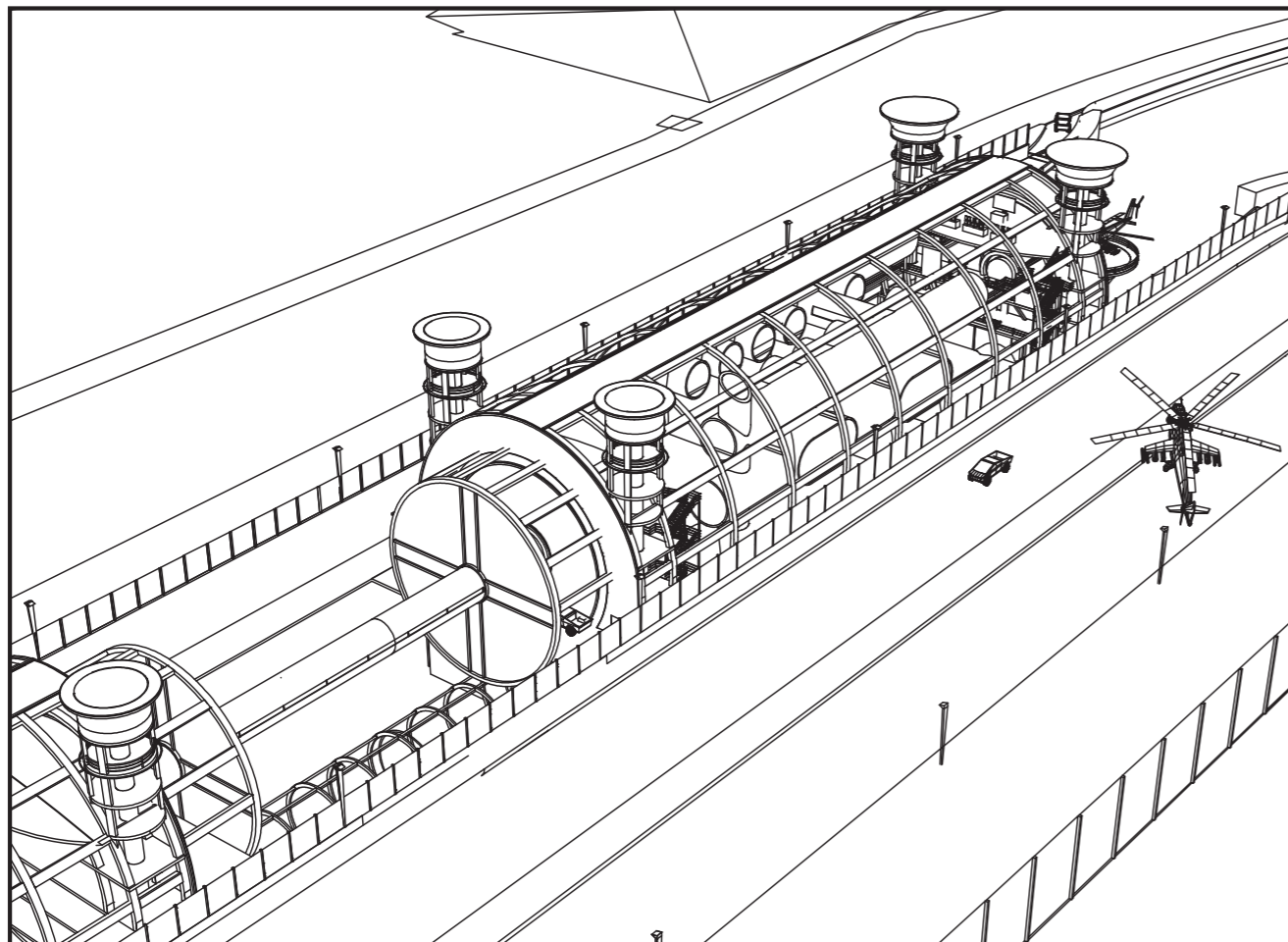


ROAD NETWORK CONNECTING ALL THE BLOCKS TO THE HIGHWAYS ON BOTH SIDES OF THE RIVER. UNDERGROUND IS THE NETWORK CONNECTING TO THE INSTITUTIONS.

- INTERNAL ROAD SYSTEM
- GUARD TOWERS

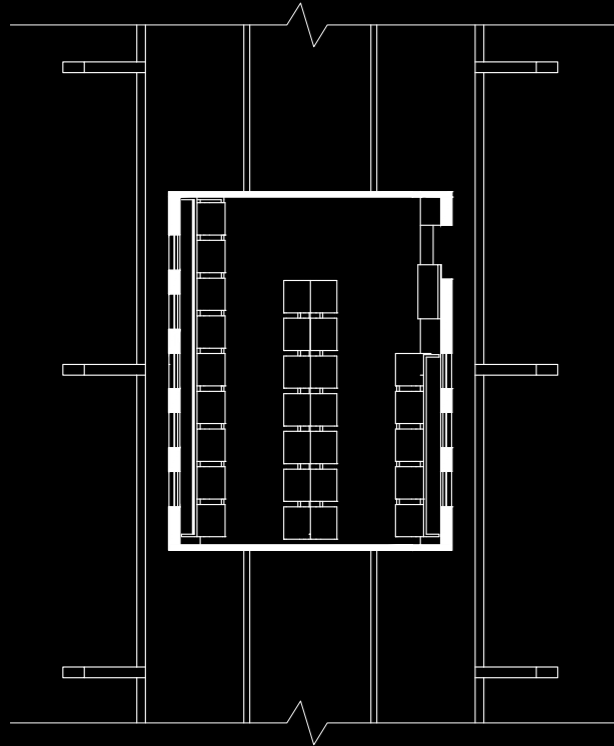


SITE PLAN  
1:1000

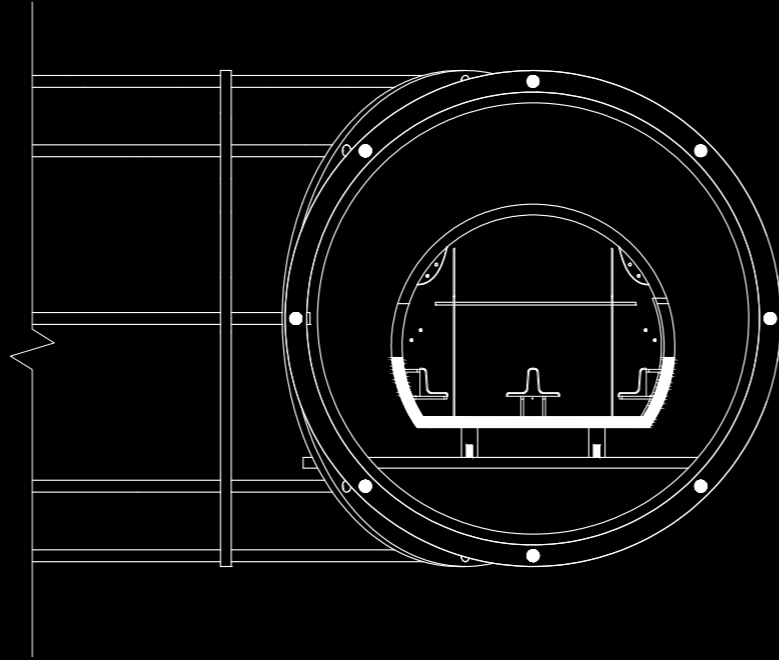


# IN-CAR-CERATION

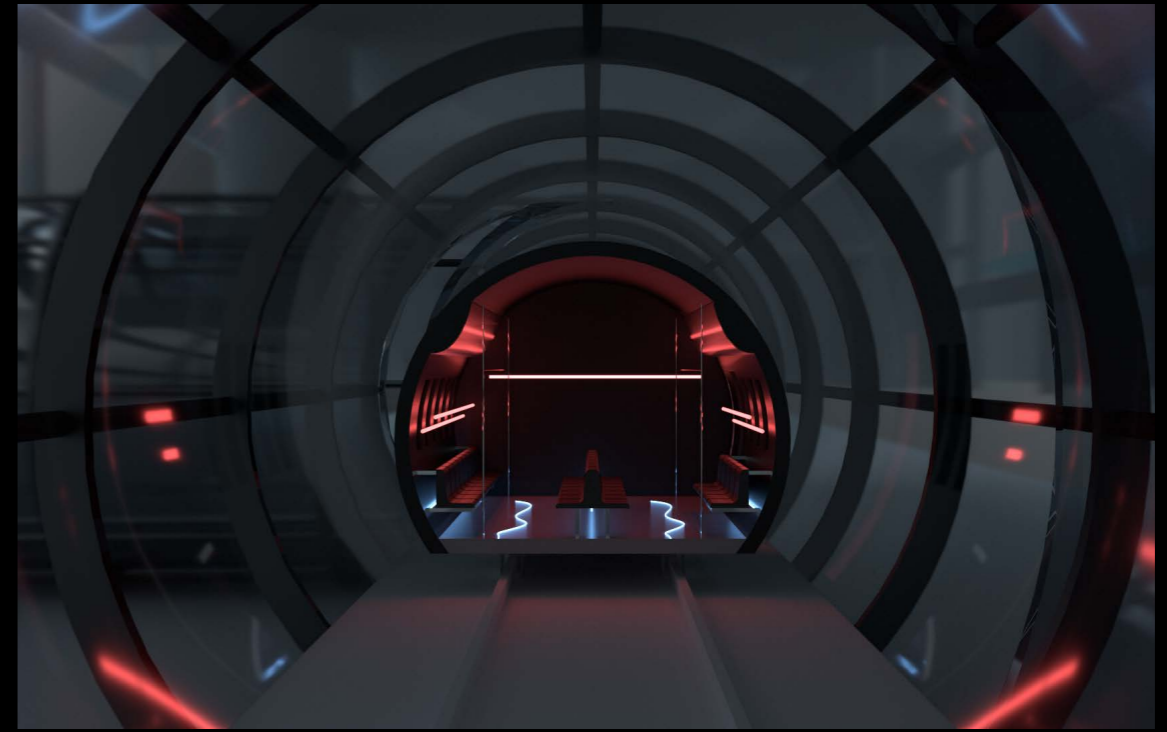
A NETWORK THAT TRANSPORTS INMATES FROM ONE BLOCK TO THE OTHER



PLAN 1/50



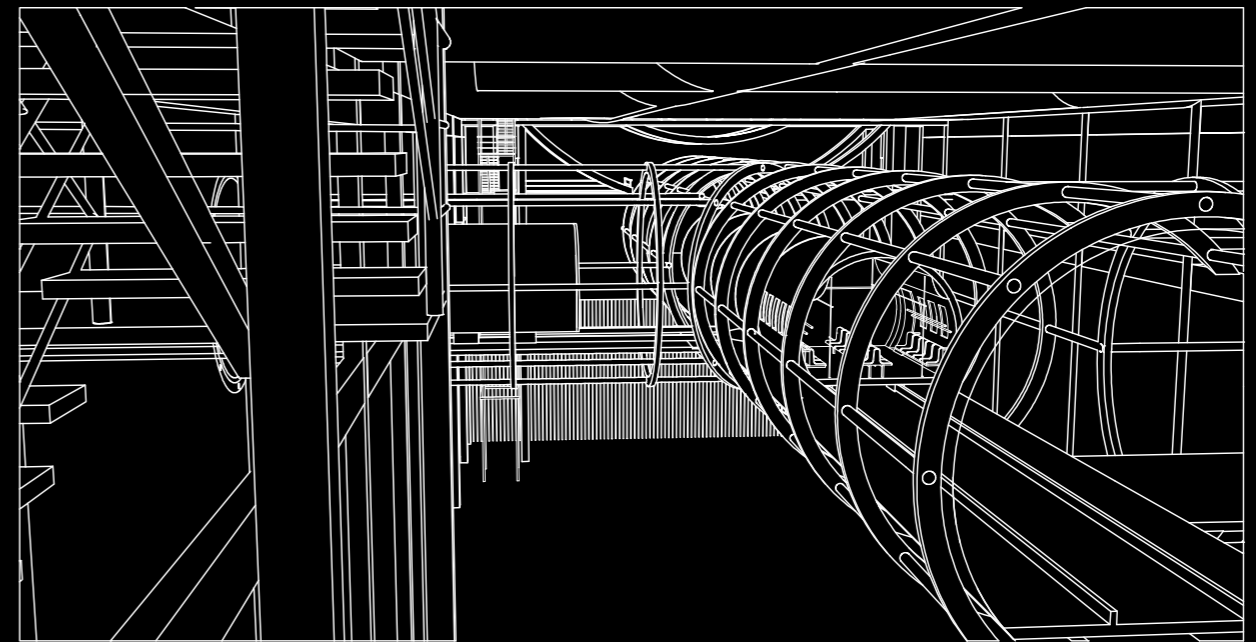
SECTION 1/50



INSIDE VIEW OF THE IN-CAR-CERATION

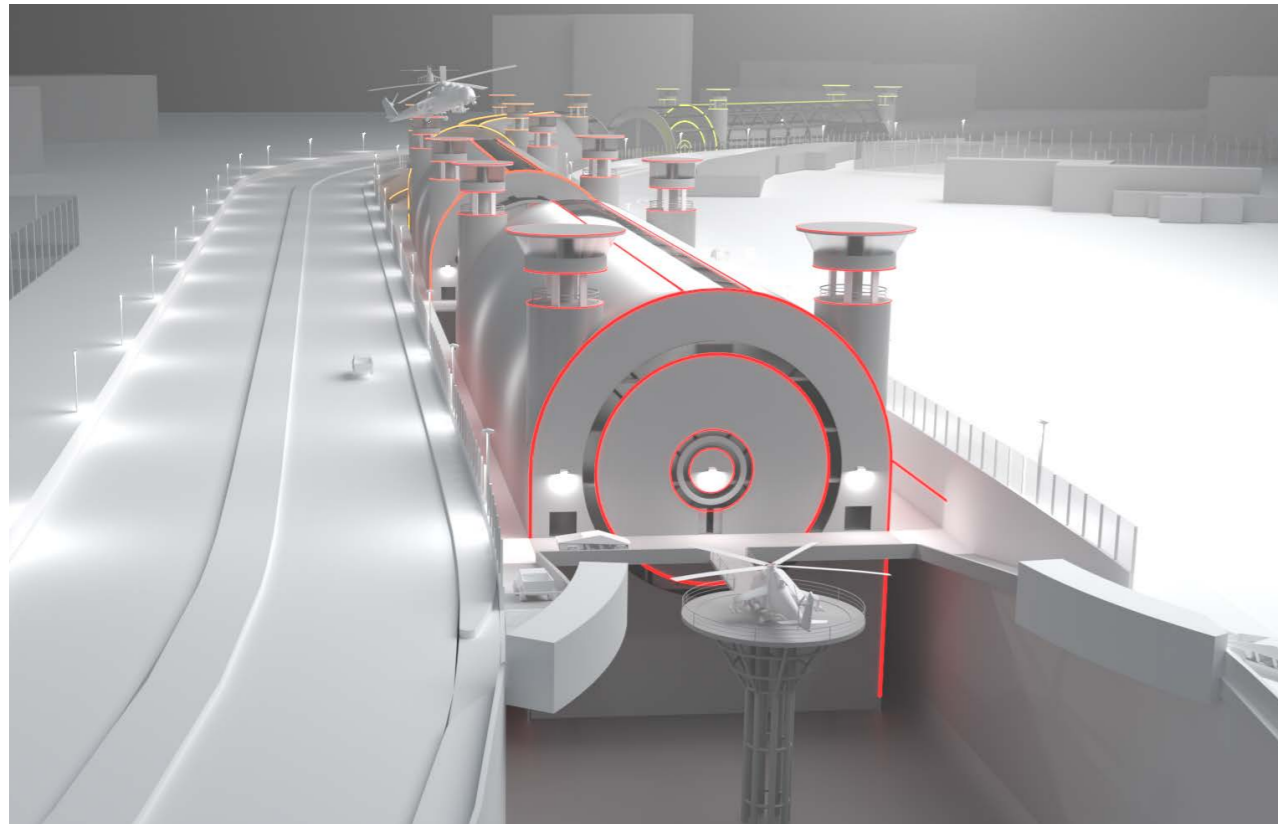


INSIDE VIEW OF THE IN-CAR-CERATION

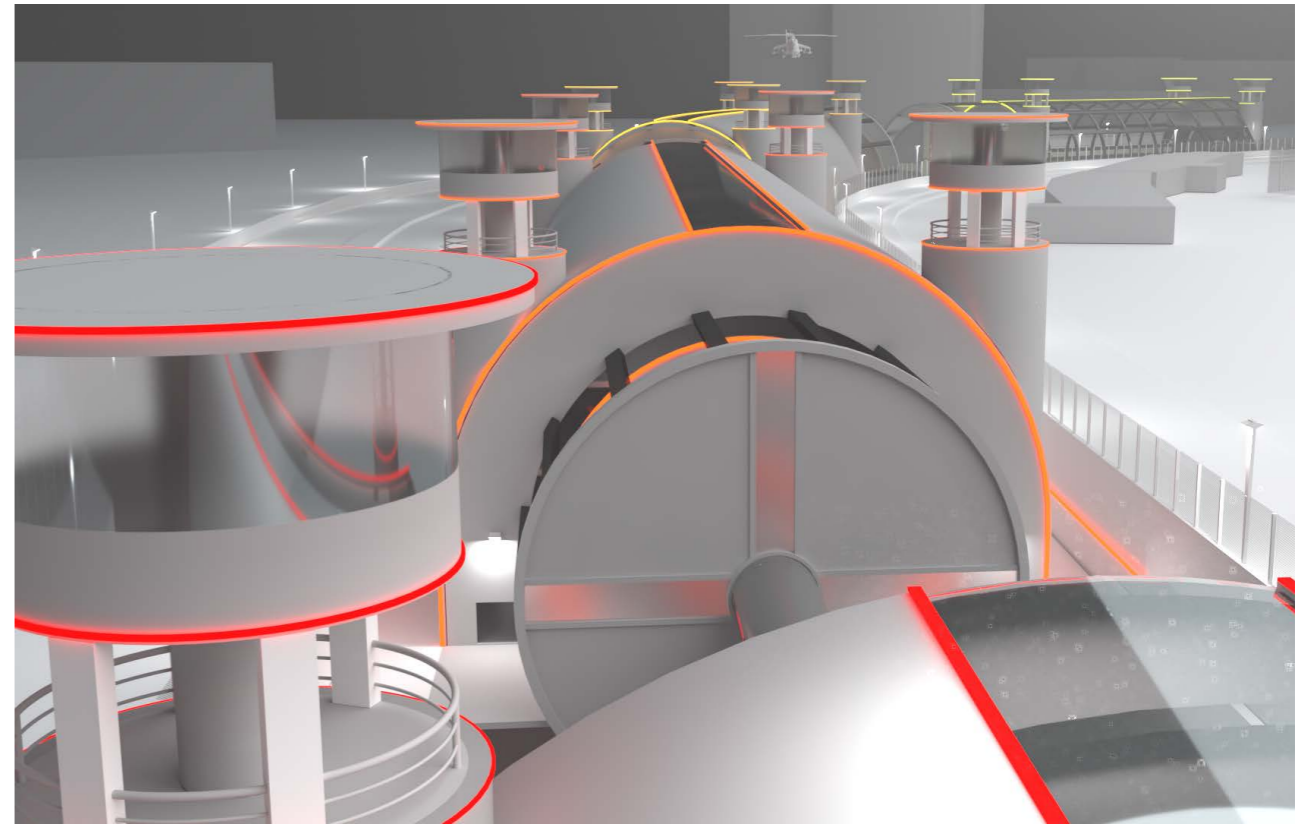


PERSPECTIVE

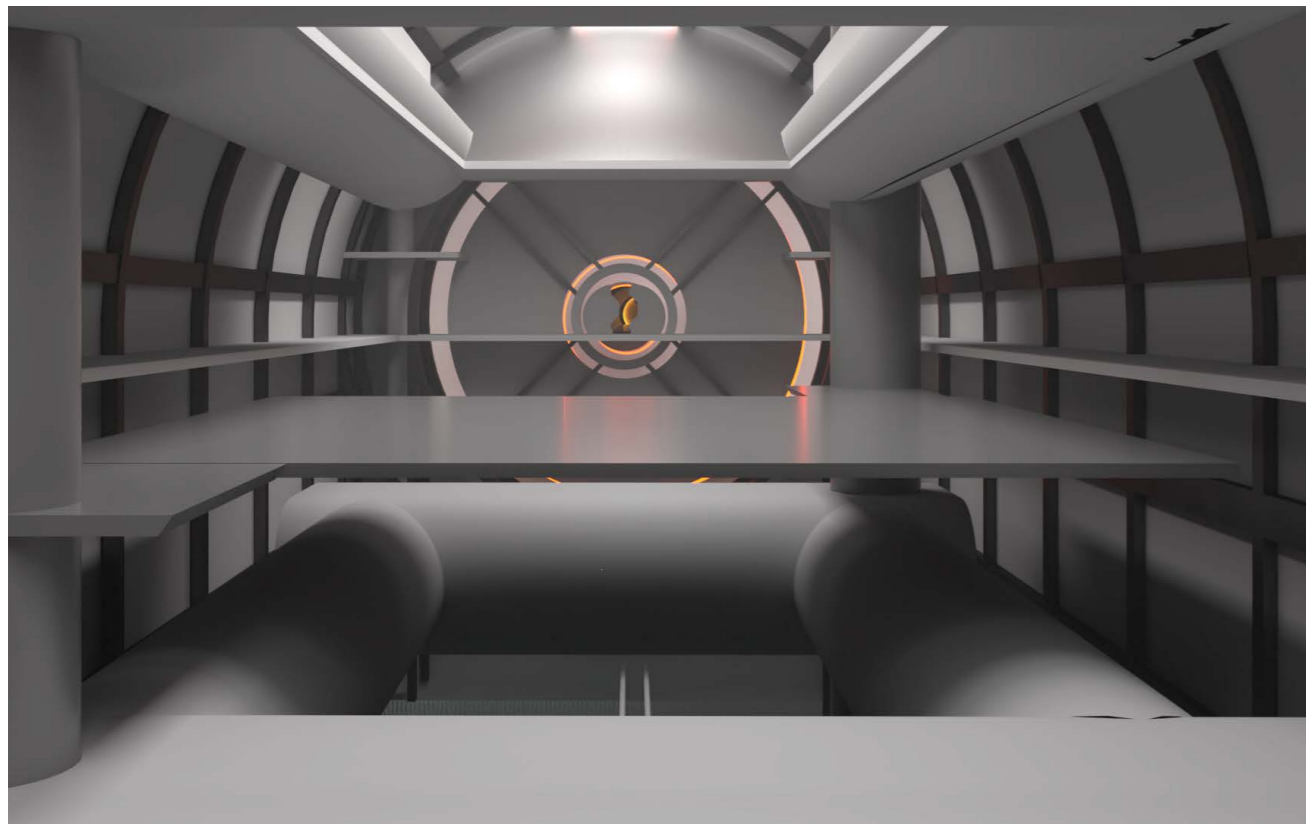




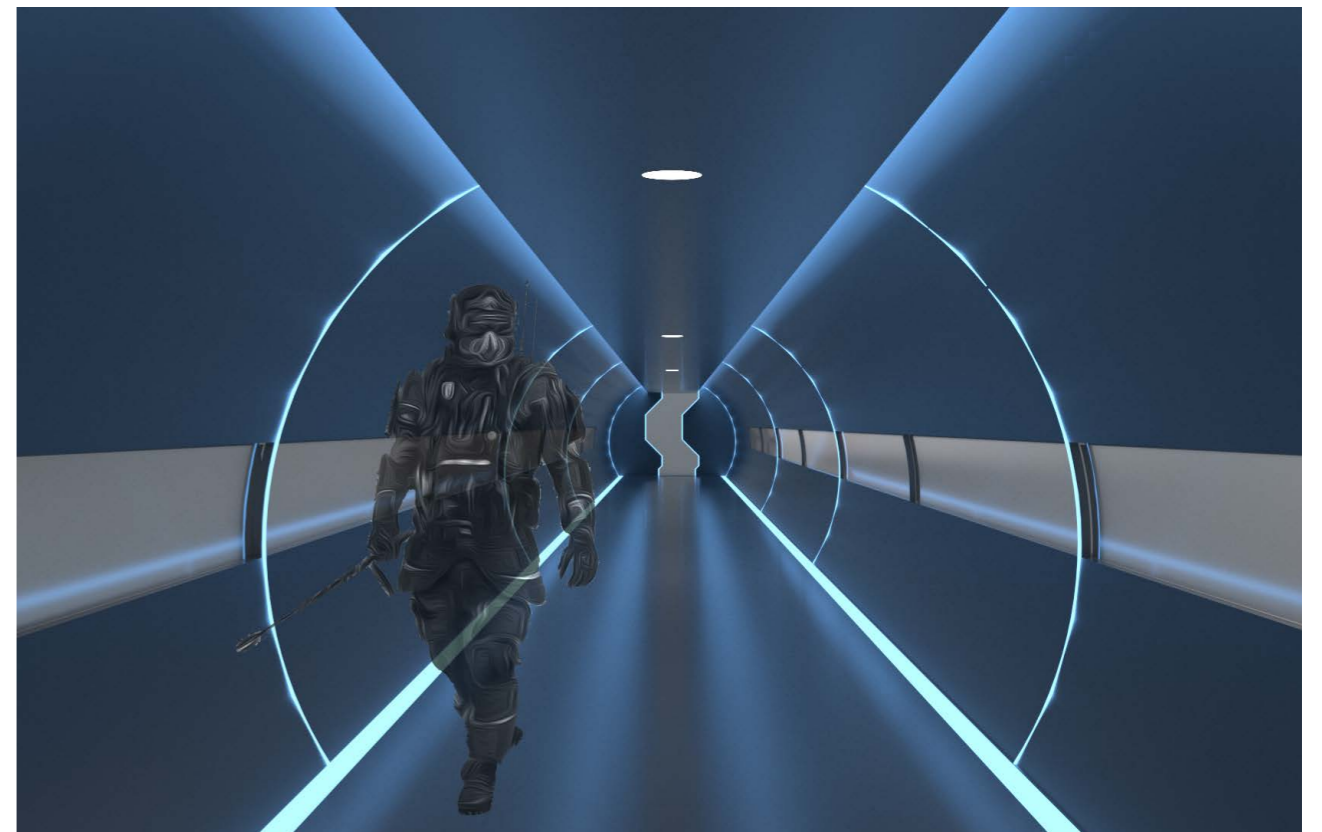
FIRST ENTRANCE OF THE BLOCK A



GUARD TOWER AND BLOCK B



INTERIOR ATMOSPHERE OF BLOCK B



INSIDE VIEW OF THE GUARD BRIDGE

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