VOID IN THE CITY

Italy has one of the greatest biodiversity in Europe, not only because of the geomorphological conditions, but also because of the techniques and type of agricultural production in use. One of its regions, Emilia-Romagna, is easily recognizable as a part of the Italian agricultural heritage due to their shape and layout.

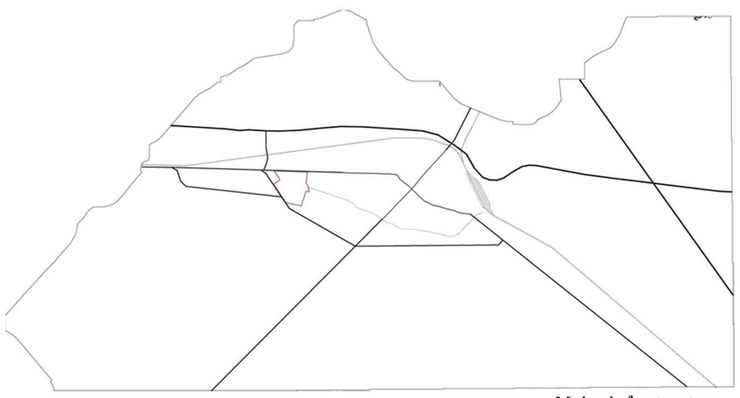
Furthermore, established on the border of Emilia-Romagna and Lombardia Region, and being one of the cities of "Megalopolis Po" that extends from Turin to Venice, Piacenza inherit great potentials both from natural resource (water and fertile soil) and infrastructural facilities (A1, A21 highway, and railway network).

Precisely because of the strategic geographical location which has been said, Piacenza also has been an area of great interest from the military point of view. From the Roman era until this modern time, numerous facilities have been established over the years (operational barracks, storage areas, rail track, and logistics centers). However, with the change of requirements and priorities in the army nowadays, some of the facilities are under-utilized or even abandoned.

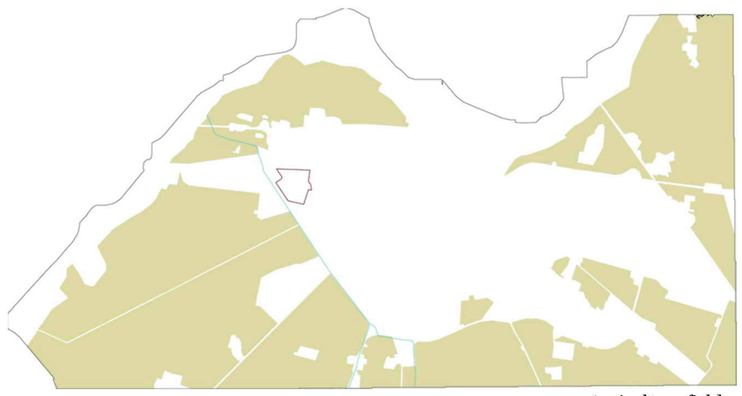
Located in the west side of Piacenza, the under-utilized military compound is actually situated in a diverse area. Some shops and restaurant are available along Via Emilia Pavese, the main road connected to the city center. Supermarket and a hotel located at the junction to the A21 highway, while small offices and single landed houses along Via 1 Maggio. This road can bypass the inner city and connect this area to the south and east part of Piacenza. To the east, housing district with public parks, sport facilities, and a school in Via Stradella increase the diversity of the urban landscape.

The compound itself has a huge open space with big trees growing throughout the place. At least 4 water towers are still visible and some warehouse type buildings are clustered in the middle of the compound (few of them are roofless). However, the limited access policy and walls surrounding the perimeter makes it impossible for this facility to integrate with its neighborhood, rendering it into an urban void.

Satelite view

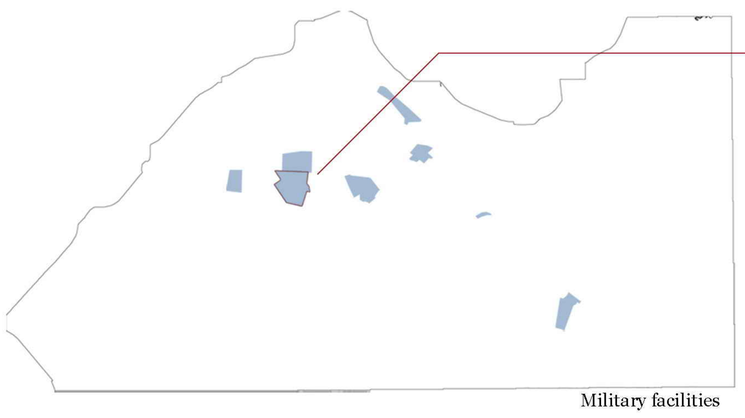


Major infrastructure



Agriculture field

Green spaces



Military facilities

THEORETIC DIAGRAM

"Groundscraper"

Candilis-Josic-Woods

Stan Allen

Free University, Berlin

Mat Urbanism: The Thick 2-D

TEAM X

Alison Smithson

How to Recognize and Read Mat-Building

Kenzo Tange

Metabolist Movement

Agriculture City

Kisho Kurokawa

The Philosophy of Symbiosis

Charles Jencks

The Language of Post-Modern Architecture

Charles Waldheim

Landscape as Urbanism

mat-building:
> internally, porous interconnectivity
> externally, loosely bounded
> form governed by connections

mat-urbanism:
> history deposits layers that interact to create density and aunthentic variations
> city and landscape are in a state of constant flux, always evolving

> possibilities for growth, diminution, and change
> include time dimension
> antifigural building
> fuctions and events configure spaces

> symbiosis of tradition and technology
> not a theory of domination
> relatives space and time
> cities and architecture grew and metabolized

> post-modern architecture is hybrid architecture that mixes and hybridizes opposing elements
> rich in metaphor, new, and embracing rather than exclusive
> responds to the multiplicity of the city, based on a reading of the plurality and complex context

> landscape as an analog to contemporary processes of urbanization and as a medium uniquely suited to the open-endedness, indeterminacy, and change demanded by contemporary urban conditions

VOID INFILTRATION
Baskoro Laksitoadi | 798690
Supervisor: Prof. Elisa C. Cattaneo
Panel 1 / 8

Frank Lloyd Wright — Broadacres

Ludwig Karl Hilberseimer — New Regional Pattern

Andrea Branzi — Agronica

Duisburg-Nord Park
Brikettfabrik Witznitz
Unimetal Park
Lyon Confluence

Kelly Shanon

Marcel Smets

Sebastien Marot

Elia Zenghelis

Notes Towards a History of Agrarian Urbanism

> both Branzi & Hilberseimer choose to illustrate the city as a continuous system of relational forces and flows, as opposed to a collection of objects

> weak urban forms and non-figural fields (forms and fields that are flexible, mobile, and open to change) influenced the formulation of landscape urbanism

From Theory to Resistance: Landscape Urbanism in Europe

> "weak urbanism" is a process of relational architecture and urbanism, which like agriculture, is able to quickly adjust to changes

Grid, Casco, Clearing, and Montage

Casco:

> based on geological and hydrological conditions

> establish order on a larger scale and allow flexibility on a small scale

> grounds a project on the logic of the site

> isn't spelling out what should be built, but whatever is being built should respond

> for large-scale and long time-span

The Reclaiming of Sites

> anamnesis [recollecting history]

> preparation: site as a living and dynamic organism

> 3-D sequencing: multiple relationship

> focus on the relationship rather than the object

> contemporary interpretation of uncovering existing logics of reality and finding a site's capacity by distinguishing the junk from the potential

[SITE-BASED]

[NON-FIGURAL]

[FLEXIBLE]

VOID INFILTRATION
Baskoro Laksitoadi | 798690
Supervisor: Prof. Elisa C. Cattaneo
Panel 2 / 8

SITE-BASED

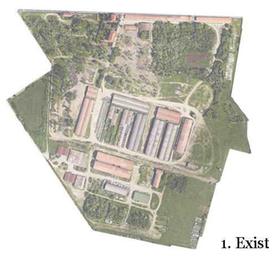
We try to read the logic of existing built environment and then create a new platform based from it. The platform later on will help us inserting new programs for future development into the existing built environment.

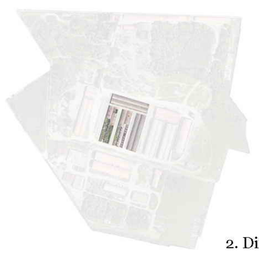
First we establish a field of 144x144m primary grid. This grid derived from the position of the existing building in the middle of the compound and it will act as a primary circulation axis.

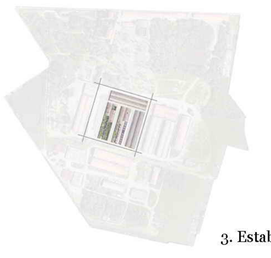
It will serve all the buildings through-out the site and also act as a 'bridges' from one perimeter to the other. This circulation system is connected to the end of the existing railway system which means that there is an opportunity to re-adapt it into a tram line.

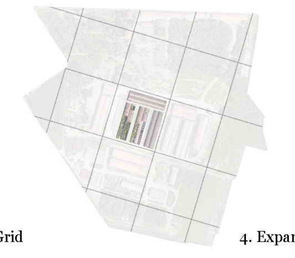
Inside the primary grid, a secondary 6x6m grid that derived from the dimension of the building is inserted as guidelines for the development. Finally, by using the buildings structural grid, a field of 4x6m grid is established inside the existing building.

At the end, all of these grids are our platform that "allows to be filled in various ways without losing its fundamental identity" and "aims to establish order on a larger scale so as to allow flexibility for smaller scale."


1. Existing Site

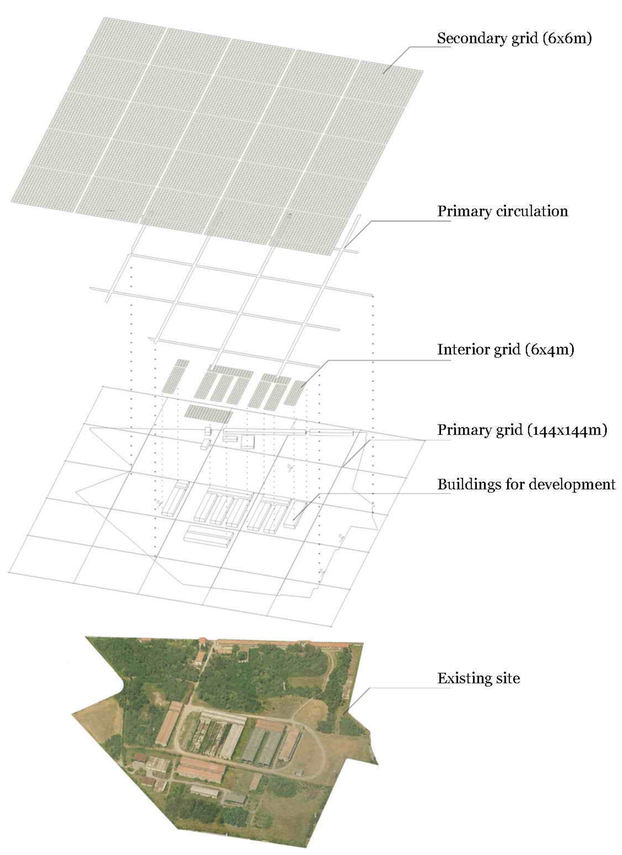

2. Dimension Reference


3. Establish Primary Grid

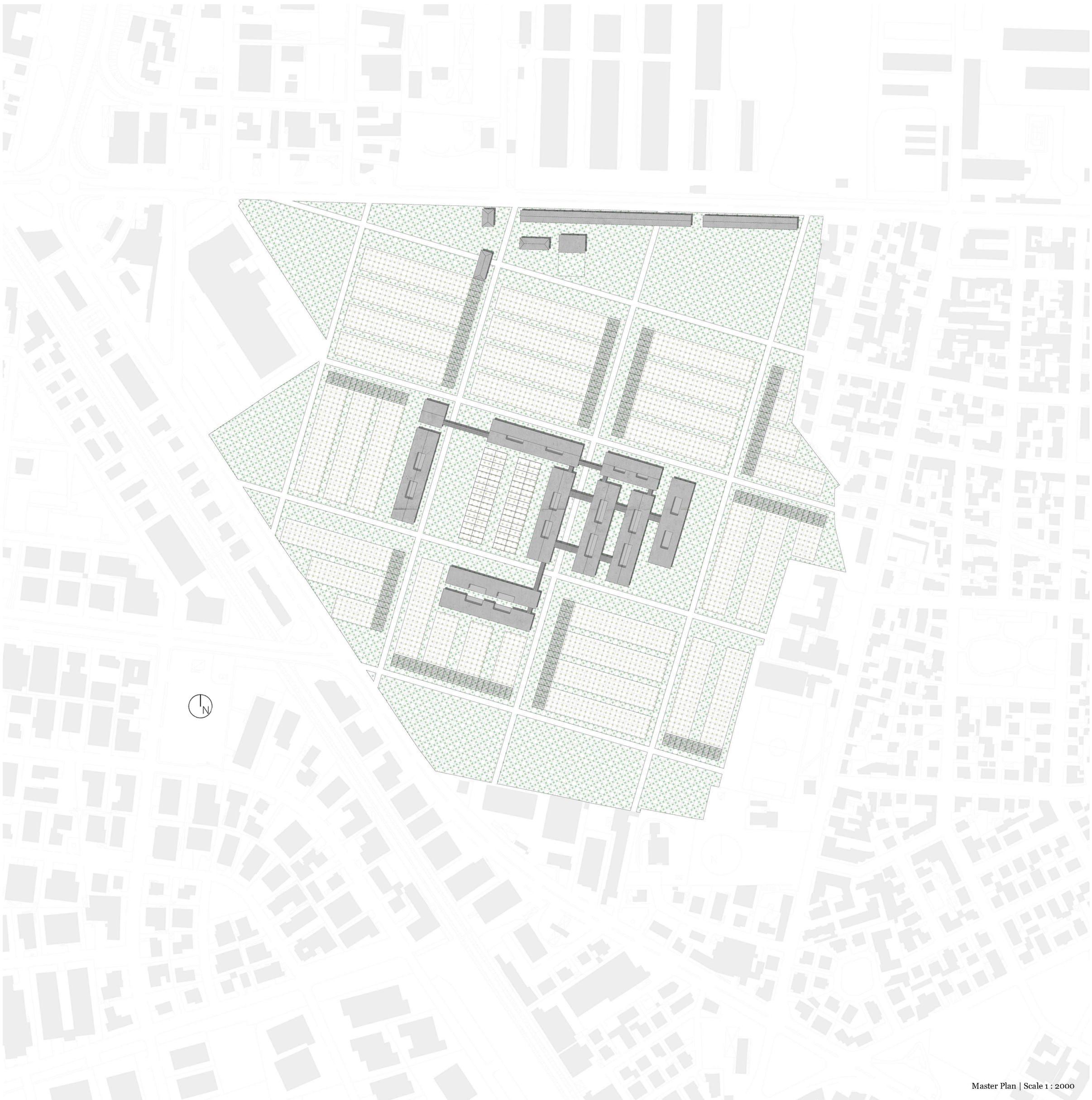

4. Expand Primary Grid

5. Recovered Buildings

6. Establish Secondary Grid



VOID INFILTRATION
Baskoro Laksitoadi | 798690
Supervisor: Prof. Elisa C. Cattaneo
Panel 3 / 8



Master Plan | Scale 1 : 2000

NON-FIGURAL

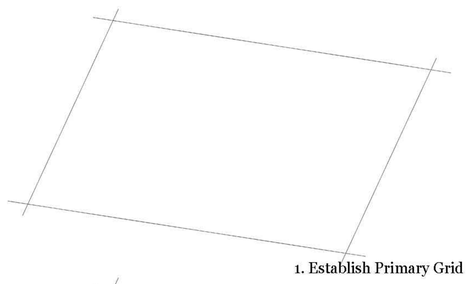
Considering the heritages and potentials of its regional context mentioned before, transforming the compound into an agricultural research university will be a good opportunity to develop the site.

While located between the rural-agricultural and sub-urban district, it can act as a bridge between the production field and its consumers. And with the support of irrigation channel that already exists along via 1 Maggio, this university will be suitable with the geological and hydrological conditions.

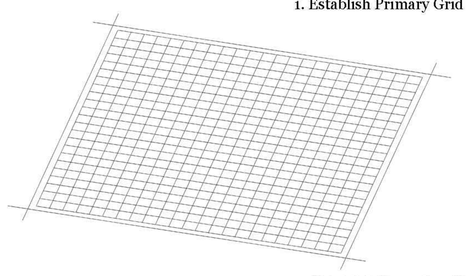
The main activities are located in the middle of the compound where all the buildings are clustered. It will be surrounded with field laboratories that also help to create a tranquil environment for studying. On the perimeter, there will public parks that act as an intermediate space that everyone could use and enjoy. Maximizing available infrastructure, buildings along Via Emilia Pavese will be re-used as guest house, restaurants, and place for farmers market.

Supporting the field laboratories, light structures are constructed to provide space to cultivate bio-diesel algae. This algae farm is also act as a shading device that helps when doing a field observation. The structures itself mimic the position of the existing building, making them as its extension.

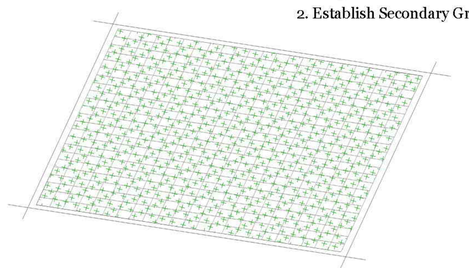
The fields itself are serviced with computer operated land-scanners with different agricultural tools that could be plugged on to water, fertilize, and even weeding the crops. Not only that they required less energy and time to operate than tractors, but also it would allow high resolution mapping of the crops and the soil conditions.



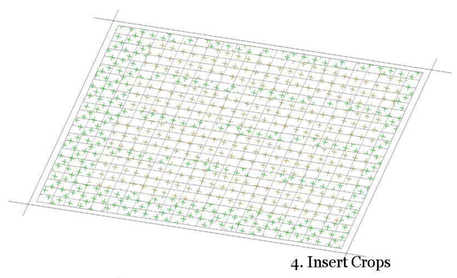
1. Establish Primary Grid



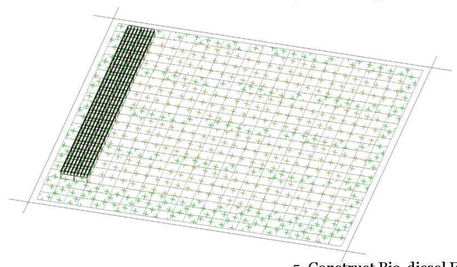
2. Establish Secondary Grid



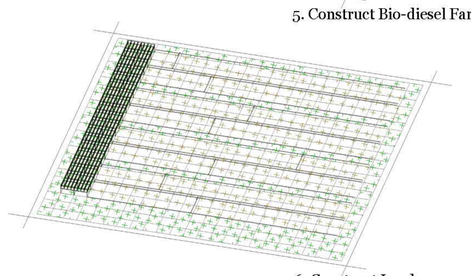
3. Establish Field Laboratory



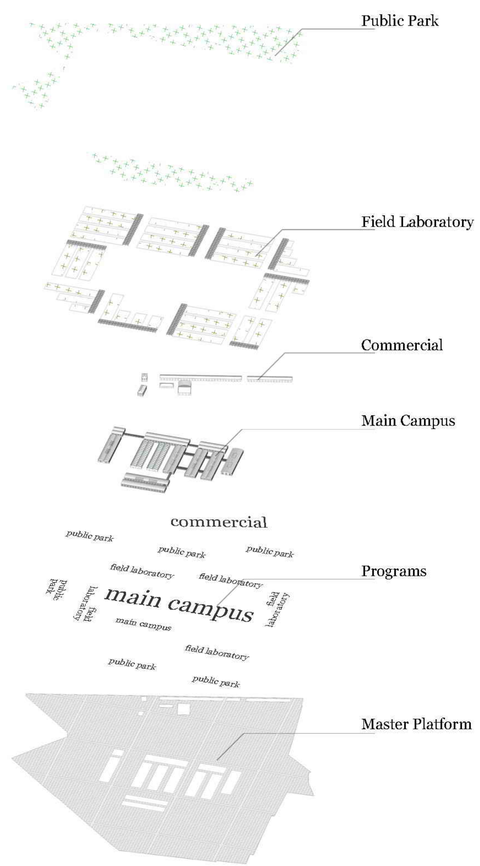
4. Insert Crops



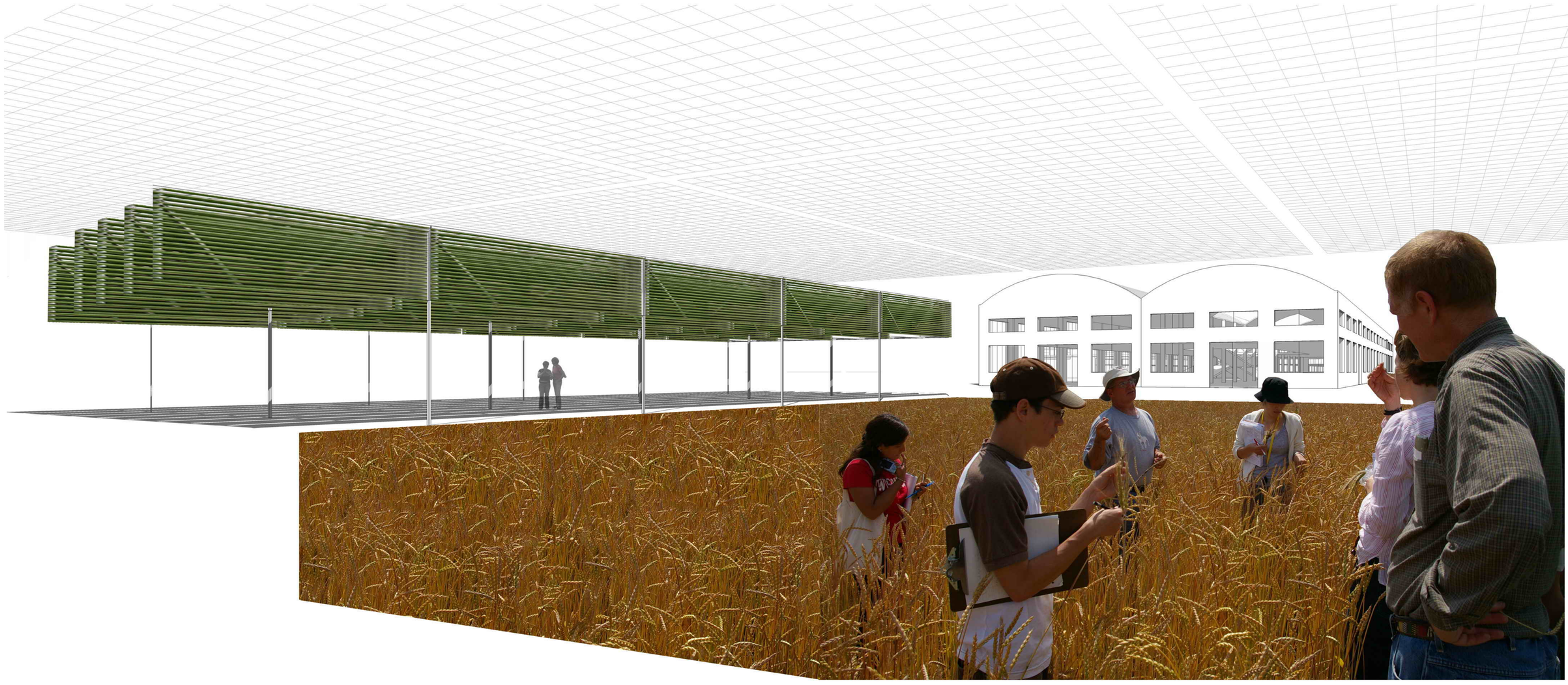
5. Construct Bio-diesel Farm



6. Construct Land-scanner



VOID INFILTRATION
Baskoro Laksitoadi | 798690
Supervisor: Prof. Elisa C. Cattaneo
Panel 4 / 8

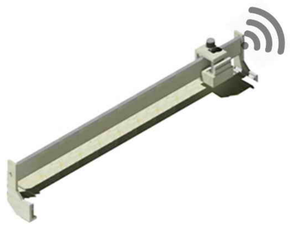


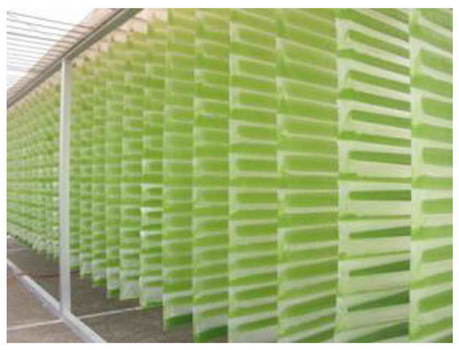
Field Lab. with Algae Farm

Computer operated land-scanner

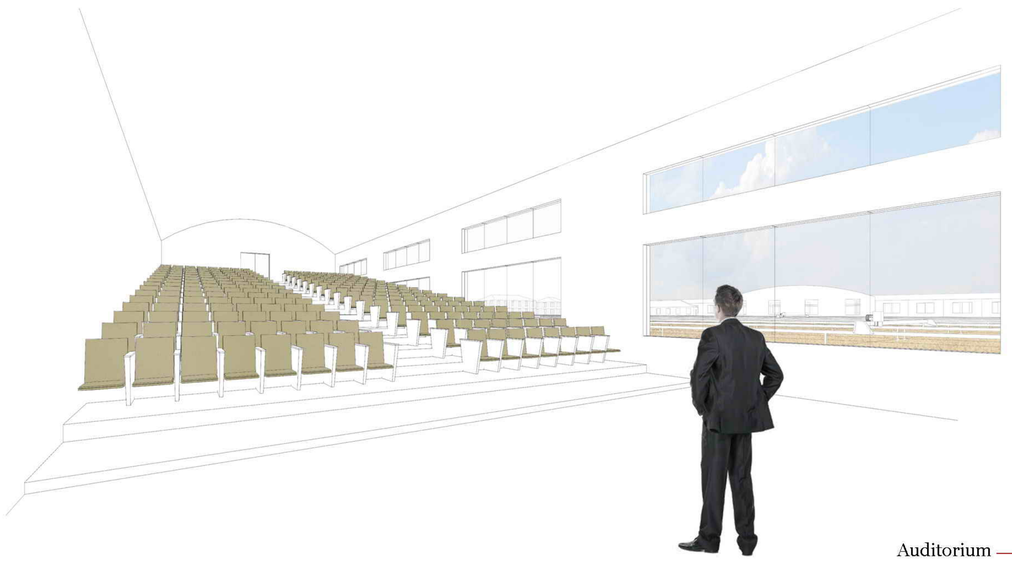
The algae are farmed in water running through polyethylene bags which are exposed to sun light. This is considerably more efficient and reliable than the conventional farming method in open pond system. It is estimated that this type of algae farm are able to produce bio-diesel oil from 58.700 to 136.900 L/ha/year. The final product can be used as the fuel that runs the machines in the compound.

While experts like Richard Heinberg said that our food system are so dependent on fossil fuel, that every 1 calorie requires 10 calories of oil for its production and delivery, this algae farm and land scanners would be an experimental device to reduce or even eliminate the dependence of fossil fuel energy in agriculture.

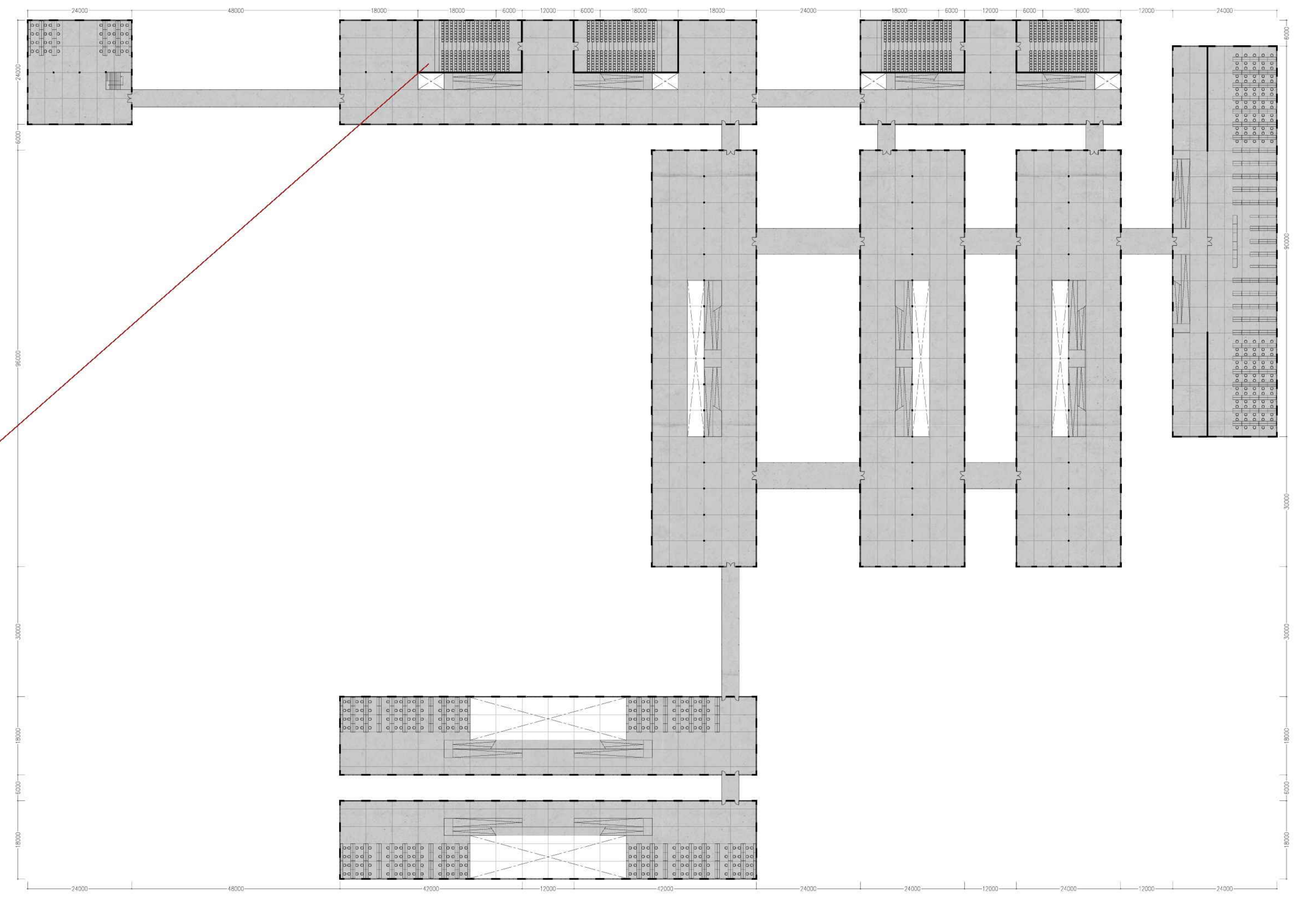




VOID INFILTRATION
Baskoro Laksitoadi | 798690
Supervisor: Prof. Elisa C. Cattaneo
Panel 5 / 8

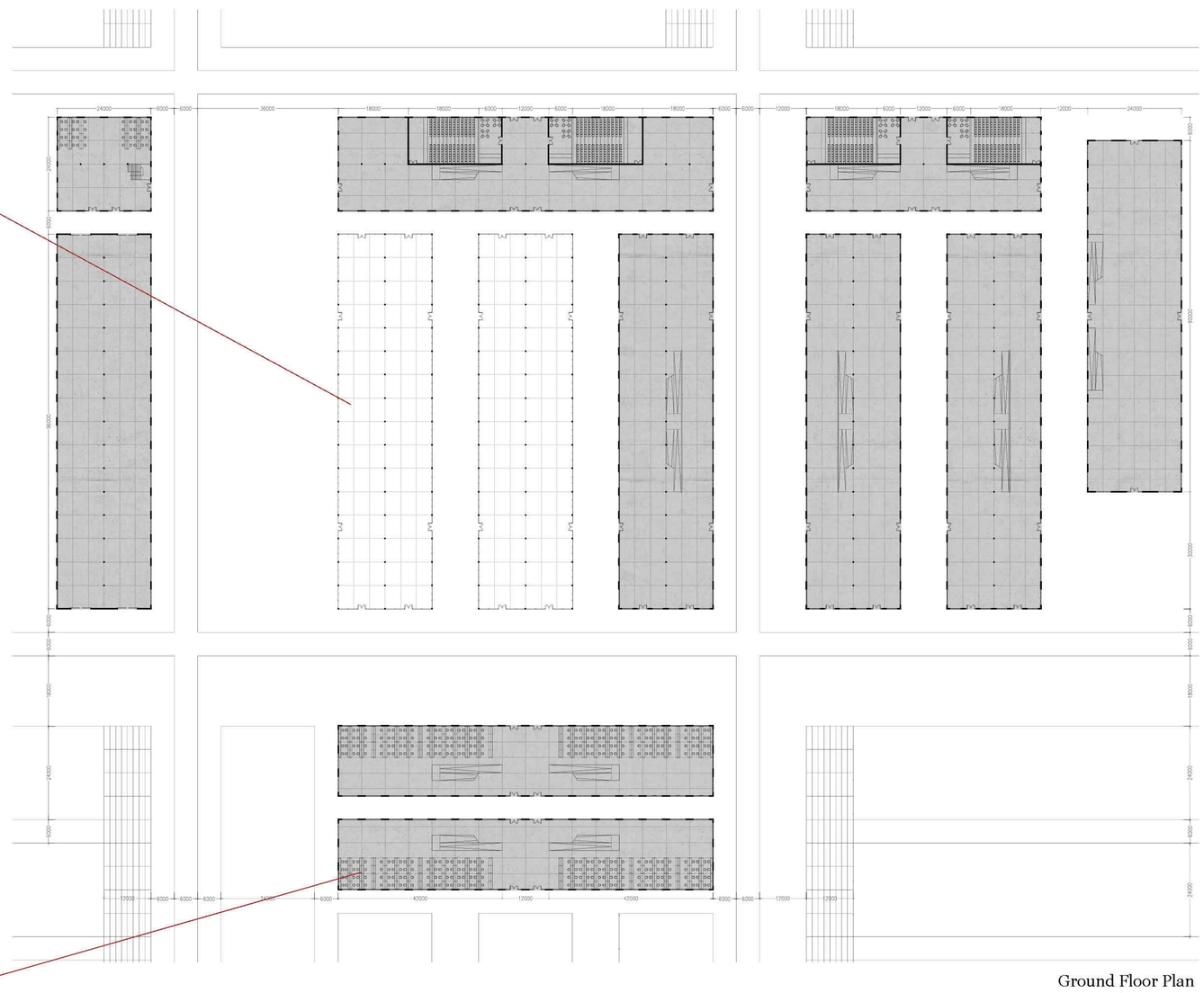


Auditorium



Upper Floor Plan
Scale 1 : 1000

Greenhouse



Administration & Office

Ground Floor Plan
Scale 1 : 1000

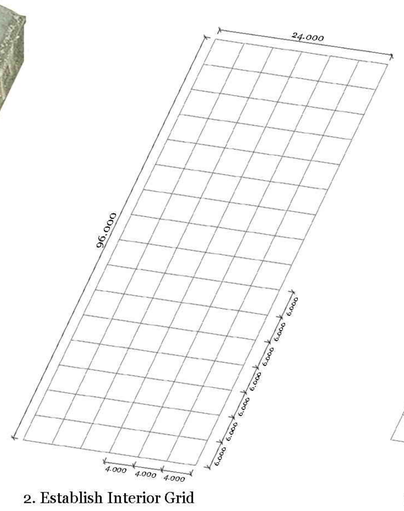
In the main campus, rooms for classes are inserted into the building according to the 4x6m grid we previously establish. Wide hallways and corridors not only will efficiently distribute people's movement in the building, but also will stimulate interactions among students, integrating public spaces into the circulation matrix.

By installing glass partition, we can convert the roofless building into a green house. This green house is important for researches that require a controlled atmospheric environment. It will be vital especially during the winter period, adapting university activities according to the season.

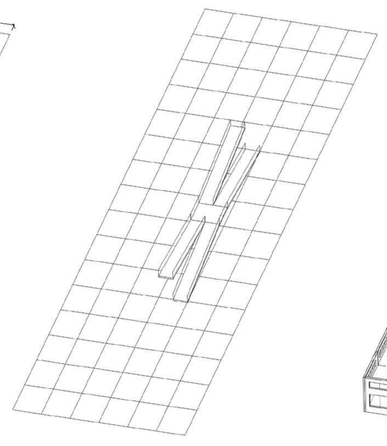
Along with classrooms, other facilities such as library, administration offices, and storage facilities are also accommodated from the variations of the grid. As important as the others, commercial spots are situated in strategic places in every building. These spots, either it will be cafe, restaurant, or shops; will imitate what corner shops do in cities: making public spaces more dynamic and alive.

At the end, this university is not just about a cluster of buildings with classes, laboratories, and any other facilities, but a place for individuals and groups exchanging information, with both tranquil and vibrant spaces to support various activities.

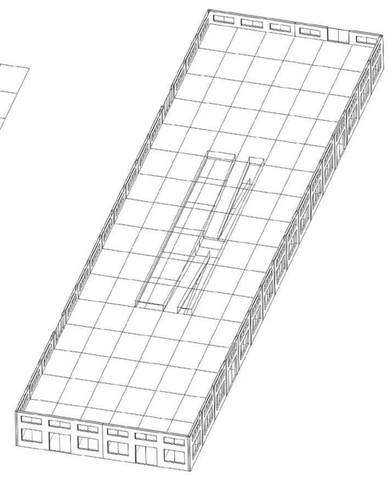
1. Existing Building



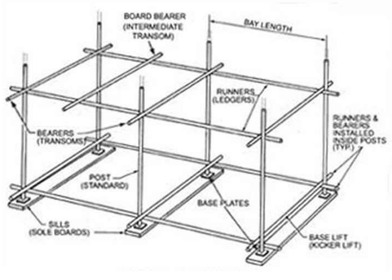
2. Establish Interior Grid

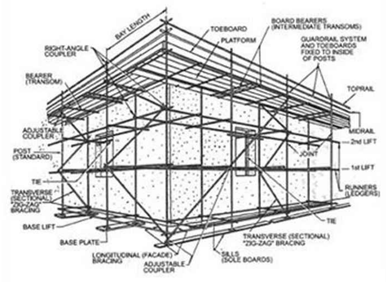


3. Establish circulation matrix

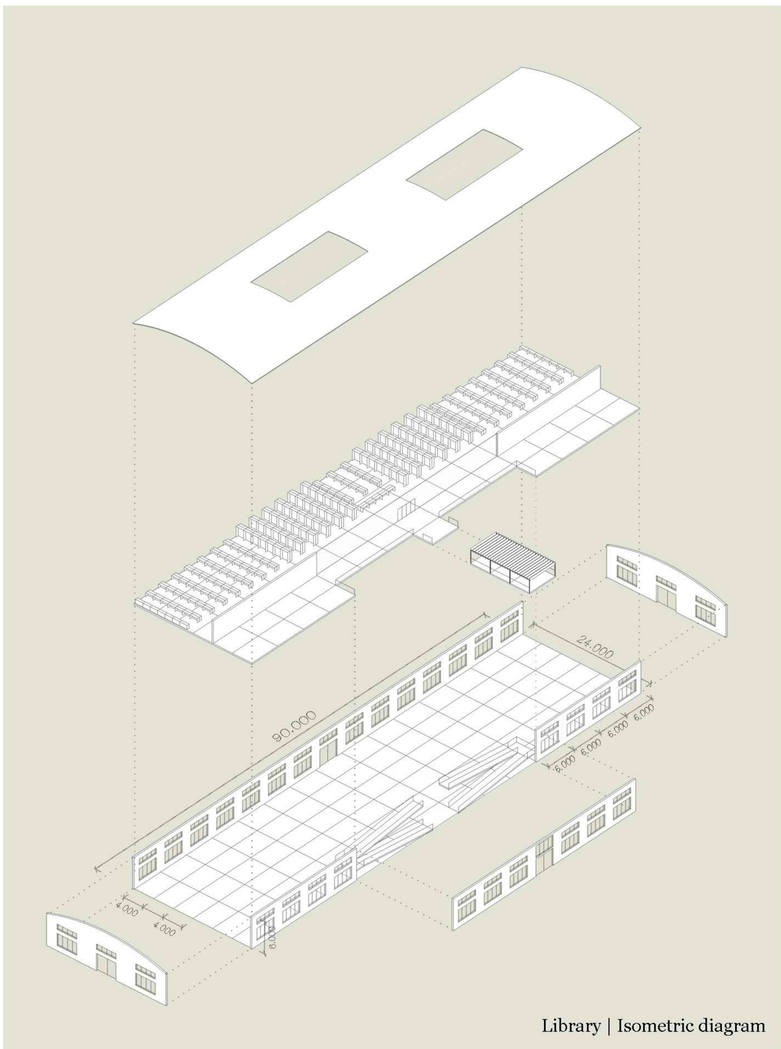


4. Recover building

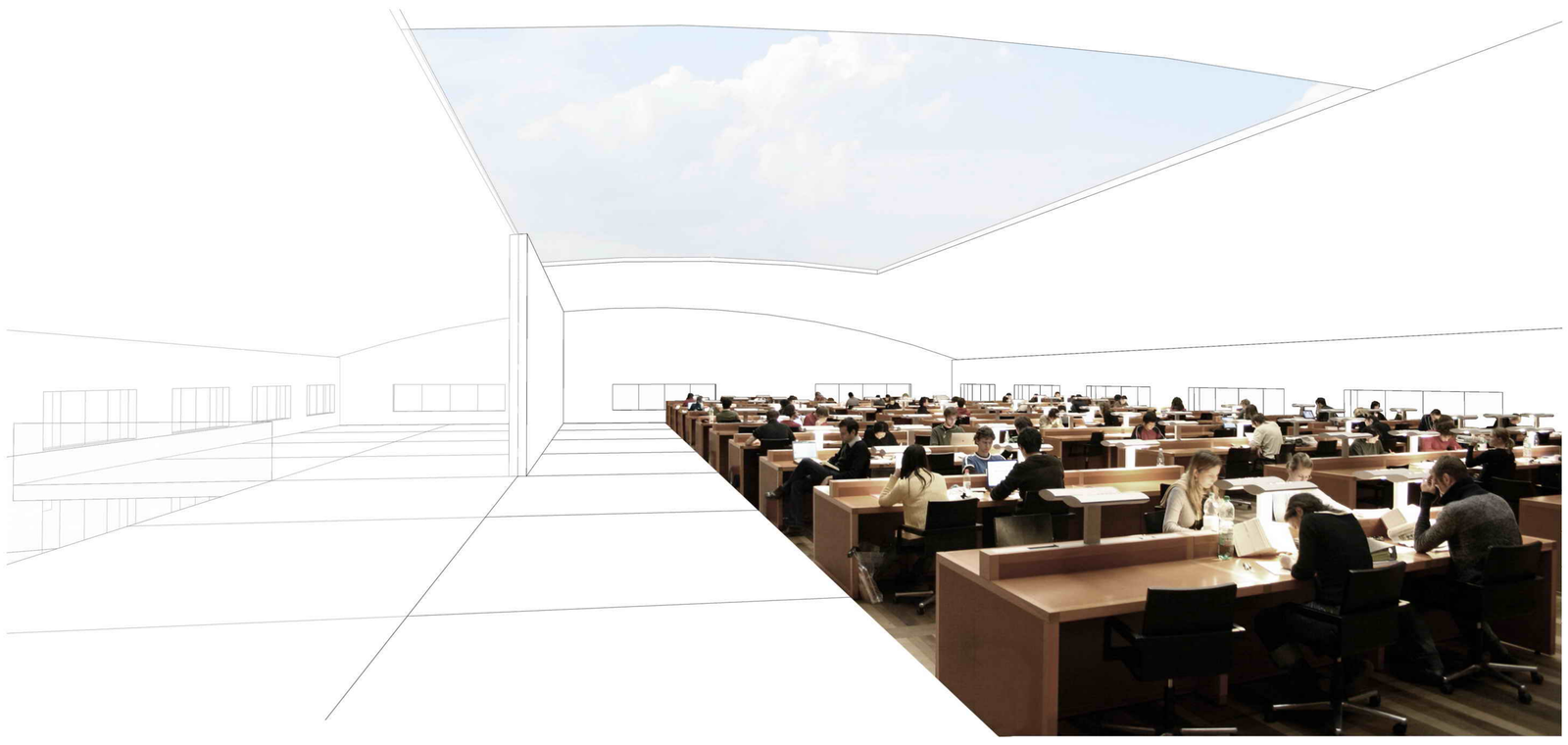


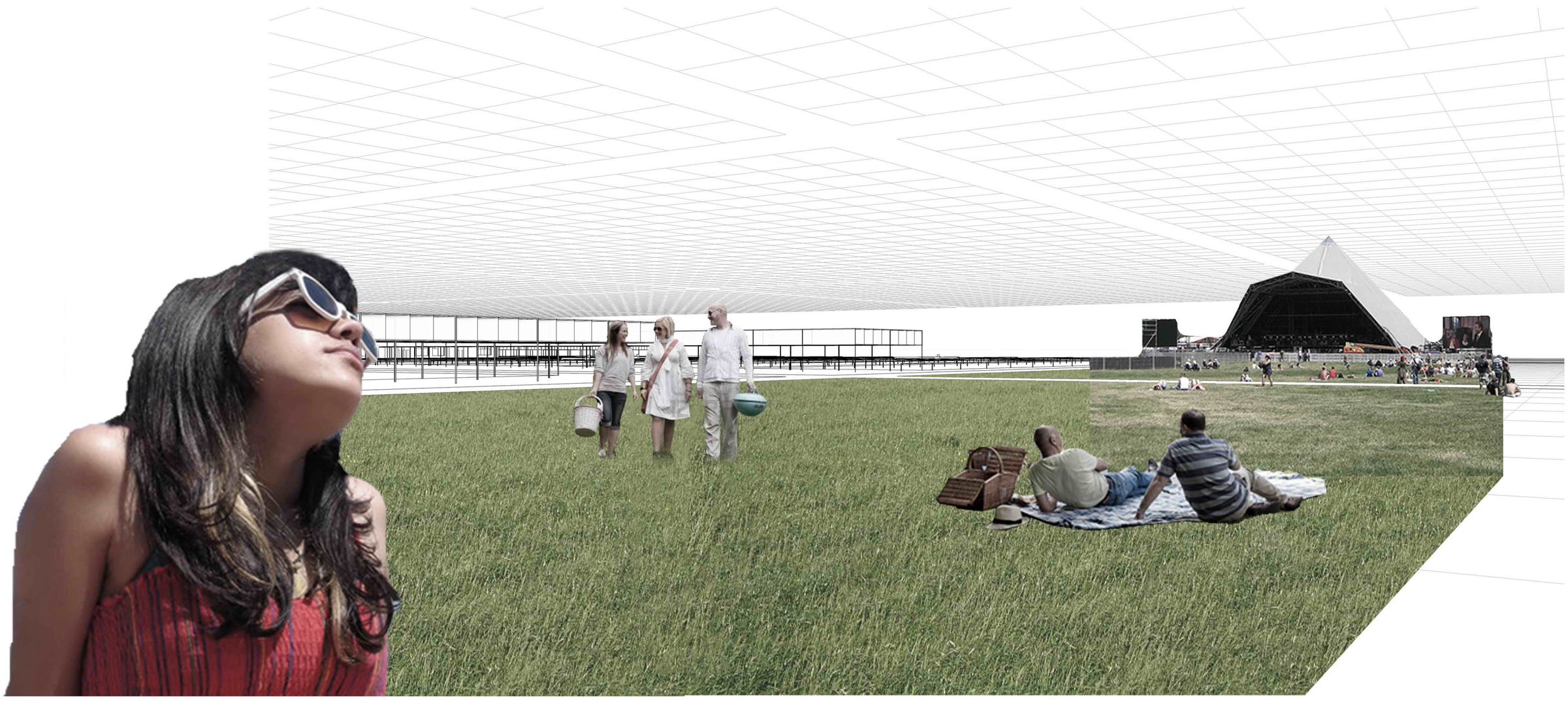


VOID INFILTRATION
Baskoro Laksitoadi | 798690
Supervisor: Prof. Elisa C. Cattaneo
Panel 6 / 8



Library | Isometric diagram


Library


Picnic and festivals at the public park

FLEXIBLE

Although we reanimated the military base into a university, the risks of obsolescence are still there if it couldn't keep up with city's changing demands.

Therefore, the public parks will act as the intermediate spaces that are available for both the public and university. On special occasion, these spaces are open for events or festivals. With the help of the university, educational programs can be established to educate children about where and how their foods come from. Libary are open for the public, especially farmers who are looking for information about fields and crops.

By introducing new experimental products alongside the conventional one, we can consider the farmers market as a laboratory that can gather public opinions and demands about agriculture and food.

With this program, the variety of crops researched in the field laboratories will play a crucial role as a form of communication tool. All of these activities are crucial to engage dialogue between university and the public, especially its neighborhood.

Farmers market

University
Facilities
Facilities
Public

University
Facilities
Public

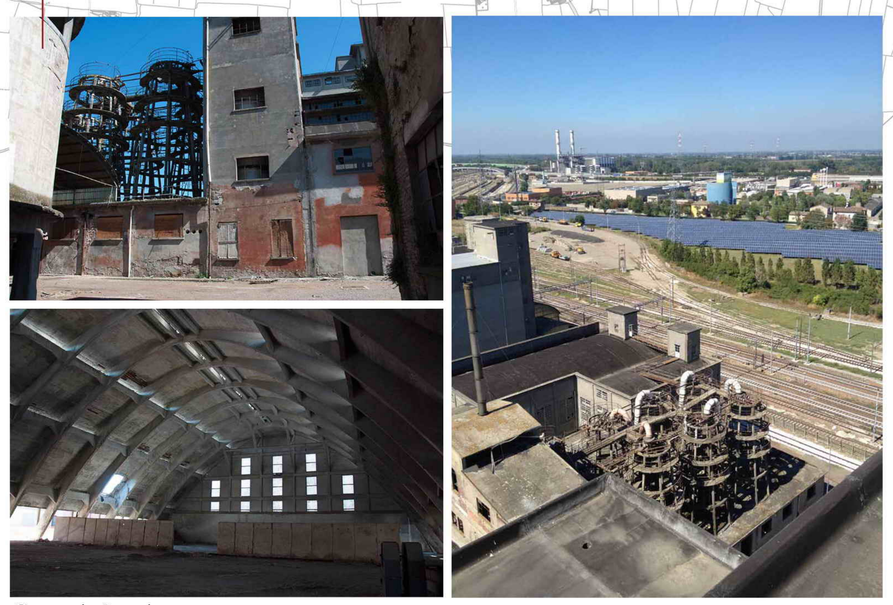
University
Facilities
Public

VOID INFILTRATION
Baskoro Laksitoadi | 798690
Supervisor: Prof. Elisa C. Cattaneo
Panel 7 / 8

Military Warehouse

Locomotive Depot

Abandoned School



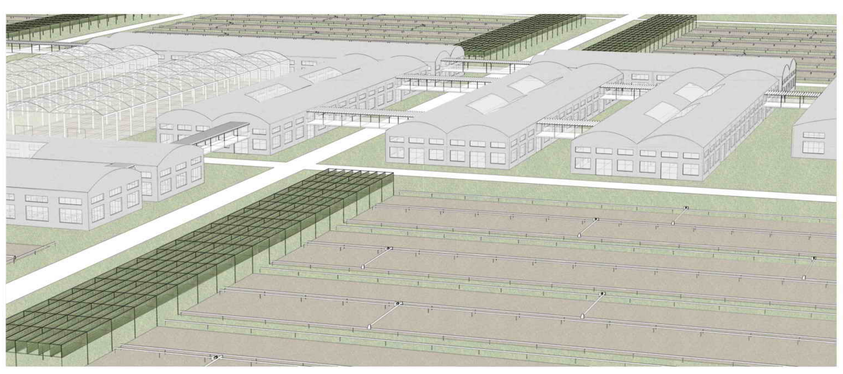
Consorzio Agrario

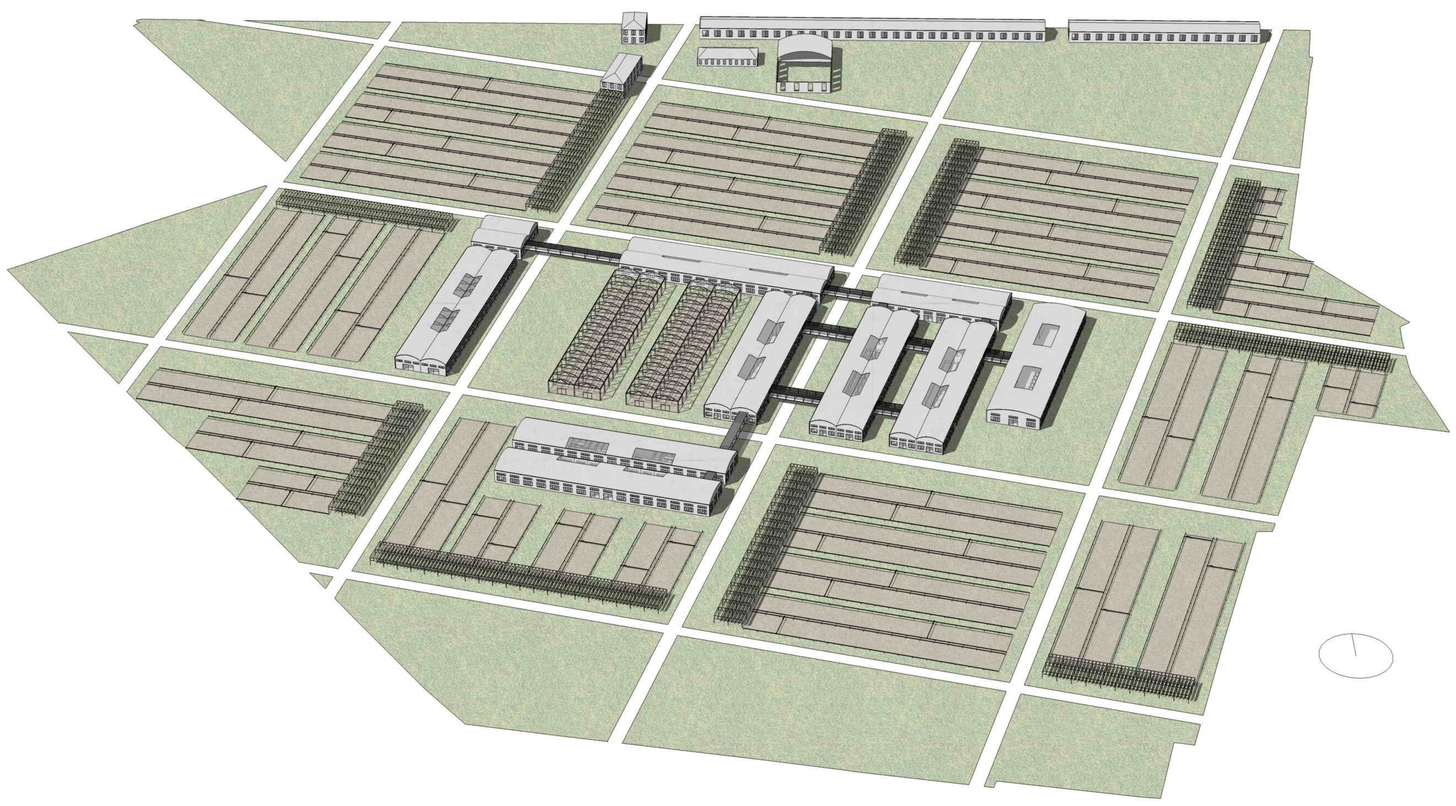
Abandoned Farmhouse

CONCLUSION

There are a lot of under-utilized or even abandoned buildings scattered around Piacenza. From military facilities to farmhouse, those buildings are solid prove that Piacenza still evolving as a city. And with the 3 step approach we explore earlier, the possibilities of re-adapt those buildings are endless and exciting.

Architectural answer often did not comprise designing a building but to remove buildings or simply offering up flexible space system, an anti-building. Flexible and relational system of architecture is faster, cheaper, and more reliable to respond city's constant changes.





VOID INFILTRATION
Baskoro Laksitoadi | 798690
Supervisor: Prof. Elisa C. Cattaneo
Panel 8 / 8