

ILLEGAL SETTLEMENT in CHIANG MAI

Ban Fah Mai Community

Located not too far too the south of the city centre is Ban Fah Mai community. Situated along the Mae Kah canal. The community had been settled for over 50 years but had not been recognized by the city municipal as a legal settlement thus the inhabitants had been denied the basic necessities such as electricity, running water and sanitation. This had cost great discontent within the community. On the other hand the city municipal argues that the community is settled on illegal land(it is not possible to own private houses along the body of water) and the inhabitants also cause severe water pollution due to the lack of sewer system. The issue seems to be caused by both sides, thus the intervention proposed is to become the mediator between the two faction, creating compromise, and hopefully allows the two faction to come to an agreement.



SITE : BAN FAH MAI
Situating along Mae Kah Canal and in between See Ping Muang Road and Mahidol road. Although the community is very densely built, there are still plenty of open space adjacent to the settlement. The project proposes the use of the open space situated next to the community the build housing units for the inhabitants which is facing legal issues and public commodities, such as, water electricity, and sewer system.



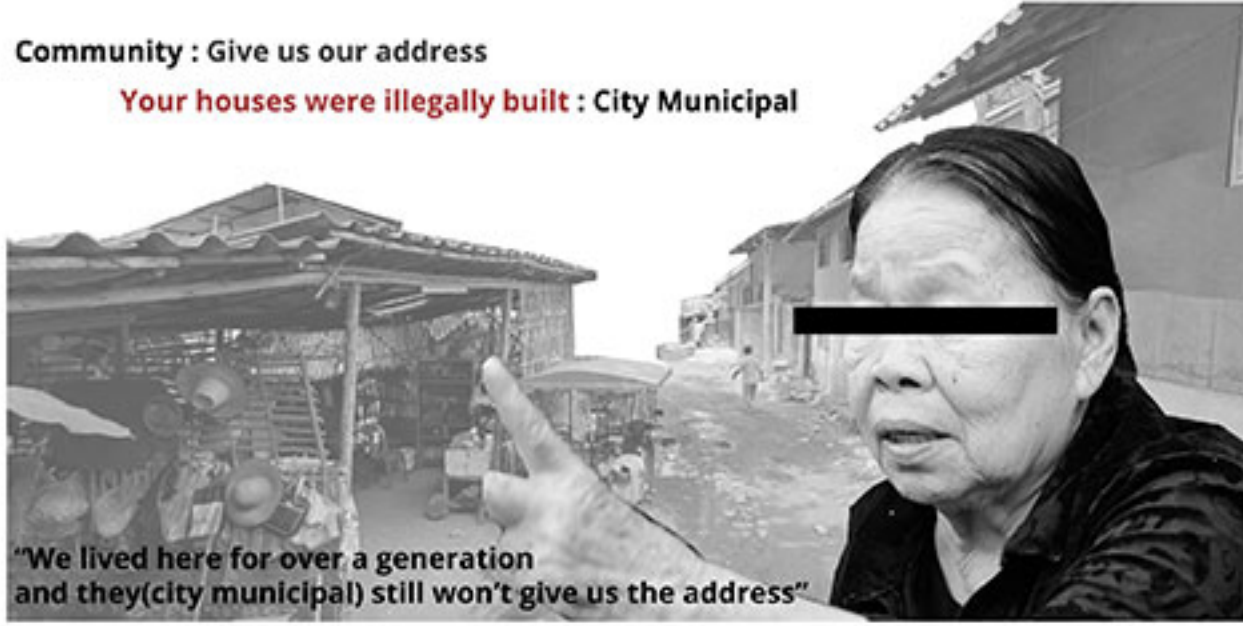
LAYOUT

The Layout aims to minimize vehicle circulation and emphasize on walkable way. In between units is the green space with pedestrian walkway connecting the pocket green in between the residential units.

0 10 20 30 40 60

Community : Give us our address

Your houses were illegally built : City Municipal



ISSUES FROM CHIANG MAI MUNICIPAL



ILLEGAL SETTLEMENT
The community was built by the canal bank which is public property.



WATER POLLUTION
The community release sewage and water into the canal.

ISSUES FROM FAH MAI COMMUNITY



NO DEEDS
No deeds were given to the community despite settling here for over 50 years.



LACK OF BASIC COMMODITIES
No electricity, Address, water or sewer system.



WATER POLLUTION
Water in the canal is no longer useable.

FINAL GOAL

CITY MUNICIPAL

Main Structure

System Toilet Kitchen

FAH MAI INHABITANTS



House Wall, Floor and Roof

COMPROMISE DESIGN

CONCEPT :

"THE MIDDLE MAN"

This would be the middle ground for both party in which the city municipal would provide the main structure toilet and kitchen. Then the rest of the house would be finish by the inhabitant. The compromise would be the municipal is not building the whole house but some part of it and the inhabitants would move to a near by place and only invest in some part of the house but with proper public commodities provided. And with no sewer dumbered into Mae Kah canal the water would be cleaner which is good news for both the city municipal and the inhabitants.

TYPICAL HOME DEVELOPMENT

54 Units of Typical Housing



PROPOSED HOME DEVELOPMENT

54 Units of Proposed Housing



DEVELOPMENT TYPOLOGY

As seen in the diagram. The design adopted the vertical development instead of the typical horizontal one. Because it would less disturb the wet land and green space in the site allowing the ecosystem in the site to continue to exist and grow.



TYPICAL PLAN

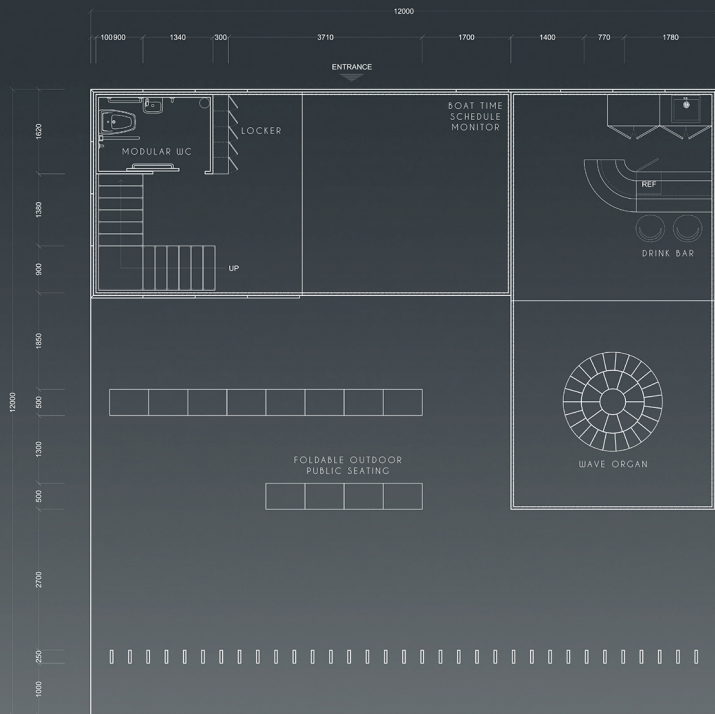


SECTION

DRAWINGS

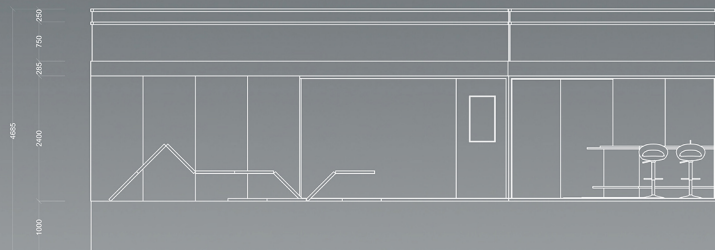
The plan show the possibilities that the inhabitants could modify and built their home with only toilet and kitchen that are fixed. The corridor in the stair case provided addiquet access to the housing units.





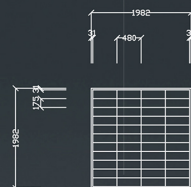
FURNITURE LAYOUT PLAN

SCALE 1 : 75



SECTION

SCALE 1 : 75



STRUCTURE ASSEMBLE

As all of the structure are parts assembling together, the plan could differ in varieties, providing maximum flexibility and making both the space and function adaptable to all regions



SEA LEVEL RISE

Since at least the start of the 20th century, the average global sea level has been rising. Between 1900 and 2016, the sea level rose by 16-21 cm. More precise data gathered from satellite radar measurements reveal an accelerating rise of 7.5 cm from 1993 to 2017, which is a trend of roughly 30 cm per century. There are also many countries that have been facing severe flooding issues, thus the idea of the project having knock-down, buoyant structure



2.5 x 12.0 x 2.0
Weight <30 t



LAWS AND REGULATIONS (TH)

With the example project plan located on riverside of Chao Phraya River, Bangkok, Thailand, the dimension of all parts are restricted due to the following rules :

Section 77

The pillar for fixing the raft is prohibited from being placed more than one and a half meters above the frontline of the raft

Section 79

It is forbidden to place a raft along the Bangkok port area that is wider or longer than **16 meters**, including those territories and the small raft that is connected to the interfaces.

Section 80

It is forbidden to place a raft more than **12 meters** wide along the canal

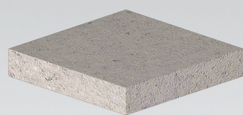
DAY



NIGHT

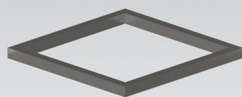


MATERIAL



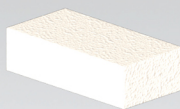
CEMENT

Flooring Structure



RECYCLED STEEL FRAME

Roof and Wall Support;
Recycled and Recyclable



POLYSTYRENE

Buoyancy Support
Structure



RECYCLED WATER RESISTANT
ENGINEERED WOOD POLYMER

Interior Flooring



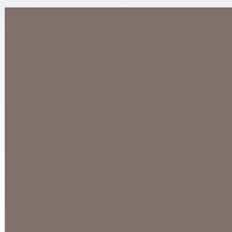
RECYCLED GRADIENT GLASS

Transparent Wall

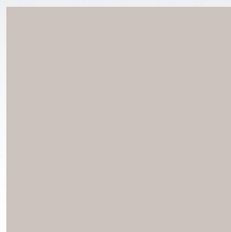


RECYCLED STEEL WALL

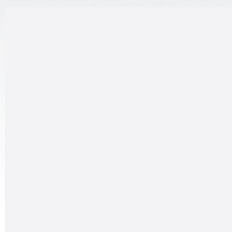
Wall; Recycled
and Recyclable



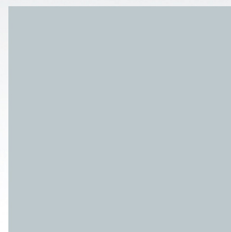
N 1884
D_Old Boots



N 1929
P_Enticed



N 1971
P_Cloud Formation



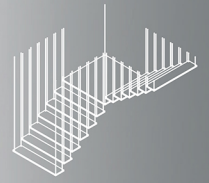
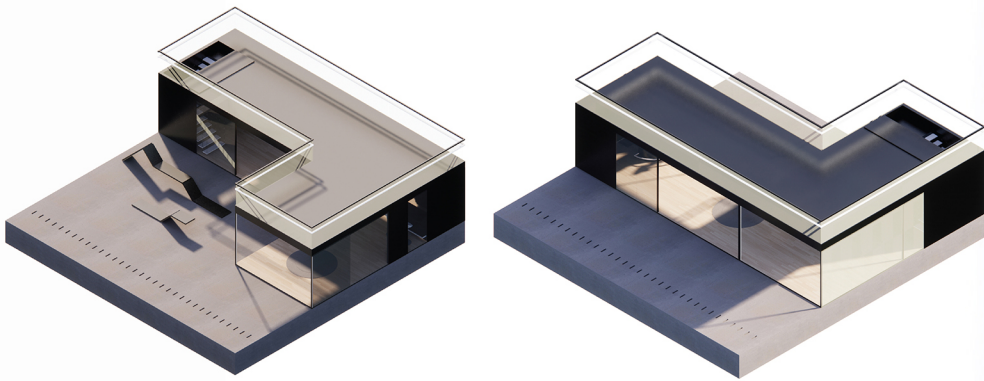
N 1992
P_Stiletto Gray



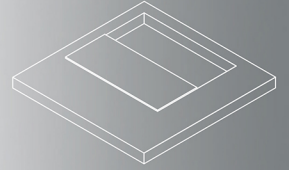
BGG 1808
T_Harbour Shadow



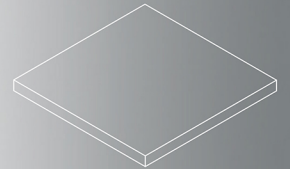
BGG 1807
D_Slate Crest



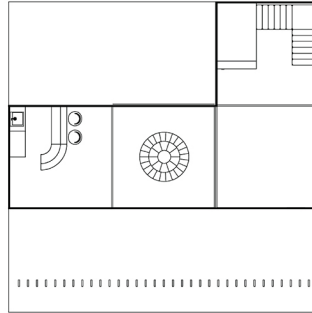
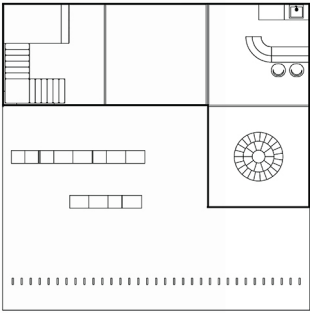
STAIRS PLATE
AND STEEL SLING



CEILING PLATE WITH
SLIDING DOOR FOR
STAIRS

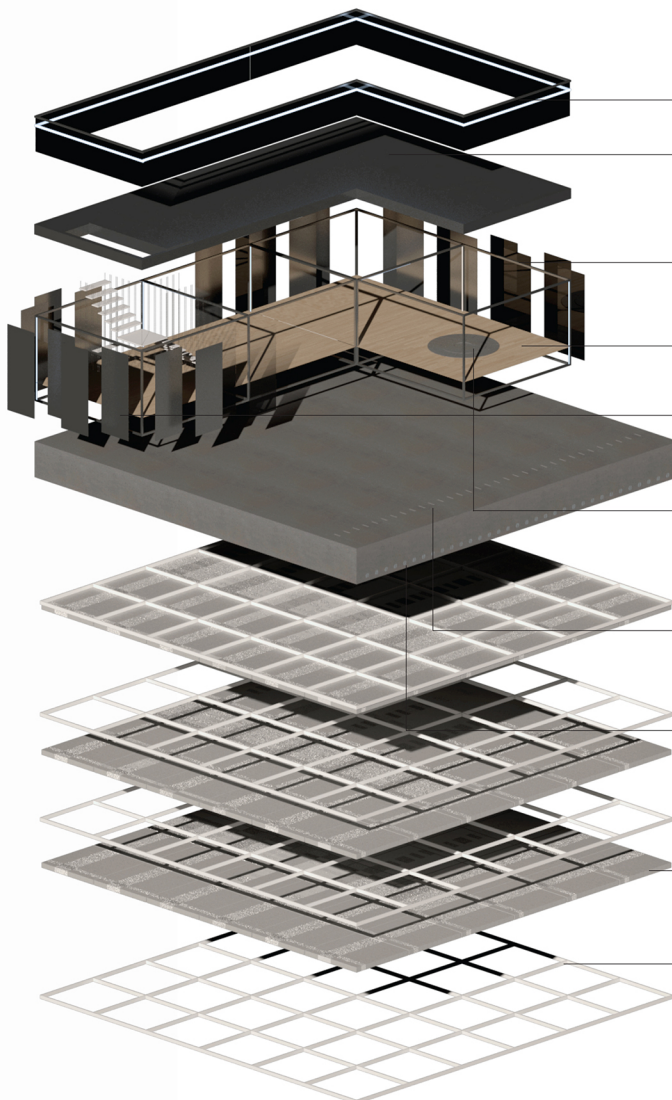


CEILING PLATE



VARIATION EXAMPLE

Examples of plans and structural parts being assembled differently according to location, which means different wind and sun direction and also different function in the area during day and night, depending on the community



RAILS

CEILING PLATE
4000 x 4000 x 285 MM.
SLIDING DOOR
2810 x 1200 MM.

STEEL BONE
8000 x 4000 MM.

INTERIOR FLOOR
4000 x 4000 x 50 MM.

WALL
1000 x 2400 x 6 MM.

ORGAN KEYS
R. = 950 MM.

SOUND EXIT
250 x 50 MM.

WATER ENTRY
R. = 100 MM.

FOAM BRICK
140 x 140 x 440 MM.

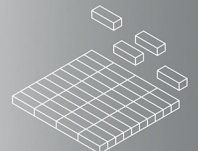
FOAM FRAME (STEEL)
1982 x 1982 MM.



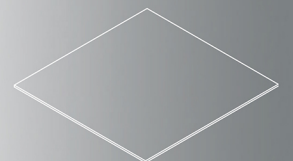
STEEL AND
GLASS WALL



WAVE ORGAN
KEYS



POLYSTYRENE
FOAM



WOOD FLOOR

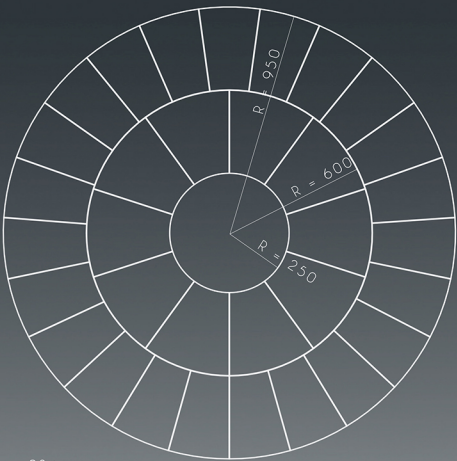
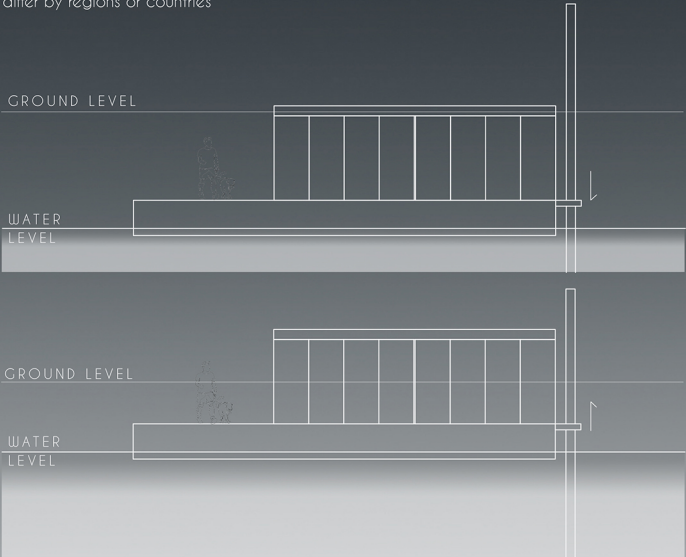


STEEL BONE

STRUCTURAL PARTS

POLE AND HOLDING

With pole pinning to the ground, the project could rise up and down according to water level by the elastic holding that connects the raft and the pole. The dimension and distance are differ by regions or countries



Outer Circle : 23 keys
Inner Circle : 10 keys

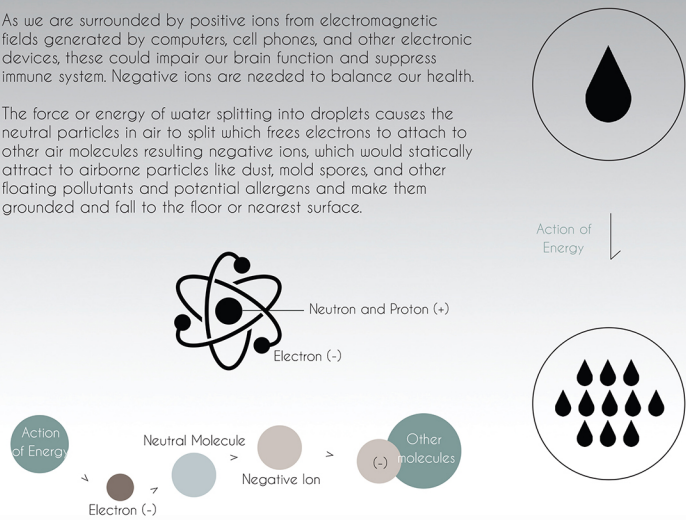
WAVE ORGAN KEYS

Keys connected to the pipe (sound exit). When pressed, the lid of the pipe slides open and the sound comes out. The lids could be locked for open and close

NEGATIVE IONS FROM DROPLETS OF WATER

As we are surrounded by positive ions from electromagnetic fields generated by computers, cell phones, and other electronic devices, these could impair our brain function and suppress immune system. Negative ions are needed to balance our health.

The force or energy of water splitting into droplets causes the neutral particles in air to split which frees electrons to attach to other air molecules resulting negative ions, which would statically attract to airborne particles like dust, mold spores, and other floating pollutants and potential allergens and make them grounded and fall to the floor or nearest surface.



WAVE ORGAN SECTION

(Reference from the Sea Organ Zadar)

