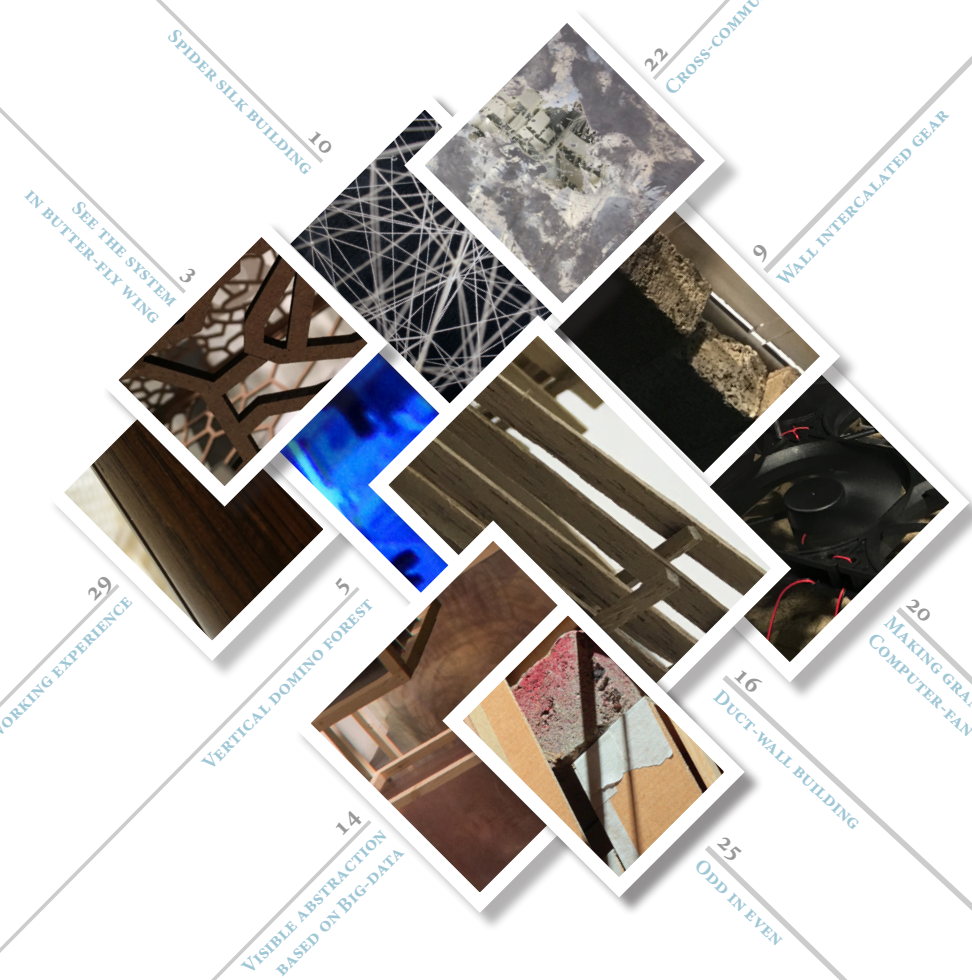


A RCHITECTURE

PORTFOLIO
SELECTED WORK 2013 - 2018
JUNHO CHOI



10
SPIDER SILK BUILDING

3
SEE THE SYSTEM
IN BUTTER-FLY WING

22
CROSS-COMMUNITY

9
WALL INTERCALATED GEAR

29
WORKING EXPERIENCE

5
VERTICAL DOMINO FOREST

14
VISIBLE ABSTRACTION
BASED ON BIG-DATA

16
DUCT-WALL BUILDING

20
MAKING GRAND CANYON WITH
COMPUTER-FAN

25
ODD IN EVEN

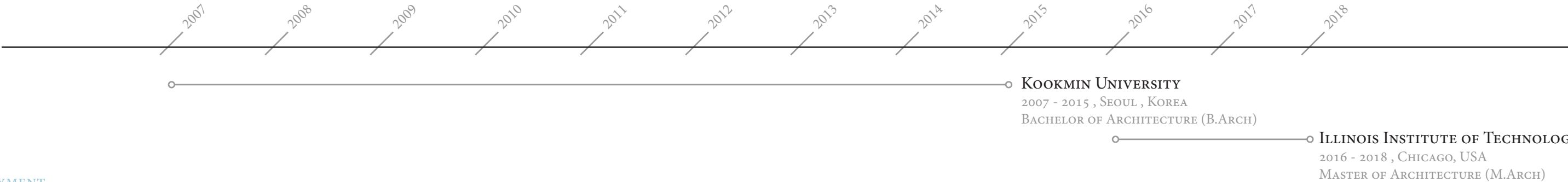


JUNHO CHOI

E-mail: m.akijunho@gmail.com
Portfolio : issuu.com/junhochoi68
Linkedin : <https://www.linkedin.com/in/makijunho/>

A five-year Bachelor in Architecture graduate from Kookmin University in Seoul, Korea. I have experiences in executing well-developed academic projects and intern experiences in 3D modeling and planning at several architecture firms as well as in commercial interior design projects like working on Burberry Flag Shop with a major interior design firm. I am interested in designing well-balanced sustainable buildings as solving architectural issues by fusing theories and applications from other academic fields like electrical engineering or advanced material engineering.

/EDUCATION



/EMPLOYMENT



/PREFERENCES

THOMAS E. BROCK
STUDIO ASSOCIATE PROFESSOR, MASTER OF ARCHITECTURE
2ND YEAR COORDINATOR.
F. 312.567.5820 / E. BROCK@IIT.EDU
WWW.THOMASBROCK.COM

PENG DU
VISITING ASSISTANT PROFESSOR 3RD YEAR COORDINATOR.
CHINA OFFICE DIRECTOR, CTBUH
P. 312.283.5646 / E. PDU@CTBUH.ORG / WWW.CTBUH.ORG

ANTONY WOOD
RESEARCH PROFESSOR OF TALL BUILDING, EXECUTIVE DIRECTOR OF CTBUH
F. 312.567.5820 / E. WOOD@IIT.EDU

/HONORS

GRADUATION WITH HONORS / 2015, KOOKMIN UNIVERSITY, SEOUL, KOREA

SPECIAL PRIZE / 2013, BUCHEON CITY PARK DESIGN COMPETITION, BUCHEON, KOREA

ADMISSION FROM IIT WITH SCHOLARSHIP / 2016, ILLINOIS INSTITUTE OF TECHNOLOGY

BEST IN SHOW M.ARCH 2 / 2017, ILLINOIS INSTITUTE OF TECHNOLOGY

BROTHERS FINFER SCHOLARSHIP / 2017, BROTHER FINFER SCHOLARSHIP FOUNDATION IN IIT

/EXHIBITION & PUBLICATION

E. ARTWORK SHOW / 2008, SHELTER GROUP PROJECT.

P. TRANS CULTURATION / 2009, PARTICIPATED IN PUBLICATION OF THE OFFICIAL BOOK OF KOOKMIN UNIVERSITY ARCHITECTURE EXPO.

P. BA DISSERTION / 2014, INTEGRATIVE ARCHITECTURE.

E. ARTWORK SHOW / 2015, GROUP WORK ON A THEME OF BIG DATA TITLED AS COLLABORATIVE PROJECT AT BROOM GALLERY.

E. BETWEEN STATES / 2017, ARCHITECTURE BIENNALE EXHIBITION AT CAF BUILDING LOGAN SQUARE SECTION : PROPOSAL DESIGN

E. OPEN HOUSE SPRING / 2017, EXHIBITION WORK RELATED TO END OF YEAR PROJECT

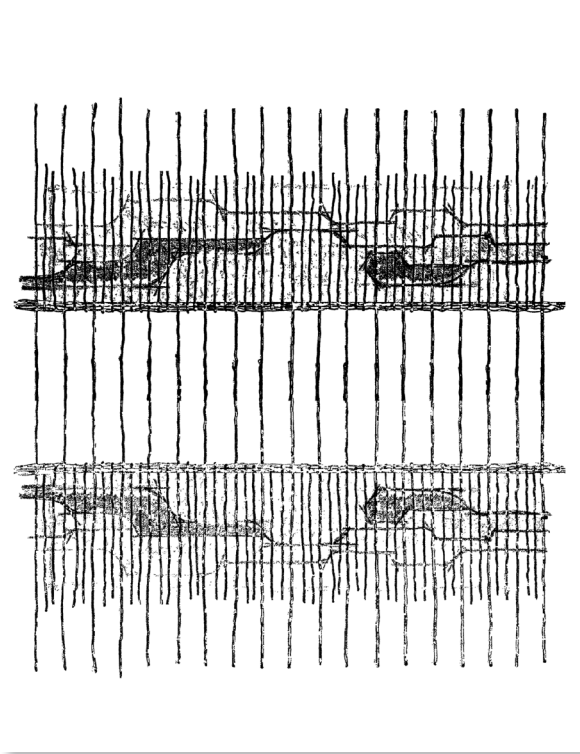
/SKILLS

RHINO	<div></div>	AUTOCAD	<div></div>
3D PRINTING	<div></div>	PHOTOSHOP	<div></div>
GRASSHOPPER	<div></div>	INDESIGN	<div></div>
RHINO V-RAY	<div></div>	ILLUSTRATOR	<div></div>
ARDUINO	<div></div>	REVIT	<div></div>
3D MAX	<div></div>	MS OFFICE	<div></div>
SKETCH UP	<div></div>	QGIS	<div></div>

CLOUD MARKET AT BRONZEVILLE

GRADUATE ARCHITECTURE GROUP PROJECT [2017]

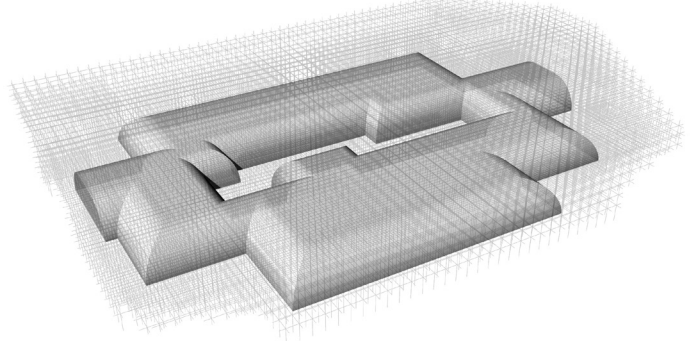
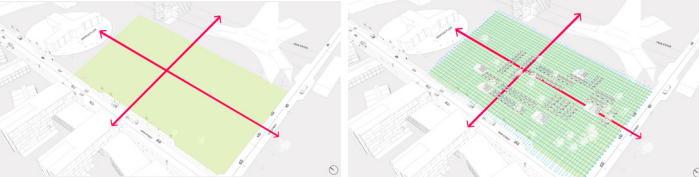
NAME — JUNHO CHOI, LUIS, HENRY
ILLINOIS INSTITUTE OF TECHNOLOGY — M.ARCH 2ND YEAR ACADEMIC
PROJECT
SUPERVISOR — THOMAS BROCK
FUNCTION — URBAN MARKET
PERIOD — 5 MONTHS - FROM JAN. 2017 TO MAY. 2017



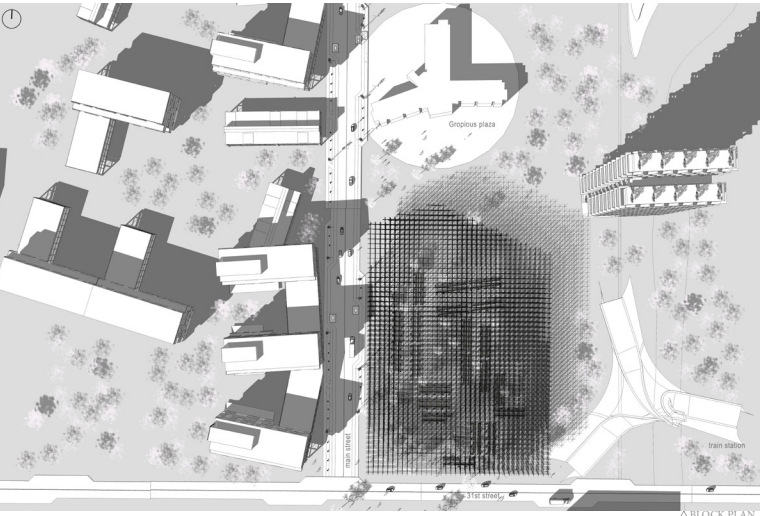
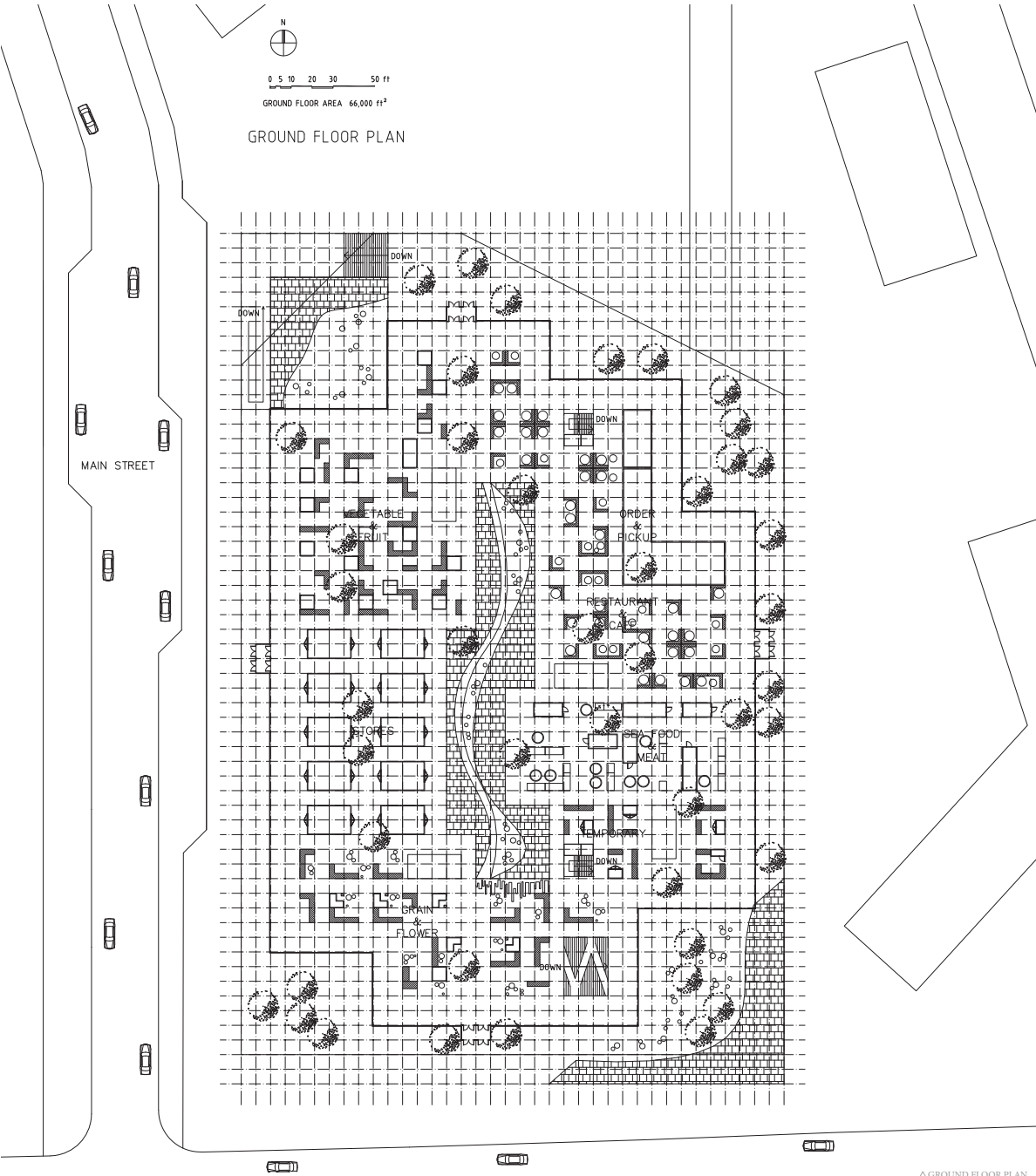
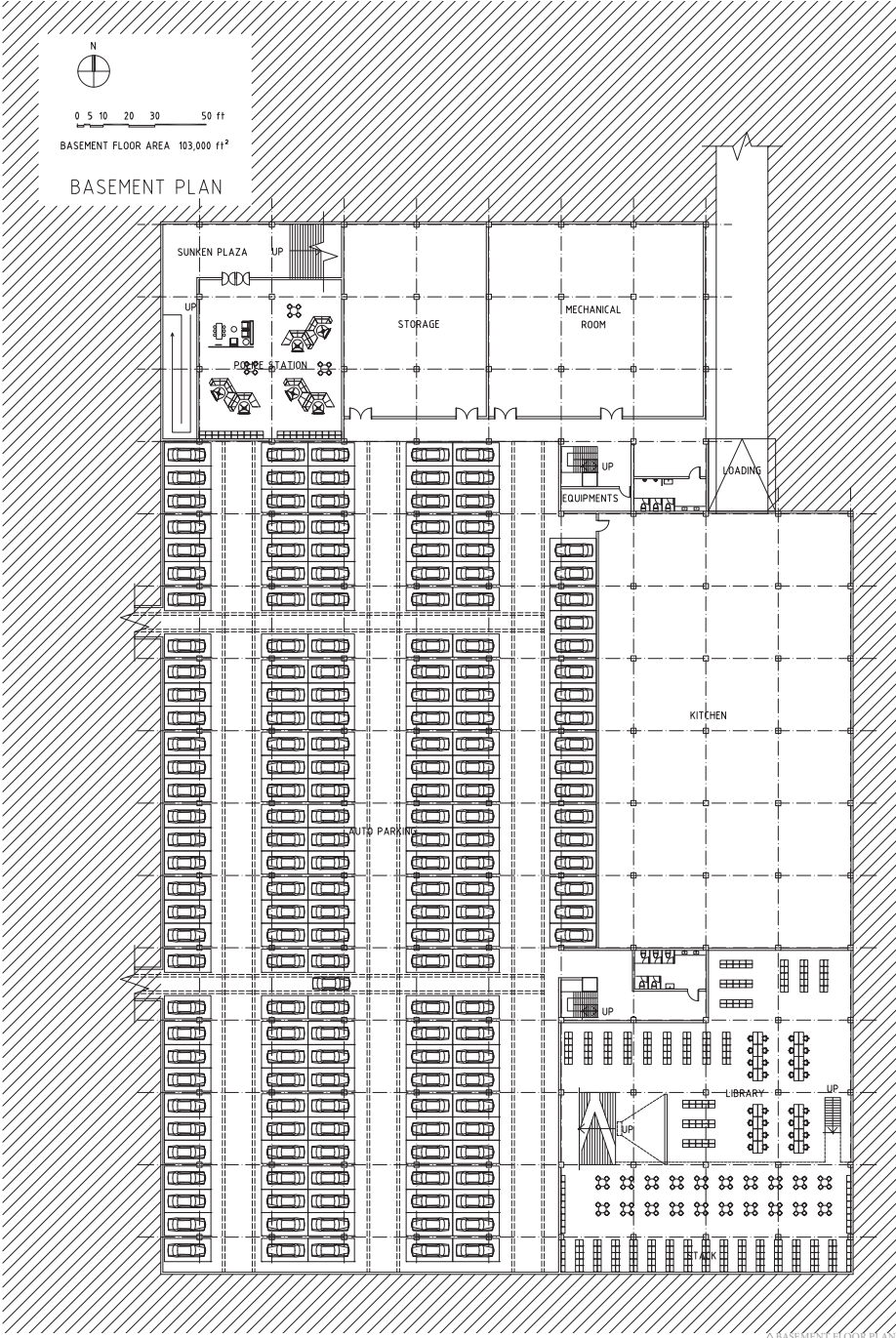
THE CLOUD MARKET & PUBLIC LIBRARY AIMS TO CREATE AN HYBRID BUILDING COMBINING BOTH THE MOTION AND COLOR OF A MARKET AND A PLACE OF GATHERING KNOWLEDGE AND FOCUS OF A LIBRARY. THE PROJECT IS LOCATED ON THE SOUTH OF THE NEIGHBORHOOD AND IS A NATURAL CONNECTOR BETWEEN 31ST STREET AND GROPIOUS PLAZA IN THE NORTH. IT ALSO CONNECTS THE TRAIN STATIONS WITH THE COMMERCIAL AREA ON THE WEST OF THE NEIGHBORHOOD. SINCE IS THE FIRST BUILDING THAT VISITORS SEE FROM THE SOUTH SIDE OF THE NEIGHBORHOOD THE PROJECT AIMS TO ACHIEVE CERTAIN TRANSPARENCY AND POROSITY SO THE MARKET CAN BECOME A PORTAL FROM NORTH TO SOUTH AND EAST TO WEST.

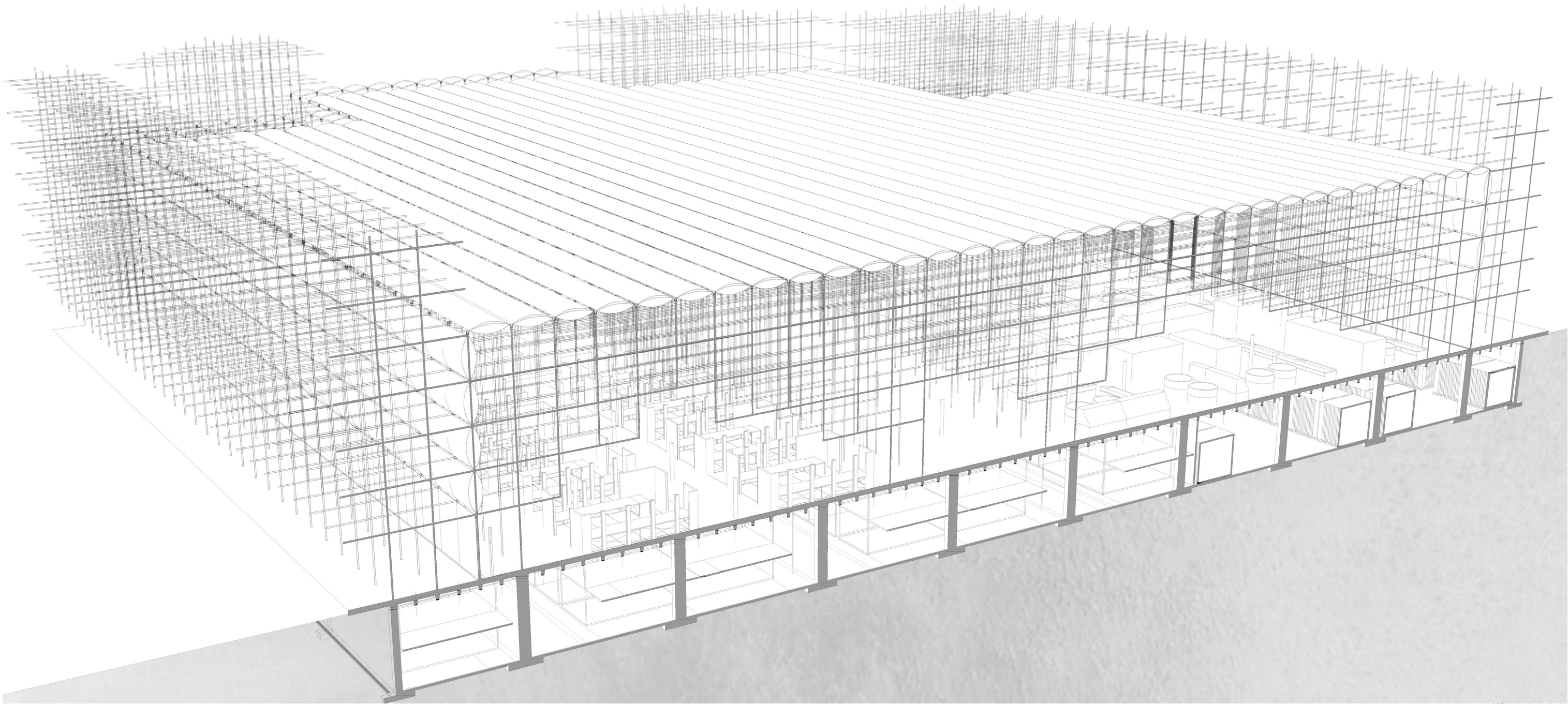


DESIGN STRATEGY AND PLAN

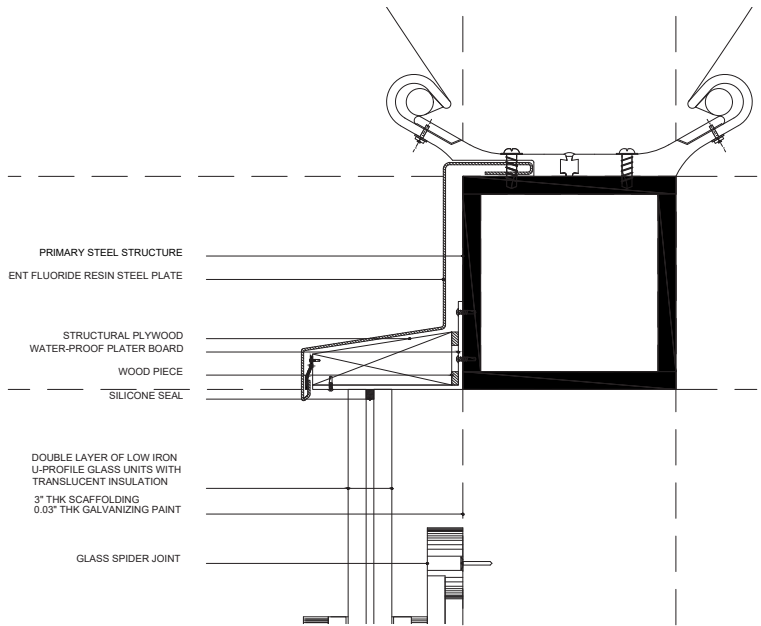


THE CLOUD MARKET AT BRONZEVILLE AIMS TO BECOME A PORTAL BETWEEN THE FOUR SIDES OF THE SITE. THE BUILDING MIMICS THE FORM OF A POROUS SPONGE/CLOUD, AN ELEMENT OF TRANSPARENCY WHERE PEOPLE CAN COMMUTE TO EVERY PART OF THE NEIGHBORHOOD. THE ETFE FACADE WITH THE 3”X3” STEEL STRUCTURAL MODULE ALLOWS A FLUID CIRCULATION AS THE MARKETPLACE SUGGESTS AND THE LANDSCAPE DESIGN IS A CONTINUITY OF THE SAME EXTERIOR OF GROPIOUS PLAZA AND MAIN STREET, GIVING THE USERS THE SENSATION OF BEING UNDER AN OPEN PAVILION AND NATURAL FOREST. THE LIBRARY IS LOCATED IN THE BASEMENT ON THE SOUTH SIDE OF THE PROJECT.





Δ 3 Dimensional section drawing

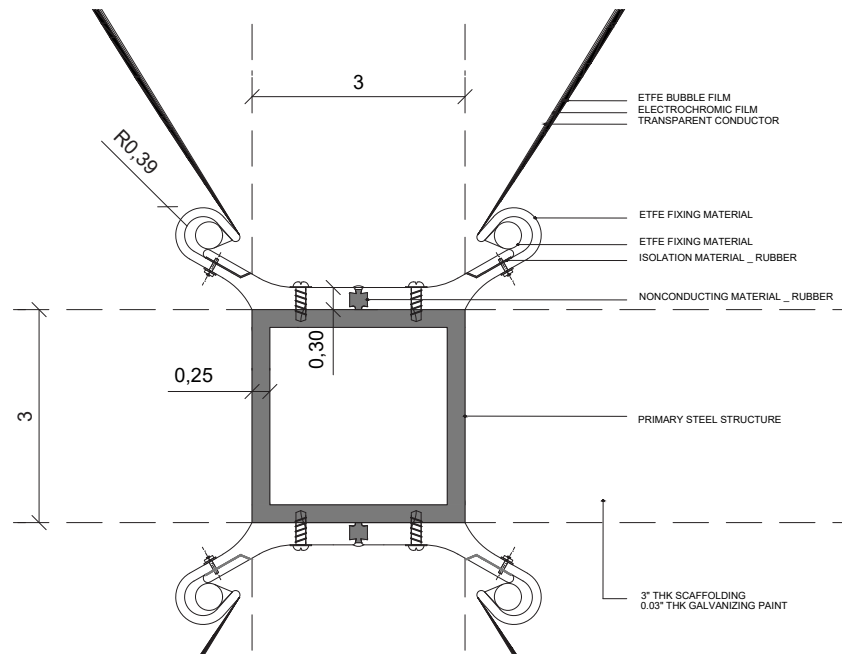


PRIMARY STEEL STRUCTURE
ENT FLUORIDE RESIN STEEL PLATE
STRUCTURAL PLYWOOD
WATER-PROOF PLATER BOARD
WOOD PIECE
SILICONE SEAL

DOUBLE LAYER OF LOW IRON
U-PROFILE GLASS UNITS WITH
TRANSLUCENT INSULATION
3" THK SCAFFOLDING
0.03" THK GALVANIZING PAINT

GLASS SPIDER JOINT

◀ Front detail section



ETFE BUBBLE FILM
ELECTROCHROMIC FILM
TRANSPARENT CONDUCTOR

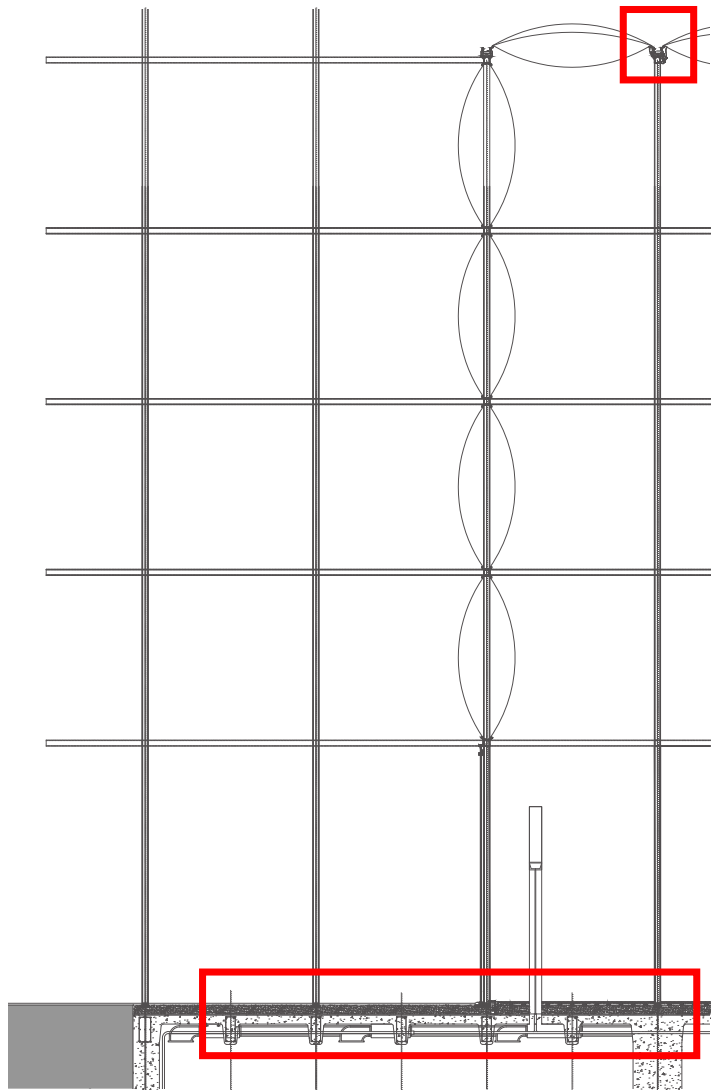
ETFE FIXING MATERIAL
ETFE FIXING MATERIAL
ISOLATION MATERIAL _ RUBBER

NONCONDUCTING MATERIAL _ RUBBER

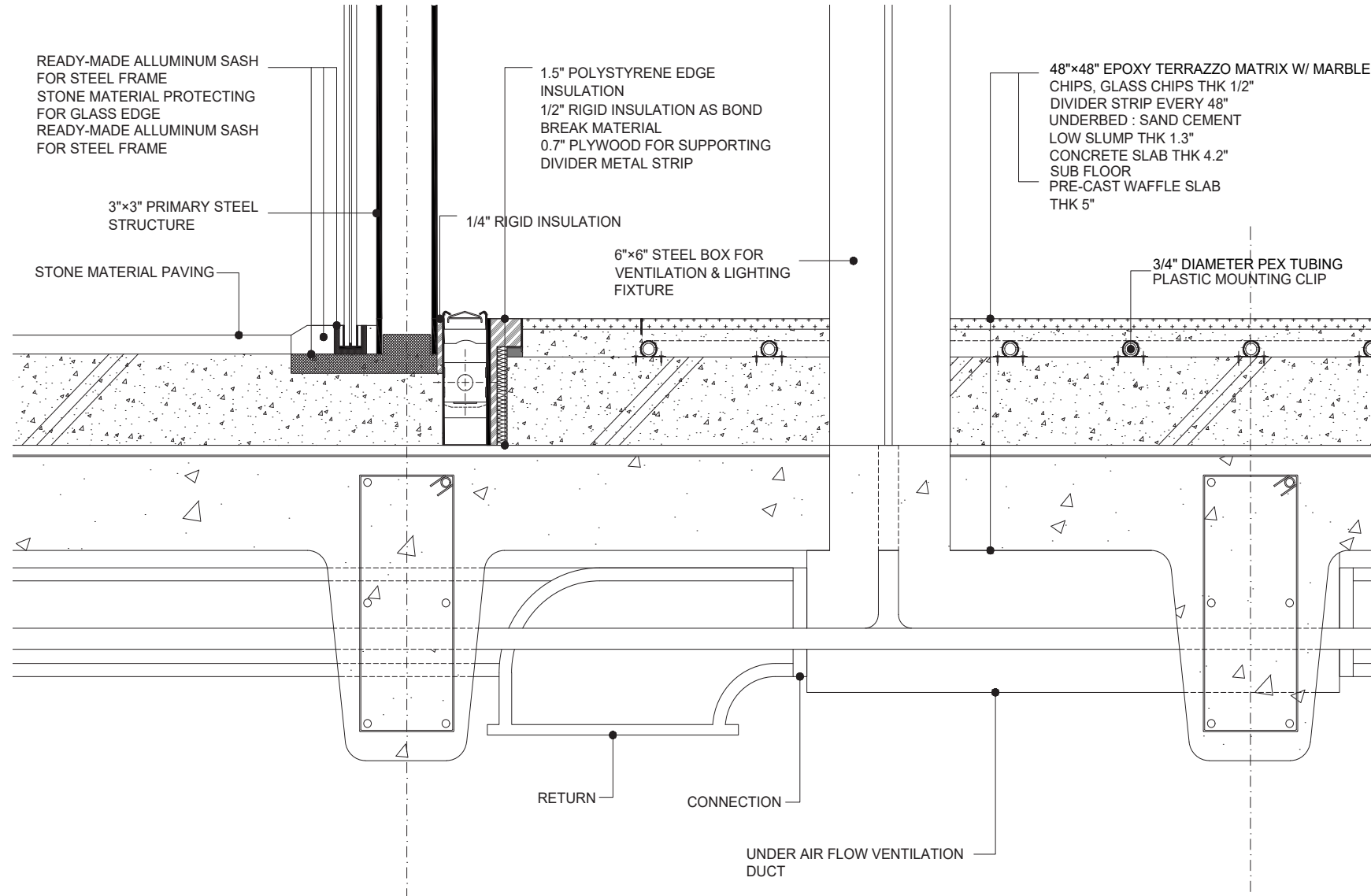
PRIMARY STEEL STRUCTURE

3" THK SCAFFOLDING
0.03" THK GALVANIZING PAINT

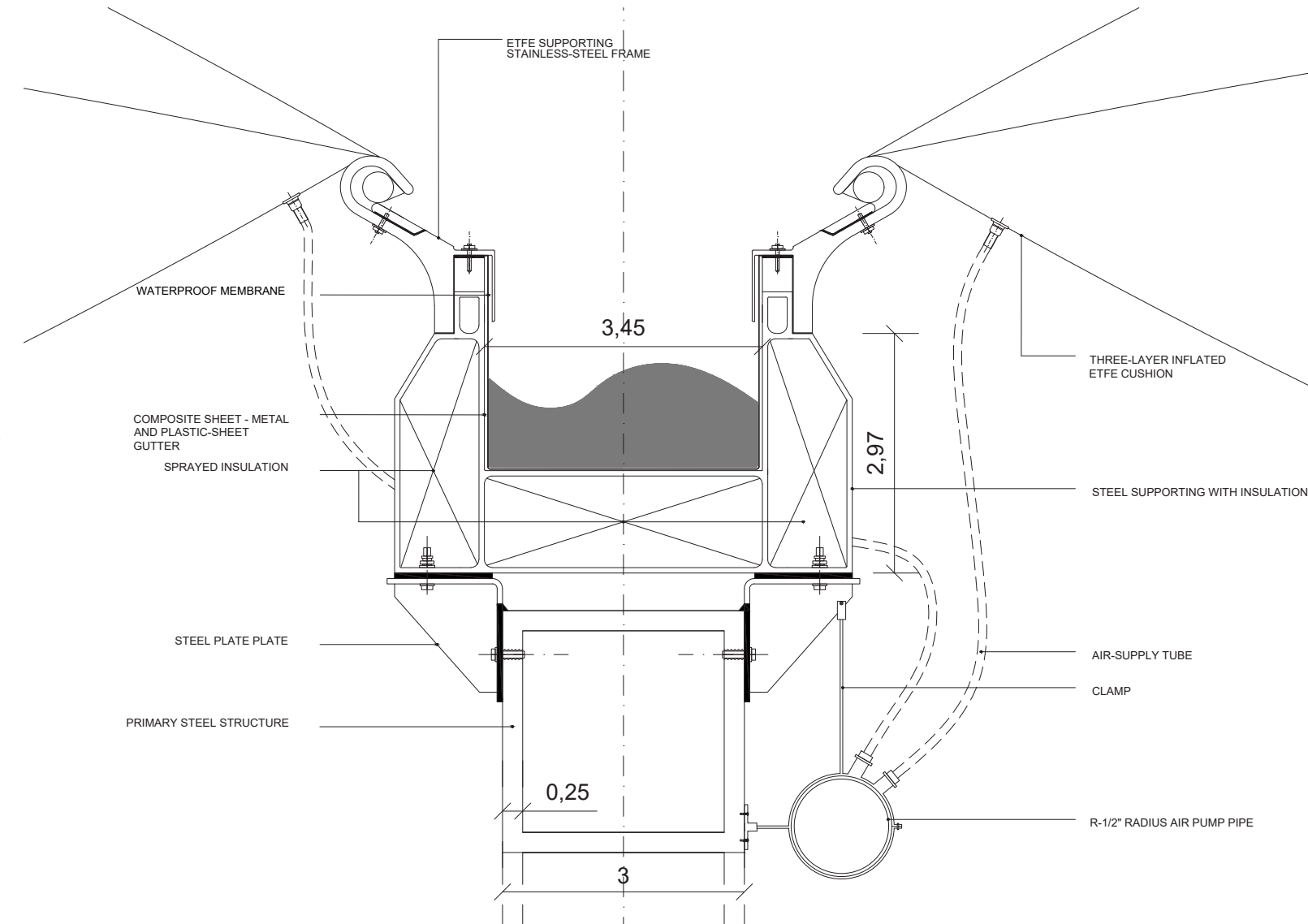
Δ Scaffolding and ETFE detail section



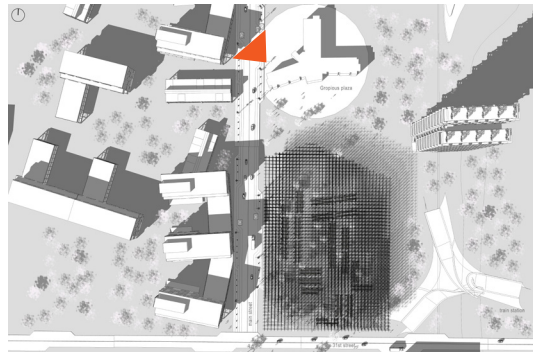
IN CASE OF THE ETFE STRUCTURE DEVICE, TO MAKE MINIMALIZE, WE SHOULD MAKE OPTIMAL SHAPE FOR THE 3 BY 3 INCHES SCAFFOLDING. ALSO, IN TERMS OF THE WATER GUTTER, WE CUSTOMALLY MAKE STRUCTURE FOR GUTTER ON THE ROOF. BECAUSE TRIBUTARY AREA IS HUGE SO ROOF DIVIDES 4 PART, AND WE COULD BE MAKE SMALL SIZE FOR THE GUTTER.



△ Floor detail section



△ Roof detail section



► Perspective view

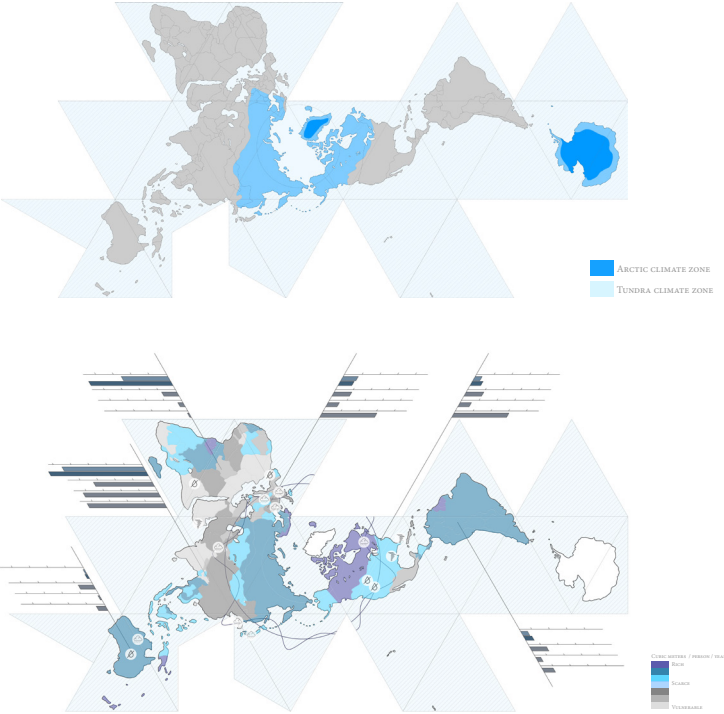


URBAN BRIDGE

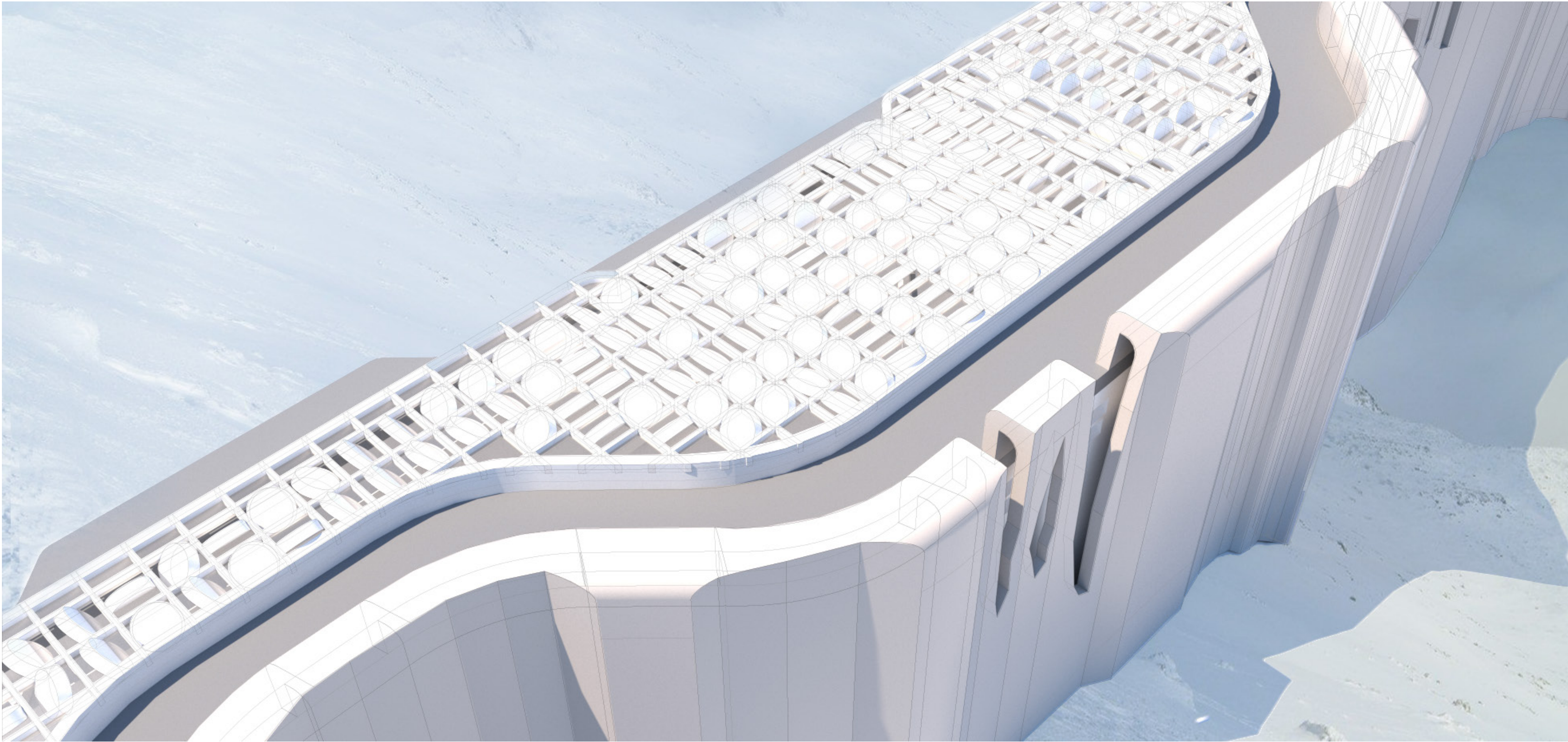
GENERATING ICESHEET

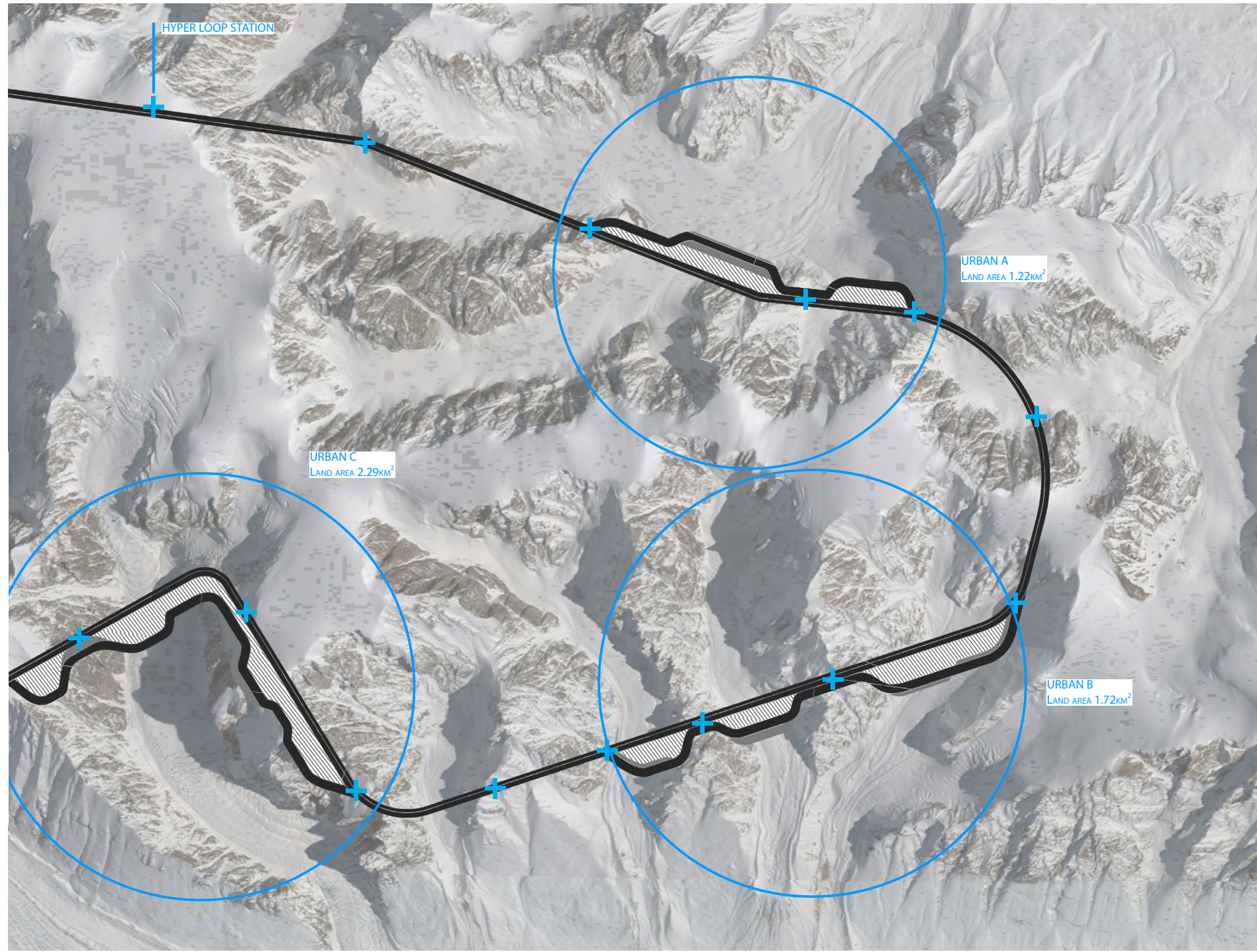
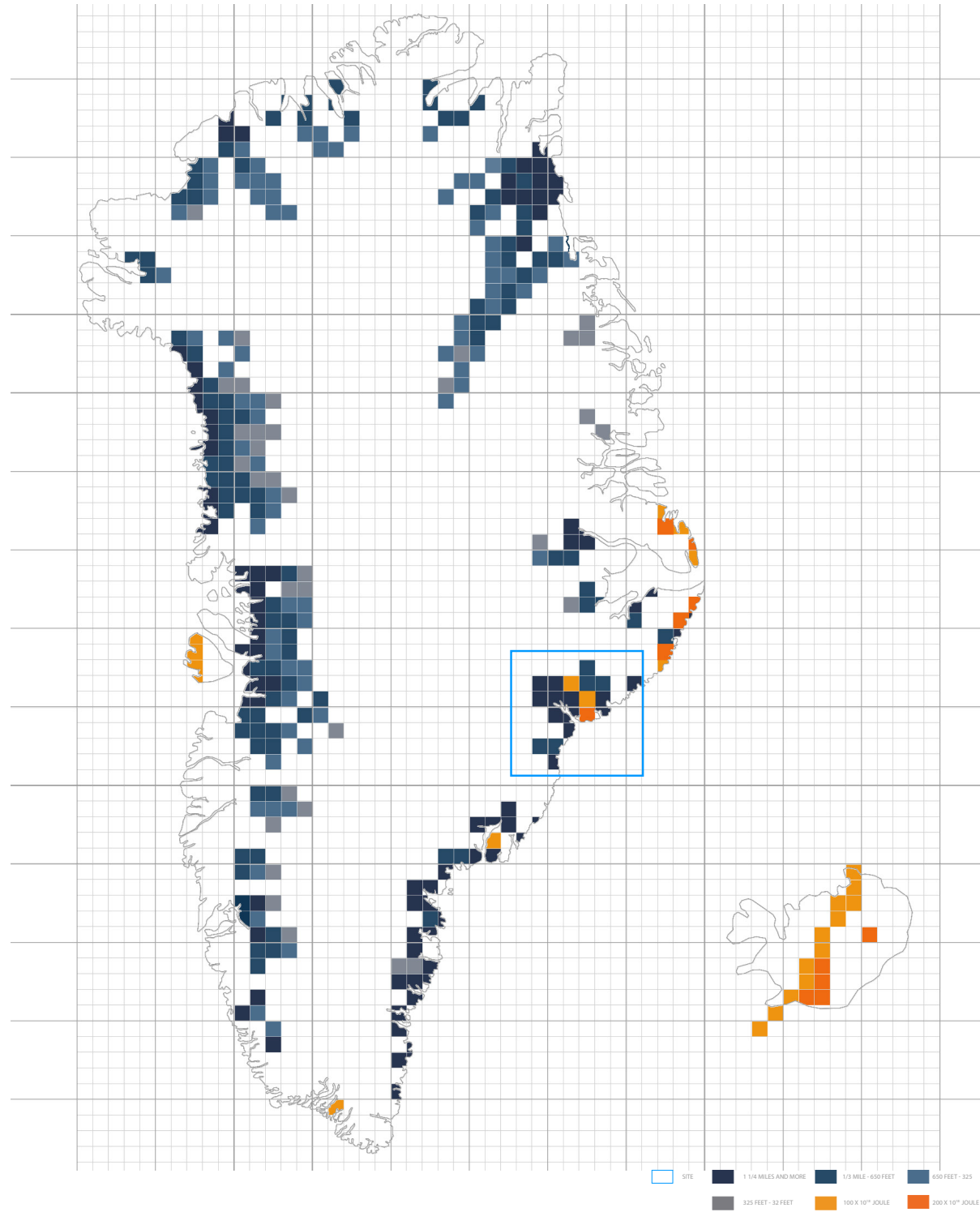
GRADUATE ARCHITECTURE GROUP PROJECT [2017]

NAME — JUNHO CHOI, YEONJUNG NAM
ILLINOIS INSTITUTE OF TECHNOLOGY — M.ARCH 3RD YEAR ACADEMIC PROJECT
SUPERVISOR — PENG DU
FUNCTION — URBAN HABITAT
PERIOD — 5 MONTHS - FROM AUG. 2017 TO DEC. 2017

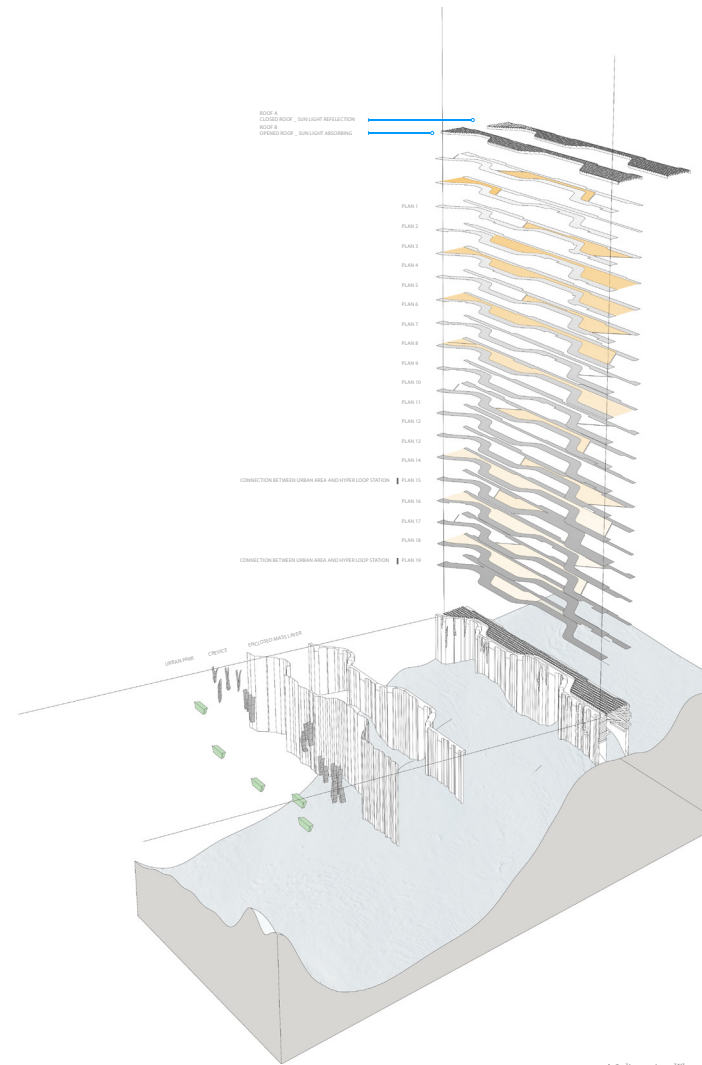
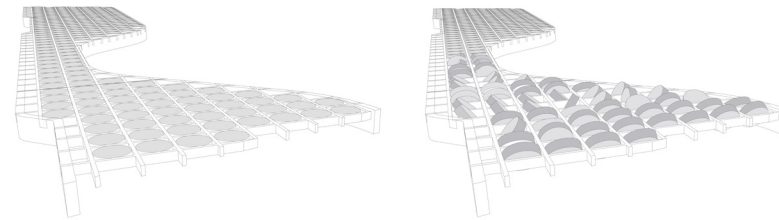


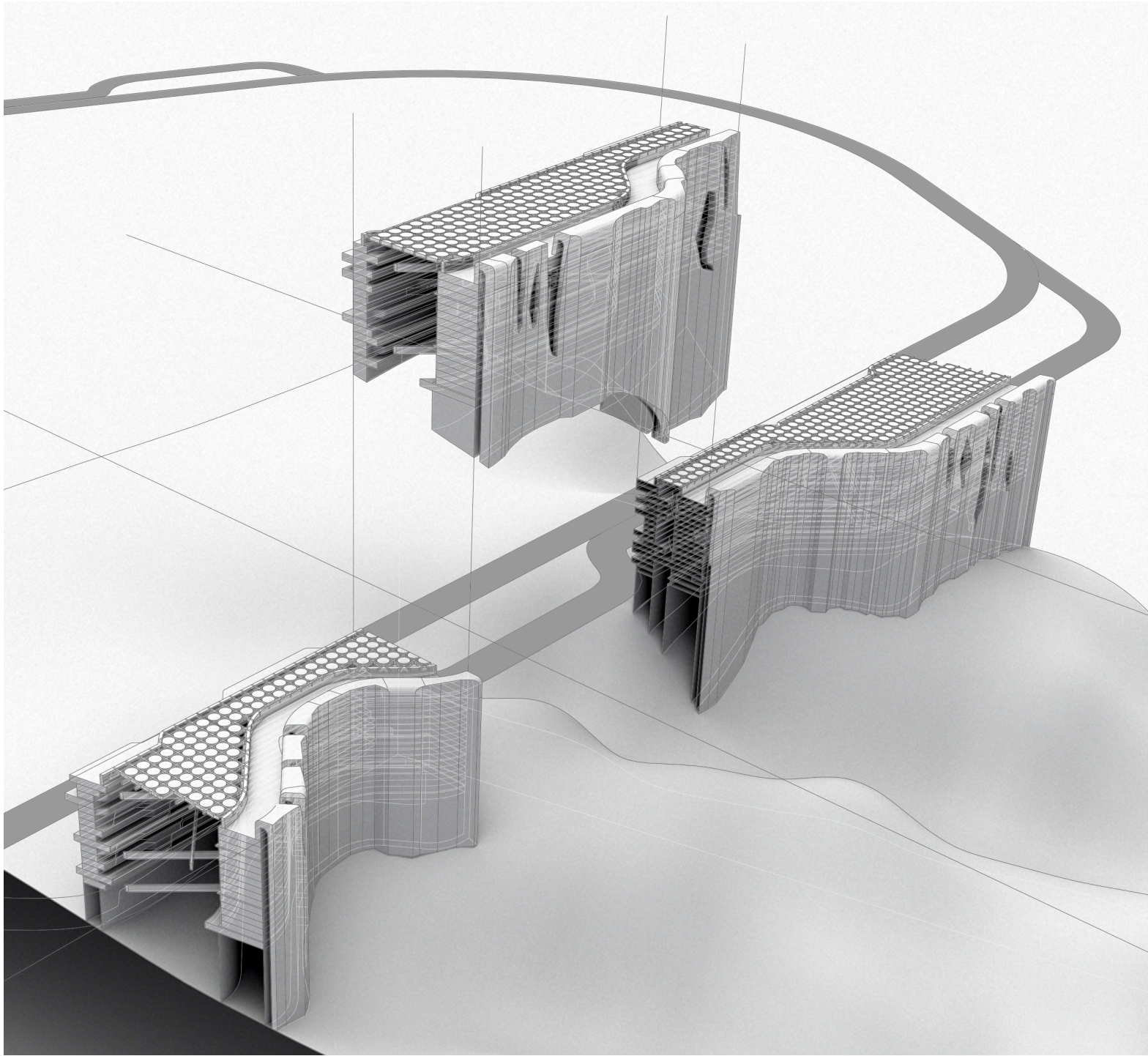
THE WORLD FACED THE COMPLEX PATTERNS REPRESENTING THE NATURAL ENVIRONMENT WERE COLLAPSED, CLIMATE IS CHANGING AT A RATE EXCEEDING MOST SCIENTIFIC FORECASTS; ARCTIC SEA-ICE IS DISAPPEARING AT A STUNNING RATE, OCEANS WARMING, AIR POLLUTION AND CLIMATE CHANGE WERE CAUGHT IN A SELF- BOOSTING LOOP. GLOBAL WARMING WAS BECOMING IRREVERSIBLE AND WORSE. LEVELS IN ARCTIC AND ANTARCTICA RAISED TO AN UNPRECEDENTED NUMBER IN 4 MILLION YEARS.THE PROBLEM WITH HUMAN-INDUCED CLIMATE CHANGE IS THAT IT IS OCCURRING AT A MUCH FASTER THAN NATURAL CLIMATE. THEREFORE, WE GRASPED THE URGE TO TAKE ACTION. OUR VISION FOR URBAN BRIDGE: REGENERATING ICE SHEET IS TO CREATE INDEPENDENT URBAN HABITATS IN GREENLAND THAT INCLUDE TECHNICAL FUNCTIONS TO SLOW DOWN ICE MELTING.





Δ Block plan on the surface in Greenland

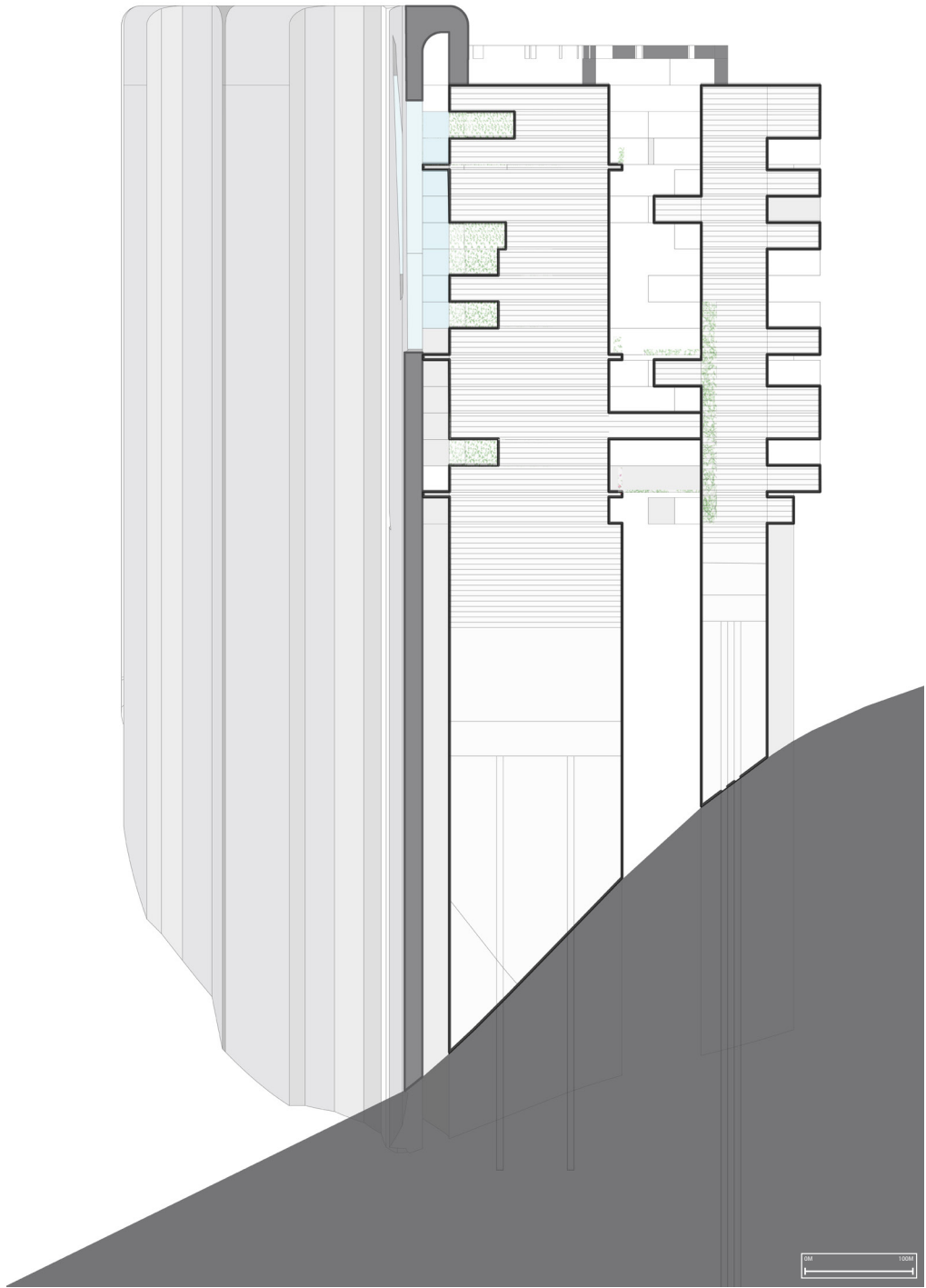




△ 3 dimensional Section drawing



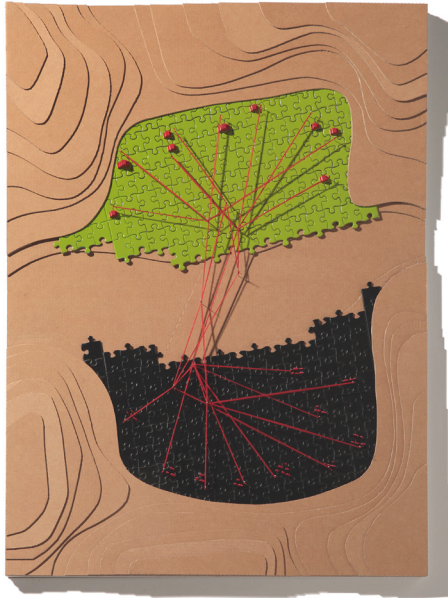
△ Section drawing



△ Section drawing

VERTICAL DOMINO FOREST CITY FARM BUILDING

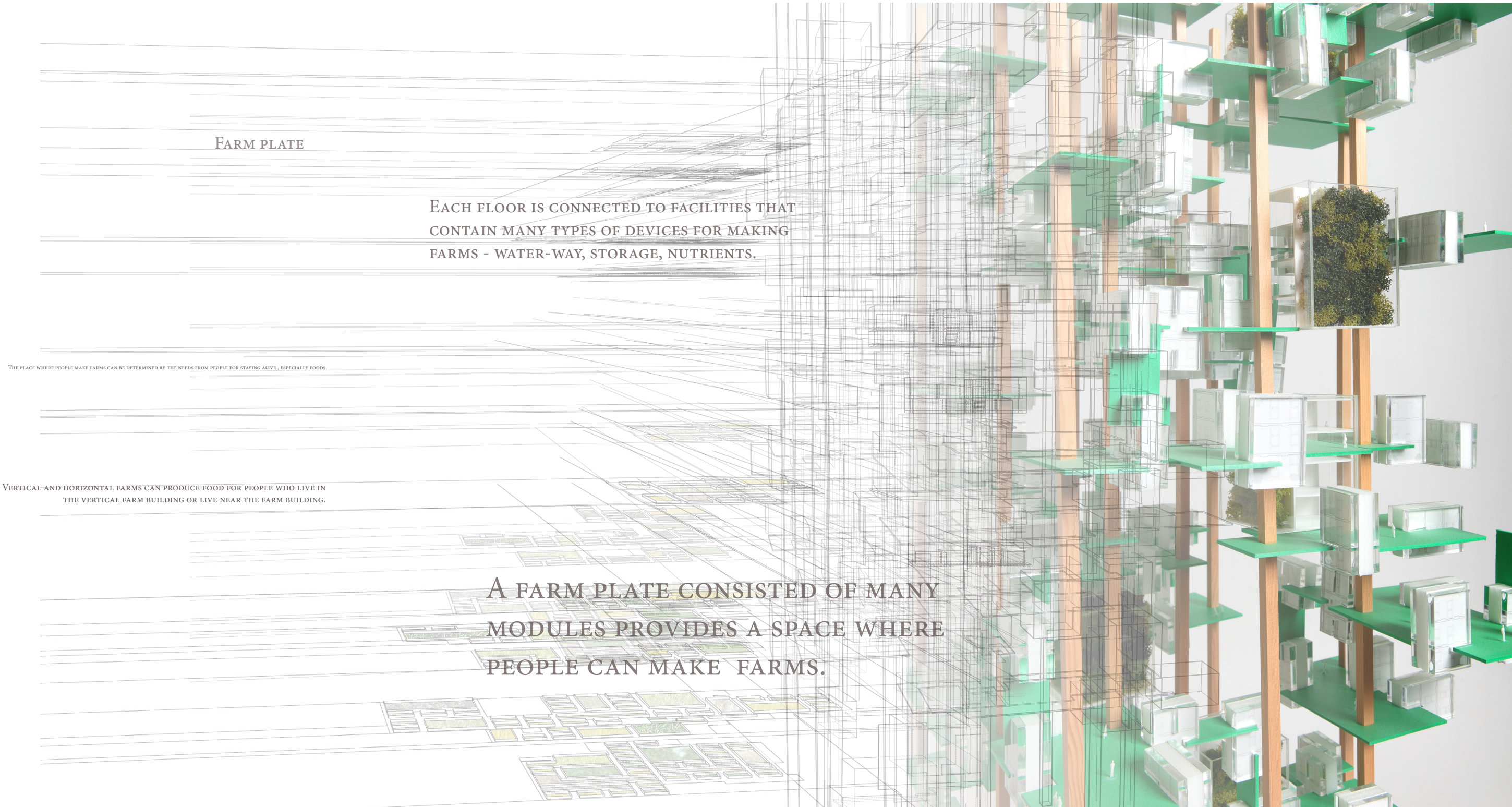
CITY PARADIGM PROJECT[2014]
NAME — JUNHO CHOI
B.ARCH FINAL ACADEMIC PROJECT
SUPERVISOR — YOON GYOO JANG
LOCATION — GWANAK-GU, SEOUL, KOREA
PERIOD — 6 MONTHS - FROM FEB. 2014 TO SEP. 2014



△ Model size : 350 * 500
Material : puzzle, red thread, pin, and card board
Ordinary paradigm between city and suburb

▷ A City Forest building Left, a model figure and right, a model figure depicted in Rhino

This project is proposed to transform the fundamental paradigm held by existing countries, cities, and surrounding environments. The primary production sectors provided by existing cities, roads, and farms are linked with simple linear elements, causing substantial costs and a number of inefficient aspects. To resolve this issue, I took a scenario approach for an architect to provide alternatives. With these three scenarios, I narrowed the scope of the project to create a building that acts as a link between urban and rural areas. Accordingly, I took into consideration elements such as farm building, connecting system, module, environment, and expanding effect and tried to compress them into a single architectural structure.



FARM PLATE

EACH FLOOR IS CONNECTED TO FACILITIES THAT
CONTAIN MANY TYPES OF DEVICES FOR MAKING
FARMS - WATER-WAY, STORAGE, NUTRIENTS.

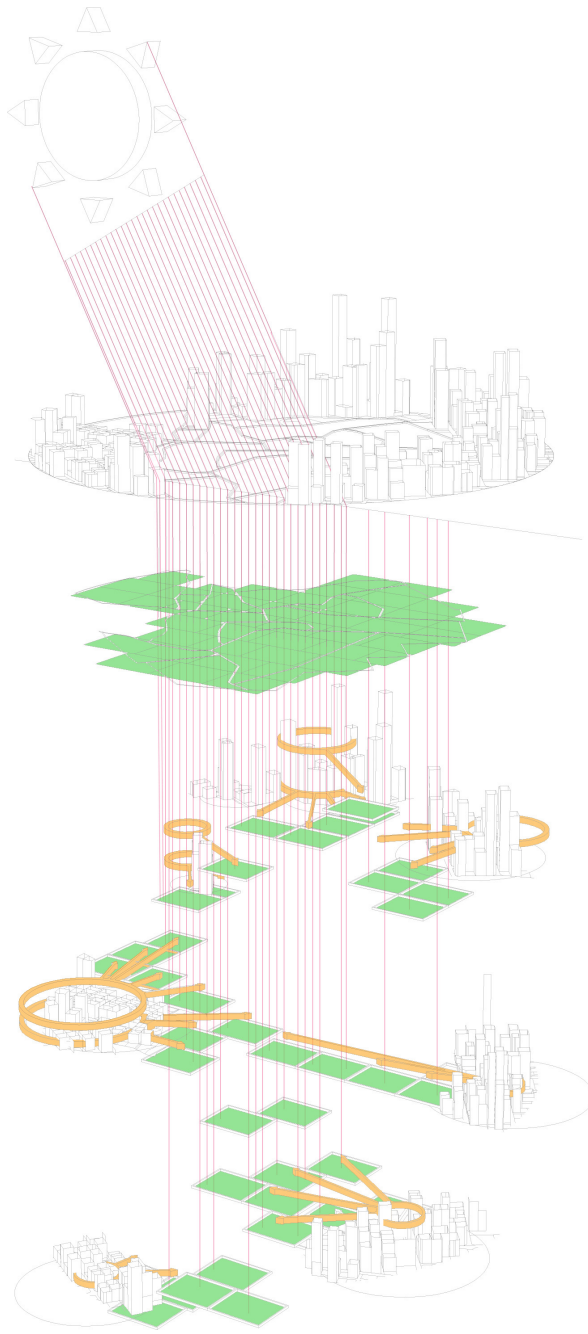
THE PLACE WHERE PEOPLE MAKE FARMS CAN BE DETERMINED BY THE NEEDS FROM PEOPLE FOR STAYING ALIVE , ESPECIALLY FOODS.

VERTICAL AND HORIZONTAL FARMS CAN PRODUCE FOOD FOR PEOPLE WHO LIVE IN
THE VERTICAL FARM BUILDING OR LIVE NEAR THE FARM BUILDING.

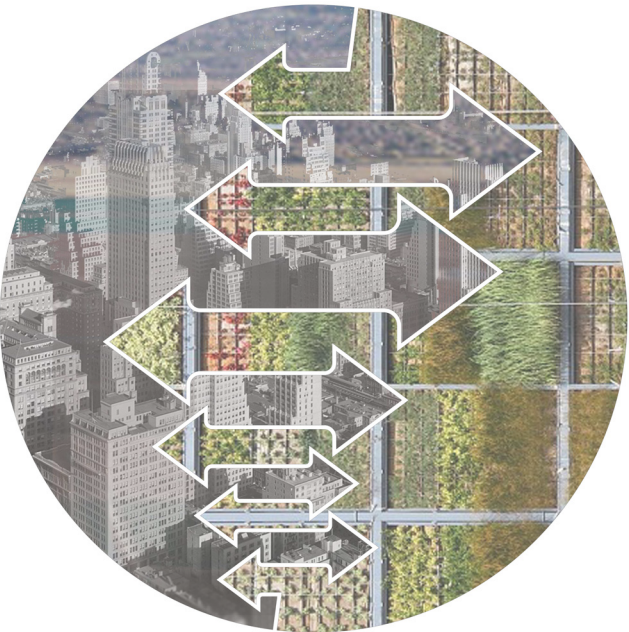
A FARM PLATE CONSISTED OF MANY
MODULES PROVIDES A SPACE WHERE
PEOPLE CAN MAKE FARMS.



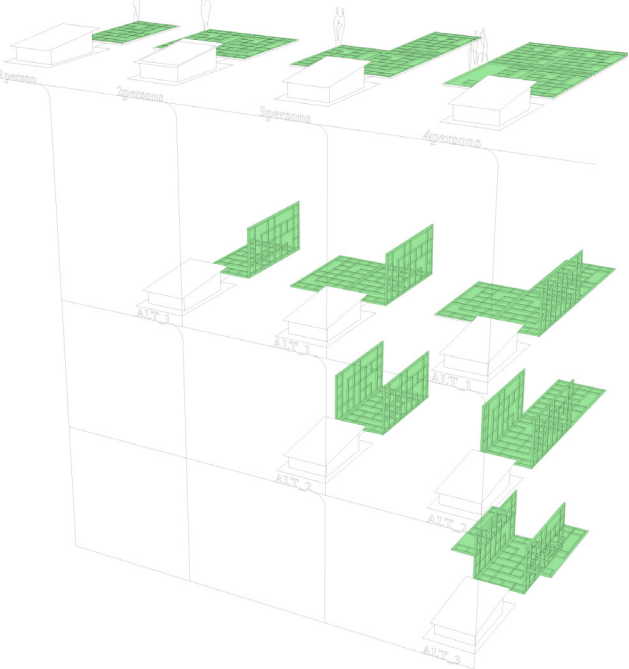
△ Aspects from undeveloped city to developing city



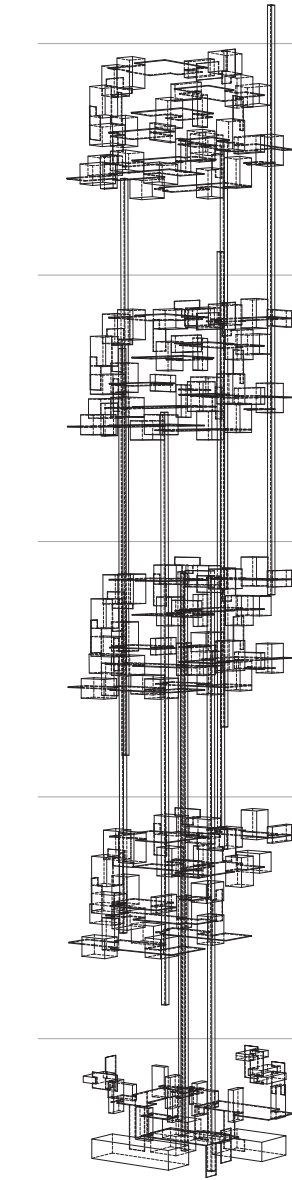
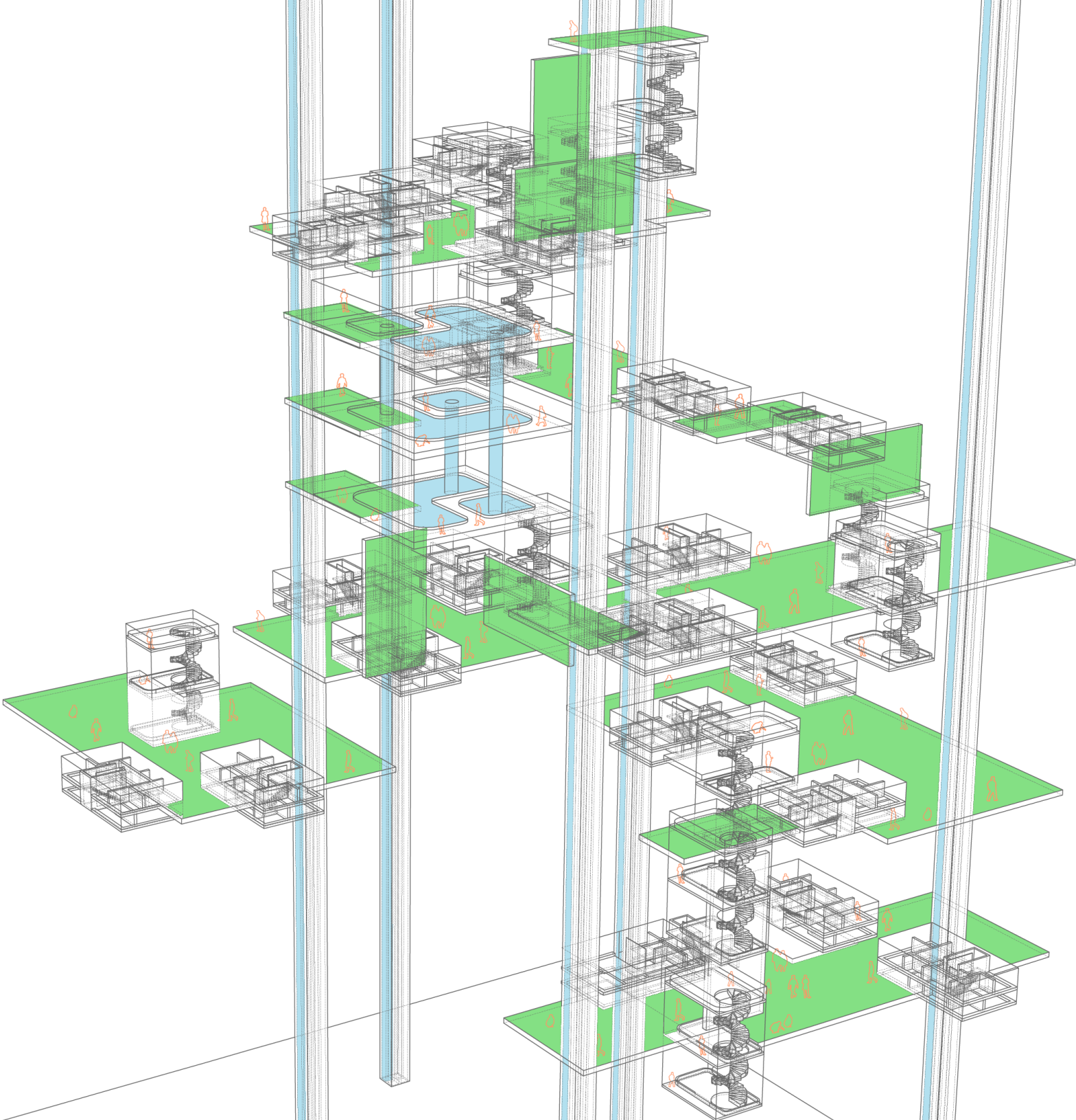
△ Conceptual 3D diagram : Rearranging city and suburb area and Subdividing the green-zone



△ Theoretical diagram: Mixing city and suburb



△ Unit planning: One person need specific green zone and provide specific green zone per one person



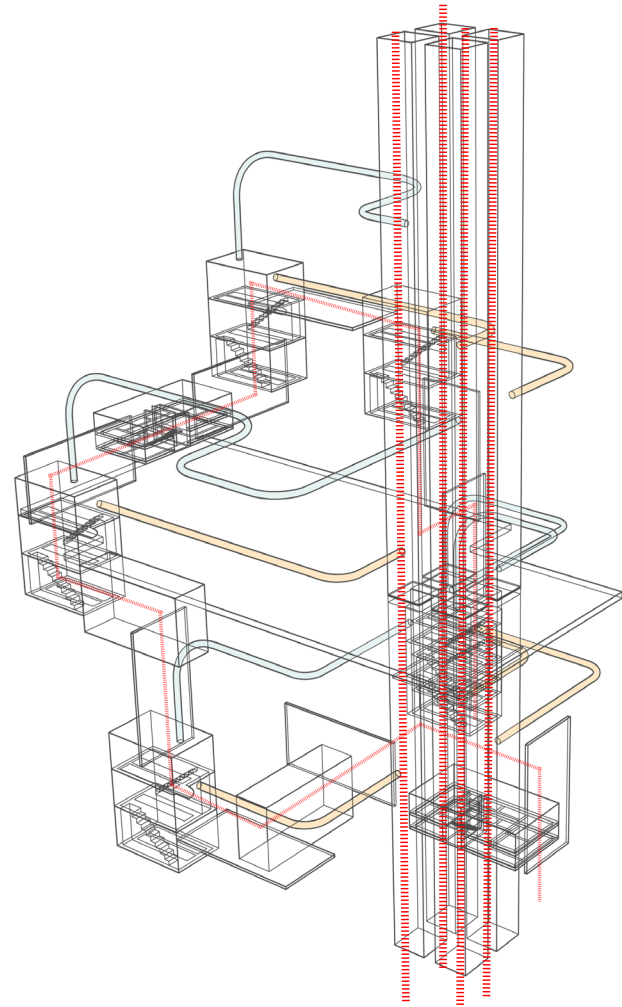
△ A detail drawing - units and farms
Blue line : water way and water tank
Green line : farm

△ Program sequence
Each floor has different functions and compositions

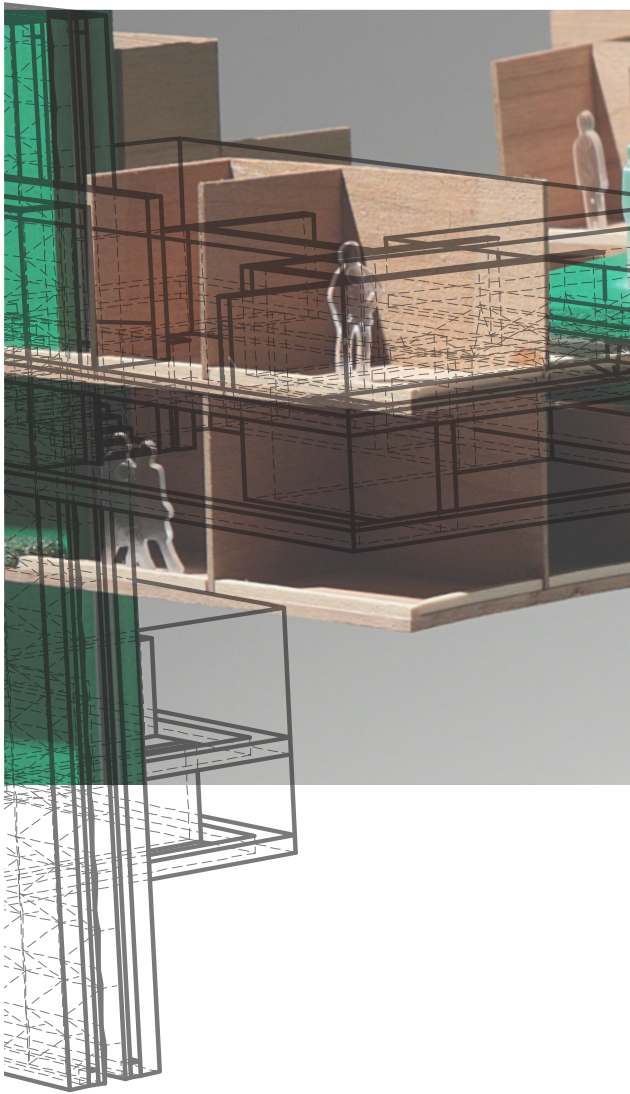
UNIT STRUCTURE AND CALCULATING SUN ANALYSIS

When the arch is used as the basic structural shape, there is a natural open space in the center area. In order to utilize the space, a space was secured to encompass each unit and system of the surrounding elements to induce forming a single community.

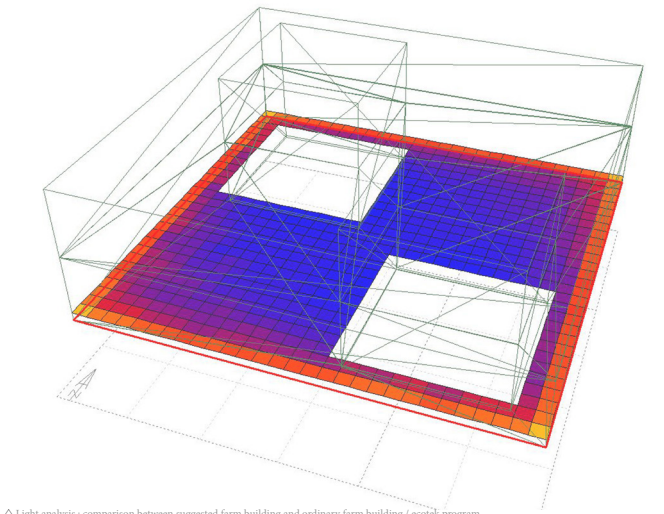
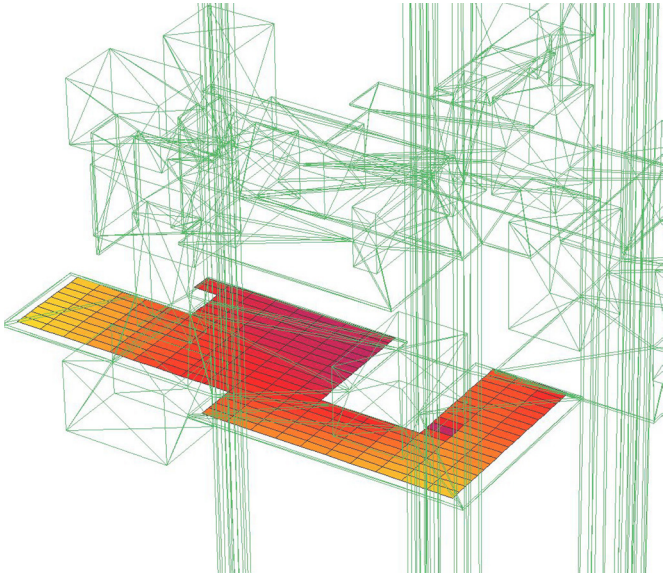
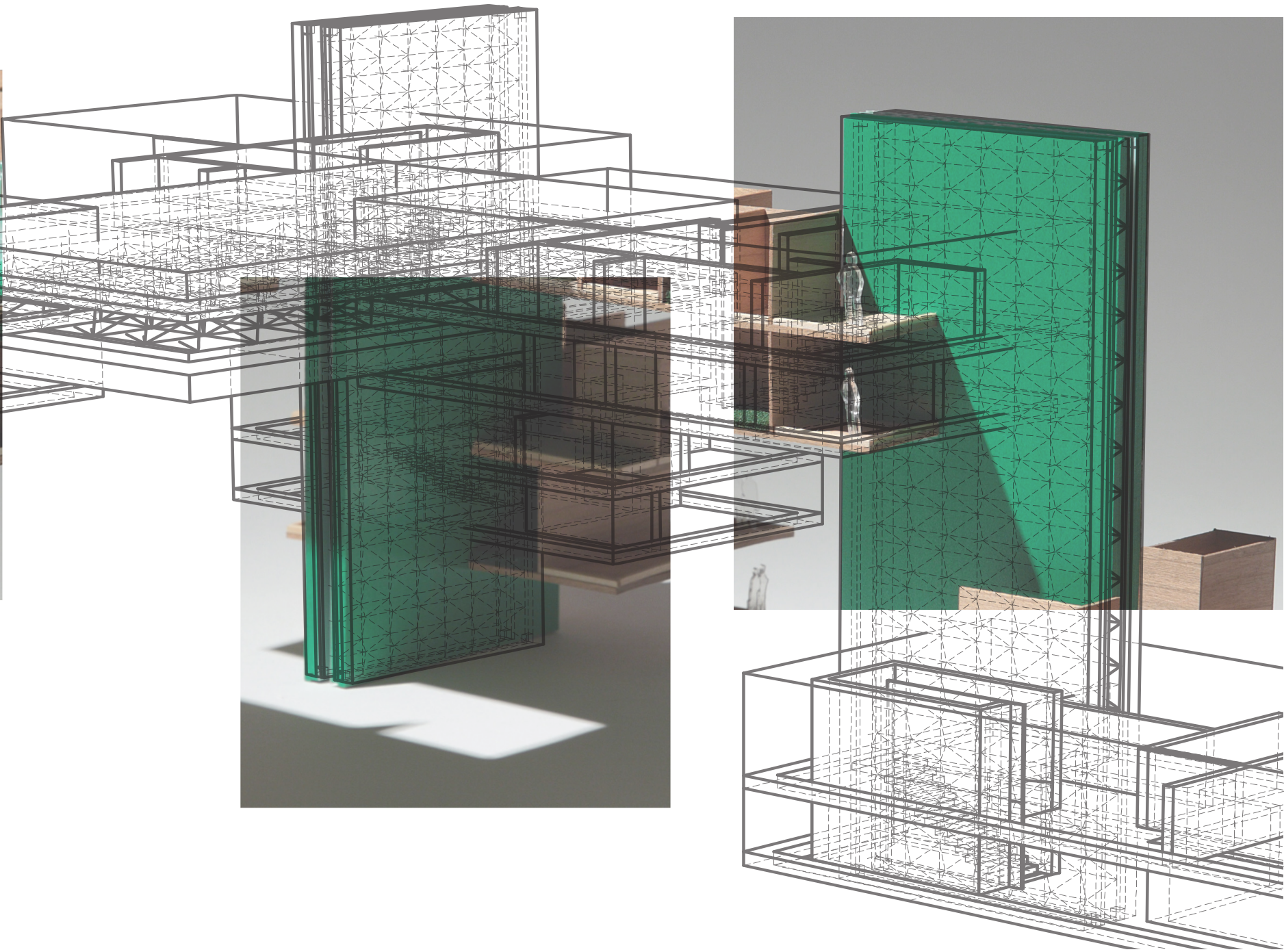
The illustration depicts roads between existing rural and urban areas. The routes of transportation for supplying and distributing goods are indicted with red lines. The work uses a simple sense of physical distance to express urban and rural areas linked by routes of transportation.



△ Red line : basic principle of structure ; the type of Arch
Blue line : a water way connecting Core to Unit
Yellow line : the passage of food movement ; grain



△ A detail unit and main structure drawing

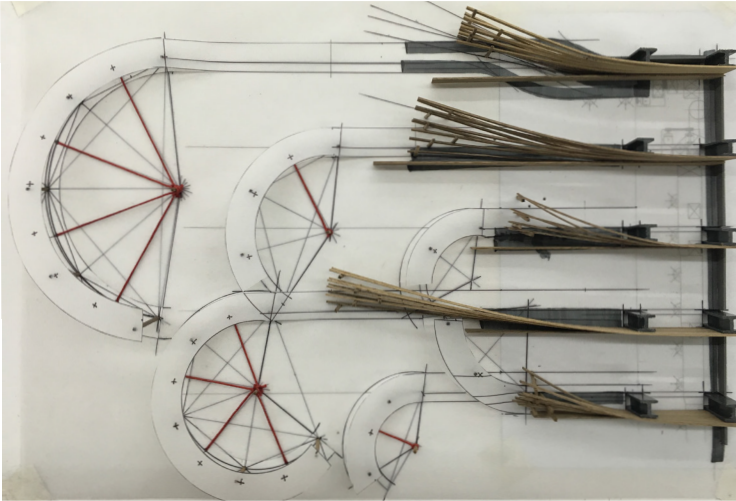


△ Light analysis ; comparison between suggested farm building and ordinary farm building / ecotek program

DUCT + WALL BUILDING

EXPERIMENTAL ARCHITECTURE PROJECT [2013]

NAME — JUNHO CHOI
KOOKMIN UNIVERSITY OF SEOUL — B.ARCH 3RD YEAR ACADEMIC PROJECT
SUPERVISOR — KI HYUN AHN
FUNCTION — MUSEUM OR HOSPITAL
PERIOD — 3 MONTHS - FROM MAR. 2013 TO MAY. 2013

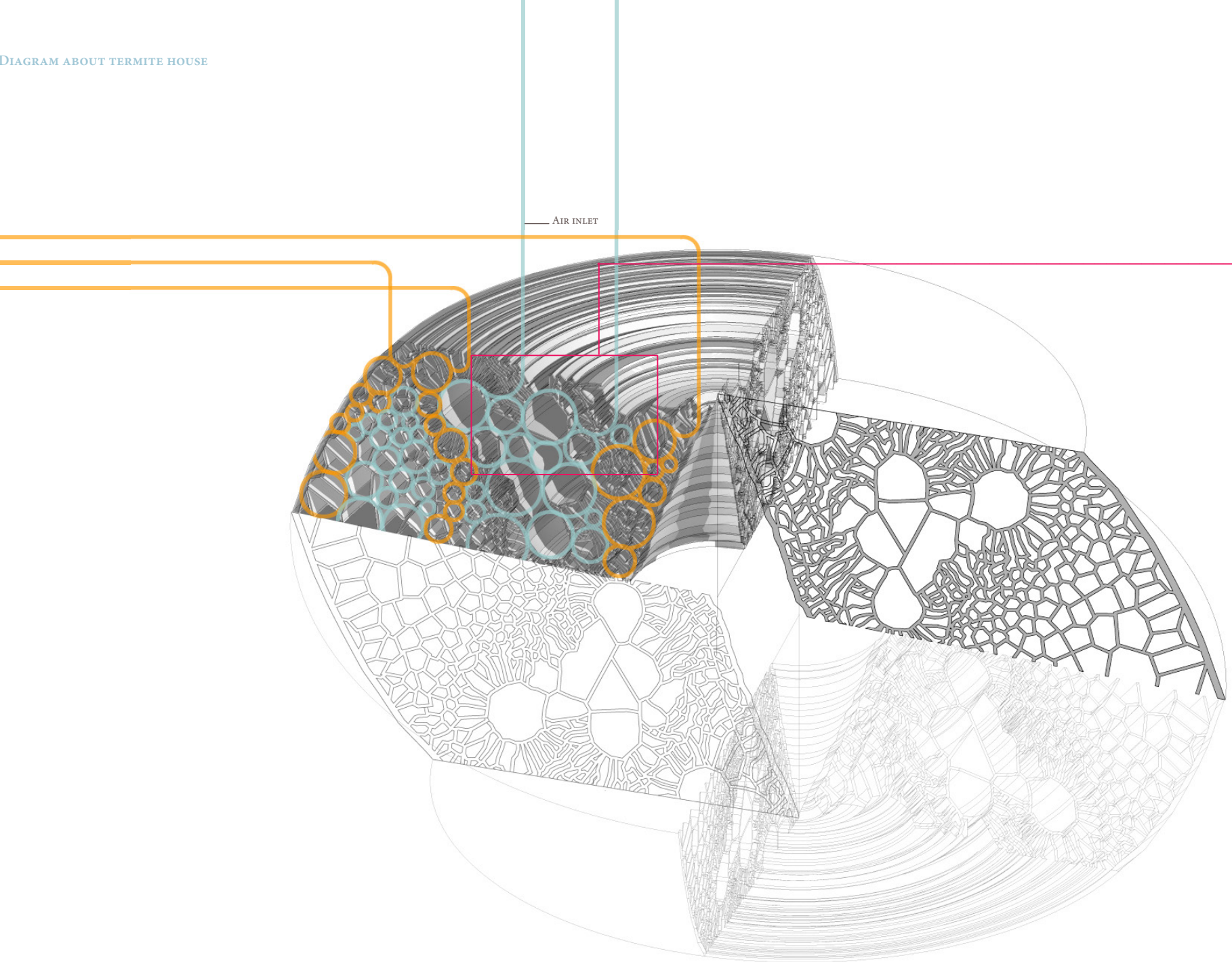


△ Conceptual art work / Diagram
Model size : A3 size
Material : wood plate, red thread, black pen Oiled paper and plastic figure.

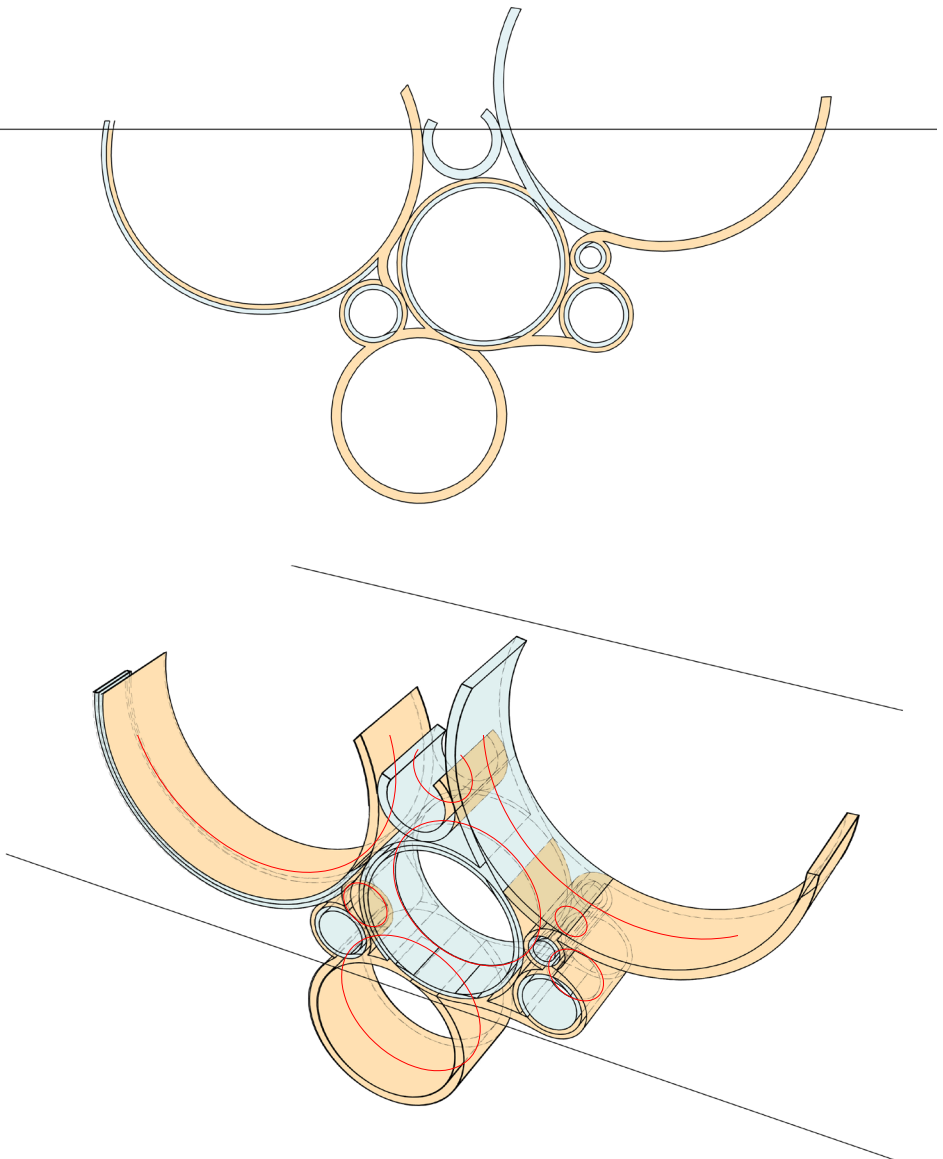
▷ Duct-wall structure Model
Model size : 500 * 800 * 270 mm
Material : paper, acrylic, and white board

THIS IS AN IMPORTANT PROJECT THAT MUST PRECEDE THE INTEGRATION OF FUSION ACADEMICS AND ARCHITECTURE. A SUBSTANTIAL AMOUNT OF RESEARCH WAS REQUIRED ON BUILDING SYSTEMS. AFTER CONDUCTING MULTIPLE SURVEYS ON THE ELEMENTS THAT CONSTITUTE AN ARCHITECTURAL STRUCTURE AS WELL AS ON UNNECESSARY FUNCTIONS, I DECIDED TO CONDUCT THE PROJECT BY COMPLETING A BUILDING WITH ONLY TWO ELEMENTS. BECAUSE THE PROJECT HAD TO BE COMPLETED WITH THE TWO ELEMENTS OF THE BUILDING, THE PREMISES WERE A STRUCTURE THAT REQUIRED STRENGTH AND AN ELEMENT SPECIALIZED FOR FUNCTIONALITY. I CHOSE THE DUCT AND THE WALL FOR THE PROJECT. TAKING INTO CONSIDERATION THAT THE TWO ELEMENTS ARE ASSOCIATED WITH TWO DIFFERENT ACADEMIC FIELDS UNDER ARCHITECTURE, A COMPLETELY NEW OUTCOME WAS ELICITED IN CHOOSING TWO ELEMENTS THAT ARE EXPERIMENTAL AND NON-CONVERGING IN REGARDS TO PROPOSING THE FIRST FUSION BUILDING, ALLOWING ME TO PROPOSE AN ARCHITECTURAL STRUCTURE CAPABLE OF PERFORMING INNOVATIVE AND SPECIAL FUNCTIONS.

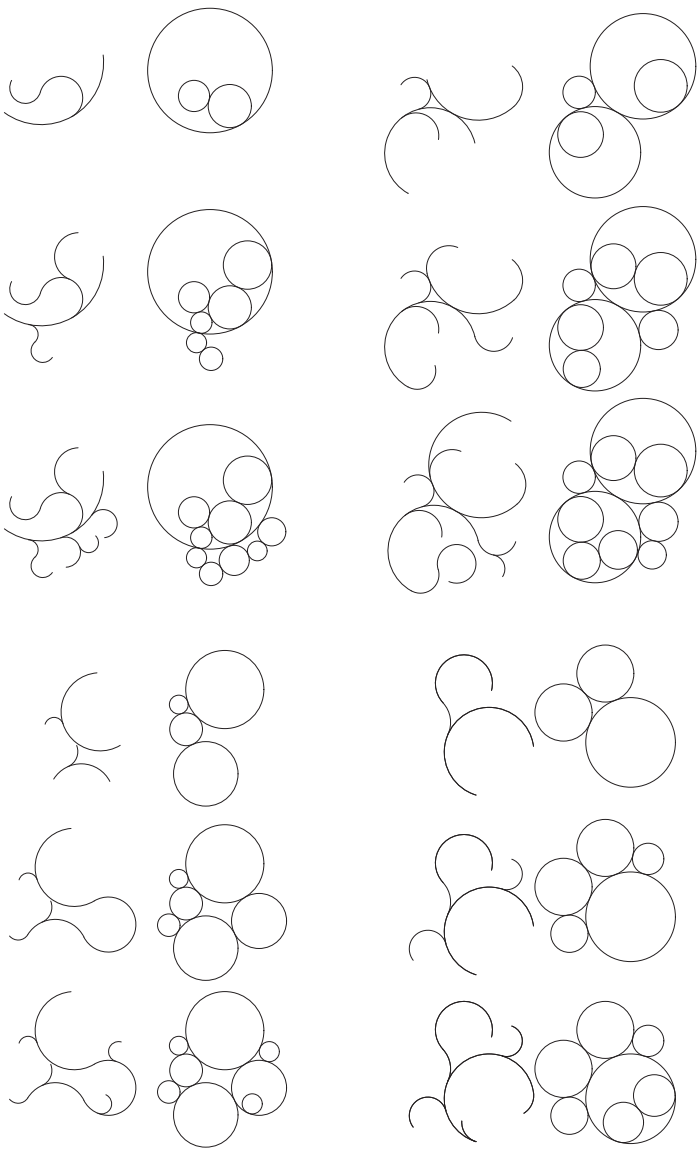




△ Ventilation system of Termite house



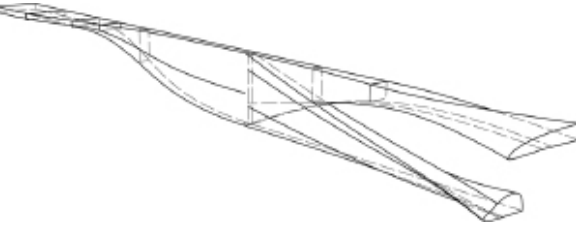
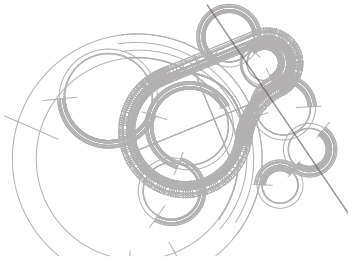
△ 3D View - termite ventilation system
Red mark : Inlet area
Blue mark : Exhaust area



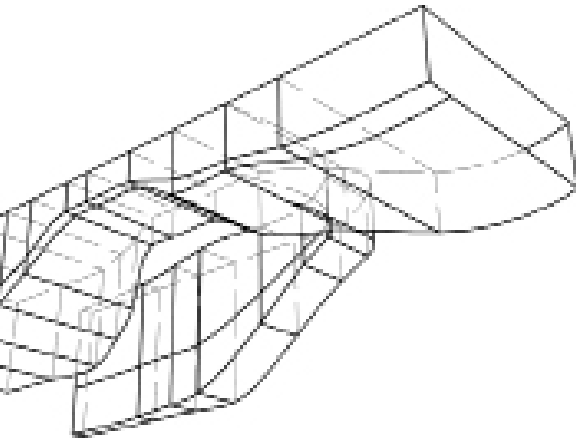
△ ALTS based on the three rules.
Each area depends on the scale of a space so the length of the duct-wall is determined by the size of the space.

DETAIL DRAWING AND MODEL IMAGE

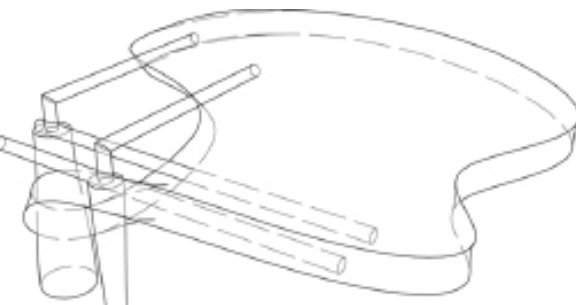
SHAPE OF THE SPACE IS CIRCULAR BECAUSE THE VENTILATION SYSTEM OF THE BUILDING CONNECTS THE WALLS. MAIN DUCT PASSES THROUGH THE MIDDLE OF THE BUILDING AND ALL DUCTS CONNECT TO EACH OTHER. BUT EXHAUSTED PIPES ONLY CONNECT THE WALL TOWARD OUTSIDE. EACH VENTILATION SYSTEM IN THE SPACE ONLY WORKS IN THE SPACE.



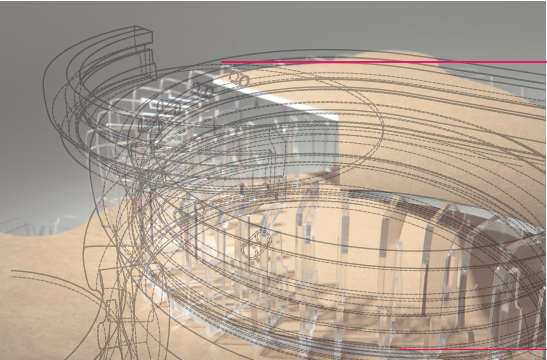
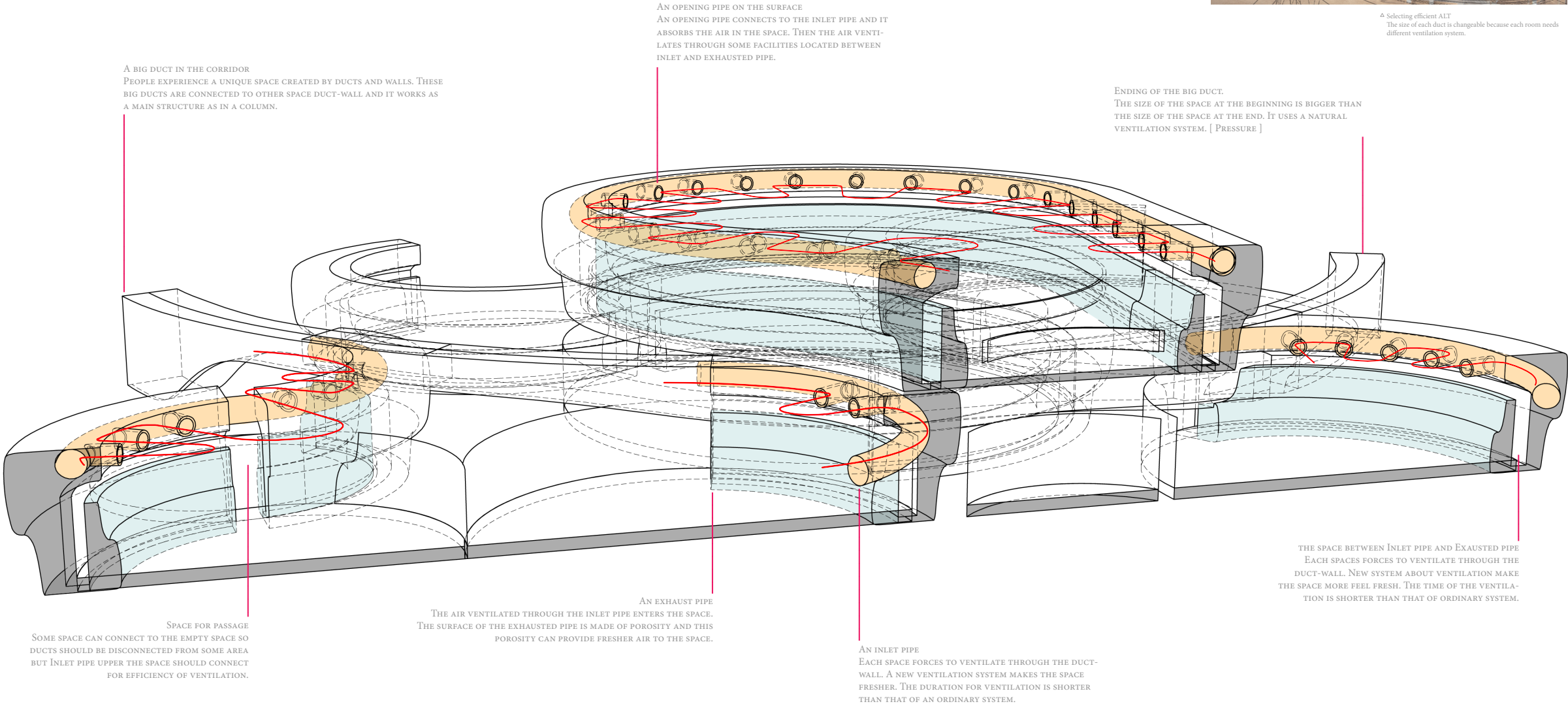
DUCTS MAKE NO HIERARCHICAL LAYER AMONG SLABS.



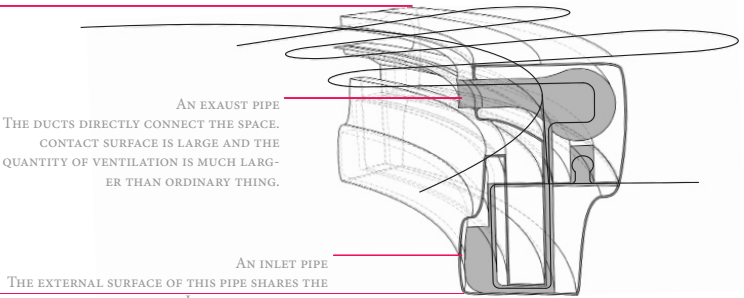
EXPANSION OF A DUCT IS DETERMINED BY THE SPACE AND VENTILATION OF THE BUILDING.



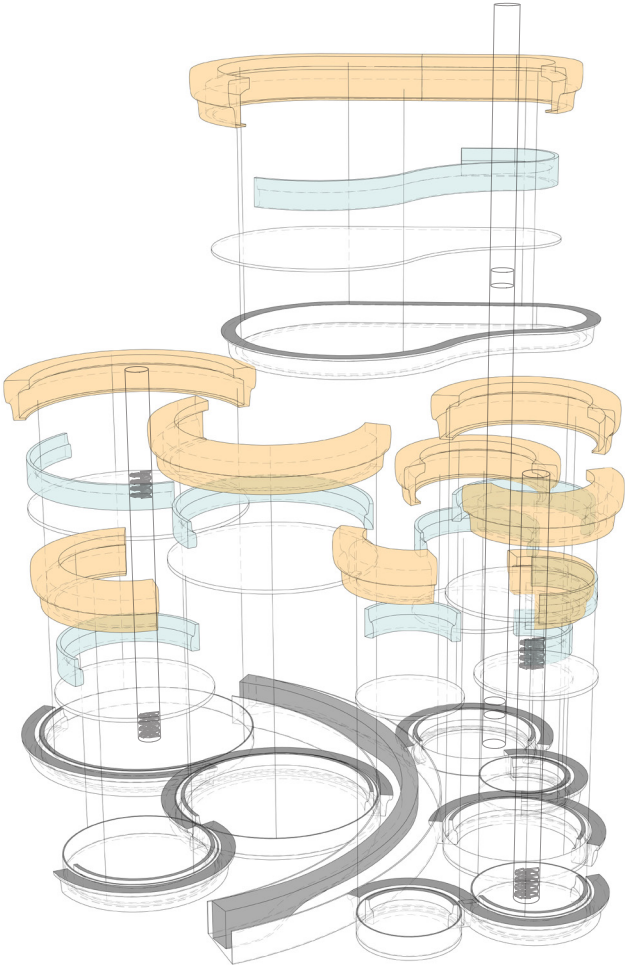
COLLISION POINT BETWEEN THE DUCT AND WALL SHOULD BE CHANGED BY THE DIFFERENCE OF THE INFLUENCE BETWEEN THEM.
△ Three rules about making duct-wall structure



△ Selecting efficient ALT
The size of each duct is changeable because each room needs different ventilation system.



△ Detail section drawing
Red line : Flow line of the Air
Grey mark : Space containing circulation system



△ Blue mark - exhaust pipe line
Orange mark - inlet pipe line
Grey mark - plan section

SPIDER SILK BUILDING

BIOMIMETICS + ARCHITECTURE PROJECT [2013]

NAME — JUNHO CHOI
KOOKMIN UNIVERSITY OF SEOUL — B.ARCH 4TH YEAR
ACADEMIC PROJECT
SUPERVISOR — YOON GYOO JANG
LOCATION — UNDER THE BRIDGE
PERIOD — 3 MONTHS - FROM SEP. 2013 TO DEC. 2013



Spider web image

EVERY SHAPE IS CREATED BY ADAPTING TO THE ENVIRONMENT AND IS A RESULT OF THE LAW OF SURVIVAL OF THE FITTEST DESIGNED TO MAXIMIZE ONE’S FUNCTIONALITY. BIOMIMICRY IS IMITATING ONE SYSTEM AND APPLYING IT TO ANOTHER.

I INTEND TO INTEGRATE BIOMIMICRY INTO ARCHITECTURE. I LOOKED FOR A BIOMIMICRY MATERIAL THAT CAN BE BEST UTILIZED IN ARCHITECTURE AND FOUND THE SPIDER WEB SYSTEM. I PERFORMED RESEARCH ON VARIOUS EXPERIMENTAL RESULTS TO IMPLEMENT THE SPIDER WEB SYSTEM AS AN ARCHITECTURAL ELEMENT. I DECIDED TO CONDUCT THIS PROJECT TO PROPOSE A NOVEL METHOD FOR REPLACING BUILDINGS PRIMARILY CONSISTING OF CONVENTIONAL RC STRUCTURES.

Application example : beneath the bridge
Line spiderweb



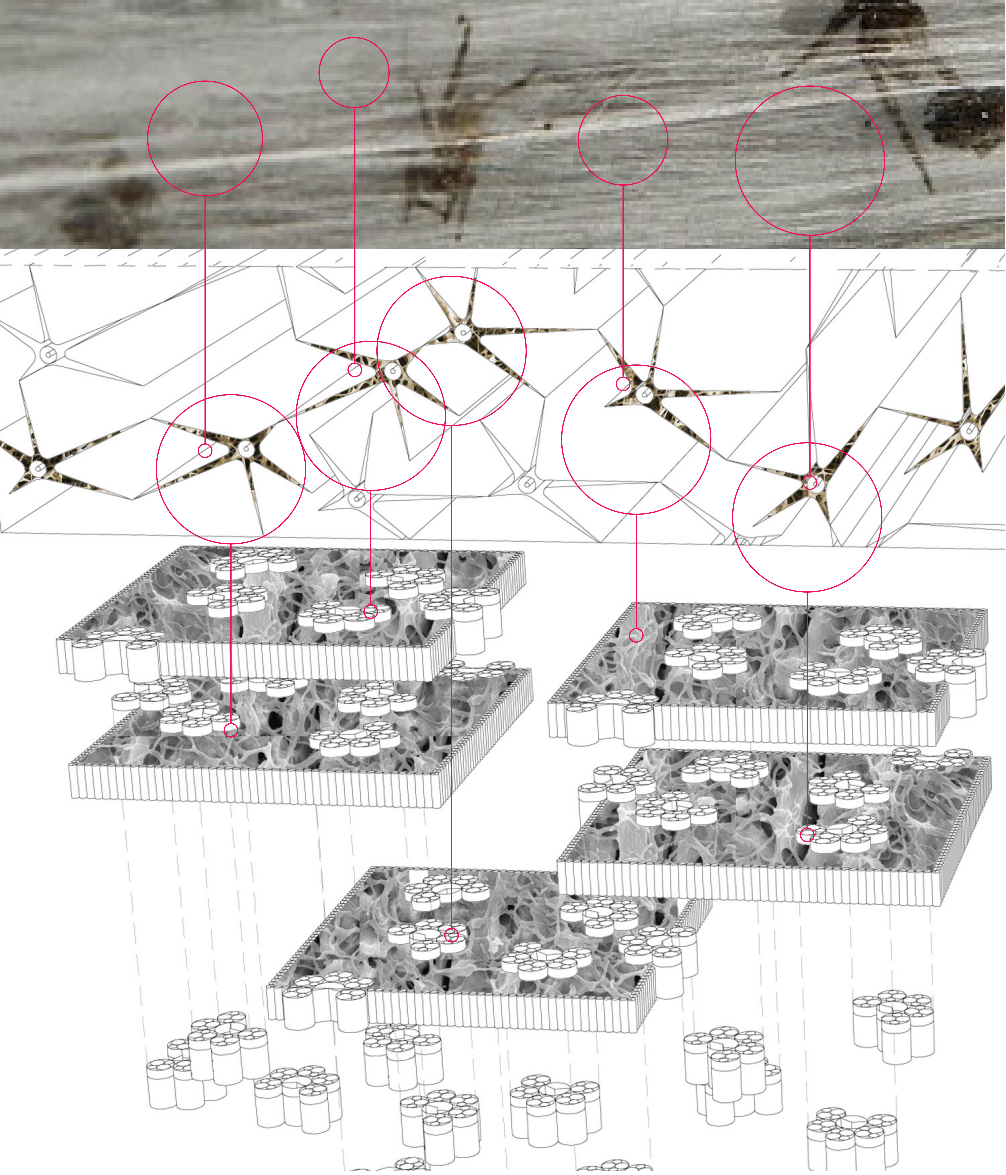
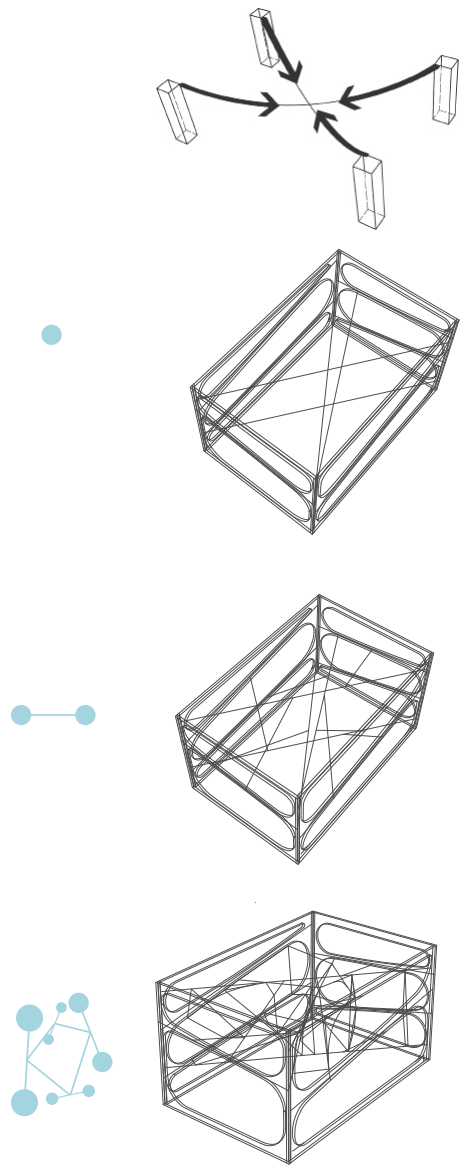
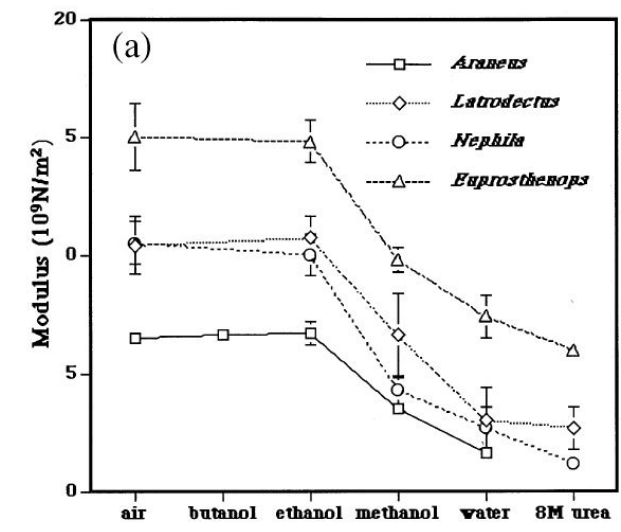
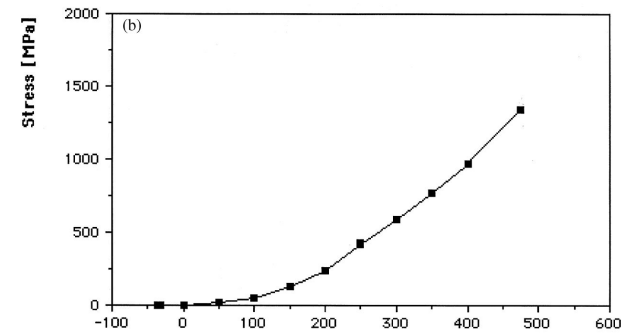
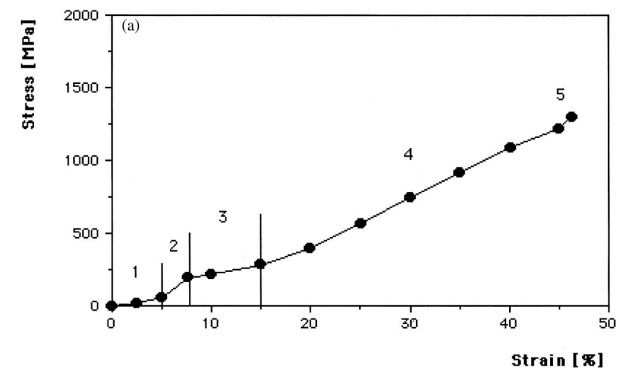
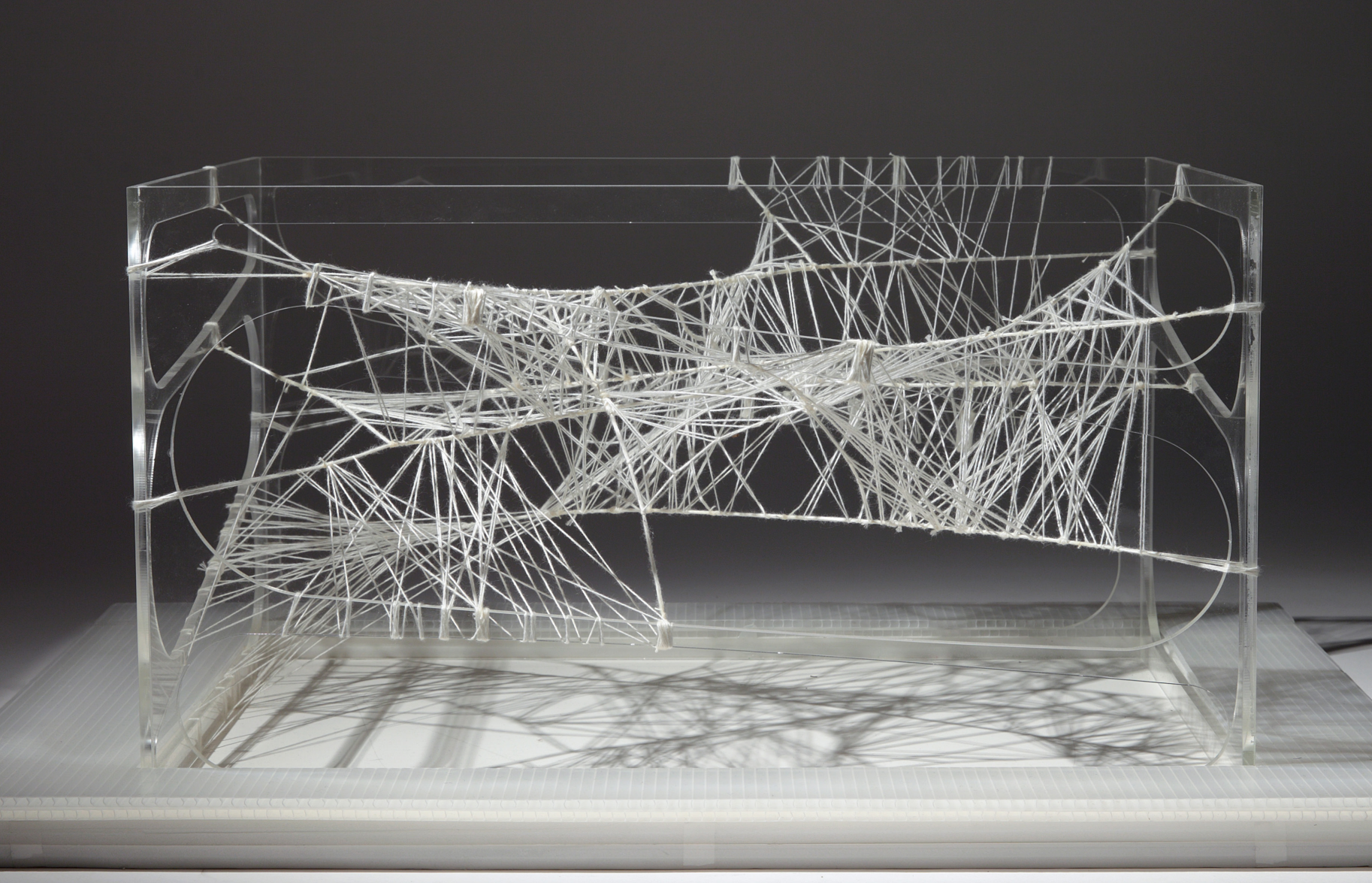


Diagram about Cell of the spider silk
Sequence subdividing cell's size

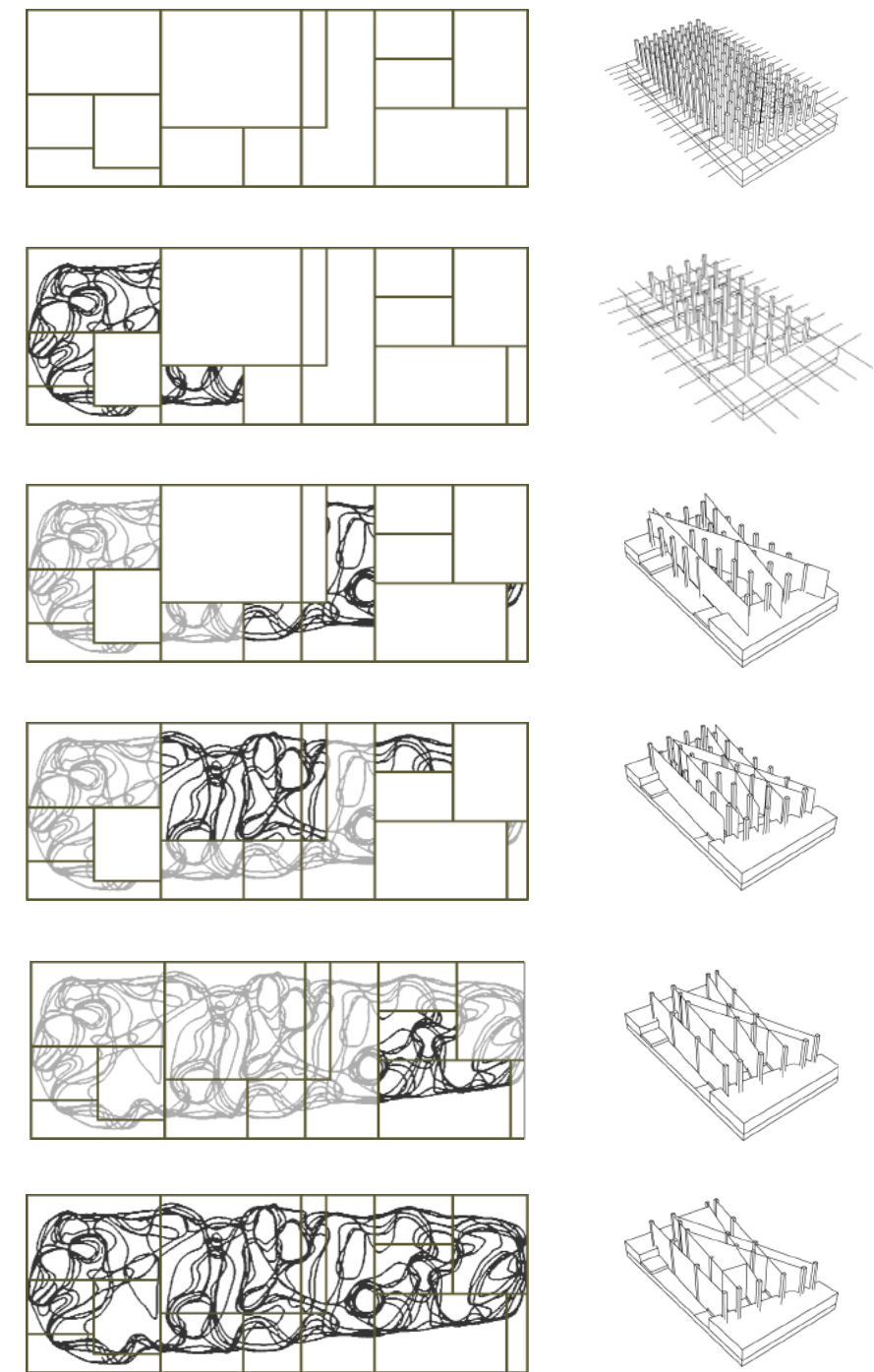


A structural sequence
: Point - Line - Plane



Model size : 400*250*200
Pavillion model
Material : threads and acrylic

CONCEPTUAL DIAGRAM & STRUCTURE

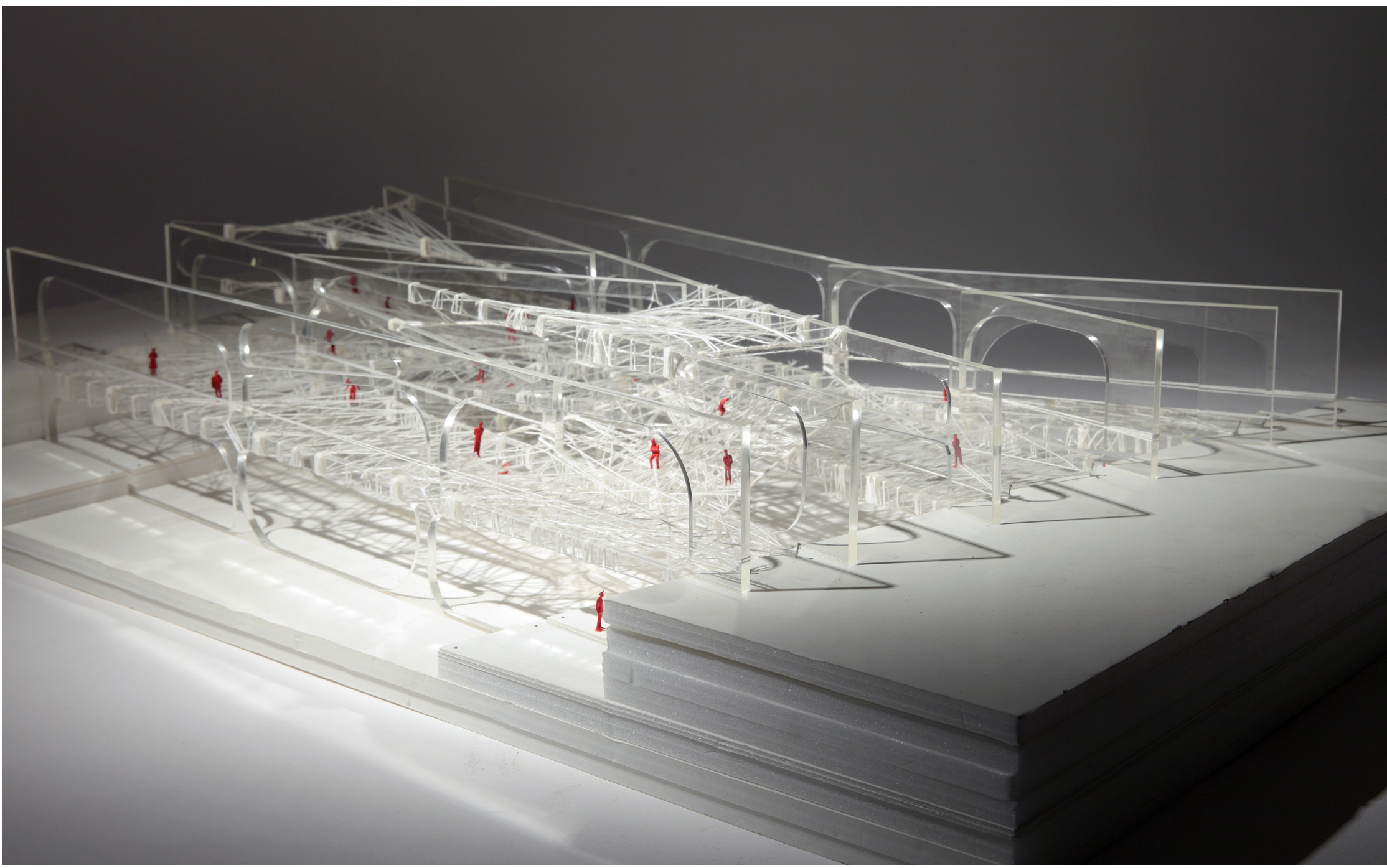


△ A Conceptual diagram - action and reaction

△ A structural sequence and a decision making on frames



△ Model size : 280 * 500 * 260 mm
Study model - threads, wood and board
Points are based on drawing of structure[left]



△ Model size : 450 * 1500 * 320 mm
Material : Thread, acrylic, board, line tape, and human figures