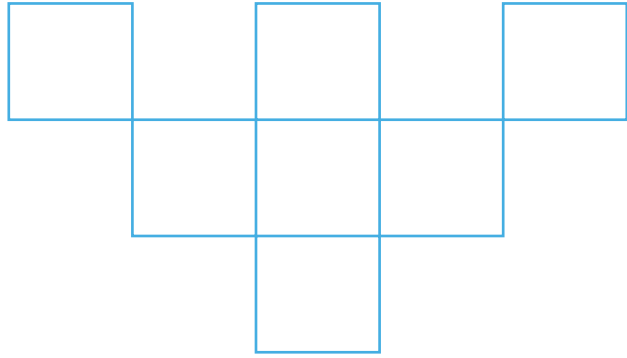
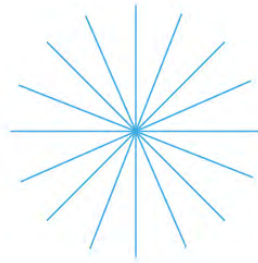




INAM RIZVI



UNIVERSITY OF WATERLOO
POST GRADUATE PORTFOLIO

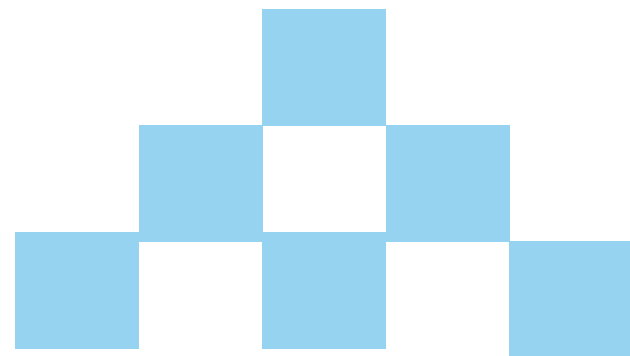


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(De)Addressing Neglect
Regrowth
Food+Water
The Polarized Express
Open and Shut
Rebuilding Red Location

POST—GRADUATE

The Architecture of Grief

WORK EXPERIENCE

MURB Facade Embodied Carbon Analysis

Hello !

Welcome to my graduate portfolio.
I am a m.arch holder from the
University of Waterloo School
of Architecture with over years
of work experience in various
corporate firms.

In addition to Revit and 3D
modelling, I specialize in
sustainability and embodied
carbon analysis using One Click
LCA in the MURB Market.

BDP. Quadrangle

7 December 2022

Re: Reference Letter for Inam Rizvi

To Whom it May Concern:

Inam worked with me from January 2022 to August 2022 with a special focus on scaling up low carbon design within the firm and supporting our internal Green Team.

Inam was part of a small team working on embodied carbon. She researched and updated our construction assemblies to include embodied carbon data and completed an in-depth building study, including providing options for carbon reduction through an optioneering process. She presented this to the design team and fielded questions from the team. I was impressed with her demeanor and her presentation skills.

Part of Inam’s assembly research included investigating the parameters of panelized high-performance assemblies and visualizing these assemblies in a way that the opportunities and constraints could be easily understood and applied by the rest of the studio.

Inam’s work included making updates to our education materials to reflect upcoming changes to the Toronto Green Standard. She educated herself about the updates to the standard and worked meticulously to align the documents.

Inam approaches her work with a quiet intelligence and curiosity. She takes her time to understand the issue and asks questions where clarification is required. Inam listened carefully to feedback and was proactive in following up with me about her progress while she continued to develop her skills.

Inam was a pleasure to work with and I would be happy to discuss her skillset further should that be of help.

Yours sincerely,

Quadrangle Architects Limited

Per: 
Michelle Xuereb
Director of Innovation

2022-11-28 Reference Letter Inam Rizvi.docx



Architecture49 Inc.
201 -1300 Yonge Street
Toronto ON
M4T 1X3

T 1.416.368.6987
F 1.416.869.9075
architecture49.com

December 22, 2020

To Whom It May Concern,

It is my pleasure to write this letter of recommendation for Inam Rizvi. Inam joined Architecture49 as an architectural intern from September-December 2020 after her second year at the University of Waterloo, School of Architecture.

During her term she was primarily dedicated to the Regional Express Rail – On-Corr 3 pursuit with focus on Union Station upgrade and upgrades to eight in-line stations on the Barrie and Newmarket subdivisions. Throughout her time at A49, she worked closely with senior members of the team and the National Sector Leader of Transportation, to develop design presentation drawings/renderings and working drawings in Revit for the technical submission. Her tasks included the review and coordination of the Project Agreements, RFP documentation, and implementation of design solutions.

Inam’s contribution to the project was invaluable and well appreciated. She has a strong work ethic and was able to work independently without much oversight during her remote-working term. She was a team player and contributor, eager to learn, and always made efficient use of her time by requesting additional work before her tasks were complete. Her attention to detail, ability to adapt and learn quickly to such a multifaceted project was impressive.

She is humble, likeable, easy to work with, and was able to integrate constructive feedback to improve upon her performance. During her time at A49, she was an invaluable asset who was able to understand the complexities and nuances of the project and integrate herself into it. Should you require further clarification regarding her experience or qualifications, please do not hesitate to contact me.

Sincerely,


Carmen Tocchini, M.Arch, OAA, MRAIC, PMP
Senior Architect

CURRICULUM VITAE

B+H Architects / Research+Architectural Intern

Toronto, ON, January 2023 – August 2024

- ▮ Worked on early stage tower and podium designs and created presentation renders using Enscape and Photoshop, as well as elevation facades using Revit and Illustrator.
- ▮ Calculated carbon emissions for B+H projects, and developed presentation materials on embodied reductions.
- ▮ Produced presentation graphics and drawings for NEOM’s Trojena project, including Revit modelling and CAD focused work from SD to DD phases.

University of Waterloo Teaching Assistant / ARCH 126 Environmental Building Design

Cambridge, ON, January 2024 – April 2024

- ▮ Assisted on introductory lectures on sustainability practices in North America including guidelines and standards.
- ▮ Developed assignments and projects for students, and provided support for grading in a timely manner.

BDP Quadrangle / Research+Architectural Intern

Toronto, ON, January 2022 – August 2022

- ▮ Produced details and contributed to DD and CD drawings on multiple Oakville residential developments including permit applications and issuing addendums.
- ▮ Worked in Innovation and Sustainability and grew familiar with the Toronto green Standard, CACBG guidelines, and created education materials for adaptations to internal projects.
- ▮ Calculated carbon emissions for internal projects and created presentation materials on embodied reductions and strategies for industry wide members in collaboration with principals and consultants, including the Ontario Concrete Association.
- ▮ Created studies for high performance modular wall panels in a series of proposals for alternative building techniques in Toronto’s current MURB market.

Architecture 49 / Architectural Intern

Toronto, ON, September 2020 – January 2021 May 2021– August 2021

- ▮ Established deadlines and managed heritage and canopy components of the On–Corr 3 Union Station proposal, including structural detailing and modeling according to client guidelines and building code specifications.
- ▮ Collaborated with the design team, and coordinated with sub–consultants to propose design solutions regarding the re–imagining of vertical circulation along the Union Station platforms and concourse levels.
- ▮ Produced renderings and walk–thorough using Revit for the technical proposal.

NBBJ Healthcare Studio / Architectural Intern

New York, NY, January 2020 – April 2020

- ▮ Engaged with both the architectural team and interior design team, and employed analytical and problem solving skills to develop detail drawings to resolve specific design challenges resulting from VE changes throughout the hospital
- ▮ Contributed to the DD, CD, VE and CA phases and produced detail drawings using Revit
- ▮ Designed 3D equipment proposed by the vendor, and developed floor plans on Revit from schematic design drawings alongside
- ▮ Proposed alternative facade options through renderings and presentation materials for the client

Buoyant Foundation Project / Undergraduate Research Assistant

Cambridge, ON, September 2019 – September 2021

- ▮ Wrote grant applications for the Global Innovation Fund with thorough research on flood resiliency in Cambodia, Bangladesh and Indigenous populations in Canada.
- ▮ Designed and constructed a retractable platform for the NRC pavilion in Waterloo

BAS – University of Waterloo – 2023

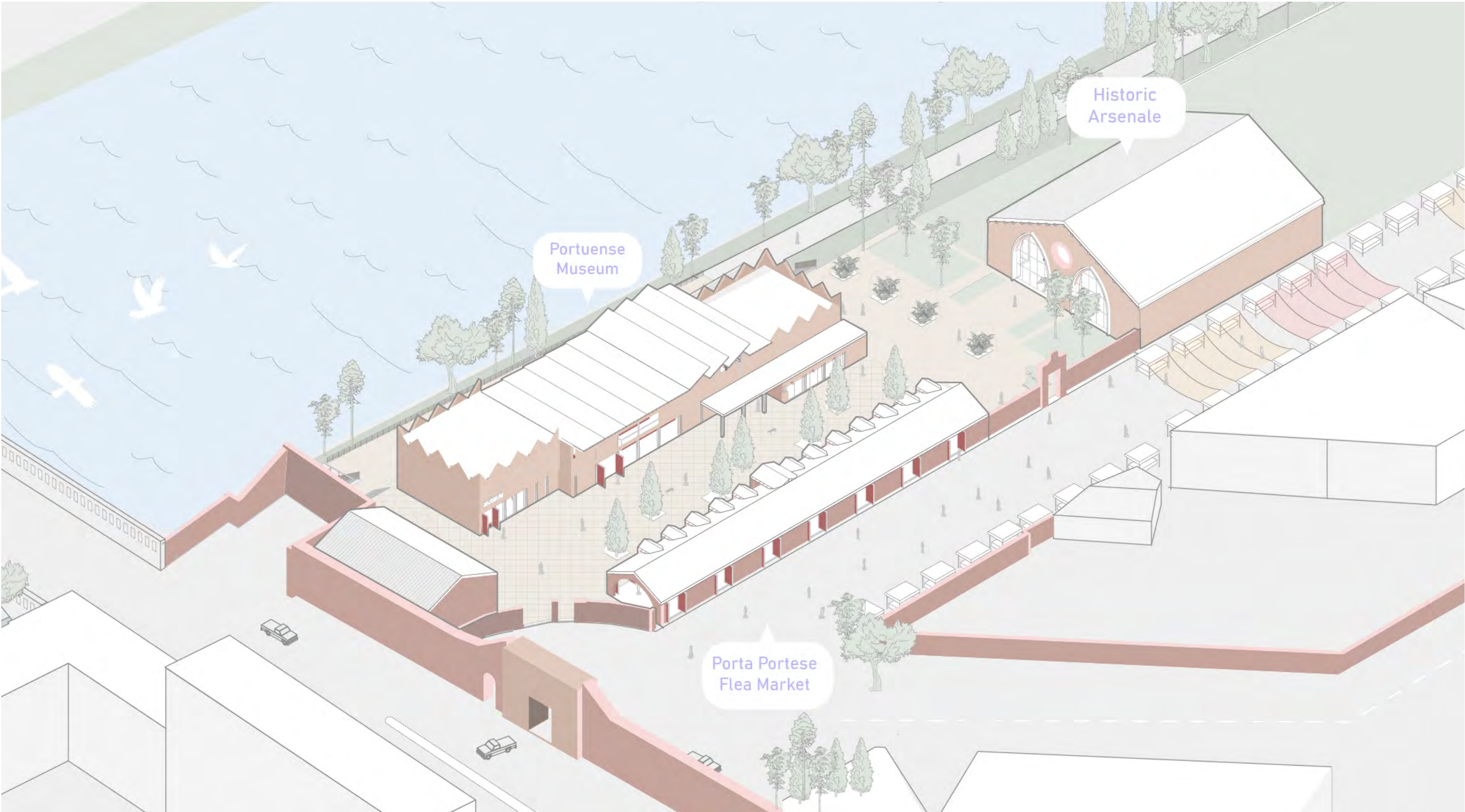
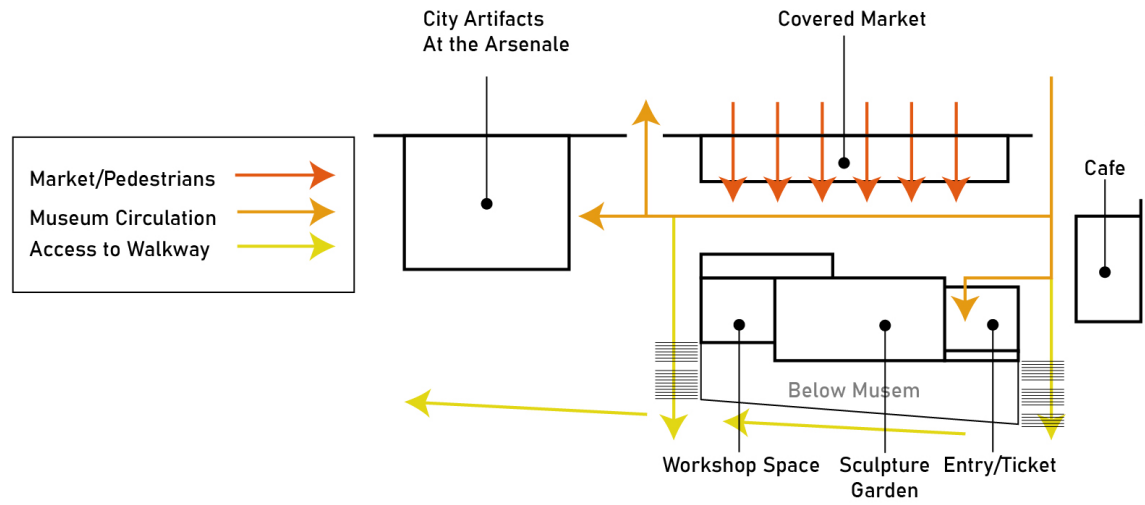
M.Arch – University of Waterloo – Graduation in June 2025

UNDERGRADUATE

PORTUENSE MUSEUM

MUSEUM FOR THE SOCIAL AND ECOLOGICAL REVITALIZATION OF PORTA PORTESE AND THE TIBER RIVER, ROME

The city of Rome is a museum with centuries of layered narratives. Its artifacts are both sheltered in enclosures, and has its history strewn across its landscape. Built forms encapsulate spaces where public life thrives. Interior and exterior public spaces overlap, and are dictated by the intimacy of their thresholds. The life of the city – the Tiber, is reduced to an aesthetic feature today. Our museum aims to replicate the conditions of public use, with arteries lined with markets leading into open piazza spaces wrapped in built forms. The intimate sculpture gardens reflect on the nature of ruins within Rome’s landscape. The museum experience takes the user into the artifact of the city– the reused Historic Arsenale. The user is led into the intimate sculpture garden, where the relationship between the artifacts and nature is guided by the route into a stairwell that leads them down into the museum. This narrow descent provides a contrasting volumetric pressure from both the above and below conditions. Inside are varying volumes that sequence themselves. Terracing along the museum allows for an outdoor public space for users to experience the natural and urban simultaneously.



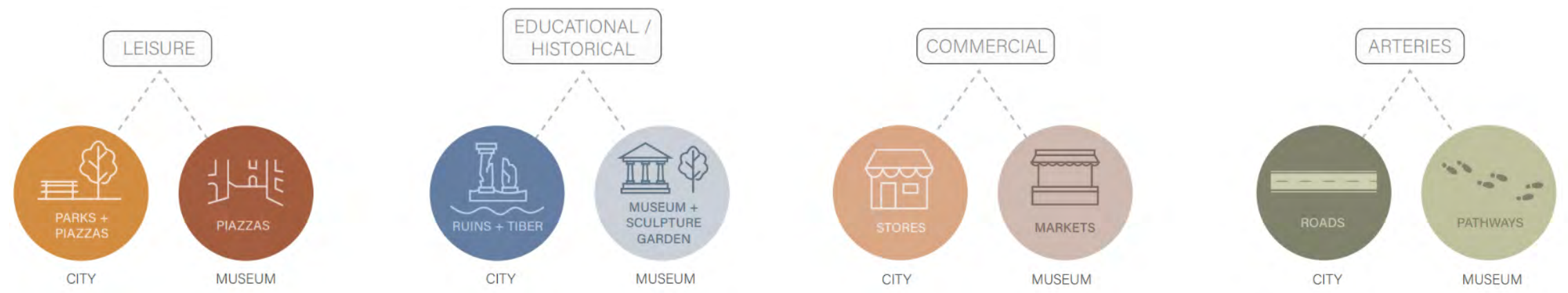
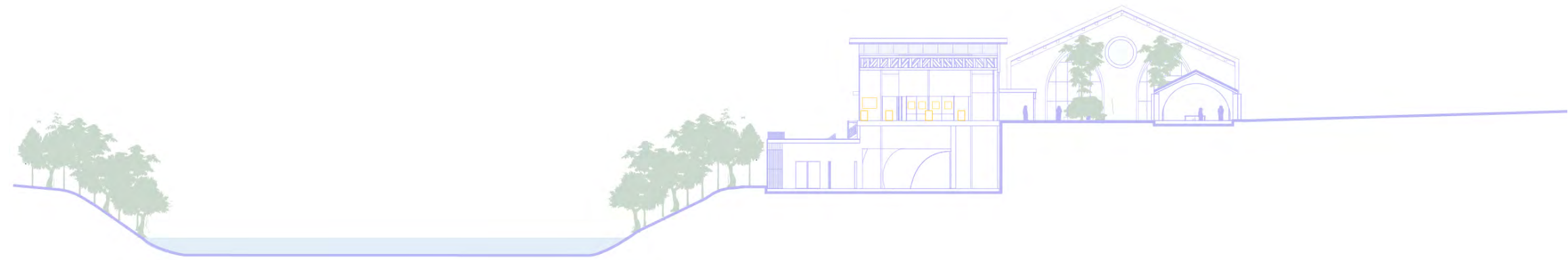
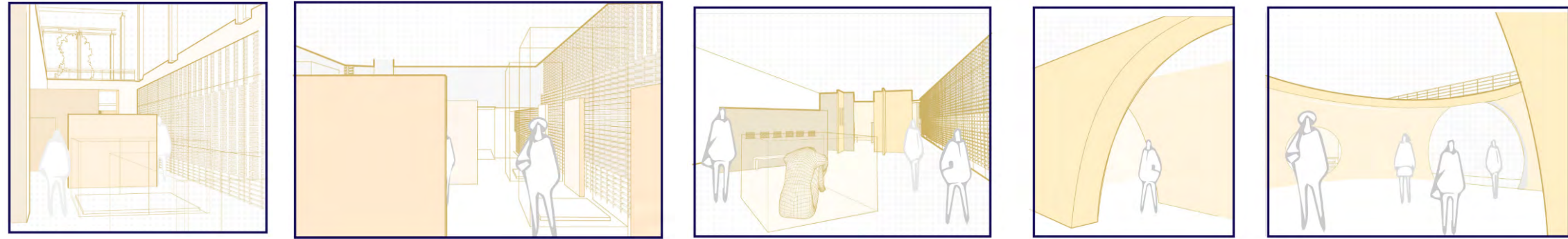
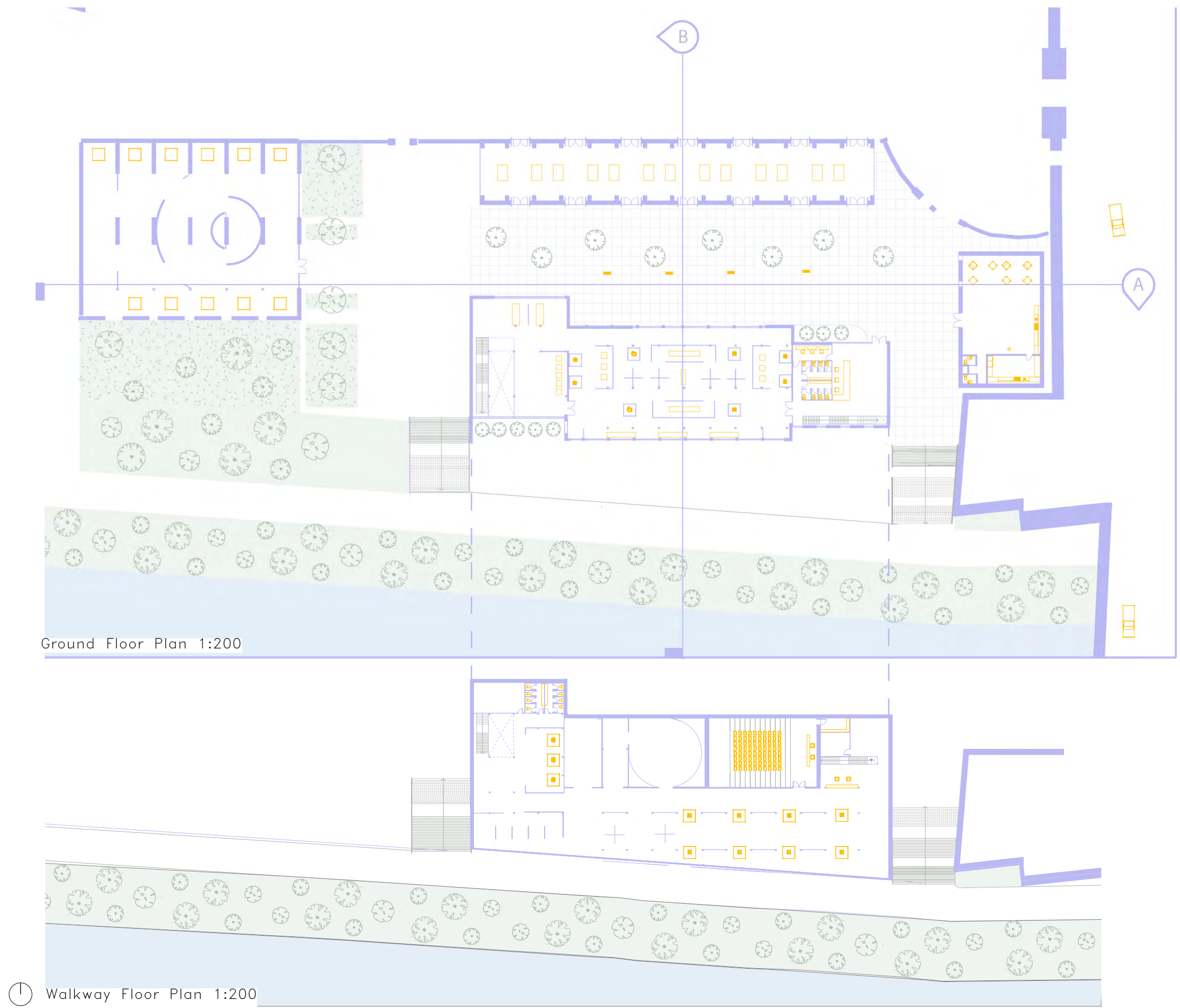


Diagram: Museum as a City



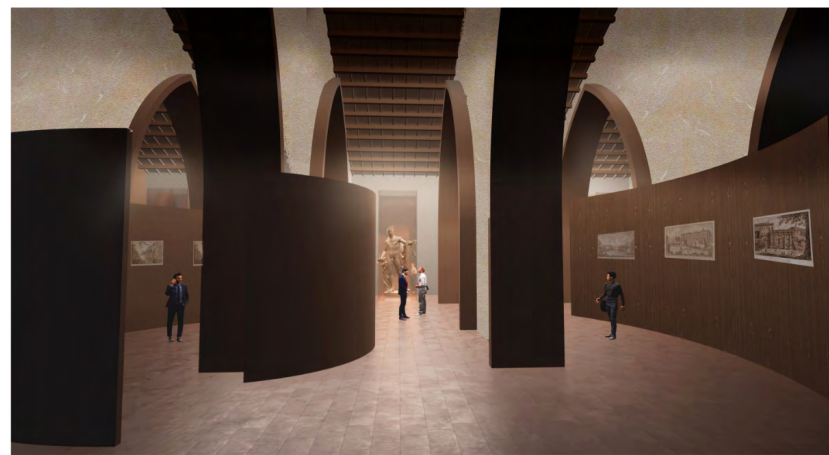
Section Bvvv







Render: Museum Interior



Render: Arsenale Interior



{DE}ADDRESSING NEGLECT

MIXUSED MIDRISE COOPERATIVE HOUSING IN OAKWOOD VAUGHAN

With the Oakwood Vaughan neighbourhood at a higher risk of displacement, a cooperative tenure provides housing security to members of the community. To mitigate effects of increased rental pricing during unstable and short term periods of time, co-ops offer a long term, affordable solution to a range of family typologies and demographics.



PROMOTING WELL-BEING

Addressing Neglect in the Community

Response to rising food insecurity amongst low wage workers

Community kitchen with outreach connections to the Universal Church and nearby Mosque



PROMOTING WELL-BEING

Addressing Neglect in the House

Daycare available

Workspaces and lounge areas throughout building to ease experience for WFH parents



ECONOMIC SOLIDARITY

Strengthening economy post LRT Construction

Developing affordable Retail Spaces to promote small businesses along Dufferin

Rooftop greenhouse and ground space to allow for passive income



ENVIRONMENTAL JUSTICE

Developing a circular economy, and carbon sequestering materials in building construction

Masonry, CLT and timber facades are recyclable components of the structure

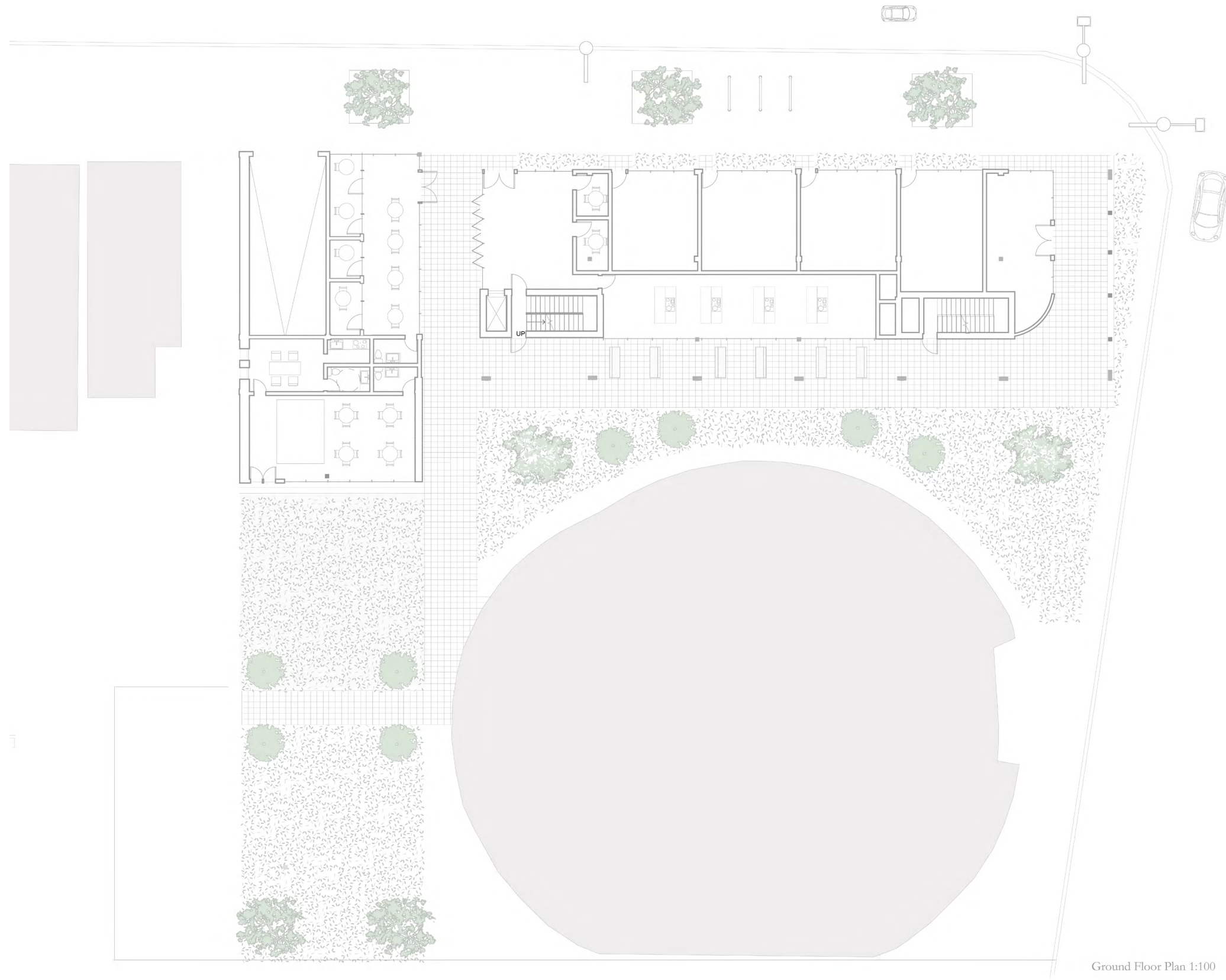
Masonry, CLT and timber facades are recyclable components of the structure



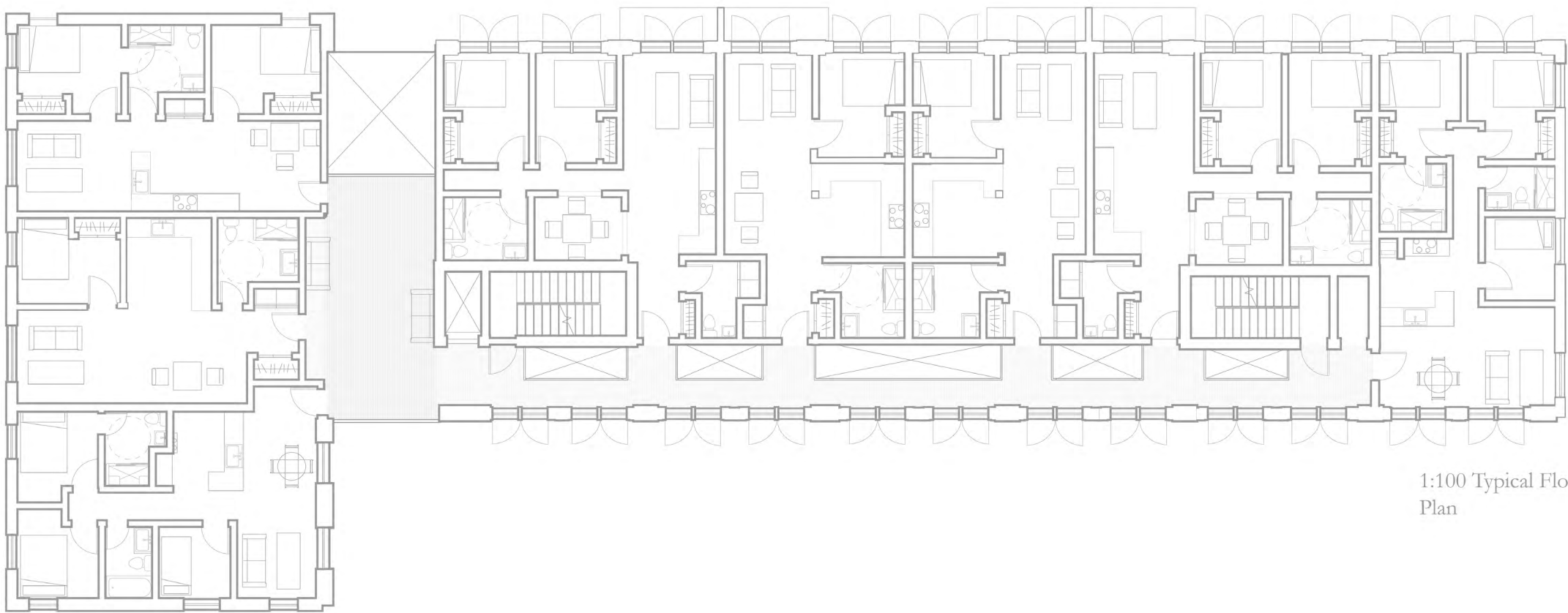
Total Building Area: 2850.4 sqm
Total Site Area: 1415 sqm
FSI : 2.01

People / Hectare : 363.15
Floors above Grade: 6
Floors below Grade: 1
Retail Area: 169 sqm

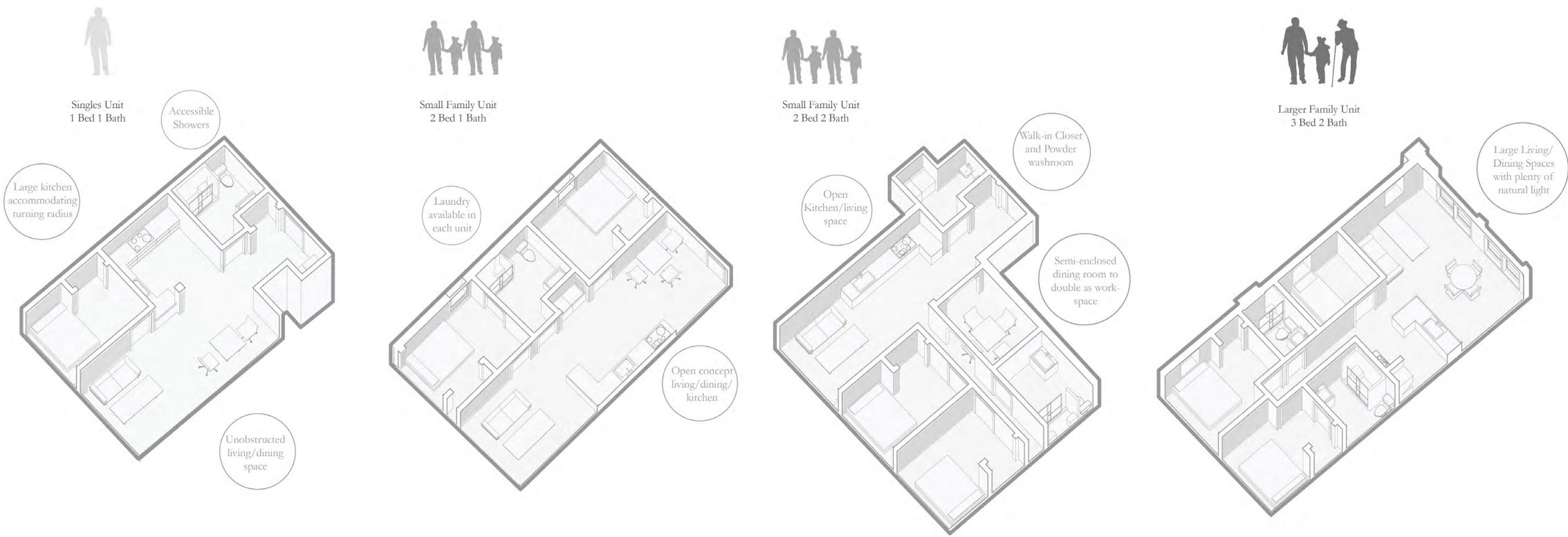
Car Parking Spaces: 23

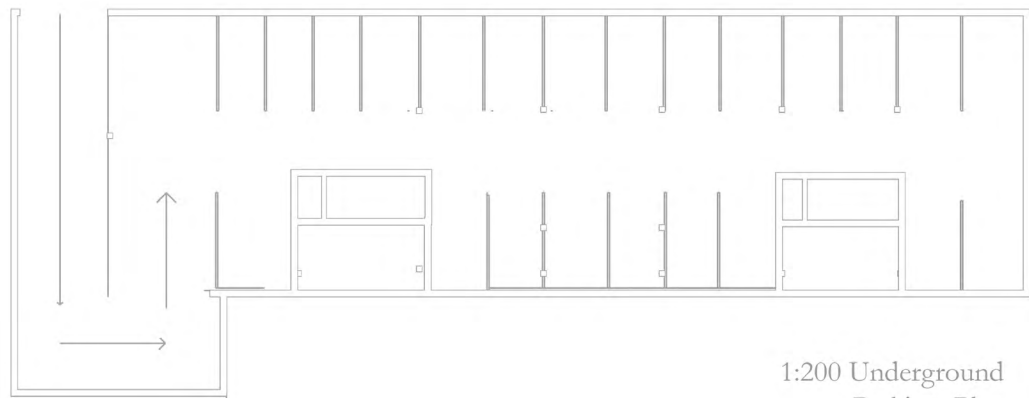


Ground Floor Plan 1:100

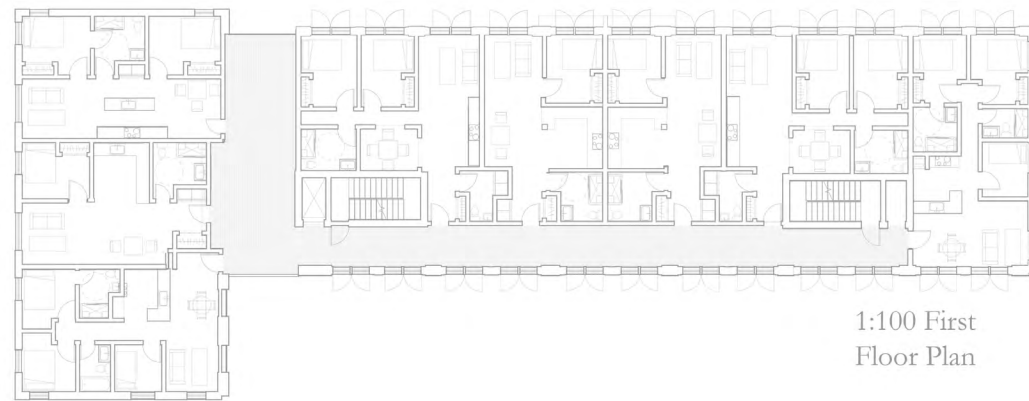


1:100 Typical Floor Plan

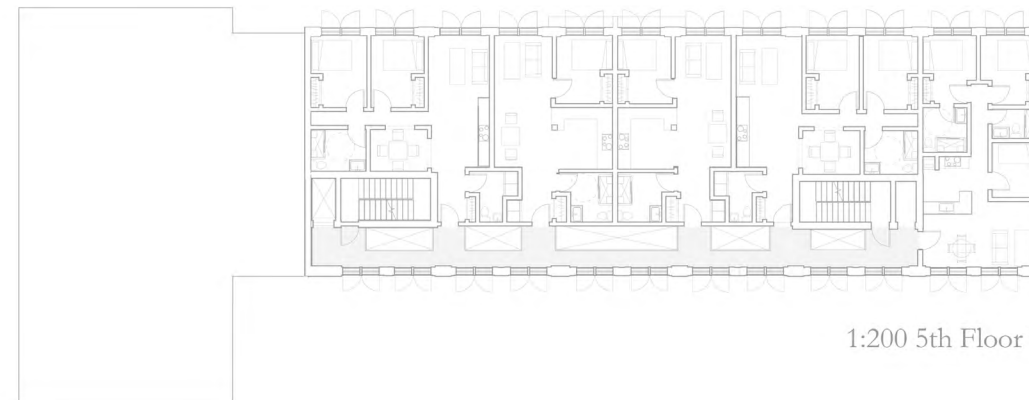




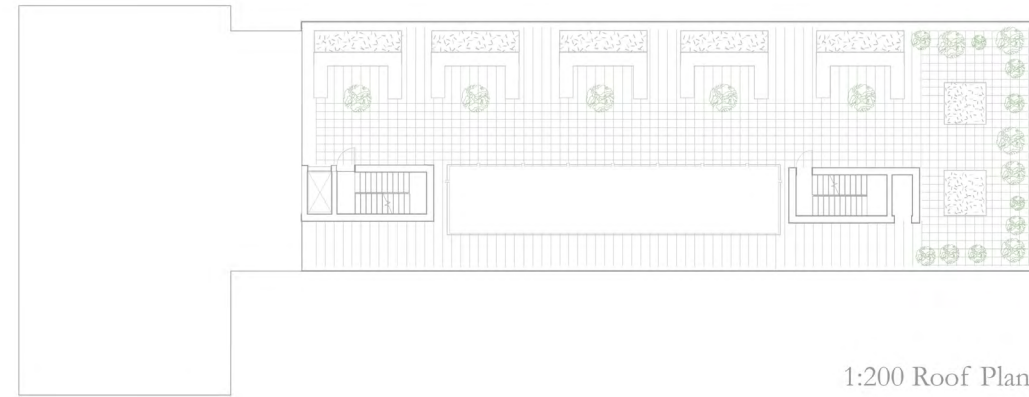
1:200 Underground
Parking Plan



1:100 First
Floor Plan



1:200 5th Floor Plan



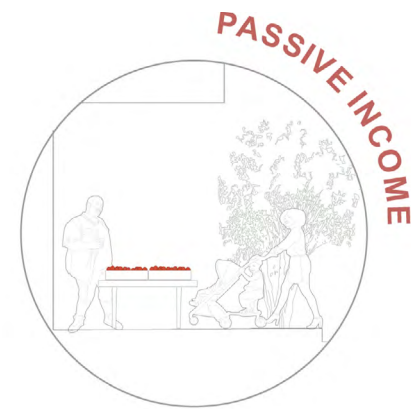
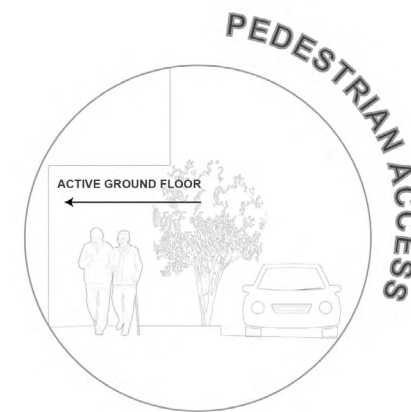
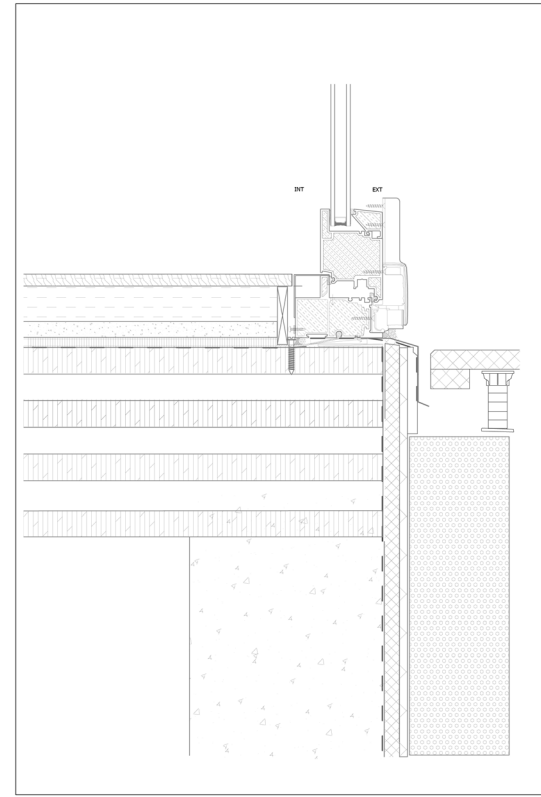
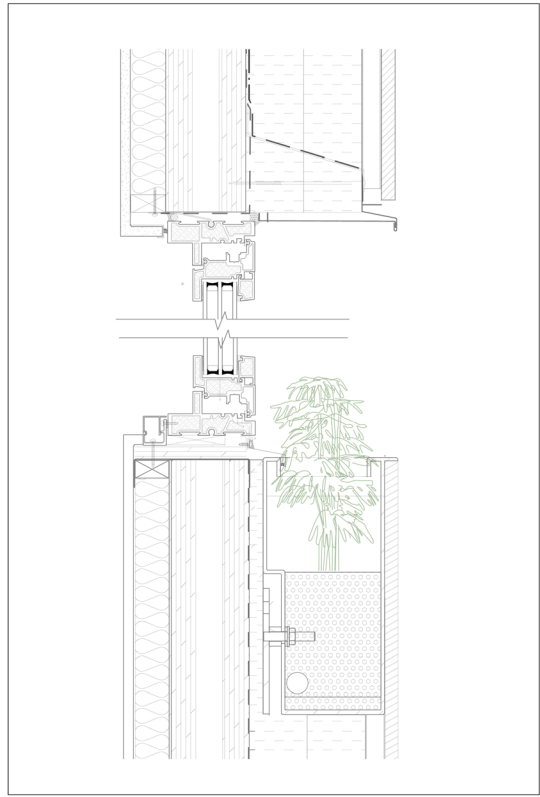
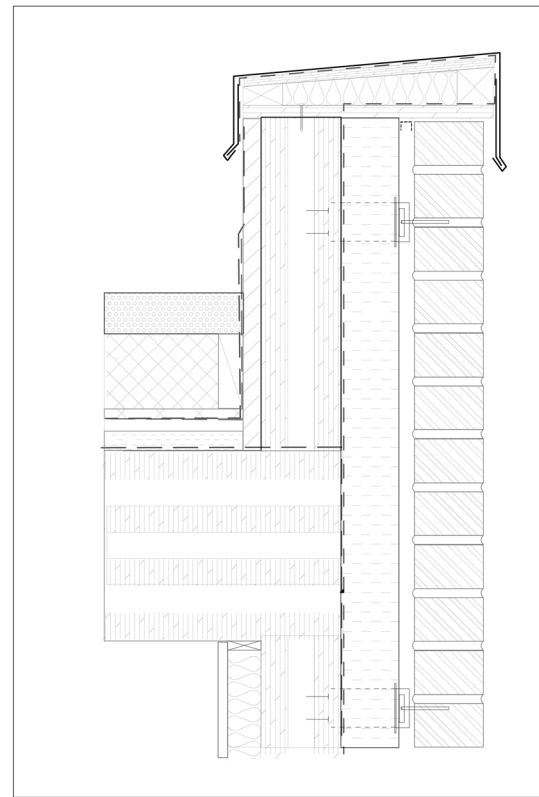
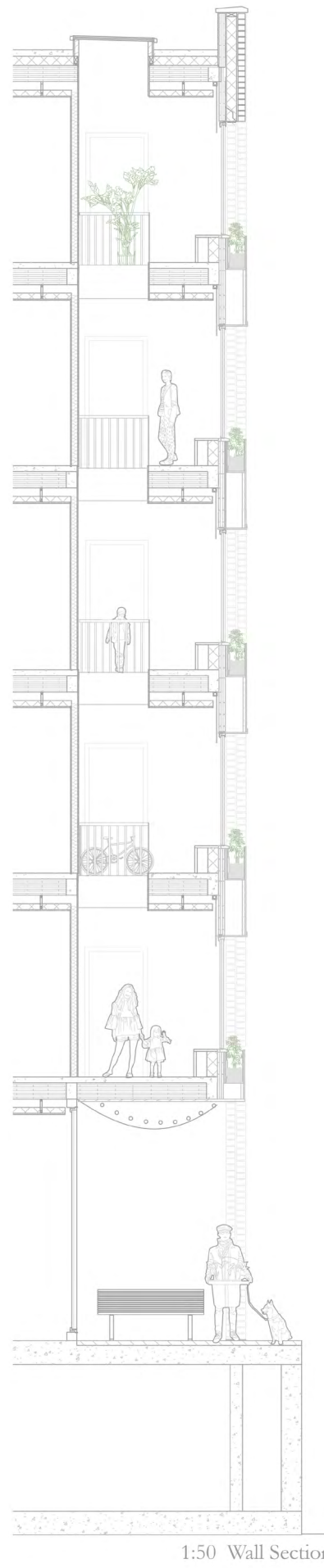
1:200 Roof Plan



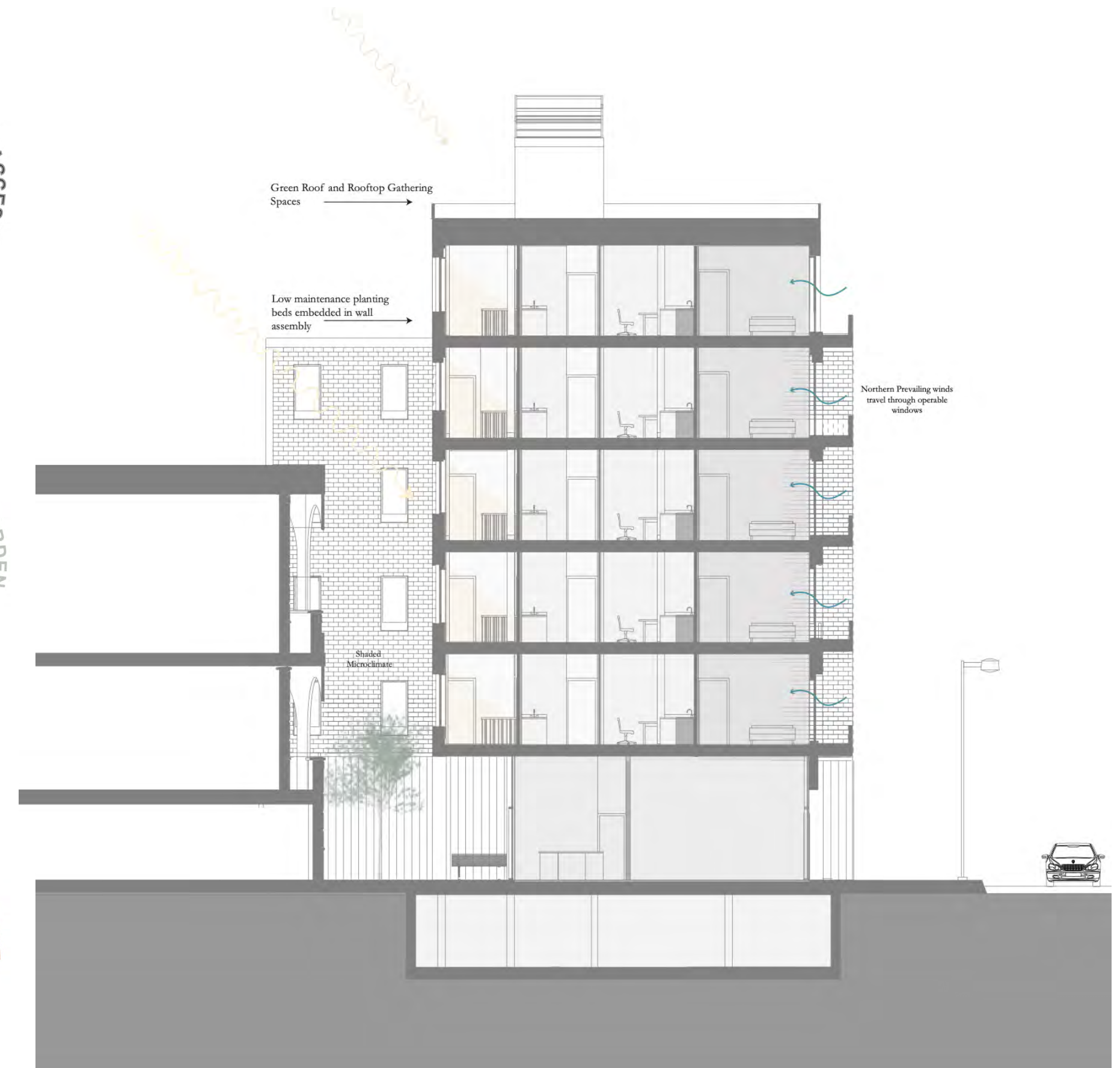
1:50 Facade Elevation

Longitudinal Wall Section



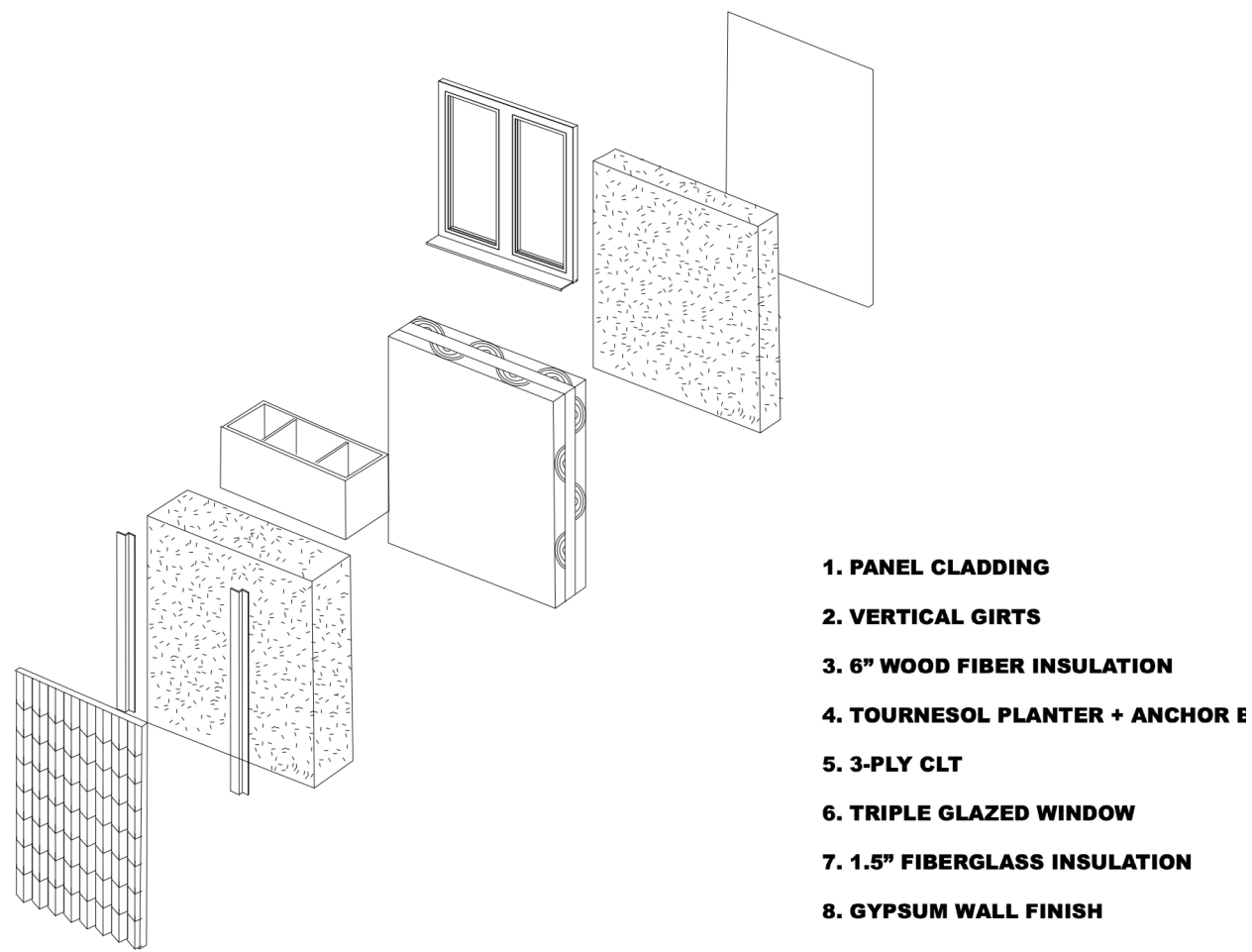


Cross Section Through Church

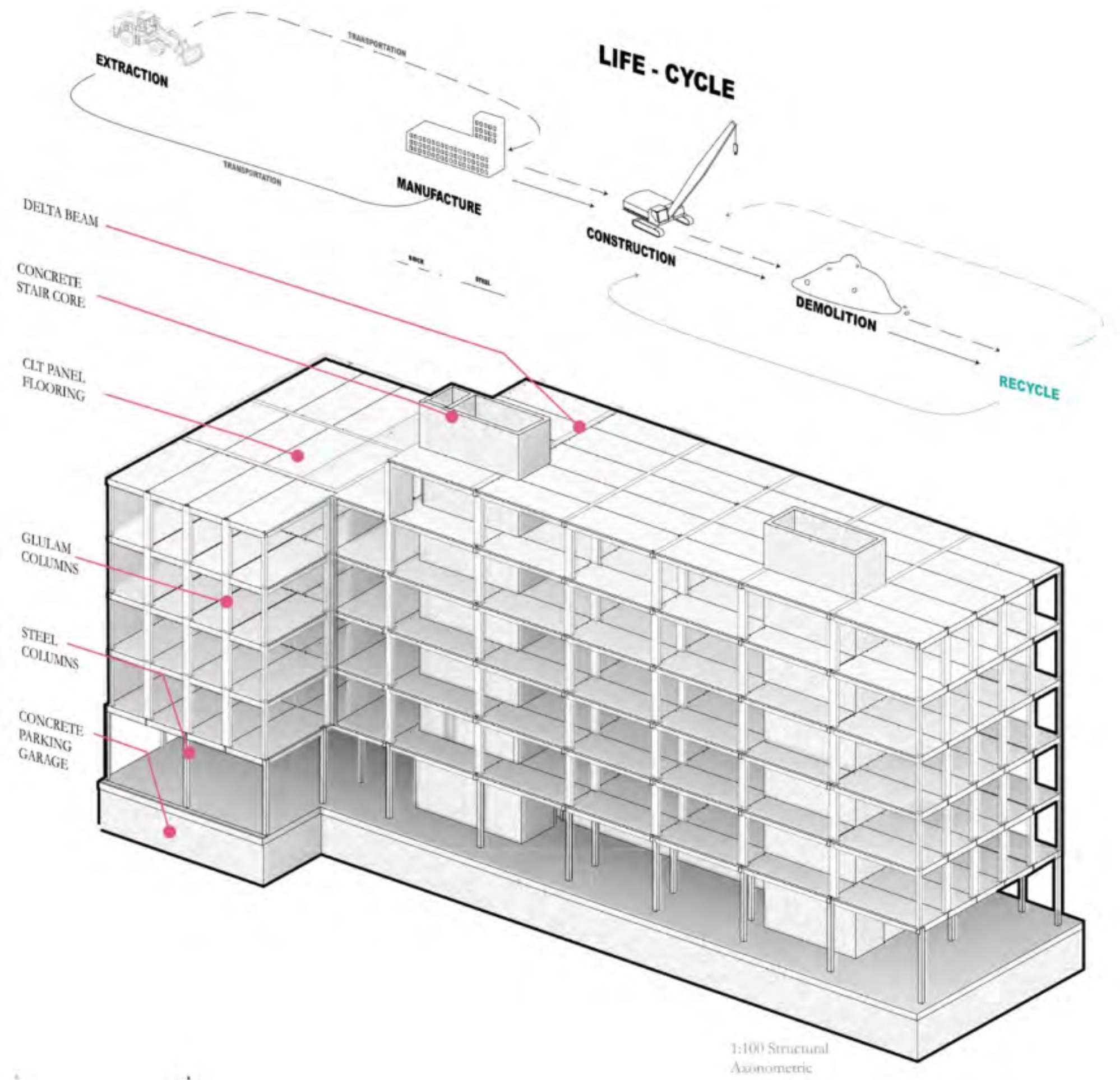
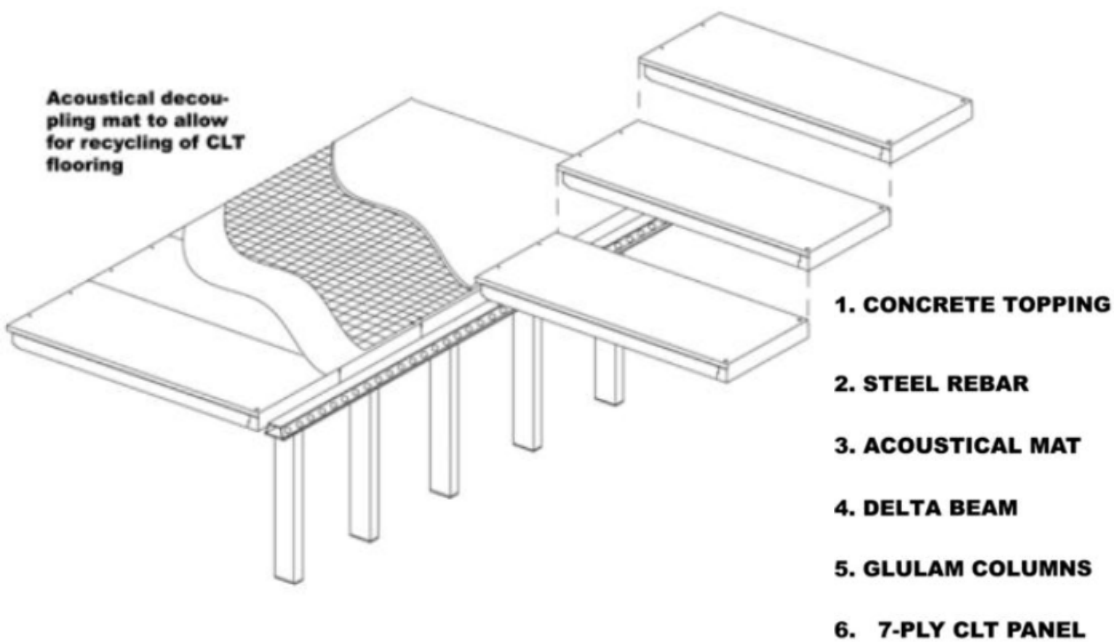




Modular Wall Panel



Modular Floor Assembly

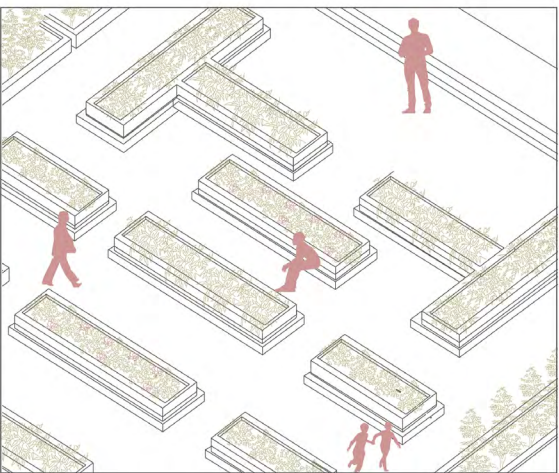
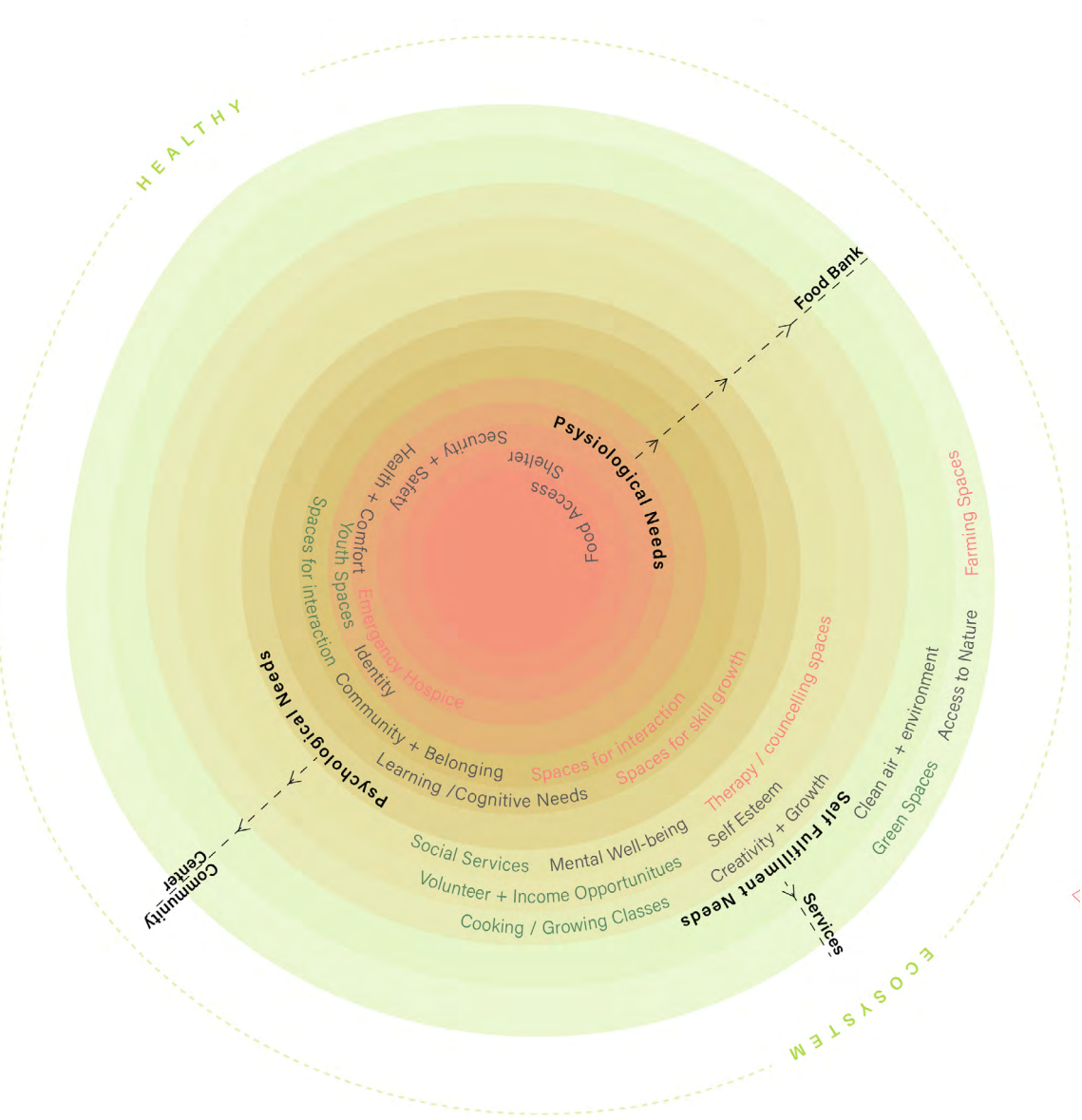


REGROWTH

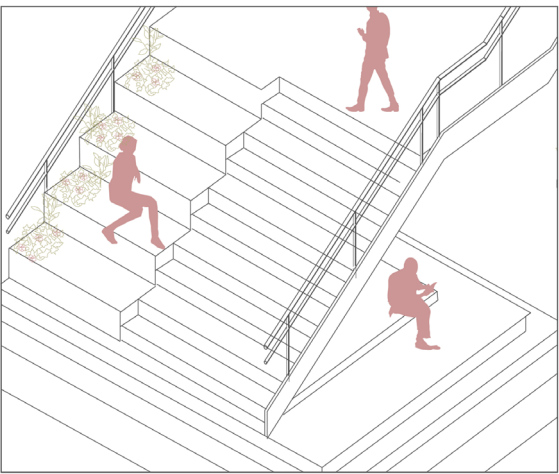
DESIGN FOR A SELF SUSTAINING FUTURE

Food is a basic human right, and the core of our physiological needs. It is what connects us as humans. As climate change persists, we must be able to accomodate for growing food insecurity. This calls for a robust facility, designed with a framework that is long lasting and adaptable for future expansion – initiating the design with reassembly in mind. The indoor greenhouse, which acts as a beacon for food provision, empowers this facility to take charge of their food supply, a start to the departure from the traditional reliance on donors or partnerships seen in conventional food banks.

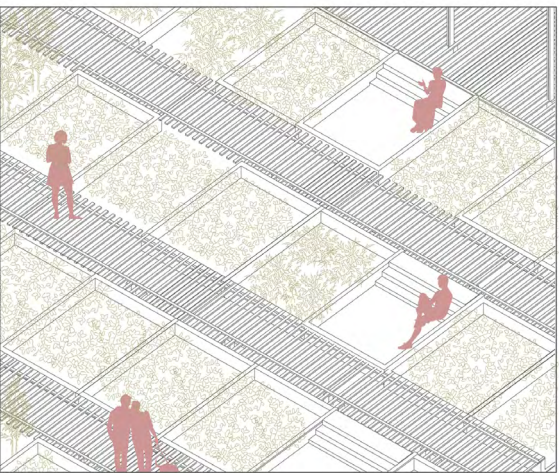
The overhead greenhouse on the second storey behaves like a beacon that invites the public into it, to learn and to encourage food growth. With flexible spaces for seating/ learning/gathering. With ample space for interaction, the facility dismantles stigma through an open concept plan, and still contains moments of solitude and privacy.



Indoor Food Growth

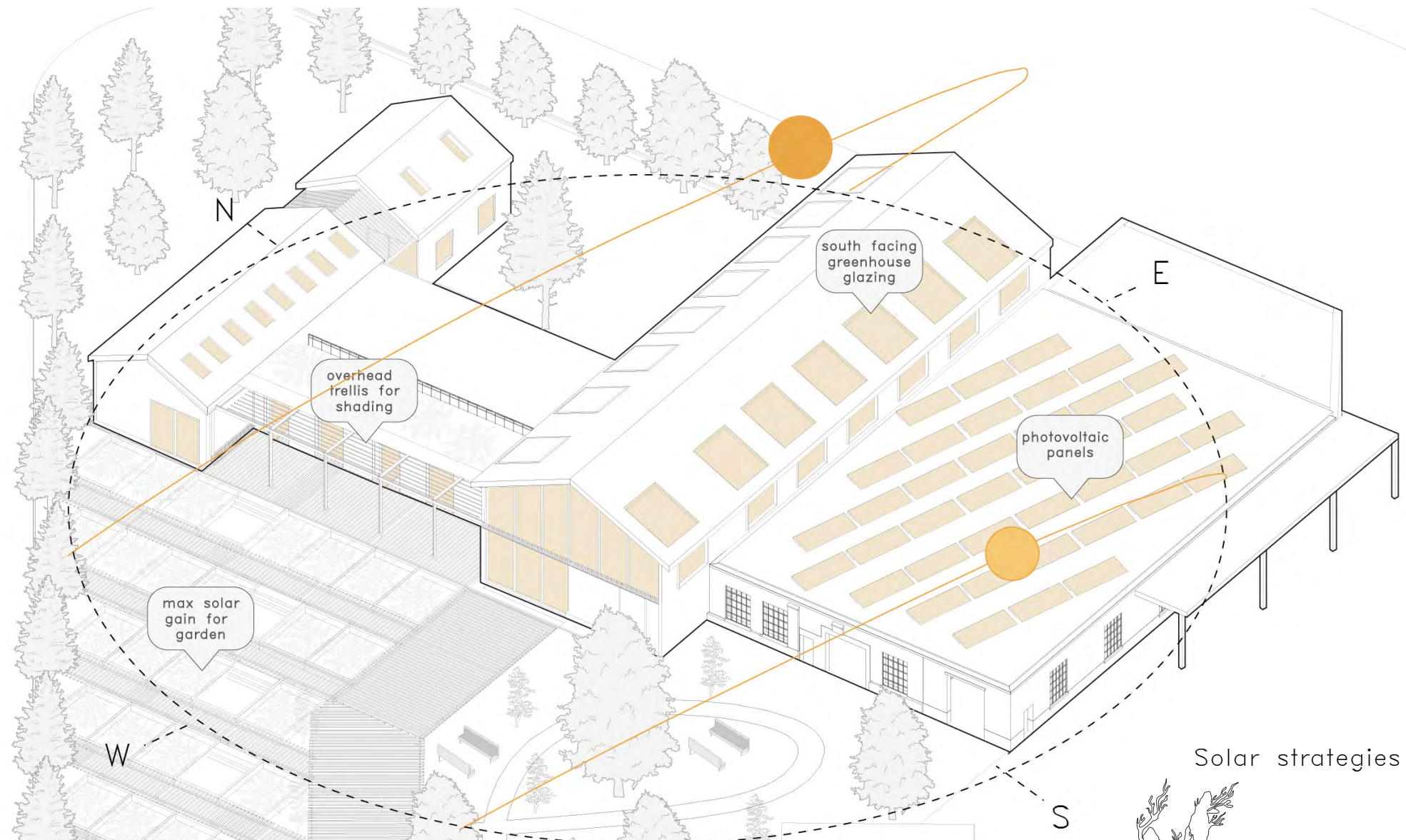


Aesthetic Planting

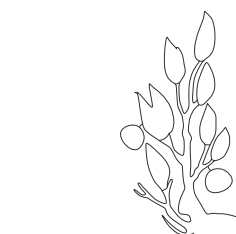


Outdoor Food Growth





Solar strategies



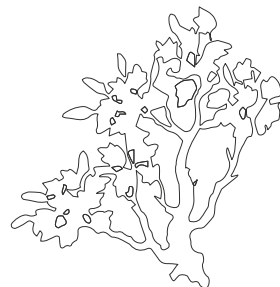
INDOOR GREENHOUSE PLANTING

Vegetables: Tomatoes, Cucumbers, Bell peppers, lettuce, spinach, kale, zucchini, eggplant, green beans, asparagus etc.



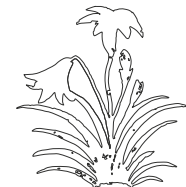
OUTDOOR FOOD PLANTING (SEASONAL)

Vegetables: Onions, potatoes, beets, lettuce, kale, carrots, radishes, tomatoes, bell peppers etc.



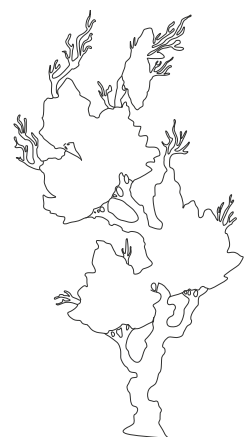
FRUIT BEARING TREES

Apple trees, Pear trees, Plum trees, Peach trees,



BIODIVERSITY PLANTING

Serviceberry, elderberry, black currant



WIND PROTECTANT TREES

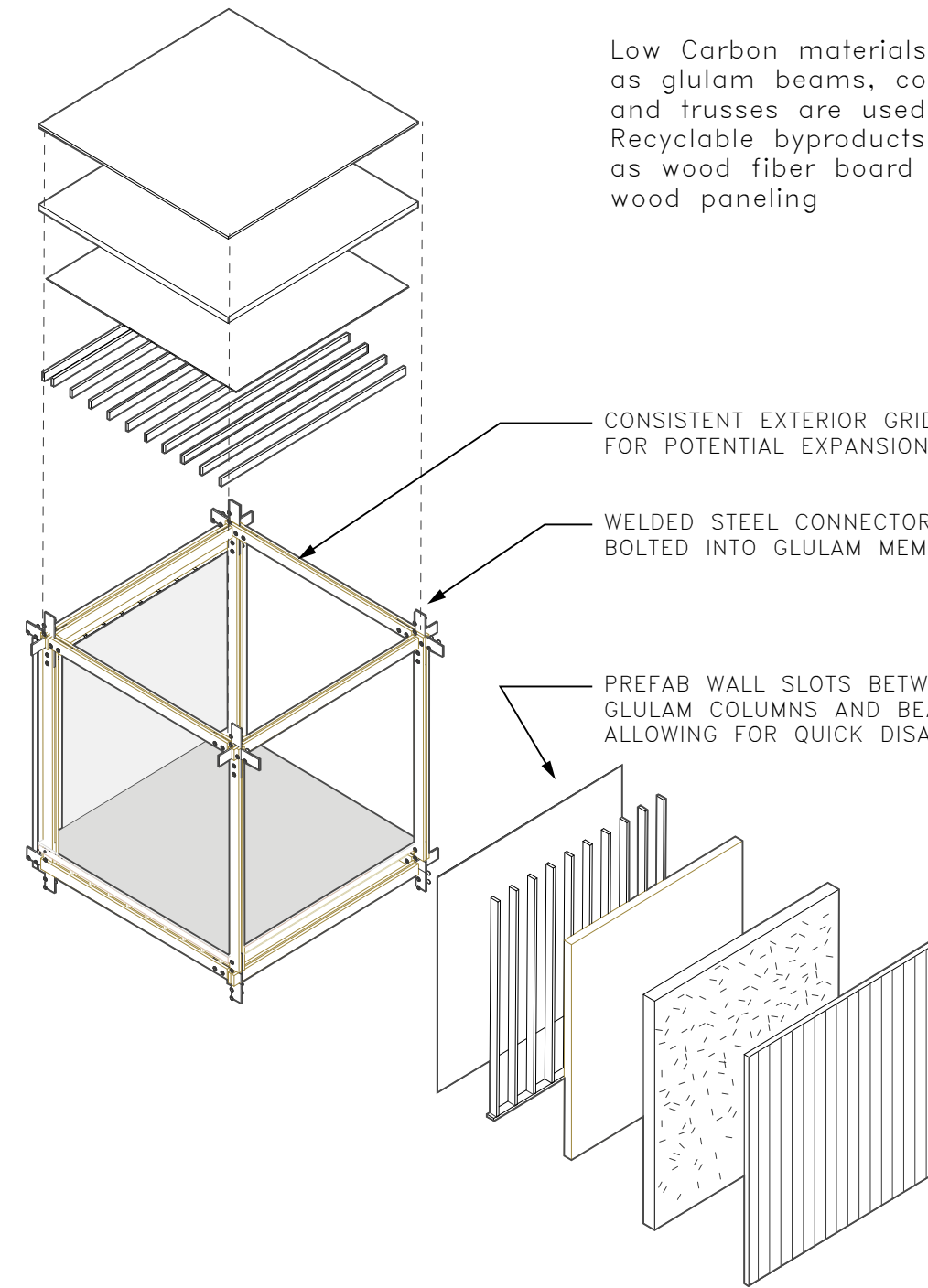
White spruce, Norway spruce, eastern white pine, hackberry, bur oak tree



INDOOR STAIR PLANTINGS

Bird's nest fern, rubber plant,

Design for disassembly



Low Carbon materials such as glulam beams, columns and trusses are used. Recyclable byproducts such as wood fiber board and wood paneling



Greenhouse



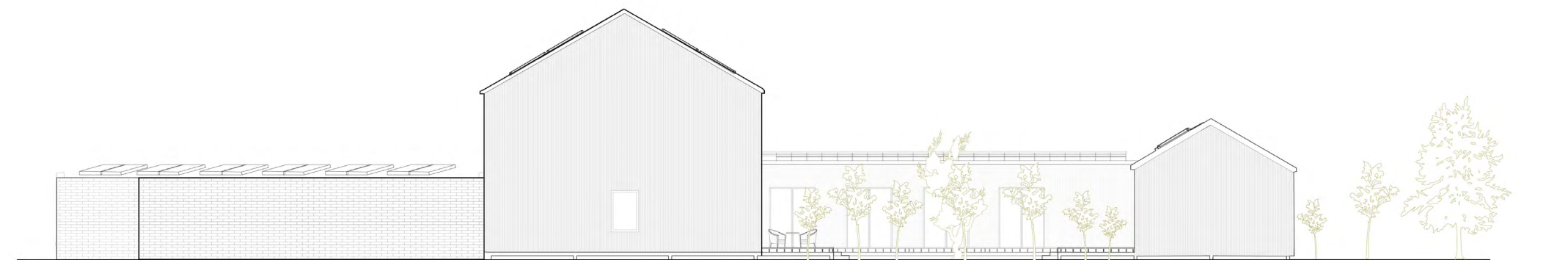
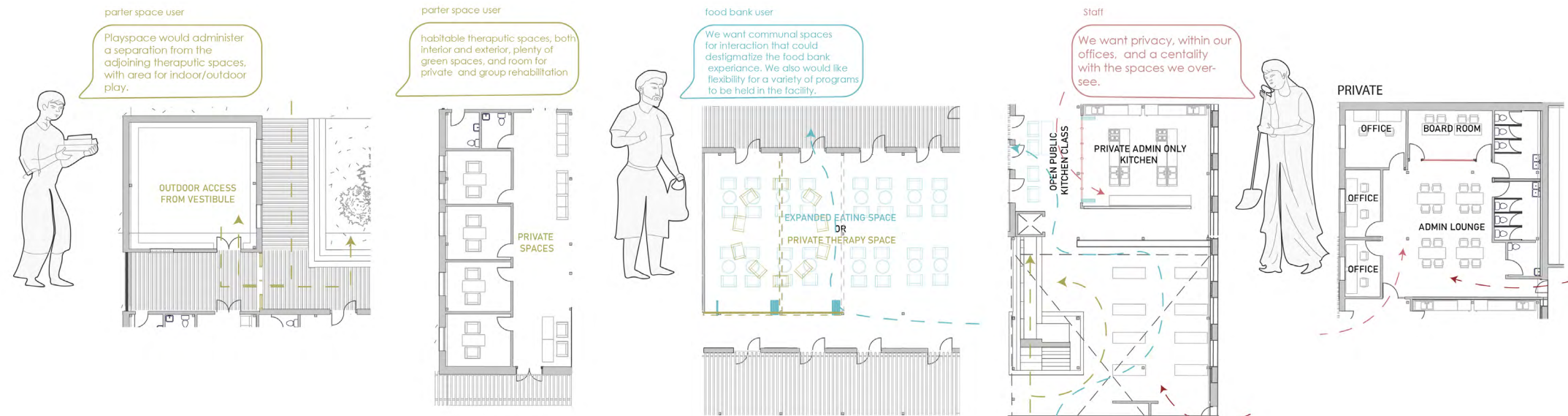
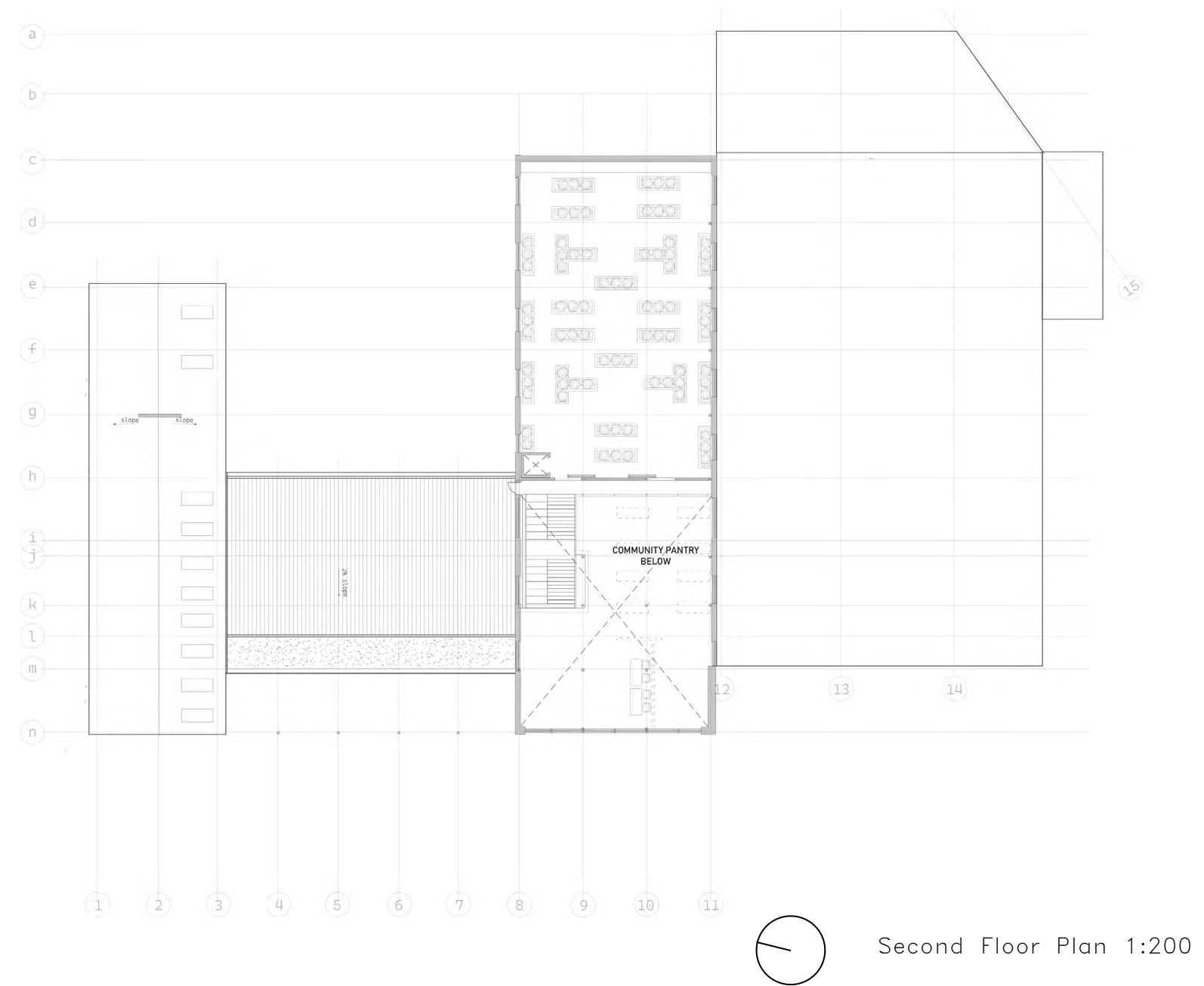
Market



Services

FOOD

SERVICE



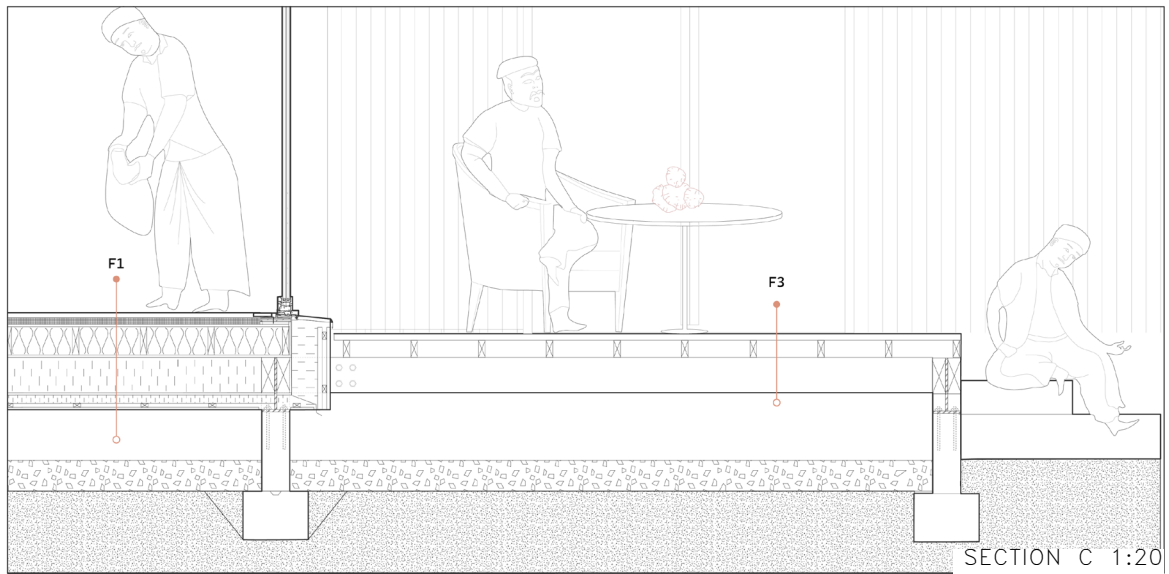
Elevation E 1:200



Kitchen looking towards market



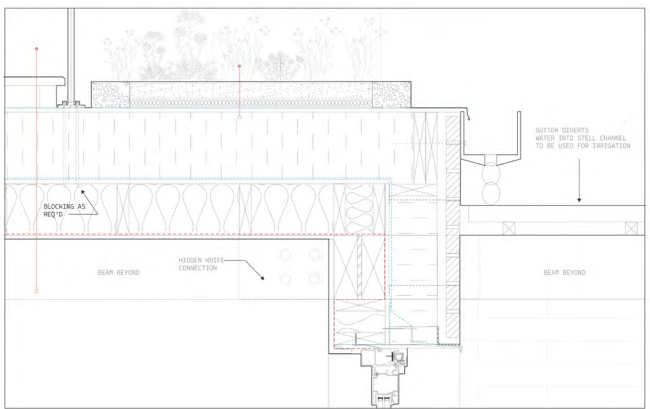
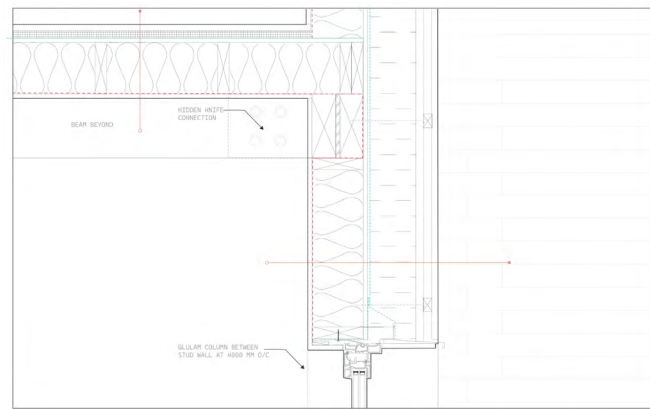
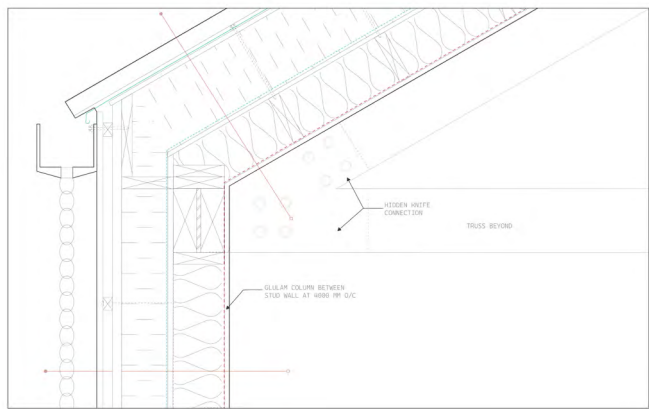
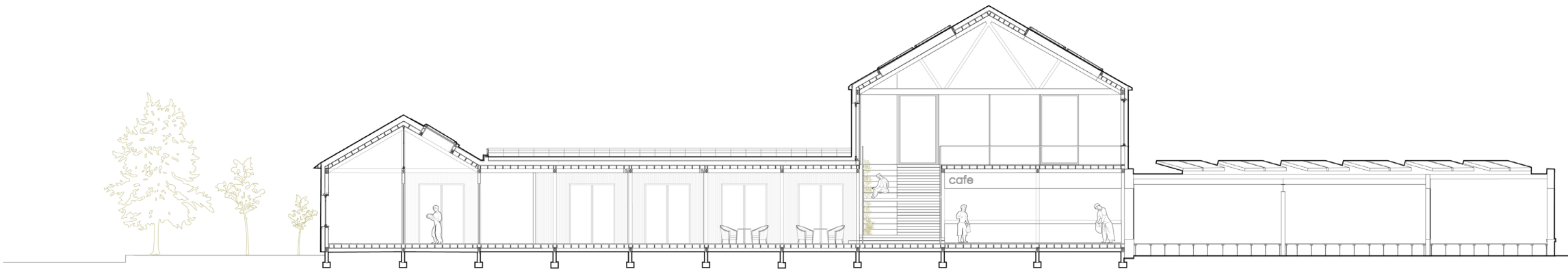
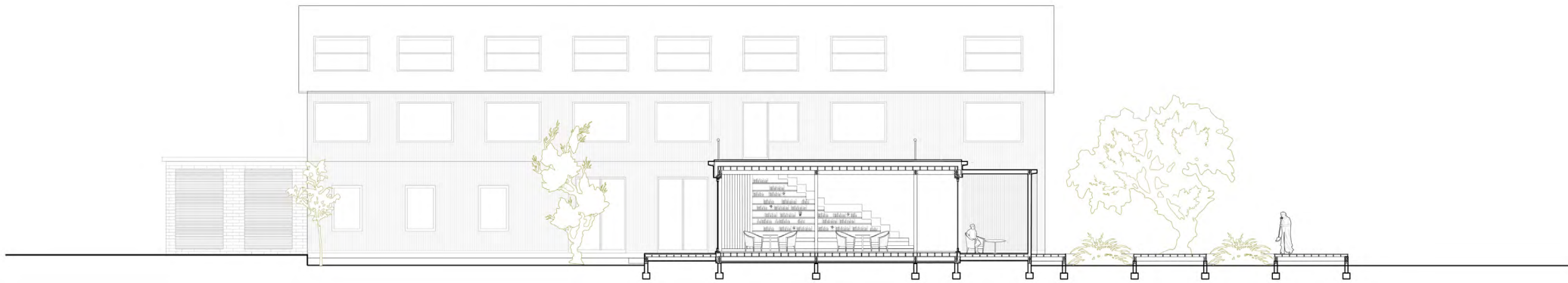
Hallway looking towards eating space



SECTION C 1:20



Playspace



R1

STEEL ROOFING
WATER BARRIER
13 MM SHEATHING BOARD
MOISTURE BARRIER
9 INCH WOOD FIBER BOARD
INSULATION
6 INCH BLOWN CELLULOSE INSULATION
2X6 STUD WALL
VAPOUR BARRIER
13 MM WOOD FINISH BOARD
ROOF TRUSS STRUCTURE

F1

WOOD FLOORING
13 MM SHEATHING BOARD
VAPOUR BARRIER
2X6 STUD FLOOR
6 INCH BLOWN CELLULOSE INSULATION
13 MM SHEATHING BOARD
MOISTURE BARRIER
9 INCH WOOD FIBER BOARD INSULATION
13 MM SHEATHING BOARD
1 INCH WOOD FIBER INSULATION
1 INCH BATTS
WOOD FINISH UNDERSIDE OF FLOOR

W1

EXTERIOR WOOD CLADDING
1 INCH HORIZONTAL BATTS
1 INCH VERTICAL BATTS
6 INCH WOOD FIBER BOARD INSULATION
MOISTURE BARRIER
13 MM SHEATHING
6 INCH BLOWN CELLULOSE INSULATION
2X6 STUD WALL
VAPOUR BARRIER
INTERIOR WOOD CLADDING

F2

WOOD FLOORING
SOUND ATTENUATION BOARD
MOISTURE BARRIER
13 MM SHEATHING BOARD
2X6 STUD FLOOR
6 INCH BLOWN CELLULOSE
INSULATION
VAPOUR BARRIER
13 MM SHEATHING BOARD
2X8 BEAM ASSEMBLY

F3

WOOD PLANK
FLOORING
2X4 DECKING
2X8 BEAM
ASSEMBLY

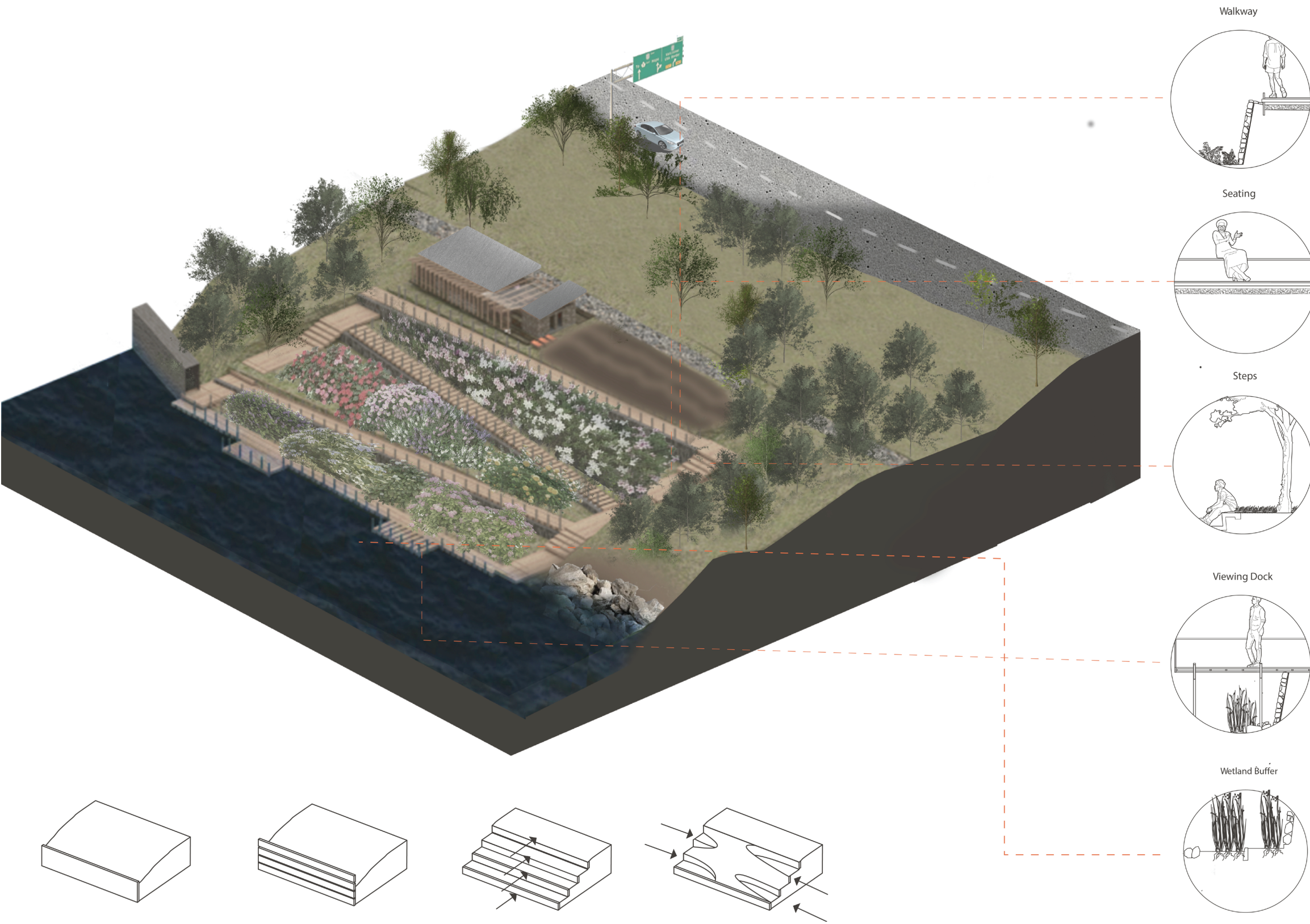


FOOD + WATER

Community Kitchen and Garden by the Old Welland Canal

Located in St. Catharines, the Old Welland canal lies abandoned as a reminder of the industrial revolution that sparked the growth of the city, which subsequently contributed to the contamination of the ground water system. The canal has since dried away since it's abandonment in 1954 as urban run off and sediments flow down towards the creek and accumulate. Since then, the canal has been converted to a park for cyclists and pedestrians.

It contains two systems: man made locks that speed up the flow of water, and the natural system which is slowly eroding into the water. Food + Water is an exploration into the use of phytoextraction to clean the soil, and the building addresses homelessness and food scarcity in the area. By creating a community garden, a system of care within the environment through the growth of food and plants that clean the soil can be cooked and shared with locals. The program includes a community garden, washrooms, outdoor eating spaces, a community kitchen and an indoor greenhouse.



ST. CATHARINES WATERWAY STUDY



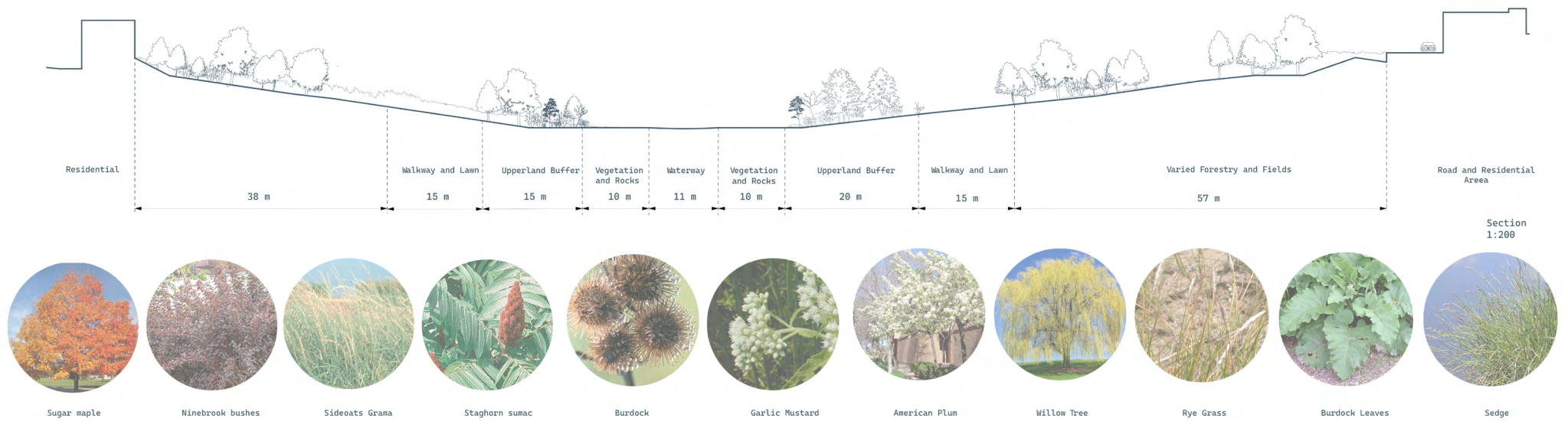
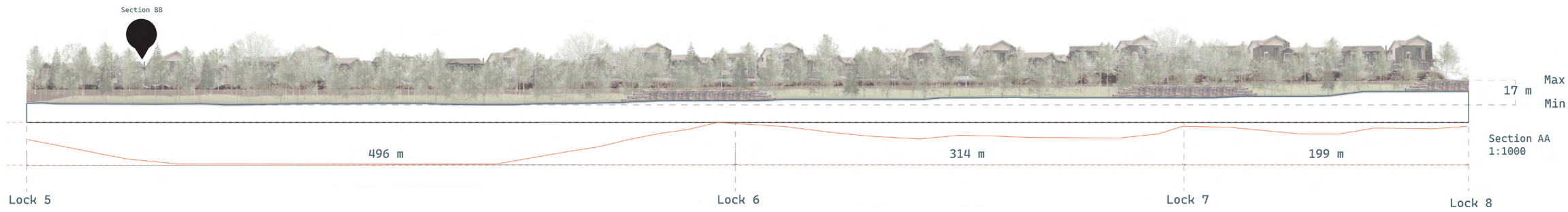
Topography and Water Movement



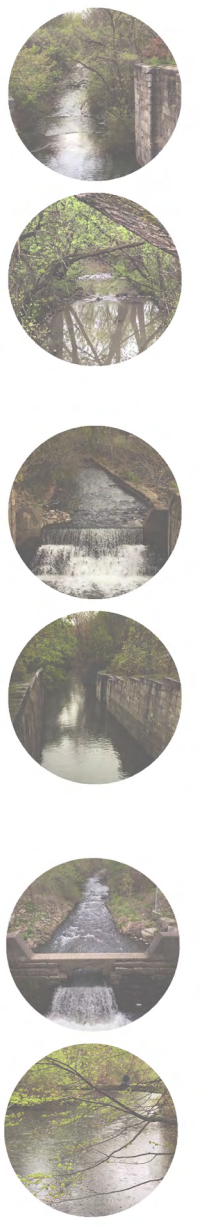
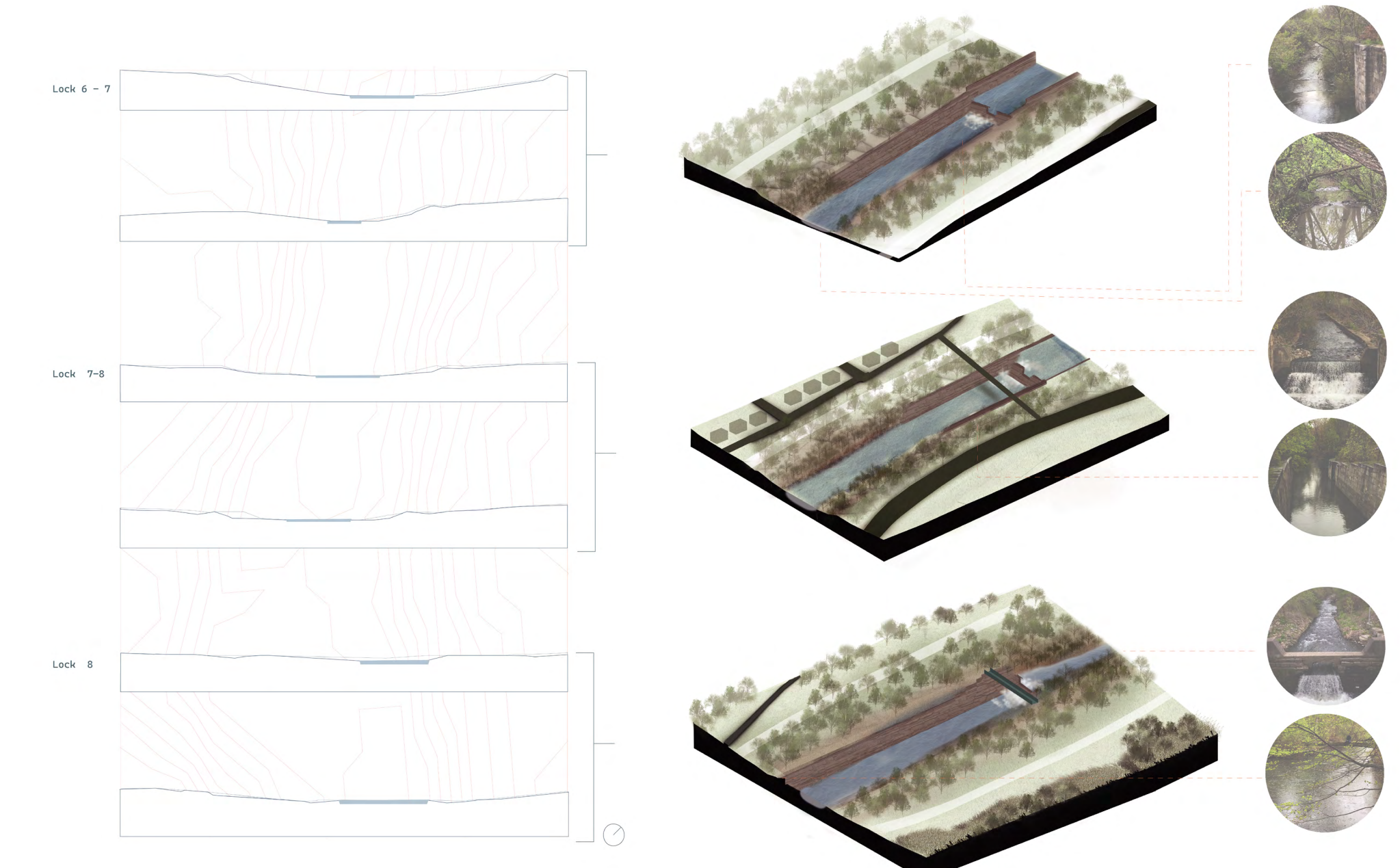
Road Systems

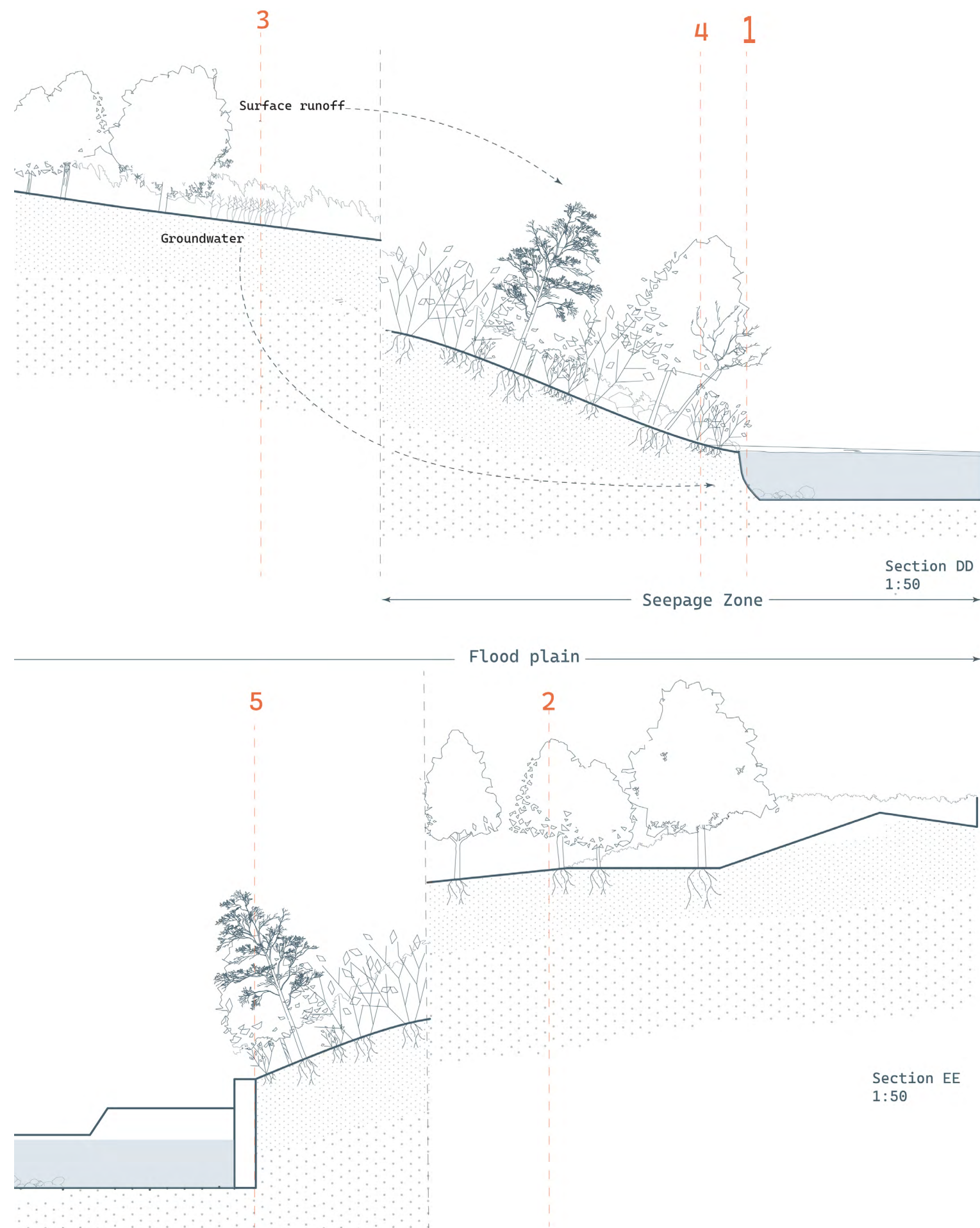
Water Systems

Wooded Areas

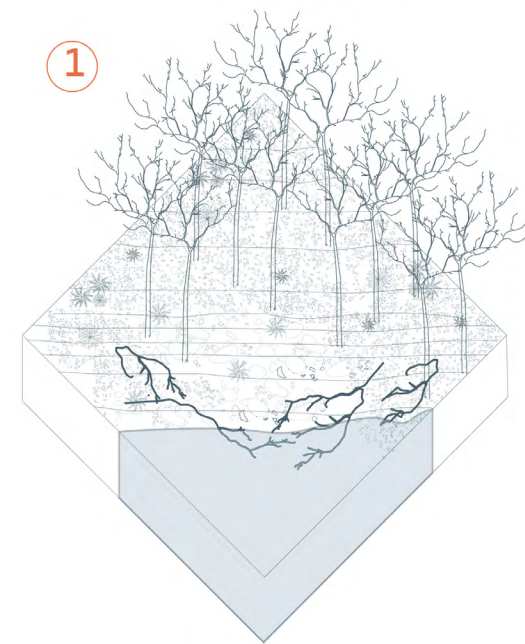


Section 1:200

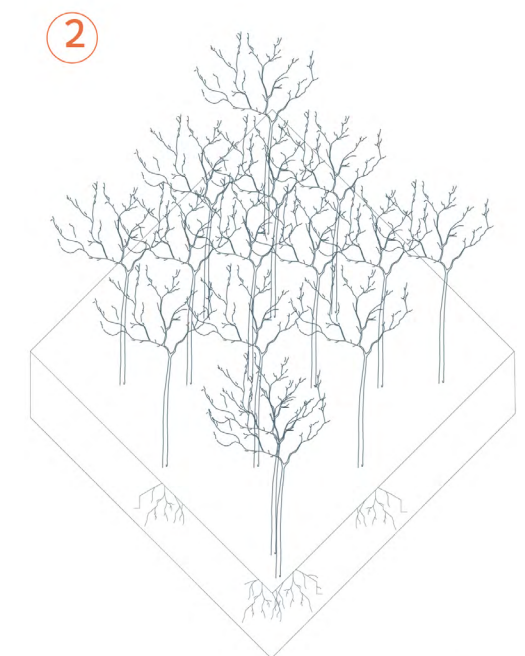




Observed Methods of Erosion Mitigation



Woody Vegetation
Shrubs and Smaller Plants



Adding new forestry in
upper buffer

These plans are taken from both before and within Lock 6.

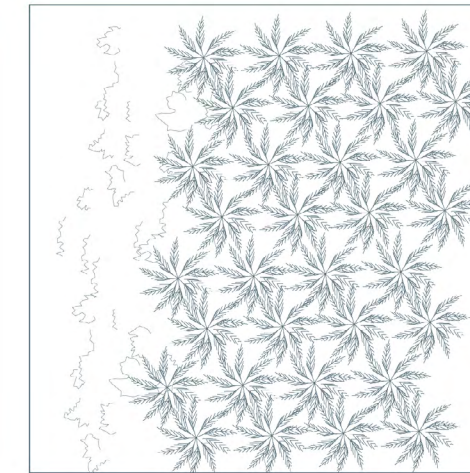
The first figure shows the stone used at the locks, spanning a distance of 100–150 m north. The base of the rocks are marked with about 1 to 2 ft of water damage to the rocks, confirming the volume of water has come to a shortage or the canal has widened in areas without stone construction.

The second image is of water flow and its turbidity just after a small drop of apprx. 3 ft of stone. This significantly increases the speed of the water, despite it mildly being mitigated using a stone dam to control the volume of water still preserved today.

The image showing "Laminar flow" is a quadrant taken just before a water level change. The depth of the water at this elevation is lower than apprx. 1 1/2 ft. The rocks interfere with the waterflow and speed it up in this area.

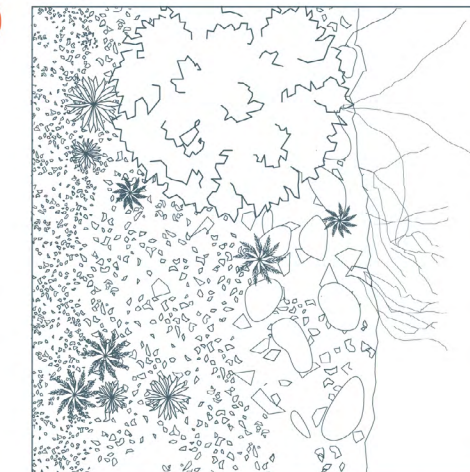
The final drawing depicts the exposed roots visible. This indicates that the land in this area receded by at least 1 ft.

3



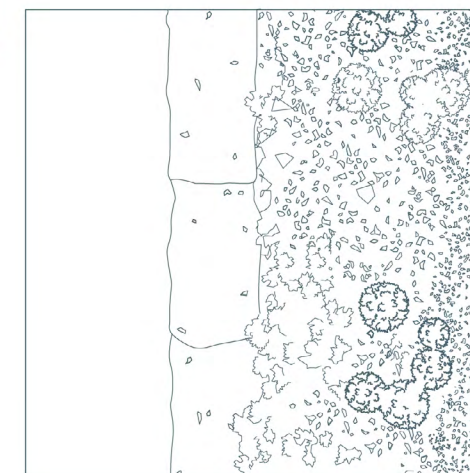
Tall Grass Patches

4

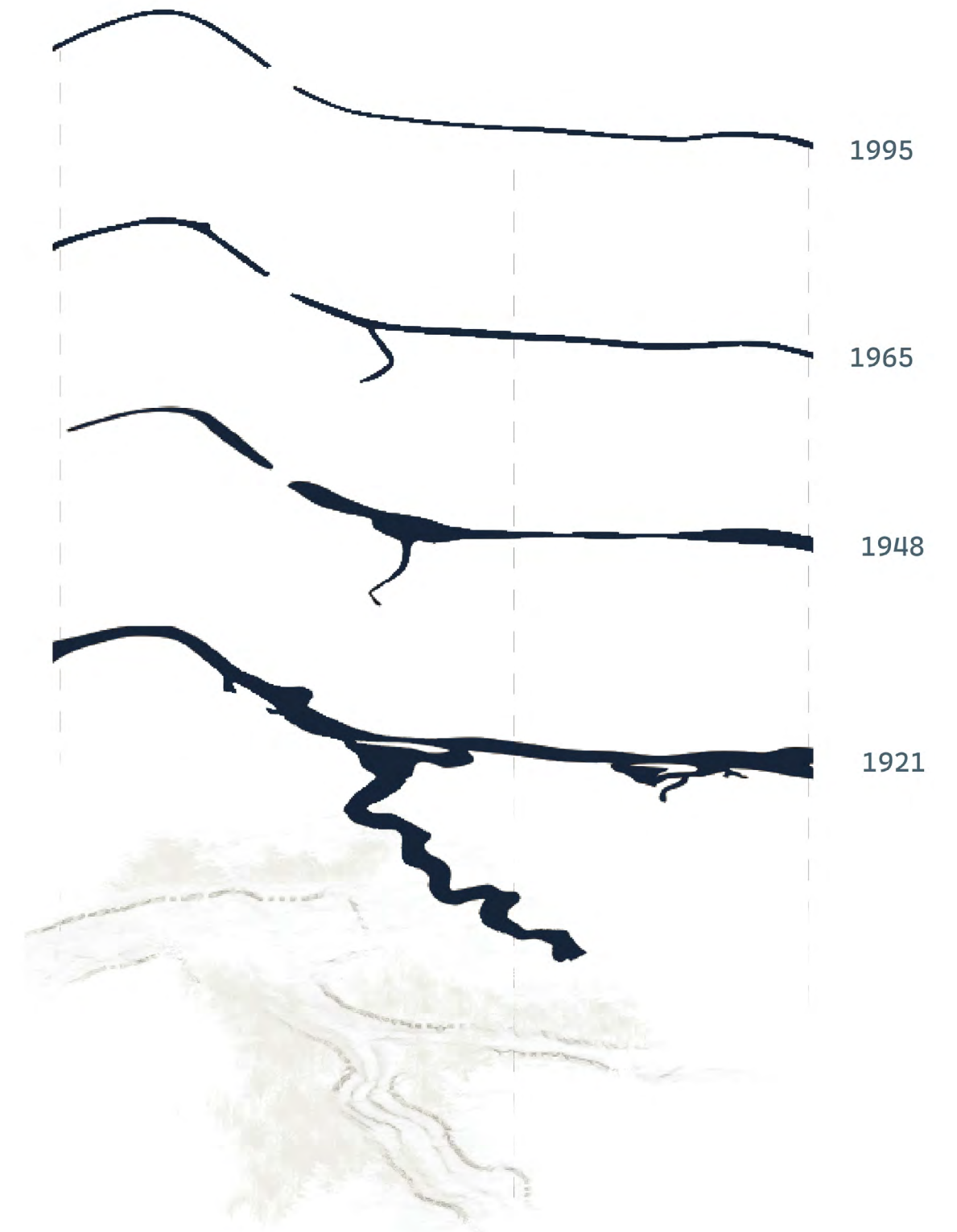


Exposed Roots and Erosion

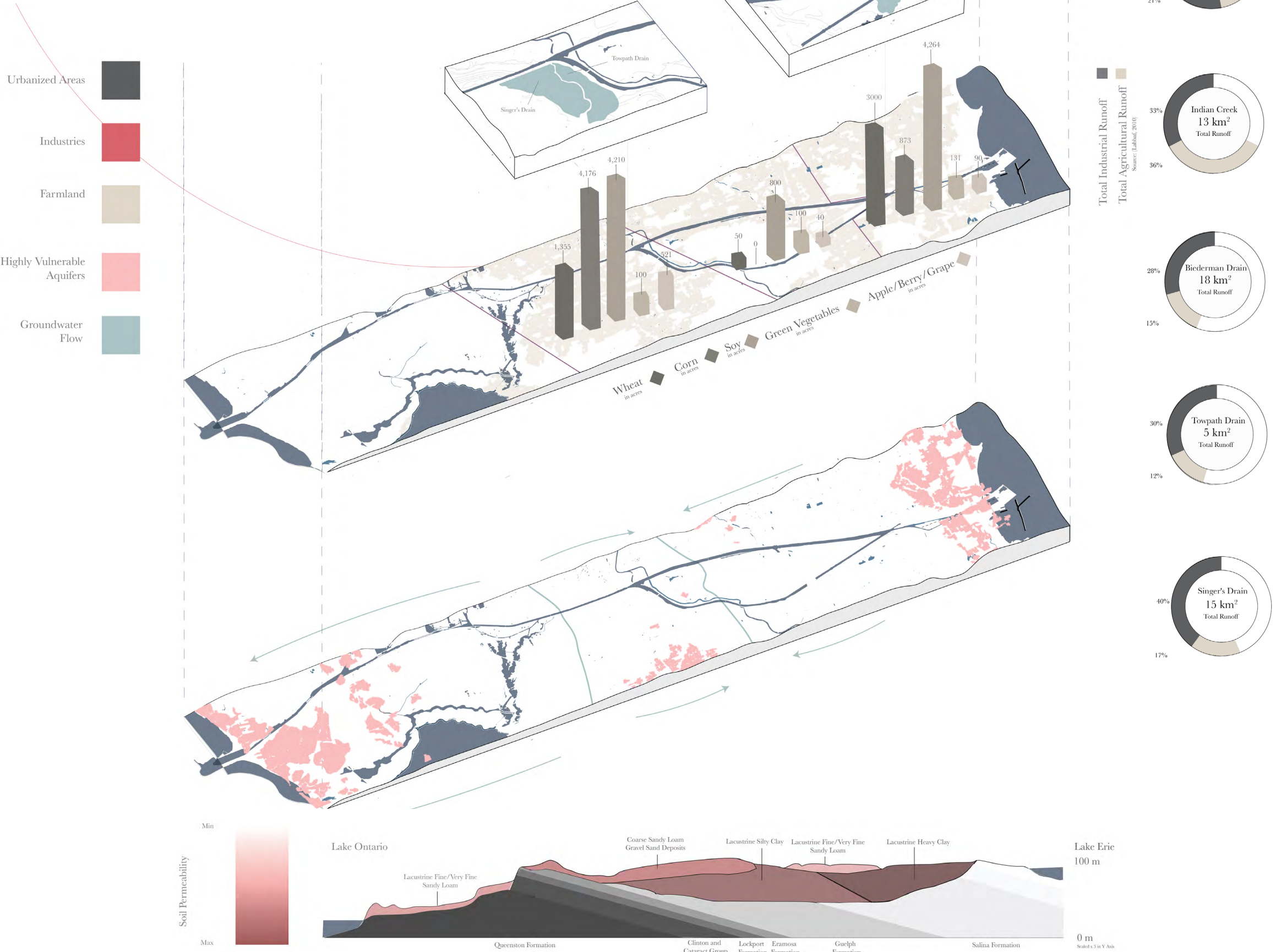
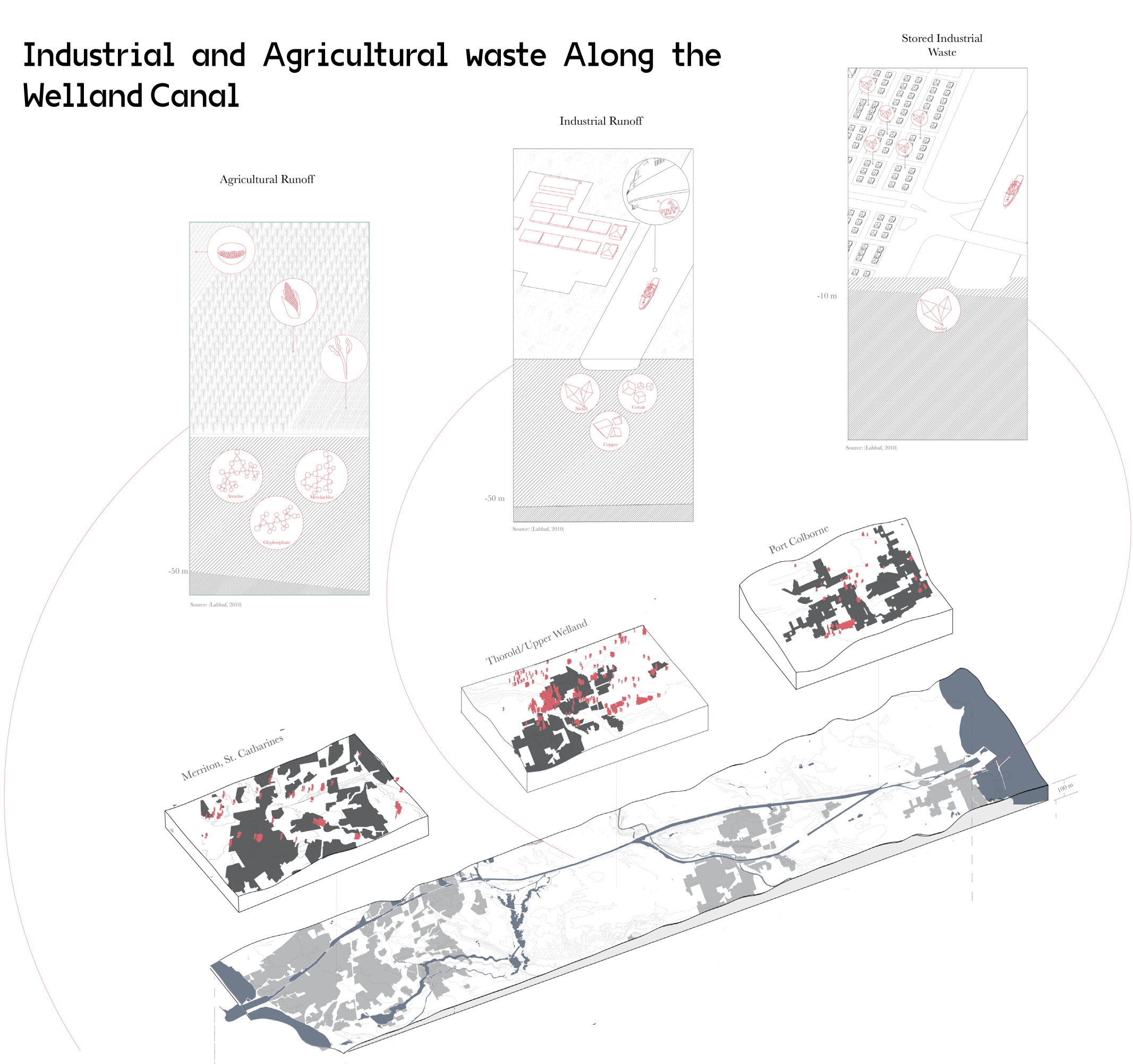
5



Water Level Over a Century



Industrial and Agricultural waste Along the Welland Canal



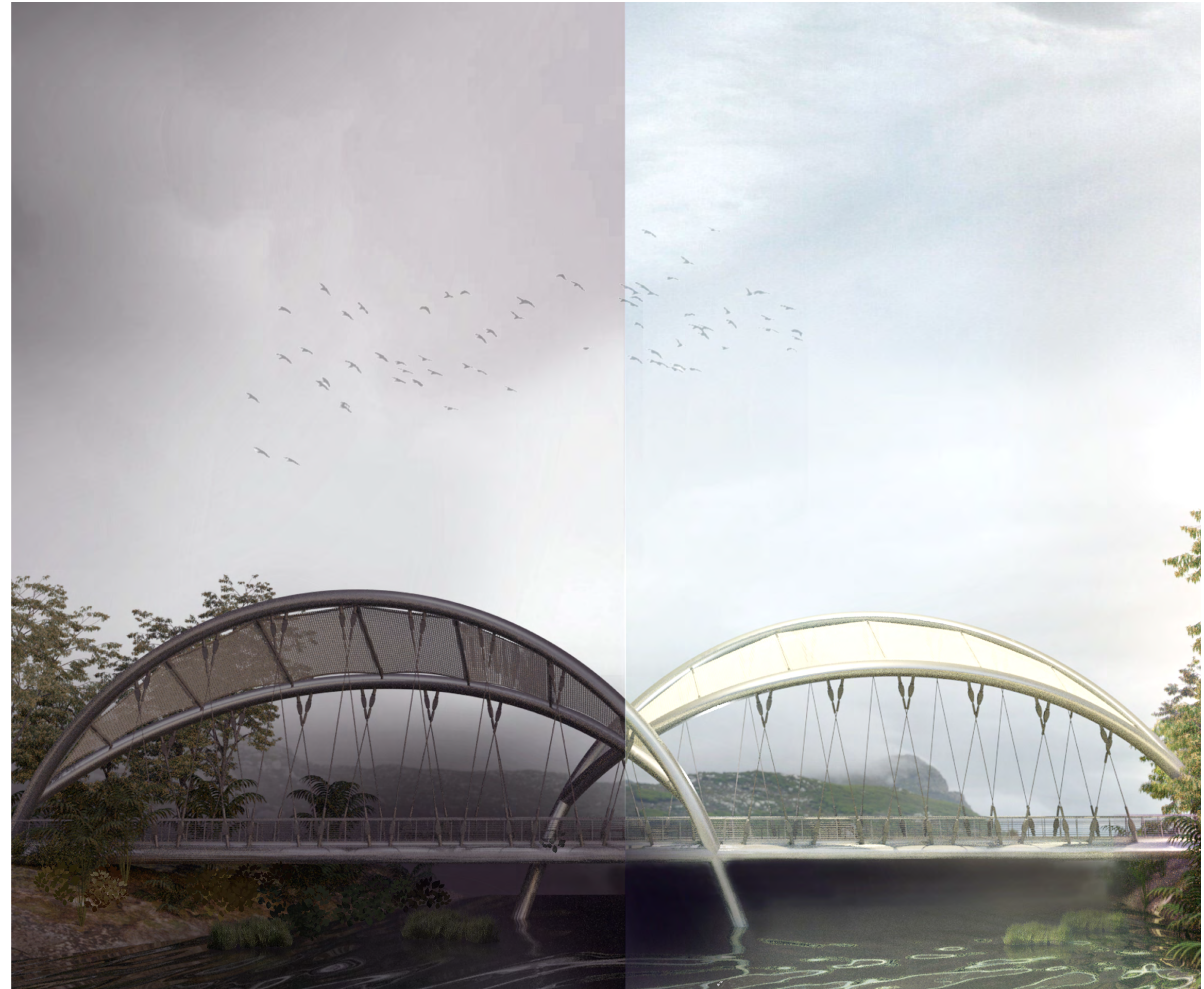
THE POLARIZED EXPRESS

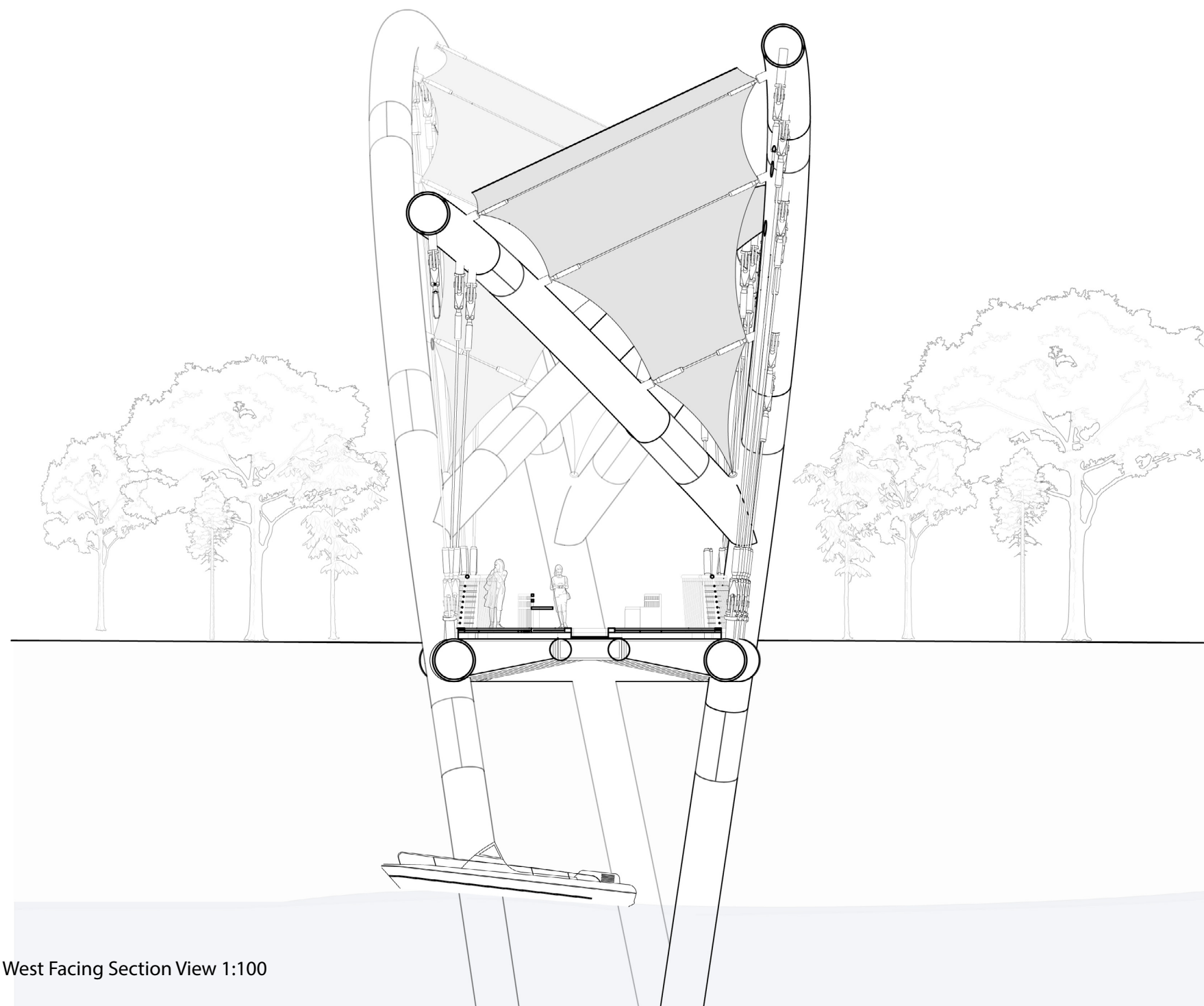
CISC Steel Competition Entry For The Yamaska River, Quebec

Despite being in a rural area, the Rivière Saint-François in Quebec is highly polluted with a declining population of fish. The Polarized Express bridge serves three simultaneous purposes. The first is to aid in the water filtration effort, creating a more habitable environment for the aquatic wildlife in the area. The second is to provide a view into the water using polarized glass so that users of the bridge can look at what is happening underneath the surface of the water, and the third is to serve the basic function of a bridge, to allow people who need to get from one edge of the river to the next as most bridges do.

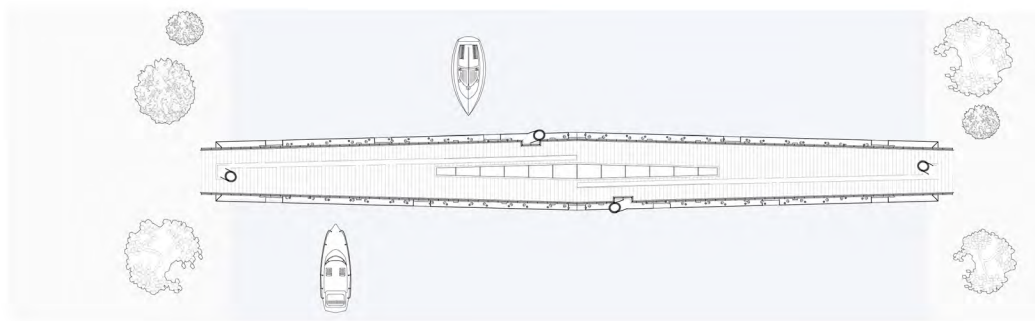
The use of Polarized glass in this bridge allows for the sun rays that are usually reflected off of the surface of the water —which block any below surface views— to be filtered out, providing a direct view to what lies underneath.

In Collaboration with Janna Fahmy and Drew Jackson

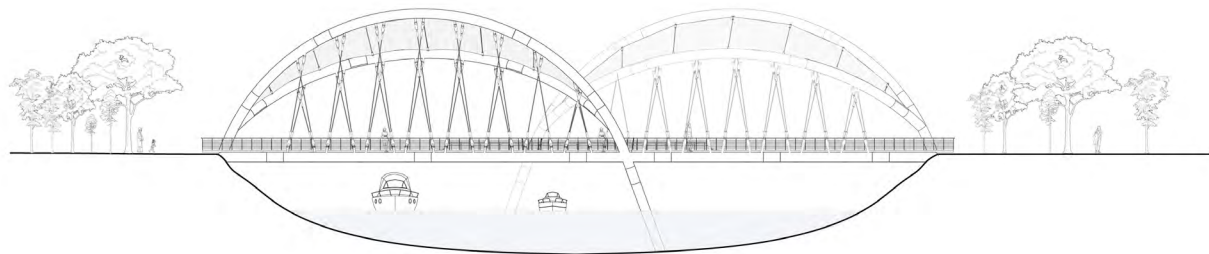




West Facing Section View 1:100

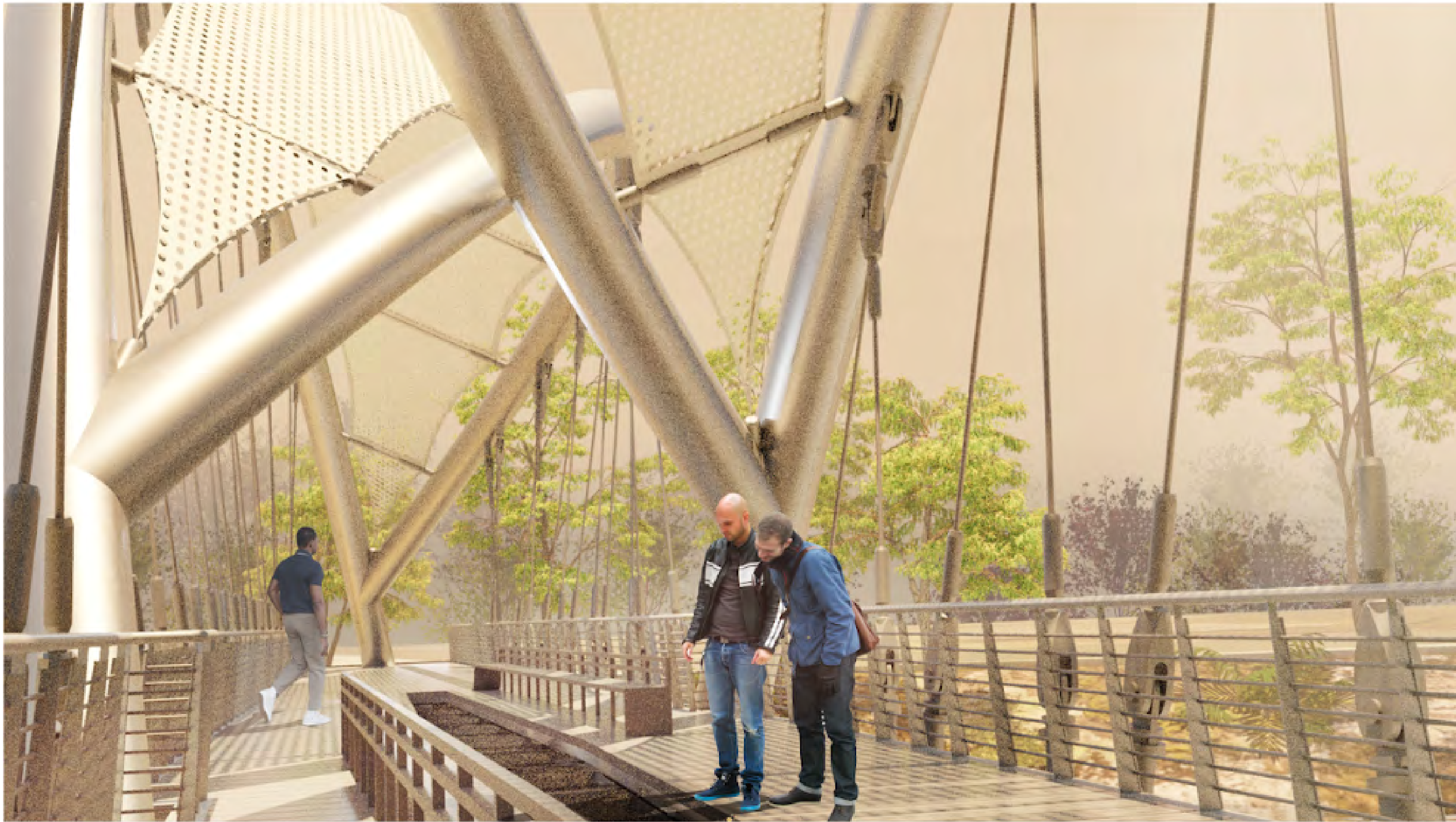


Plan View 1:250

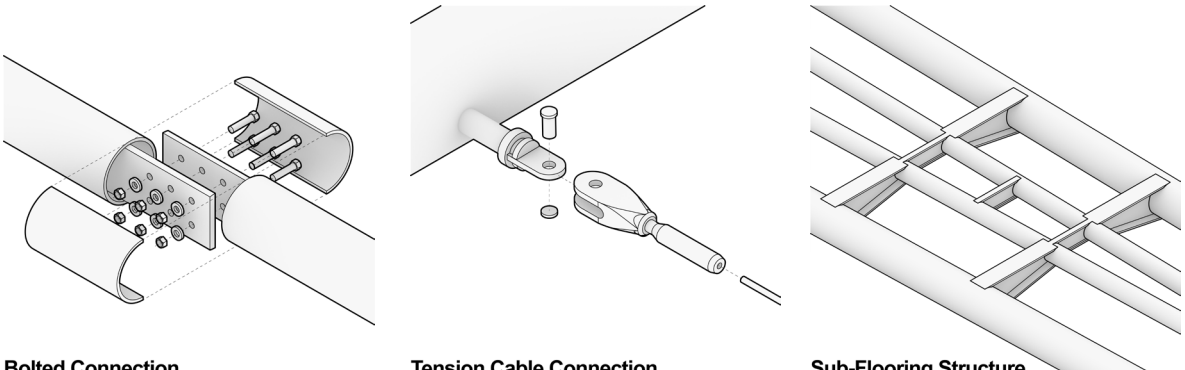
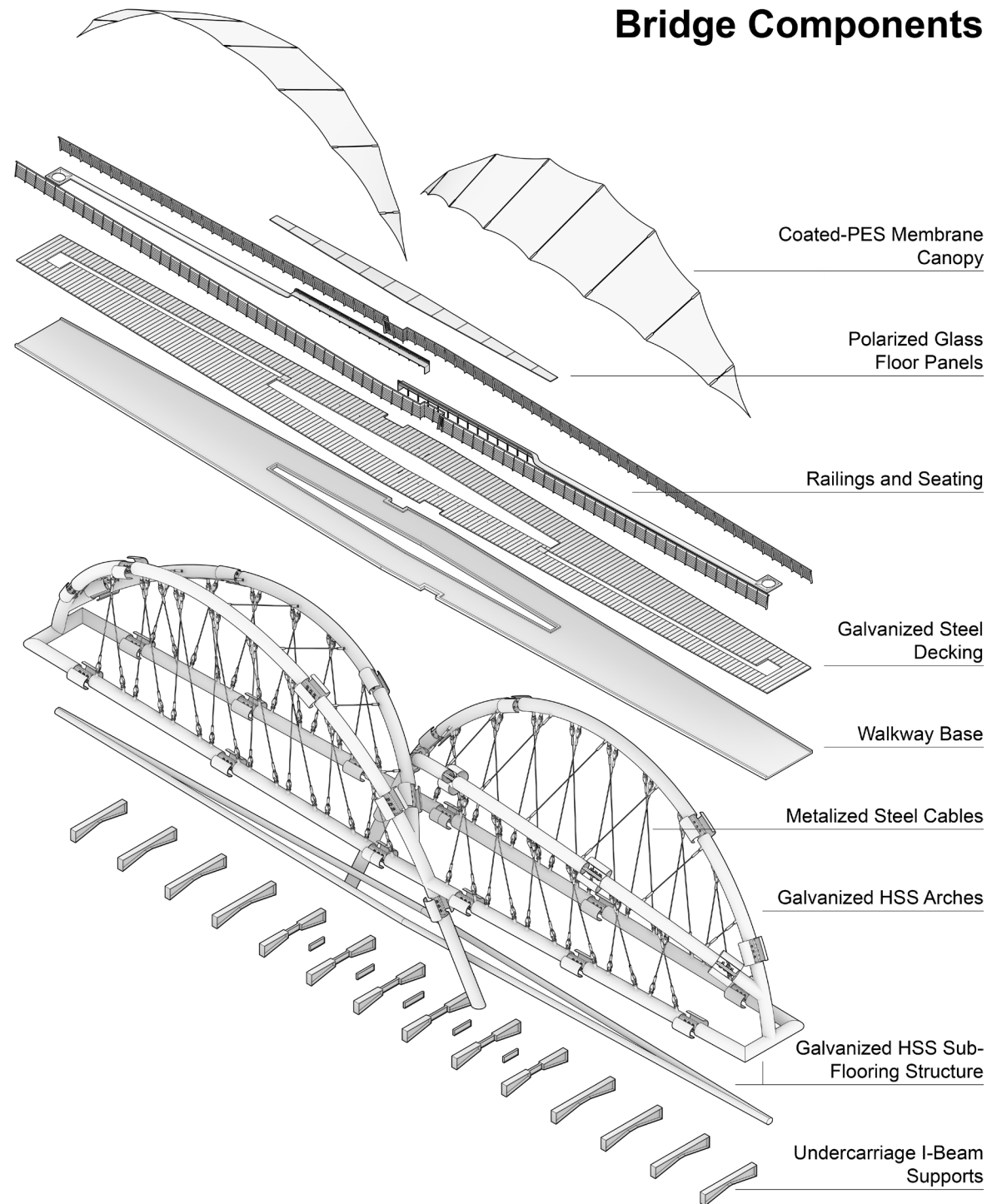


North Facing Section View 1:250





Bridge Components



OPEN AND SHUT

Third Year Biomimetic Final — David Correa Studio

Drawing inspiration from the Yellow Toadflax's ability to divert water away from the throat down the dorsal petals, our design also channels water to flow down two angled faces, hence achieving the idea of protection, as the rain is being directed away from the center, where a person standing beneath the canopy would not be hit by rainwater overhead.

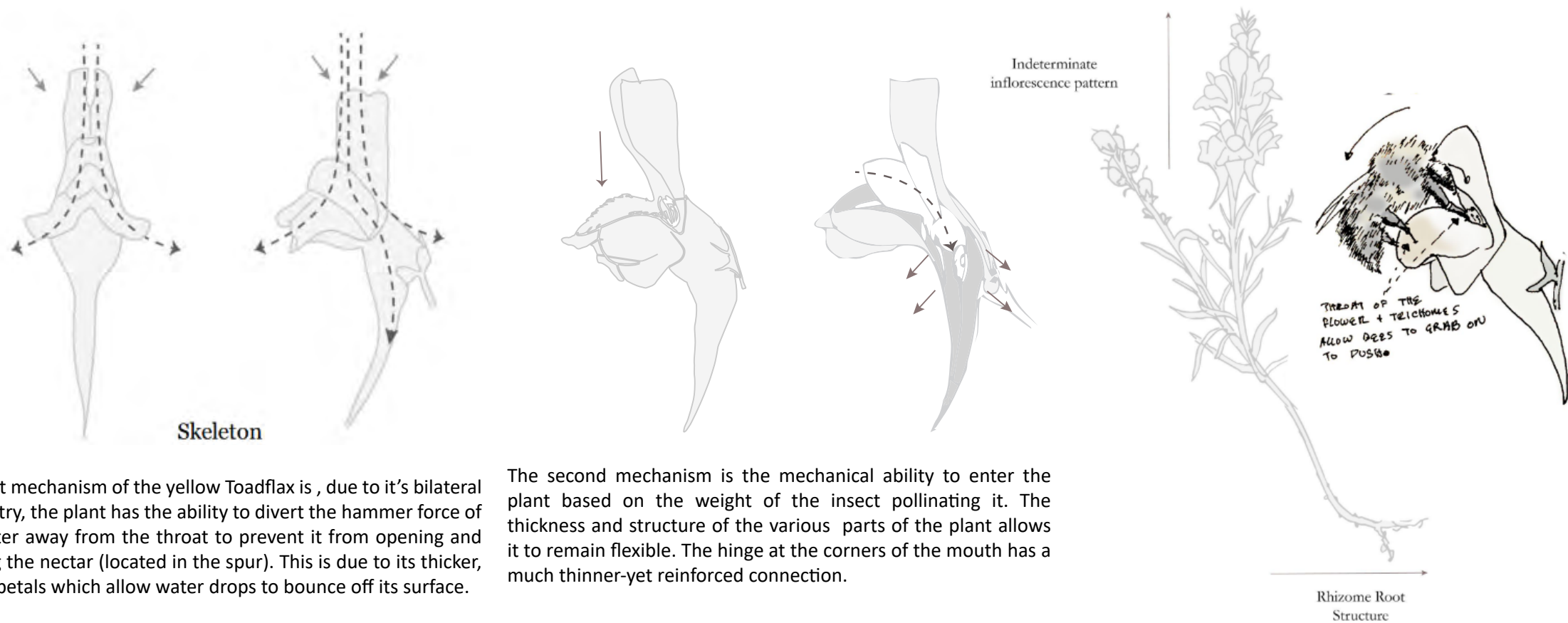
The final components of the canopy element are made from acetate, including the water diversion layer, the backing which allows for the bending force, and a reinforcement layer to ensure there is adequate stiffness in the overall component. Below we can see where the areas of displacement occur most, which is in the inner radius. With this in mind, we were able to control where the water diversion layer was able to be placed on the backing. In our proposal, the canopy element is bent upwards by default, allowing rainwater to be diverted when not in use, until a user actuates the element, through releasing the string and attaching it to hooks that are embedded in the frame, allowing for shading and for rainwater protection. Our canopies are loaded eccentrically, which allows for an arched view between any two canopies. We arranged ours in a pentagonal system where this arched view is framed, all along the interior of the system.

The Yellow Toadflax flowers led us into an exploration of material testing and prototypes that developed into a system of canopy structures to provides both rain coverage and solar shading as a response to various climatic conditions based on a user's liking.

In Collaboration with Luna Hu

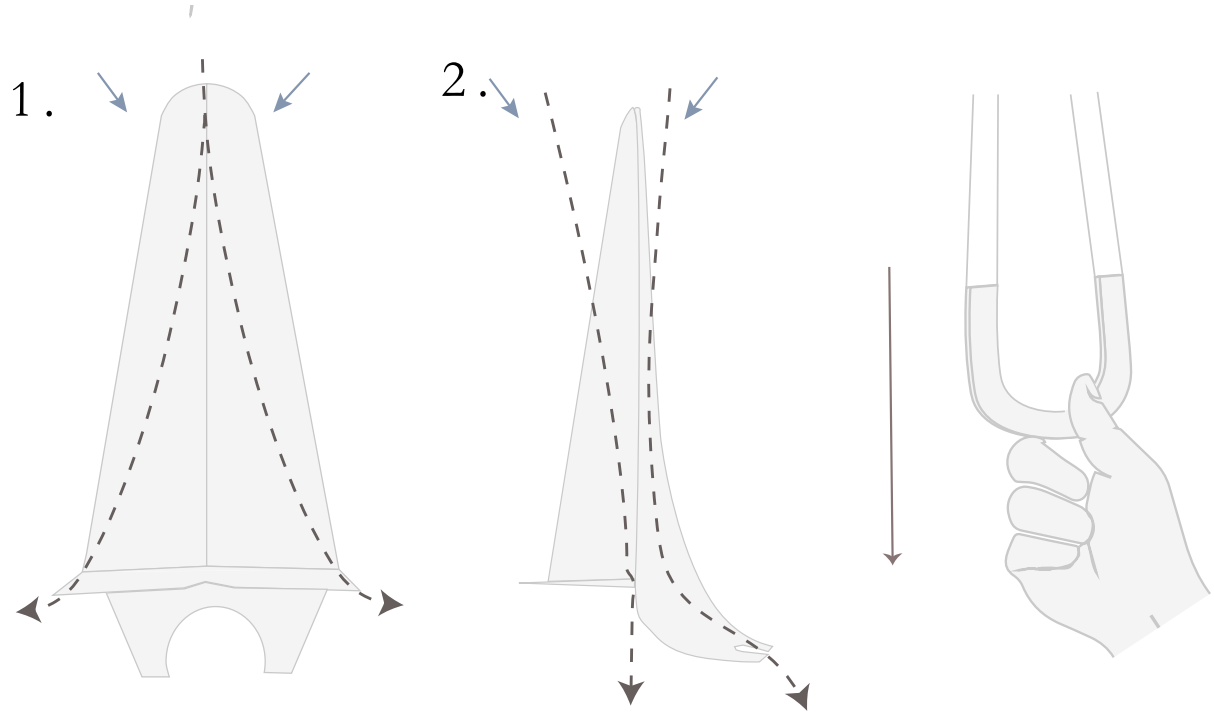


Form and Structure of the Yellow Toadflax



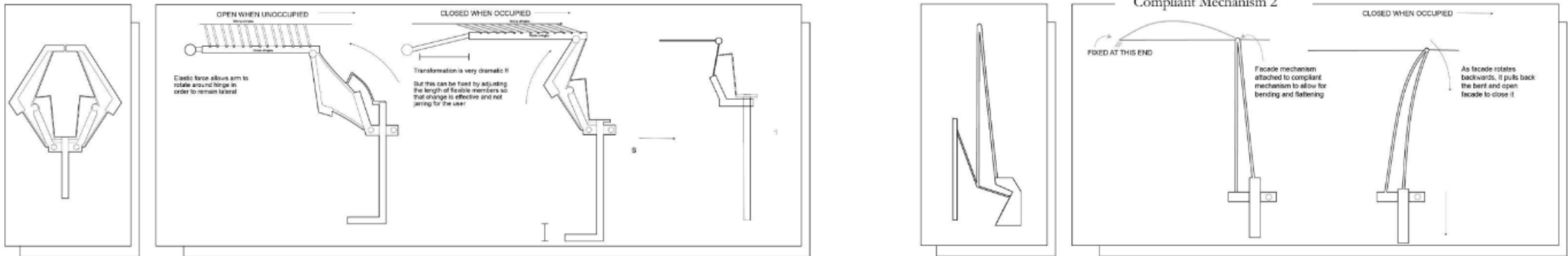
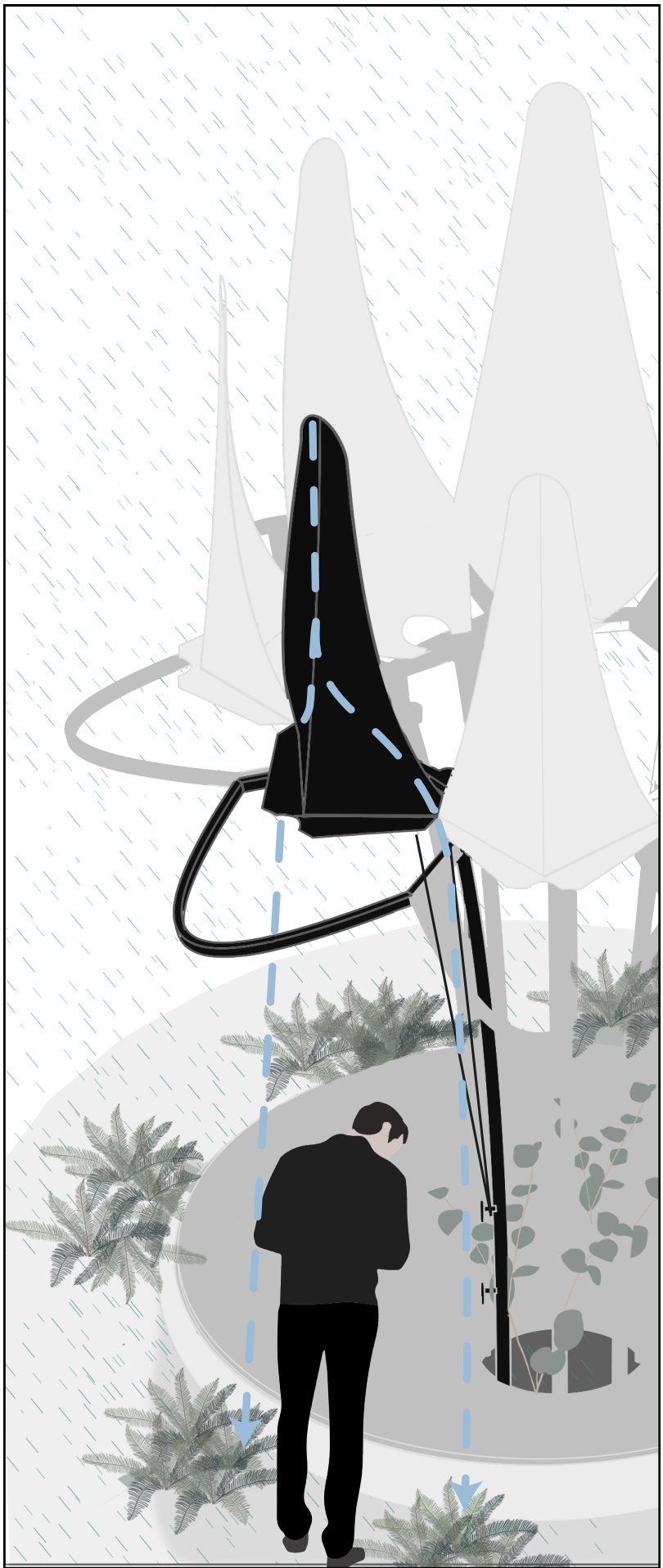
The first mechanism of the yellow Toadflax is , due to it's bilateral symmetry, the plant has the ability to divert the hammer force of rainwater away from the throat to prevent it from opening and diluting the nectar (located in the spur). This is due to its thicker, lateral petals which allow water drops to bounce off its surface.

The second mechanism is the mechanical ability to enter the plant based on the weight of the insect pollinating it. The thickness and structure of the various parts of the plant allows it to remain flexible. The hinge at the corners of the mouth has a much thinner-yet reinforced connection.



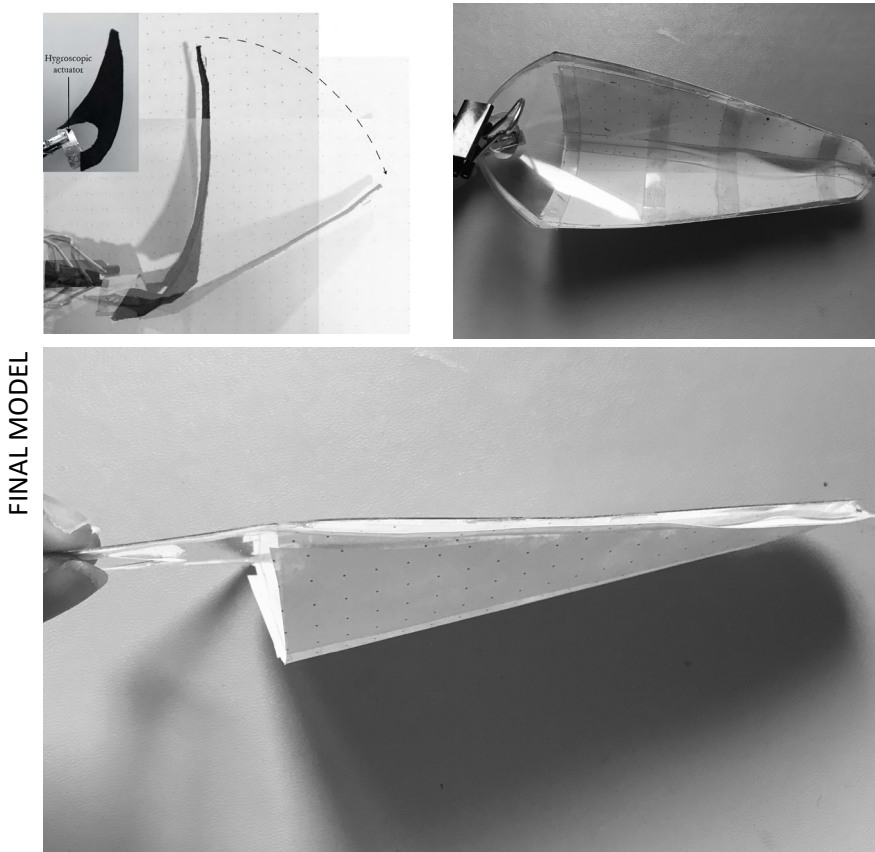
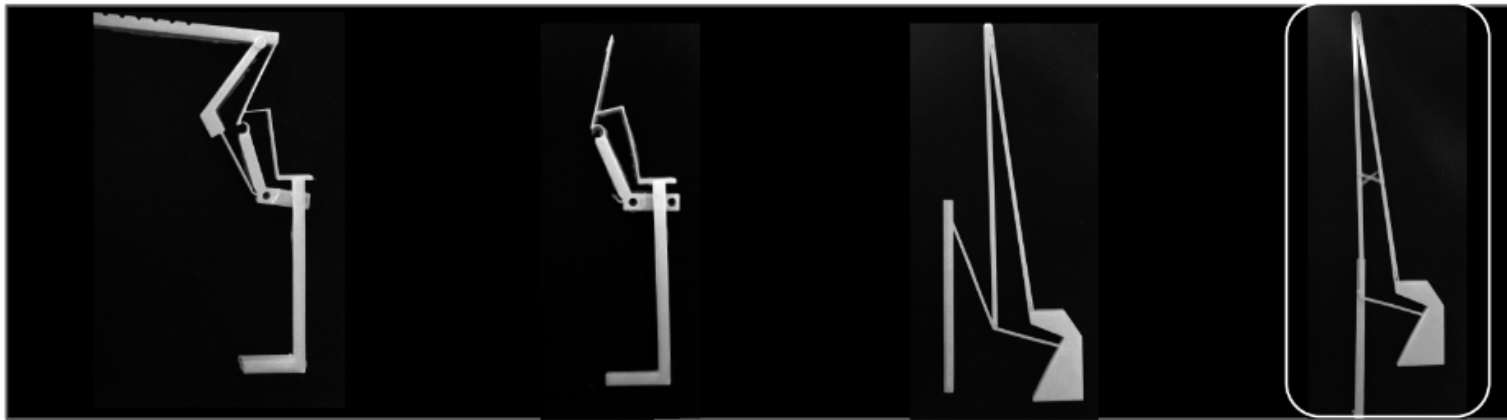
Biological Functions	Translated Functions from Biological Models
Concept of Protection	Solar shading (when open)
Rainwater Diversion	Rainwater Diversion (when closed)
Rainwater Collection	Rainwater Collection (at all times)
Compliant mechanism	Compliant mechanism (when weight is applied)

The compliant mechanism in the yellow toadflax bends downwards due to the variation in material thickness under the throat that acts as a hinge. This was our initial approach into 3D printing mechanisms that can be actuated by a user, where material thickness determined the ability to transfer forces to open or close our system.

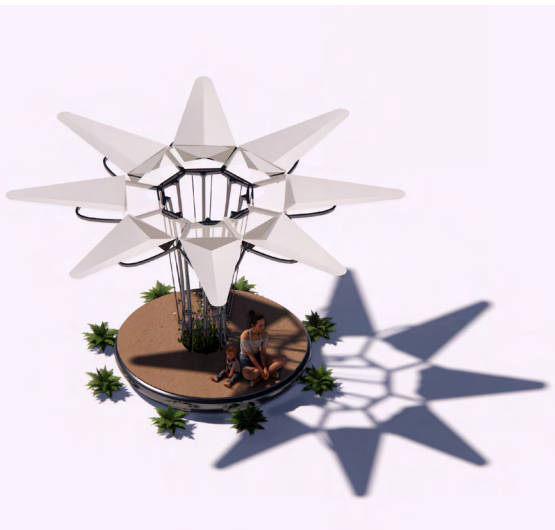
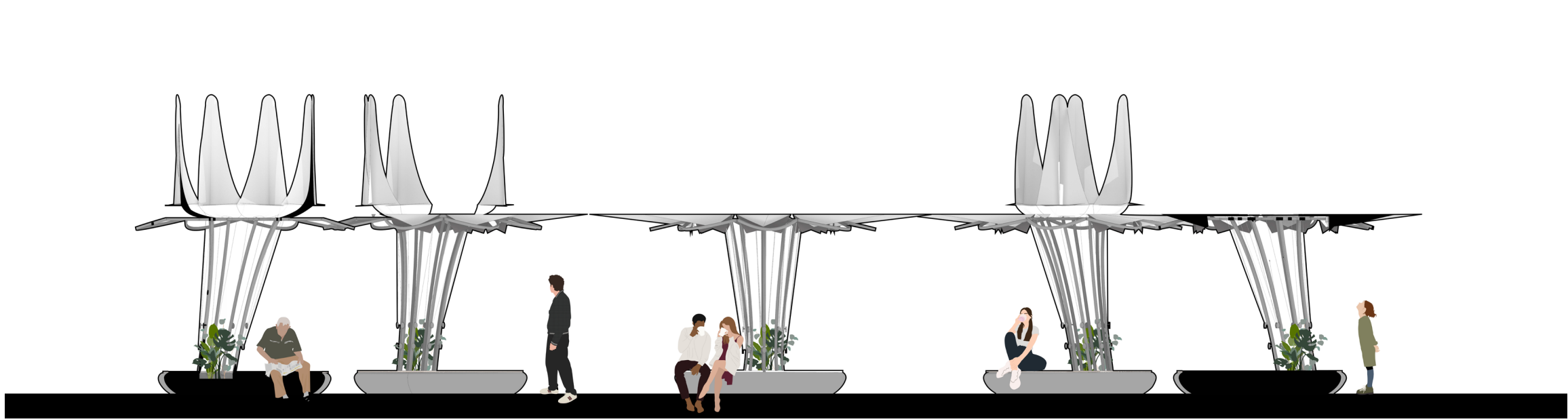
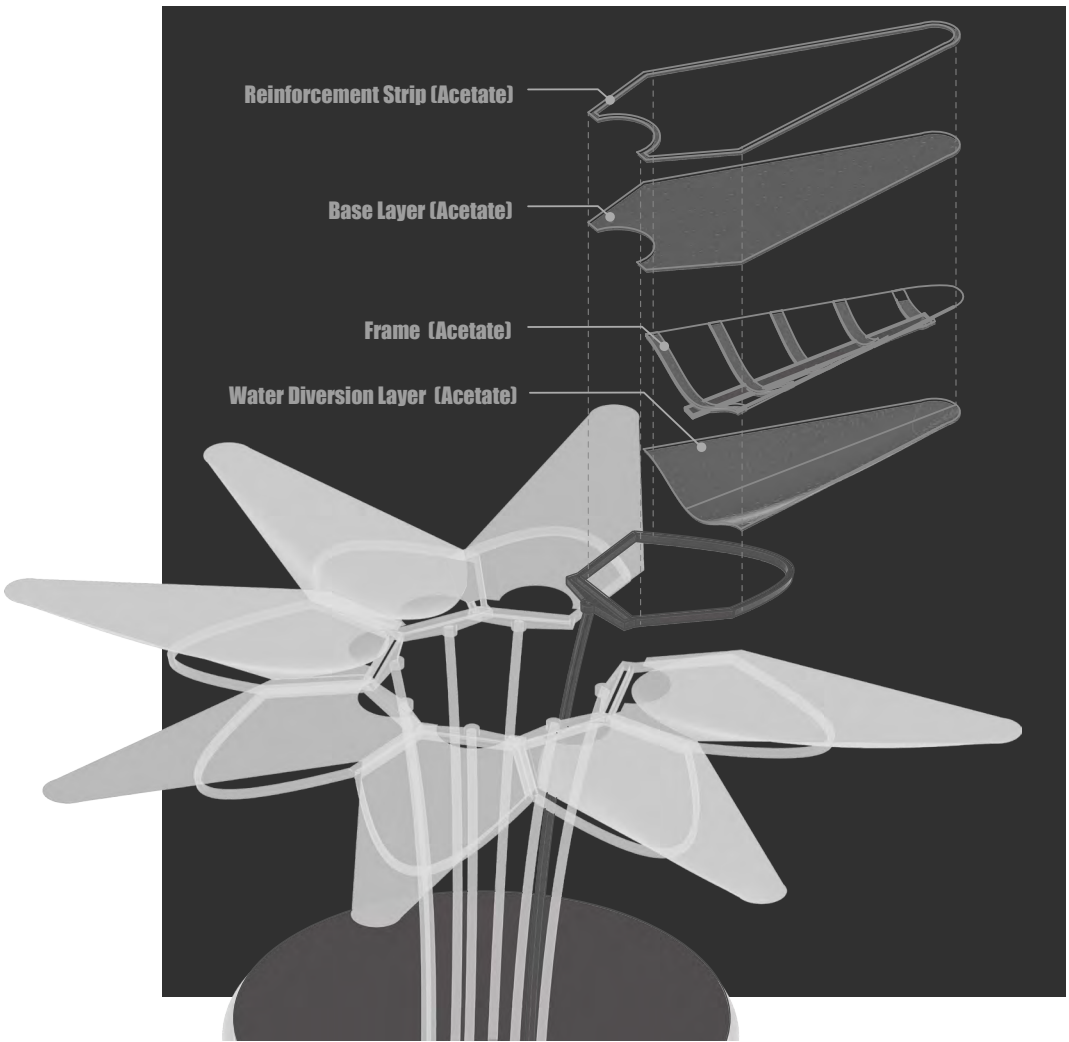
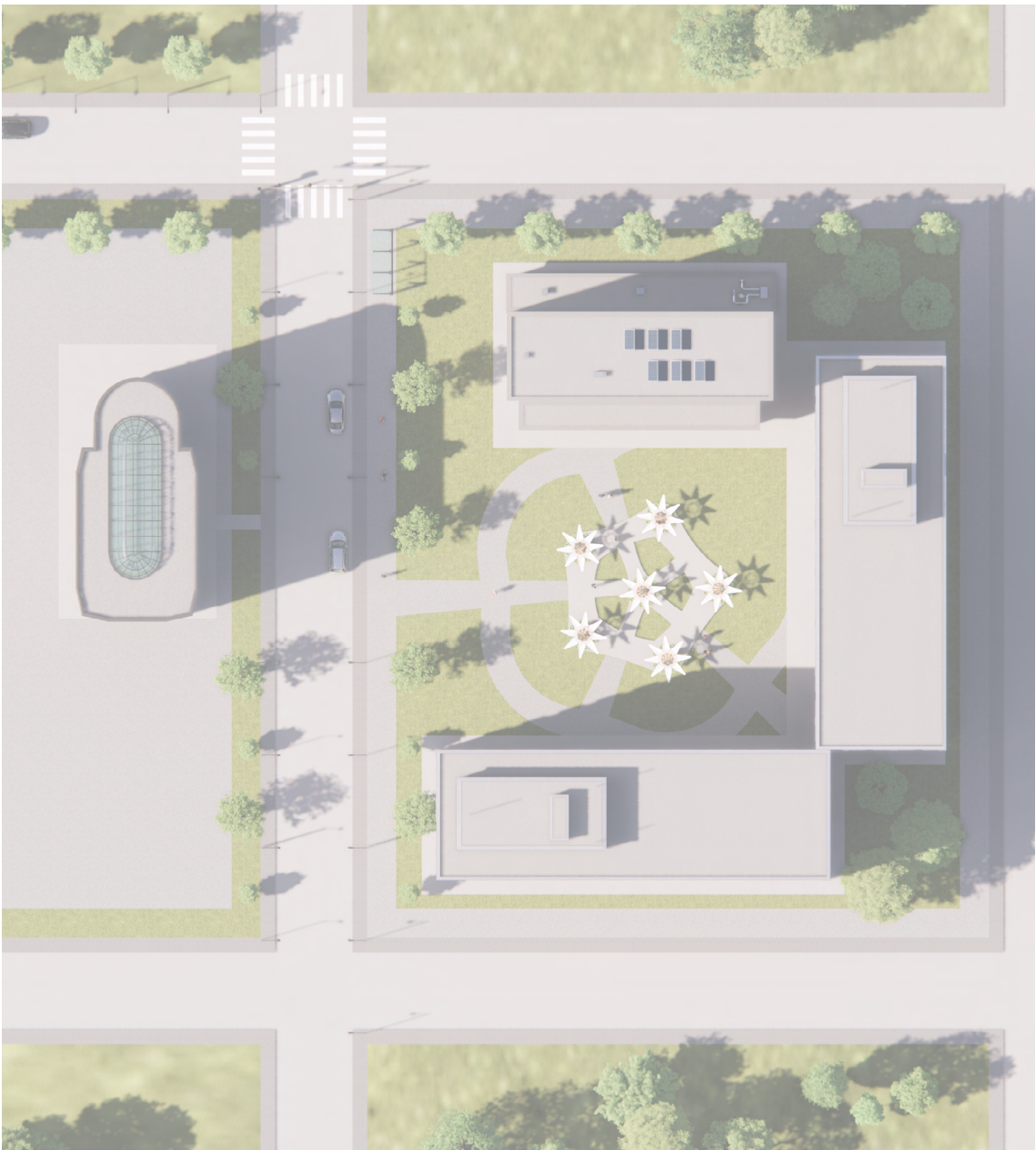
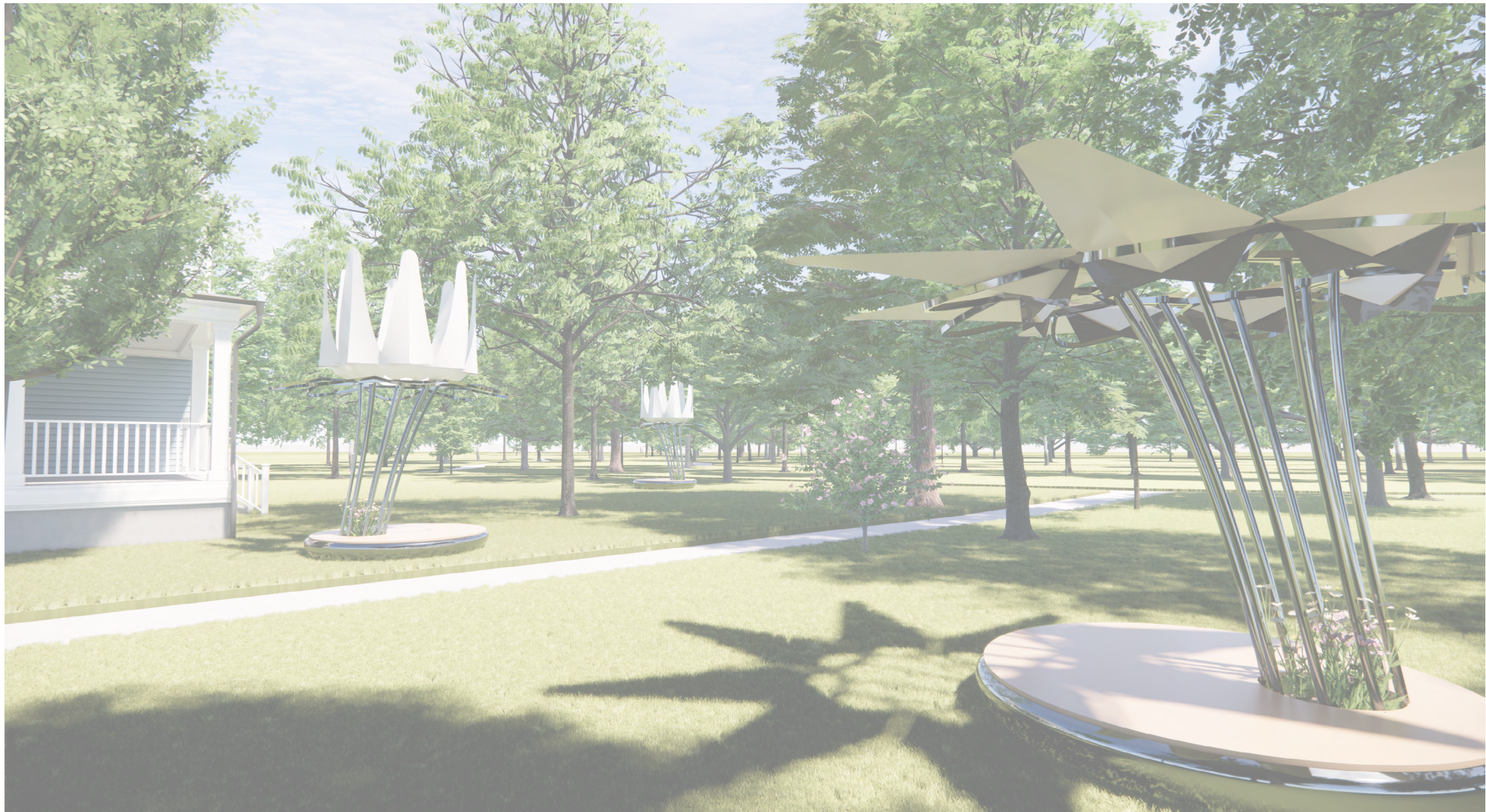


Photographs of 3D printed models

1. Adapted from existing model and uses a hinge system on the arm. (must start in stressed position)
2. Simplified version of print 1, without thee extraneous arm and hinge connection
3. Adapted from existing model and uses downward force to induce rotation (can start in relaxed position)
4. Simplified version of print 3. with bracing



FINAL MODEL



In the summer, the shade of the canopy opens once the user presses on the seat



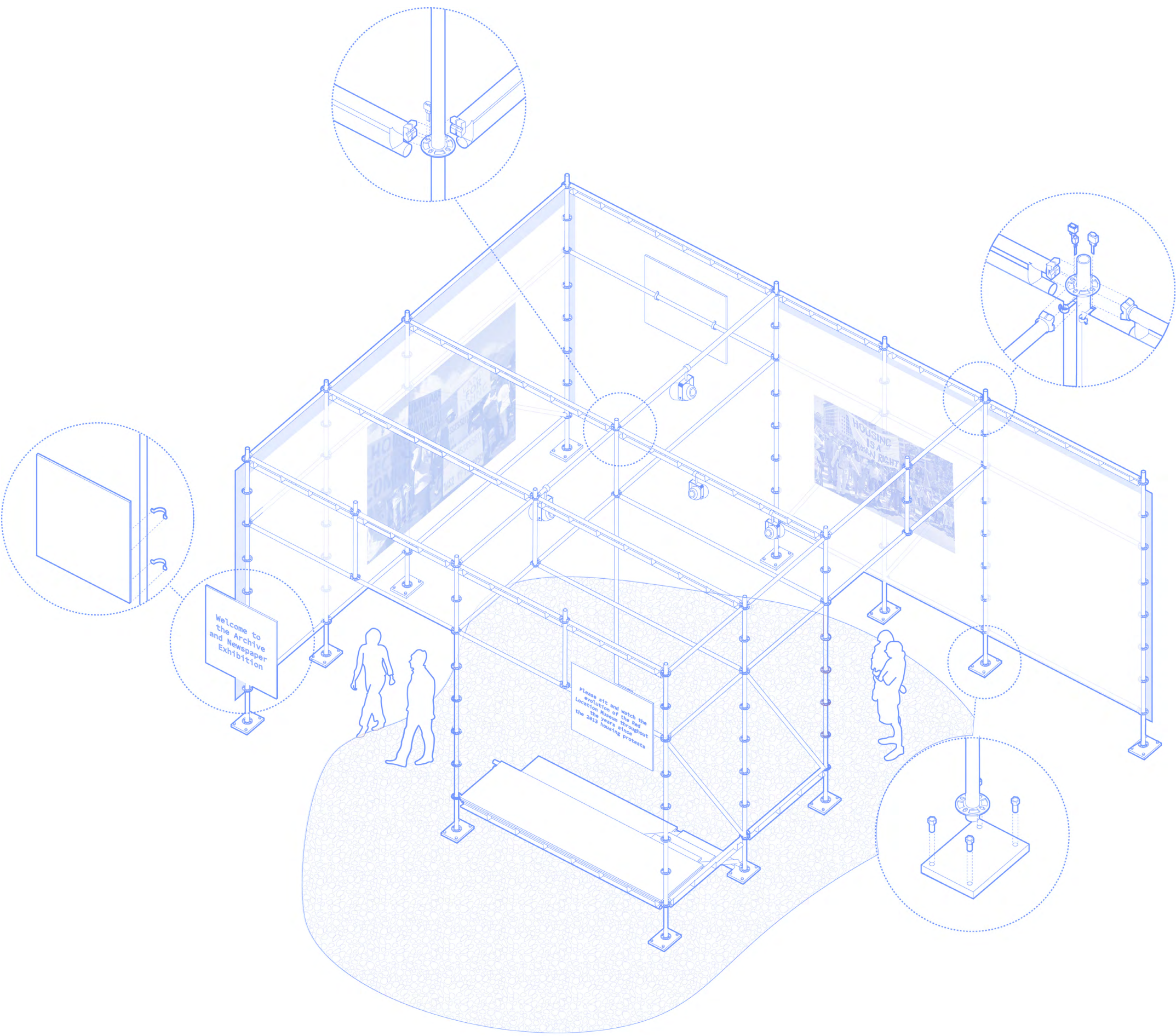
When the user is not using the canopy, it is used for rainwater collection

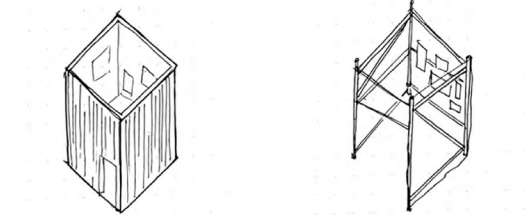
REBUILDING RED LOCATION

Red Location Museum for Struggle
New Brighton, South Africa

Unlike previous museums dedicated to the commemoration of the South African apartheid era, the Red Location Museum of Struggle was intended to act as a community institution and become an integral part of the neighborhood’s identity. Rather than commemorating the atrocities and impacts of racial segregation, the museum aimed to celebrate the strength and resilience of South Africa’s racial minorities in the face of oppression. Despite the efforts from both the architects and museum administration to involve the local population, it remained a symbol of a larger system of oppression and inequalities that outlived the end of the apartheid regime. As part of these efforts, residents decided to take the museum “hostage” and prevent its normal operations, ultimately leading to its closure in October of 2013.

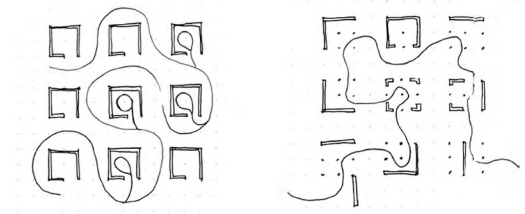
Considering the current state of the museum, we expect the rehabilitation process to be spread over an extensive period that presents an opportunity to design temporary social spaces and curational content that mesh within the construction itself. Inspired by the nearby construction, we propose to deploy a series of exterior installations that borrow from its material and formal palette. Scaffolding, plastic membranes, metal fencing, and sheet materials like OSB and plywood will be used to design small public installations for residents to sit, gather, and reflect as well as curational displays that feature exhibition contents.





Interior Memory Box

Exterior Memory Box



Interior Circulation

Exterior Circulation



Texts and Explanations

News Articles



Photographs



Protest Signs



Videos



Projections



Policies



Barrack Replica



Legal Documents

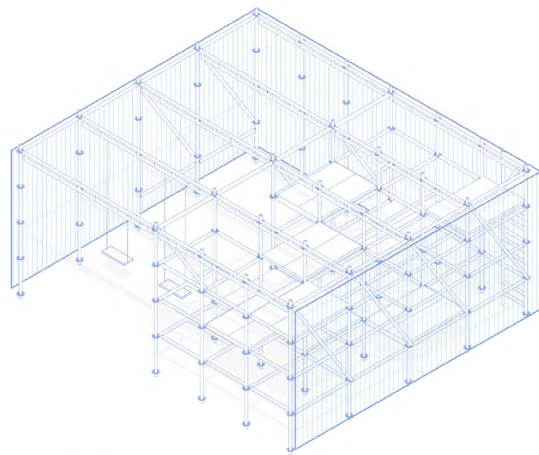


Testimonials

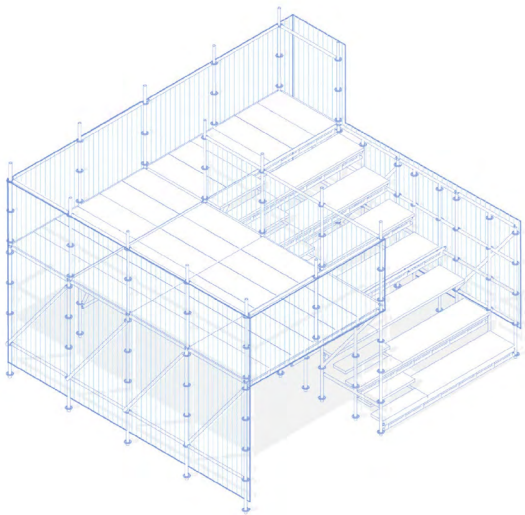
Social Spaces
1. Play Structure 2. Seating Space 3. Chilling Space 4. Stage 5. Entrances

Exhibition Spaces
6. Projection Space 7. Protest Signs Gallery 8. Testimonial Space
9. Barrack Reconstitution 10. Newspapers and Archival Material

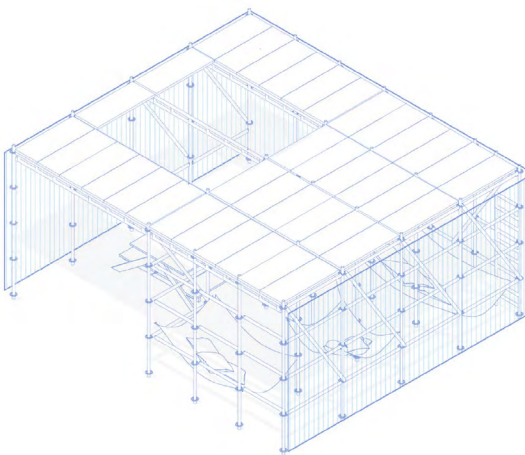
11. Tower



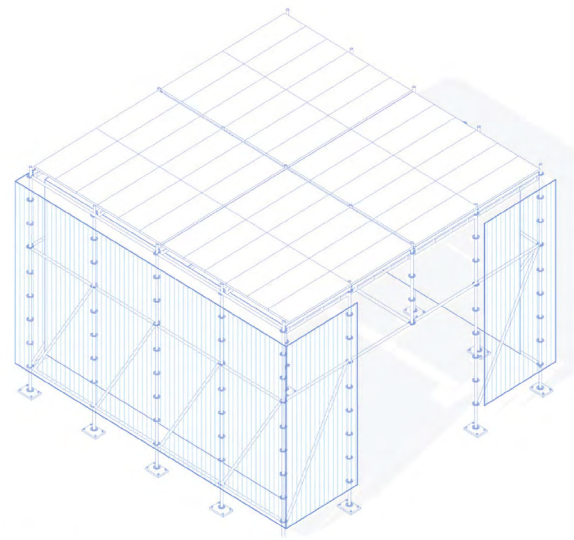
1. Play Structure



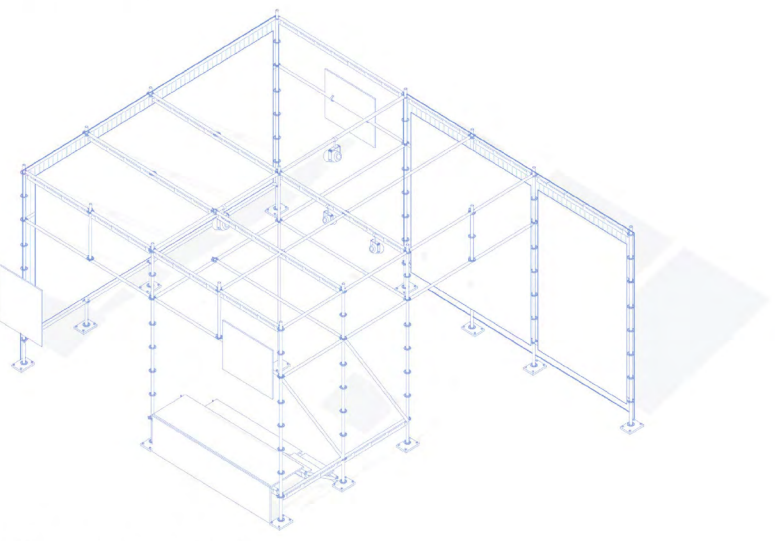
2. Seating Space



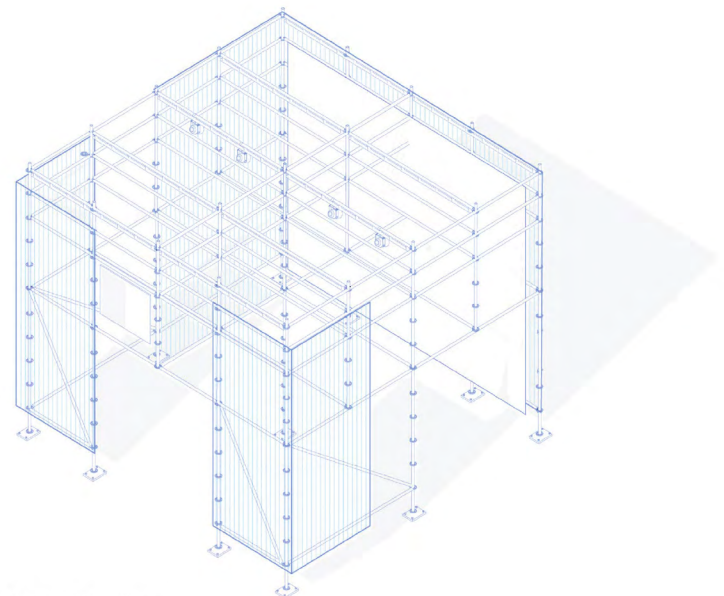
3. Chilling Space



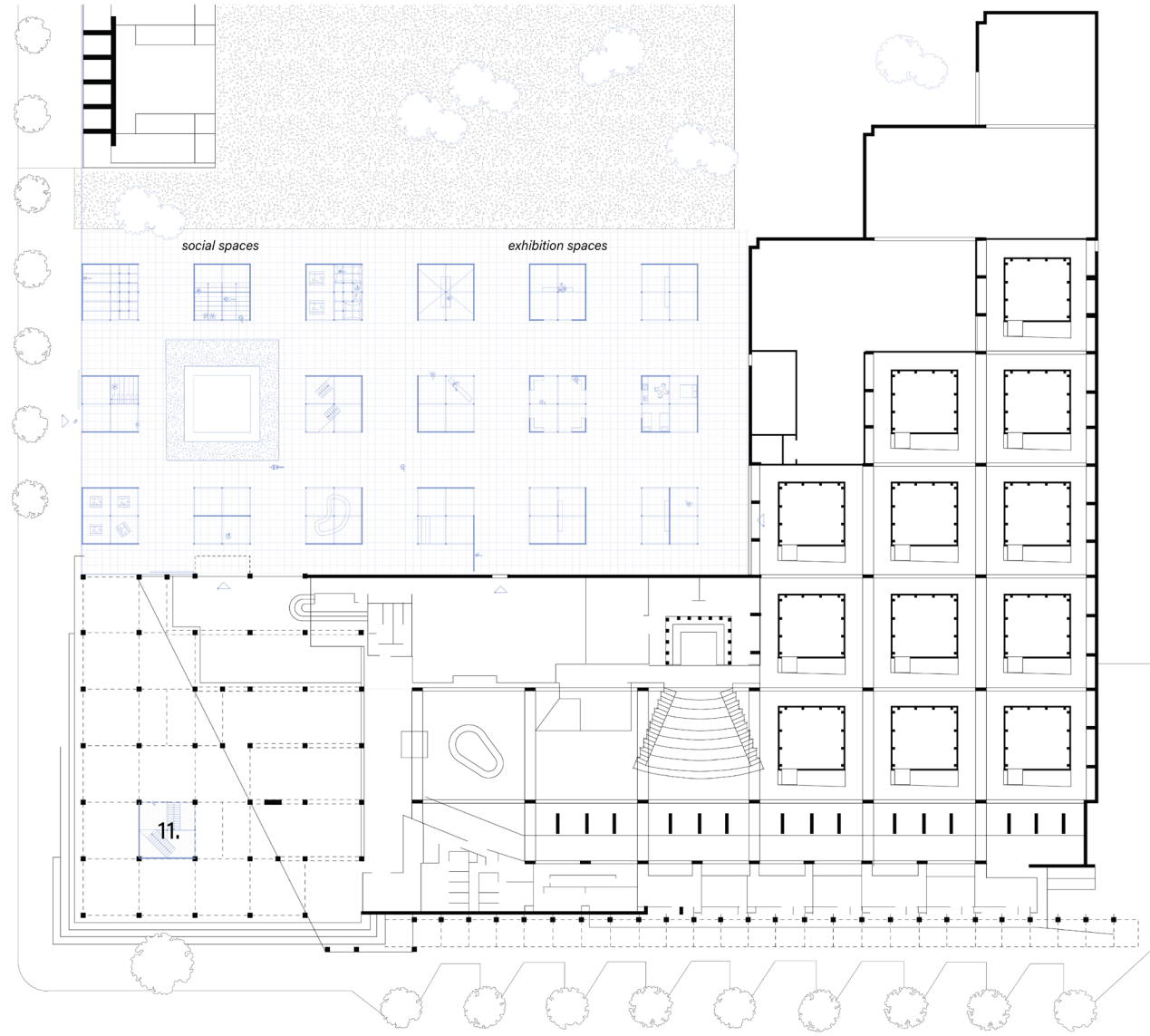
6. Projection Space



5. News and Archival Material

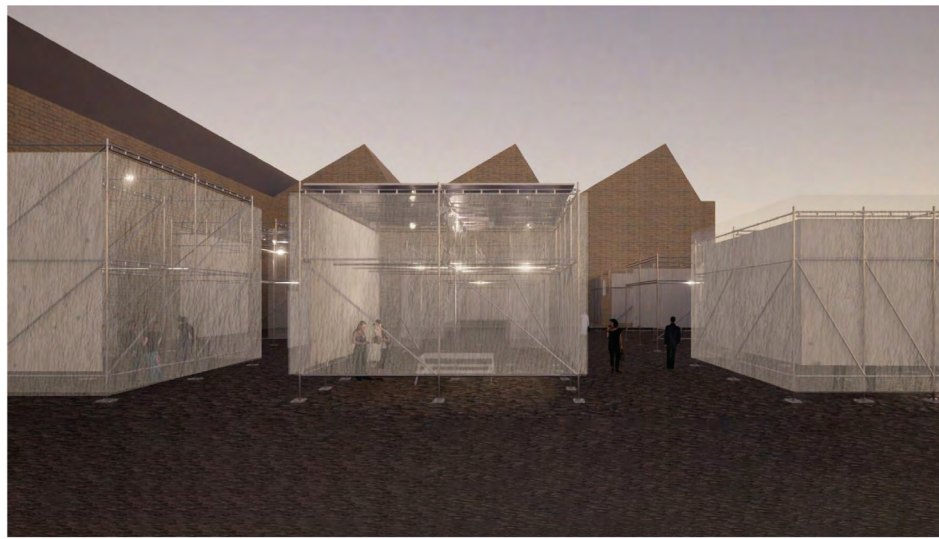


9. Barrack Replica



Site Plan

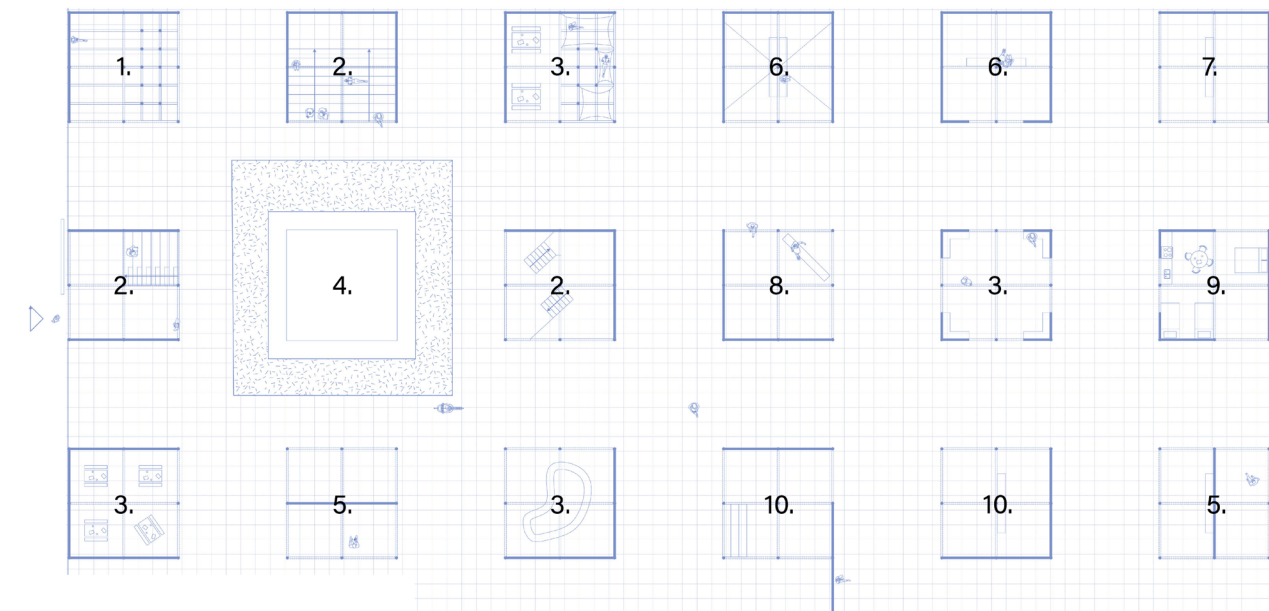
1:250



Protest Signs



Barrack Replica



Intervention Plan

1:150



Barrack Replica

POST-GRADUATE

THE ARCHITECTURE OF GRIEF

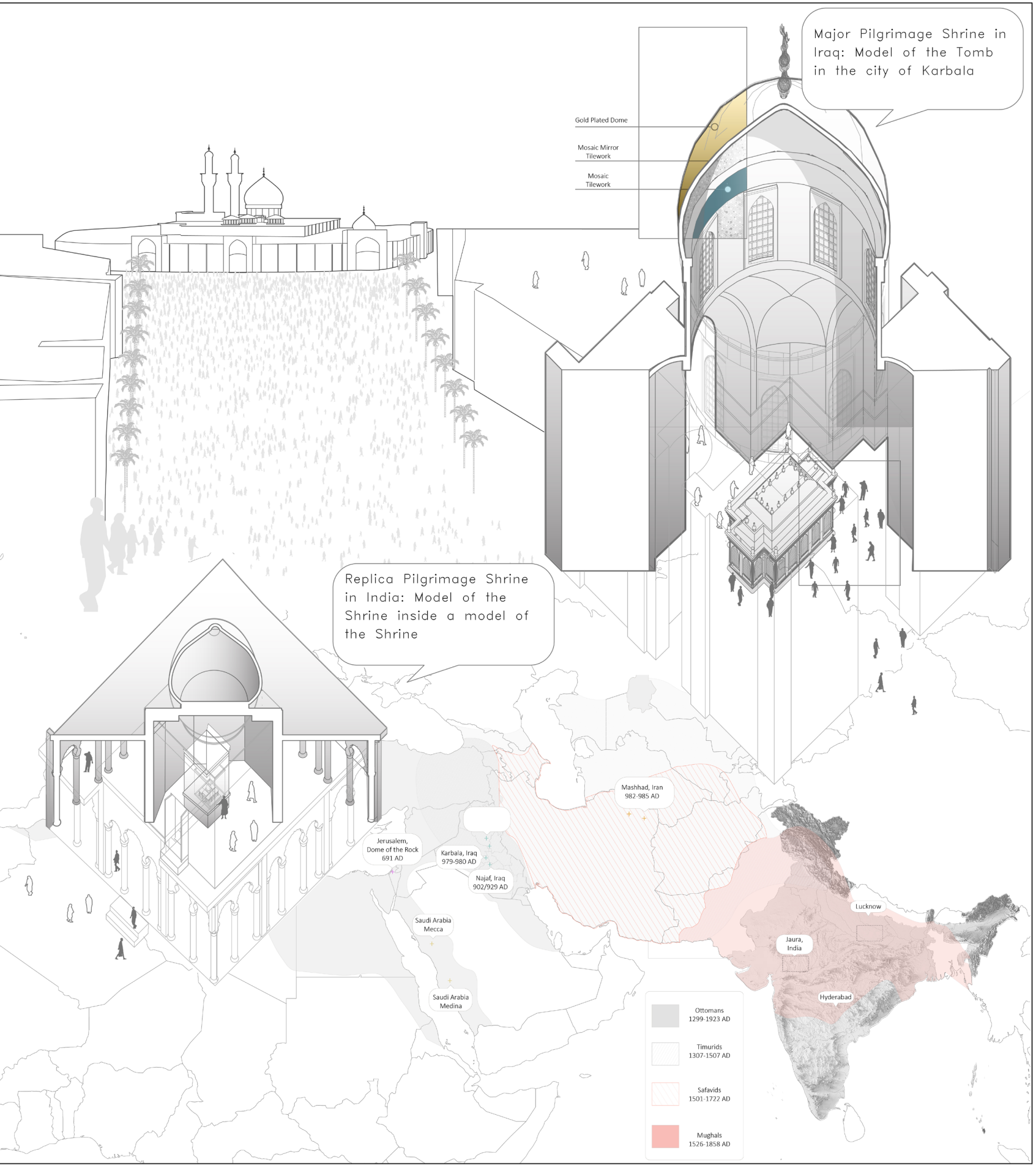
REPRESENTING MOURNING SPACES IN ISLAMIC ARCHITECTURE

In an era where images proliferate and processes become obscured, acts of ritual recreation offer a counterpoint restoring tangibility, anchoring memory, and reaffirming the presence of history in contemporary practice. Across centuries, the remembrance of Imam Hussain’s martyrdom at Karbala has unfolded through parallel pilgrimage the ritualized reconstruction of sacred spaces and processions that make distant histories immediate.

In the Deccan, the exploration of craft-based, embodied practices that transform memory into material form. Taziyas, ephemeral shrine models crafted from wood, paper, and metal, are carried through processions before being ritually buried, collapsing time between Karbala and the present. replica shrines inspired by Karbala but shaped by local materials serve as mnemonic anchors, rooting history in place.

These practices index a process: they do not merely replicate but continually reimagine and renew. In their making, they preserve knowledge, maintain cultural continuity, and resist abstraction. This exhibition explores these intertwined acts of devotion, craft, and spatial memory, inviting us to consider how architecture and design emerge not just as finished objects, but as histories in motion embodied, enacted, and lived.

<https://hdl.handle.net/10012/21466>



WORK EXPERIENCE

MURB WALL PANEL

CARBON ANALYSIS

BDP Quadrangle MURB Wall Panel Studies

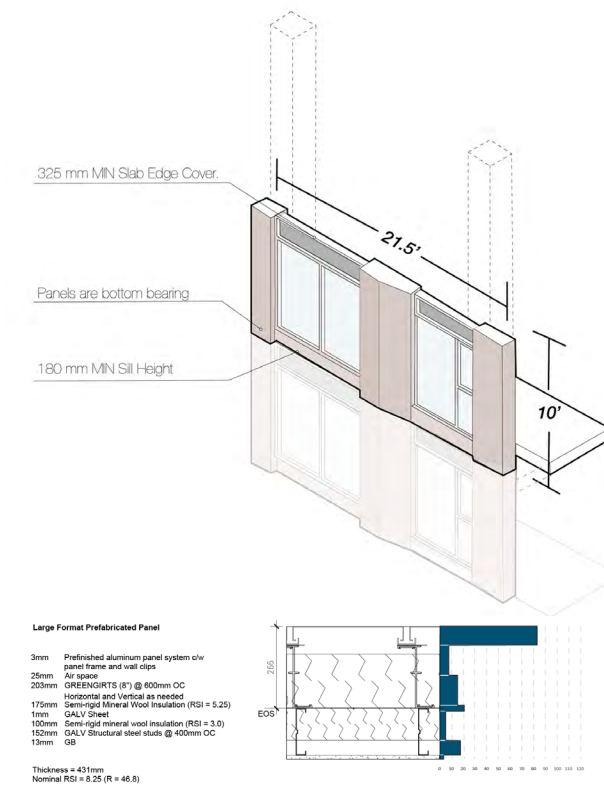
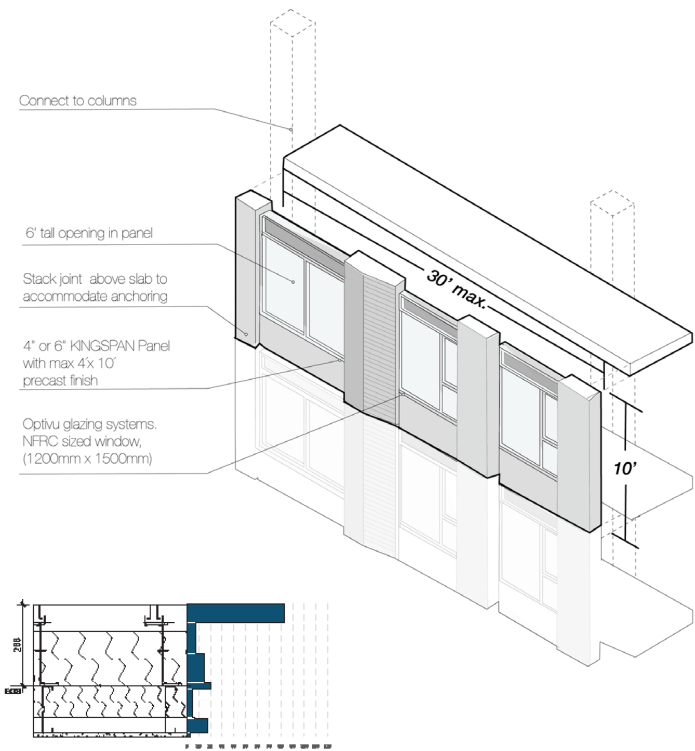
This carbon emissions study was prepared by BDP Quadrangle to understand the environmental impacts of potential high performance exterior wall assemblies. The building envelope will be a critical part of this reduction as it accounts for roughly 30% of the embodied carbon in a multi-unit residential building. Any opportunity to reduce carbon emissions within the building envelope must consider both the impacts to the operational and embodied carbon, especially when considering high performing alternatives. Using a ratio of thermal performance (RSI) and global warming potential (GWP) we can begin to evaluate the overall carbon intensity of each wall assembly. The lower the ratio, the lower its carbon impact.

This report investigates the relative impact of six high-performance wall assemblies. Each of these wall assemblies were developed as potential solutions to achieve a high thermal resistance for a project targeting the Zero Carbon Building Standard through the Canadian Green Building Council (CaBGC).

OneClick LCA was used to access Environmental Product Declarations (EPDs) to find the GWP of each assembly. GWP values are expressed in units of carbon dioxide mass equivalent (kg CO2e, in which all GHGs are converted to the impact of CO2). In the Toronto Multi-unit Residential sector, pre-finished aluminum cladding is the most common. For this reason, the study used this as a baseline cladding for the relevant assemblies.

In Collaboration with Michelle Xuereb and BDP Quadrangle’s Green Team.

Wall Panel Facade Suitable for 9m Structural Bay



THANK YOU 

Please reach out to me at:
inamriz456@gmail.com