



**THE SARA
NATIONAL
STUDENT DESIGN AWARDS**

2020

About SARA



“ARCHITECT HELPING ARCHITECT.”

Founded in 1956, **SARA** is a practitioner-led and governed professional society that includes the participation of architects and industry affiliates in diverse roles within the architectural and design community.

SARA stresses a high degree of professional fellowship and mentor-ship, its credo being “**Architect Helping Architect.**”



A CELEBRATION OF ARCHITECTURE & DESIGN

SARA national



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Pivot Architecture | Eugene, OR



BRIAN COURT
AIA, Design Partner
Miller Hull | Seattle, WA



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Associate & Urban Design Lead,
David Baker Architects | San Francisco, CA



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Mahlum | Seattle, WA



MANDI ROBERTS
AIA, Principal
ORA | Los Angeles, CA



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HONOR



EXCELLENCE



MERIT



Sculpting the Rock

Priyanka Parachoor

University of Virginia

“ Beautifully presented. ”

“ Appreciate the passion for Moss Rock. ”

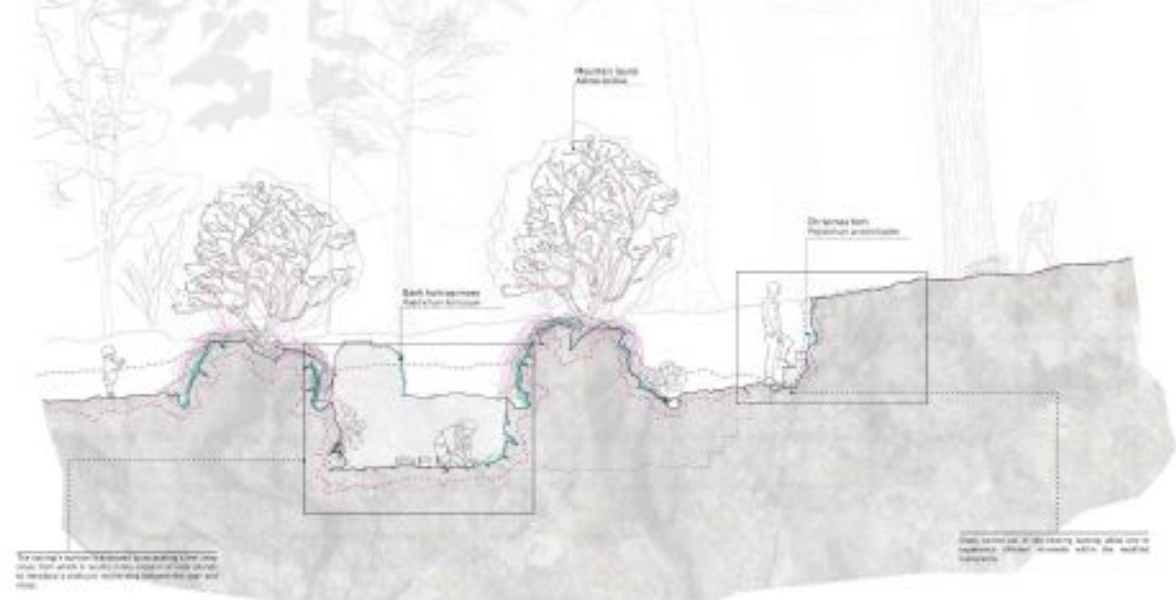
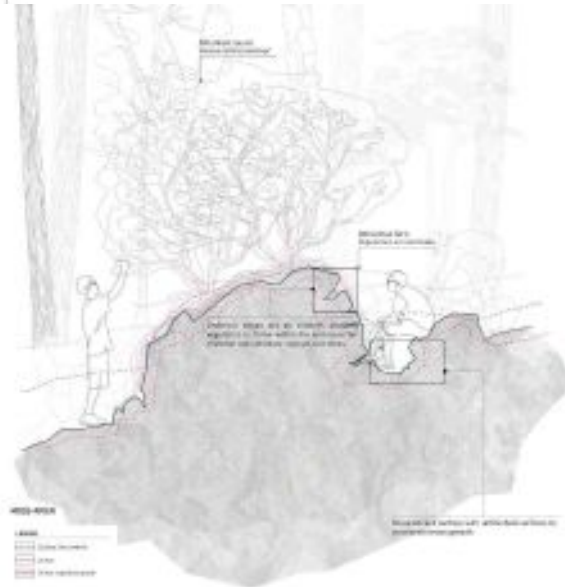
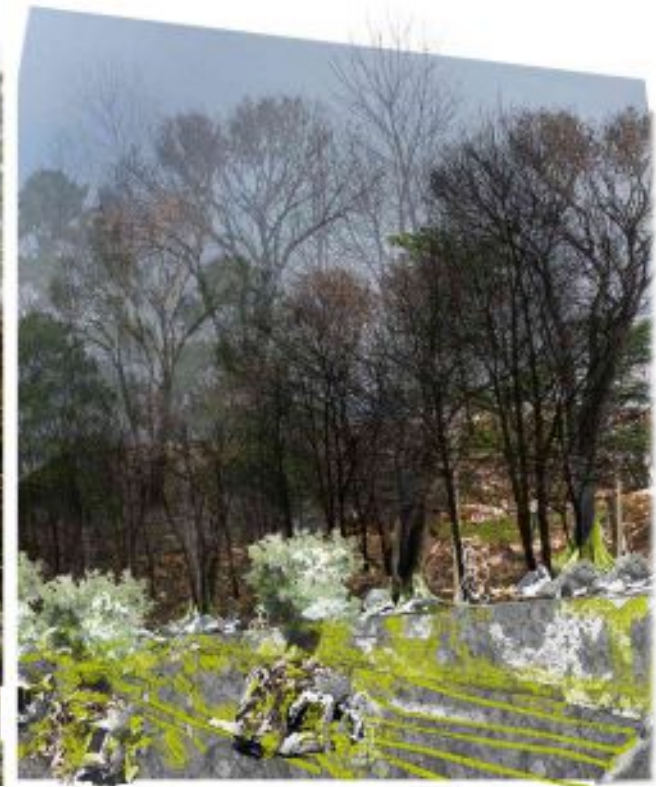
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Sculpting the Rock

Priyanka Parachoor

University of Virginia



MERIT



Fluid Knowledge

Brenton Rahn

University of Nebraska-Lincoln

“ Performatic apertures sized by daylighting needs. ”

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—

Fluid Knowledge

Brenton Rahn

University of Nebraska-Lincoln

MERIT



Infiltrated Walls

Haoyu Gu

University of California, Berkeley

“ Clear consistent and direct. ”

“ Important typology.
Interesting stab at a political topic. ”

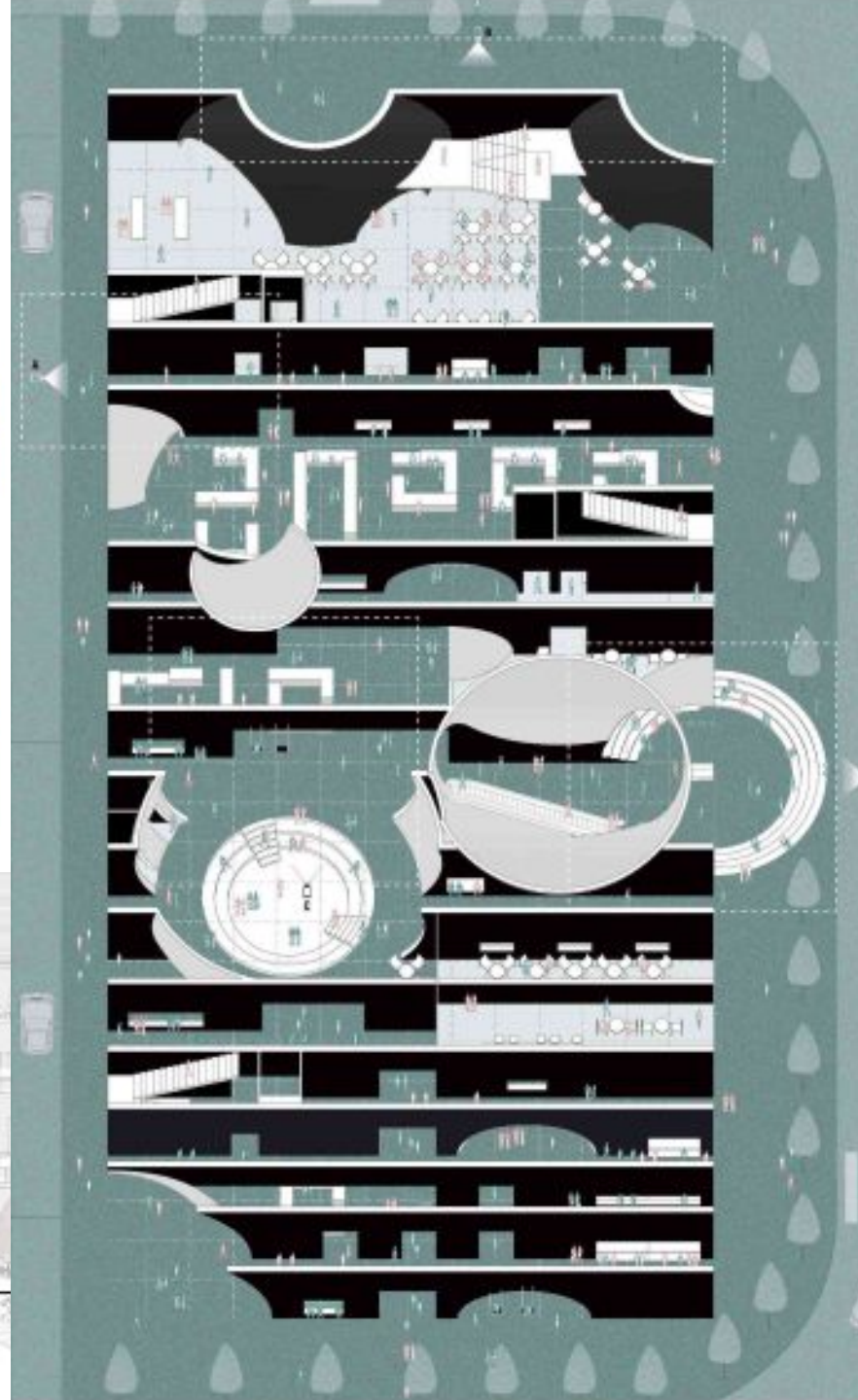
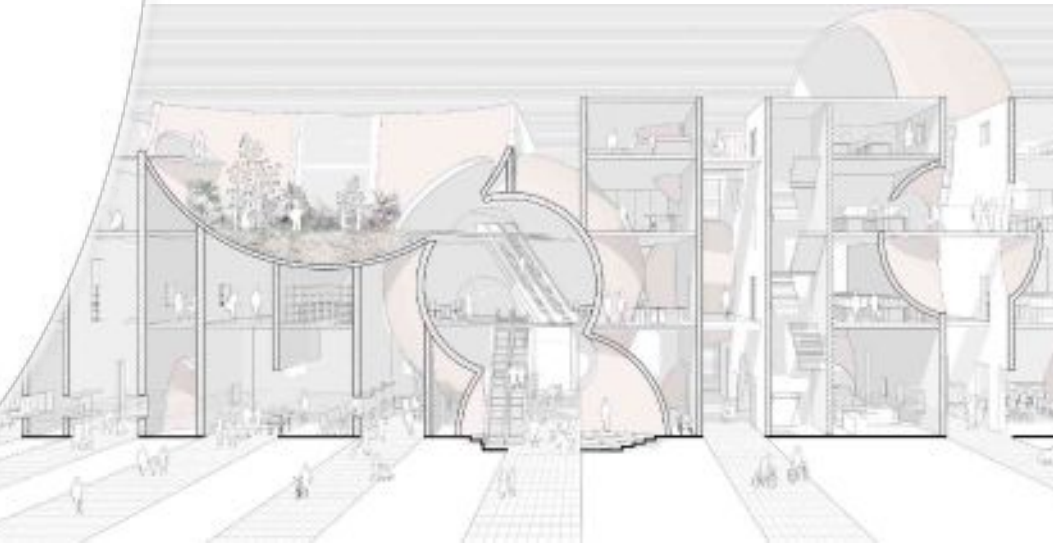
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Infiltrated Walls

Haoyu Gu

University of California, Berkeley



MERIT



Hilding

Kyle Chang

Thomas Jefferson University

“ Sustainable goals.
Great in their process. ”

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Hilding

Kyle Chang

Thomas Jefferson University



MERIT



Sensory Healing Center

Maple Lin

University of California, Berkeley

“ Love the plan that was presented. ”

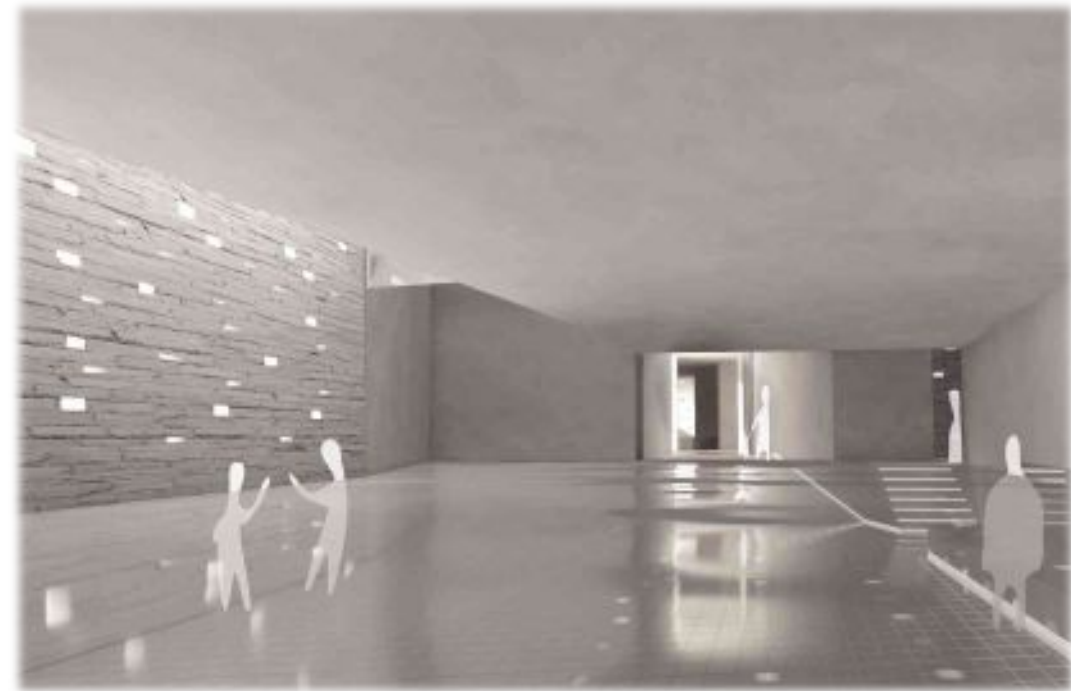
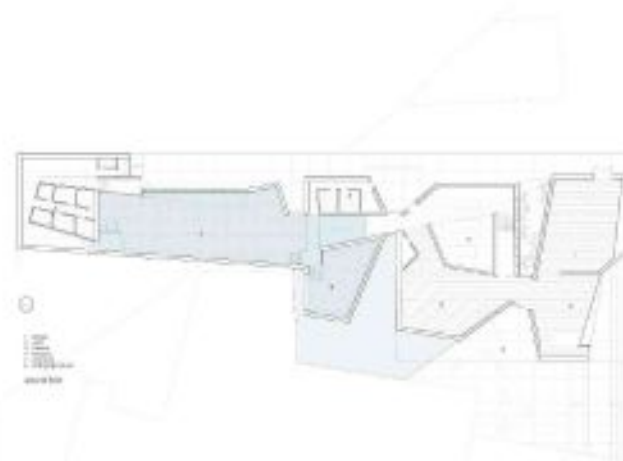
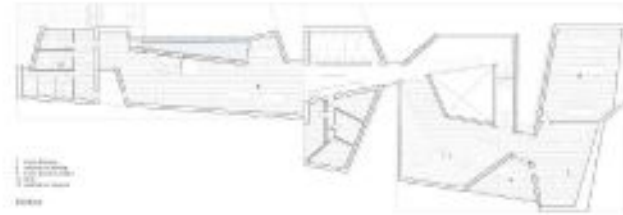
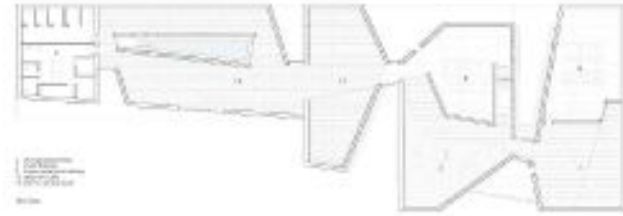
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Sensory Healing Center

Maple Lin

University of California, Berkeley



MERIT



Nansha, Guangzhou Project 3R's - Redefine, Refurbish, Resilience

Loc Hoang Nguyen

University of California, Berkeley

“ Seduced by the beautiful drawings. ”

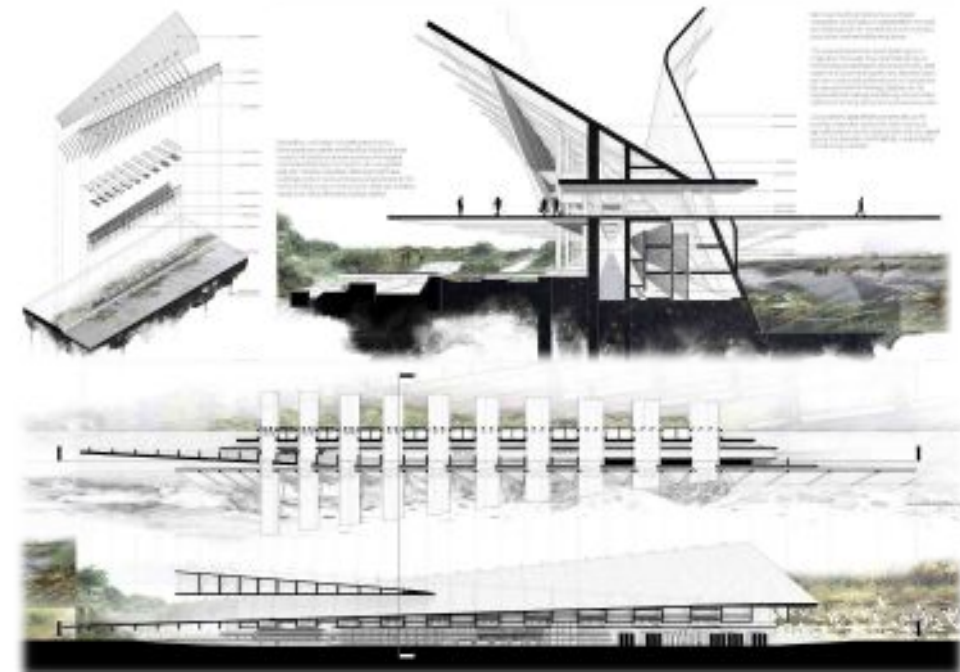
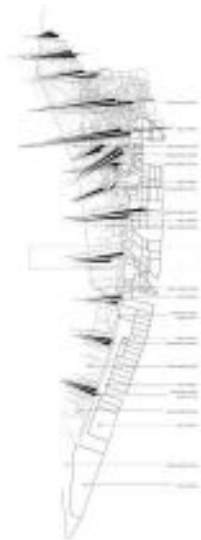
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Nansha, Guangzhou Project 3R's

Loc Hoang Nguyen

University of California, Berkeley



MERIT



Museo Gli Strati

Daniella Huen & Jacob Crociati

University of Miami

“ Great drawing style and collaging. ”

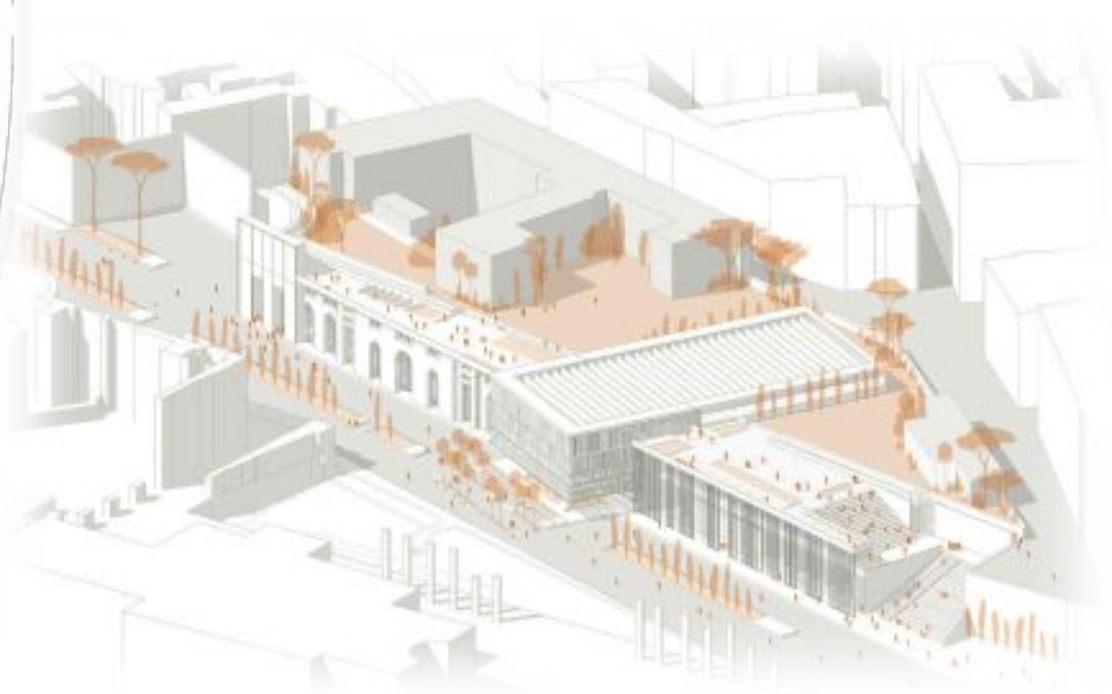
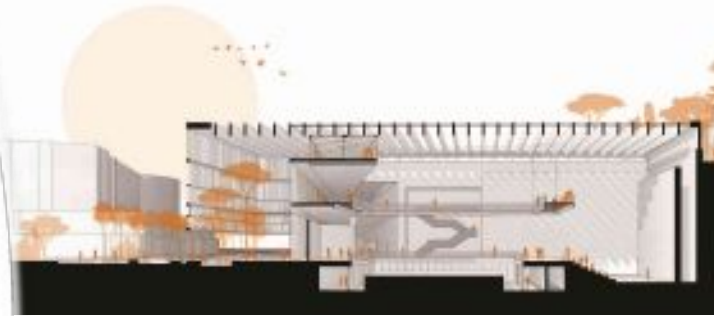
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Museo Gli Strati

Daniella Huen
Jacob Crociati

University of Miami



MERIT



The HOODOO

Solanda Magnuson & Alena Nagornaia
& Amy Tang & Elitsa Vutova

California Polytechnic State University,
San Luis Obispo

“ Struck by the form. ”

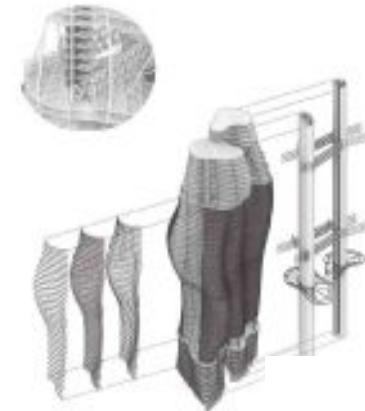
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The HOODOO

Solanda Magnuson
Alena Nagornaia
Amy Tang
Elitsa Vutova

California Polytechnic State University
San Luis Obispo



MERIT



Folded!

**Alejandro Bravo & Erica David
& Ryan Millward & Katherine Schaefer**

California Polytechnic State University
San Luis Obispo

“ Fairly developed and understandable storyline. ”

“ More developed grand plane. ”

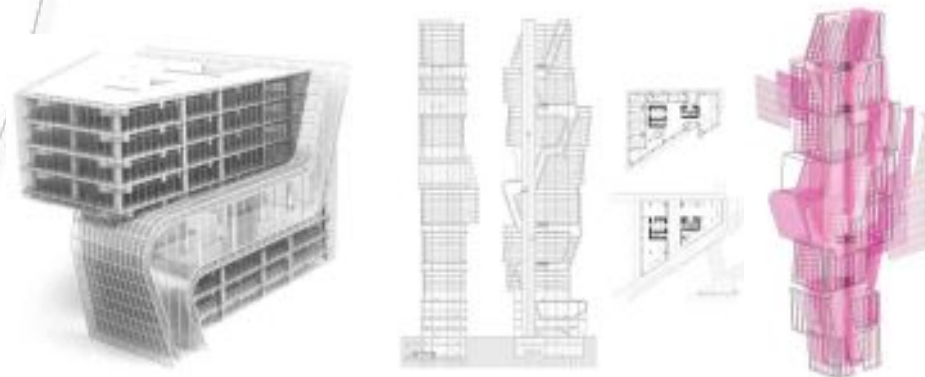
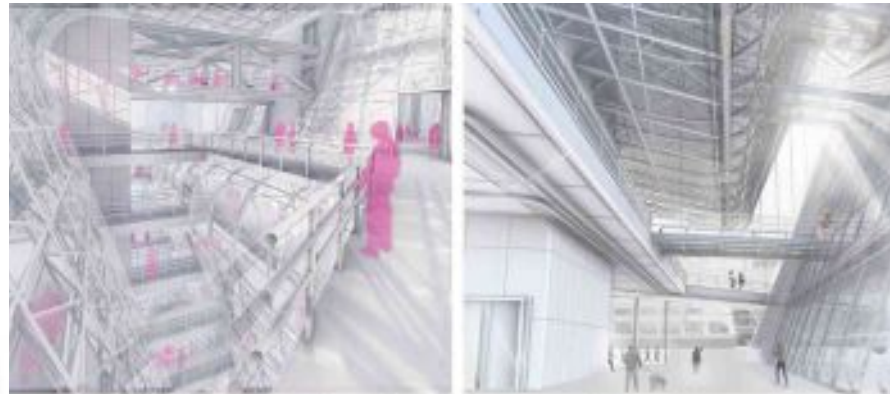
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Folded!

Alejandro Bravo
Erica David
Ryan Millward
Katherine Schaefer

California Polytechnic State University
San Luis Obispo



MERIT



Ideal Power Station

Hwanil Chang

School of Visual Arts

“

Mingles hotel with relic and still resonates.

”

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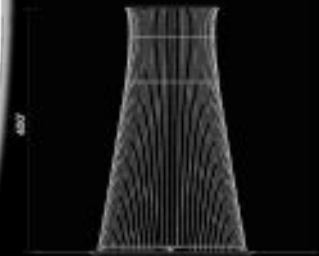
Ideal Power Station

Hwanil Chang

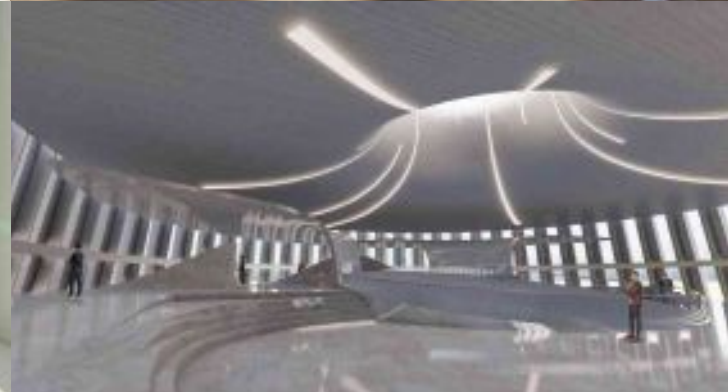
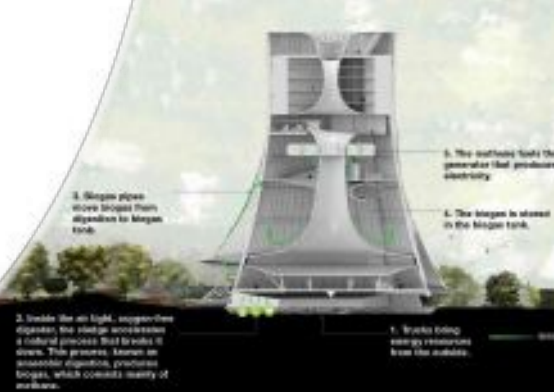
School of Visual Arts



Floor Plan



Section



MERIT



Mirror in the Mirror: Concert Hall in Prague

Ziyue Wang & Jingjing Wu

Columbia University Graduate School

“ Exterior metal construction seamlessly flows
into the interior. ”

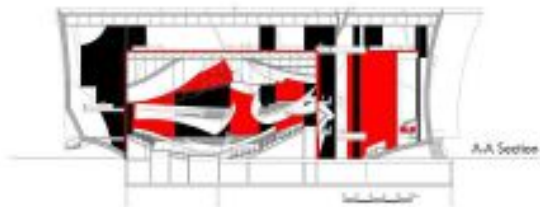
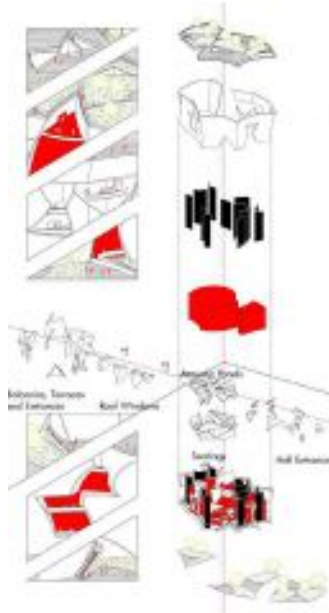
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Mirror in the Mirror

Ziyue Wang
Jingjing Wu

Columbia University Graduate School



The seating entrance make the building more elegant. People will be led to the lobby on the second floor by the curvy stairs.



The rafters on the roof and facade create a diverse interaction between interior and exterior space.



MERIT



A Botanic Programmatic, Inflatable Cellular Distribution

Penghui Zhang

Pratt Institute

“ Took the concept of an inflatable auditorium and worked it all the way through. The biologic form uses air in a dynamic way. ”

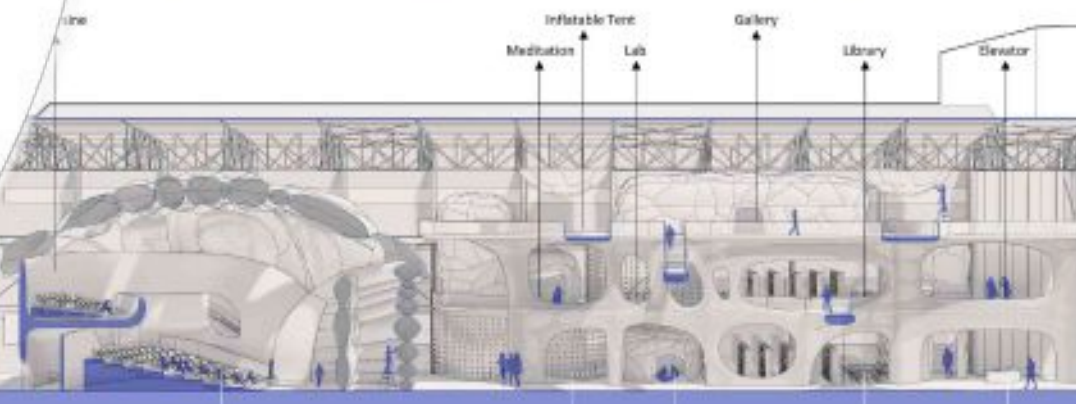
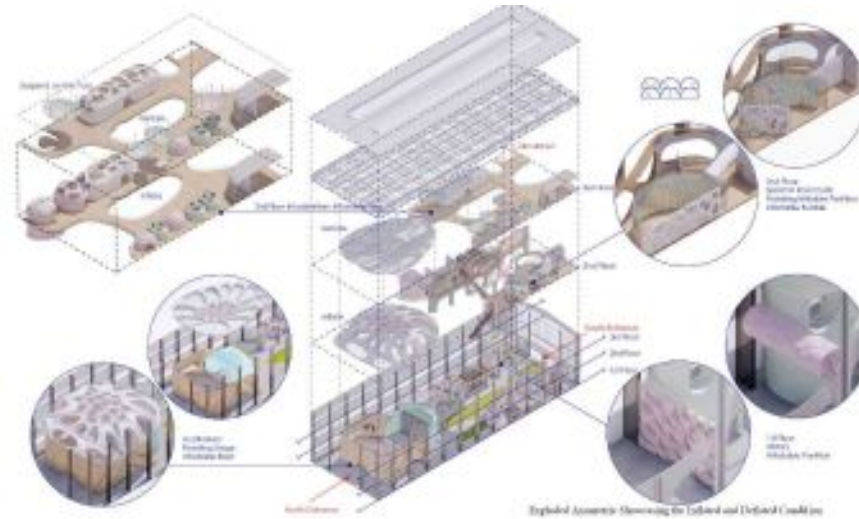
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A Botanic, Programmatic...

Penghui Zhang

Pratt Institute



MERIT



Intermission, A Community Performing Arts Center

Nicole Lide

Rice University

“ Great section and a fantastic physical model
that explains the intent. ”

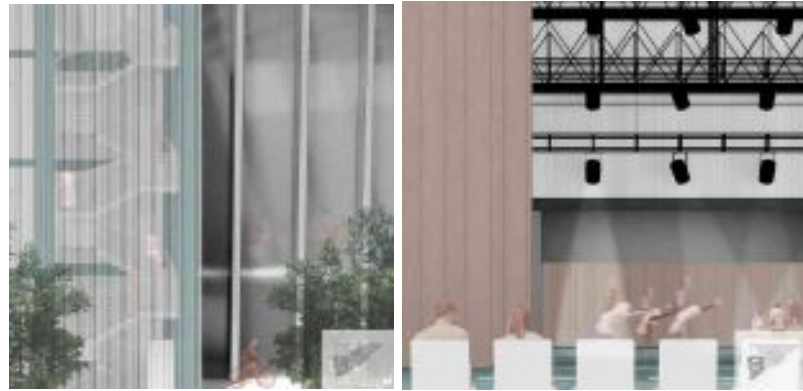
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Intermission

Nicole Lide

Rice University



MERIT



The Death and Life of Water: Improving Water Use in Jaipur, India

Chenjie Xiong

University of Virginia

“Appreciated such a thorough
analysis.”

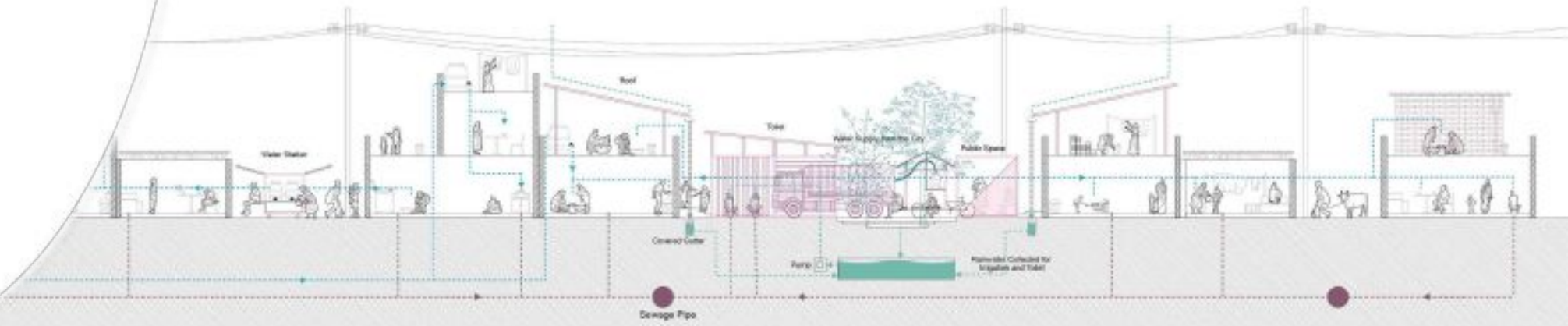
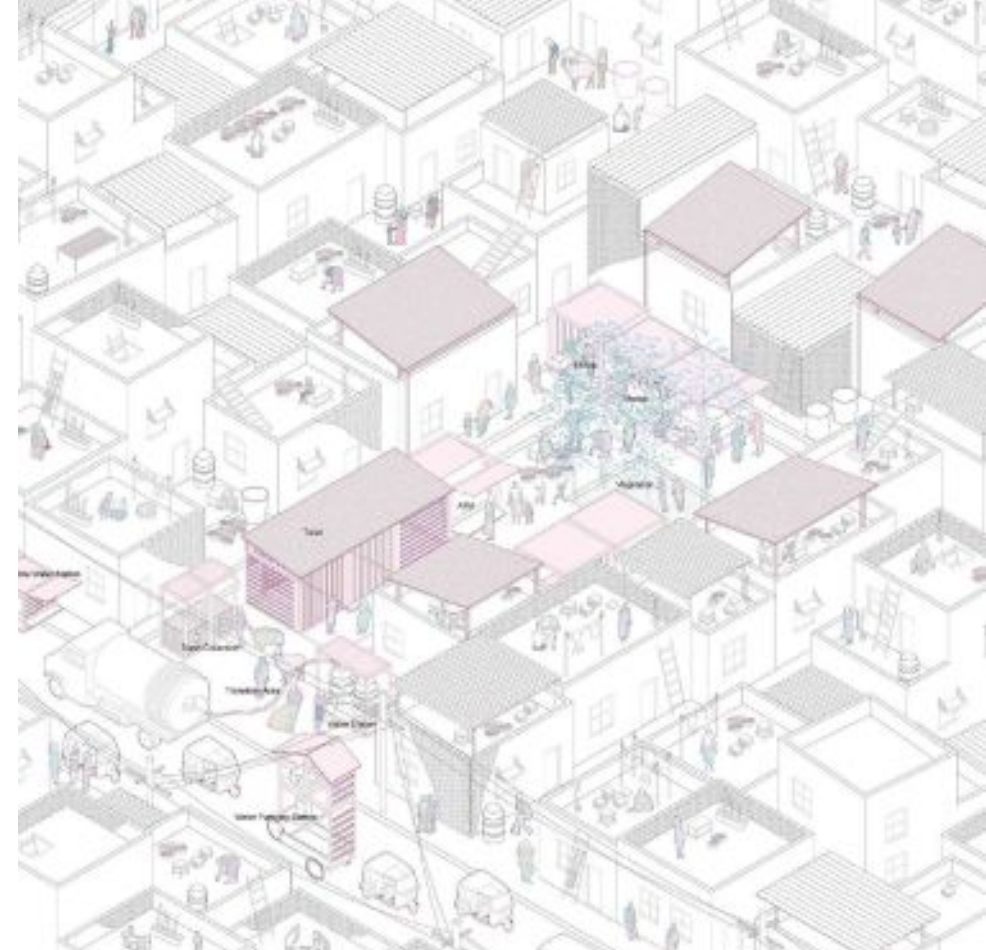
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The Death and Life of Water

Chenjie Xiong

University of Virginia





Reciprocity: A Floating Community

Lindsey Sinisi & Marissa Cutry

Clemson University

“ Fantastic leverage of natural environment. ”



DESIGN FOR ECOLOGY + ENERGY

FLOOD CONTROL
 ADAPTING TO CLIMATE CHANGE
 system allows for the site to rise for 100 year flood line



ADJUSTABLE FOR LATERAL + VERTICAL FORCES
 The vertical force of the floor structure in the channel is designed to float above and below with all loads of water. The column is protected from the lateral force of the water by springs attached to each wheel.

ENERGY
MARINE TURBINE
 marine turbines adapted to existing infrastructure will provide majority of site energy

\$150 PER HOUR SUPPORTED
 (BASED ON 800 KW GENERATOR WITH 100 KW TURBINE) PER HOUR
\$85 PER HOUR SUPPORTED
 (BASED ON 400 KW GENERATOR WITH 50 KW TURBINE) PER HOUR

MUSSEL FILTRATION
 One adult fresh water mussel can filter up to **15 GALLONS** of water every 24 hours



INTERACTIVE SECTION MODEL





Pandemic Box

Baraka Al-Ramah

University of Southern California

“ Provocative. Pushes one to think about what it means to be isolated. ”



Pandemic Box

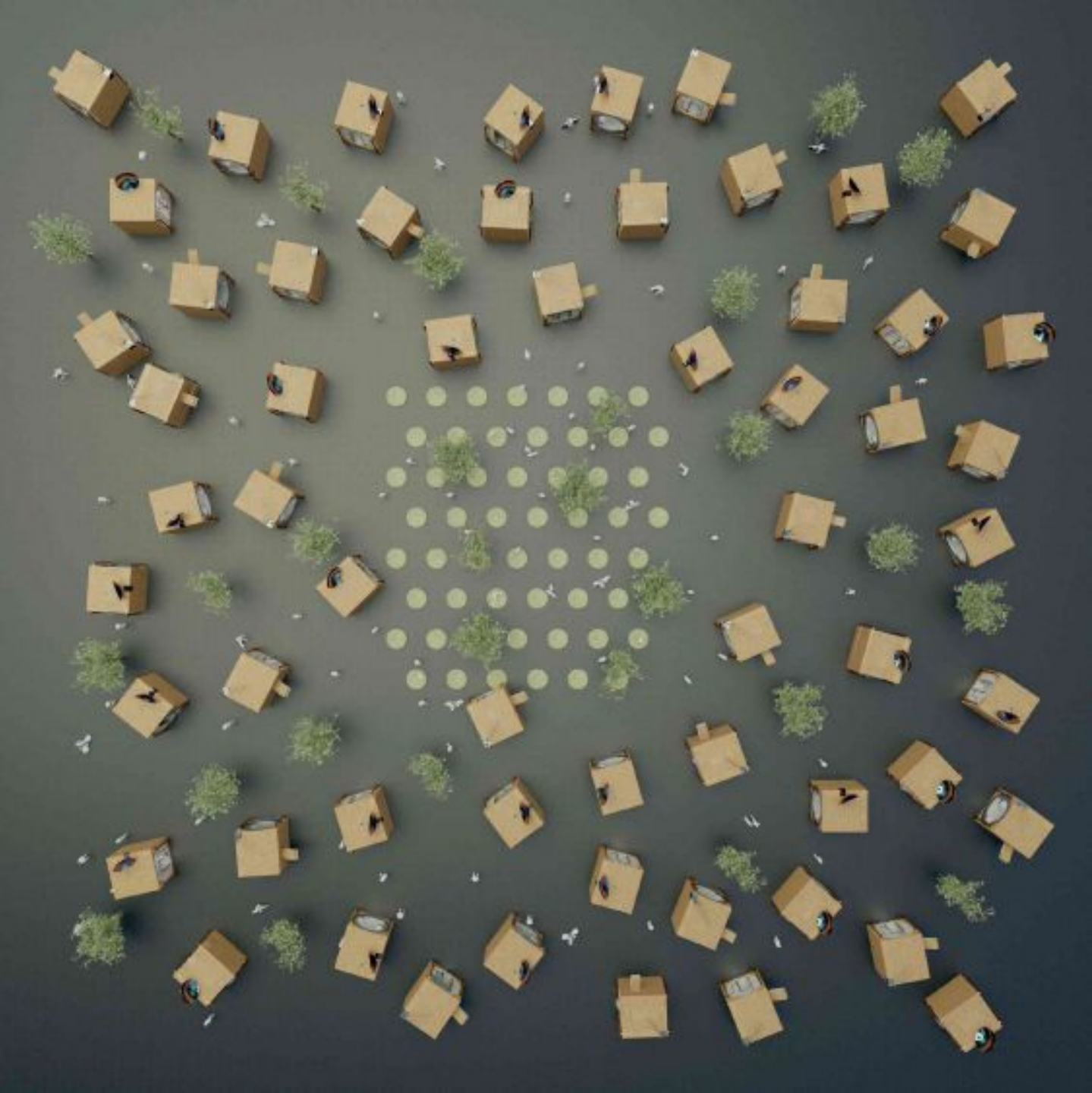
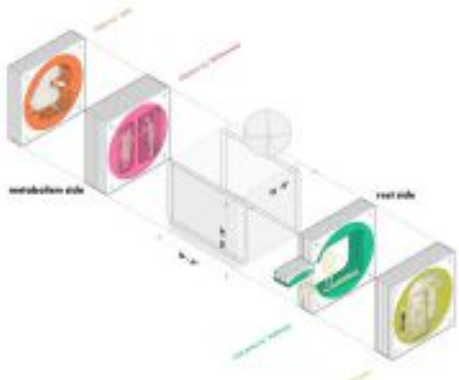
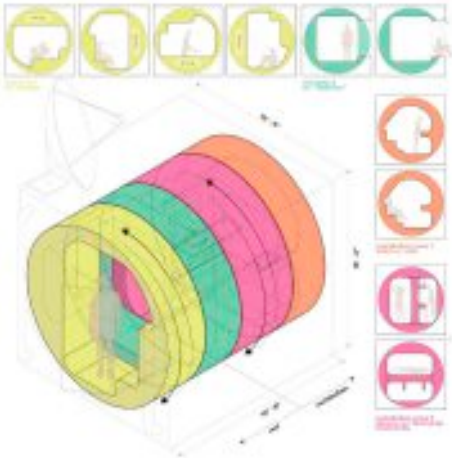
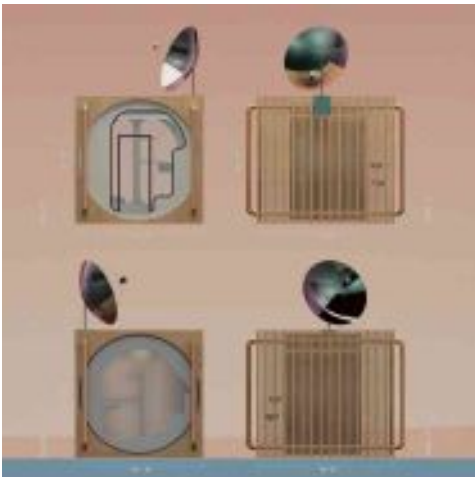
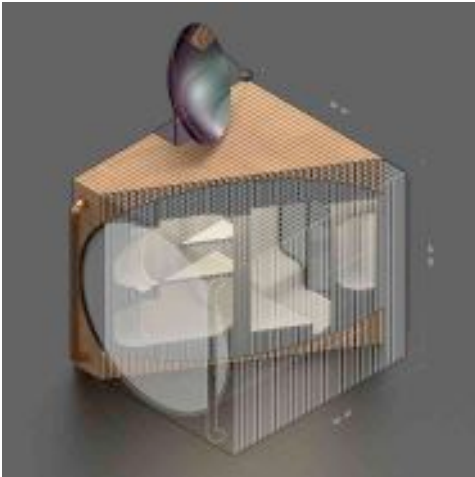
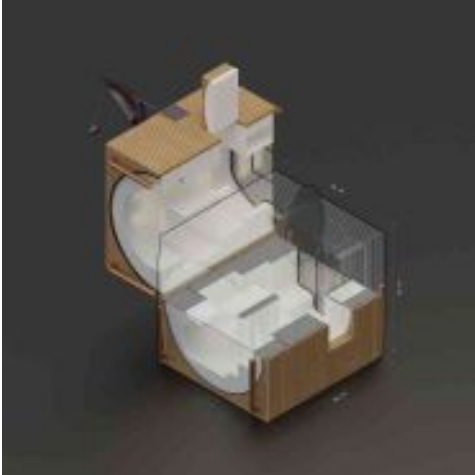
Baraka Al-Ramah

University of Southern California



Pandemic Box

| Baraka Al-Ramah





Infrastructural Gateways + High-Flow Channels

Jared Edgar McKnight

University of Southern California

“ Sensitivity to context; takes over vacant lots and incorporates into existing fabric. ”



—

Infrastructural Gateways + High-Flow Channels

Jared Edgar McKnight

University of Southern California



HONOR



Hygrosensitive Shape-Shifting Façade

Zenfang Chen & Mingyue Nan

University of Virginia

“ Very thorough - presents as a research project. ”

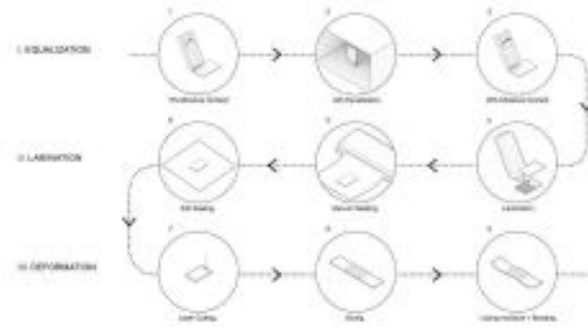
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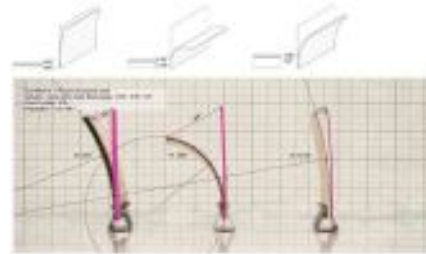
Hygrosensitive Shape-Shifting Façade

Zhenfang Chen
Mingyue Nan

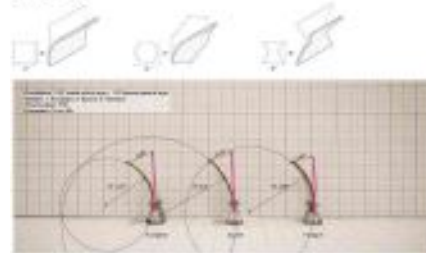
University of Virginia



THICKNESS RATIO



GEOMETRY



Wavy Facade Design



Cliffing Surface



Thick Façade



Pier Configuration





LA River 1/2 + 1/2

Zixin Chen

University of Toronto

“

Elegant and relevant.

”

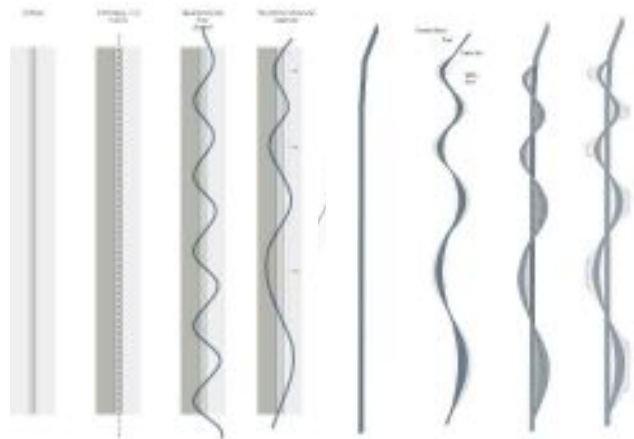


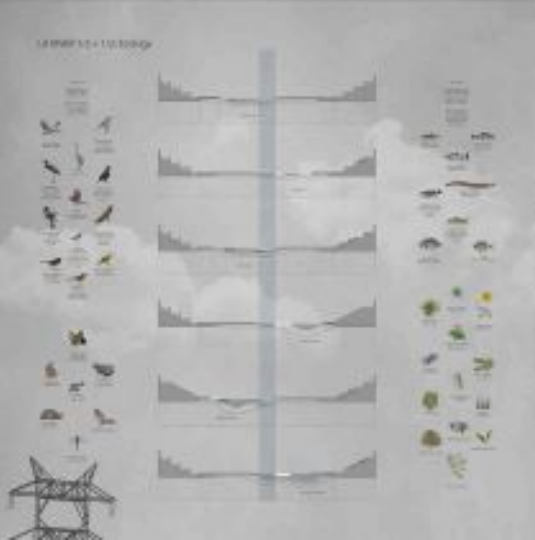


LA River 1/2 +1/2

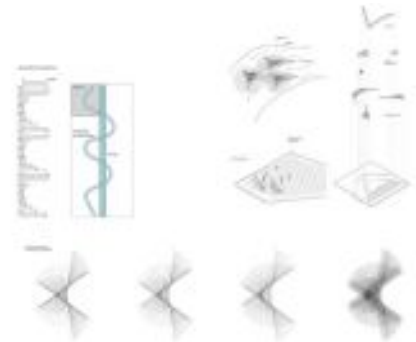
Zixin Chen

University of Toronto





LA River 1/2 +1/2
| Zixin Chen





Crafting Light : Autism Spectrum Disorder Research & Healing Center

Dan Liu

University of California, Berkeley

“ Well thought out. Simple.
Effective. Relevant. ”



Crafting Light

Dan Liu

University of California, Berkeley





Poetic Water Mechanism

Xinwei Chen

University of California, Berkeley

“ Nice response to an urban landscape. ”

“ Plan detailing was beautifully drawn. ”

“ Buildings meshed into context. ”



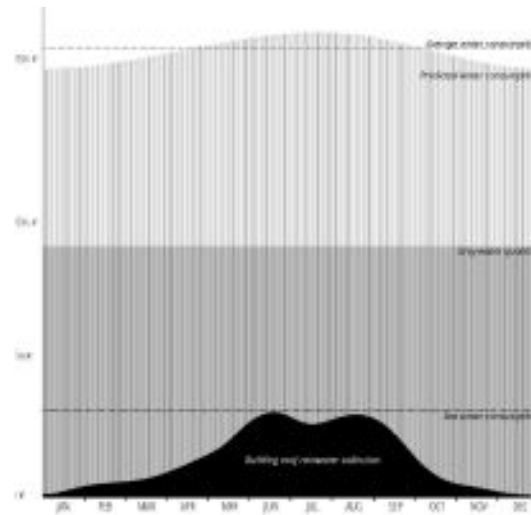
Poetic Water Mechanism

Xinwei Chen

University of California, Berkeley

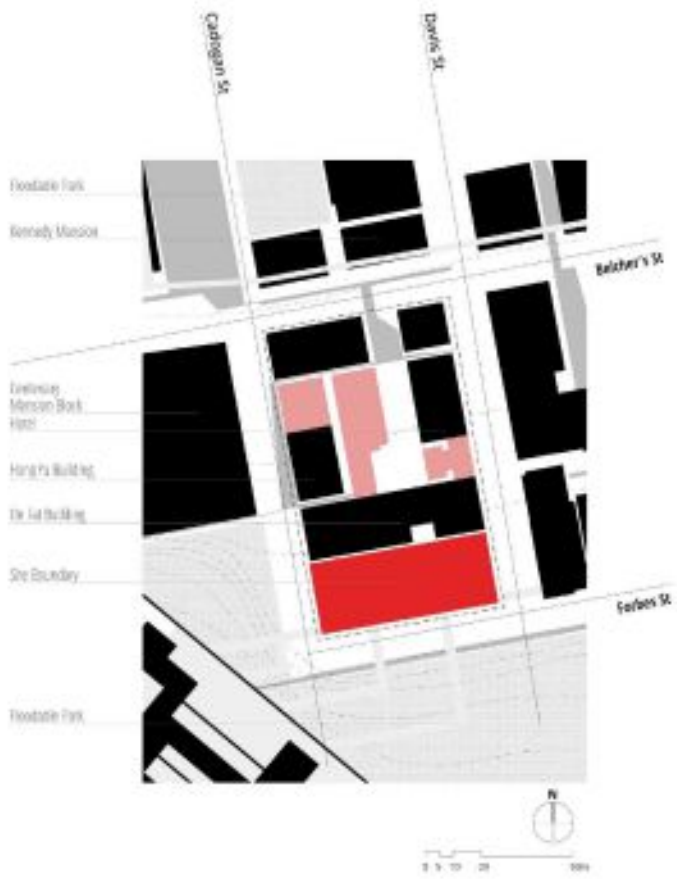


IN BETWEEN LANDSCAPE AND URBANSCAPE



ON SITE WATER USAGE

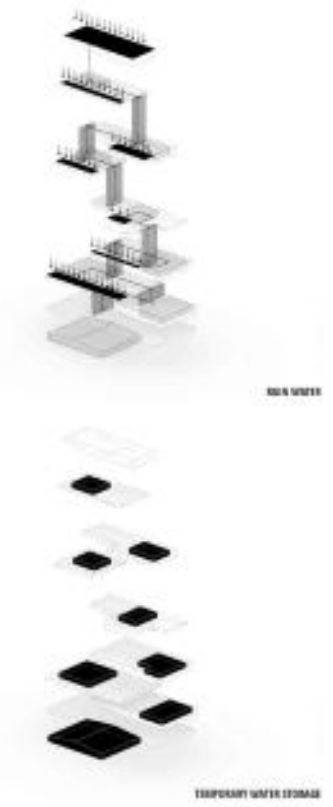
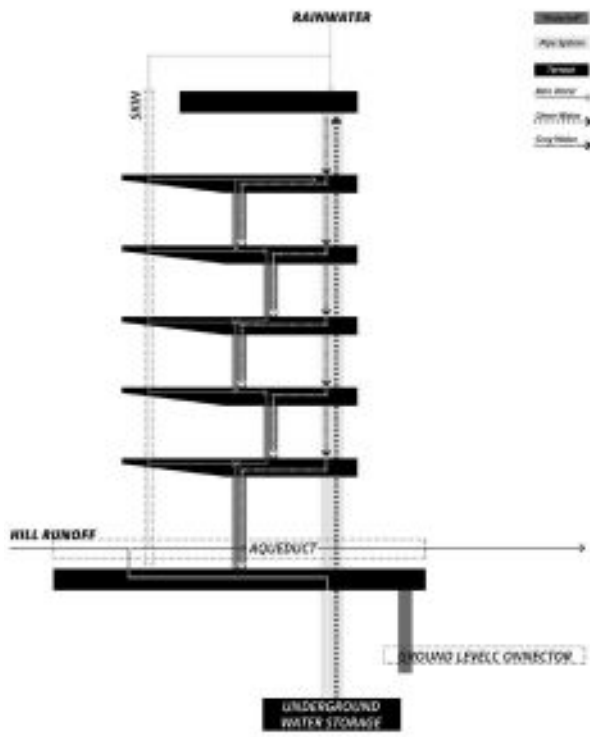


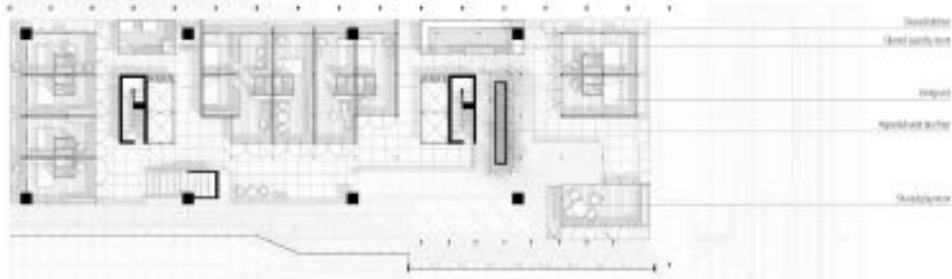


ABSTRACTION
Solid - Flat roof for water conveyance / Void - Canal as waterway and pedestrian circulation

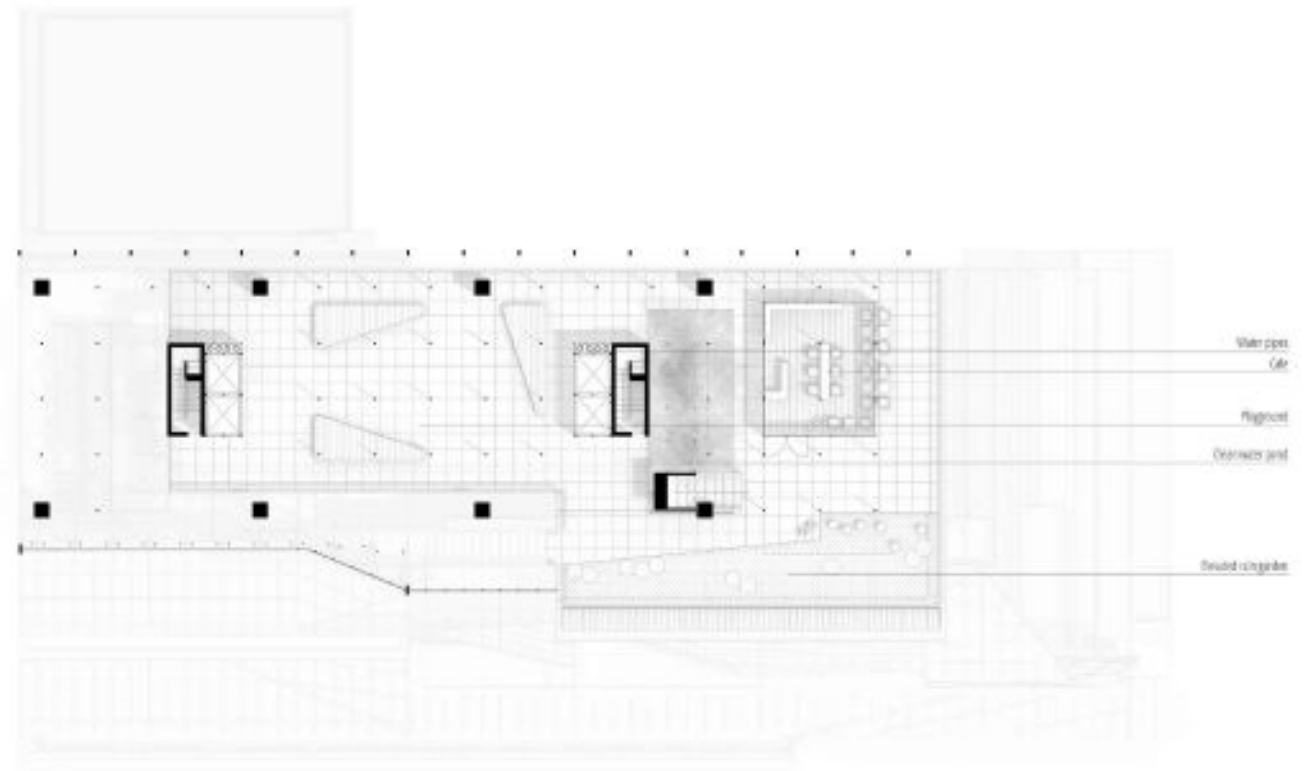


TRANSFORMATION
Solid - Tilted facade for rainwater conveyance / Void - circulation/public space in between

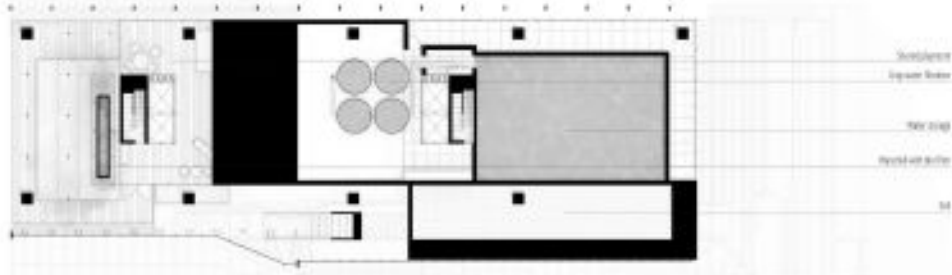




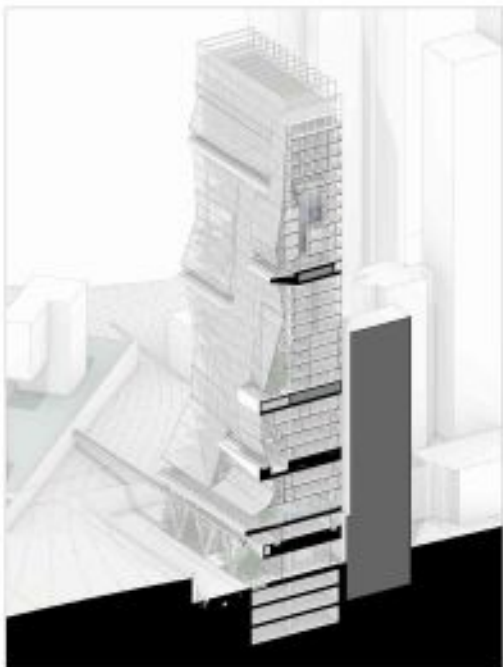
PLAN - LIVING LEVEL
 A level of long space with alternative arrangement



PLAN - TERRACE
 A level of terrace as a public gathering space for residents

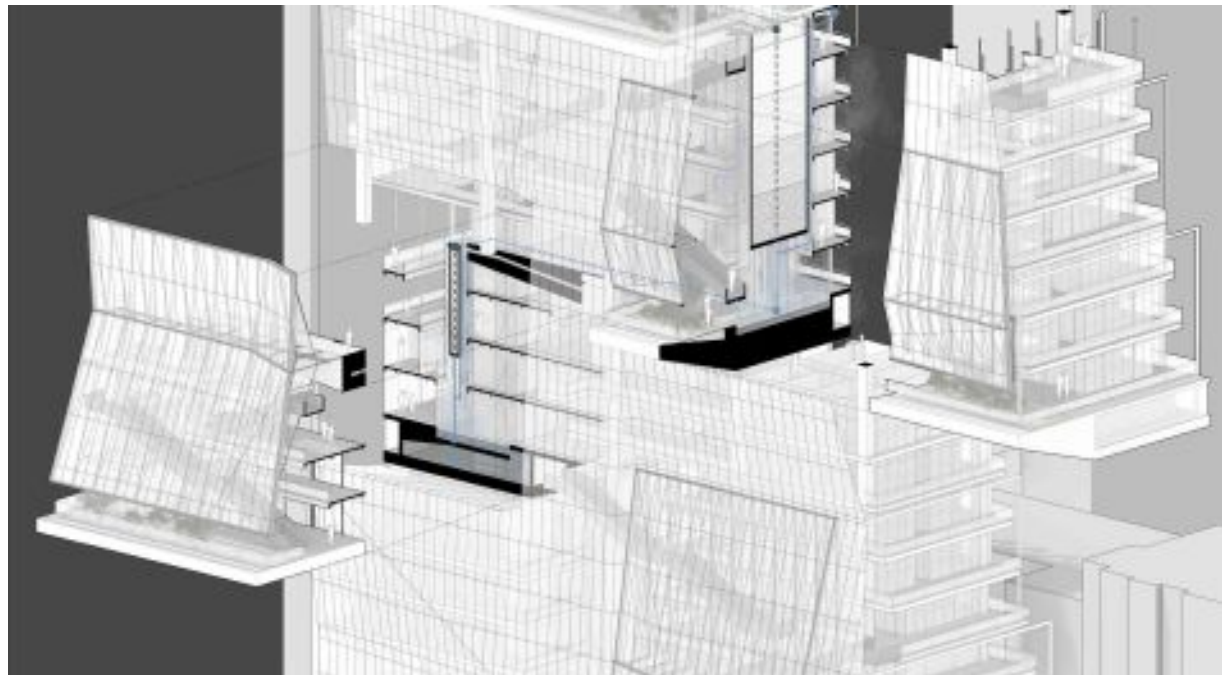


PLAN - WATER STORAGE
 A level of elevated water tank and storage under the roof



01

The staircase is a public space for the residents to enjoy the view and the vertical connectivity with artificial water system. Other public spaces, commercial spaces, restaurants can be inserted by the architecture, providing another artificial public space for the people who can't spend the leisure time outside. At the same time, water falls, artificial water plants and gardens are added by means, the main space can be used by all the residents of the community.



02

Using the mountain, the artificial water system includes a series of cascades, fountains, artificial waterfalls and the like, which bring pleasure. The water flows collecting all drops, covering the entire ground to use it as a water garden. It also a place being walking attraction.



Poetic Water Mechanism
| Xinwei Chen



Last Ice Lullaby

Tim Cousin

Massachusetts Institute of Technology

“ Comprehensive approach to climate change. ”

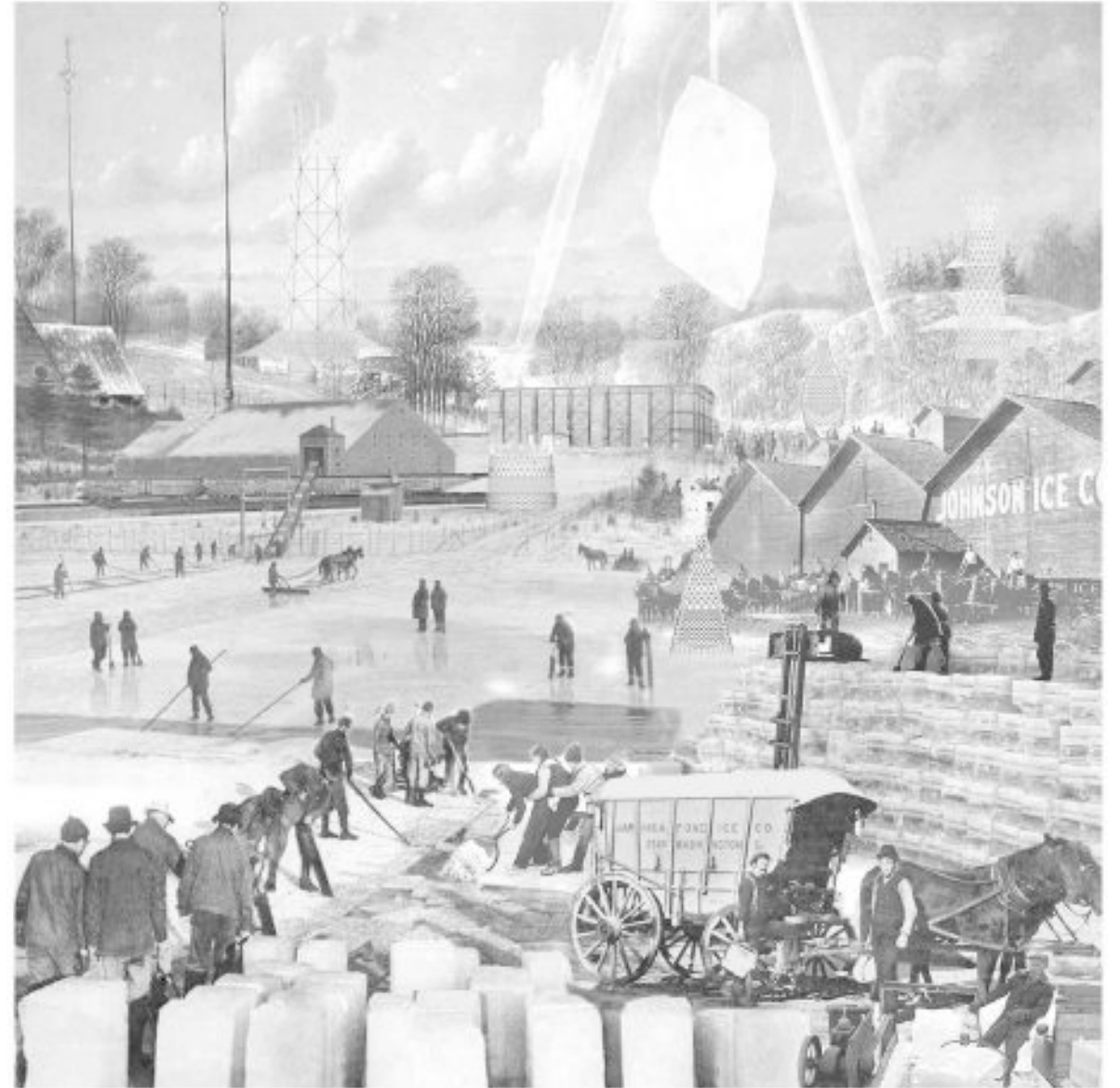
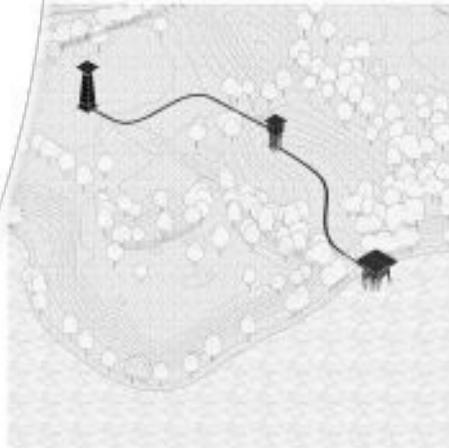
“ Dynamic and interesting. ”

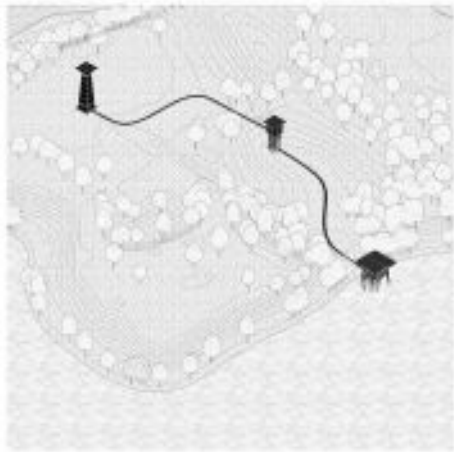
“ Abstract performance piece
that stands alone as an ode to ice. ”

Last Ice Lullaby

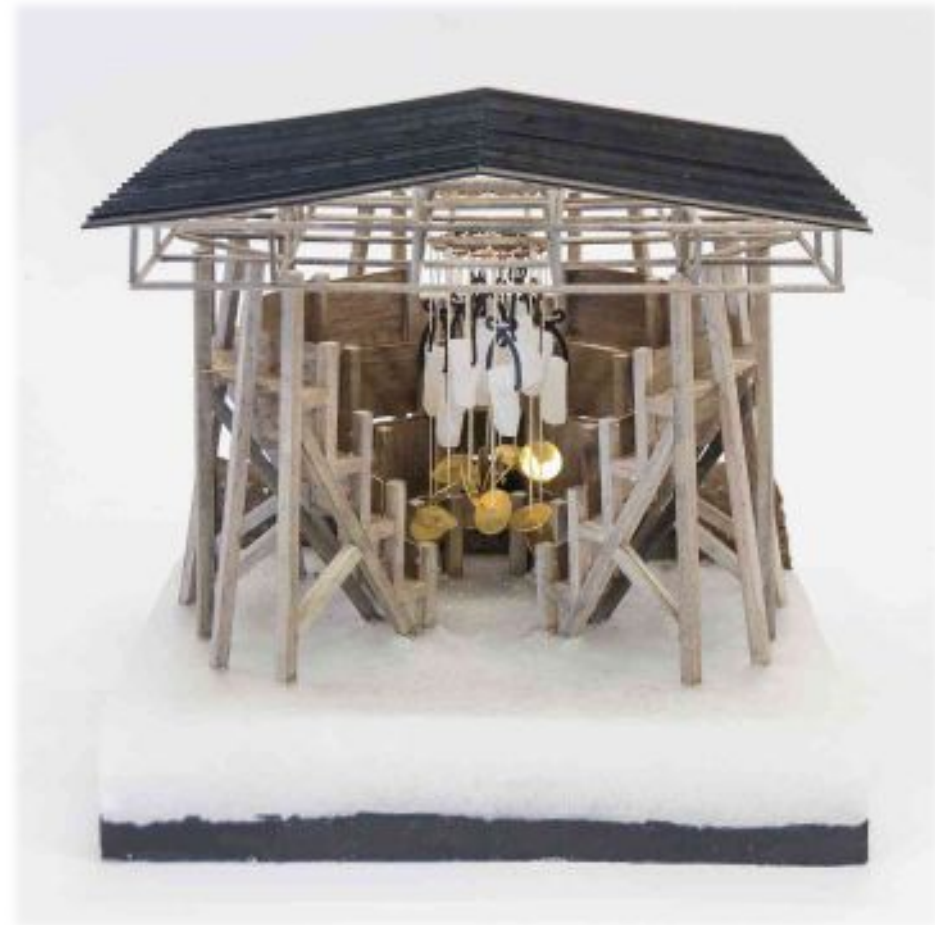
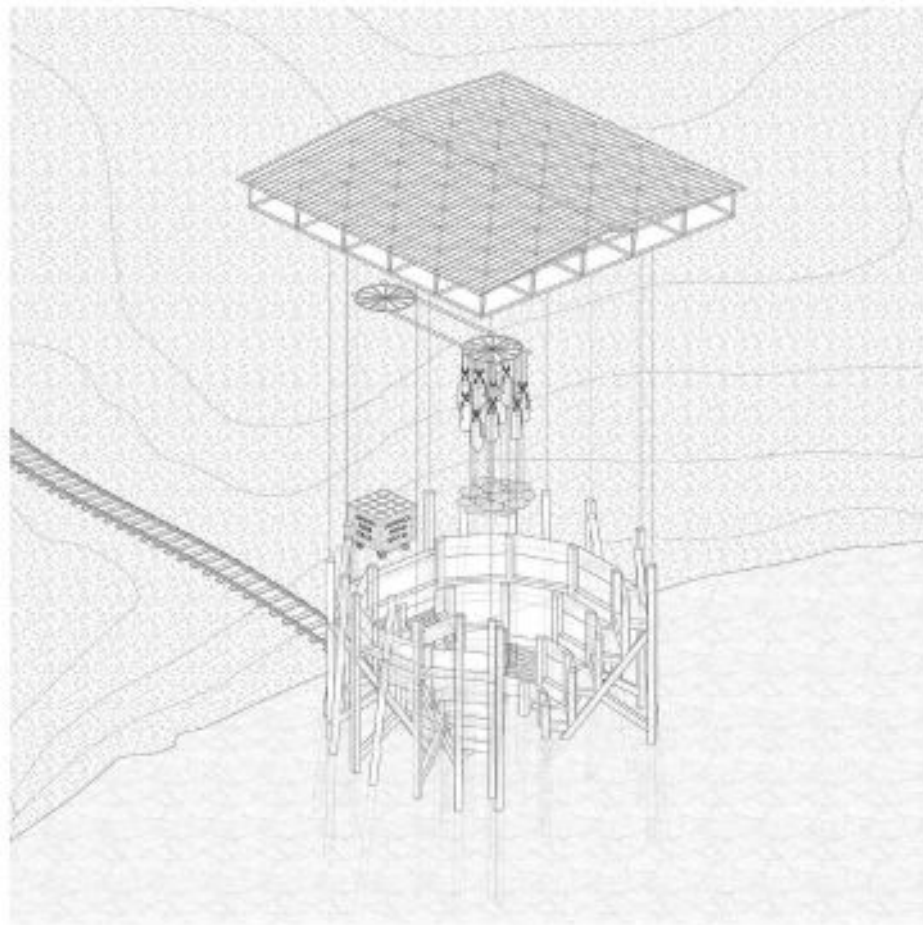
Tim Cousin

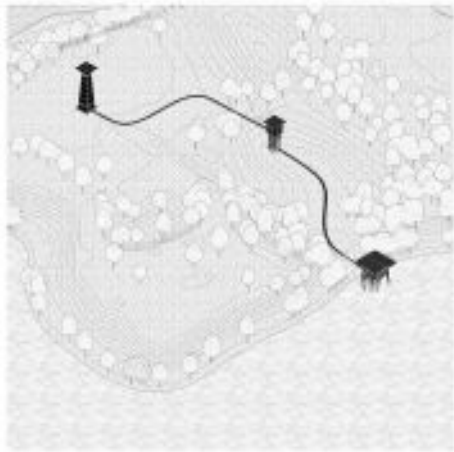
Massachusetts Institute of Technology



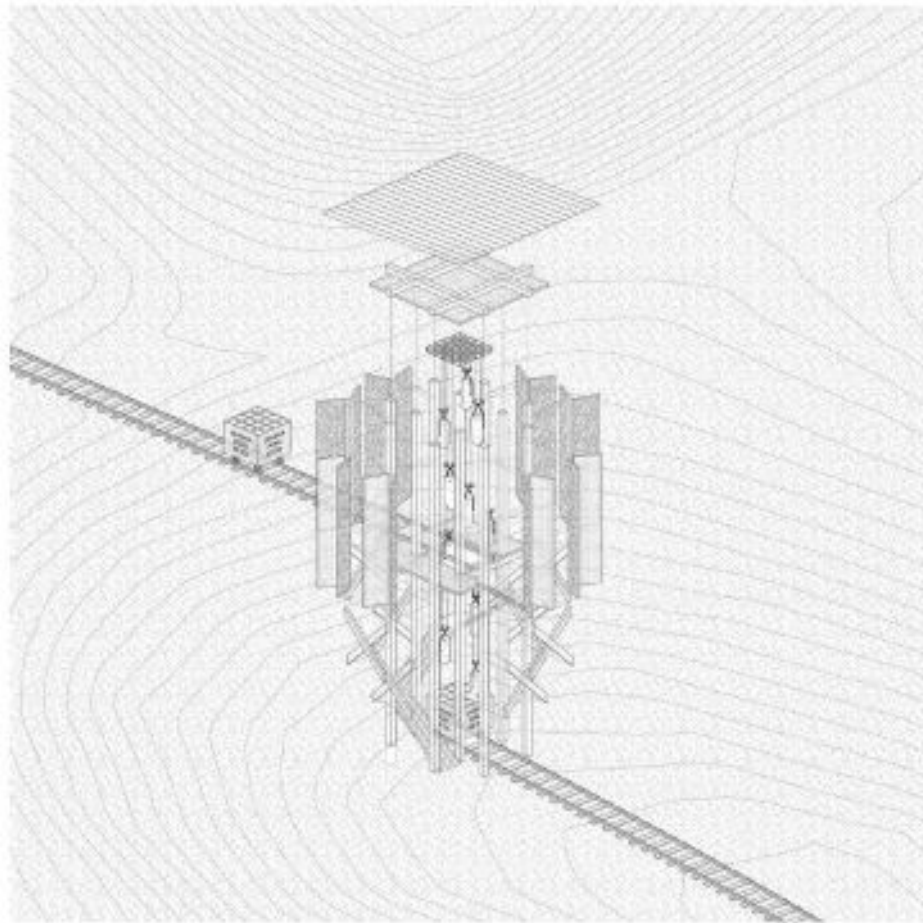


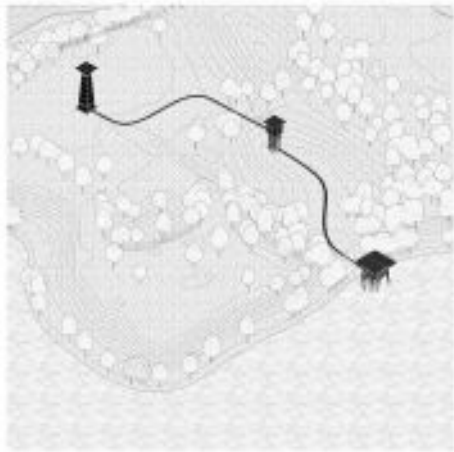
Last Ice Lullaby
| Tim Cousin



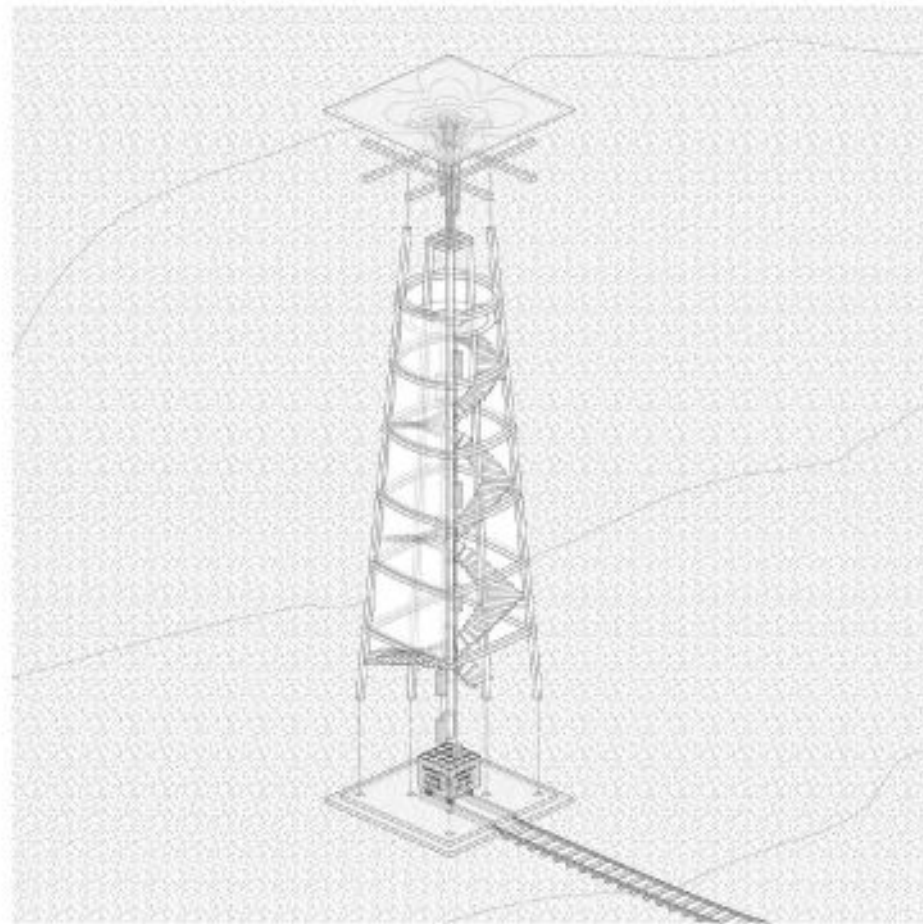


Last Ice Lullaby
| Tim Cousin





Last Ice Lullaby
| Tim Cousin



Last Ice Lullaby
| Tim Cousin





Fraser Gardens Elementary School

Anthony M. Marques

British Columbia Institute of Technology

- “ Proper treatment of lighting and material is effective in feeling connected. ”
- “ Bridges architecture and landscape architecture. ”
- “ Buildings play off the tress in a poetic way. ”

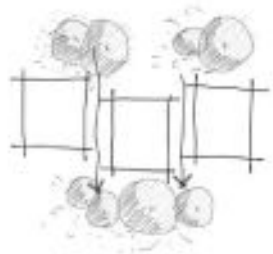




Fraser Gardens
Elementary School

Anthony M. Marques

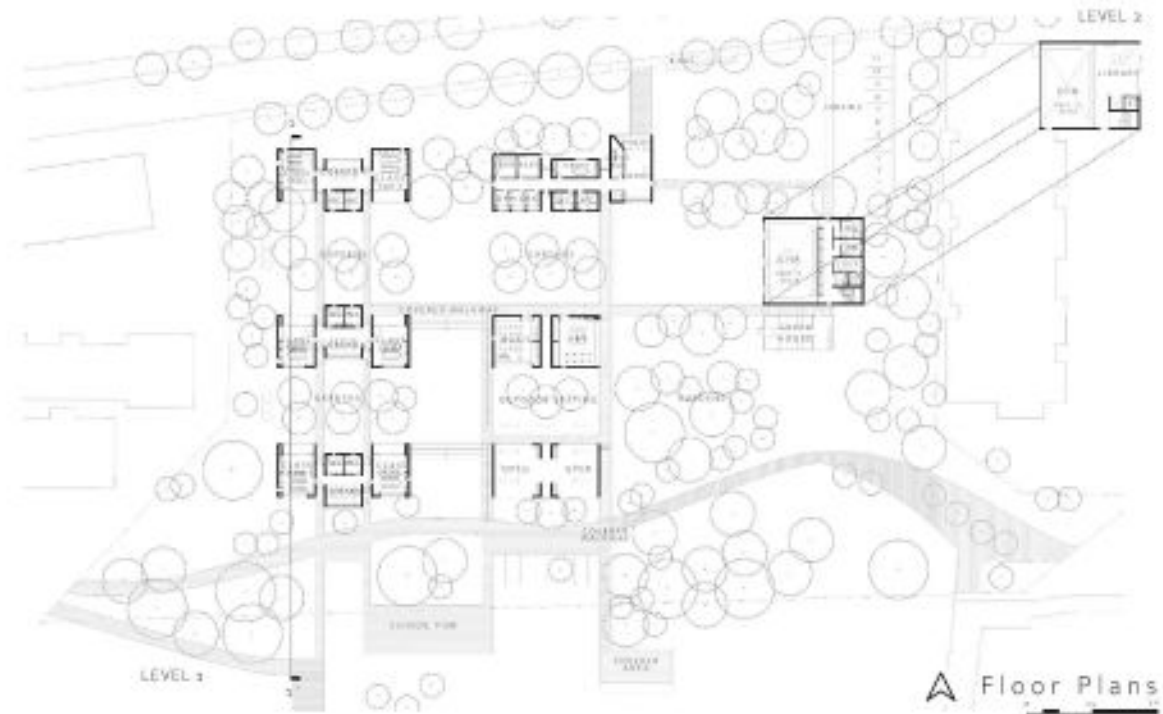
British Columbia Institute of Technology



Parti Diagram (INTS)

Finding nurturing moments..

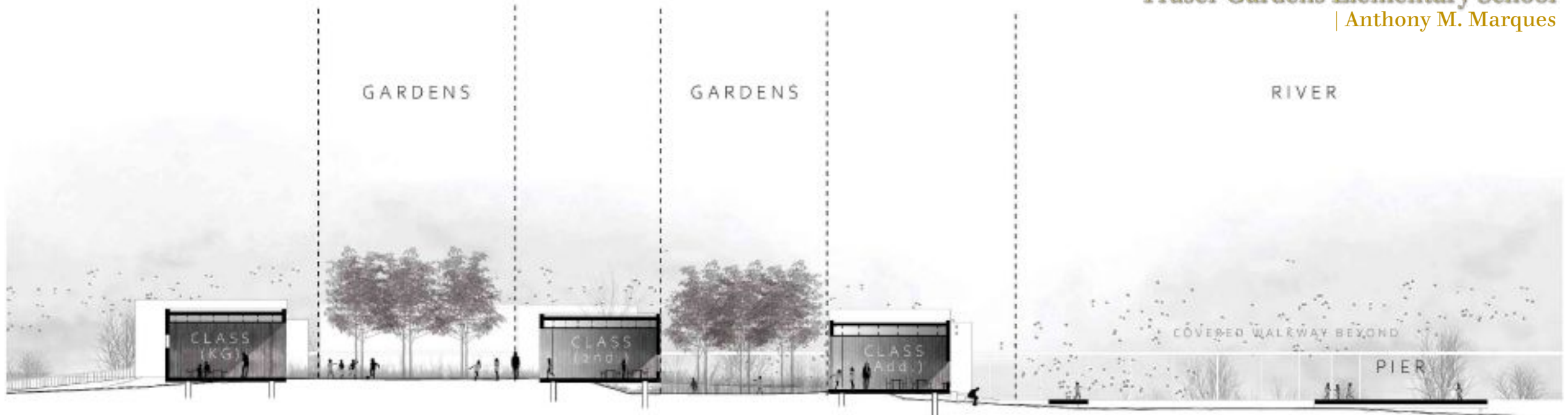
Taking advantage of the local visuals, the project proposes a contrasting relationship between floating boxes on the enriched landscape as a formal aspect against the living systems (kids, vegetation, water) for an elementary school in the new River District area of Vancouver.



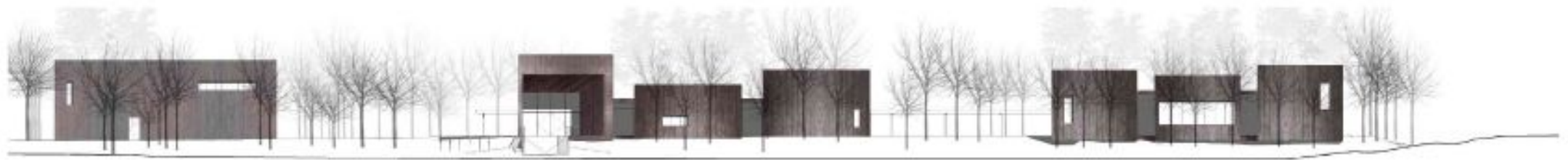
▲ Floor Plans

Fraser Gardens Elementary School

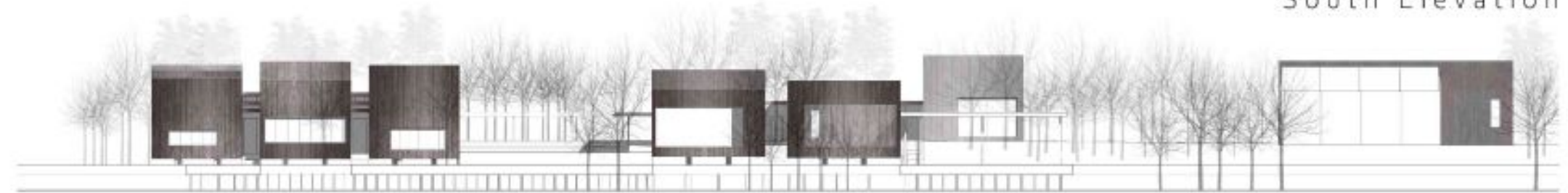
| Anthony M. Marques



North Elevation



South Elevation



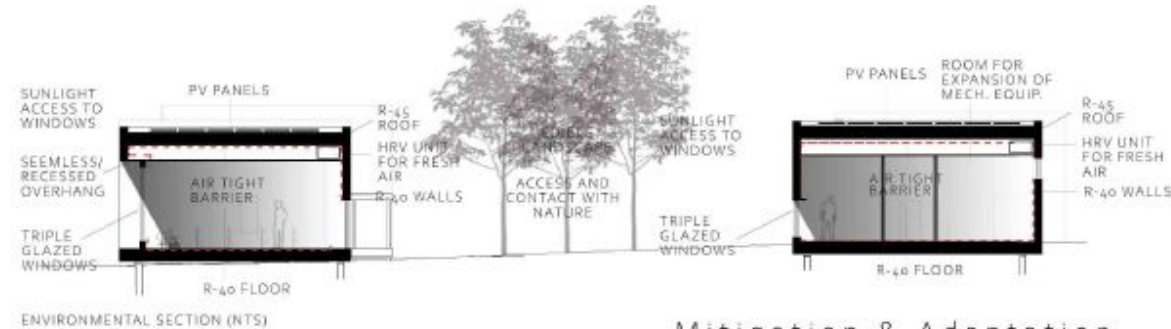
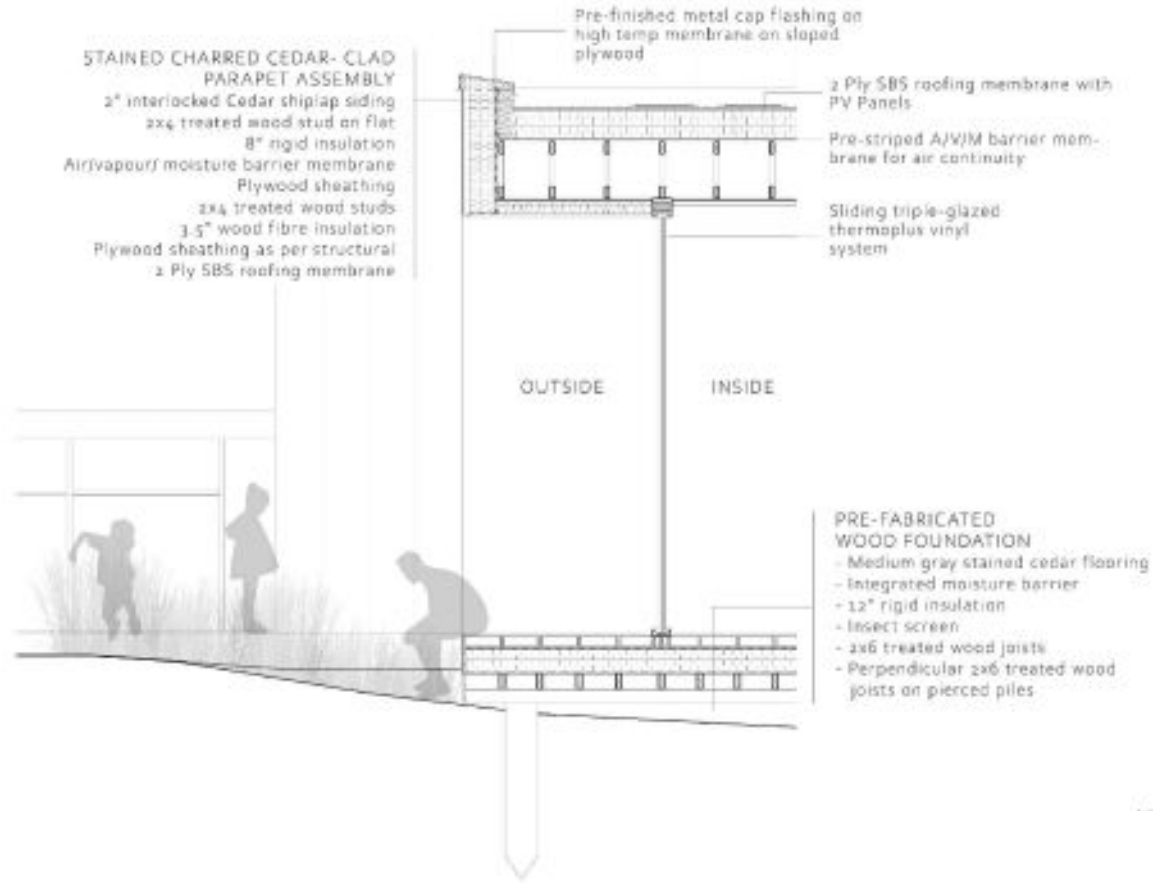
East Elevation



West Elevation



FRASER GARDENS Elementary

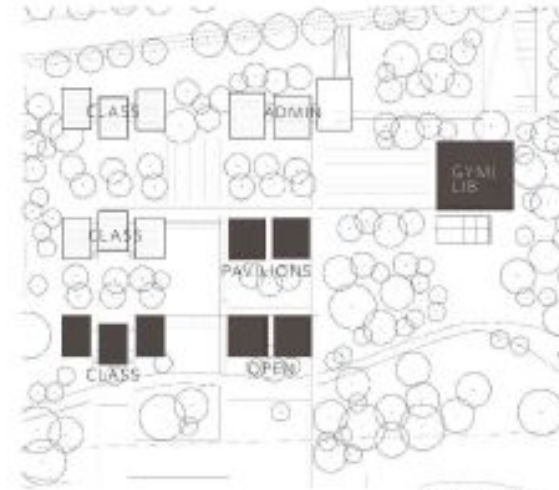


Mitigation & Adaptation

Fraser Gardens Elementary School

| Anthony M. Marques

Adaptation



1. Designing for Population Growth.

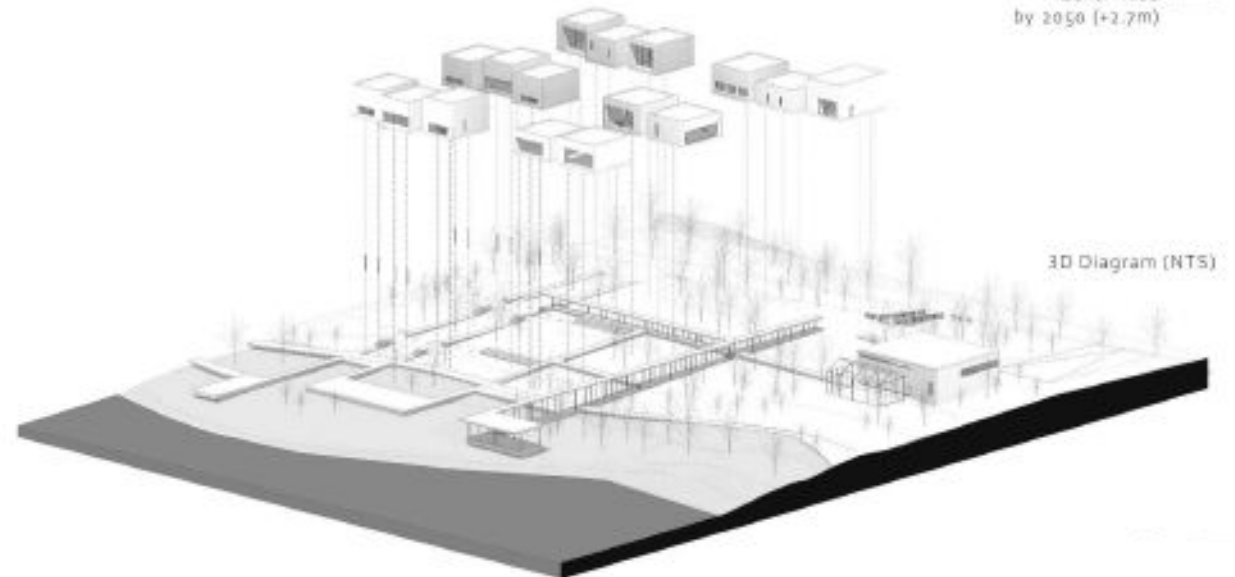
- Dedicated for School Use
- Available for Community Rental

Population in Canada is expected to increase by 30% (2032) due to immigration. 70% of the population in the River District community are immigrant, what hints that the population will keep increasing as the area is developed.

2. Designing for Mobility.

Pier remains habitable over time, adapting to Sea Level Rise and transforming the dynamics of the place.

- Sea Level 2020
- Worst case predicted Sea Level Rise by 2050 (+2.7m)





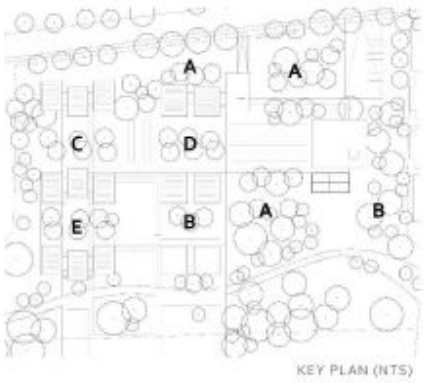
A. Ager Trucantum

B. Pacific Sunset

C. Malos Pumila

D. Pyrus Anatolica

E. Babcock Peachtree



KEY PLAN (NTS)

Fraser Gardens Elementary School | Anthony M. Marques

Green House and Agriculture Activities Self-care



1. EDUCATIONAL



Outdoor spaces in unison with nature for the community

2. SOCIAL



(WATER FRONT) EXTERIOR PERSPECTIVE



(ENTRANCE) EXTERIOR PERSPECTIVE



(GARDENS) EXTERIOR PERSPECTIVE

EXCELLENCE



POP-UP Volumes

Loc Hoang Nguyen

University of California, Berkeley

“ An ode to the waterfront.
Section model is compelling. ”

“ Consistency in presentation.
Render technique is stunning. ”

THE SARA 2020
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DESIGN AWARDS



POP-UP VOLUMES

Loc Hoang Nguyen

University of California, Berkeley

POPUP VOLUMES

SAN RAFAEL COMMUNITY CENTER

Pop-up volumes move beyond the conventional concept of a pop-up store to form a community center that brings people together, reconnect with the water, protects, and serve the community during the extreme weather conditions of the future.

At 55.4% White, 30.1% Hispanic or Latino, 5.6% Asian, and more than 7% of other races, San Rafael is a community where diverse cultures come to celebrate. The site's location is adjacent to the San Rafael Creek. However, access to the water is significantly limited. With little to no water-side accessibility, street activities have limited the opportunity to celebrate the waterfront community. The site challenge level was elevated to high because of the river's vulnerability along the Bay, necessitating its cool condition and getting its future in jeopardy.

In response to the diversity, vibrant culture, the need to engage with the water, and

the vulnerability to the climate crisis, Pop-up Volumes is a juxtaposition of extruded volumes that are risen by concrete piles to create direct access from the street front to the back canal. Each volume is assigned to a unique program, yet united by a flexible space that serves as primary environmental remediation space.

To further explore the program's celebration of diversity and inclusion, each volume is either covered with a glass screen/white screen or clad with metal panels in relationship with their primary function, based on the scale and the texture of glazing and screening patterns. For example, the wood's warm texture is assigned to the dining volume adjacent with the water's texture and metal surfaces are chosen to celebrate volume's elevated location, provide a canopy structure, similar to the traditional pattern and screened porch.





VIEW FROM PEDESTRIAN CROSSING BRIDGE



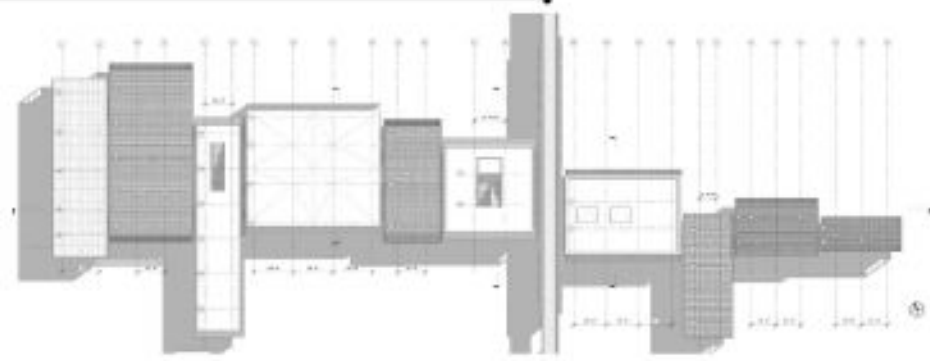
VIEW FROM PRIMARY CIRCULATION VOLUME



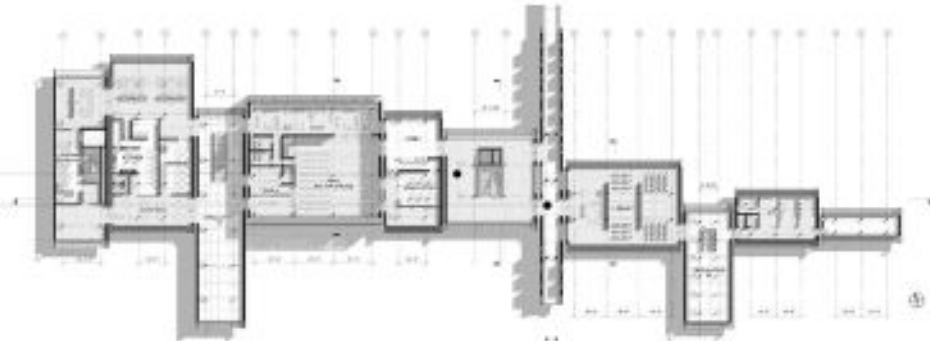
VIEW FROM SECONDARY CIRCULATION VOLUME



VIEW FROM GROUND FLOOR



ROOF PLAN



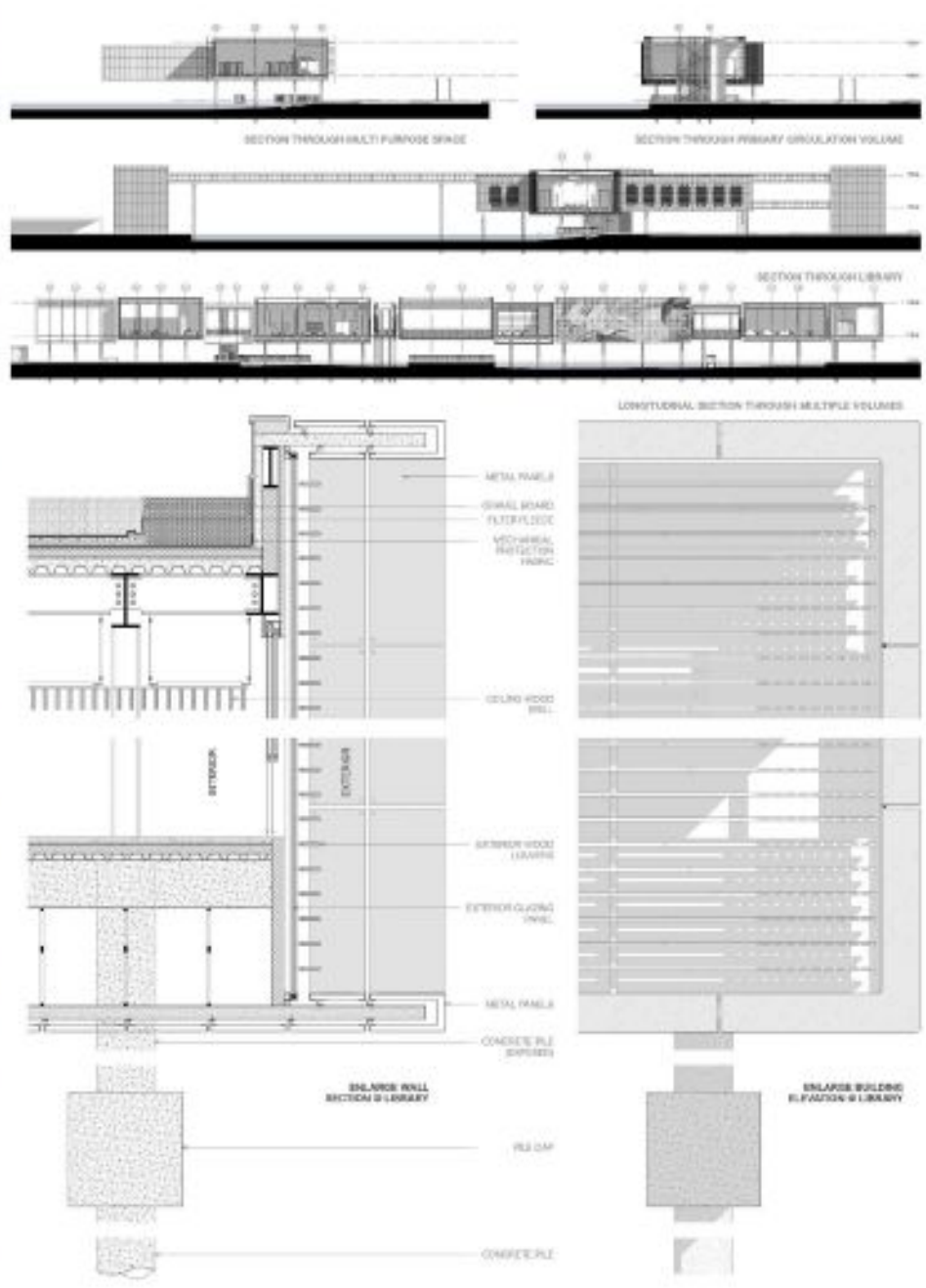
FIRST FLOOR PLAN

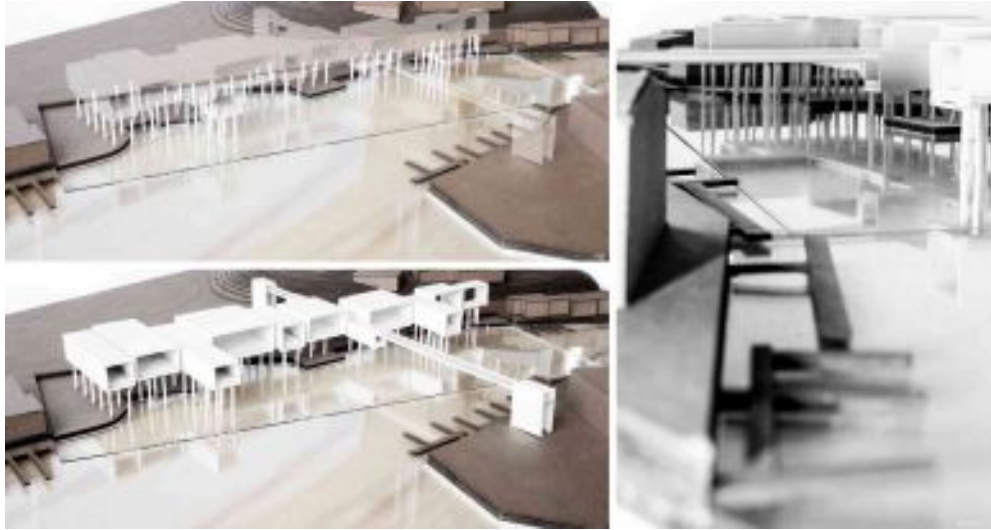


POP-UP Volumes
| Loc Hoang Nguyen

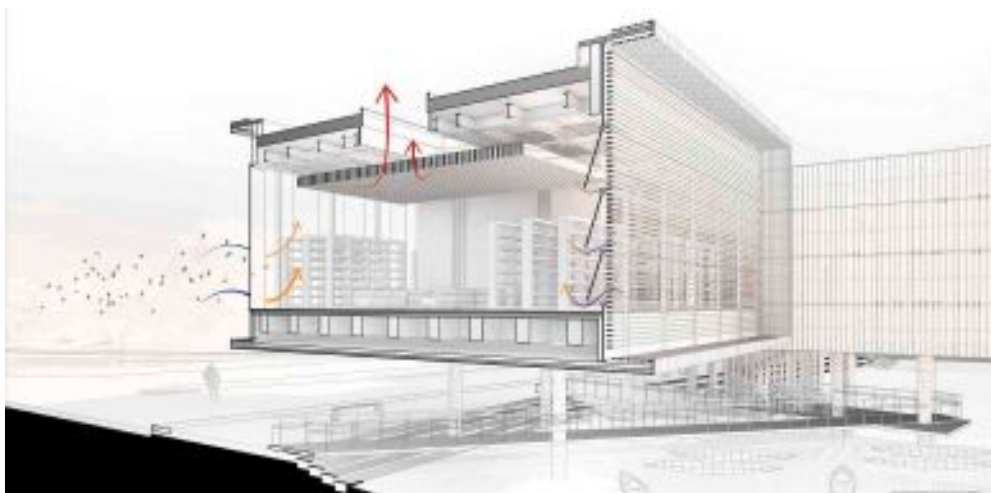


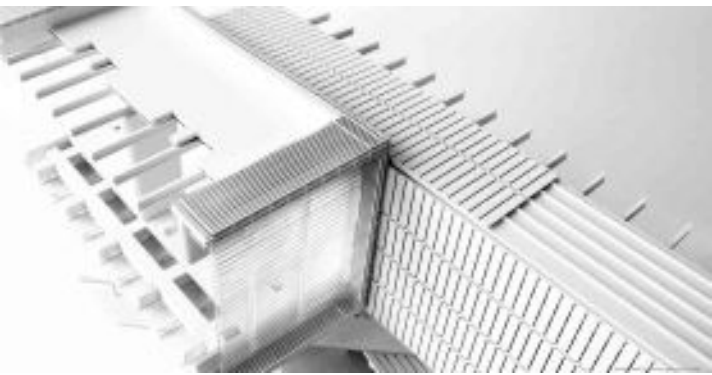
POP UP Volumes
| Loc Hoang Nguyen





POP-UP Volumes | Loc Hoang Nguyen





POP-UP Volumes | Loc Hoang Nguyen



SECTION MODEL 3 SECONDARY CIRCULATING LIBRARY



Redirecting Nutrients in the Sacramento River Basin

Zhilu Wang

University of Virginia

“ Not only calls out a problem, but identifies a strategy. Gorgeous graphics. ”



Redirecting Nutrients

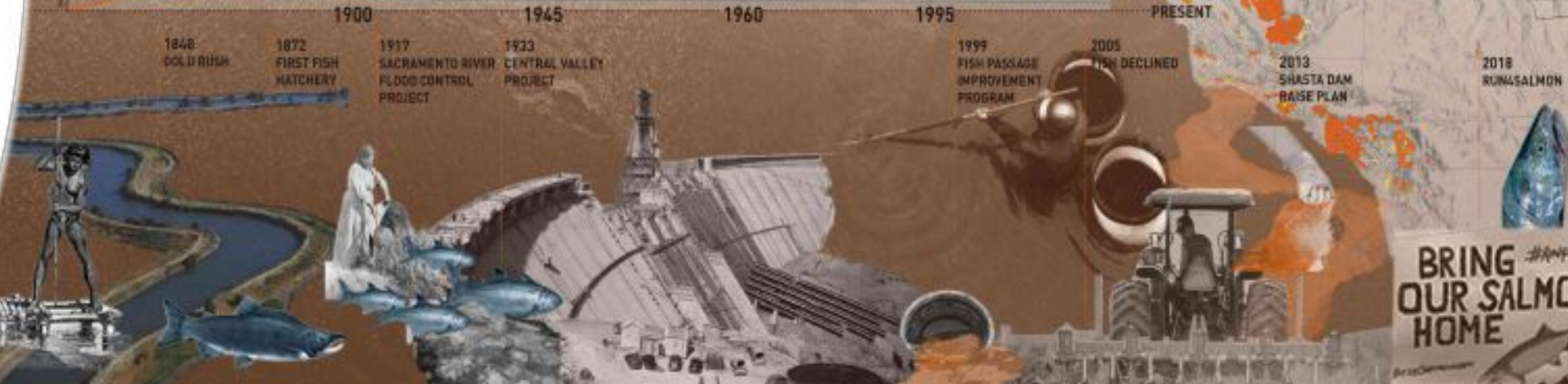
Zhilu Wang
| University of Virginia

LAND USE AFFECT THE NUTRIENT HEALTH OF THE CENTRAL VALLEY

- Wetlands
- Aquatic
- Drier floodplain habitats
- Urban/Agriculture
- Valley/Foothill hardwoods
- Riparian
- Grassland/Shrub

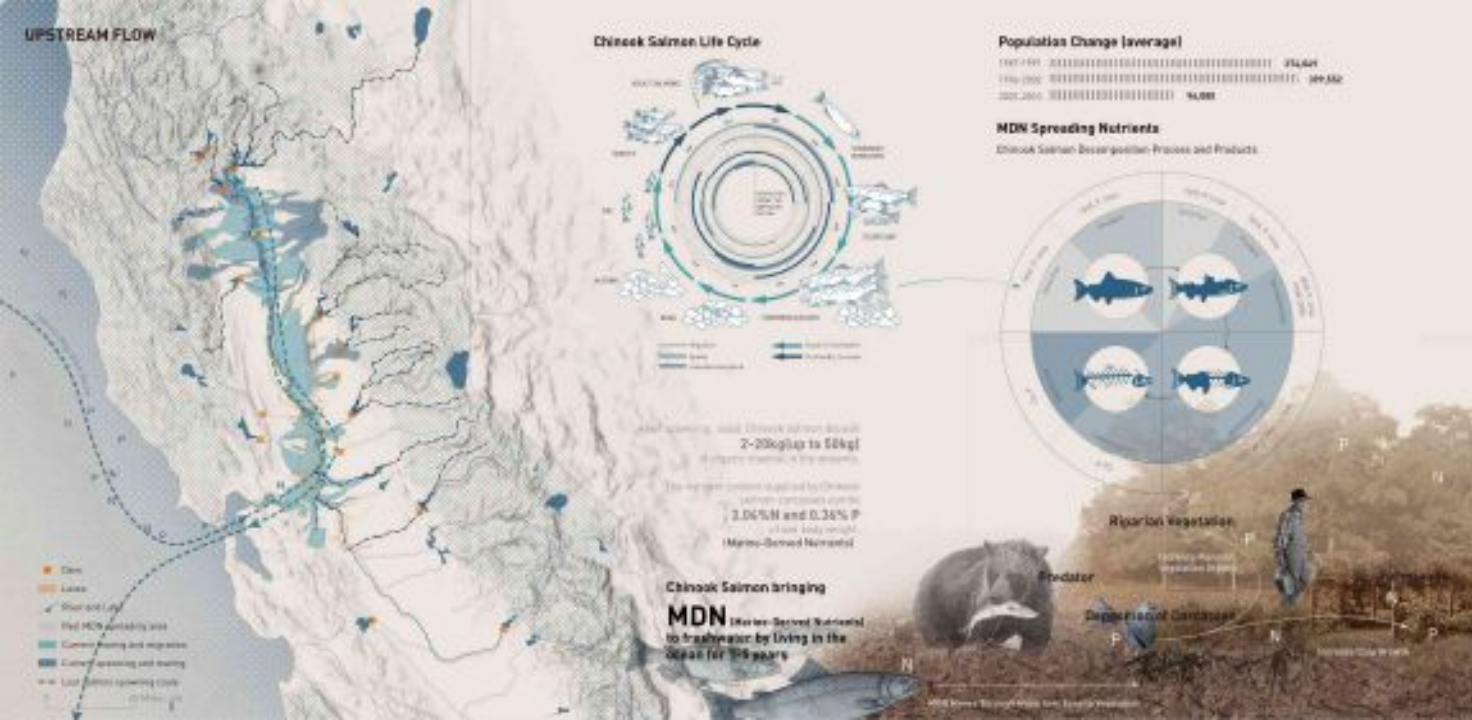
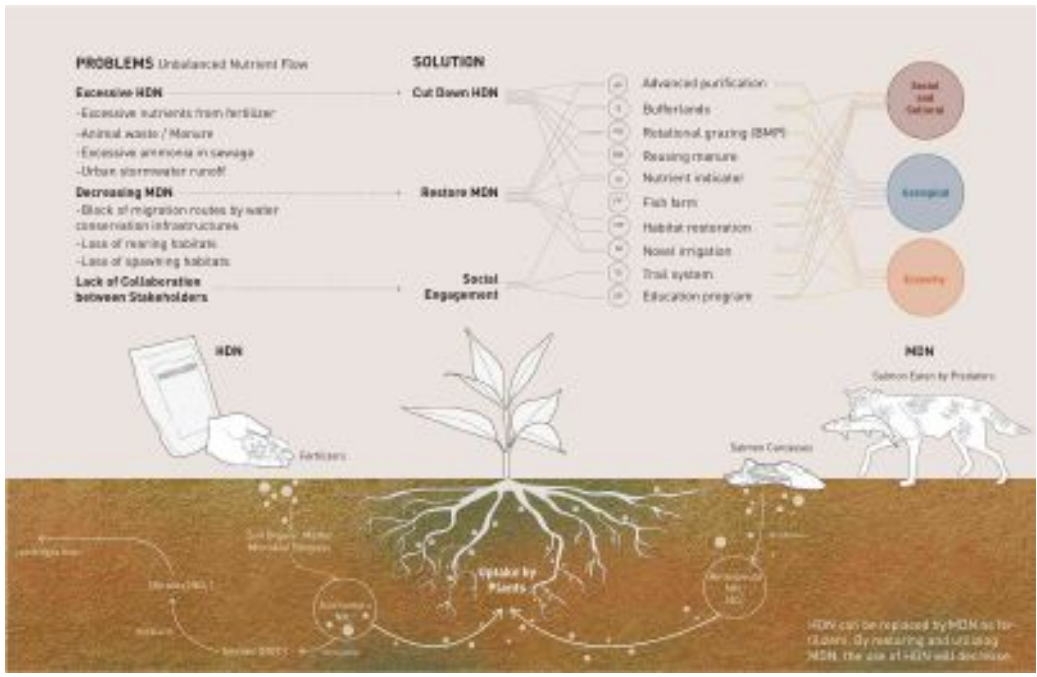
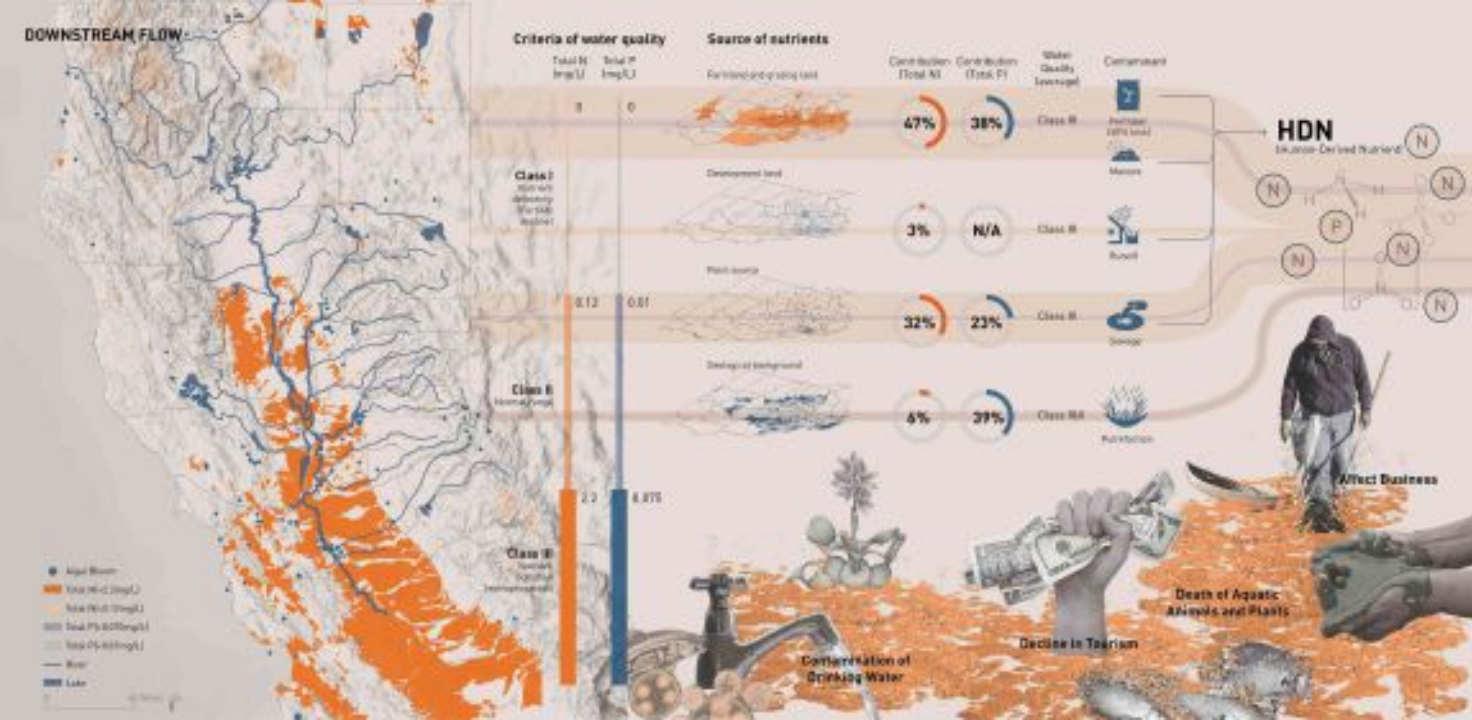
50 miles

Central Valley Land Cover Changes (acres)

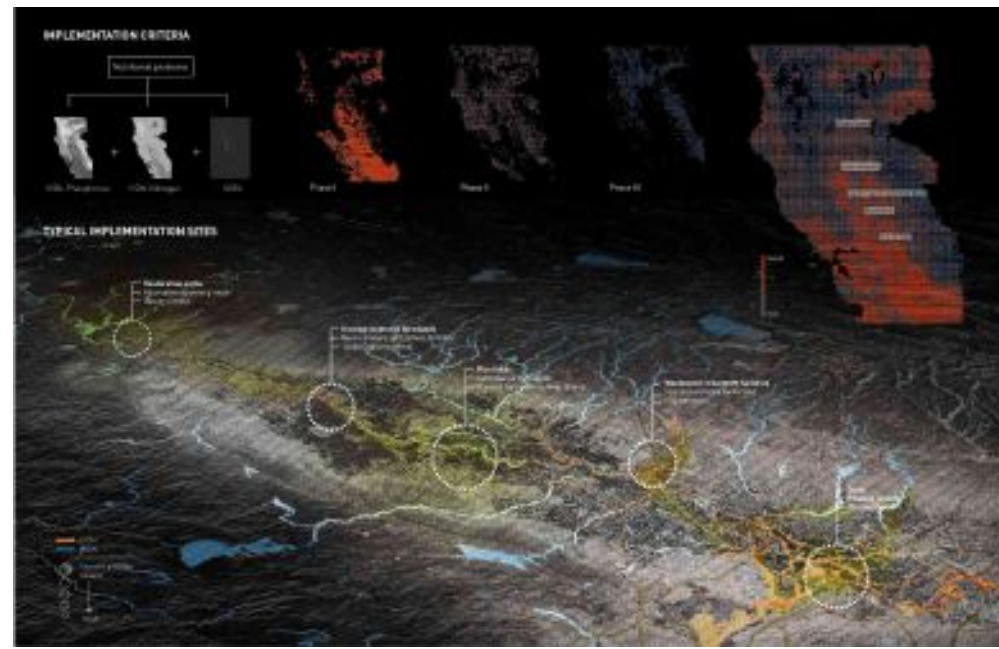
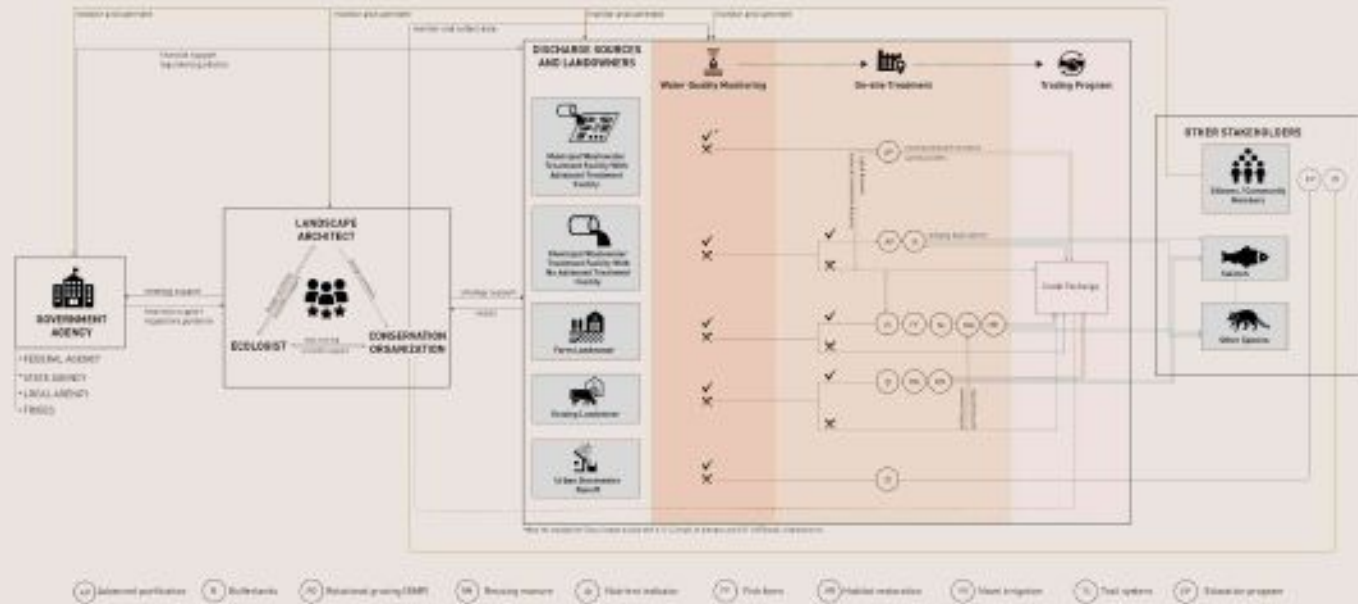


20,000 acre of AGRICULTURAL LANDS
1,000 acre of WETLANDS
80% LOSS OF WETLANDS
80% LOSS OF SALMON POPULATION
2,000 TONS OF NITROGEN
9,000 TONS OF PHOSPHORUS INCREMENTAL LOADS A YEAR

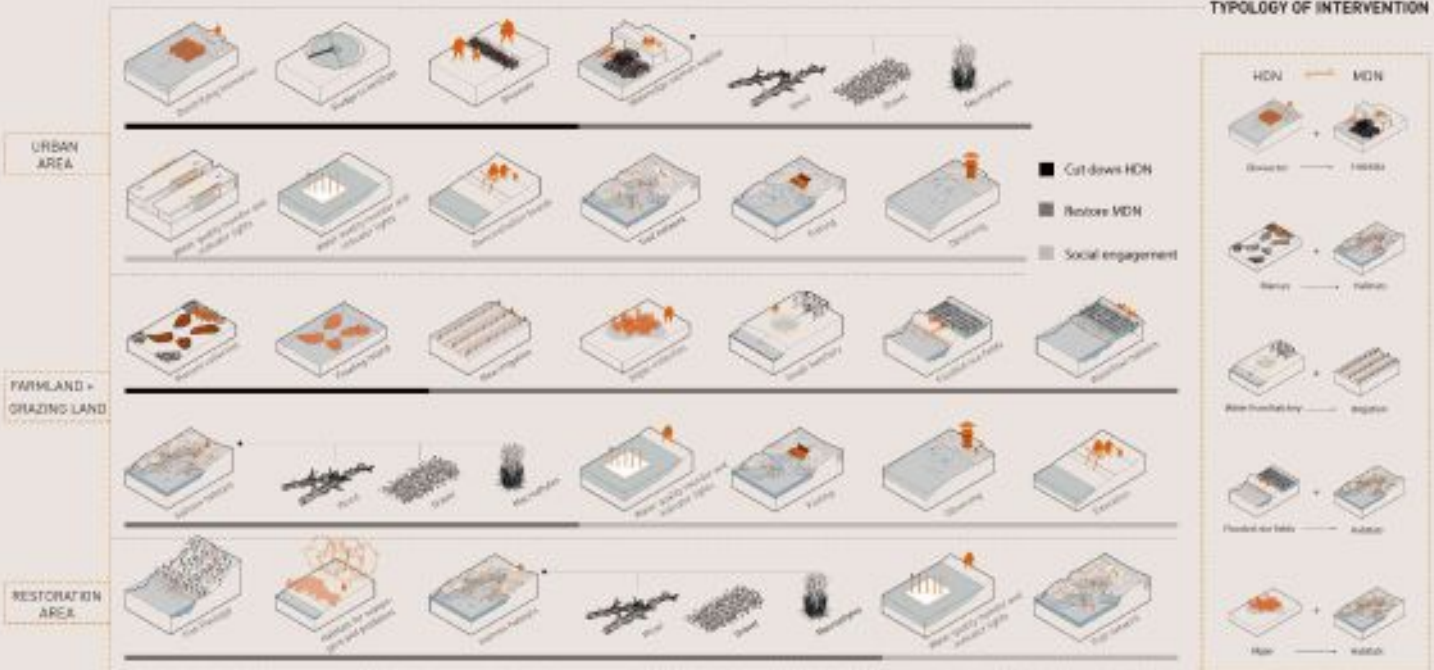
THE SACRAMENTO RIVER WATERSHED



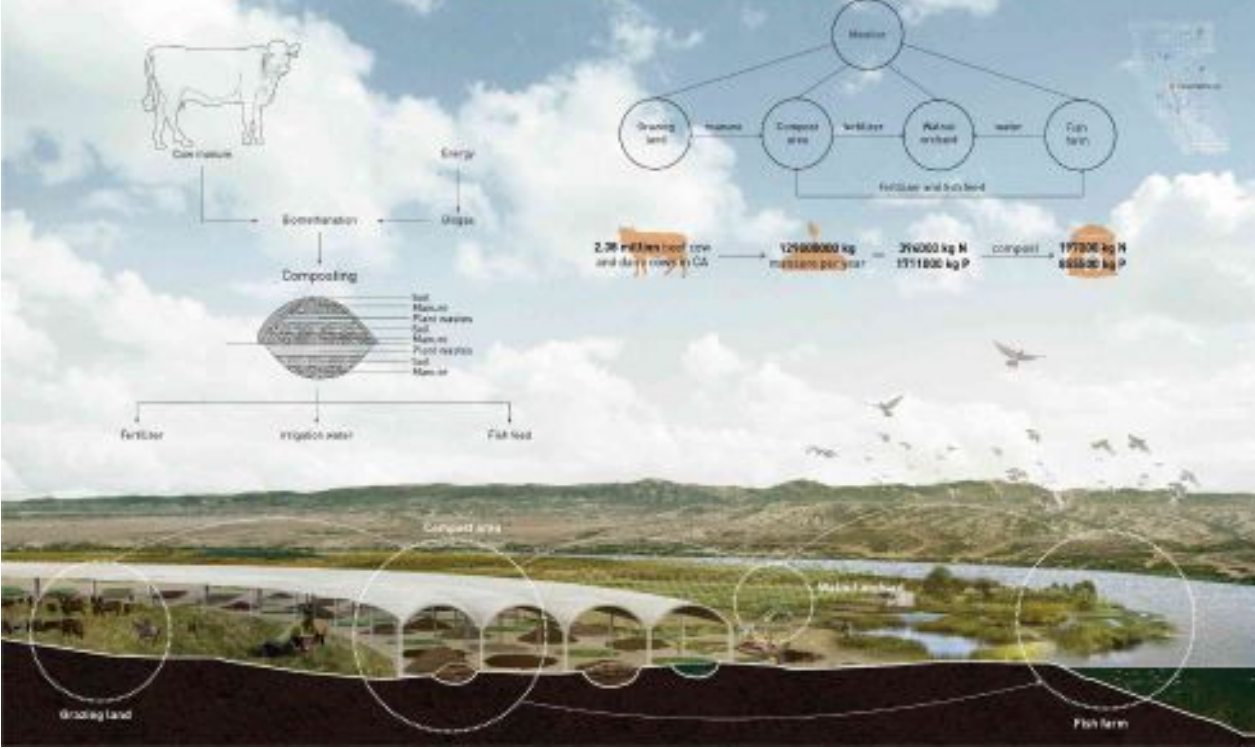
NUTRIENT MODIFICATION SYSTEM OF THE SACRAMENTO RIVER BASIN



TYPOLOGY OF INTERVENTION



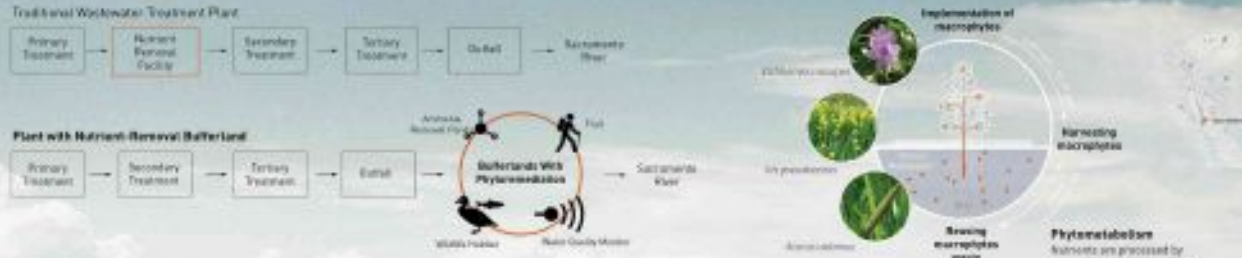
GRAZING LANDS AND FARMLANDS Reuse manure and reduce fertilizer (Lake California Area)



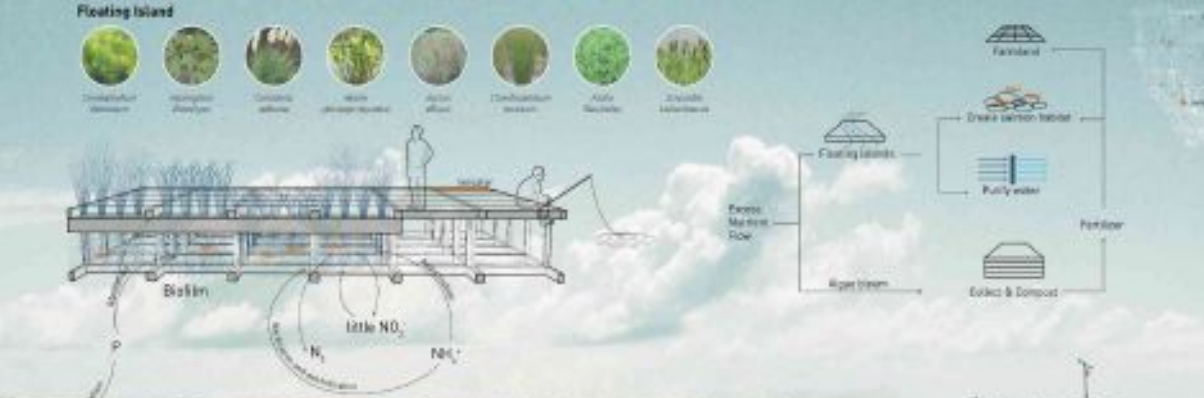
RICE FIELDS Salmon rearing habitat (Central Sacramento River Basin)



WASTEWATER TREATMENT FACILITIES Nutrient-removal bufferland (Sacramento)



DELTA Floating islands (Franks Tract)



EXCELLENCE



Dam(m/n)ed Earth

Jared Edgar McKnight

University of Southern California

“Elegant storytelling.”

“Takes a private process and makes it more social.”

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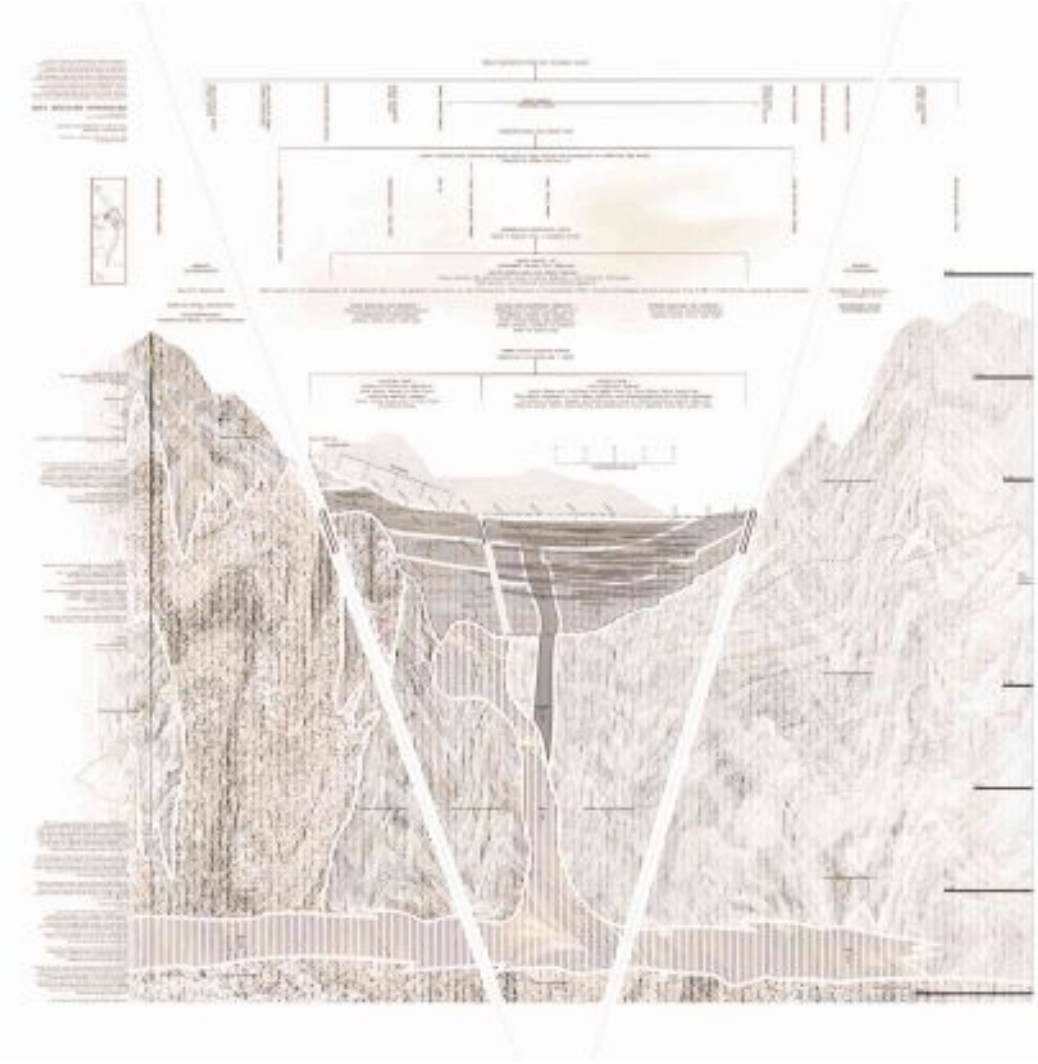


Dam(m/n)ed Earth

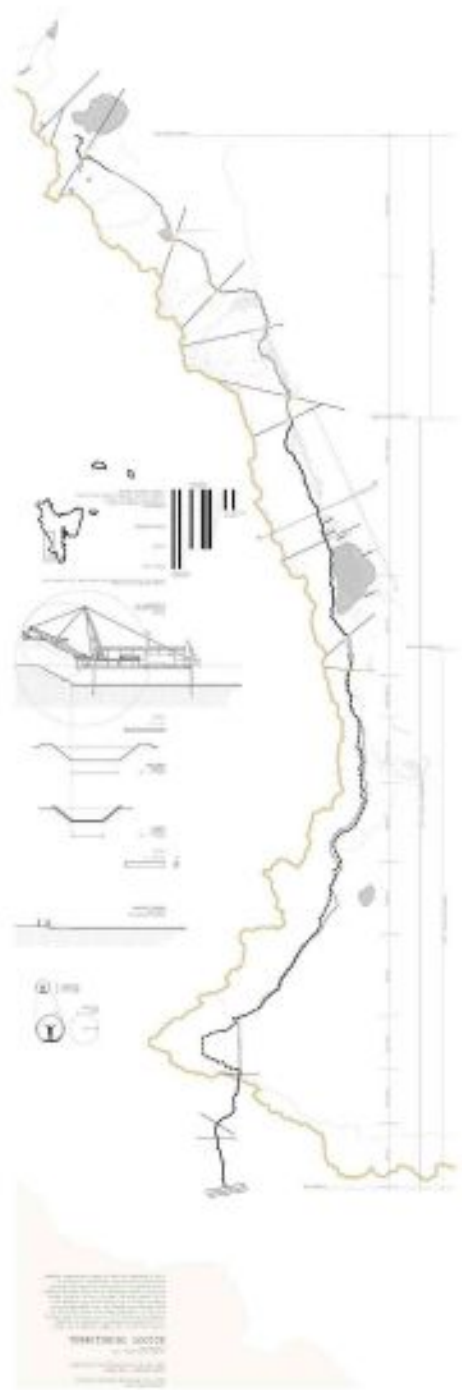
Jared Edgar McKnight

| University of Southern California

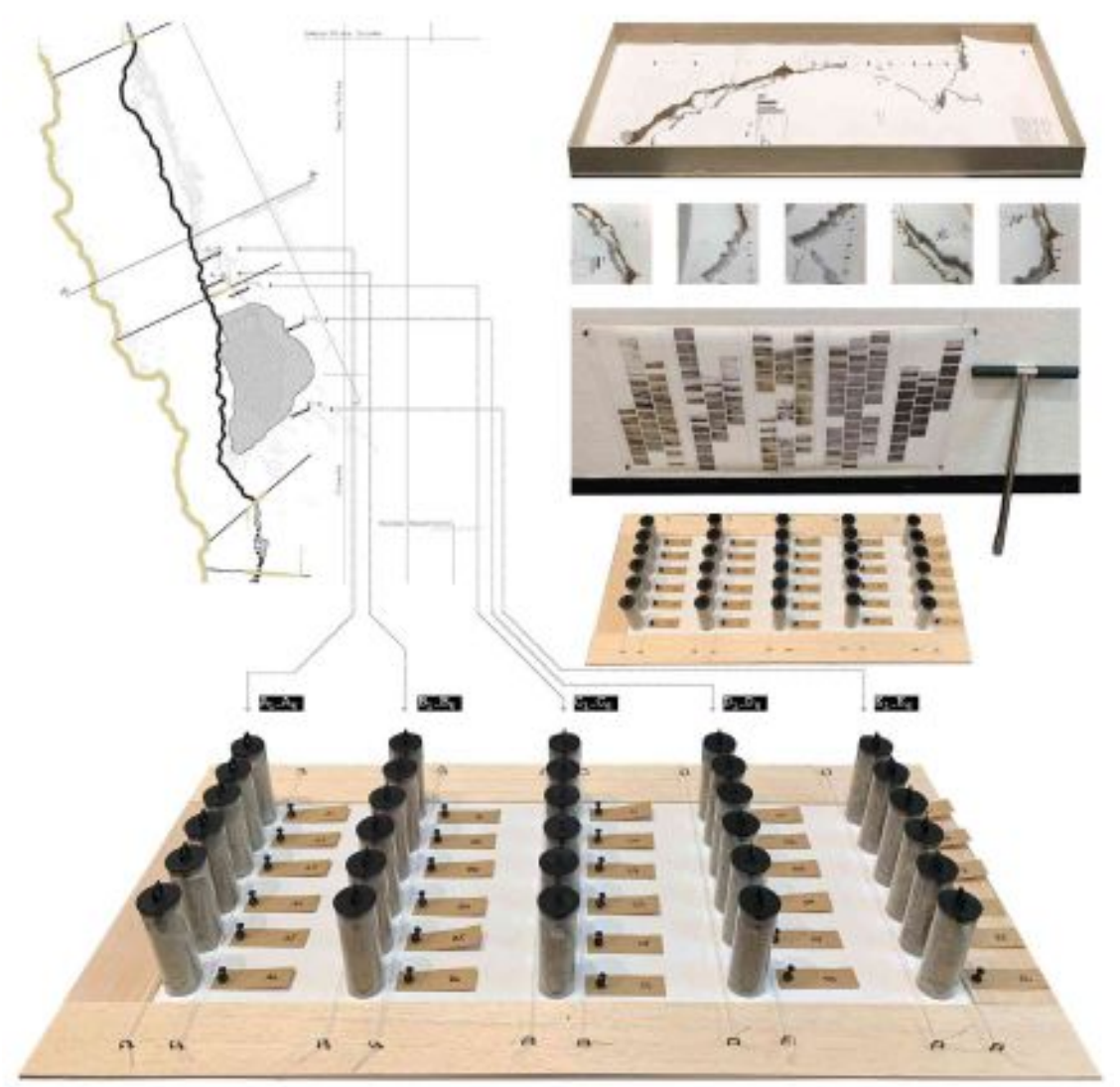
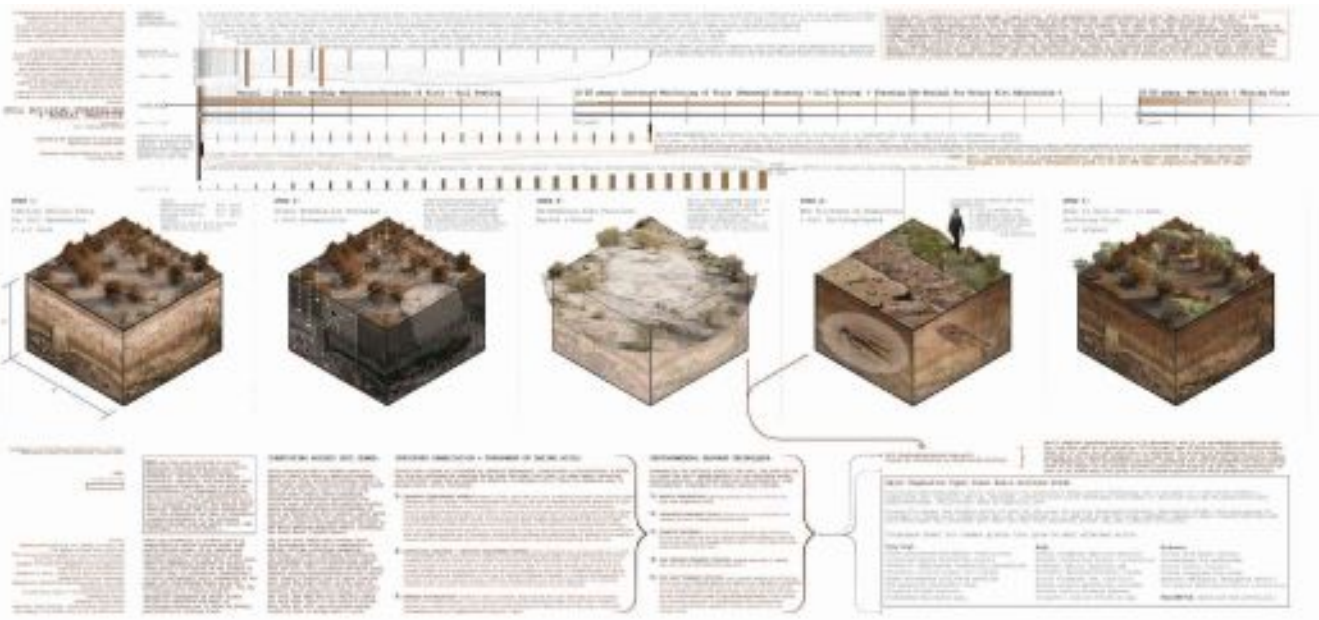


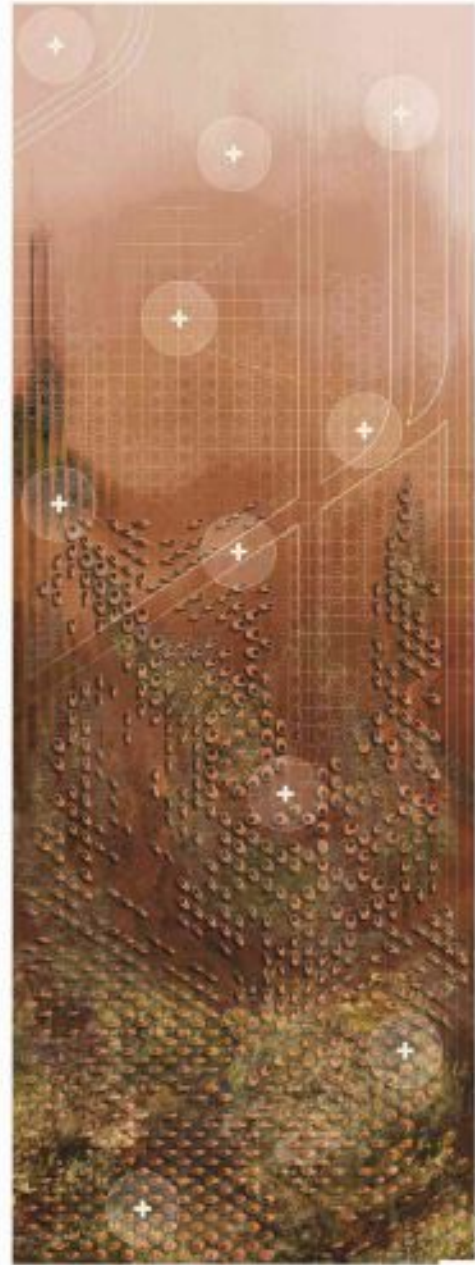
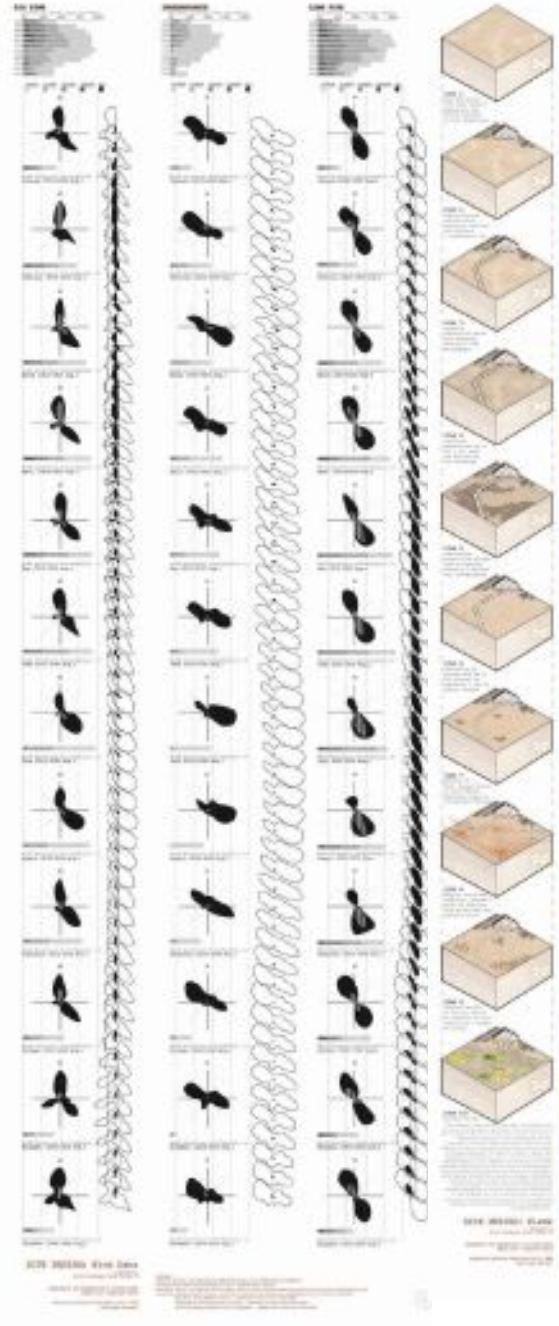


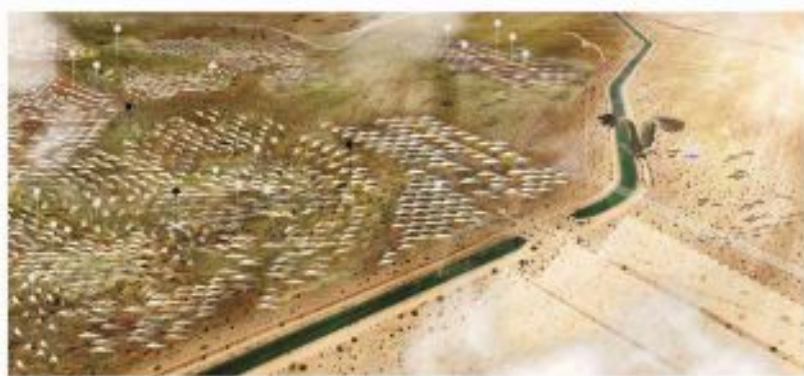
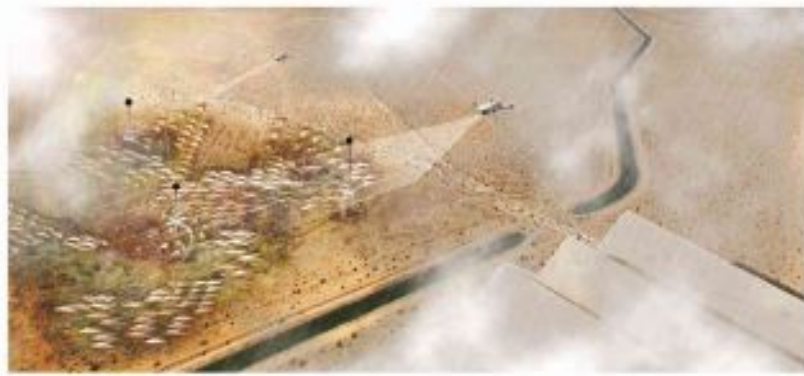
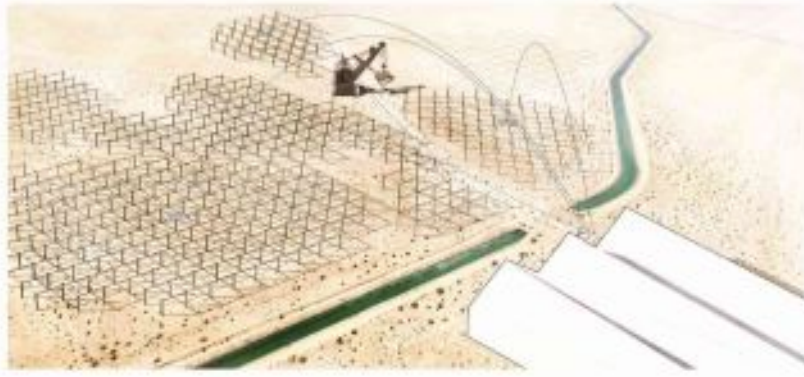
Dam(m/n)ed Earth | Jared Edgar McKnight



Dam(m/n)ed Earth | Jared Edgar McKnight







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NATIONAL DESIGN AWARDS

Congratulations to all winners!



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NATIONAL DESIGN AWARDS

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California Polytechnic State University, San Luis Obispo
Cesuga University
Clemson University
Columbia University
Florida Atlantic University
Massachusetts Institute of Technology
McGill University
Montana State University
New York Institute of Technology
Philadelphia University + Thomas Jefferson University
Pratt Institute
Princeton University
Rice University
School of Visual Arts
Syracuse University

The Catholic University of America
Tulane School of Architecture
University of California, Berkeley
University of Kansas
University of Maryland
University of Miami
University of Nebraska-Lincoln
University of Notre Dame
University of Southern California
University of Texas at Arlington
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THANK YOU



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