Constructing New Narratives to Reveal Diverse Identities in Richmond, BC

by

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Submitted in partial fulfilment of the requirements
for the degree of Master of Architecture

at

Dalhousie University
Halifax, Nova Scotia
June 2022

Dalhousie University is located in Mi'kmaq'i,
the ancestral and unceded territory of the Mi'kmaq.
We are all Treaty people.

Contents

Abstract

With the capitalist expansion of urban cities today, different physical and social forces exist, collaborate and challenge each other on the land we call home. In Richmond, British Columbia, Canada, where multi-ideologies and diverse ethnicities live, work, play and grow together, different layers of physical and social landscape encapsulate the disjuncture of people and land, shifting identity through time. Using mapping and tracing as lenses to reveal the city's diverse layers and living experiences, this thesis aims to uncover the landscape, urban form, individual identity, and collective identity layers embedded in the city's formality and provide architectural interventions to respond to the disconnection between them. The design proposal implements landscape and architecture as a mediator to reconnect the dispersed landscape and identity in Richmond and construct new narratives to respond to the current identity and spirit of the people and the land.

Acknowledgements

Thank you to my supervisor, Susan Fitzgerald, for the support and insights into the thesis. Your professional knowledge and working enthusiasm have pushed me forward and challenged me to go beyond what I thought my limits were. Thank you for seeing my value and believing in my potential. To my advisor Catherine Venart, your insights allow me to see things from unique angles and generate new ideas. Thank you for encouraging me and recognizing my hard-working. Thank you both for always providing the most vital critiques and straightforward guidance in this project and the past years. You allow me to see my value in a way that I never treasured, and always encourage me to express myself.

Thank you to the City of Richmond for the images, maps, and data instrumental to my research.

To my dear friends and classmates, thank you all for being there. The laughter and the tears, the little troubles and the little joys, the time we spent and the time we spared. It was a lovely year in the Upper Studio, with all the laughs, encouragement, and inspiration. I look forward to future projects and accomplishments from everyone.

To my mom, my dad, and my family: thank you for the all-time unconditional support for everything and for offering me the opportunity to study abroad. To my aunt, thank you for always taking care of me as we stayed in Halifax. Thanks to my family for always believing in me, and allowing me to explore new things while seeing the world.

Chapter 1: Introduction

Multiple forces exist and intervene in modern cities.

Multiple forces exist and collaborate in modern cities. These forces make cities decentralized and scattered, causing social-political disconnection problems such as rural-urban separation and a shift in people's identities. The land's topography and morphology control cities in a structural, formation, top-down, and powerful way. In comparison, social forces like identity and collective form the city in a bottom-up experiential method. They are soft and interventional.

Richmond is a city where multiple forces are visible and reciprocal. Diverse forces complicate the city when the connections between each layer deviate through time. Using mapping and layering, this research finds the connections between layers of Richmond. It prepares for the unfolding of architectural interventions and activities by revealing, spreading, and responding to the formality and informality of the city.

By analyzing the historical formation and the current physical and social separation of the city fabric, this thesis develop a method to activate the city. It constructs a new narrative that imposes the essence of the old, brings back the nature of the land, and acknowledges the diverse and inclusive collectives. By applying interventional structures, the design cultivates an urban landscape and architecture to enhance the collective memory, creating placeness in urban and rural areas. It also acts as a test field to extend the definition of community.
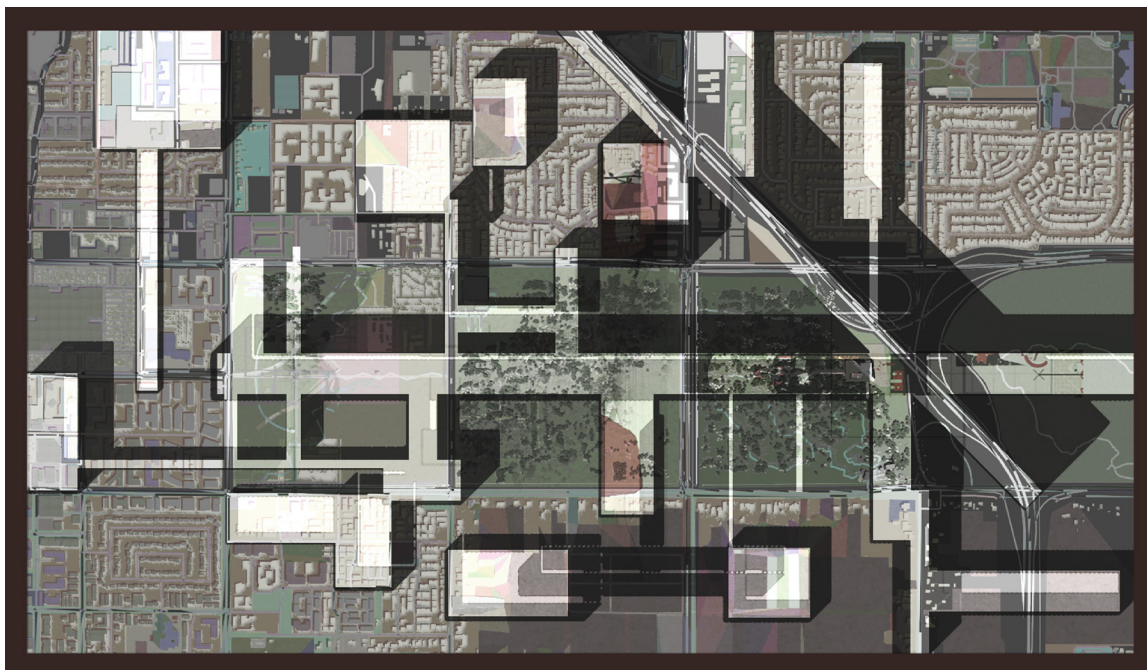
Diagram of forces that co-exist and co-developed in Richmond

Chapter 2: World View

Cities have constantly been evolving over their long histories. The multi-agency that drives city development, including landscape, history, cultures and so on, has become more evident. In the history of urban development, there are three typical morphological patterns. The first identifiable pattern appeared in the Neolithic agricultural age, with the city center protected and surrounded by defensive facilities; With the Industrial Revolution's development, this restrictive nuclear structure was no longer effective. The city centres spread out and formed more organized patterns. They introduced and depended on geometric shapes to manage urban networks efficiently, such as grids, axes, and radial lines. However, after the Second Industrial Revolution in the early 20th century, urban spaces in cities developed and extended at an unprecedented speed, which then caused the differentiation between urban and rural, and further affected the disjuncture of the social class hierarchy. Henri Lefebvre (2003, 14-15) sums up the process of capitalist urbanization within this period as "implosion-explosion." After experiencing political cities, agricultural cities, and industrial cities, the "implosion-explosion" led to urban agglomeration,
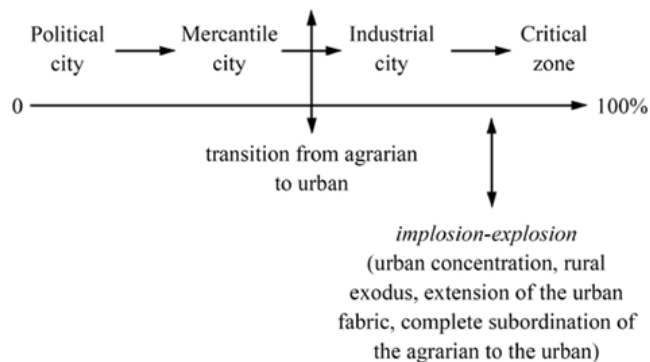
Diagram of city development process (Lefebvre 2003, 15)

rural population migration, and the extension of urban texture. In addition, rural areas were entirely dominated by cities. The urban area expanded outward endlessly, encroaching on the surrounding rural farmland and green spaces. Land and social forms changed drastically. The complexities and distinctions between urban and rural within cities became unignorable.

Therefore, the third form appeared as the polycentric city. It is an organic model composed of more open, compact, multi-functional small-scale communities. This city pattern emphasizes critical care for people and communities instead of prioritizing functionality and centralizing capital resources. This then creates positive and active spaces in cities. Cedric Price (1965) uses the egg metaphor to represent city patterns. He explains the three forms of the city with three ways of cooking eggs. Price describes the third modern urban form as scrambled eggs. The egg yolks originally in the center are scattered to the surrounding parts, representing the reassignment of resources and content in contemporary society. Multi-agency forces generate the new city pattern and replace the conventional linear hierarchy. The driving dynamic behind urban growth and transformation is the interaction between large-scale groups and their complex networks.

Cedric Price, "The City as an Egg" (Price 2001)

In recent years, city's development forces began to reshuffle. This is partly due to the wide circulation of the globalized economy and ideologies and the decisive intervention of high technology, including the broad coverage of the Internet. The game between centralization and decentralization makes contemporary urban society different and divided, discontinuous and unstable, therefore forming an ambiguous and uncertain state. The spatial experience of contemporary cities is also fragmenting away from the standardization and wholeness of the pre-industrial age. Today's cities are fluid and decentralized with ambiguous hierarchies. They are scattered and discontinuous, mixed with functional divisions, and extended horizontally, containing fluid fragmented spaces (Koolhaas 1994, 294-296).

The City of the Captive Globe (Koolhaas 1994, 295)

This inevitable urban transformation is self-developed and iterated, building localized cores within cities. Cities that have experienced every period of historical revolution are capable of seeking contextualized inward developments and preparing for neo-transformations. The transition from

the age of industrial space to the era of urban space is at a critical point, and we are inevitably in the blind field of the historical stage (Lefebvre 2003, 26). In this blind field, the critical transitional phase of the city is full of crises, potentiality, and hope. Today, various roles and forces profoundly affect the nature and connotation of cities. The linear method of the twentieth century can no longer apply to the rapidly-changing city forms of today. The contemporary architecture itself presents a multi-dimensional and multi-form composite experience. Architects should find a way to create meaningful connections in a 'disordered' urban environment, responding to the complexity and ambiguity of cities. The response needed is to build a city that cares. This type of city gets to know the people, acknowledges their history, acknowledges the changing environment, and adapts to the restrictions, the standards and the abnormal phenomena. It uncovers the hidden and recognizes the challenges. It grows together with people and the environment.

This thesis will take the city of Richmond, BC, as an example to examine the multiple agencies and layers behind a contemporary city. It will reveal and analyze the physical and social forces that cause fluidity, ambiguity, and division of identity. This thesis will make these reciprocal forces visible and explicit, uncovering the connections between each other. Further, it will explore an architectural response that constructs a new narrative to speak to the current environment.

Chapter 3: Localization

Richmond has multiple layers of identity. It is a city formed by a large portion of agricultural land on the west coast delta and is home to many immigrants. Water, forest, wetland, agricultural farming, urban patterns, and immigration populations intertwine and amalgamate on the land to create the richness of everyday life and enable rapid urban development. Through time, multilayers of intervolving physical and social patterns are embedded in the city.

Landscape

History

Sea Island fields and farms in background, 1937 (City of Richmond Archives 2022)

Aerial view of the Holt farm, 1955 (City of Richmond Archives 2022)

Richmond is the child of the Fraser River. It was created by the silt deposits of the Fraser River which were stabilized around the 15th century. Two hundred years ago, Lulu Island was a natural island composed of shrubs, forests, gardens, bogs, trees, and other vegetation resources. The majority of the land was wetlands. It was only one meter above sea level and home to a broad range of birds, raptors, wildlife, flora and fauna (Friends of the Richmond Archives 2019). In the 19th century, human activities altered the composition and structure of the landscape. Most wetlands have been infilled and drained to build transportation and develop agriculture. A mosaic pattern of land emerged, showing the traces of farming and residential land construction.
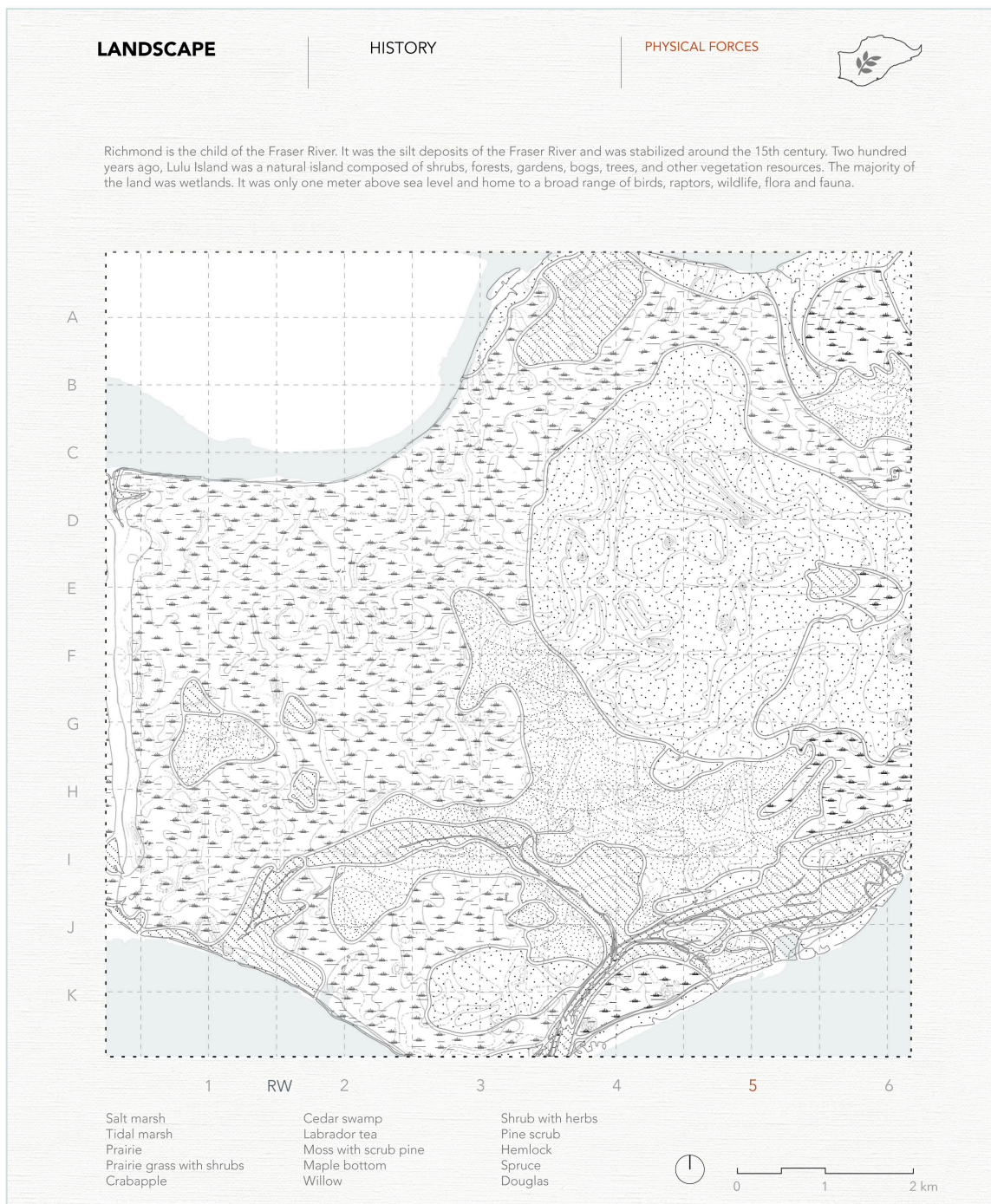
After the Second Industrial Revolution, the city then began to develop at a fast speed. Starting early in the 1900s, the dyke ring was built by the settlers to protect the island from flooding and allow for agricultural production. It is considered the first line drawn on the landscape and symbolizes the division between human settlement and nature. Between

LANDSCAPE | HISTORY | PHYSICAL FORCES

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Salt marsh	Cedar swamp	Shrub with herbs
Tidal marsh	Labrador tea	Pine scrub
Prairie	Moss with scrub pine	Hemlock
Prairie grass with shrubs	Maple bottom	Spruce
Crabapple	Willow	Douglas

0   1   2 km

Mapping of the original landscape and vegetation of the Southwestern Fraser Lowland (data from Minister of Supply and Services Canada 1979)

WETLAND

TIDAL MARSH

HEMLOCK

CRABAPPLE

PRAIRIE

SALT MARSH

PINE

SHRUBS WITH BERRIES
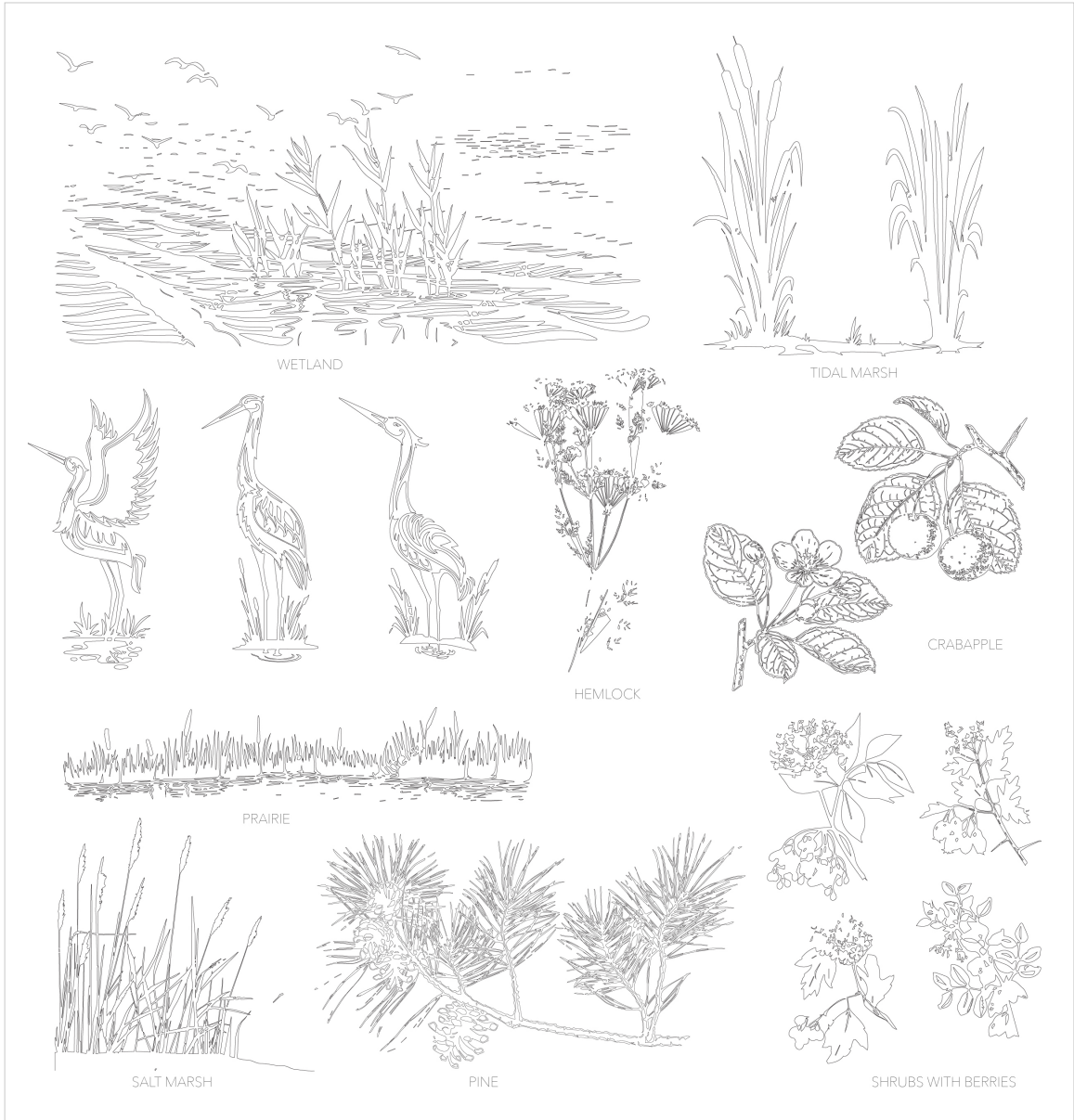
Diagram of the original natural resources of the original land

1920 and 1960, vertical and horizontal lines along the railway gradually emerged and transformed into the city structure. The initial city grid was completed in the 1970s. 1978 is the first version of Agricultural Land Reserve Zoning (ALR), drawing a hard line between rural and urban (City of Richmond 2022a).

Today, agriculture is still a big part of Richmond's economy. Mapping shows different types of agricultural land. The most prevalent crops include cranberries, blueberries, potatoes and so on. But once people drew the physical boundaries, interestingly, the land itself started to dissolve. Blank spaces on the drawing show the area currently not being farmed and some being sold to mega-mansions. Only 62% of ALR is currently being farmed.
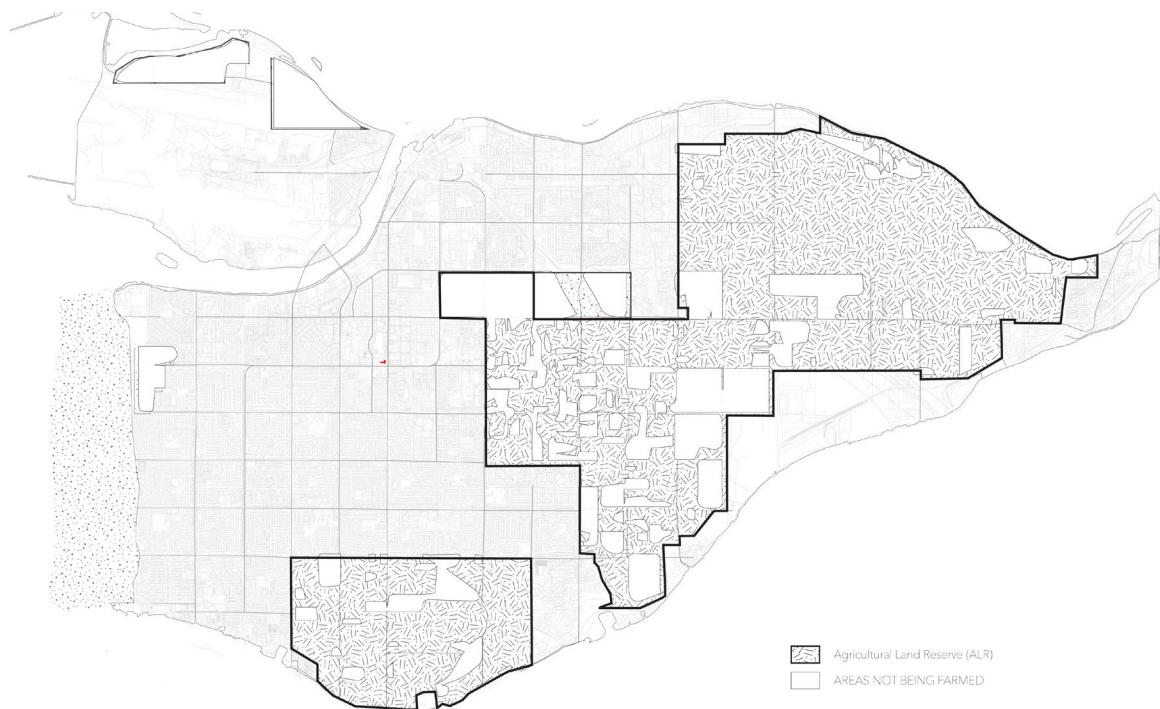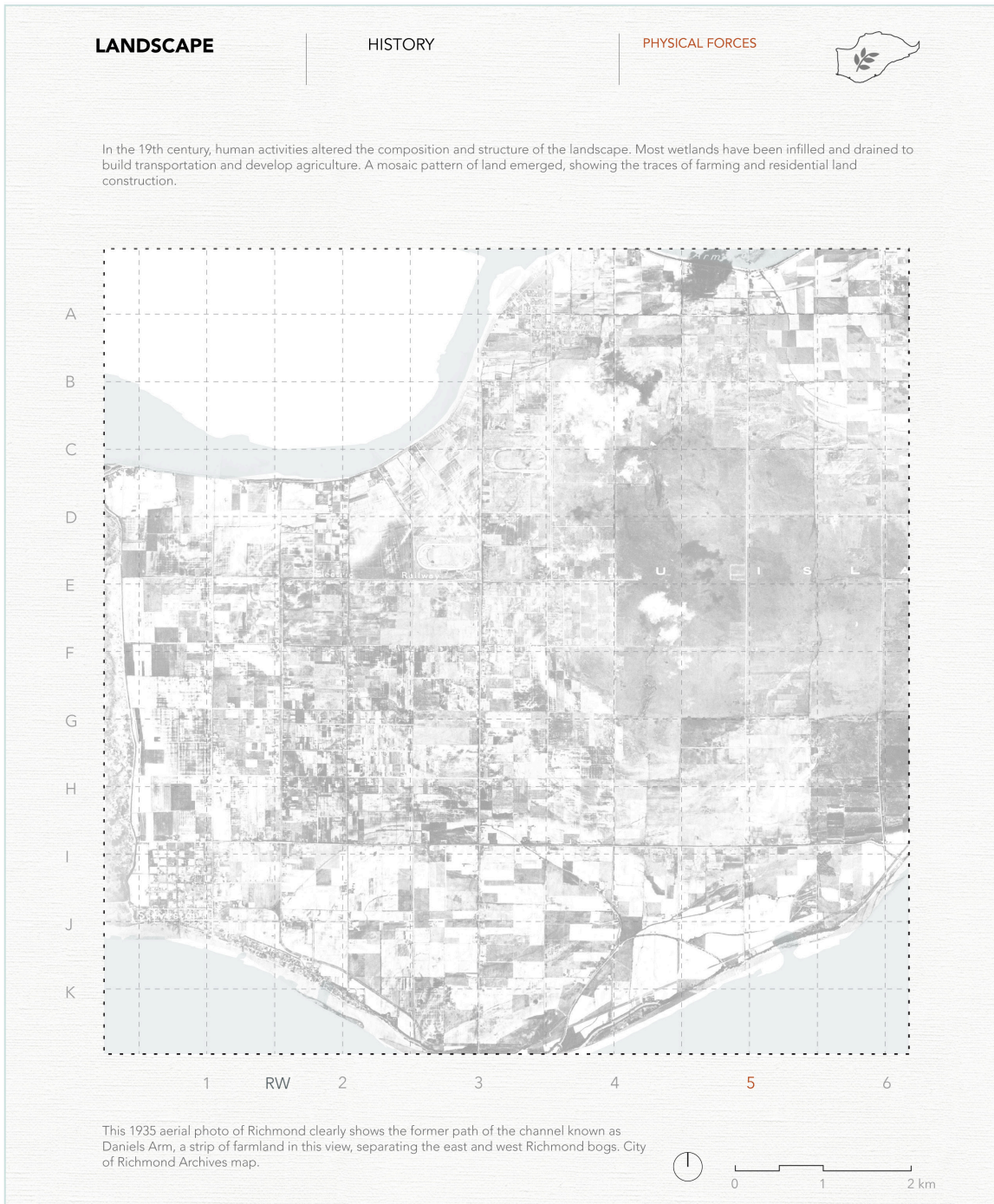
Diagram of ALR areas that are currently not being farmed (data from City of Richmond 2022a)

LANDSCAPE | HISTORY | PHYSICAL FORCES

In the 19th century, human activities altered the composition and structure of the landscape. Most wetlands have been infilled and drained to build transportation and develop agriculture. A mosaic pattern of land emerged, showing the traces of farming and residential land construction.

This 1935 aerial photo of Richmond clearly shows the former path of the channel known as Daniels Arm, a strip of farmland in this view, separating the east and west Richmond bogs. City of Richmond Archives map.

Mapping of the mosaic of the industry and agriculture land as the municipal boundaries were set in 1935 (data from Province of British Columbia 1935)

Today, few people know the original geographical nature, vegetation and wildlife of the land they call home. The landscape is the idea that brought settlers together to claim and inhabit the land. People's faiths in the land productivity gathered individuals and allowed them to make a living. As capitalism takes over, the land turns to symbolize the
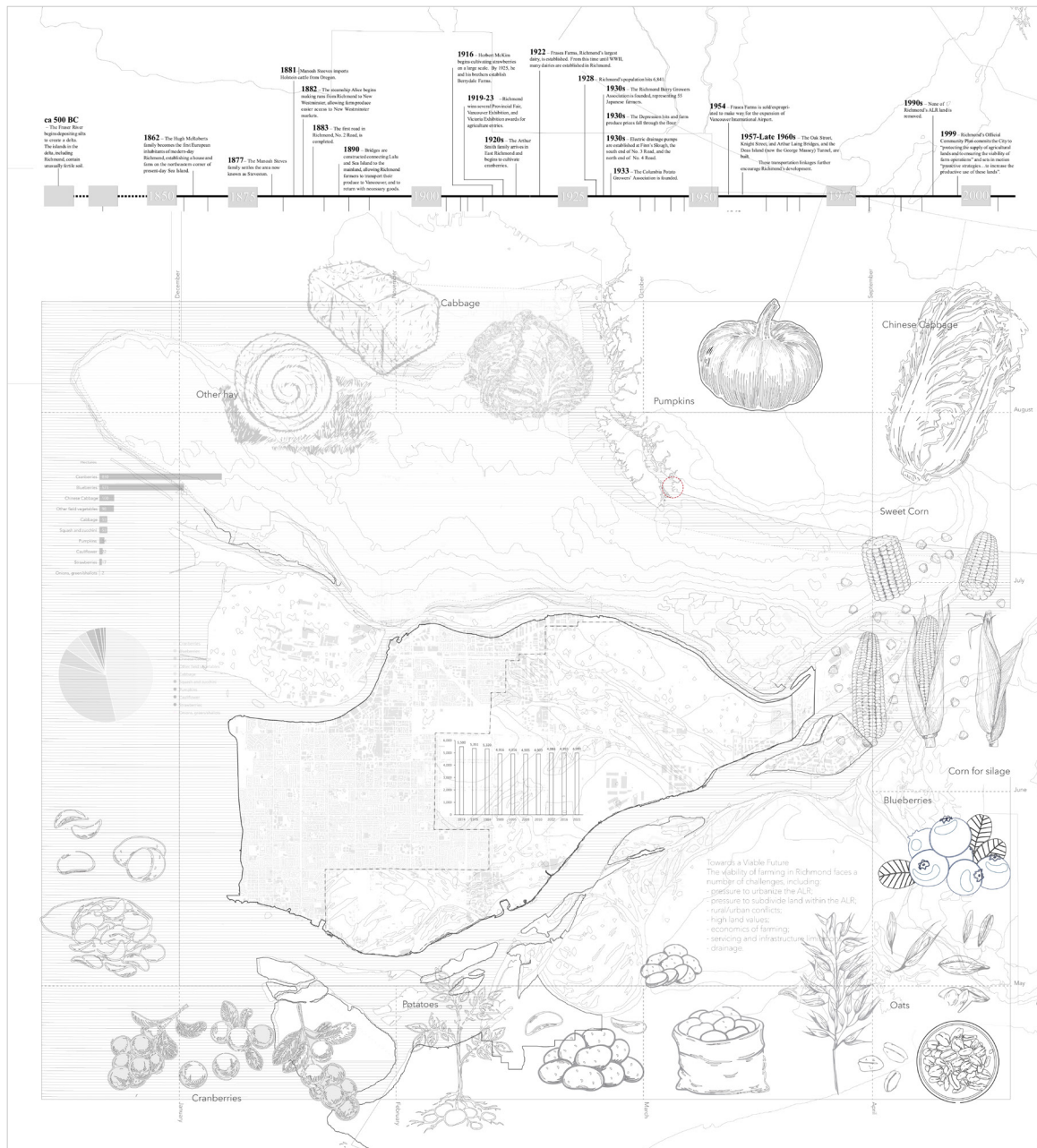
Mapping of the Mosaic of the agricultural produces as the Agricultural Land Reserve (ALR) is set in the present day (data from City of Richmond 2022a)

commodified world and reflects people's desires and shifts to control and divide people. The original respect for nature is gradually disappearing. However, the land itself is blending back to a stable pattern of mosaic with multiple uses. Rem Koolhaas describes the future borderless city formed by the dissolving of the demarcation line between townscape and landscape as a way modern cities adapted their scattered nature. Finding a way to weave the urban and rural, history and current layers, is the narrative of modern cities.

Restructuring of the Land

The restructuring process of Lulu Island includes reclamation, dyking, drainage, farming, penetration, and re-poldering. As mentioned, Richmond has most of its organic soil formed by fluvial deposits of the Fraser River. However, the initial land condition was not the best for growing agricultural plants. The original wetland was perfect for transportation for the First Nations people and the early Europeans. However, as the city developed, wetlands became a hindrance to building roads. The early farmers and railway builders built canals and filled the wetlands. Then, they built the dykes, drained the land, built railways and prepared the land to farm for agricultural production (City of Richmond 2022b).

Today, exceptionally few original wetlands are preserved, and the island is surrounded by a continuous dike ring over 49 kilometres long. There are also 39 drainage pump stations along with a flood strategy that gets updated annually to prevent the city from ocean storms. Richmond has prepared the dyke level to prevent 100-year flooding.

The reclamation steps are considered as the sequence of people working with this land. Each step represents a specific relationship between soil, water, vegetation,

[1900]

[1978]

[1920 - 60]

[1990s]

[1970s]

[2016]
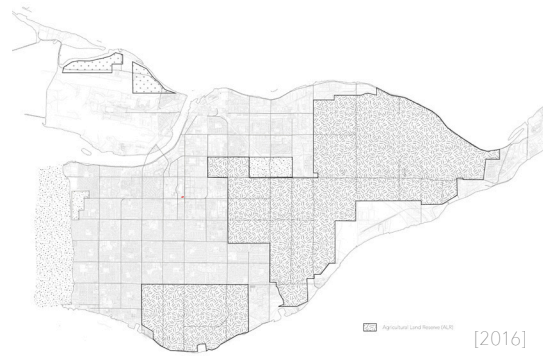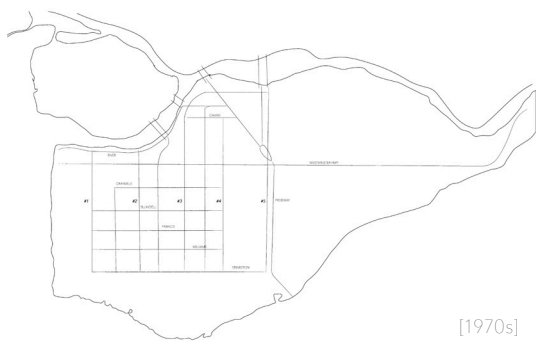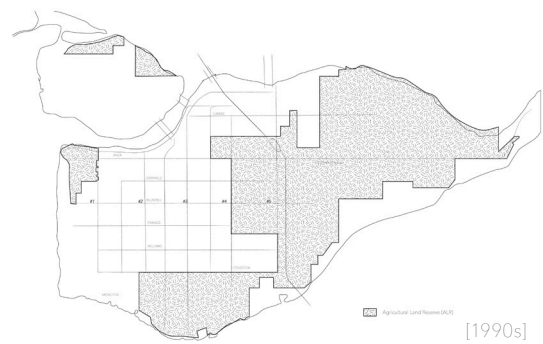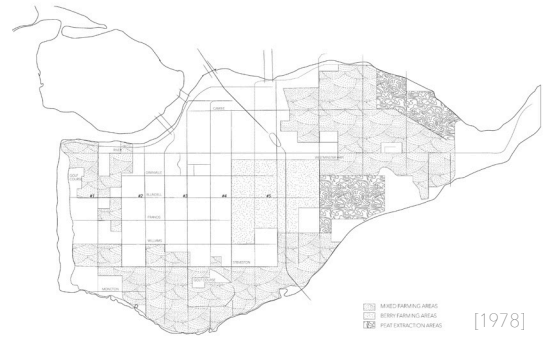
Mapping of development of land from 1900 to the current day (data from City of Richmond Archives 2022)
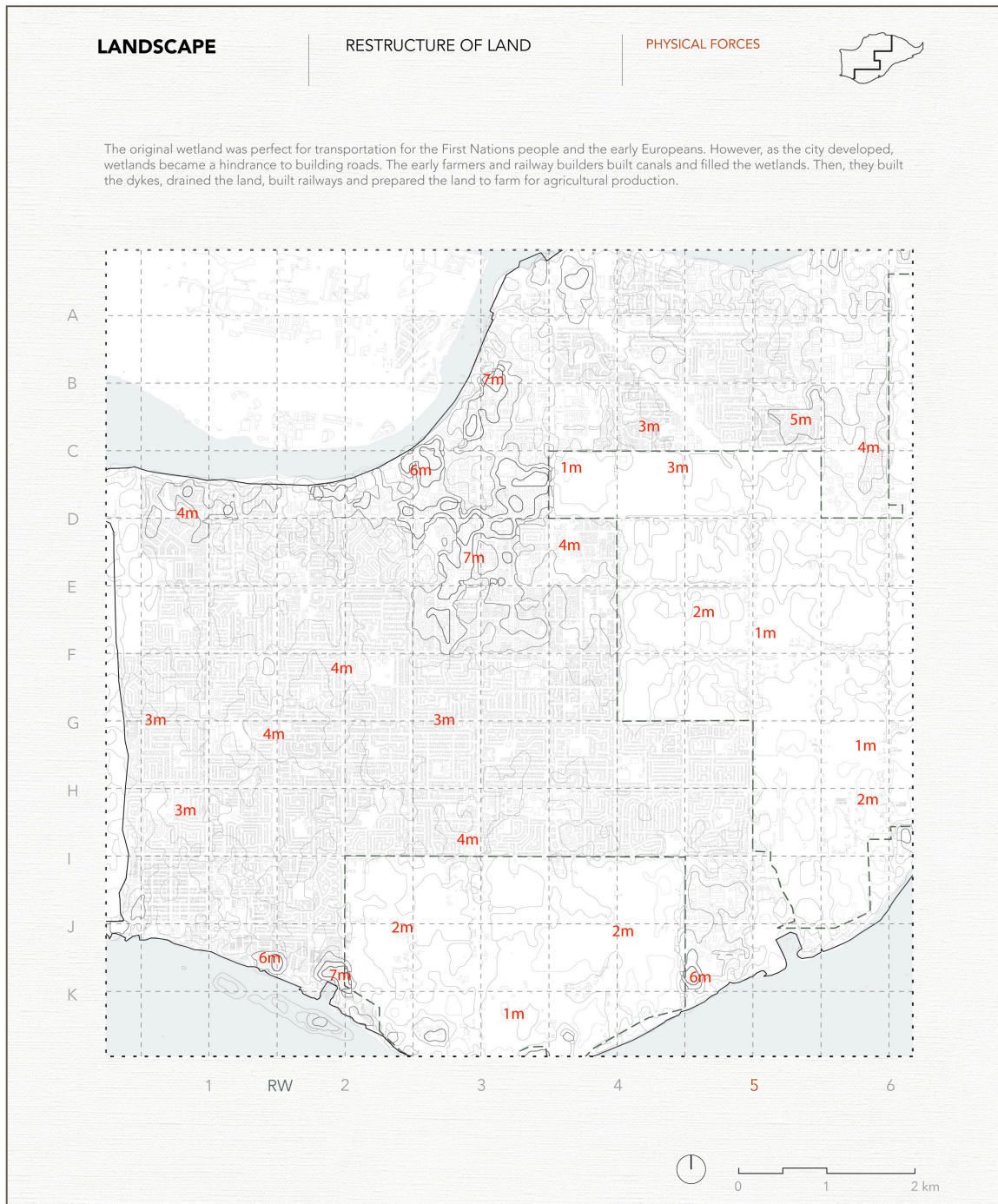
and human occupation. Today, the City of Richmond has become a delta city with rich agricultural production but still has a low elevation above sea level. Over 39% of the city land is planned as ALR area. Although the land has been carefully taken care of, here, slight elevation changes still have significant effects. However, as noted above, there is a clear line between urban neighbourhoods and farming reserve land. Agricultural land has been designated for the lower elevation areas, while urban living sits on higher land. The social-environmental disconnection is ever increasing with such a landscape strategy.

Here, the city could be interpreted as landscape, or in other words, a living system that intensifies the physical and social forces at the surface. As Cosgrove (1998, 13) describes, the relationship between people and land is an ideological idea that constructs the world we see and becomes a way of seeing the world. The city is the concrete manifestation of this modification and occupying process. Cities and infrastructure are as ecological as forests and rivers. A city is a complex network system. It is not a land-use area with clear boundaries but a landscape that carries various ecological systems and cultural explorations. The city is a living landscape not only because of its physical and experiential properties but also because of its apparent themes and its ability to contain, express, and influence ideas.

Old strawberry farm in Richmond, BC (City of Richmond Archives 2022)

LANDSCAPE | RESTRUCTURE OF LAND | PHYSICAL FORCES

The original wetland was perfect for transportation for the First Nations people and the early Europeans. However, as the city developed, wetlands became a hindrance to building roads. The early farmers and railway builders built canals and filled the wetlands. Then, they built the dykes, drained the land, built railways and prepared the land to farm for agricultural production.

Mapping of elevation difference above sea level in urban and rural areas (data from Topographic-map 2022)

DYKING

DRAINAGE

LANDFILL

FARMING

RE-POLDERING
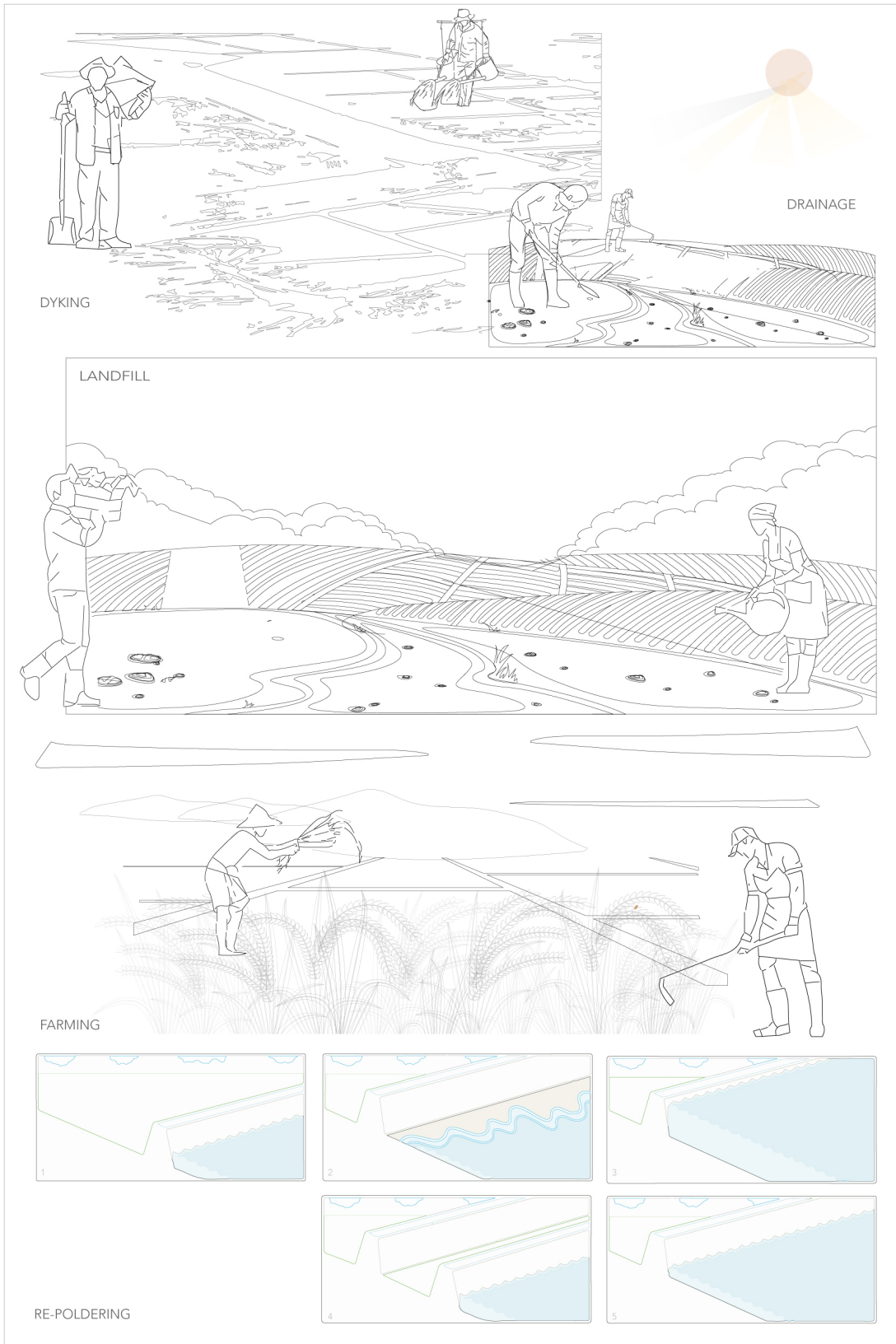
Diagram of land restructure process

Richmond's dikes are currently at an average elevation of 3.5 m, which meets or exceeds Provincial standards. However, climate change scientists predict up to 1 metre of sea level rise and 0.2 metres of ground settlement by 2100. The City is working to raise our dikes before 2100 in anticipation of sea level rise.

Dike Crest Elevation Beyond 2100
(5.5 m Coastal. up to 6.0 m Freshet)

Target Dike Crest Elevation by 2100
(4.7 m Coastal, up to 5.0 m Freshet)

Existing Dike Cresl Elevation
(Average 3.5 m)

Approximately 0.2 m
Subsidence by 2100

2100 DESIGN FLOOD LEVEL (3.8m up to 4.2m)

PRESENT DESIGN FLOOD LEVEL (2.9m)

2100 AVERAGE SEA LEVEL (1.0m)

PRESENT AVERAGE SEA LEVEL (0)

High emissions scenario

Emissions stabilize by 2100

CO_2 emissions reach zero by 2100

1900   1950   2000   2050   2100   2150   2200   2250   2300

Diagram of Richmond's dyke ring and its functionality (data from City of Richmond 2022b)

Urban Form

Formality

The urban form within the dyked ring is generic and dull, developed from the earlier survey grid, making the city fabric linear and rigid. The pattern of the city grid was initially adapted from the main roads built to drain the land and give access to the interior of the island (City of Richmond Archives 2022). Agricultural development soon followed the same grid pattern and divided the land into smaller sections. (City of Richmond Production Centre 2002) As the main roads were formed, the land took on similar dimensions of space (City of Richmond Archives 2022). The historical grid leaves little room for flexible space that can be developed in the city. Planning is synonymous with "certainty." It uses the old planning method, which is the response to the wetland drainage, to determine the behaviour of city residents in a
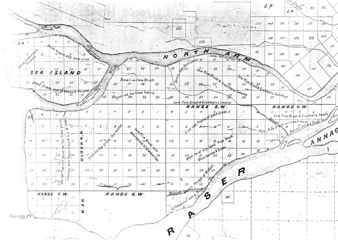
The 1859 map is based on the Trutch survey drawings and shows notes on vegetation (City of Richmond Archives 2022).

The 1909 map shows the Municipality of Richmond Legal sections (City of Richmond Archives 2022).

The 1989 map shows the developed Municipality of Richmond Legal sections (City of Richmond Archives 2022).
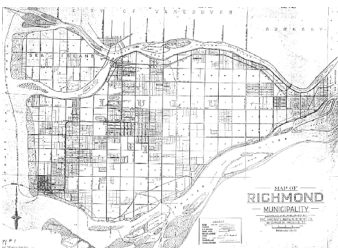
The 1930's map shows land division into sections, which later became major roads (City of Richmond Archives 2022).

Mapping of development of city from 1900 to 1973 (data from City of Richmond Archives 2022)

fixed spatial framework. This approach has been questioned in the face of a rapidly changing new urban landscape within the solid dyked ring. The richness of the city's material and social content is buried under the current generic structure.

Every generic block (approximately 750m x 750m) contains the central public space as a hub, surrounded by a residential area. The major nodes representing the resources like schools and open spaces are distributed evenly to each block. If the fabric along the grid is cut into pieces of the same dimension blocks, a clear language of the formation can be read. Each urban block has all the necessities of daily life, including education, worship, and open parks. Together, "individual islands" create placelessness.

In *The Production of Space*, Lefebvre (1991) explains how urban space production emphasizes the economic benefits of production rather than providing people with better conditions for space survival and development. He argues, that capitalist urban space production causes social symbolization, allowing urban space production to pursue maximum profit instead of free development of people, leading to social homogeneity and fragmentation. Applying this theory to Richmond, each chunk of the block runs around the resources and leaves less room for free development.

BICYCLE TRAIL
PEDESTRIAN TRAIL
SECONDARY SCHOOL
ELEMENTARY SCHOOL
CHURCH
RESIDENTIAL
BASKETBALL COURT
GREEN PARKSITE
PARKING

Diagram showing one of the generic city blocks (data from City of Richmond 2022c)
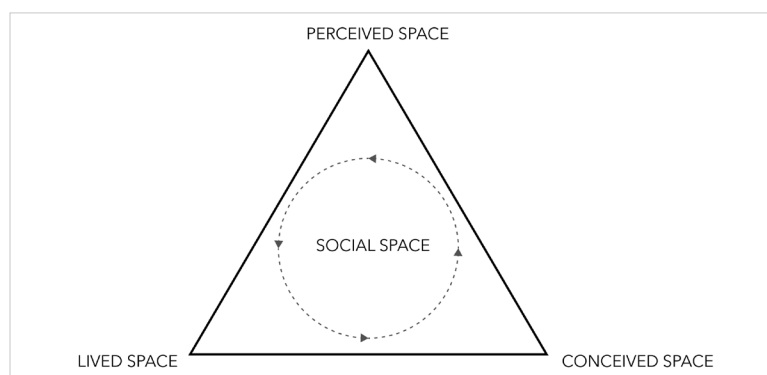
Diagram of perceived-conceived-lived triad and social space (Lefebvre 1991)

URBAN FORM | FORMALITY - GRID | PHYSICAL FORCES

The urban form within the dyked ring is generic and dull, developed from the earlier colonial grid, making the city fabric linear and rigid. Every generic block (approximately 750m x 750m) contains the central public space as a hub, surrounded by a residential area. The major nodes representing the resources like schools and open spaces are distributed evenly to each block.

0   1   2 km

Mapping of Richmond's urban structure (data from City of Richmond 2022c)

Diagram showing the idea of generic city blocks (data from City of Richmond 2022c)

BICYCLE TRAIL
PEDESTRIAN TRAIL
SECONDARY SCHOOL
ELEMENTARY SCHOOL
CHURCH
RESIDENTIAL
BASKETBALL COURT
GREEN PARKSITE
PARKING

Informality

Urban Corridors

The designated bike routes between the separated blocks act as connectors to communicate across the grid. They allow for interactions, exchanges, and penetrations between blocks and are connected to the more extensive greenway and the garden city park on a larger scale. Each route grabs the 'green heart' of several blocks of the community. Whenever these routes hit the green spaces, they turn into pedestrian and bicycle shared only streets, inhibiting motor vehicle transportation. These potential green corridors encourage sustainable transport and help connect the urban fabric more organically, and provide residents with a safer and ecological living environment.

With the advancement of urbanization and the rapid growth of motor vehicles, the main roads are expanding and occupying an increasing proportion of the city, constantly eroding the green space and making the city fabric develop in a flat and linear direction. Buildings become generic and more scattered, which leads to the deterioration of the urban fabric and makes it less accessible and connected.

The concept of the urban corridors encompasses the idea of transportation, vegetation, social activity, and planning. It creates a bigger vision beyond the urban shortcuts in the existing city fabric and organically connects the fragmented urban texture. "Trails and greenways connect diverse and incompatible land uses, they bridge the isolation of car-based planning and architectural monuments" (Macdonald 2005). By connecting community parks, educational spaces, wildlife, traffic islands, green spaces, linear parks, dyke green belts, farmland, historical sites and nature conservation
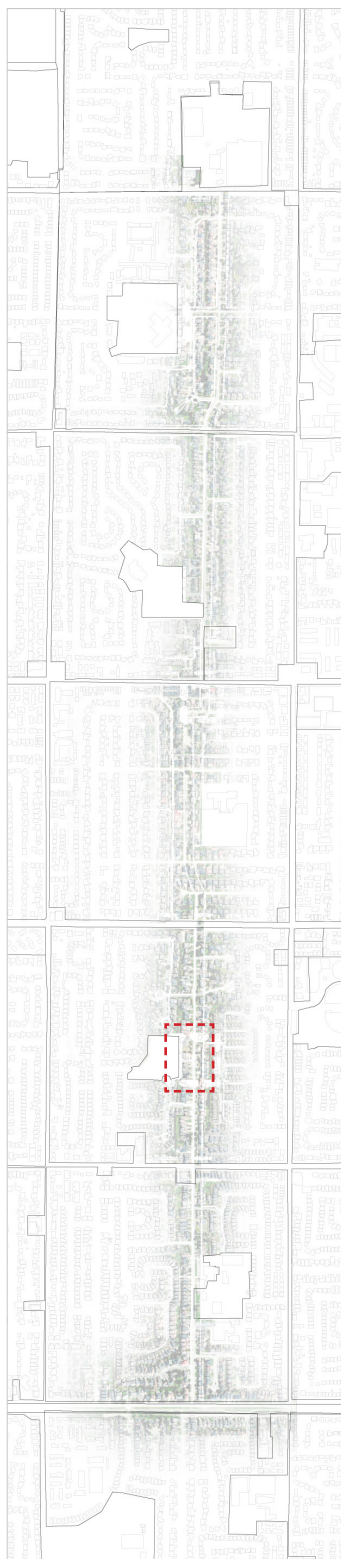
Mapping of the urban corridor with pedestrian-only trails (data from City of Richmond 2022c)

areas, the green corridor can connect the history with the present, urban with rural, and physical with social.

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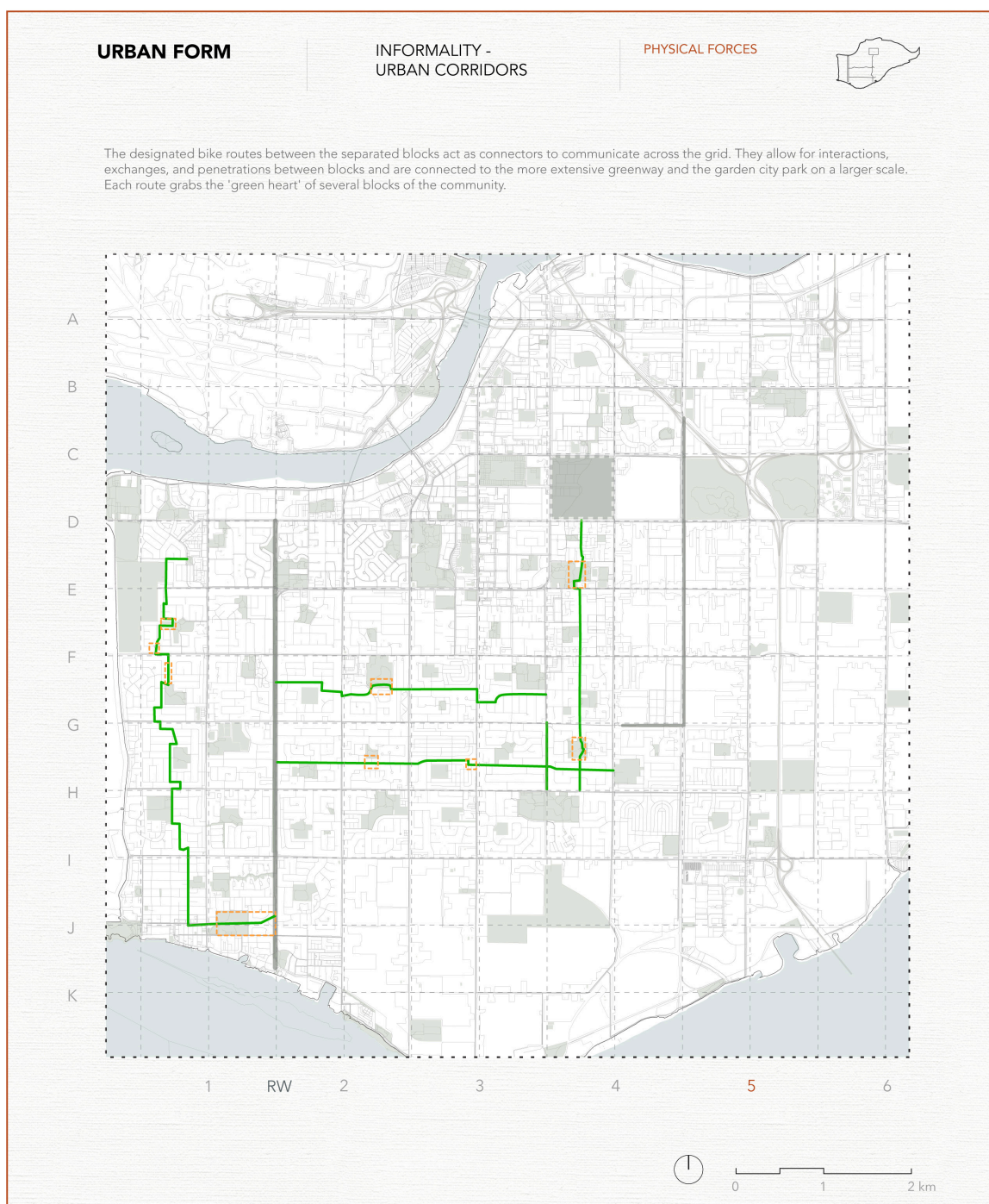
Mapping of Richmond's urban corridors (data from City of Richmond 2022c)

Points, Lines, Surfaces

In addition to the urban corridors, when viewing the recreation map under the grid, there are markets, sports courts, trails, recreation spots, and living experiences that act as the activating points that work with the grid. As shown in the mapping below, they form the diverse living experience hidden under the generic grid and make each block unique. The political center differs from the generic blocks. It is divided into half green and public space, including entertainment, healthcare, and city hall. This centre core connects and supports all the other generic ones and is the 'heart' of the vessel.

On the surface level, the nature of each block could be identified through the percentage of green spaces. A block that contains less than 50% green space can be identified as urban space, while more than 50% is considered the ALR area. Among all the blocks, 10% urban blocks and 90% agricultural blocks are the majority. The block of the political center sits on the highest elevation and is the only 50% green and 50% building-covered block. Such patterns suggest a more dynamic city fabric which would allow balanced green spaces, interactions and penetration between blocks.

The corridors allow connections, the points create the richness of living, and the 'heart' supports infrastructure. Together with people's engagement, they act as the city's spirit beyond the grid. The people's lived experience develops a new pattern, reflecting the exchange and collaboration of each new generation. New interactions generate new nodes, which then reflect back to the interactions, and this process will keep evolving and form a self-developing system.

| INFORMALITY - POINTS, LINES, SURFACES | PHYSICAL FORCES

when viewing the recreation map under the grid, there are markets, sports courts, trails, recreation spots, and living experiences that act as the activating points that work with the grid. As shown in the mapping below, they form the diverse living experience hidden under the generic grid and make each block unique. The political center block connects and supports all the other generic ones and is the 'heart' of the vessel.

Mapping of Richmond's entertainment activities and recreation routes (data from City of Richmond 2022c)
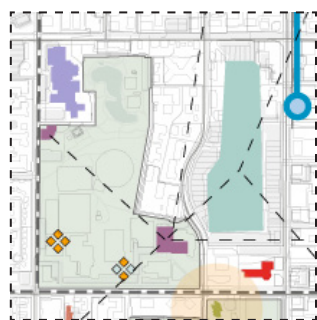
3 - D   CITY CENTER

GRID
— Major Streets
★ City Hall
★ Community Centre
▇ Hospital
— Highways
–○– Canada Line
▇ Park Sites
▇ Parking
— Planning Zone
— Richmond Boundary

SPIRITUAL
▇ Place of Worship
▇ School

EDUCATION
▇ Elementary School
▇ Secondary School
---- Elementary School Catchment Areas
— Secondary School Catchment Areas

MARKET
▇ Winery
▇ Fish Sales
▇ Farmer's Market
▇ Farm Market
▇ Farm Stand
▨ Agriculture Lanuse

INFRASTRUCTURE
🖐 Water
↓ Dyke Trial Access Points
Γ Golf Course
● Points of Interest
♿ Handicapped
✳ Washrooms

PLAY
❀ Dogs Off-leash
⊼ Picnic Tables
---- Trail - Pedestrian / cyclist / wheel chair acces
---- Commuter Cycling Routes (Designated bike
---- Connector Routes
◗ Aquatic Centres / Outdoor Pools
▲ Ice Skating Arenas
◈ Outdoor Tennis Courts
◈ Basketball Courts
▼ Lacrosse Box/Ball Hockey Courts

2 - E   10% SCHOOL PARK

3 - F   20% SCHOOL PARK AND NEIGHBOURHOOD PARK
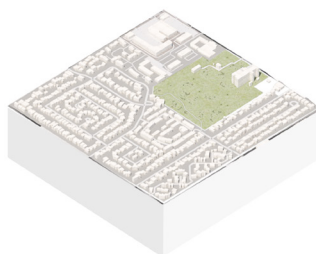
2 - F   40% TREED SCHOOL PARK

3 - D   50% TREED PARK AND LAKE
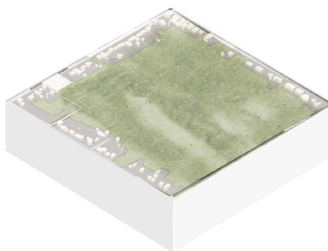
4 - E   90% AGRICULTURE MIXED
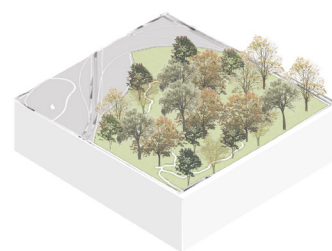
5 - C   80% NATURE PARK

Legend

Diagram of green surface ratios in different city blocks

Individual Identity

The social force that creates this incredibly vibrant city against the generic grid is the diverse ethnic and cultural identities. Richmond is an immigration city with various population groups, including Chinese, English, Filipino, Canadian, Scottish, East Indian, Irish, German, French, Japanese and so on (City of Richmond 2016). According to the 2021 City of Richmond Annual Report (City of Richmond 2021, 51), over 60% of people living in the city are immigrants born outside the country. Chinese (44.8%) and other languages (22.1%) are spoken most often at home. The migration pattern of Richmond has followed an iterative pattern from the first generation of oversea workers who restructured the land and built the city. Early railway builders and farmers from overseas were brought to Richmond by the promise of agricultural land. They made indelible contributions to the initial construction of the city and brought diverse cultural food and traditions to the land. Later immigrants came to Richmond because of their connection with the previous generations. However, due to land division, it becomes harder for newcomers to relate to the history and landscape of Lulu Island over each iteration of migration.

From the inner ring to the outer ring, the diagram shows Richmond's population of different groups of people identified by mother tongue, ethnic origin, visible minority, and immigrants. It displays the population changing over time from historical immigration patterns to new generations of immigrants. The diverse population has fostered the richness of cultures and identities (City of Richmond 2016).

Diverse cultures and ethnics in Richmond

Diagram of Richmond's population identified by mother tongue, ethnic origin, visible minority, and immigrants (data from City of Richmond 2016 and 2021)

The current population comprises a large portion of Asian (71.5%) groups, including Chinese, Filipino, Japanese, and so on. The groups of people allow the city to transform towards the trend of a place full of lively events and warm interactions, which is the nature of most eastern cities. (Crawford 2005, 9-10) Richmond struggles between vitality and restrictions within the rigid city grid. Such detachment between landscape and people is not only visible from the physical division of lands but also in the social and cultural adaption. In Richmond, where a few metres of change in elevation makes a big difference, the higher elevation area contains less diversity and cultures of people. There is less flexible space in the city for the diverse groups to communicate and exchange their culture.

> Identity is intimately tied to memory: both our personal memories (where we have come from and where we have dwelt) and the collective or social memories interconnected with the histories of our families, neighbours, fellow workers and ethnic communities. Urban landscapes are storehouses for these social memories. (Hayden 1995, 9)

There are fewer urban landscapes that elaborate on the diversity of different groups of people. Using the public space innovatively, the daily urban landscape could be transferred to represent and express their history and sense of belongingness. Placemaking in urban areas can bridge the disconnect between identity and city spirit.

INDIVIDUAL IDENTITY   DIVERSE ETHNICITIES AND CULTURES   SOCIAL FORCES

The social force that creates this incredibly vibrant city against the generic grid is the diverse ethnic and cultural identities. Richmond is an immigration city with various population groups, including Chinese, South Asian, Filipino, Japanese, Latin American, Arab, Korean, Black, West Asian, and so on. According to the 2021 annual report, over 60% of people living in the city are immigrants born outside the country.

Mapping of diversity gradient of people in different city blocks (data from City of Richmond 2016)

Collective Identity

Two significant roadways represent the desire of people to gather together. The Railway greenway and the No 5 Road Highway to Heaven are two roads where climate action and religious gatherings occur in a large-scale and organized way. Cross-programming and typology happen along with these condensed three-mile-long spaces. They simultaneously demonstrate spaces that connect and provide opportunities for exchanging, while displaying the isolation between different social collectives.

Railway Greenway   No 5 Rd Highway to Heaven

The climate and religious lines parallel each other.

COLLECTIVE IDENTITY   SENSE OF BELONGING   SOCIAL FORCES

Two significant roadways represent the desire of people to gather together. The Railway greenway and the No 5 Road Highway to Heaven are two roads where climate action and religious gatherings occur in a large-scale and organized way. Cross-programming and typology happen along within these condensed five-kilometre-long spaces.

Mapping of city centre (dashed square), vacant railway route (black), climate line (green), and spiritual line (red) (data from City of Richmond 2022c)

Mapping of the climate line

Railway Greenway

The Railway Greenway is an off-street, paved and accessible, three-mile multi-use trail running parallel to Railway Avenue. It is adapted from the old railway vacant land and has been designed to include a diverse range of recreational spaces beyond the grid to serve the city. Recreational spaces include public infrastructures, bike parks, washrooms, water management landscape, picnic tables, pet parks, et cetera. The strip's formation is due to people's desire for a space to participate in recreation and contribute to building the city together. At the same time, it adds a new layer of using the city to activate the history and collective memory: the railway is the initial structure of the city, and the railway workers are the first generation of immigrants. It is formed to redefine green open space and community gathering space with a broader understanding of collective, inclusive and diversity, enabling all the people, despite race and religion, to get together and celebrate the beauty of everyday life.

Collage drawing of proposed activities
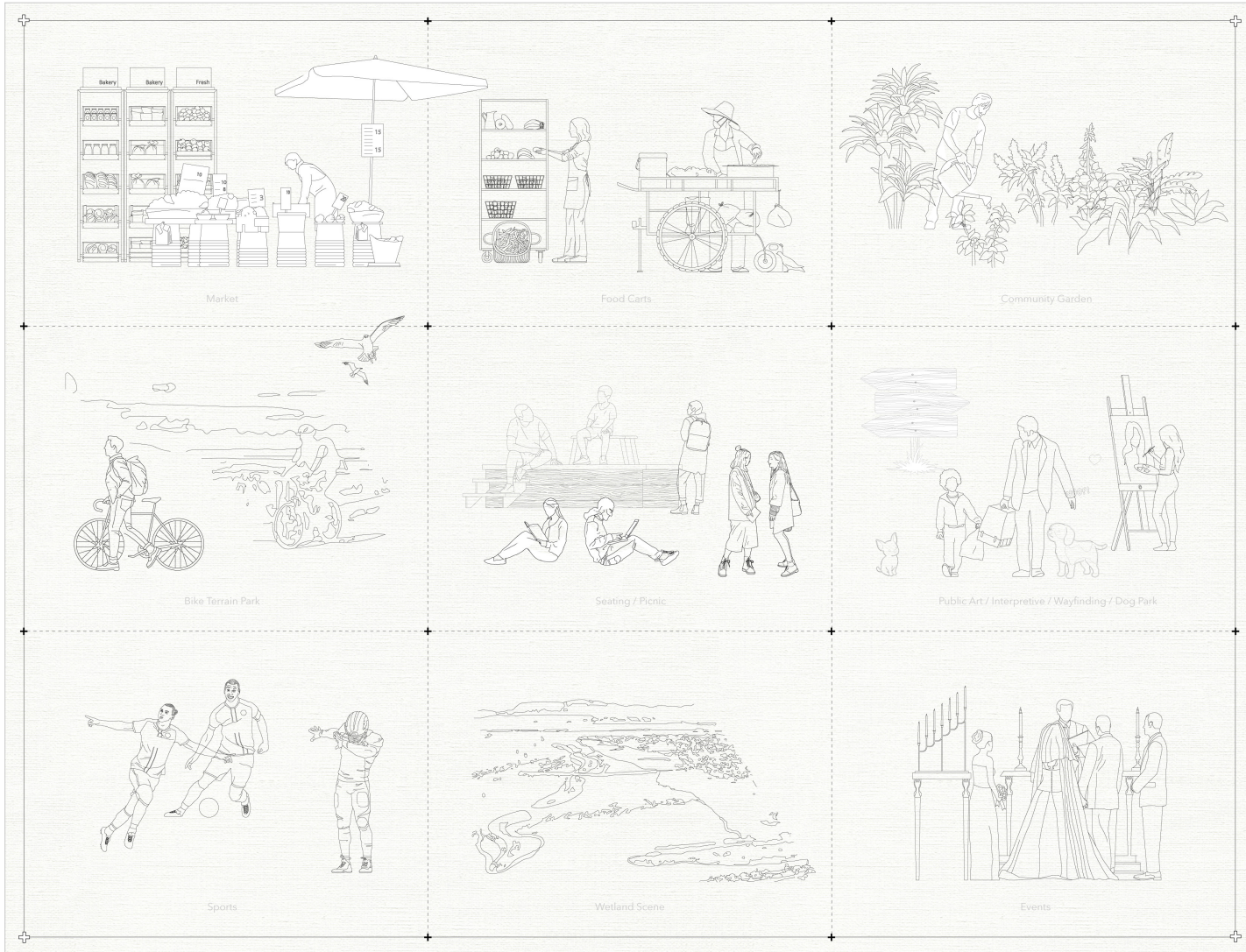
Typology of programs on the climate line

Different religious institutions positioned each next to the other.

Highway to Heaven

Highway to Heaven is not actually a highway. It is considered a unique roadway in North America. No. 5 Road in East Richmond has been given the moniker 'Highway to Heaven' because it concentrates places of worship: 26 different Religious institutions are built next to each other. With the diverse ethnic population of Richmond, there are equally diverse places of worship catering to people of all faiths. Ornate temples, mosques, and modest churches, coexist in harmony and conflicts. This road concretizes and emphasizes the problem that many ethnicities could not find their more extensive community within the urban grid. It makes us rethink the identity of the community in today's Richmond. The drawing shows the elevation of each institution, which is used as a way to express faith and power. The facades act as mediators to communicate and connect the people with their specific beliefs. They have also stimulated conversations and issues between different groups of people within a larger collective. To integrate into the bigger community of Richmond as a whole, each group makes their own effort and contribution. From one perspective, each institution is an individual silo sitting on No 5 road, with people looking for enlightenment or the purpose of existence in different ways; on the other hand, the road can be seen as one collective trying to integrate into the multicultural community.

Kelbaugh makes the argument around social-cultural collectives,

> As our society becomes more privatized and our culture more narcissistic, the need and appetite to be part of something bigger than our individual selves grow…People are social animals, and our need to share and to love makes community a sine qua non of existence. On the other hand, humans also have a fundamental need to express themselves
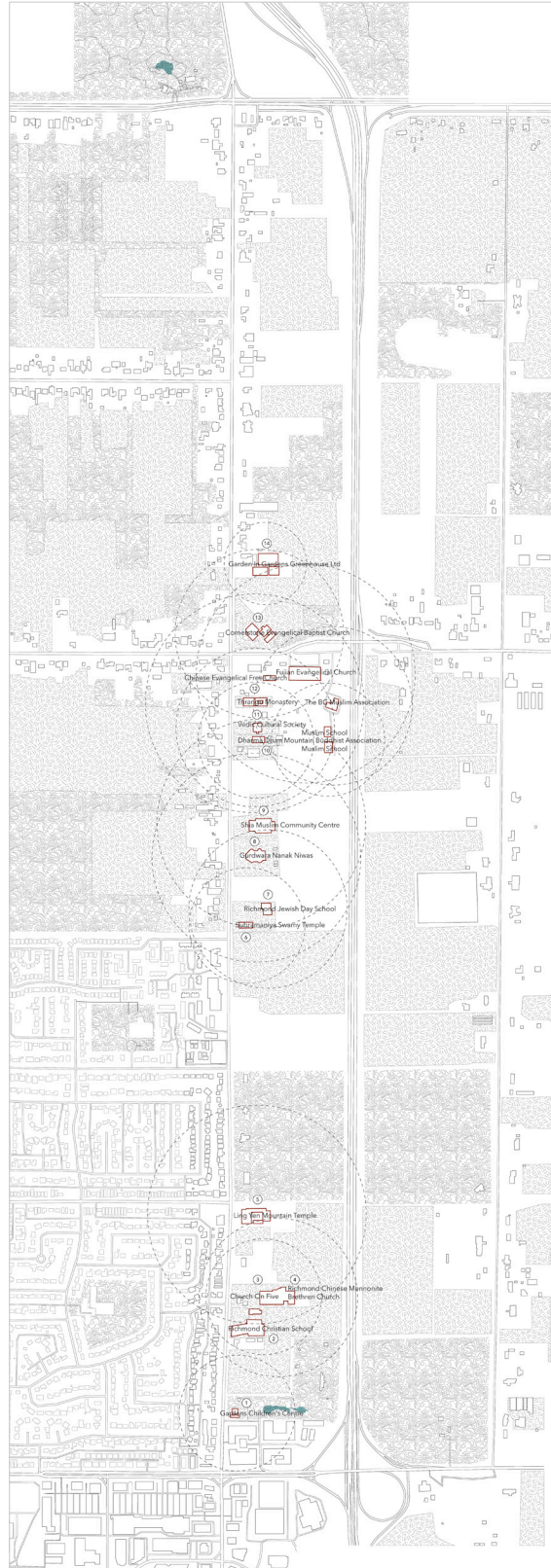
Mapping of different religions and cultures using architecture as a language to communicate and compete

Cornerstone Evangelical Baptist Church

Vedic Cultural Society

Shia Muslim Community Centre

Ling Yen Mountain Temple

Dharma Drum Mountain Buddhist Association

Richmond Jewish Day School

Gurdwara Nanak Niwas

Thrangu Monastery

Gardens Children's Centre
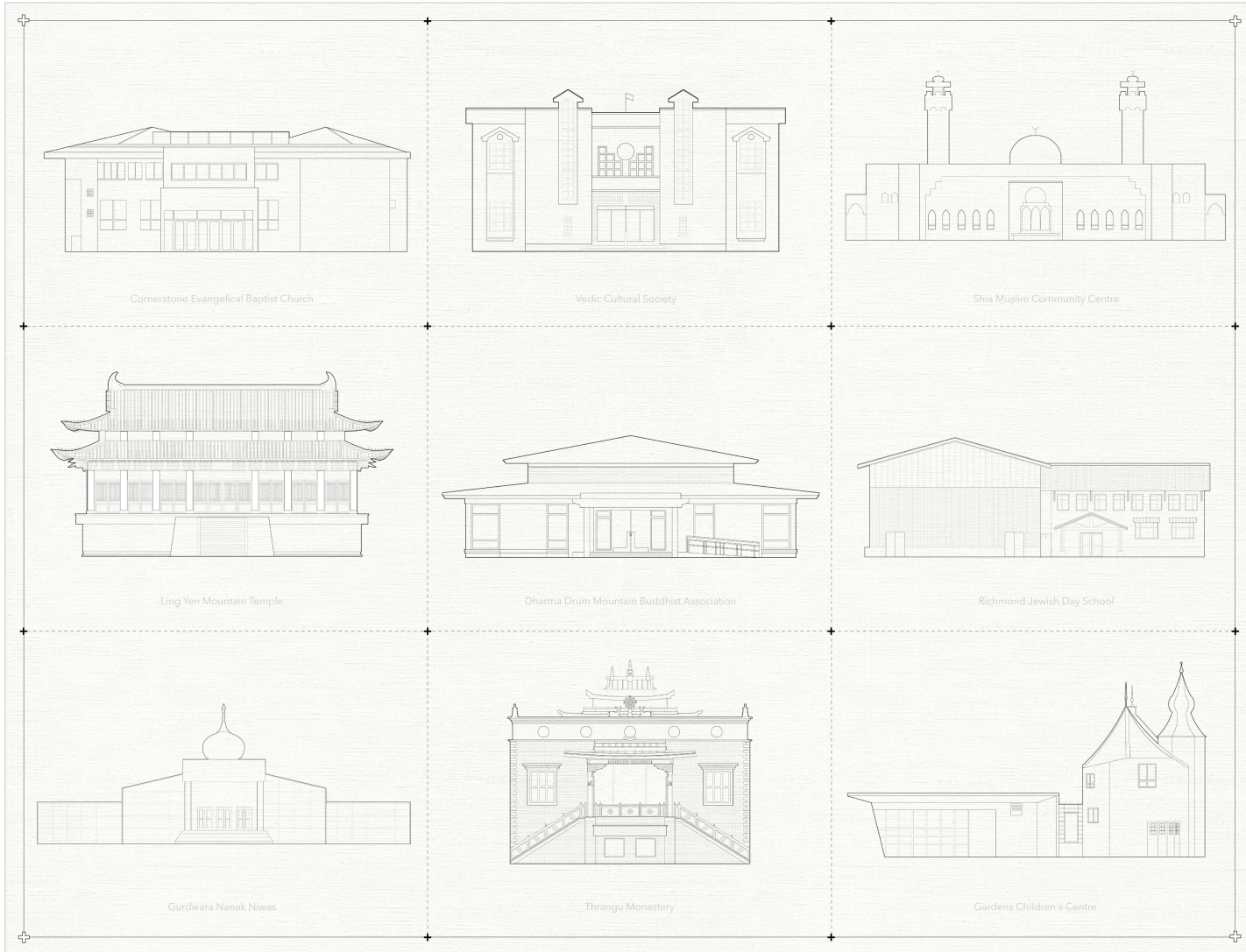
Typology of architectural languages on the spiritual line

Different cultures of people practice their beliefs in various institutions in the documentary film *Highway to Heaven*, which was shot on location along a one-mile section of No. 5 Road in Richmond, British Columbia (Ignagni 2019).

as individuals, to individuate themselves psychologically and socially, even to excel and rise above the crowd. (Kelbaugh 2000a, 1)

Collective provides a sense of belonging where individuals have a stronger desire to fulfill a valuable existence beyond one's own. Collective memory is the carrier of identity. It is shared, inherited, and structured together by a group of people. Collective narrative plays an essential role in maintaining the continuity and status of cultural space in its history and culture. Through collective memory, individuals are connected as collectives and create value beyond one's own. As the unique urban landscape in Richmond, the railway greenway and No 5 Road highway to Heaven highly embodied and centralized the different spirits and identities as a collective. It concretized that physical formation applied to the city does not align with the diverse identity iterated over time. This movement of program and building represents the free collective narrative that escapes from the frame.

Reading the layers and traces of the city, the diverse forces and fragmentation between them are seen. These layers collectively signify everyday life, with the desire to pursue identity, placeness and community. Wish images show the design intentions on different scales, from individual identity and spatial identity to collective identity, which are explored through a landscape and an architectural design. This thesis translates the different layers of identity into spatial languages, forming a landscape design component and an architectural design component to accept, adapt, and contribute to rapid changes in the city. The interventions will recombine the cityscape of the built entity with the natural landscape, and envision the city in new possibilities and contemporary urban forms.

LANDSCAPE

URBAN

INDIVIDUAL IDENTITY

URBAN FORM: LINES

URBAN FORM: POINTS AND
SURFACES

COLLECTIVE IDENTITY

Multiple layers and identities existing in Richmond
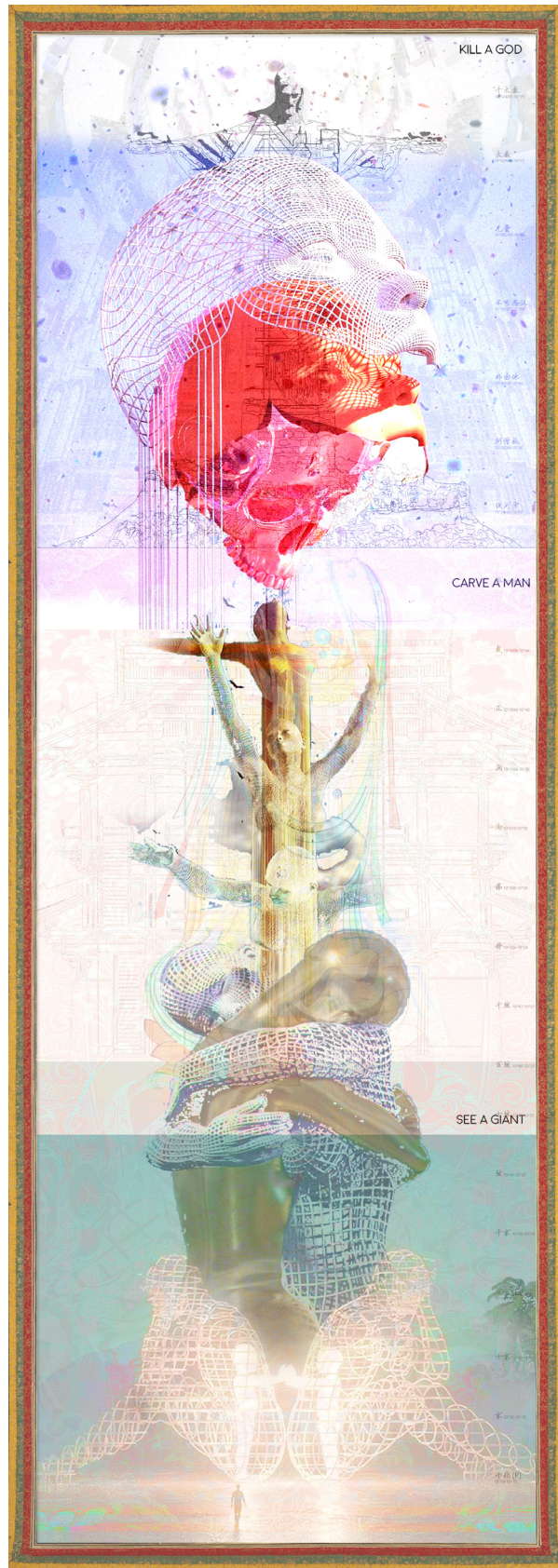
Wish image of individual identity

Wish image of spatial identity

Wish image of collective identity

Chapter 4: Case Study

This chapter will examine three case studies on different scales shifting from landscape, city, to building scales. These case studies seek and create long-view patterns that are adaptive and eternal in contemporary cities where rapid change and uncertainty occur. The three proposals not only try to expose the fragmentation and discontinuity of contemporary cities but also try to build installations and interventions to analyze them. The proposals provide new interpretations and guidance for modern urban forms.

Parc de la Villette

Bernard Tschumi Architects

Tschumi uses the principles of points, lines, and surfaces as the design organization for the proposal of Parc de la Villette. He defines points as the Folies that become the focal point of the separation space; as a standard unit, it constitutes a system of relations between objects, events, and people. Points symbolize structure, the mediator. Lines are used as promenades and frames to organize events, movements, and spaces into routes. Each frame is a different park. Surfaces contain all the activities that are accommodated. The proposal pursues irrational and unpredictable results under rational logic, turning the trajectory of the activity into a building.

This thesis looks at the urban form in the layer of points, lines, and surfaces similar to Tschumi. Learning from the use of the three scales principle, the design response suggests the underlying form of the landscape and building, but allow the intervention and variable programs to take place. It responds to the formality and informality of the city structure

while providing diverse communities with space for related events and flexible activities.

LIGNES / LINES

POINTS

SURFACES

THE SUPERIMPOSITION OF THE THREE SYSTEMS (POINTS, LINES, SURFACES) CREATES THE PARK AS IT GEN-ERATES A SERIES OF CALCULATED TENSIONS WHICH REINFORCE THE DYNAMISM OF THE PLACE. EACH OF THE THREE SYSTEMS DISPLAYS ITS OWN LOGIC AND INDEPENDENCE
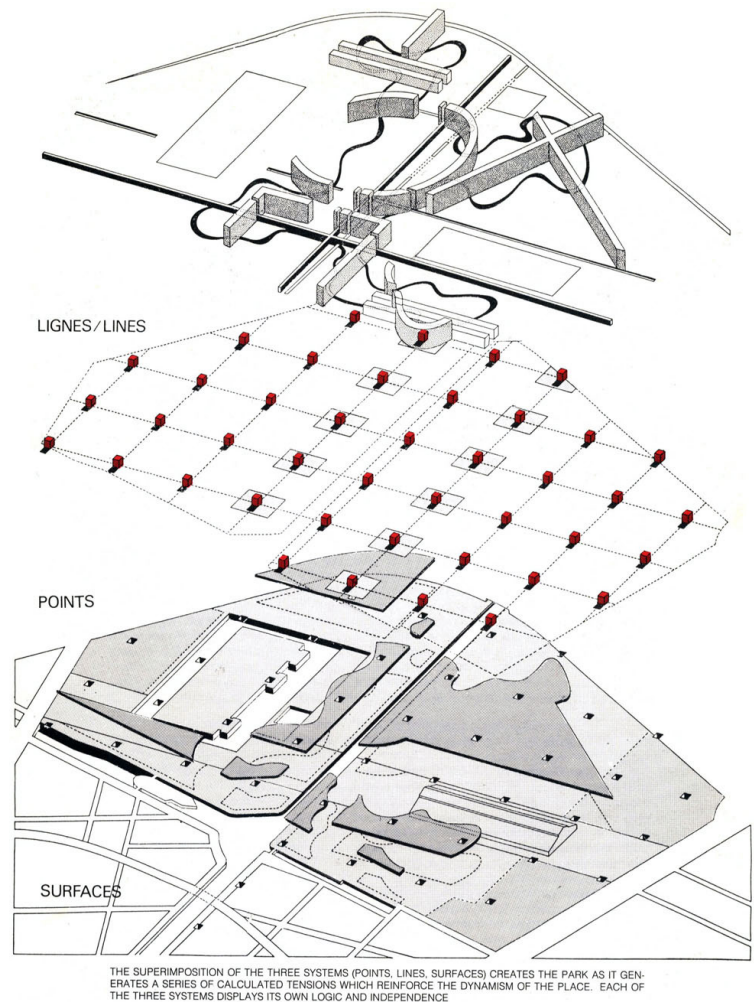
Diagram of lines, points, and surfaces for Parc de la Villette, Paris (Bernard Tschumi Architects 1982)

OMA

In the proposal of Parc de la Villette, OMA takes confetti and an artificial landscape as the mediator to accommodate different programs and activities. It established a mediator structure derived from the city. It transcends conceptual land planning, is directly connected with architectural activities, and re-establishes a sustainable contemporary urban morphology. Likewise to Tschumi's proposal, it

acknowledges the importance of content: the activities and events in the city are implicit and work together with people's engagement.

Cross-programming and intersecting spaces will be used in the design to enable tolerant and willing communication in the space. The design will become a social condenser where multiple events can happen and multiple ideologies can exchange.
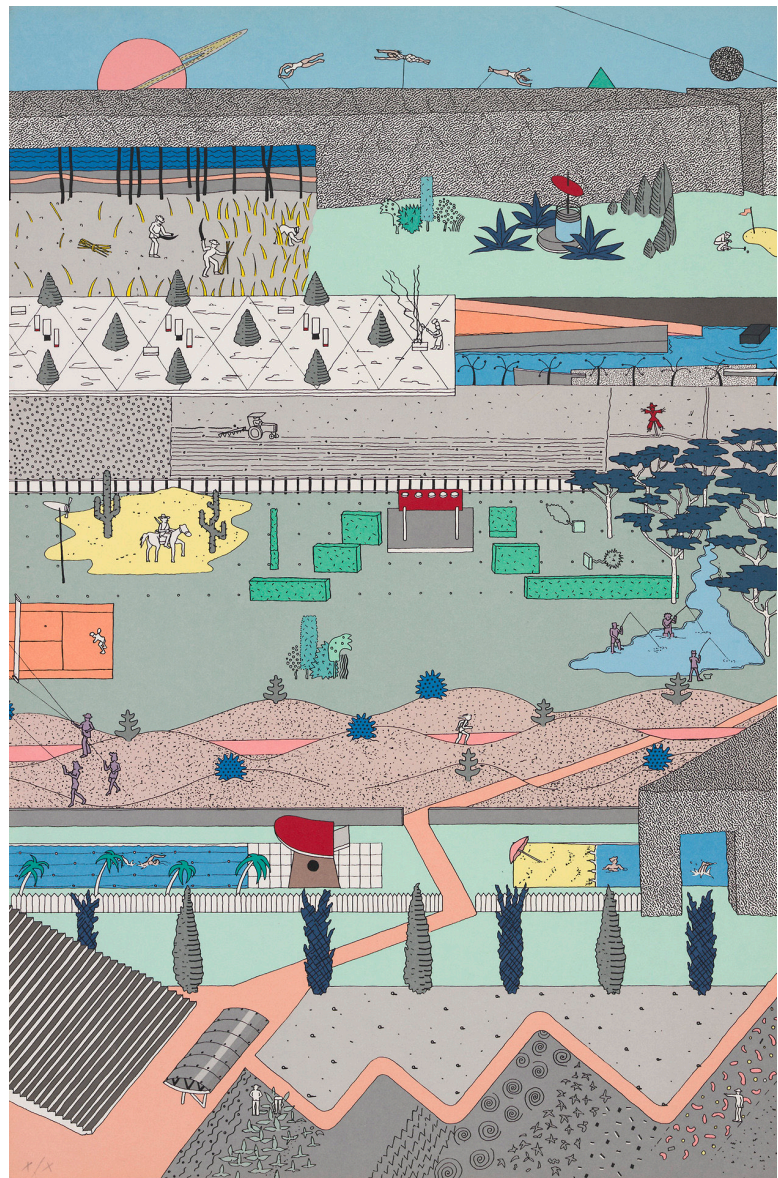
The final layer. OMA, project for Parc de la Villette, Paris (OMA 1982)

Fun Palace

In 1961, Price created the idea of The Fun Palace, which challenges the definition of architecture. It is not a traditional "building" but a scaffolding or frame encompassing a socially interactive machine, a virtual building that produces art and technology. Although it is not a museum, school, theatre, or playground, it may become all these types simultaneously or at different times. The Fun Palace is a matrix that constantly interacts and responds to people, allowing a rethinking of conventional institutional form in the form of nomadic and field. As a building that serves as a tool for social improvement, the motive of the Fun Palace is mainly social: individual liberation and empowerment (Mathews 2005, 91). The publicness of space creates "a place for all people." The autonomy of citizens establishes sovereignty in the city.
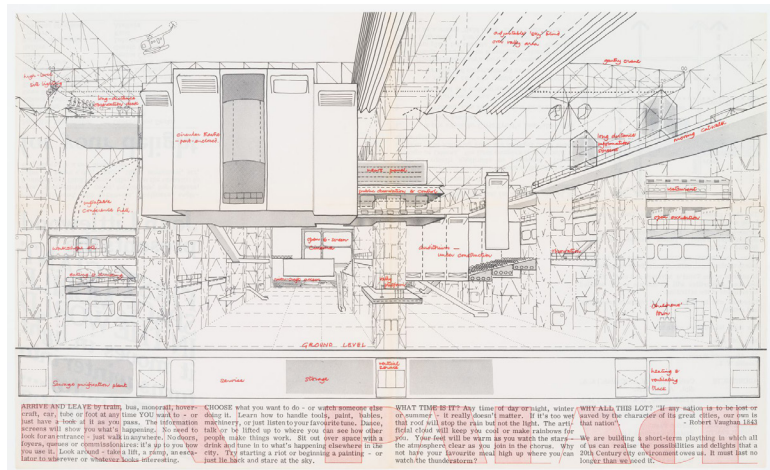
Axo showing the basic range of components within standard cubes (Price and Littlewood 1964)

The tensions and dynamics of programs make the fluidity of the landscape and architecture. The design will explore the publicity of landscape and architecture, designing to give back the city to its people and land.

Chapter 5: Design

My thesis takes a similar approach to the case studies, translating the city's different layers into architectural languages and then reflecting on the city's content. This thesis weaves the landscape back into urban while introducing urban to the traditional farmland. It seeks the framework to best represent the new narrative of today's city while providing a place for all. It acts as a mediator to reveal the city and connect segments of forces. The design contains a landscape component and an architectural component. They are the different forms that talk and respond to each other.

Site

The selected site for this thesis is located on a 3-kilometre long span of 4 large city blocks, left over from various social and physical forces. From west to east, it spans from Garden City Road to Jacombs Road. From north to south, it spans from Alderbridge Way to Westminster Highway. The site stretches across the land of Garden City Lands, The Armoury Site, and Richmond Nature Park. There are currently a few development ideas by the city, but they are all in the early stages.

The four blocks are where both the climate and religious collective line pass by. They exist on the margin that divides the ALR and the urban neighbourhood. They also include the only diagonal line in Richmond's rectangular grid, Highway 99. Social forces come to the site in political, environmental and spiritual forms. Physical forces include urban neighbourhood versus rural farming, residential buildings versus large retail buildings, and highway versus
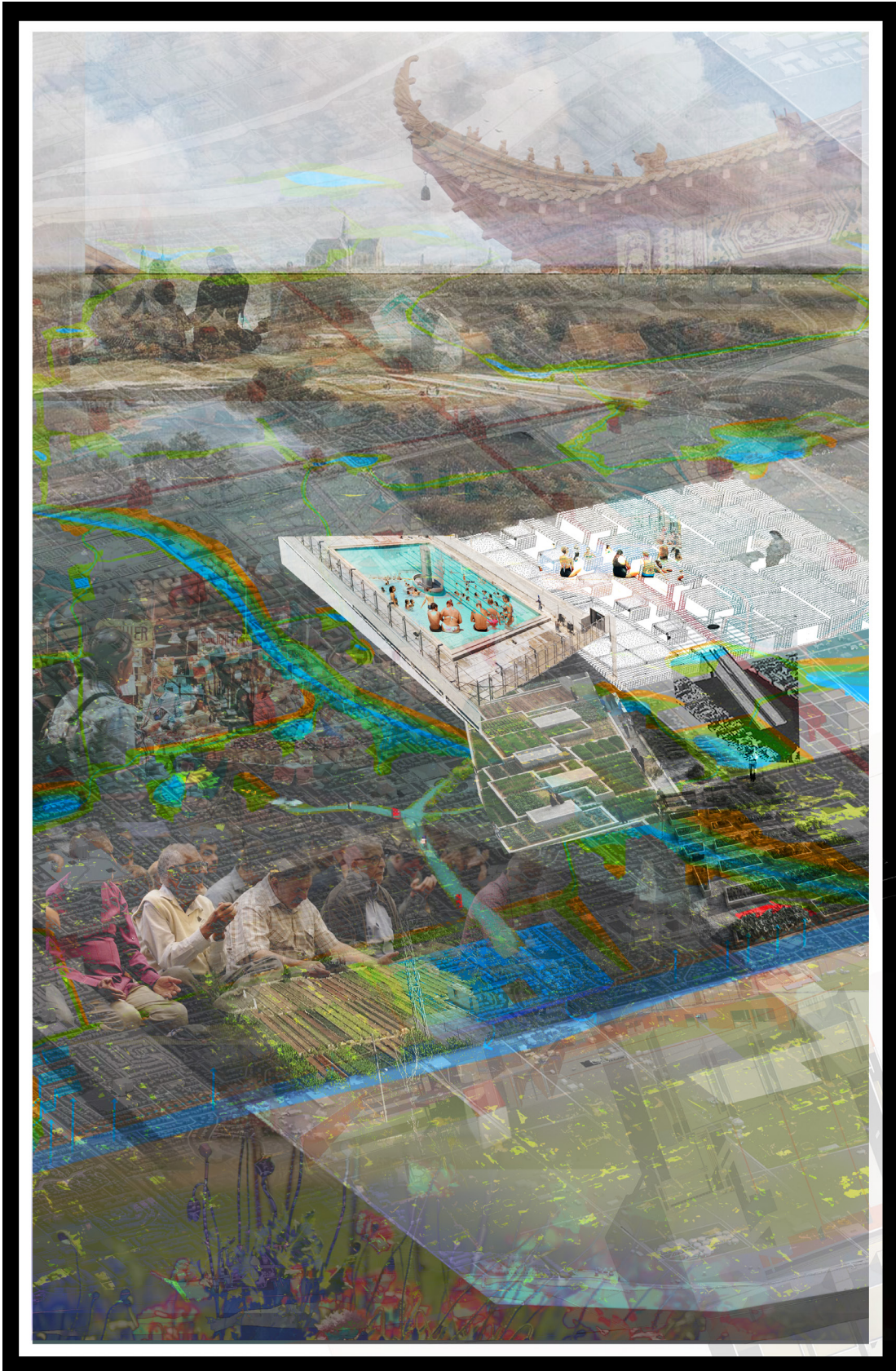
Wish image of revealing layers and teasing out identities

BRIDGE   PLAZA   PAGODA   PALACE
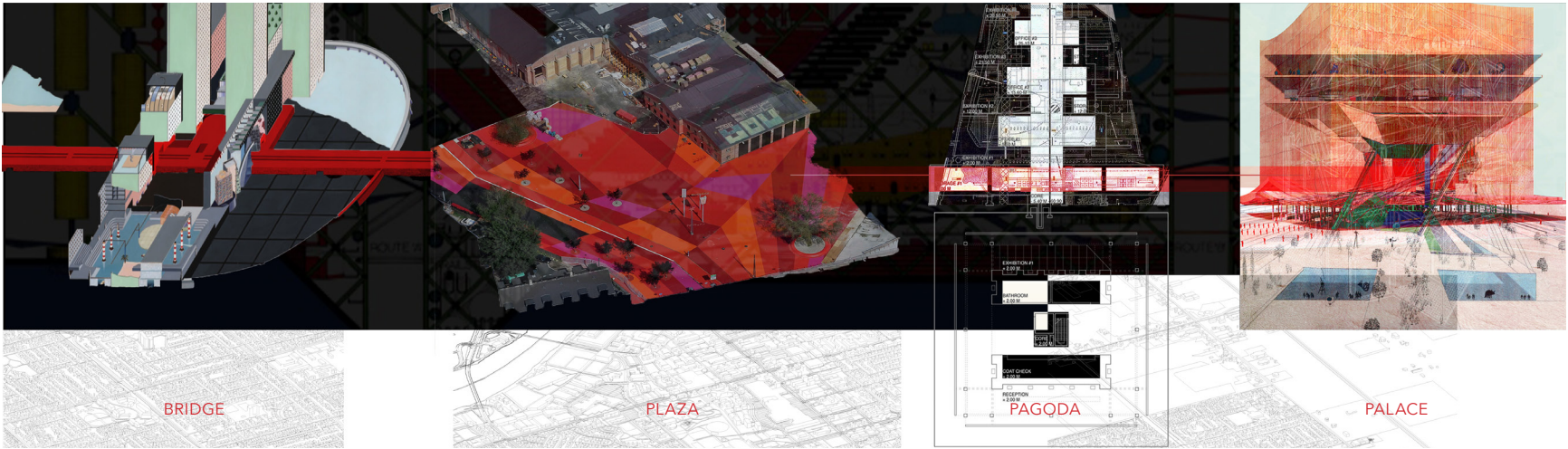
Wish image of potential interventional architecture forms
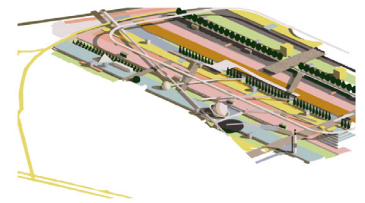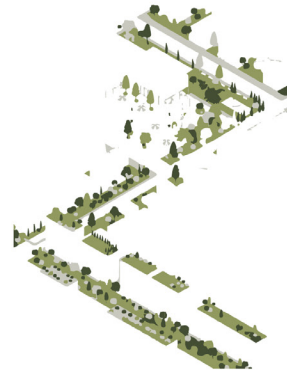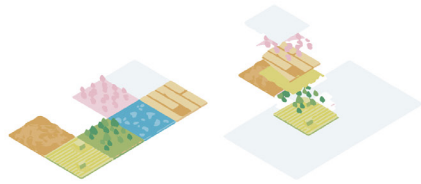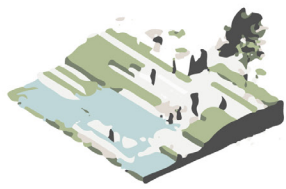
Translation of different forces into spatial languages
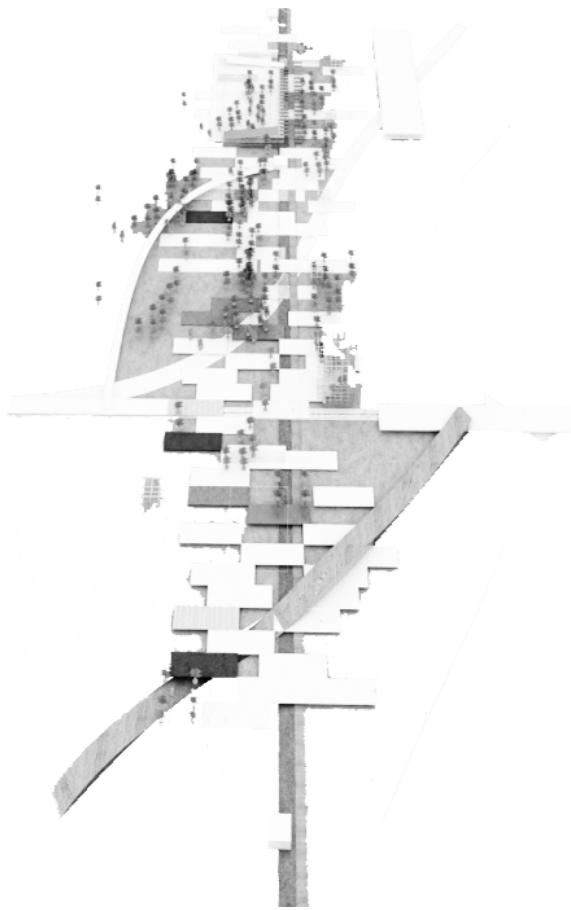
LANDSCAPE DESIGN
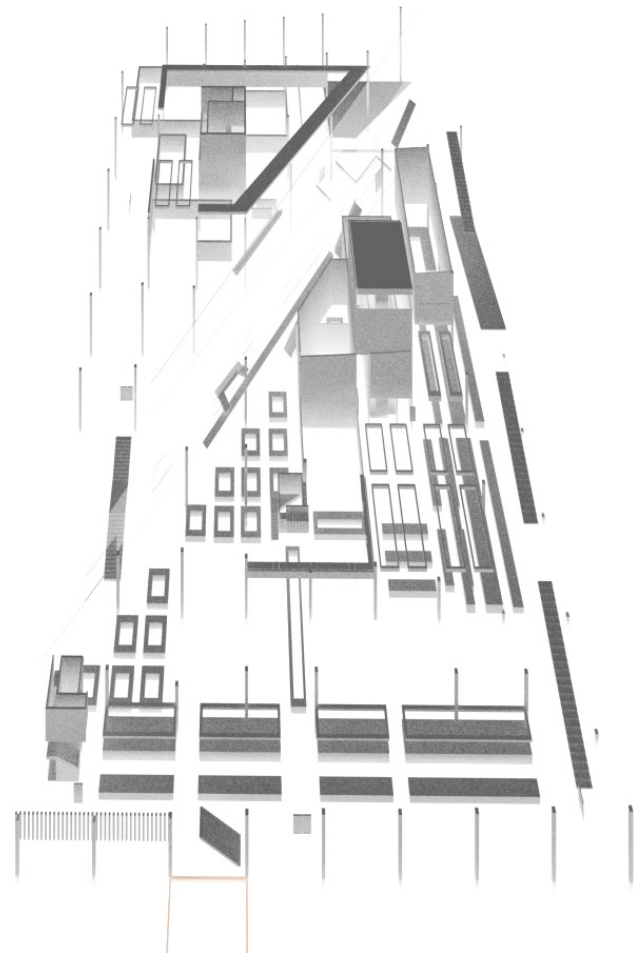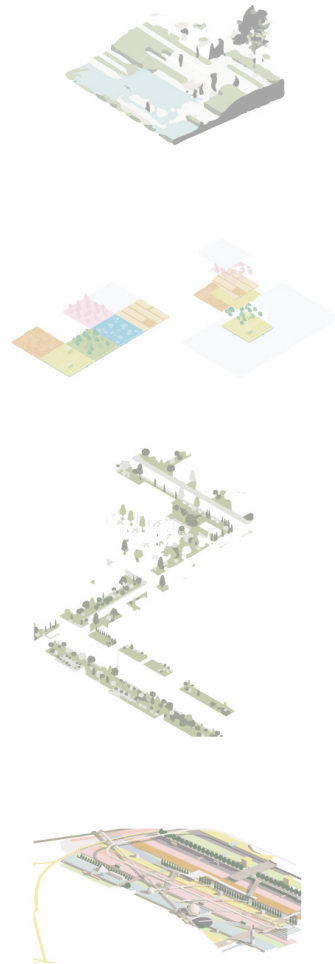
ARCHITECTURE DESIGN

Diagram showing the spatial translation from forces to designs

trails around the site. Therefore, it is a site that connects all. It is the green spaces in the urban area, as well as the urban spaces in the rural area. They act as a mediator talking to landscape and urban space, individual identity and collective identity. It contains the rigidness: the top-down grid and rules, woven with the invisible dynamic life of people: the bottom-up everyday urbanism.

The design applies landscape and architectural interventions as vessels to activate the surrounding invisible connections around the site. These interventions are not designed to be connected by one designated route. Instead, they allow the idea of "live, grow, play" to generate.
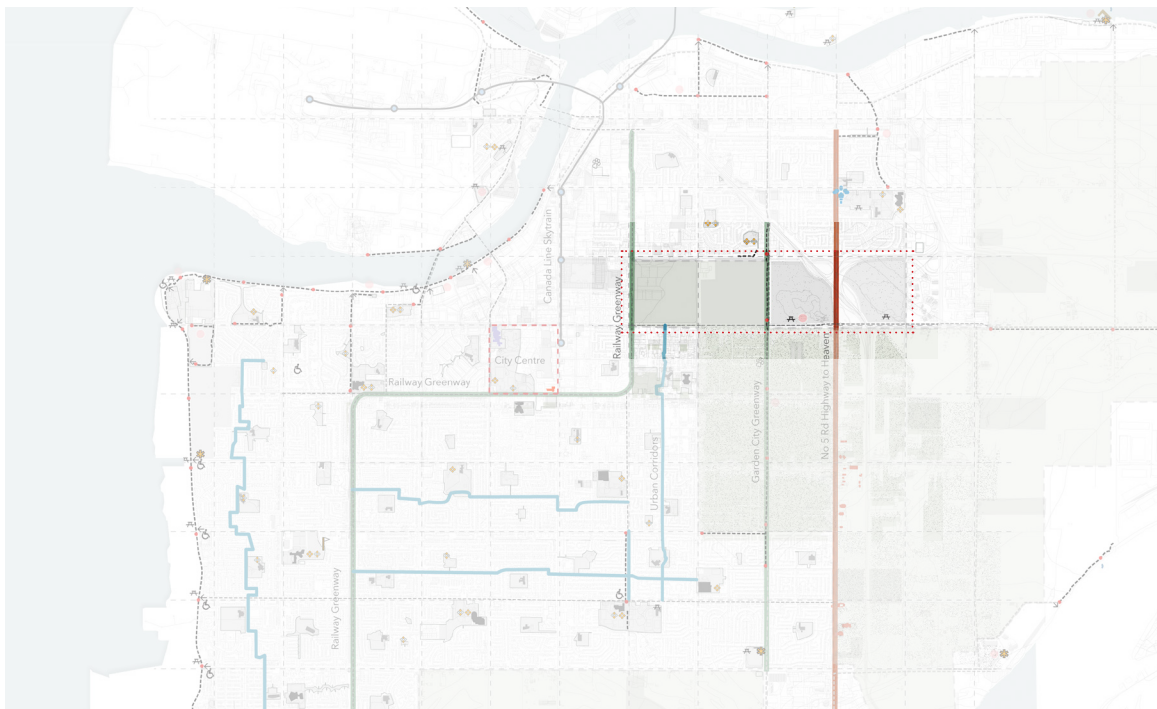
Selected site in the city (data from City of Richmond 2016)

Social forces around the site (data from City of Richmond 2022c)

Physical forces around the site (data from City of Richmond 2016)
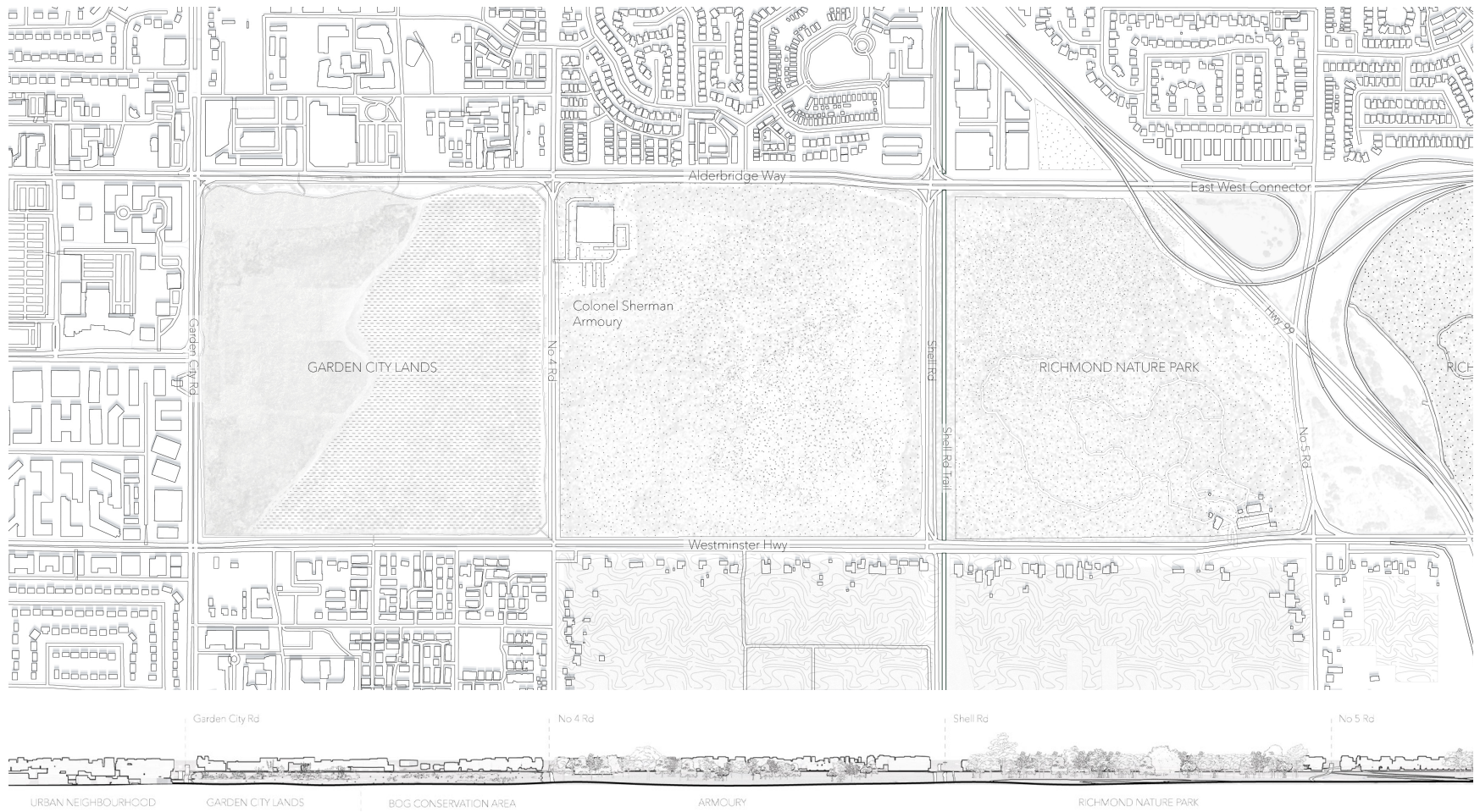
The site prior to design (data from City of Richmond 2016)

ALR BOUNDARY

Alderbridge Way

ALR BOUNDARY

East West Connector

POLITICAL

Colonel Sherman
Armoury

GARDEN CITY LANDS

RICHMOND NATURE PARK

RICH

Garden City Rd

No 4 Rd

Shell Rd

Hwy 99

No 5 Rd

ALR BOUNDARY

Westminster Hwy

ALR BOUNDARY

ALR BOU

No 5 Rd

Top-down rigidness of the site

NEIGHBOURHOOD

LARGE RETAILS

LARGE RETAILS

GREEN SPACE

WETLAND

NEIGHBOURHOOD

BOX SHOPPING MALL

EDUCATION

CLIMATE LINE

CLIMATE LINE
Shell Rd Trail

SPIRITUAL LINE

invisible everyday
connections

APARTMENTS

TOWNHOUSES

FARMLAND

FARMLAND

FARMERS MARKETS

NEIGHBOURHOOD

Bottom-up everyday urbanism of the site

Garden City Rd   No 4 Rd   Shell Rd   No 5 Rd

URBAN NEIGHBOURHOOD   GARDEN CITY LANDS   BOG CONSERVATION AREA   ARMOURY   RICHMOND NATURE PARK
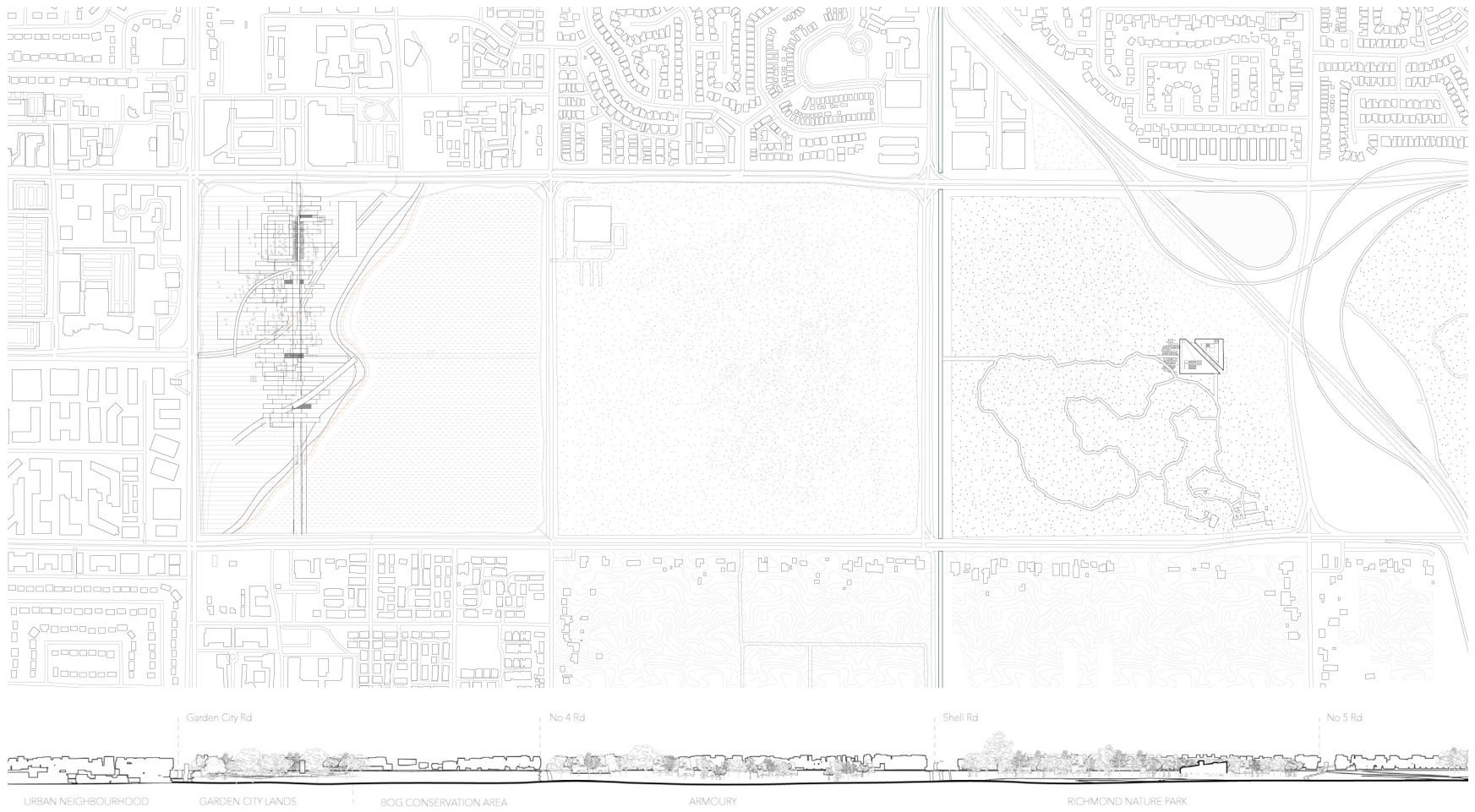
Design site plan and site section
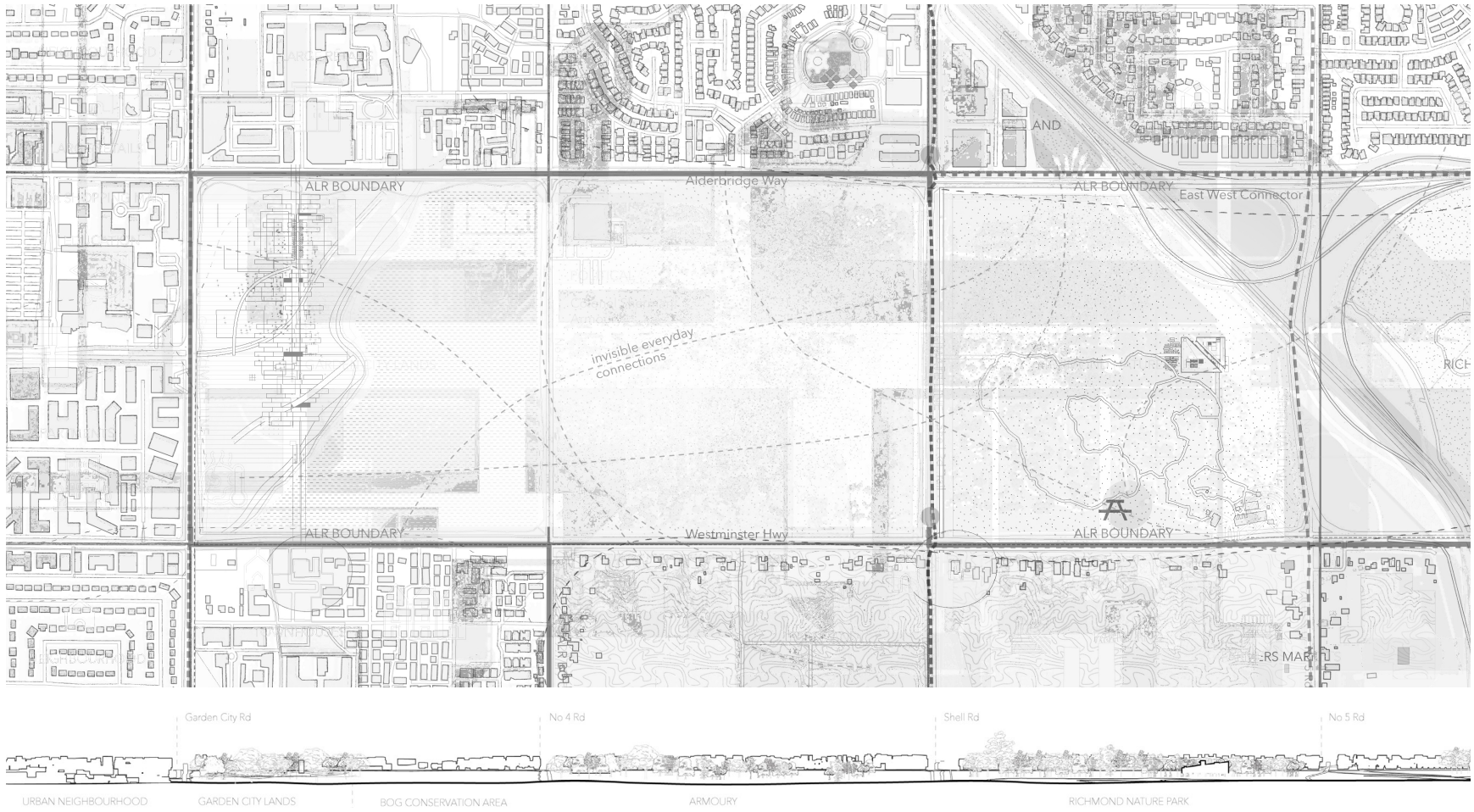
Design perceived space mapping

Landscape Architecture Intervention: The Plaza

The landscape field is located on the Garden City Land. Different environmental programs are connected by one trail. There are diverse plots, including growing beds, water parks, treed areas, wetlands, and raised land. Growing plots enable diverse cultural food production from different groups of people. For example, Chinese people can grow pak choi on one of the plots while Korean people grow leeks on the other side. Water park plots allow measurement of climate and provide solutions for flooding. Treed plots provide shade and act as the continuity of the climate line coming from its west. Wetland are the natural landscape and the home for indigenous animals and vegetation. Multiple plots create a palimpsest of history and culture. The trail acts as the urban corridor connected to the green 'hearts' in the neighbourhood, allowing interactions between different plots. A wood tower is positioned in the middle of the journey. It provides a moment to pause and acts as a beacon pointing to the building component on the other end. It triggers the architecture on the other end but does not give a strong suggestion of access. Together, plots, a trail, and a beacon represent the restructuring of the original land while providing collective spaces to express identity.
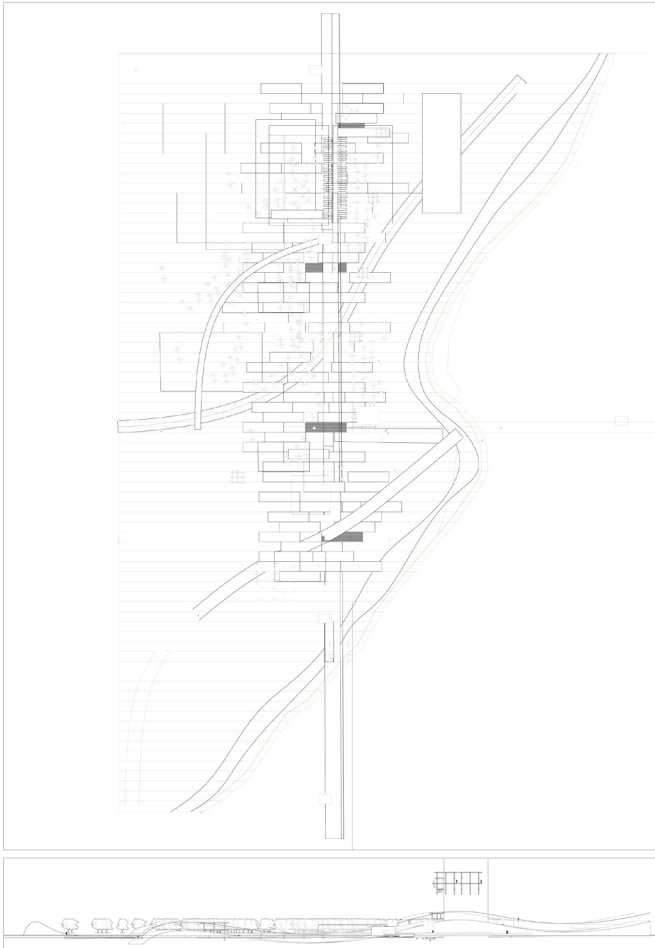
Site plan
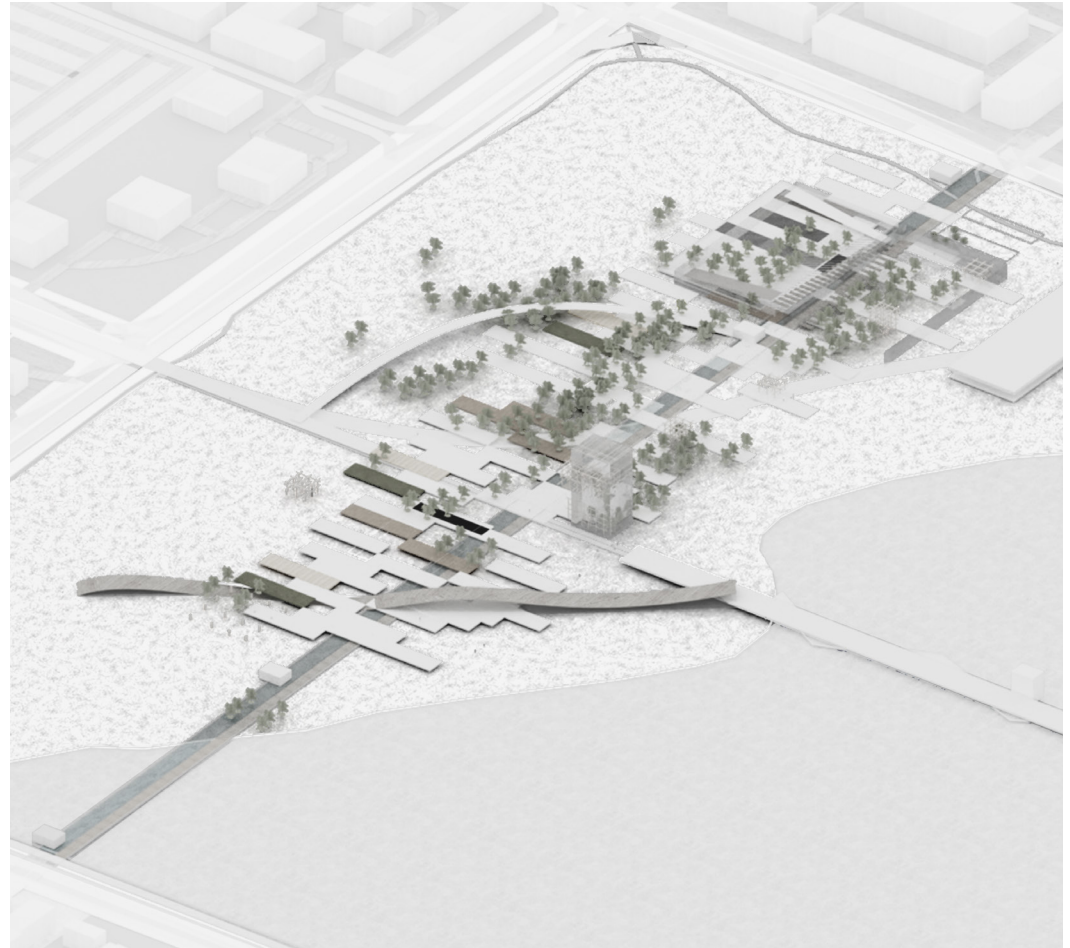
Site axo
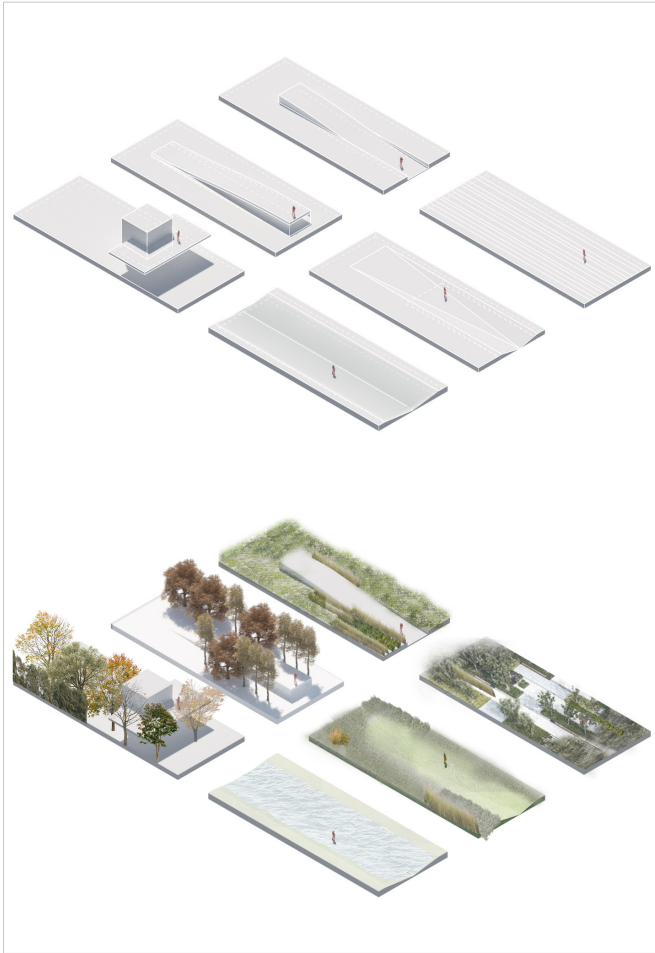
Methodology translating different city layers into various spatial forms
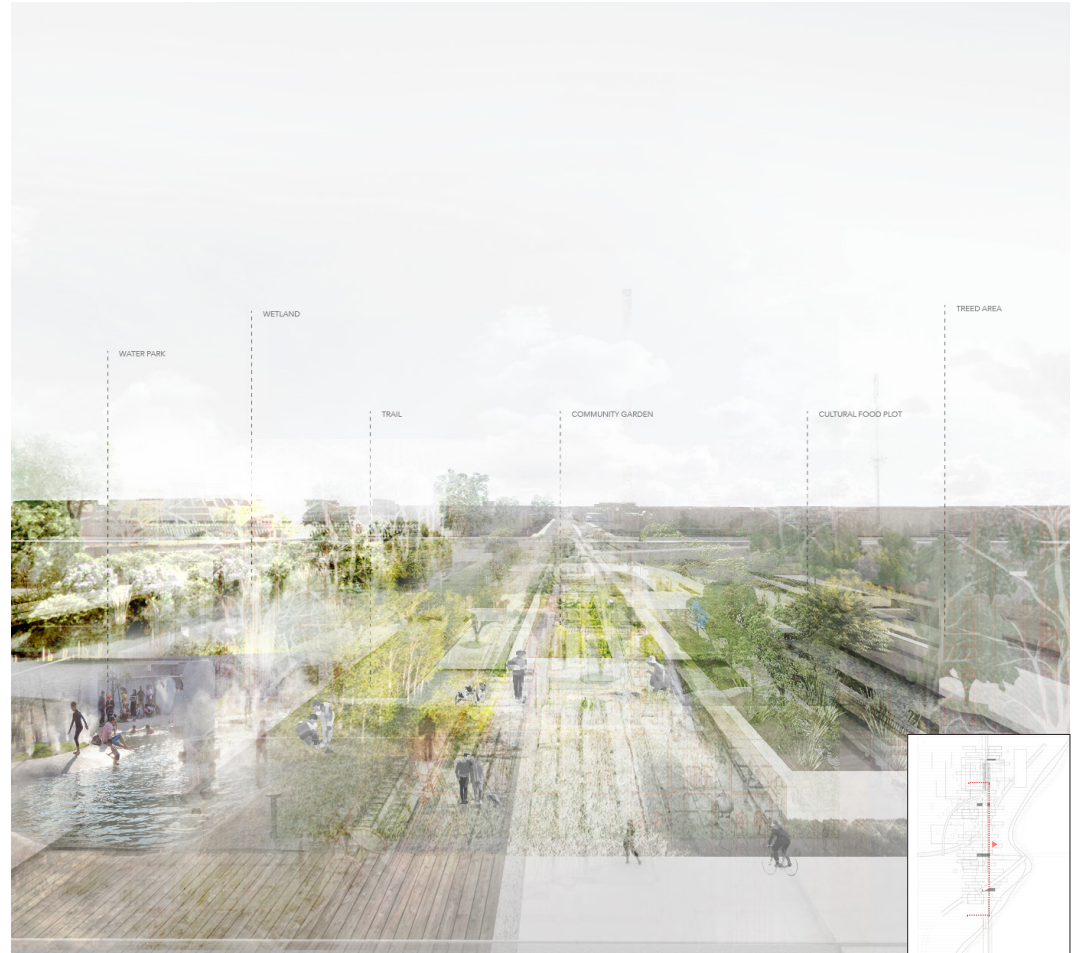
Perspective looking west to the different plots
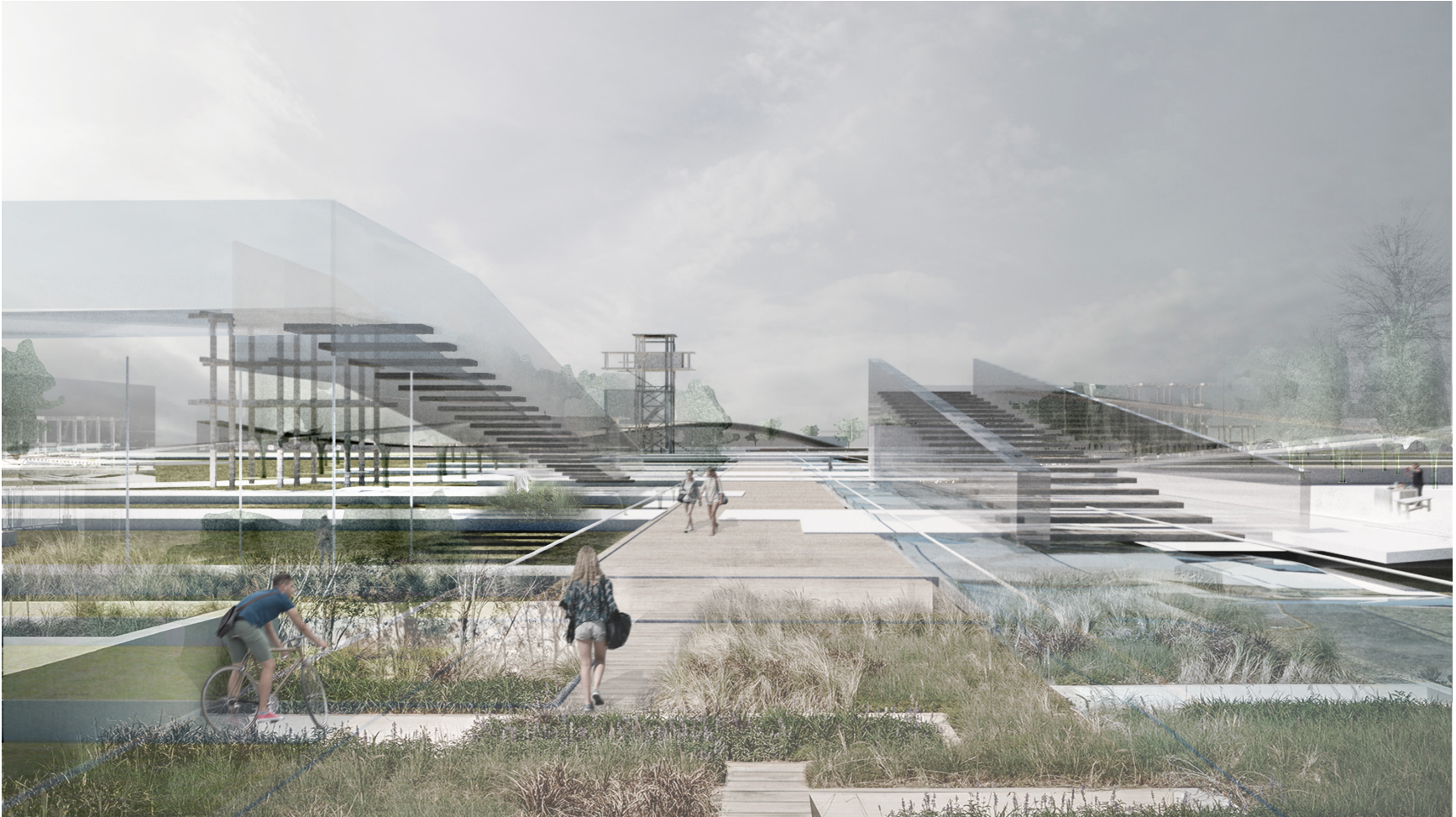
Perspective looking south to the trail and the tower

Perspective looking east to the wood tower

Looking at the building architecture component from the wood tower

Building Architecture Intervention: The Palace

The building site is in the nature park next to the highway. From west to east, it contains mixed land, including forest, wetland, and an artificially raised dyke. It epitomizes the modification of the historical landscape. As a response, the building connects to the land in multiple forms, including burying, hovering, and touching.
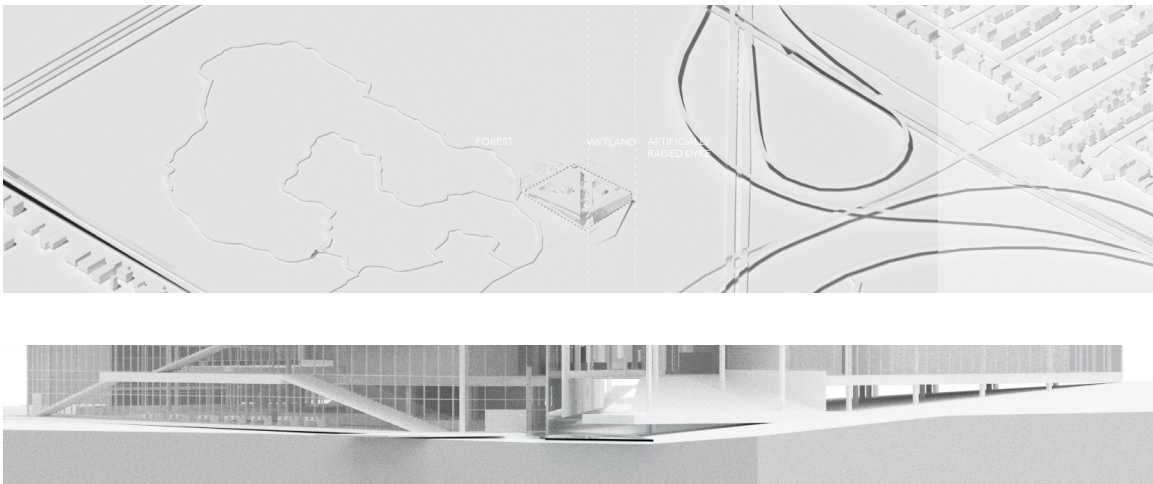
Land structure and various building connections to the ground

The building has two volumes, with multiple programs serving communities and individuals. Programs, including public and private, blend to showcase various layers of the city. They comprehensively form a mosaic of programs, which reach out from the site to the people. Bridges, corridors and pathways connect the two volumes, speaking to rural and urban areas in different architectural gestures. In the forest volume, the architecture tends to be intimate with wood and nature, while the urban volume hovers above the land and provides a view of the highway and the urban neighbourhood beyond.
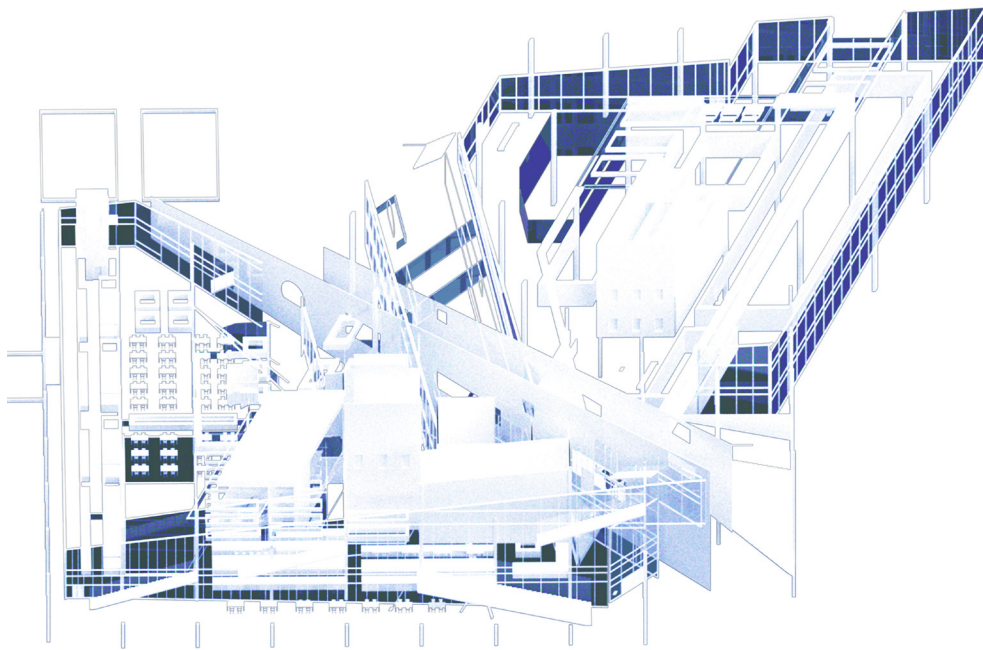
Diagram of deconstruction

POOL

SPORTS COURT

THERAPY   GALLERY

OUTDOOR
SITTING

LOOKOUT

TERRACE   LECTURE HALL

ROOF GARDEN

LIBRARY   KITCHEN

ENTRANCE   WORKSHOP   MARKET
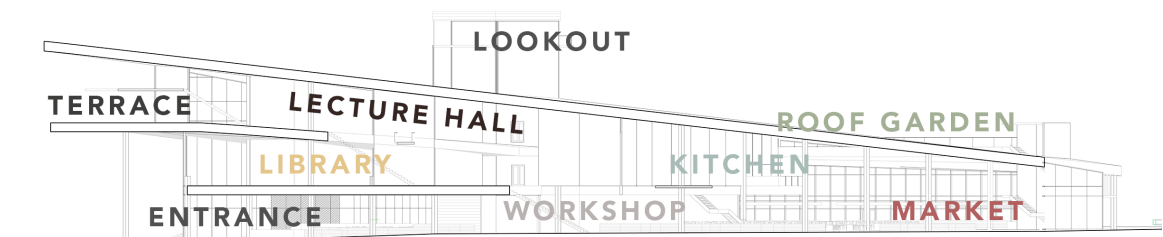
Diagram of programs

Southeast axo

RURAL OUTREACH

URBAN OUTREACH

NATURE PARK   PUBLIC VOLUME   INDIVIDUAL VOLUME   URBAN
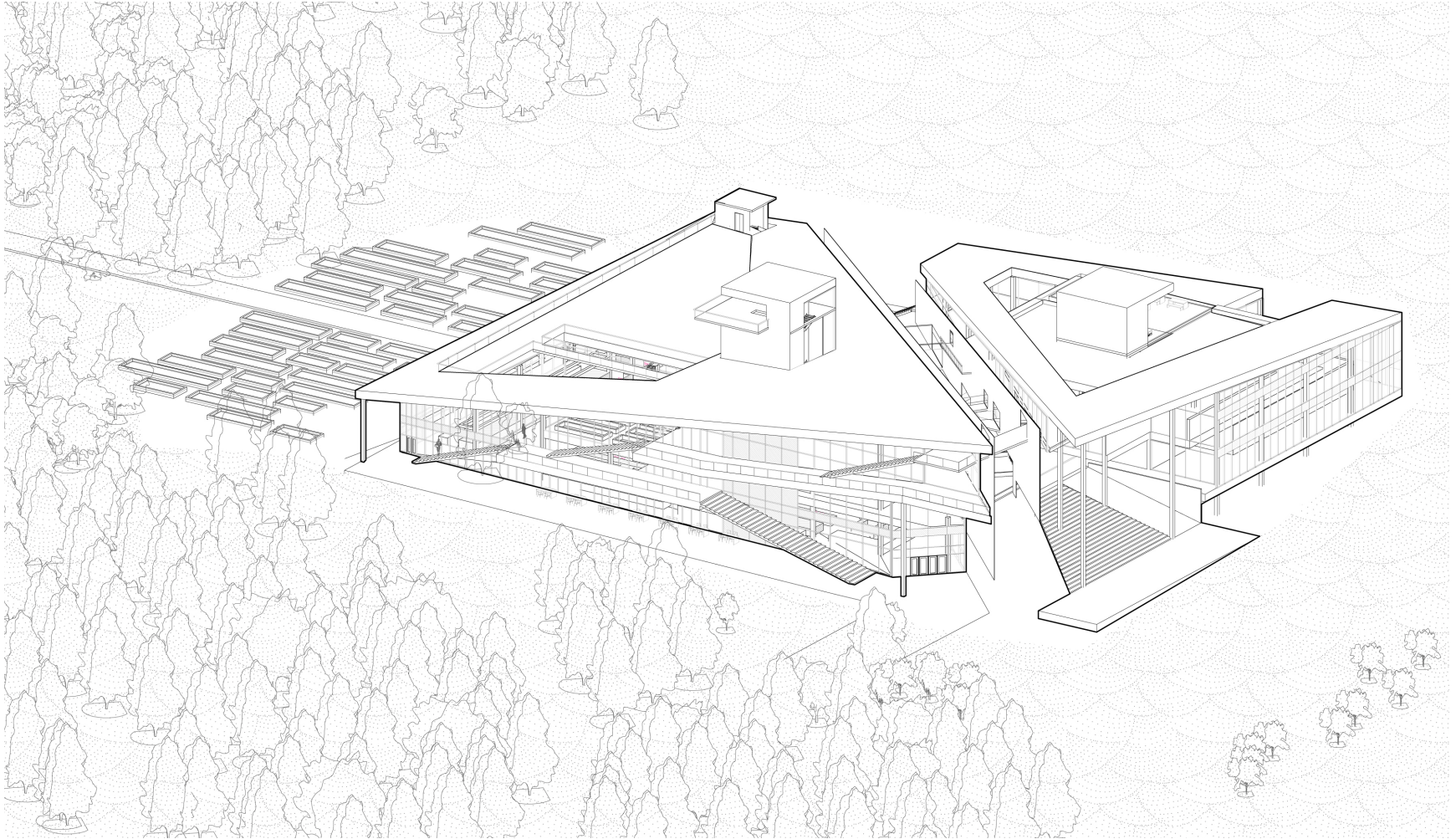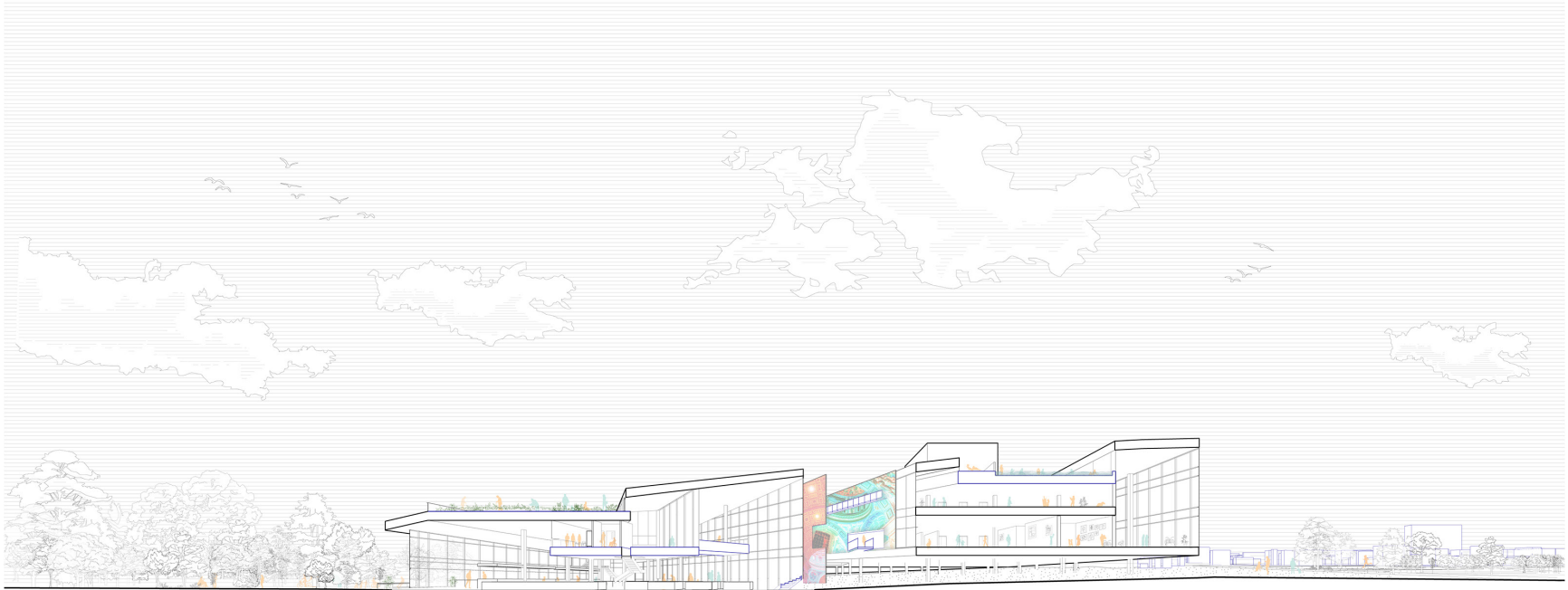
Section showsing the different gestures the building uses to communicate with its rural and urban surroundings
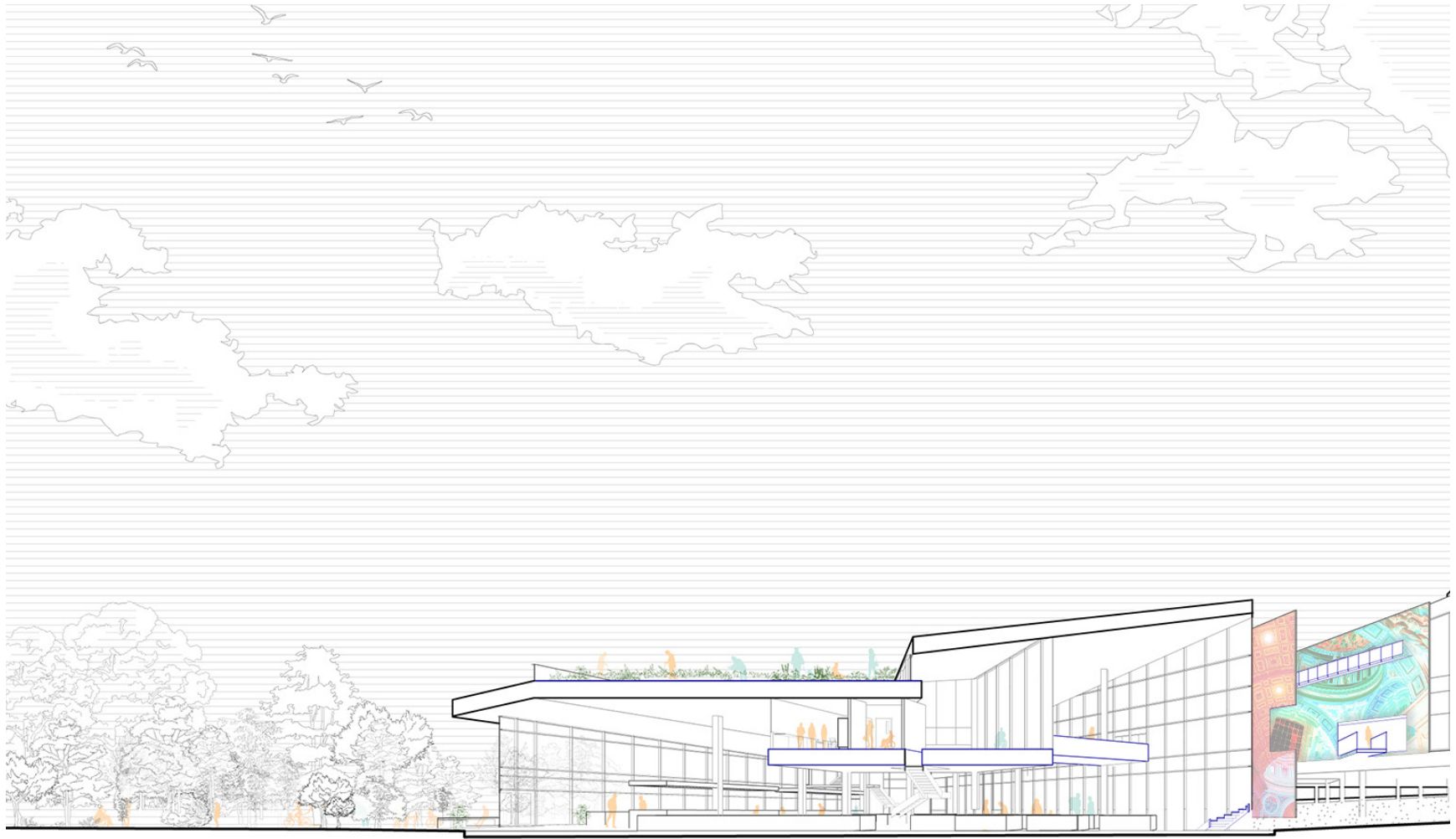
Enlarged site section-perspective
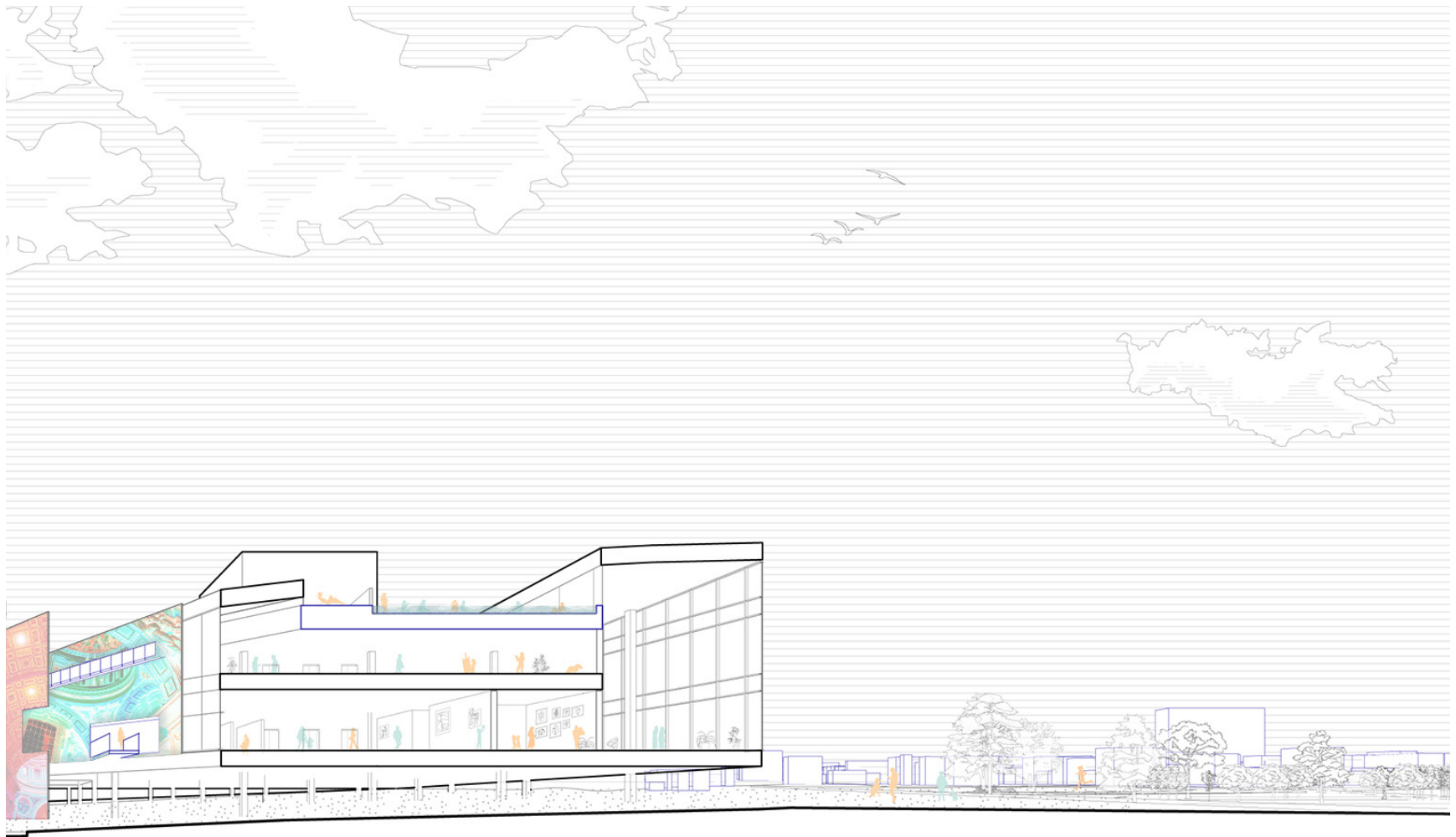
Enlarged site section-perspective

There are three ways to approach the building. First, parking at a distance at the nature park entrance and walking towards the building. Second, following the green corridors and biking to the building from the trail on its east. Third, viewing from the highway, where people will have a quick and vague impression of the relationship between the building, land, and road. The designed approaches aim to encourage sustainable transportation while respecting the journey.
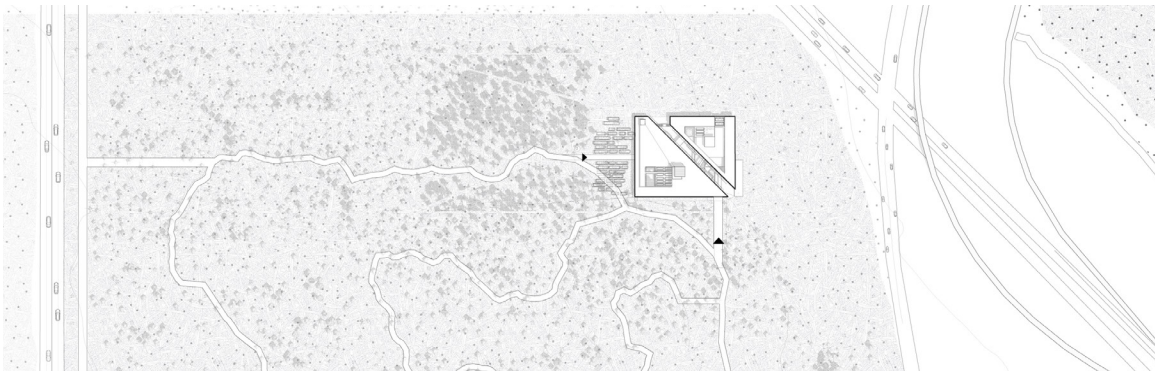
Site plan

Before vehicles became the primary means of transportation, walking long-distance trips and suffering from the weather were seen as the necessary process and experiences for worship. People in groups or individually would walk long distances to approach the worship architecture in all cultures worldwide. As the industrial revolution and motor vehicles boomed, large parking lots and highrise buildings took over cities. There are fewer large buildings that encourage public and environmental-friendly means of approach. The designed building is located in the nature park on No 5 Road, acting as a destination of the various worship institutions and is open to different groups of people. It is designed to keep distance from the main roads and away

Approach I: walking from east

Approach II: biking from west

Approach III: driving from the highway

from big parking lots. It advocates for the traditional as well as sustainable means of travel in the city, which are walking in the natural forest and biking from the urban trails. In this way, different groups of people get to know each other in the way they approach the destination and further generate the interacting circulation around the generic city blocks.

The building has four stories, with the first two most prominent. Glulam beams and columns are used as the main structure of the building due to their sustainability. They sit on nine-by-nine metre grids. To minimize the profile of spaces, mechanical systems are hidden and run between each pair of mass timber panels. This allows the minimalism of spaces while using less mass timber panels.
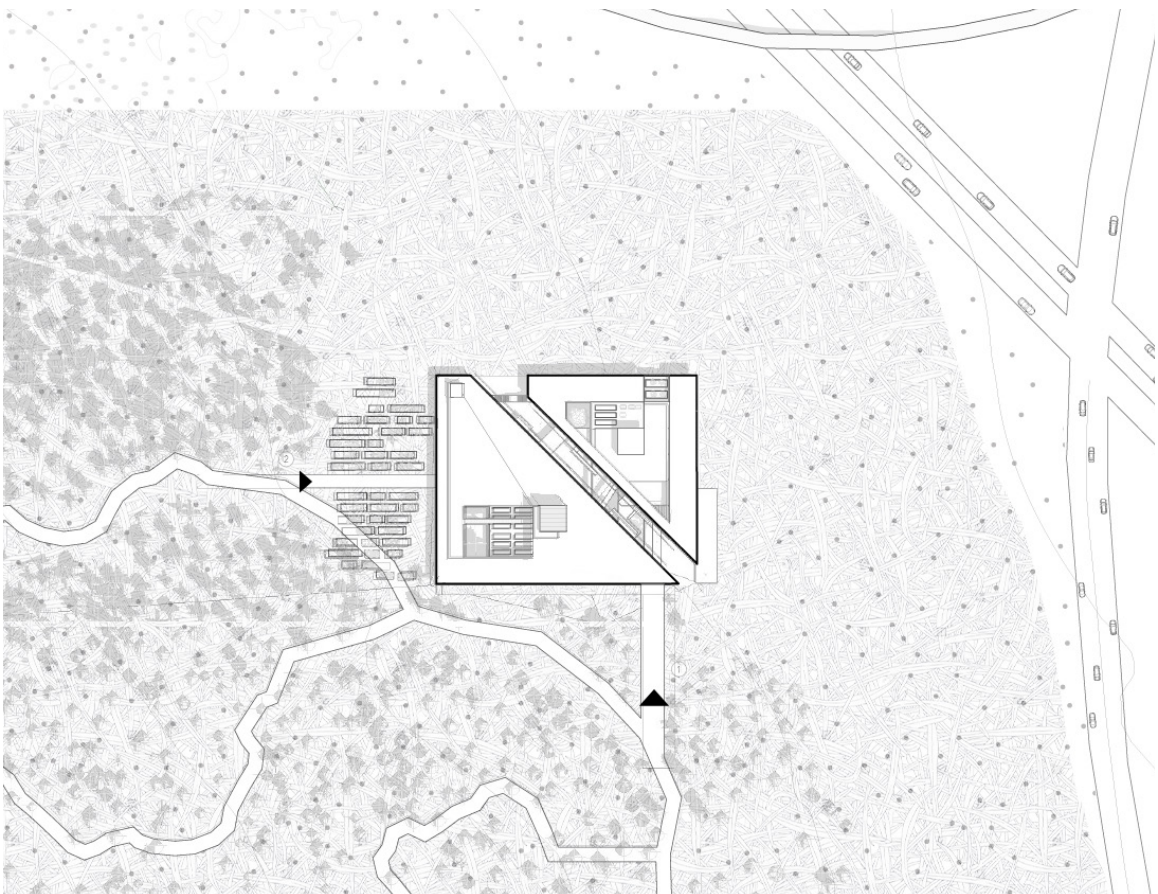
Enlarged site plan

On the ground floor, the market space allows people to celebrate their cultural food. It is an open space with an indoor courtyard and outdoor growing beds. In the growing seasons, the curtainwall opens to the exterior planting area, creating a complete connection from growing to selling. In the community kitchen, people can view the cultural food growing outdoors, watch vendors sell food products, and see cooks working in the kitchen before it arrives at their

0   15 m

1. Lobby

2. Welcome/Customer Service desk

3. Cultural food vendors

4. Reading Lounge

5. Meeting area

6. Food workshop

7. W.C.

8. Courtyard

9. Cultural food vendors

10. Kiosks

11. Dining area

12. Stair core

13. Outdoor growing beds

14. Outdoor seating area

15. Outdoor seating stairs

16. Meeting area

Ground level floor plan

0   15 m

1. Program space
2. Event Space
3. Outdoor growing beds
4. Community kitchen
5. W.C.

6. Bridging corridor
7. Servive desk
8. Gallery
9. Therapy
10. Outdoor deck

11. Outdoor seating stairs
12. Climbing wall
13. Planting courtyard

Level 2 floor plan

Level 3 and 4 floor plans

MASS TIMBER PANEL (150mm)

GLULAM BEAM (606mm)

GLULAM COLUMN (400mm x 400mm)

SUSPENDED LIGHTING

WOOD CEILING PANELS

SPRINKLERS AND SYSTEMS

REMOVABLE SERVICE COVER

SUBFLOOR

FLOOR FINISH ENGINEERED WOOD

IN-FLOOR MECHANICAL/ELECTRICAL
SERVICES/ACCESS AREA

MASS TIMBER PANEL (150mm)

GLULAM BEAM (606mm)

GLULAM COLUMN (400mm x 400mm)

SUSPENDED LIGHTING

WOOD CEILING PANELS

SPRINKLERS AND SYSTEMS

REMOVABLE SERVICE COVER

SUBFLOOR

FLOOR FINISH ENGINEERED WOOD

IN-FLOOR MECHANICAL/ELECTRICAL
SERVICES/ACCESS AREA

Structural diagram

table. On the second level, in the urban volume, a public seating area opens toward the city in the summertime. People can enjoy the cityscape, and kids can play together with the light coming from above through the pool.

Private programs on the second floor include gallery and therapy spaces, where people can find their own way to reflect on the landscape and history. This window in the

Level 1: Market space

Level 1: Market space showing cultural food vendors

Level 2: Community kitchen, viewing cultural food from growing to dining

gallery space layers elements including water, cityscape, and a history screen wall, as a living exhibition. The therapy spaces are planned in the back of the volume, where inner courtyards and sunlight provide inward healing. Sports courts contain daylight and connect to outdoor growing spaces. Together, the cross programming and diverse interactions shift people's views of collective identity.
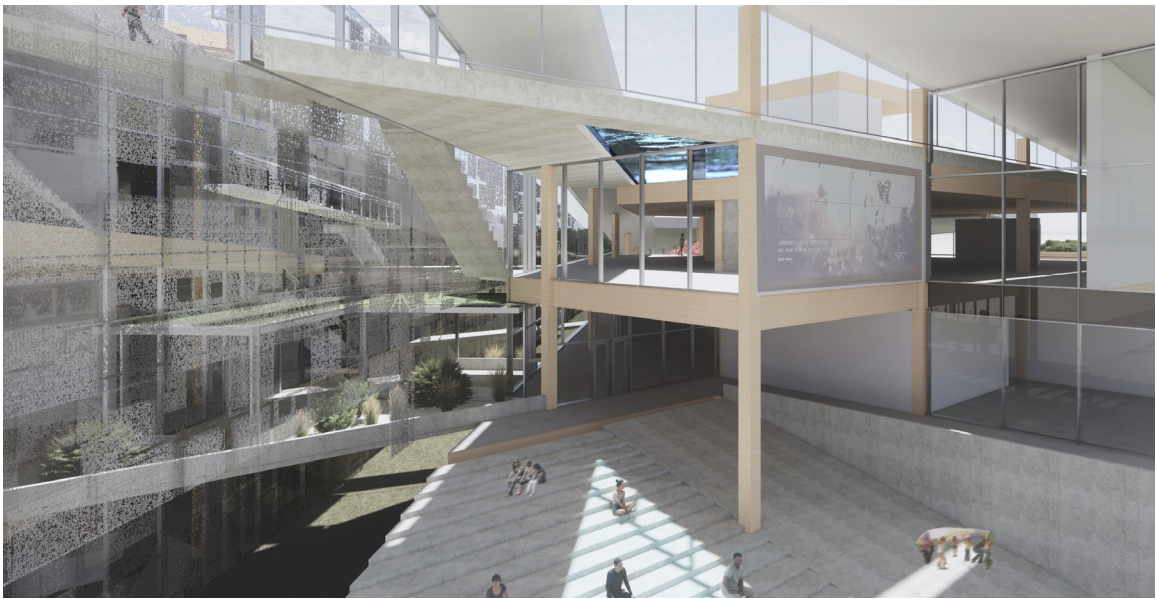
Level 2: Outdoor seating area with various interactions

Level 2: Layering window in the gallery space

A gradient from public to private is included in the spatial language of the building in both horizontal and vertical directions. At both ends of the journey, there are spaces that act as destinations. In the urban volume, there is a public pool on the rooftop where people get to swim in the summertime and skate in the wintertime. A corridor connects it to the forest volume. In the forest volume, there

Level 2: Therapy space

Level 3: Sports court

is a roof garden where people can sit together and enjoy the cityscape and farmlands. The design element of pockets, porosity façade and outdoor climbing stairs are translated from the researched urban activating points in the grid. They are the informality within the formal grid. They make spaces fun and informative.
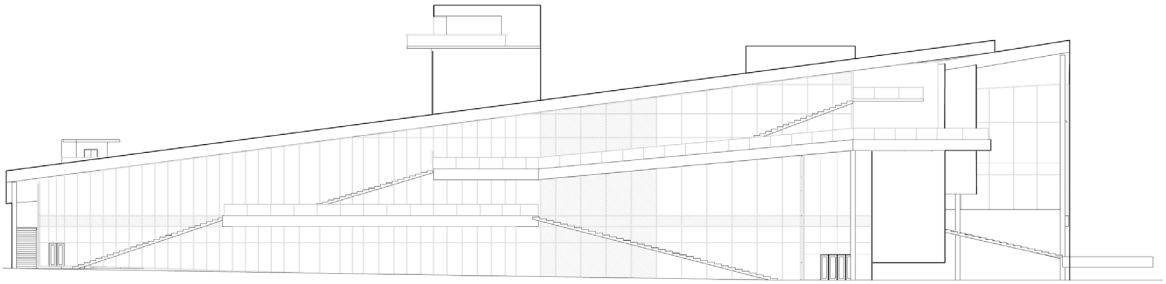
South elevation showing the outdoor climbing wall
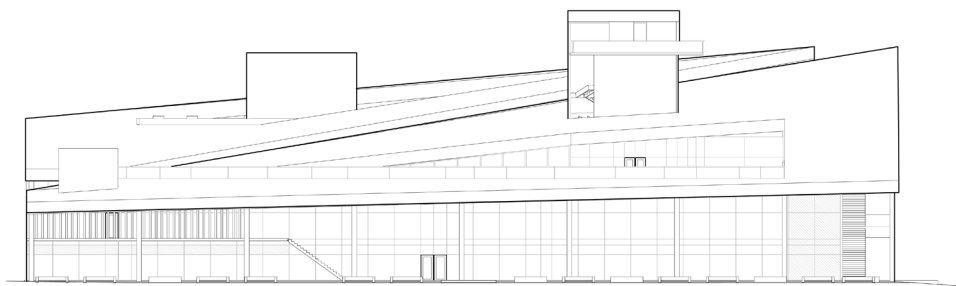
West elevation showing the slanted roof that creates diverse viewing points

North elevation showing the porosity of building
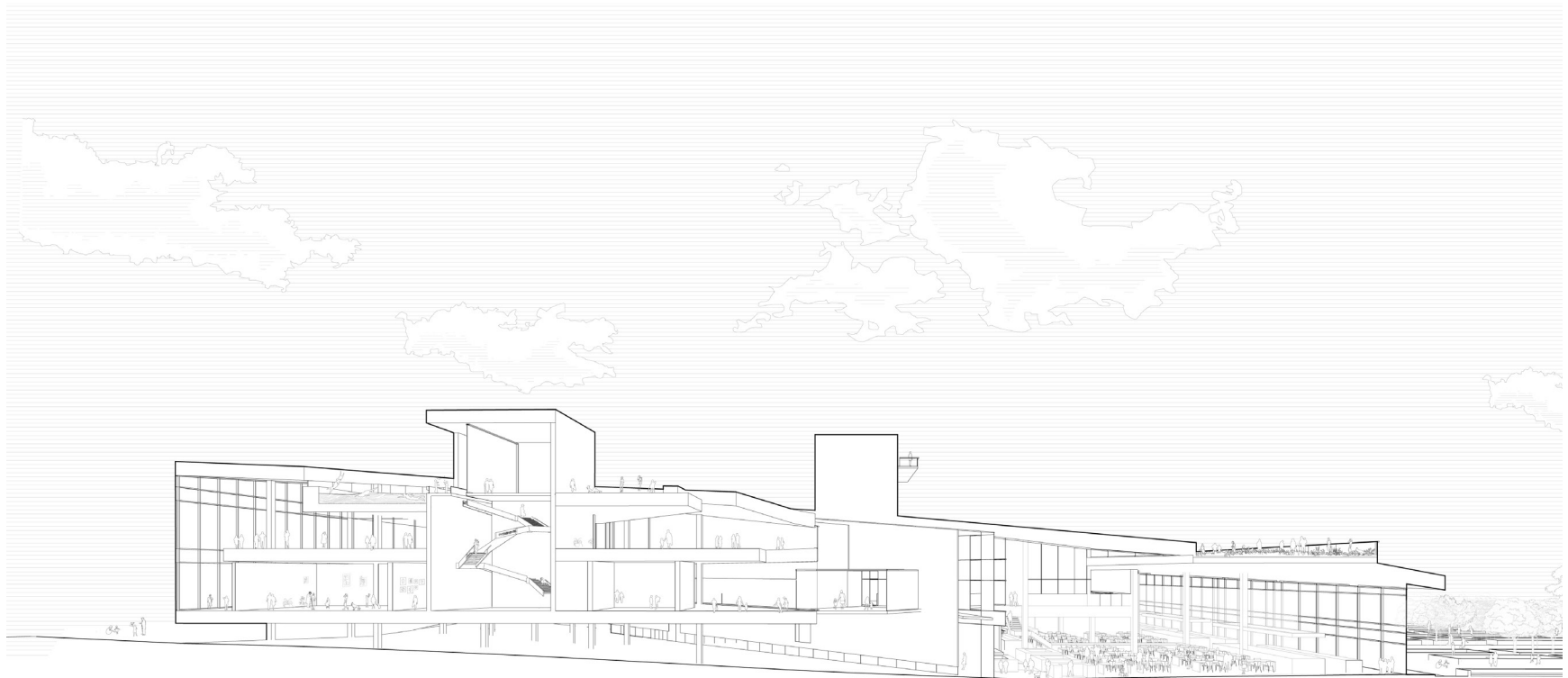
Section-perspective showing the intersections of spaces

Section-perspective showing the volume versus void in the building

Urban volume: Rooftop pool
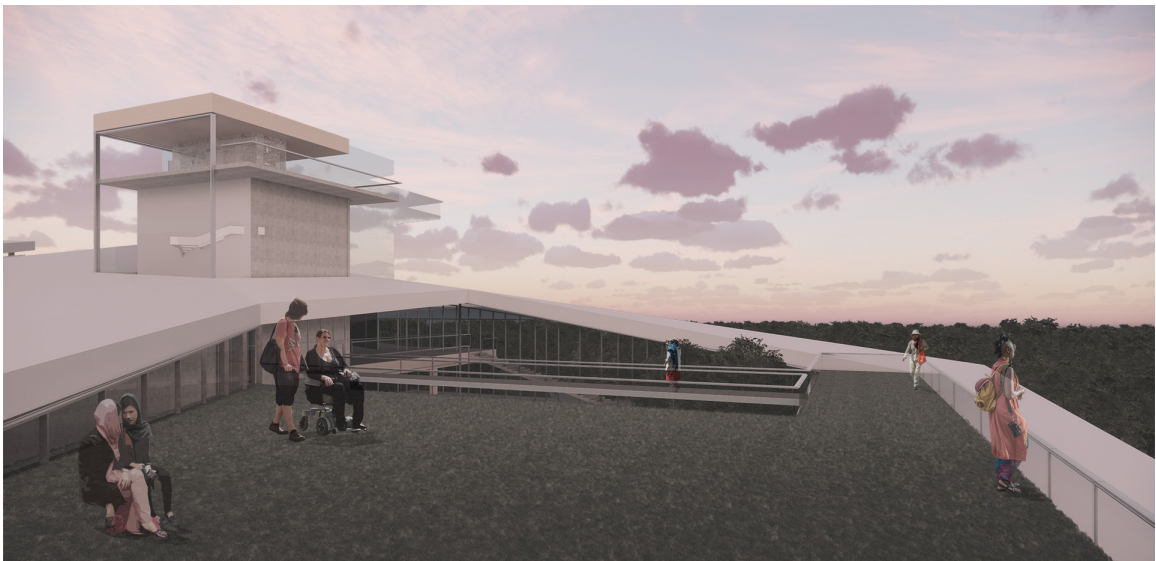
Forest volume: Rooftop garden

Two specific features are the horizontal shortcuts and the vertical towers. Horizontal corridors between the double-wall represent the shortcuts between blocks in the city. People view others walking in and out of the screen, displaying images of the historical and present-day city. It is a metaphor for people coming in and disappearing into the river of history. The double wall enhances the idea of layering forces. It happens beyond the building grid and creates change and informality. The tower is the vertical version of the double wall. Intersecting stairs allows people to view others coming in and out. These two features work together to enable people to connect with the city's ancestral population and engage in history. Together they tell the story of the city. Here, architecture and people work together to show the memory of the past. In this living system, the building becomes landscape, as the thoughts and power it represents make a difference in people's lives.
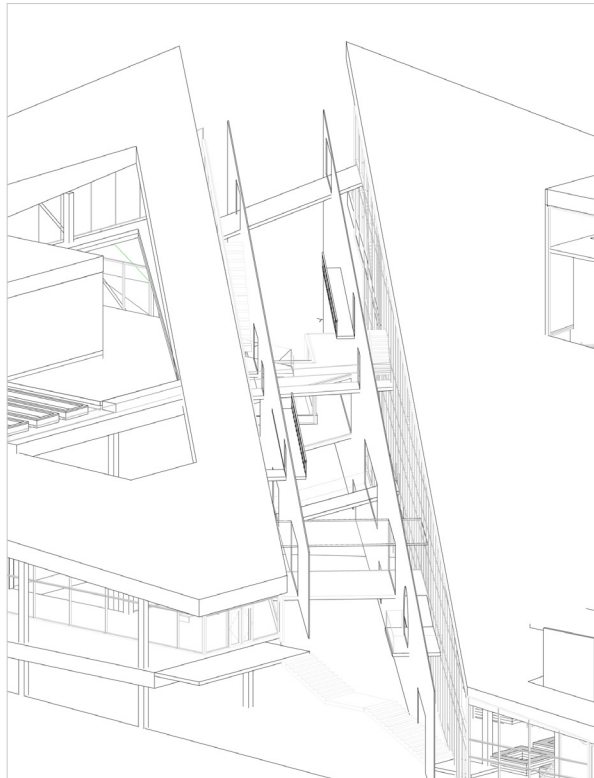
Double-wall axo
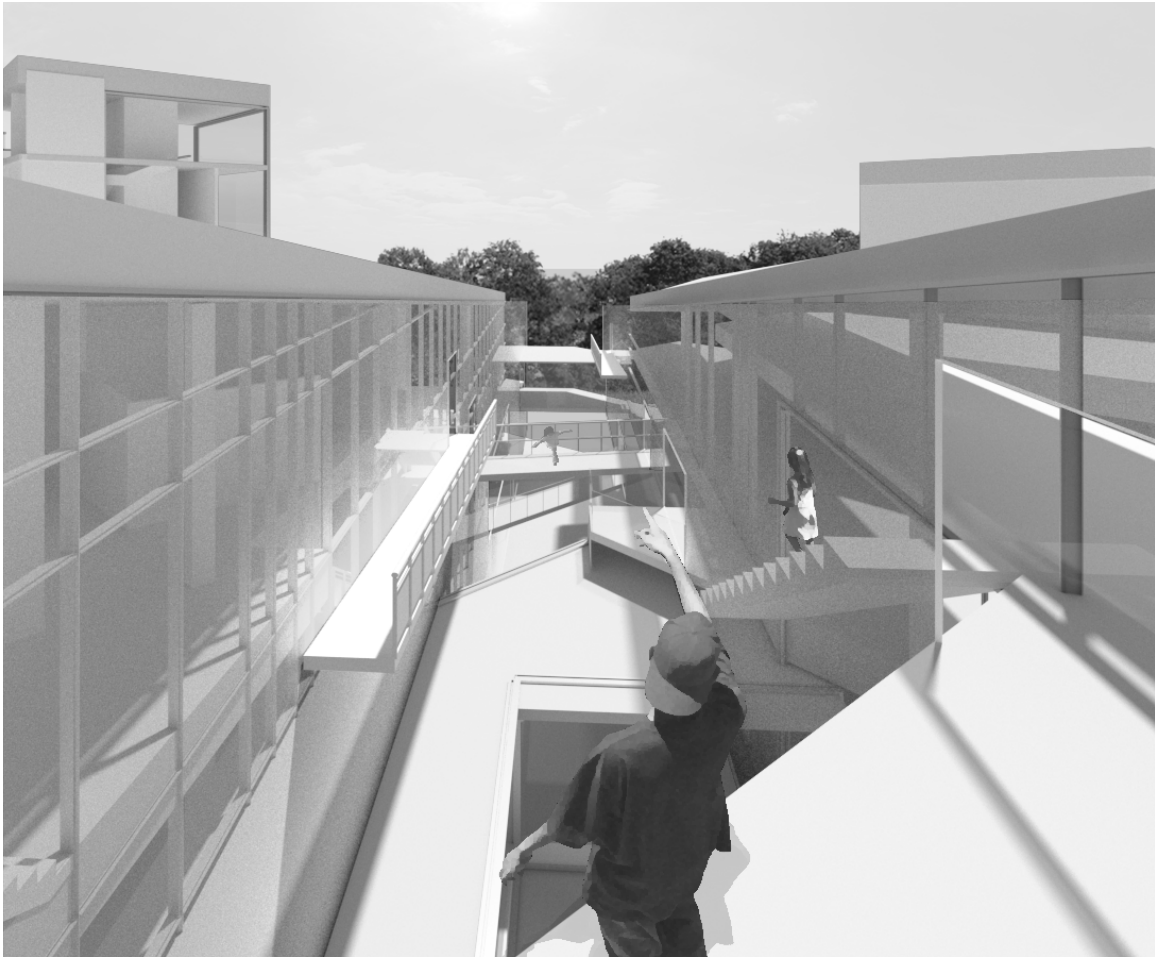
Perspective view of the connecting corridors
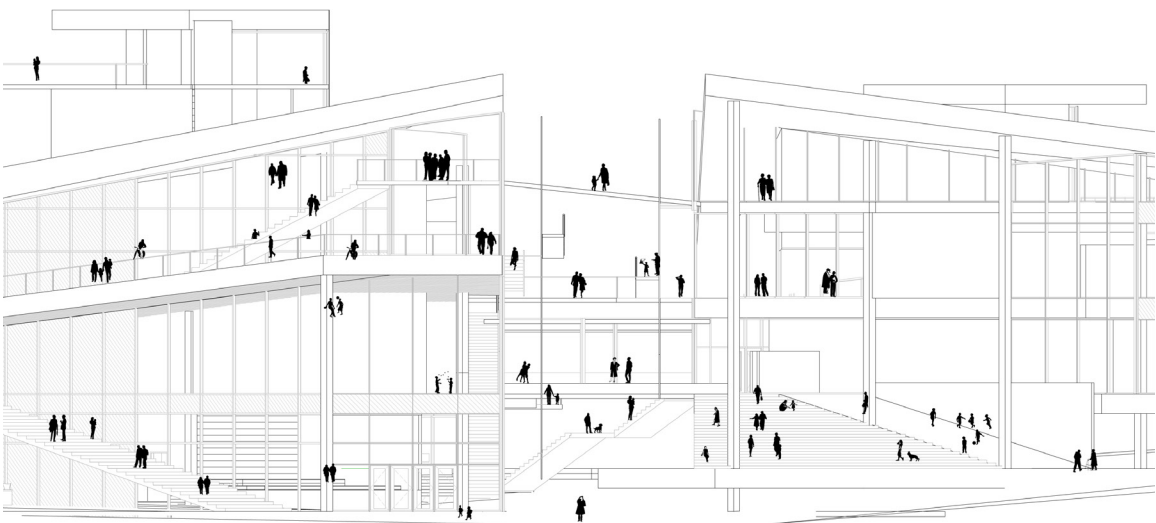
Elevation of the connecting corridors

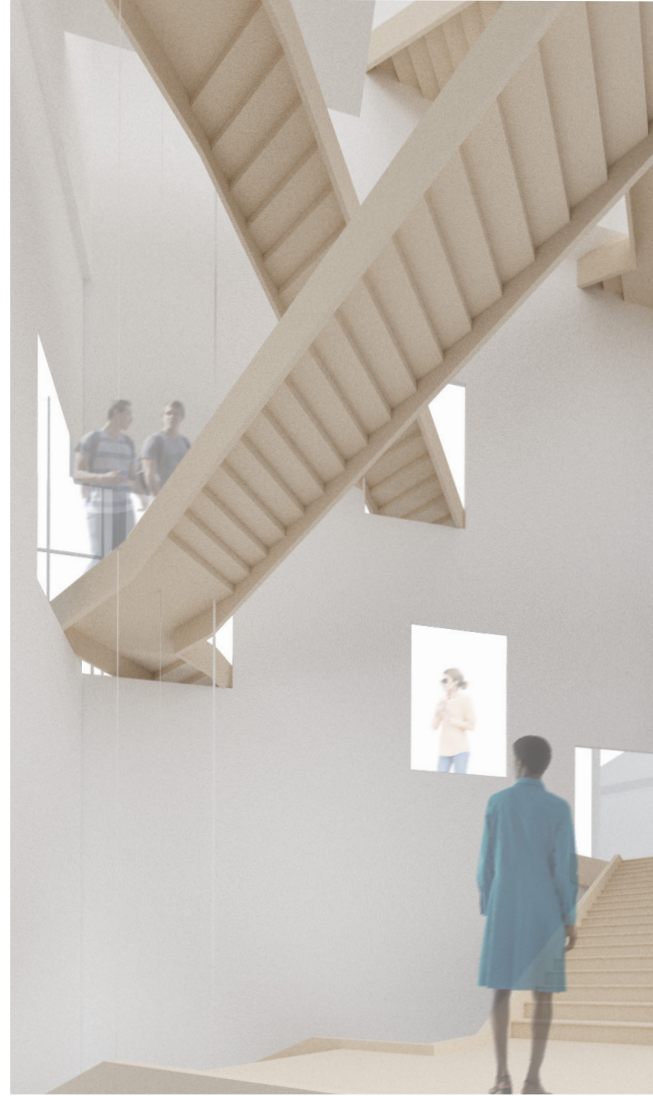The digital walls layer the past and current-day of the city, allowing engagement.
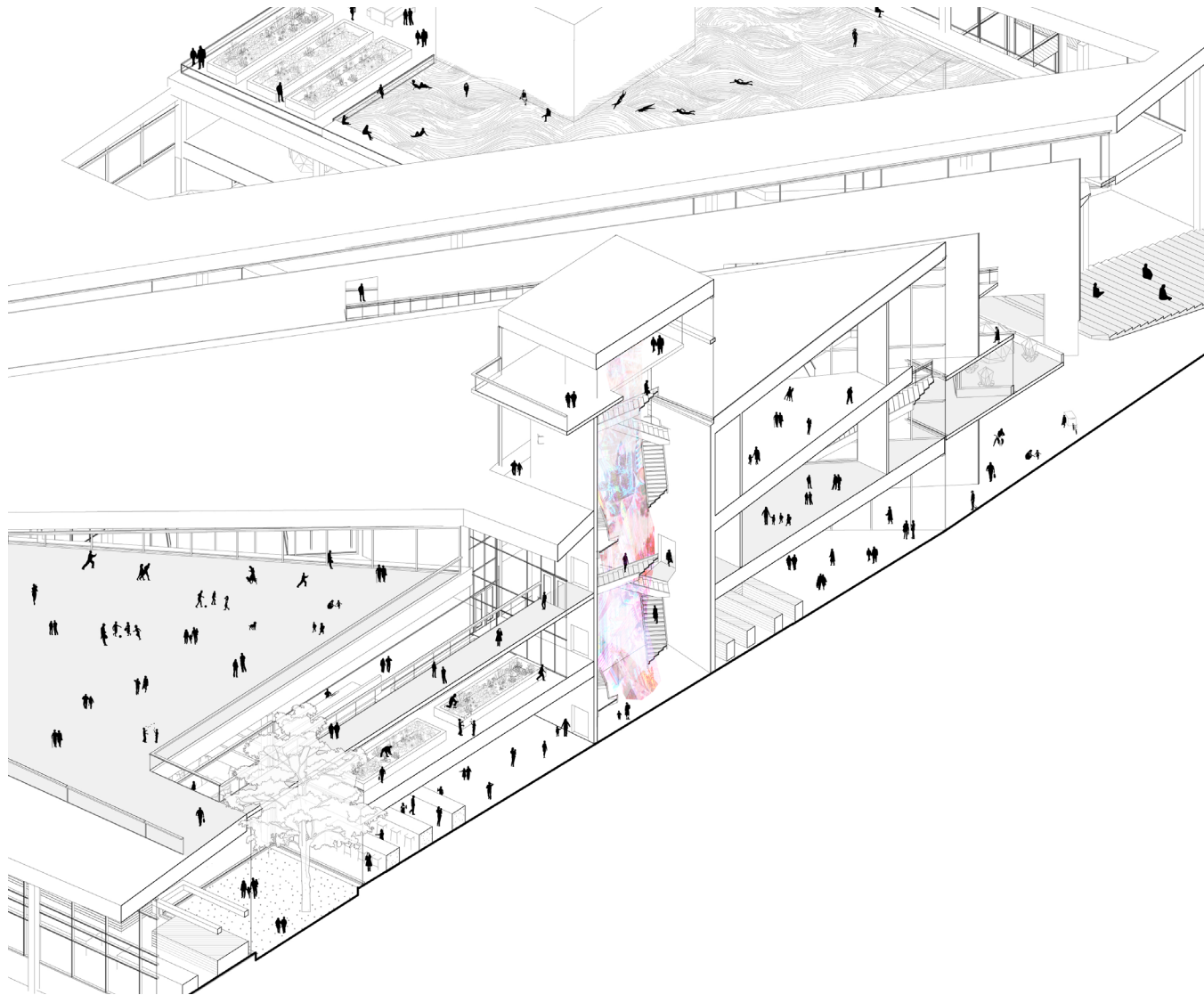
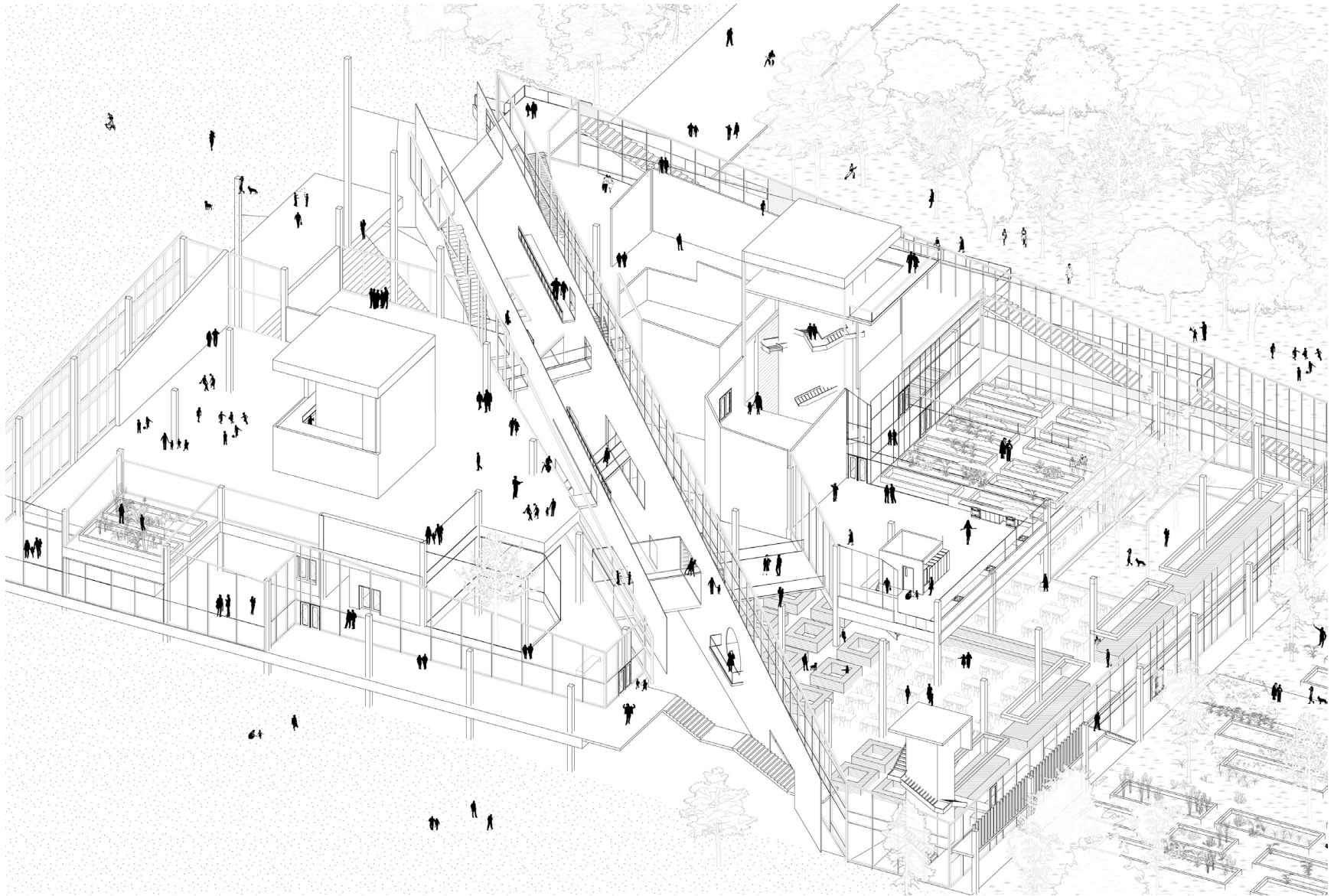Tower connecting different levels
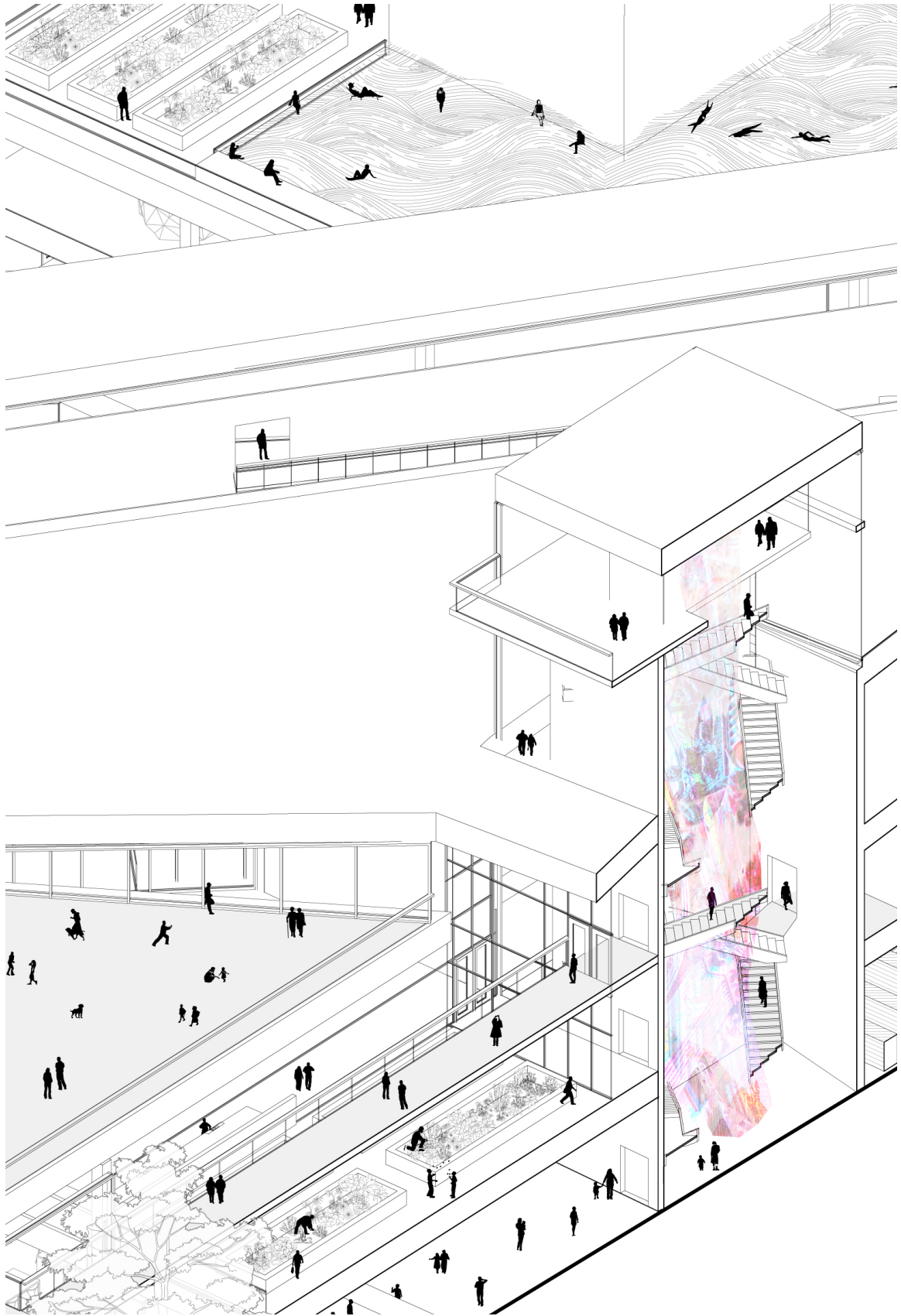
Enlarged tower axo
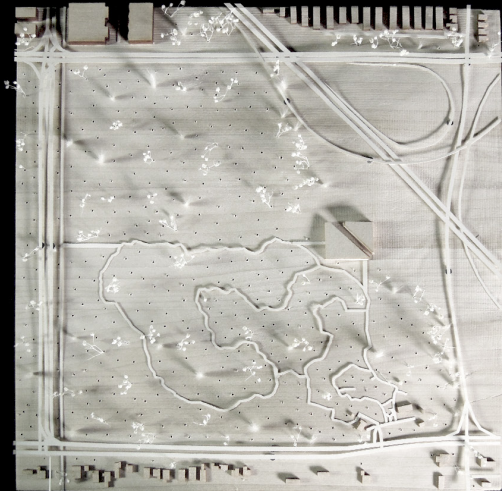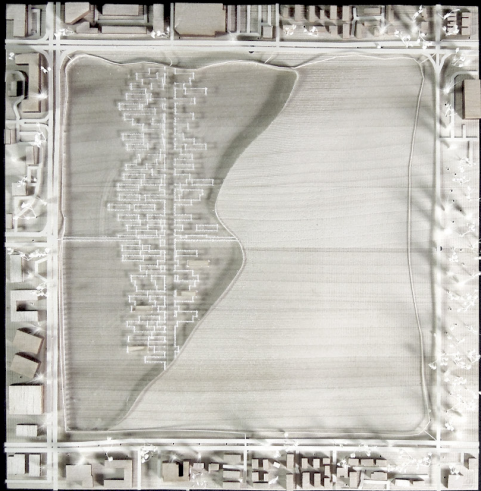
Tower axo

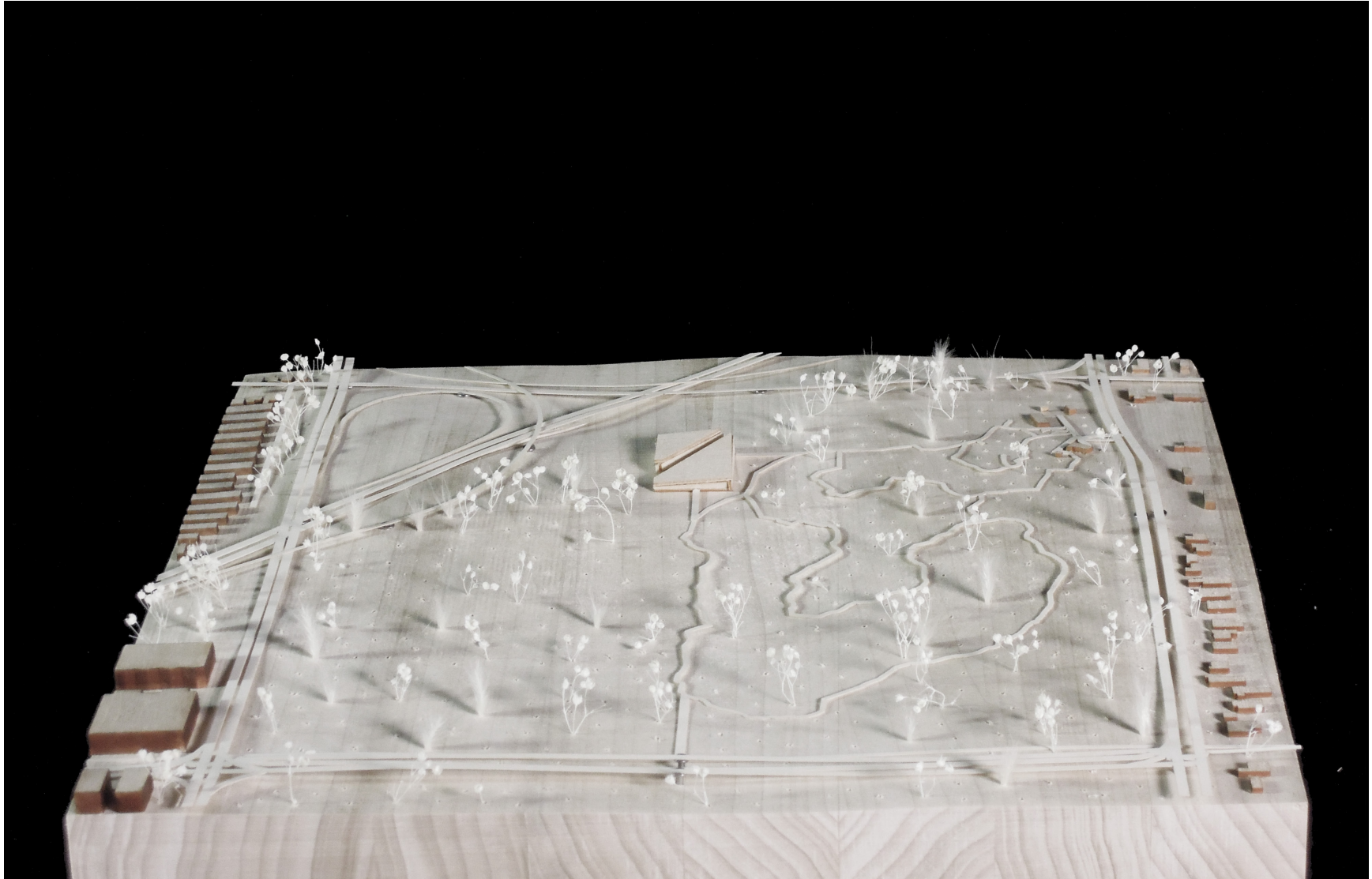Tower interior view

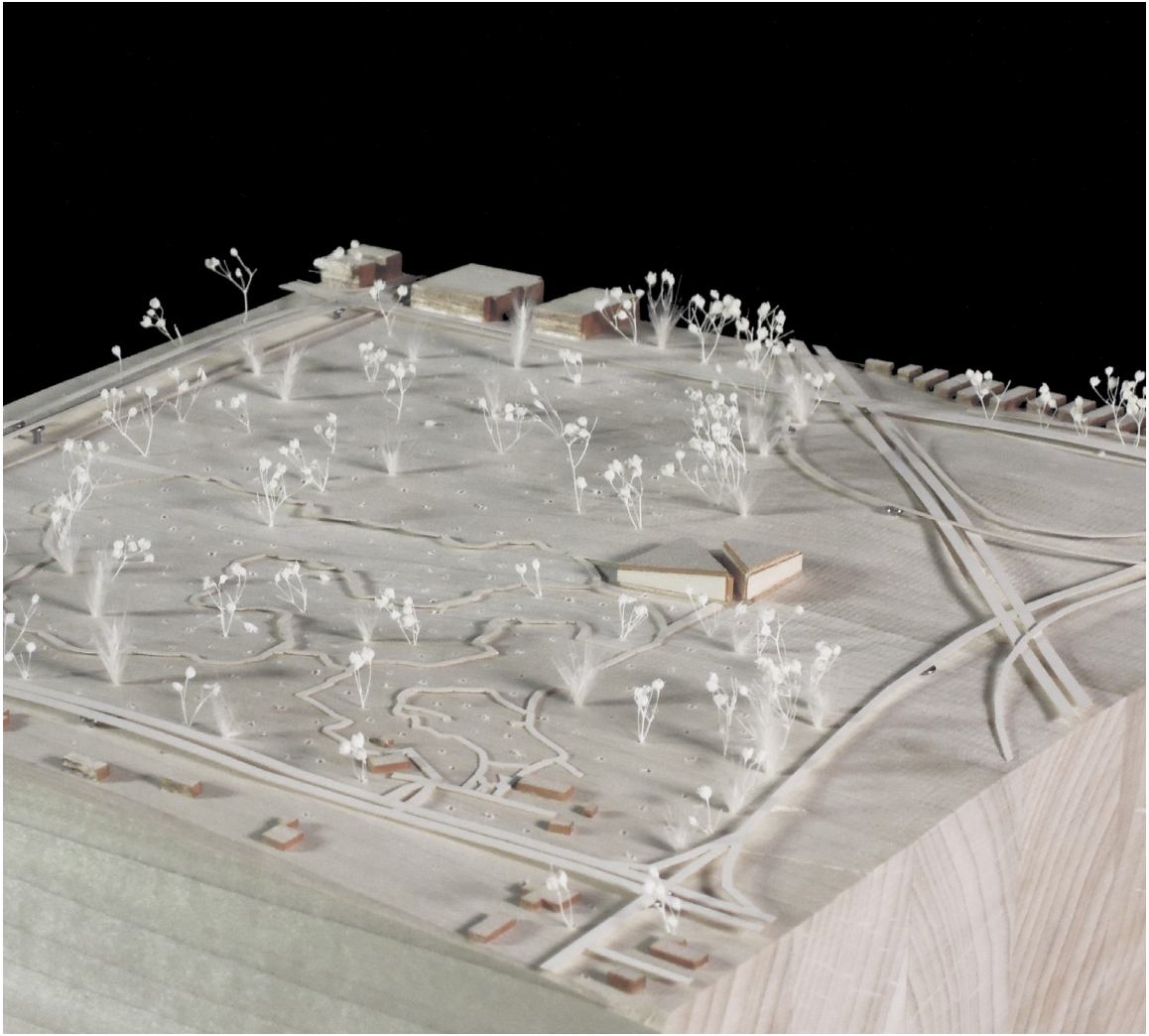Building night time view from south

Building as a living system

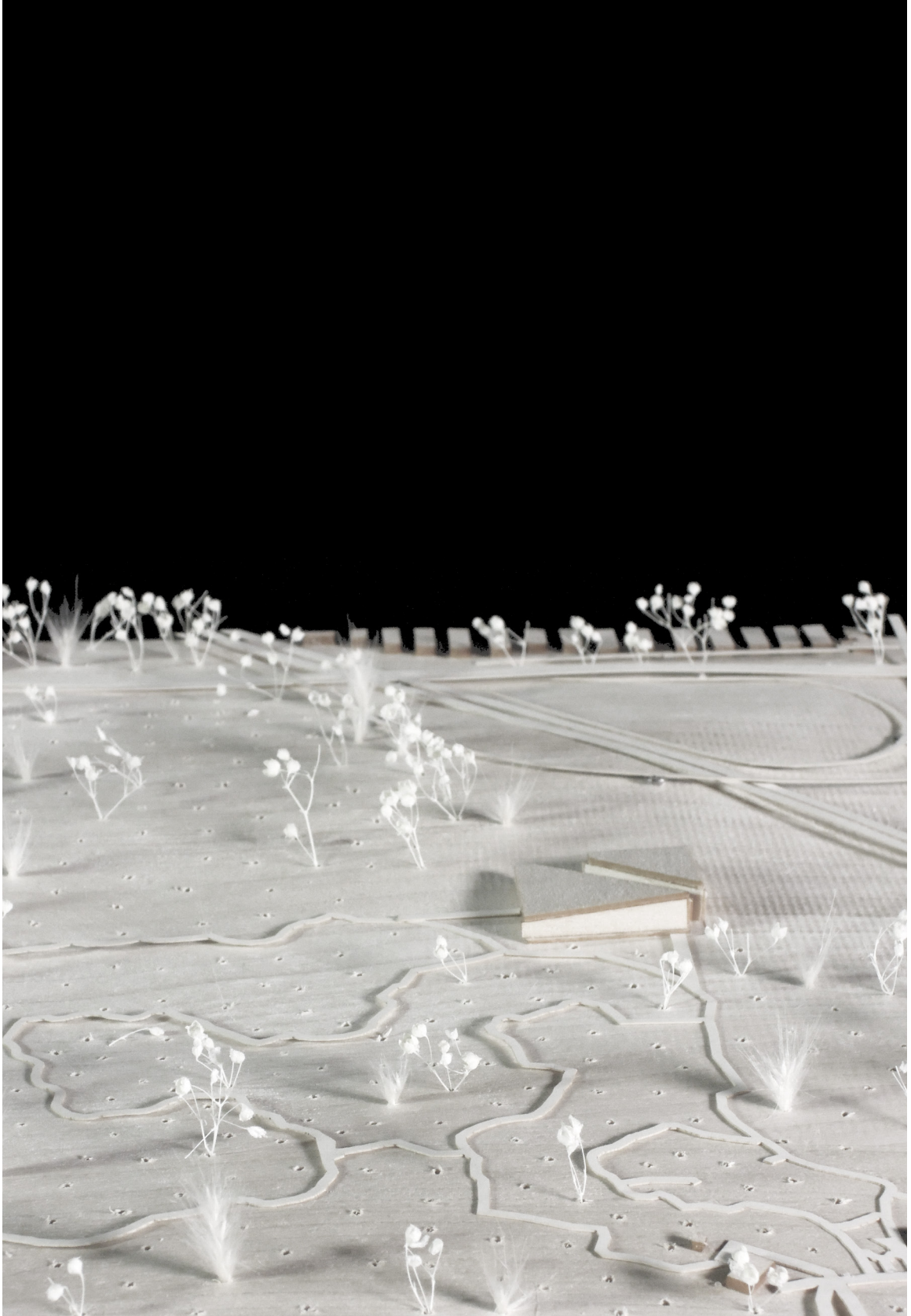Site model showing the relationship of the two blocks

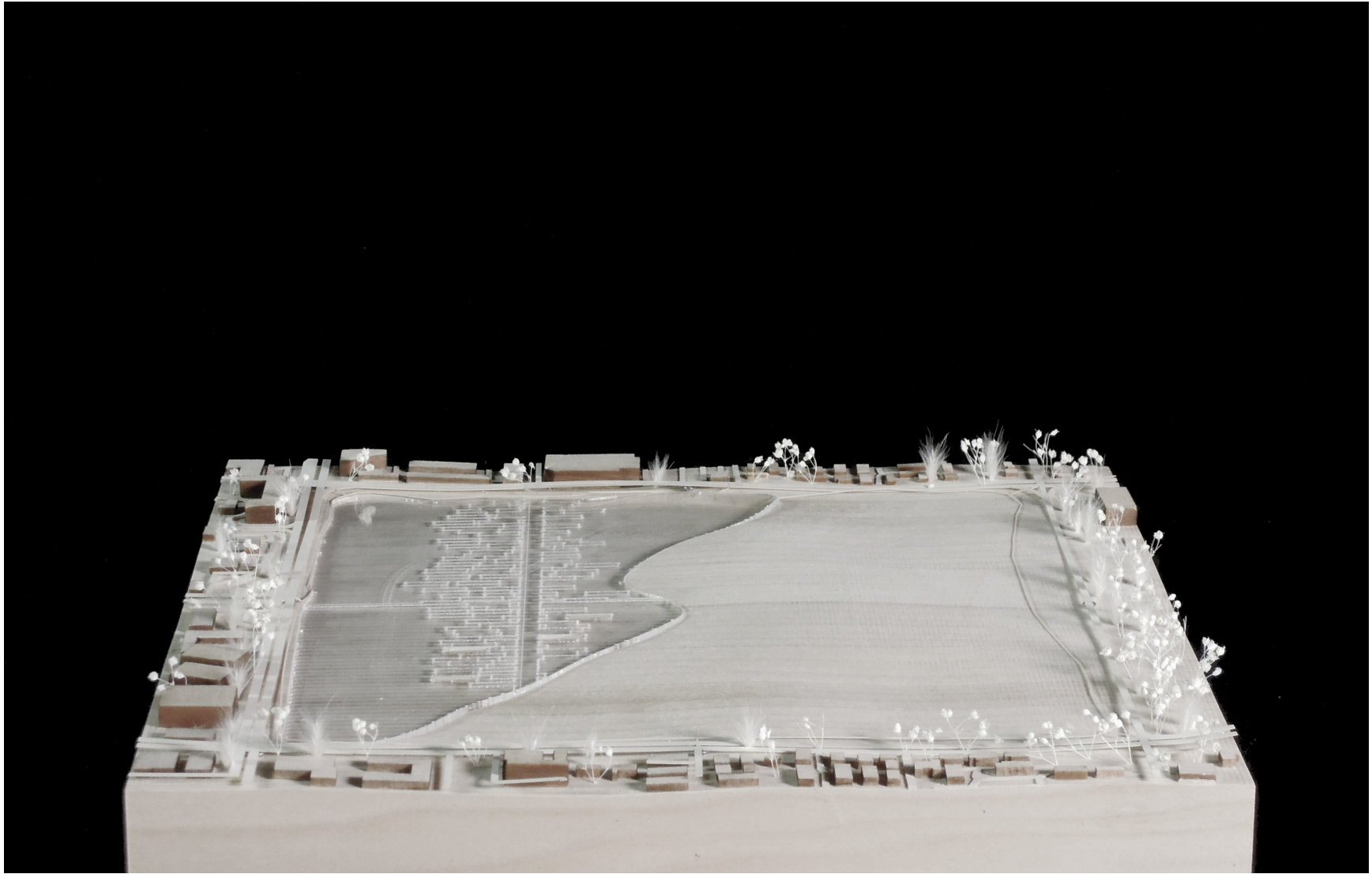Site model showing the context of the building component city block

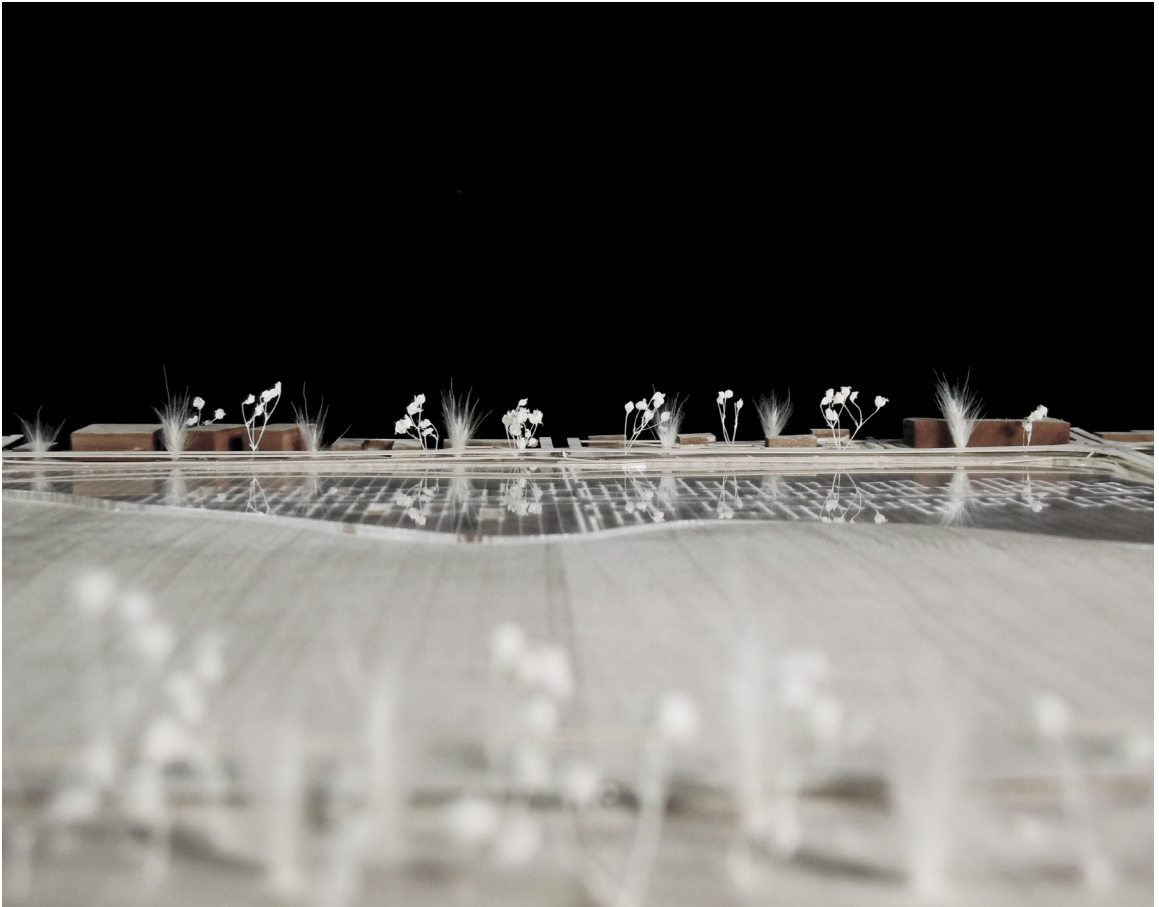Site model showing relationship between the building, land, highway, and vegetation

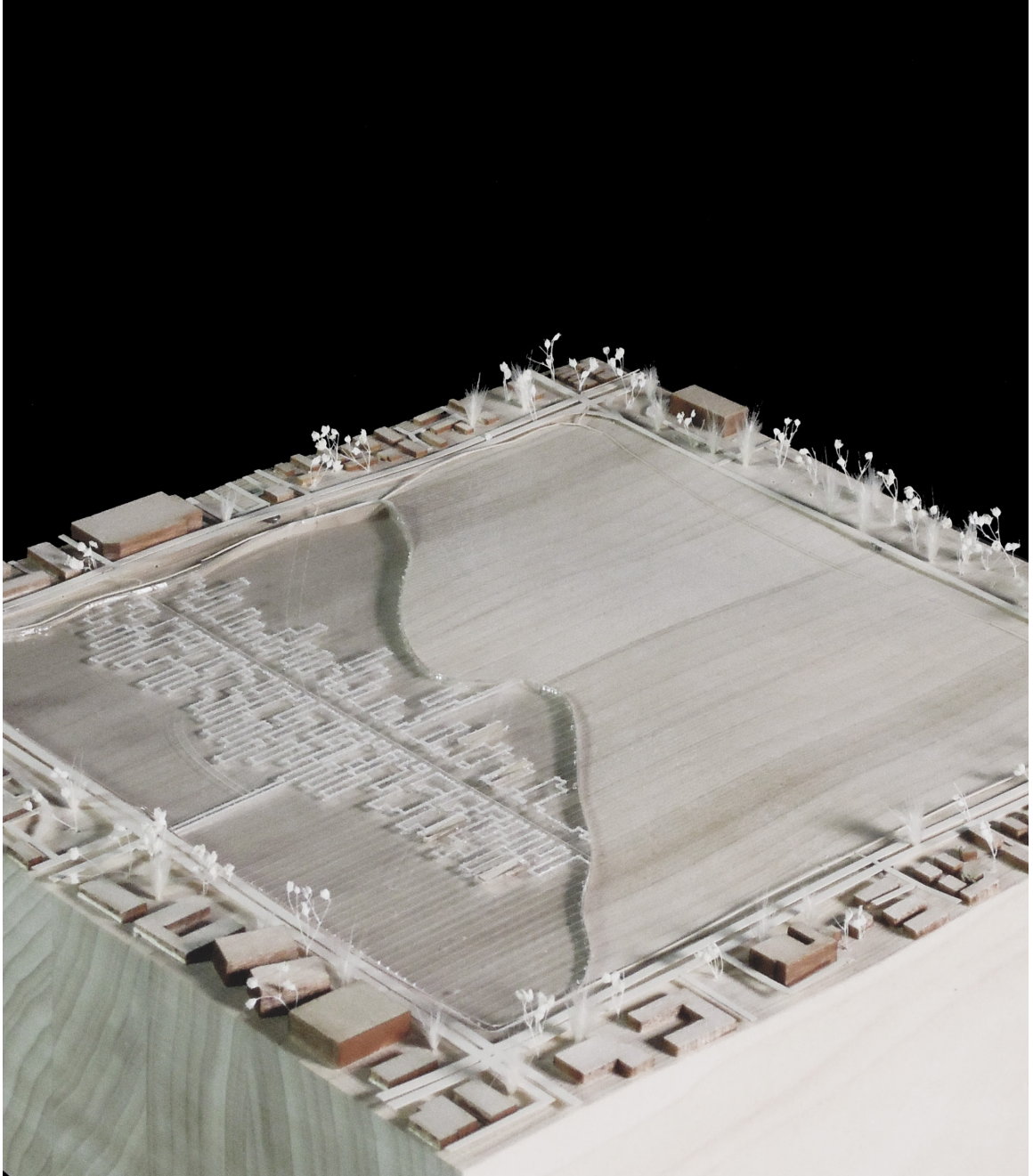Site model showing three approaches to the building

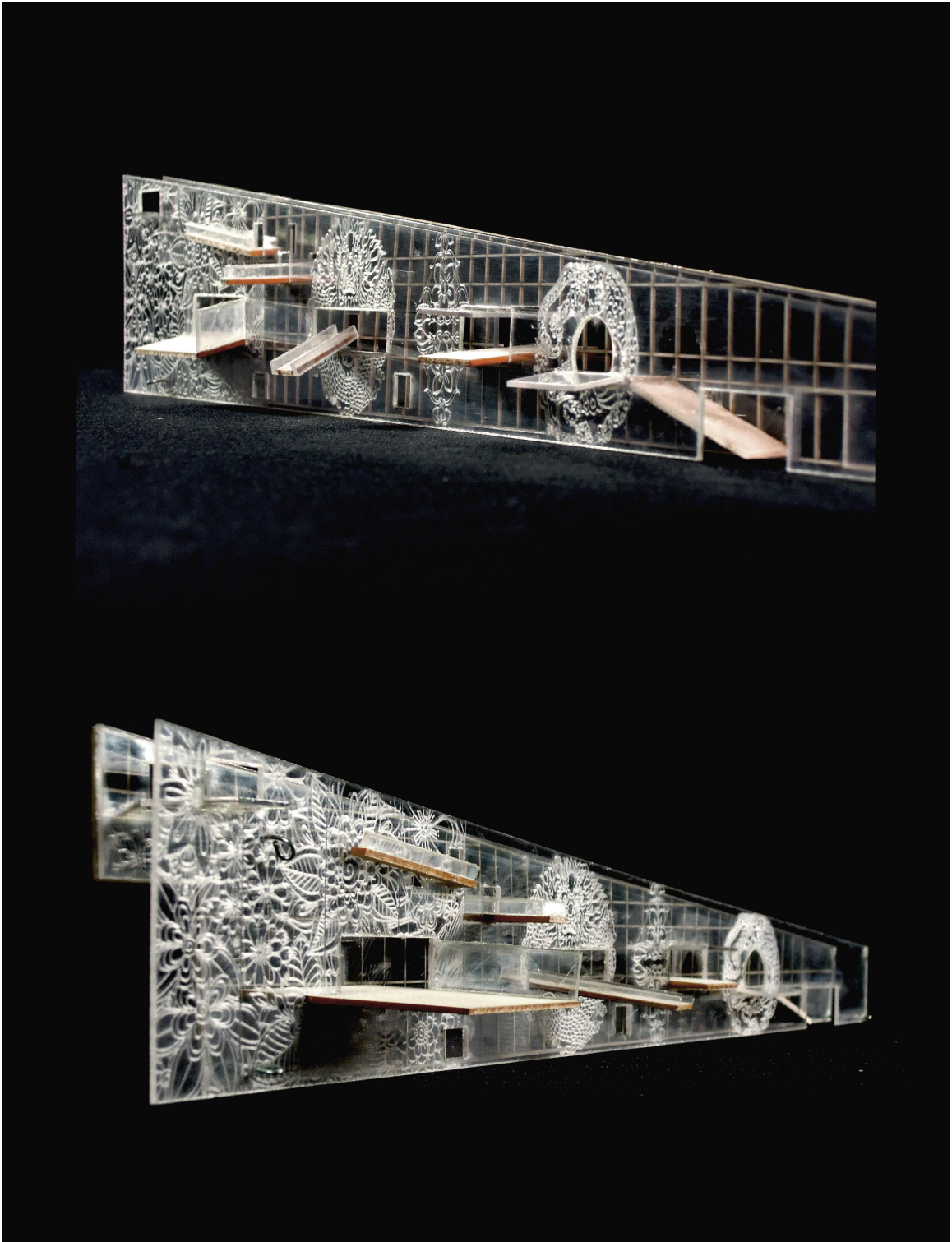Site model showing the context of the landscape component city block

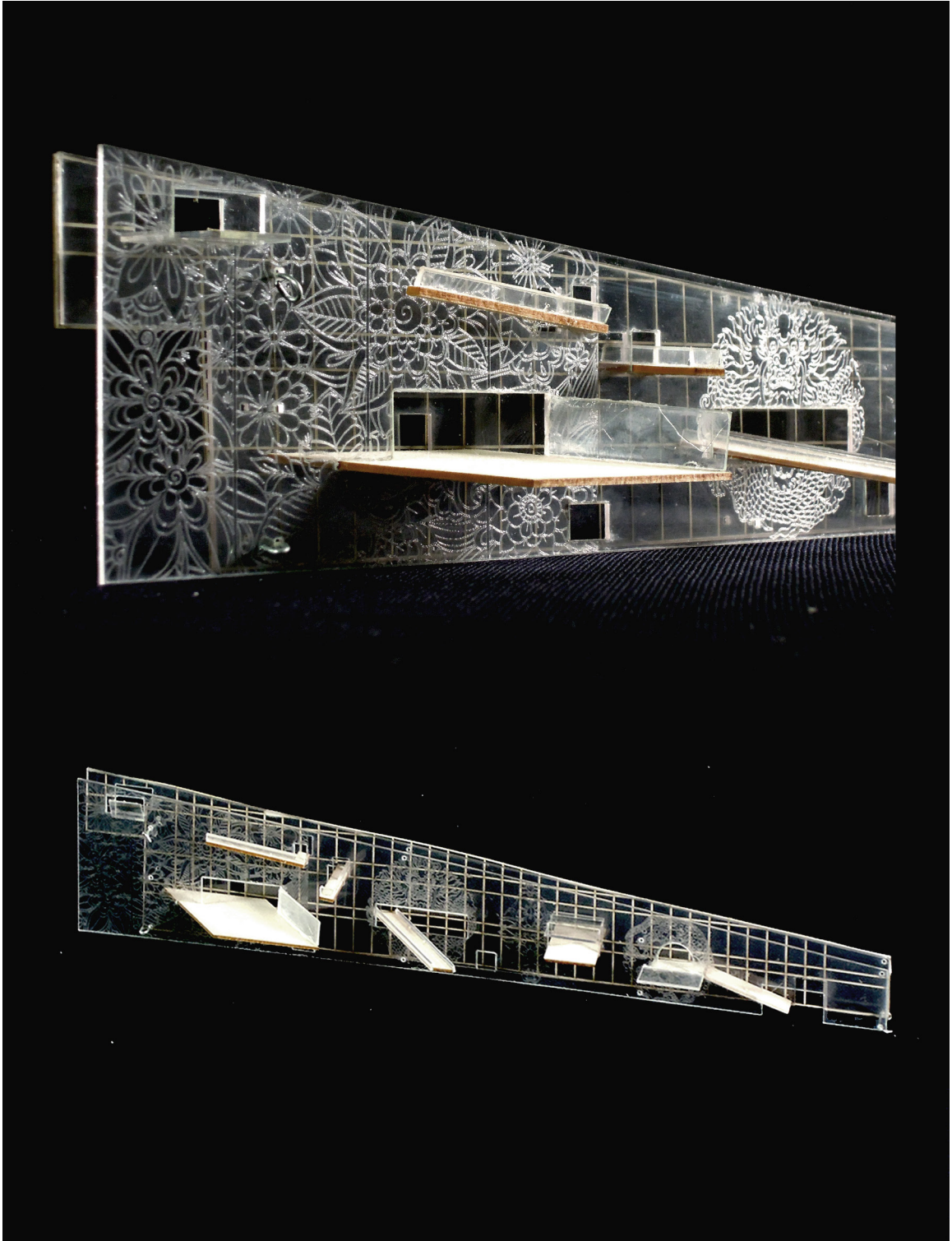Diverse plots are plugged in between the wetland and the urban area.

Site model showing how the different plots can be replaced

Model of the double-wall feature showing the connection to the corridors

Model of the double-wall feature showing the possibilities of the screen wall

Chapter 6: Conclusion

Cities are a palimpsest; they reflect a layering of the history of human inhabitation. A city can be likened to a natural tree that should raise in the original landscape and cultural soil to take root and flourish. It is essential to understand the factors and forces that foster a city before developing it.

The thesis takes the City of Richmond as an example, revealing the multiple layers of identity that co-exist and check and balance each other in the city. The design teases the identity of Richmond's people and then provides an opportunity to communicate diverse forces. It allows a generative pattern to reveal the past and present-day of the city. The landscape and the architecture investigate the city's essence and provide a framework centred around "live, grow, and play." They allow change and overlap within the movement, content, and time in this field.
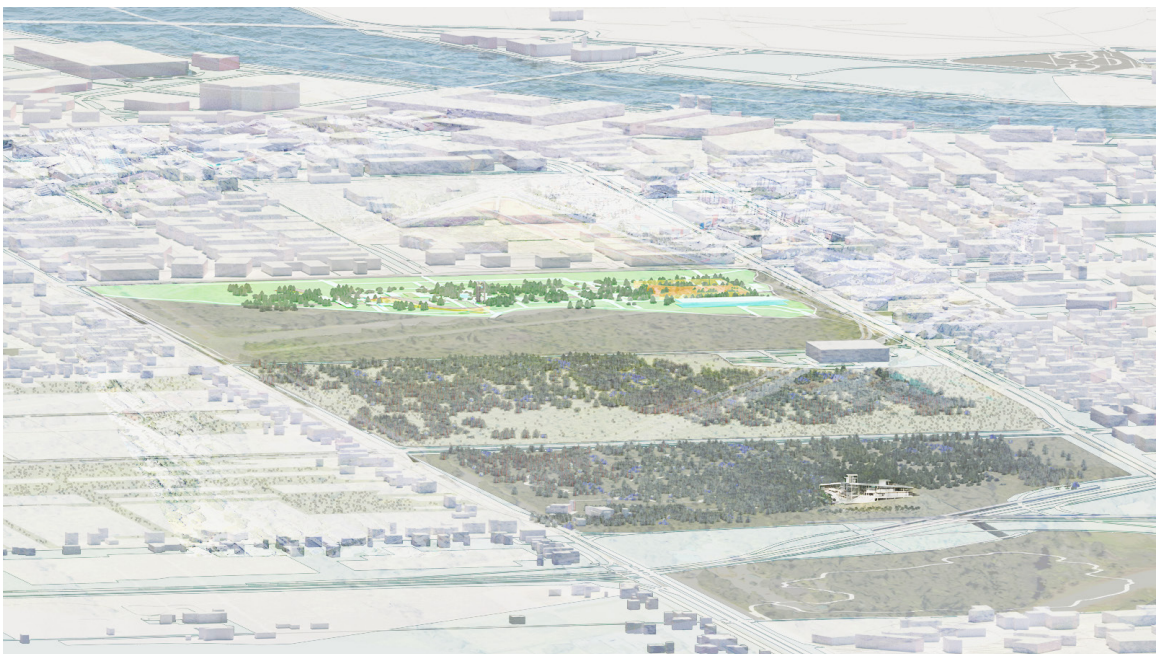
Overall city-scale axo

By studying the top-down rigid planning patterns, the bottom-up patterns of people's everyday lives and the landscape as the original mechanism of the city, one can understand the essence of every city along with the embedded superimposed identities. A city is a living system that generates all types of activities. Architectural interventions and frameworks should be designed as mediators to allow the re-establishing of relationships between architecture, humanity, and nature. Architecture should be re-embedded as natural structures throughout the city, and create new organic urban order for people, letting the wealth accumulated by the city reshapes the soil that raised it.

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