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CANAL HOUSING WORKS

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Abstract

The investigation of the this thesis study is to take a critical look into the issues of density and the phenomenological qualities such as light and place and to weave them into a medium density housing development. The scope of the study will look at public space and conditions that can occur when a new series of structures are developed for a specific site. It will look at the development of site looking into the variety of public and private spaces. It will also look at site development and in what way the site allows a density of development.

Project Summary

To begin the thesis investigation a set of parameters was needed and the first task was to question what was the intent of the project and how could it be examined. The ideas that were set forth are:

- Density and Void and how the interaction between the two could produce a relationship to the building context.
- Light and Shadow, the objective of which would be to create perceptual phenomenon as well as to engage the architecture to the site.
- Place, causes for the development for the site based on the history, events, location and time that have occurred in that space.
- Public/Private Space, this looked to question when are there opportunities and in what aspect they would be developed.

The elements of the thesis as stated above were to be incorporated into a housing project in which the site for the investigation was in Detroit, Michigan. The uniqueness of the site was that it was on the Southeastern most part of the city and bordered an affluent suburb (Grosse Point Park) which had put up physical and non-physical barriers to keep itself isolated from the city. Another unique aspect of the site is that it is on the Detroit River, and has canals that run through and around the site creating a small water negotiable community.

The programming of the project was to be directed towards a medium density housing development that would bring different housing situations together to blend into a community of residents of different lifestyles. The housing types were row type housing for single families, flats that would be in two different venues one of which would be above the row houses with the owner of each house able to rent out the above space, and the other would be stacked vertically in a seven story medium rise structure in which each floor was a single flat. The third type of housing would be lofts once again with some situated above residences and with others that would be a row loft structure in which the units were adjoined horizontally but not vertically.

A commitment was made that the site development was a crucial point in which to investigate the project. From this starting point rough estimates were made as to the number of dwelling units and how they could be situated on the site. However it was through the process of the developing of the ideas for the thesis that would begin to bring a debate into question of the validity of the ideas and how they could be architecturally expressed. Specific points of contention would be the density of the development and could the site be organized in such a way that it would fit with both the intention of the thesis and the surrounding community. Also discussed was the intention that the barrier between Grosse Point Park and Detroit could be one of both division and acceptance. In developing the site, decisions were made as to what could be public and private space and also to the extent that *Place* would be used as a factor in the overall development of the site. These decisions were to be based on the thesis questions, such as when there would be direct connections of the four general parameters, to what scale would the purpose be directed and theoretical questions that

had to do more with experiential phenomenon and perception of these ideas as they affect its inhabitants. It is with an intellectual curiosity of many different concepts that underpinned the study of this housing project.

THESIS INVESTIGATION

The thesis investigation hinged on four parts: Place, Density and Void, Light and Shadow, and Public and Private Space. It was with these concepts that an analysis of what each part was how it is developed, how it is understood, when and where there are direct connections to each was begun. The initial idea of the thesis was an abstract one in which there were different parts and with these parts there seemed to be different aspects or facets to how they could be interpreted. For example the issues could be explored in an architectural way, first of all by taking a look at what the overall scale would be. By addressing the scale of each of the parts the in question, a dialogue was to evolve to try and clarify what each of the components would take on meaning and in what instances? Such as the question of when should something be planned in a larger scale and would the meaning become lost or disconnected as the interaction, say between human and object, was acted out in a personal moment. As well the investigation would come to entail a materiality a form and structure if it was to be studied in an architectural way. The architectural study would strive to bring form through a series of investigations on what would be a process for developing the project, filtering the information gathered and introducing the elements and actions that would be present.

The specific architectural question of the materiality of the structure(s) could be a microcosm of the overall thesis question, but that brought into question how should it be derived. Should it be a direct reflection of Place in that it would have a commonality with the current circumstances of the surrounding communities building types? To what effect would the materials selected expose issues of the project and how it was to be considered as an inquiry by its inhabitants? What would make the materials a good solution for the proposal? Were there overriding factors such as weather, ground conditions or any other number of physical aspects that would make the materiality a thoughtful choice to the site or just to the proposal? Could there be a resolution that would satisfy all the needs of the project or would it have to change because of the aforementioned factors? Just as in the questioning of the factors of materiality the same must be taken in developing the program for the project as well as the form that will develop from it. The program will be examined so that an understanding of the scale of the project can be developed. For instance what aspects of the program would present likely opportunities in which the form of the building could express the function of what the space was designed for? What parts of the program are necessary for the project and what are additional based on the needs the site presents? The program will be taken up in large part as to what the specific needs of the project are. For example what is the purpose of the proposal? What type of housing will be developed? To whom or what is the project directed towards? What are the things that need to be present for it to be successful? The intention of the program will be to develop different conditions for different types of dwelling circumstances, one in which the hierarchy or preeminent locations is not the basis for the position, but that the needs of the inhabitants are. This attention to the equality of persons through programming will hope to be a springboard for the same intentions towards the form that evolves from it.

To go along with the tangible ideas for the investigation a theoretical approach was assumed in order to address how and on what levels were the questions of inhabiting to be based. The theory was to be based on a phenomenological approach to dwelling. The theories of Martin Heidegger and Maurice Merleau-Ponty were to have an influence both on the physical aspects of living as well as the spiritual events that were provoked through architecture and the actions therein of dwelling in it. The inquiries into the inhabitation of man are supposed to be broad based questions that are asked of what is of importance and how do we demonstrate intellectual ideas and realize them into physical entities. Specific intellectual subjects to be considered are, what are the current perceptions of the place in question, and what could the perception become? Would the place be the overriding ideal in which the project would be designed? What is the nature of the elements of the program influencing the preconceived perception of what should be developed?

Light-Shadow

Light whose physical measurements describe constant states such as the speed it travels through space or the amount of lumens produced, where the desired color and wattage can be purchased at nearly any convenience store, are static ideas that are not based upon an overall concept of being but one that is instantly recognizable. However it is through our perception of light that emotions are evoked and through its essence we understand. Light and shadow are transient phenomena that shift, blend, and separate the interpretation of objects, environment and time. Light as it is related to architecture and density and void spaces is what visualizes the materiality of objects and produces effects in which space becomes a transient concept that is at one moment an austere event and the next a lush subtle interplay of visual phenomena. Whether it is the hard division between shadow and light or softer subtler transition between the two the essences of the two are inseparable.

It is because of light we are visually able to distinguish color, texture and the apparent brightness of an object. It is through the medium of light that those of us with intact visual components manage to find our way around. However it is the effects that light and shadow produce where if done in a meaningful way take on architectural significance past what is able to be viewed to what its' meaning is to be seen. For example when light connects with water the translucency of it is uncovered and at the same time a reflectivity is produced that changes the original effects of the light beam. The light that is reflected off of the water and onto other objects shows a movement that the water has and its reflection in turn gives a show of recognition to the corresponding element in which the object is intertwined to the water. The question for the thesis then becomes in what ways is light to be incorporated to the project. Should it become a direct link of defining how elements come together or would it be better suited to reveal itself through a series of states in which light was stark then blended and finally dissolved into shadow? The question of light and shadow should I think for the purpose of this project should be directed for its' more poignant impacts to the smaller scale. This does not mean that a significant gesture will not be made on a grander scale, but that the impact will be of different meaning and intention.

Density-Void

It is through layering, intertwining, and weaving that density becomes a non-static phenomenon, one in which a multitude of activities and events occur filling and refilling space. The use of density and void spaces as architectural ideas are intentions, in the larger scale such as in site planning and massing and in smaller scale to celebrate something such as the act of squeezing through a narrow opening. Density can be considered in a physical sense by a quantitative measurement of the concentration of items in an area. In a perceptual sense density can be measured by the amount of movement (or lack of) in, through, or surrounding space, the preceding elements require an action to exist and a counterbalance such as void to be assessed. Void as the converse of density is a place of exploration in which fluidity and transience is the spirit of the space. The complexity of density and of the void spaces created by the gathered masses is one that has no hierarchy of spaces within it; there is simply open space and filled space. The phenomenon occurs when there is an interaction that happens between the open and the filled space. Such as a line of sight that a person may have where upon approaching what was thought of abstractly as a wall now becomes something that is passed through as space appears giving meaning to feelings of tightness, that are produced as the space is entered. Void is the antithesis of filled yet there cannot be the one without the other it is the filling and emptying of space in which architecture lives and this project will look to how these actions can be directed.

The concept of density to be used for this project is one in which the inhabitation of the place will become pregnant with activity. The act of creating a dense situation will be coordinated by using the new suburban model for building dwellings versus the older model in which the unit sizes are smaller. The goal is to address the size of contemporary American dwelling unit sizes and try to incorporate them into a higher density development while still giving the "American Dream" type of comfort and ownership of individual space. Density as a measurement of project development will be assessed continually balancing it with the components of the site. For example the space of new suburban homes have three distinct areas that surround the house, the front of the house which leads from the public to the private, the sides of the house which is typically shared with a neighboring unit creating a shared space and the area behind the house which is private to the units tenants. In this situation it is the void spaces that define the building and the structure for living of the buildings inhabitants. I would like to challenge that in that the filled spaces are how activities are associated so that the architecture is not a sentient thing that is inhabited, but one in which there is interplay of architecture and inhabitant being associated together. The objective of this intervention is to provide a housing and commercial situation where the complexity of human life through living is reflected in the density and transience of the architecture.

Place

The idea of place is a complex one that is made up of many factors including time, location, events, and space. The investigation of how these elements come into designing for place in as much is also an evaluation on what is to be expressed what is the extent of its importance and how or why not they will be exposed. A question to ask is on what level and of how much emphasis should be designated to the idea of "place". However before that there should be certain knowledge of the components to what place actually is. To understand place requires research into the site on which the project is to be built. For example what have been the uses for the land throughout its' history, was it a trading route, was it used for farming, were the elements of the site used for a specific reason? These are events that have a history and bring the richness of the site into a sense of place. Another factor is the location of the site and does it represent a single place or is it a place that defines and is defined by another such as a place in which the one reflects or rejects the meaning of the other. Time is another factor that brings about the presence of space in that there may have been a continuous string of events that evolved because of what the place represents. Or just as likely that the land itself was directed its use by nothing more than the need of the occupant was.

The intention of the thesis is to look at these factors and form a design philosophy for the project from them. The idea of place is intended to be a platform from which the resulting site development will show the effects of "place" on design attitudes and decisions made accordingly. The size and location of the site are contributing issues in that the program of the project will be directly linked to square footage of what should be buildable space and what should be designated as either public areas or pathways that connect the space as such. Place in this study is not an abstract thought in which the buildings will be situated but in why they are located as they are. For example on the site of Riverside Boulevard place is an important issue not only because of its past history that has to do with the maritime history of Detroit, but because of the current condition in which the site is the edge of a barrier between Detroit and Grosse Point Park. This current condition of the site allows for opportunities to explore the idea of place and how it shapes design philosophy. Place in that situation is not one of dimensions of shape or size but of time, location and events. A question to be examined would be should place be changed from a barrier to a conduit or should it become a way in which the one informs the other. Whichever the design leads it is one that is based on concrete foundations of knowledge of what place is as concerns its location.

Public – Private Space

As in many architectural projects the question of public and private space arises, but one situation that it is particularly relevant is when it involves private residences. What in particular needs to be evaluated when beginning to think of the idea of public and private space? Are the benefits and development for the particular residents or should it be based on a larger view of surrounding community and integration? What about a particular part of the site that makes it suitable to become a public place? As well as how will these spaces be defined? To try and define these spaces architecturally would be more than one building could accomplish instead it came to site planning as a way to integrate the surrounding community into the project.

This part of the thesis and the development of the project came to particular importance as the site was chosen. The unique factors that contributed is the presence of water that is accessible to the current community, the isolating of Grosse Point Park from Detroit, as well as the public park that forms the western edge of the site. The goal is to establish public spaces in a development that is private in nature without alienating the surrounding community. An *unacquainted introduction* is an idea that has its merits on the plan that by presenting itself to something that intentions are made that for good or ill there is something imminent.⁽¹¹⁾ This in the case of public space could be thought of as what is the actual domain of public space and where does it begin to intrude on private space and is it a perceived intrusion or actual. As well as considering that the view of a private place could be in actuality a public one that has been designated for those of certain qualities and that it is not the barrier that makes it private but the thought behind it.

What is to be public and private space is of little issue on the amount of space of either. However the investigation hopes to explore how these topics can be used to initiate a dialogue so that an amount of intention can be directed into the development of the thesis project. This study will no doubt have no absolute solution that will satisfy all of the parts involved but the aim is to look at the issue and realize that decisions should be thought of in a way that follows the path of the thesis and not one in which outside entities have undue influence.

The process of the thesis will become similar to a story in that the facts of things such as location, site conditions, building infrastructure and others will weave itself into the fabric of the thesis of subjective decisions that are based on fluctuating conditions and possible solutions. This is not to say that the decisions made are picked randomly but that is an uncovering of the complexity of numerous issues in which the thesis is navigated through aiming to bring about an ending.

Koshino House, Ashiya Japan

Tadao Ando

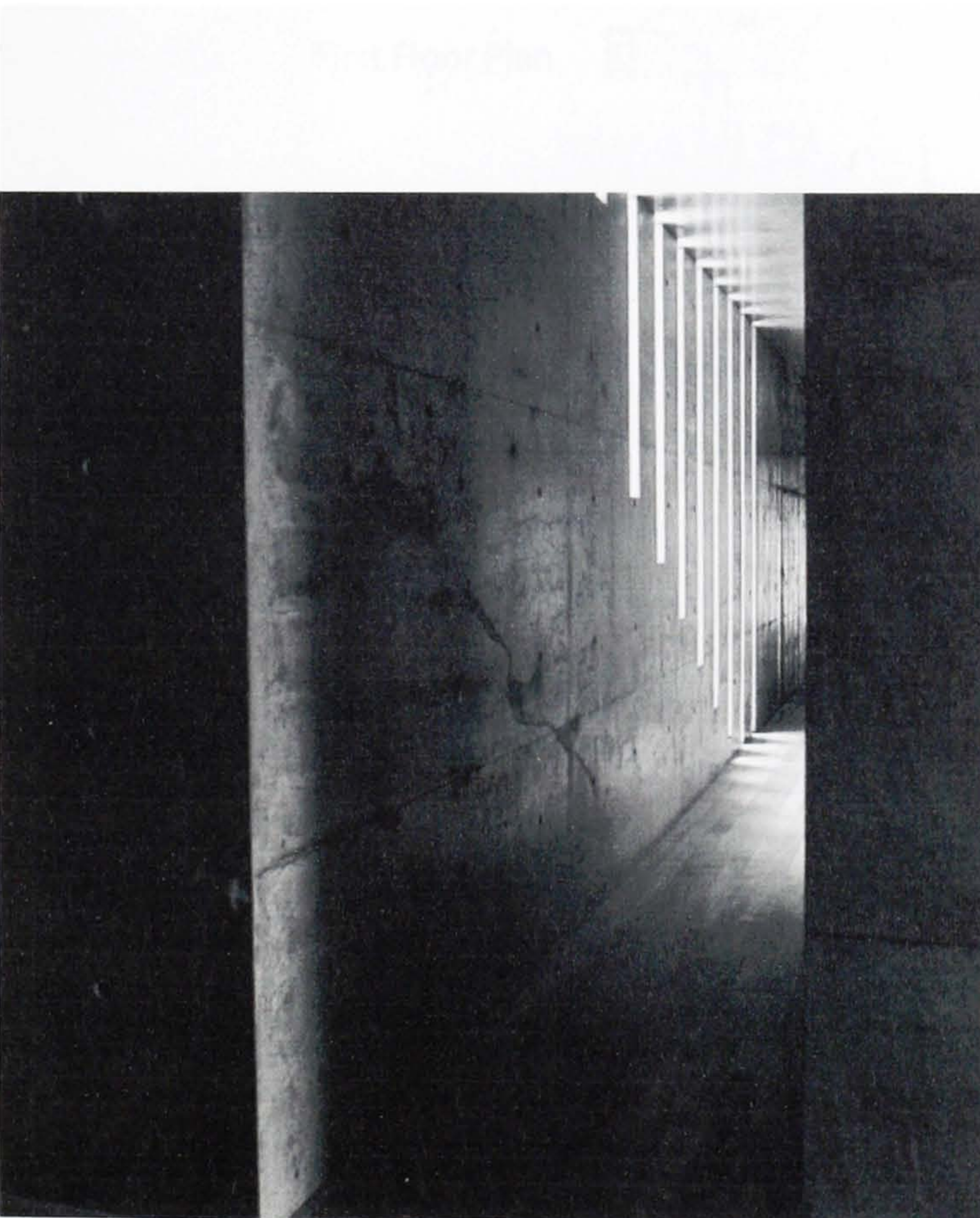
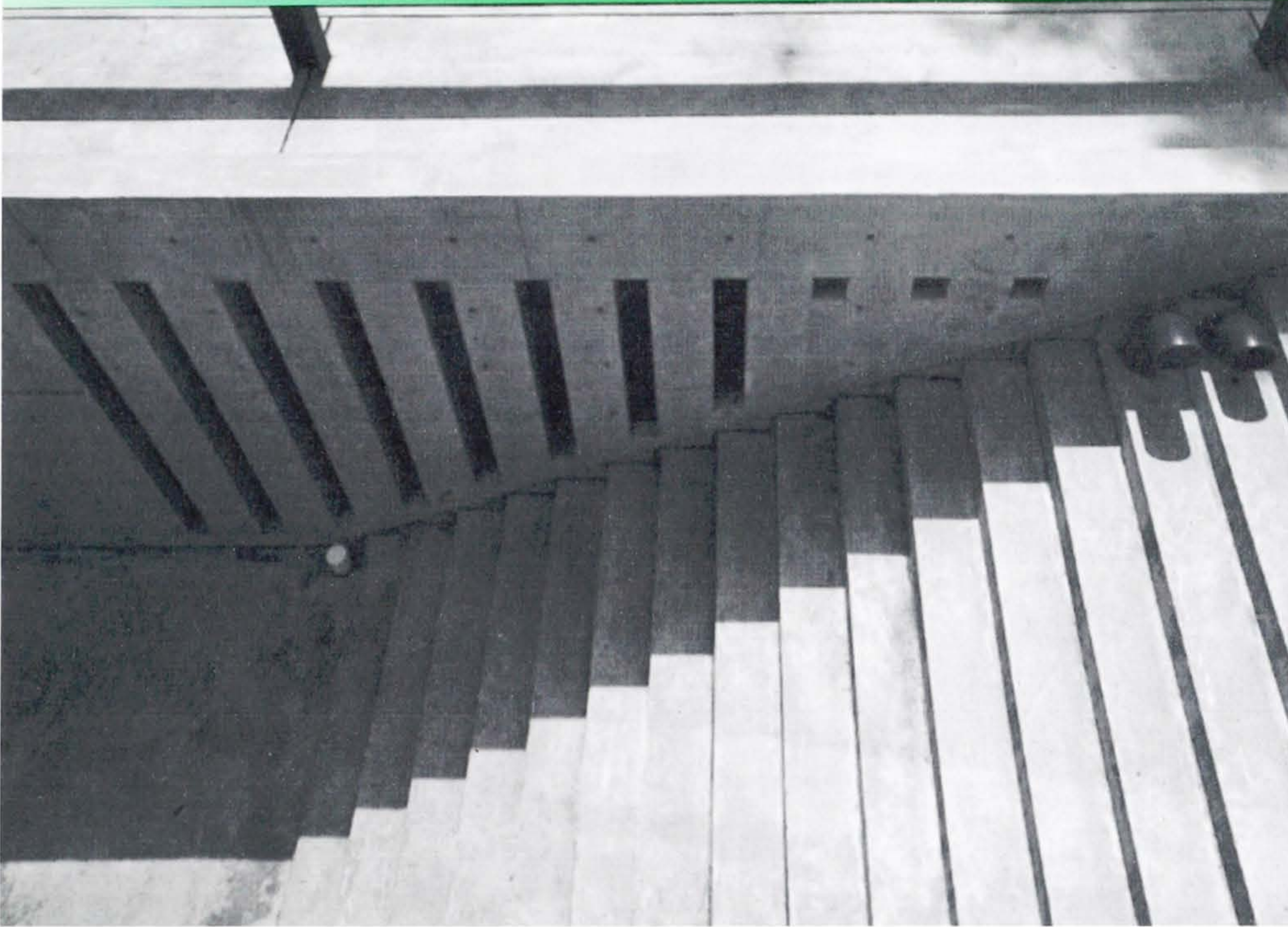


The materiality of the Koshino house and the form that it takes are quite simple, but through the dematerialization of light the architecture becomes a phenomenon. The main materials are reinforced concrete and light. These two things in themselves are seen in most structures, but in the Koshino house it is how they're crafted where the care is seen. The concrete walls of the lobby worked through its forming into a flowing illusory surface. The light brought in by the opening in the roof opposed by the shadows that are cast on the back of the lobby wall demonstrate that the concrete on the wall seems to ripple in all directions. The effect of the undulating wall with the sundial like shadows creates the illusion of slow time passing rapidly and the contrast of the light and shadow emphasize the movement even more as the wall appears pop out and fade back. The luminance of the wall brings out the subtl color Ando used for the concrete and perceptually brings warmth because of it.



Koshino House, Ashiya Japan

Tadao Ando

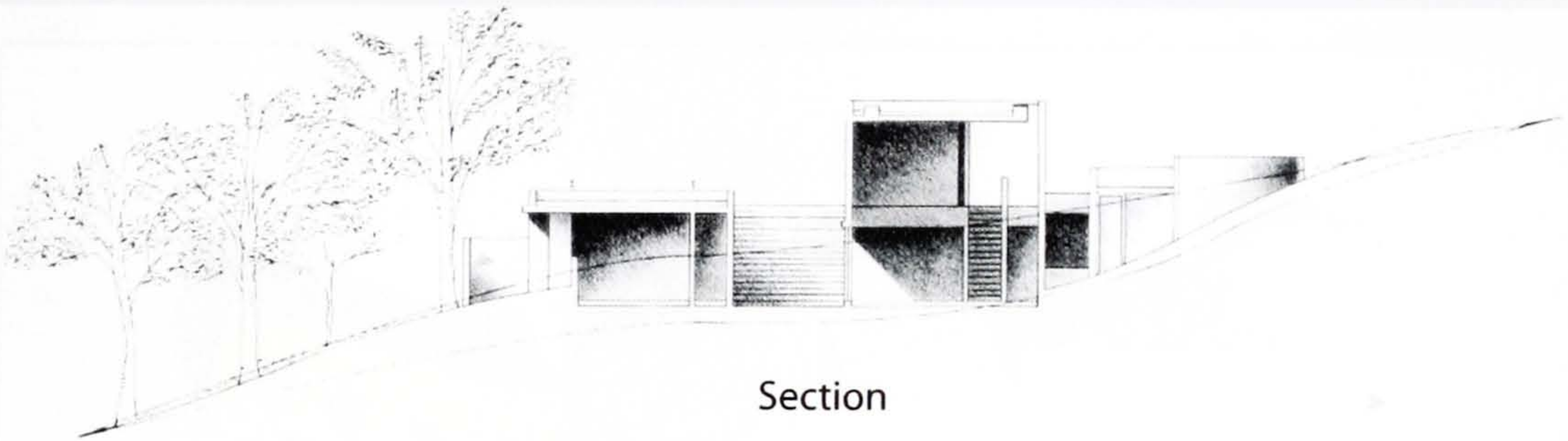


Before its addition the Koshino residence was two concrete rectangular boxes set 45 degrees from the road and sunk partially in the earth. The crisp rectangular forms used throughout the structure produce stark contrast of illuminated and shadow areas as well as transitionally lit areas where light is gently guided in gaining luminance and then fading into darkness.

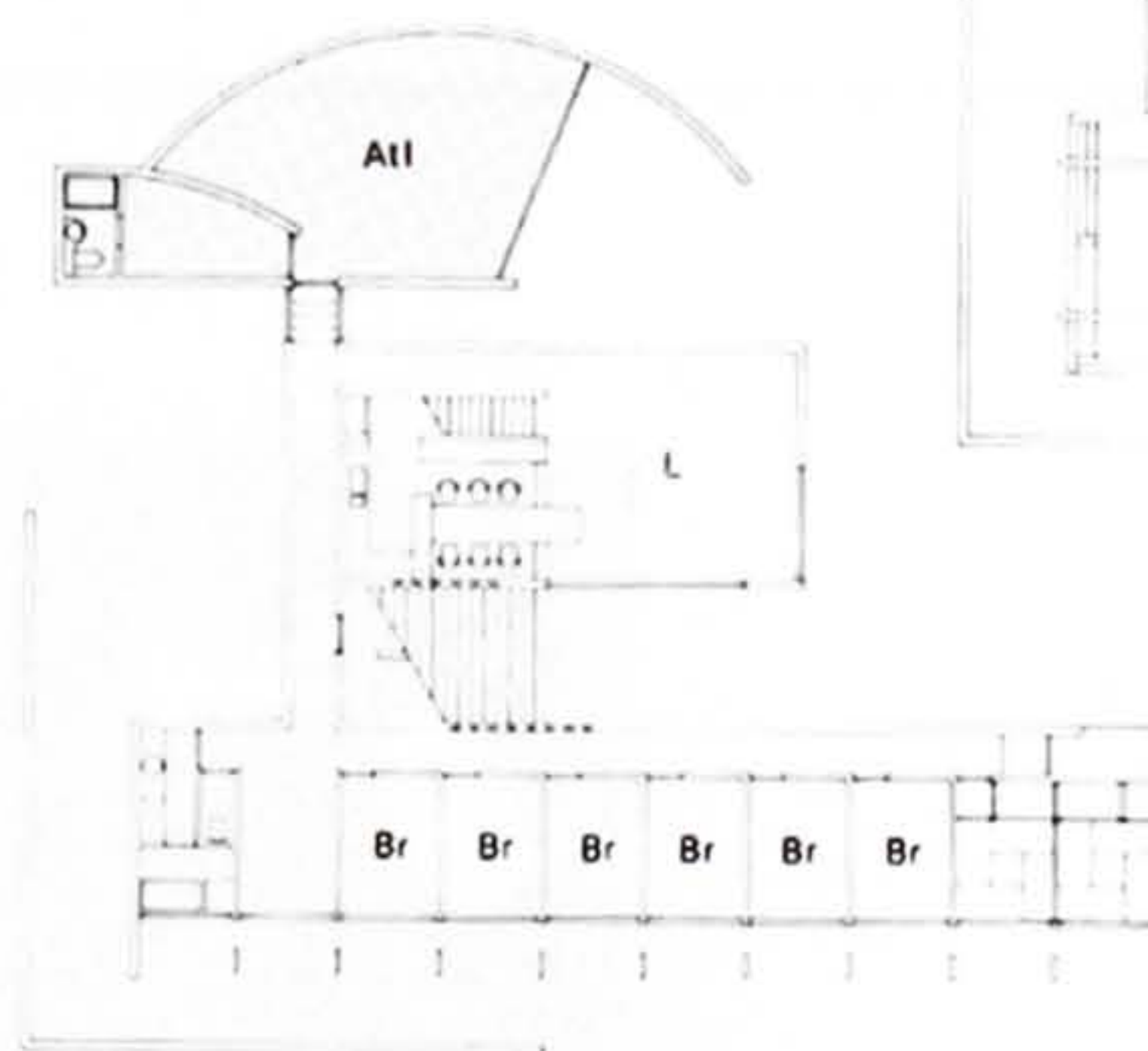
The vertical rectangular apertures that are in the north wall of the longer concrete box follow the path of the stairs gaining in length as the steps expose the wall. This might have produced the perception of wading through layers of light; however I don't know if this would create the perception of time and space done more successfully in the lobby.

Koshino House, Ashiya Japan

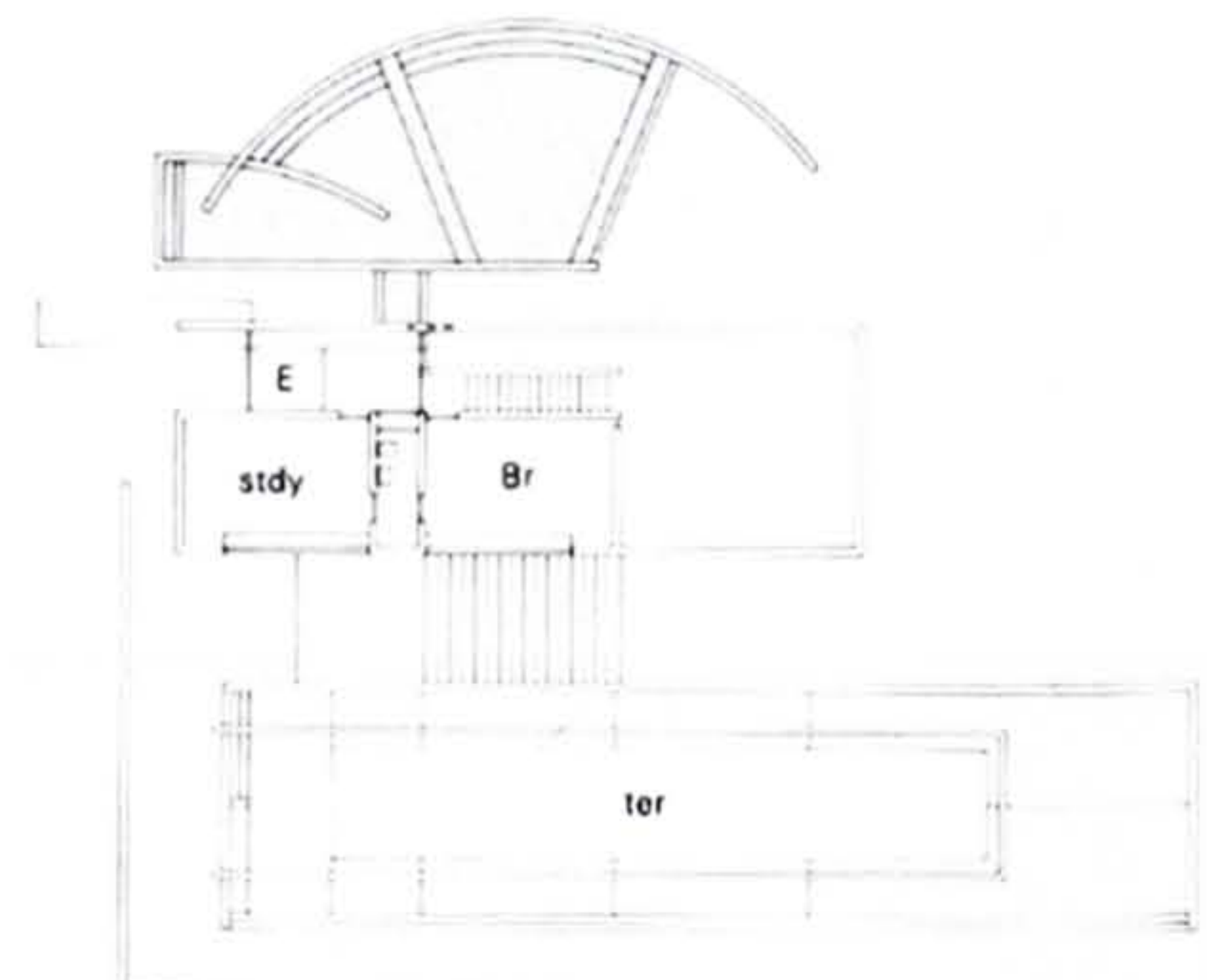
Tadao Ando



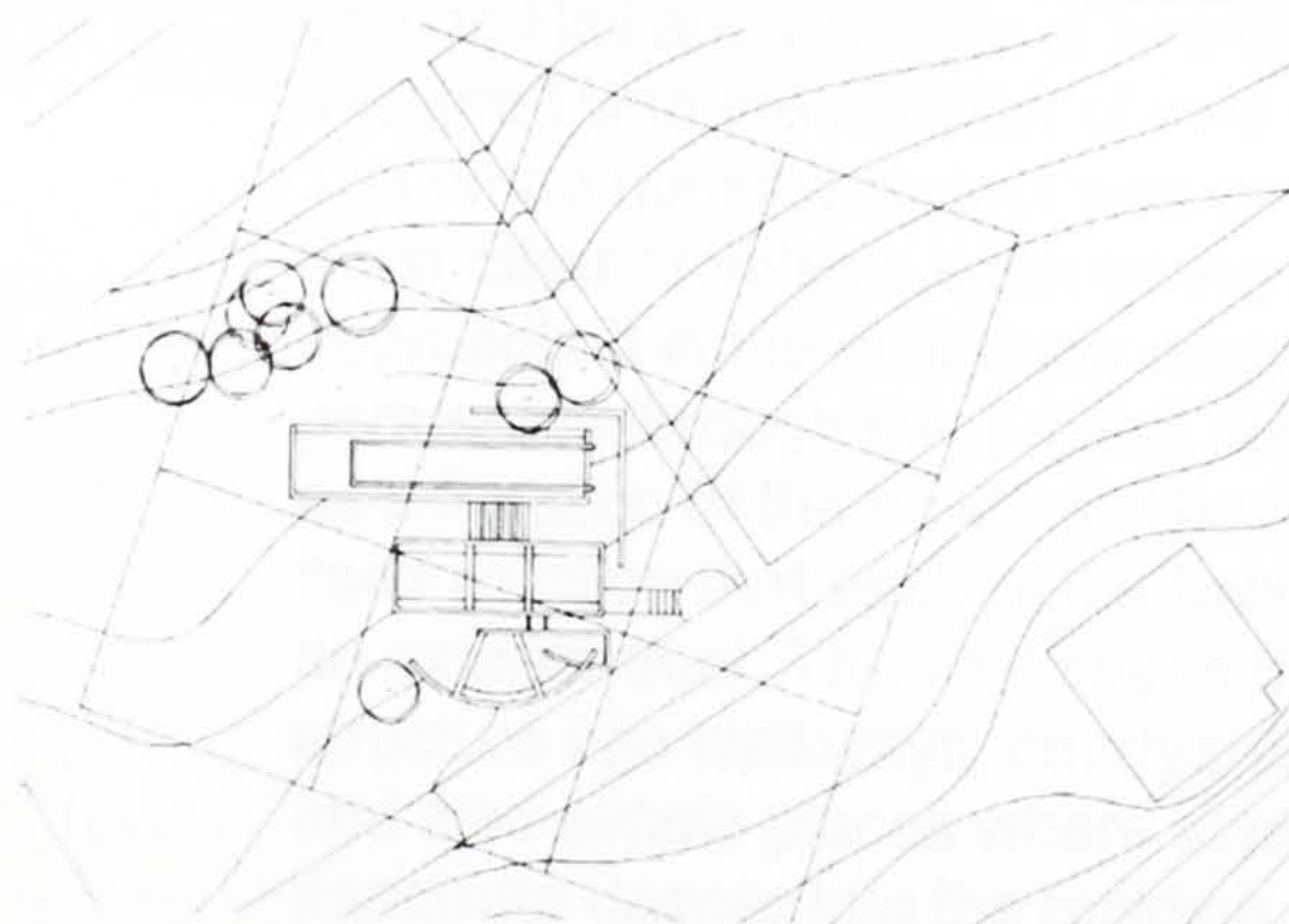
First Floor Plan



Second Floor Plan

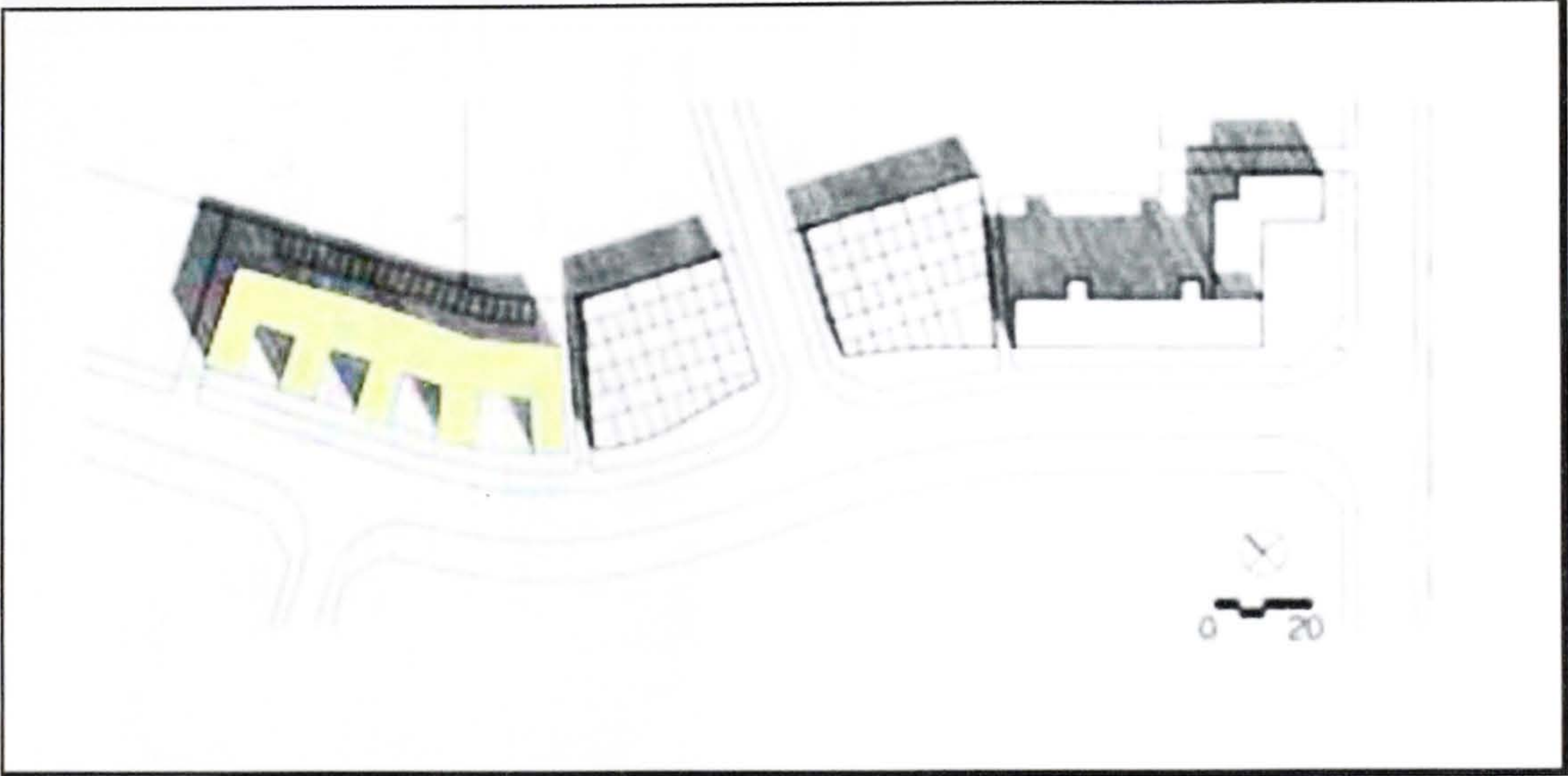


Site Plan



Fukuoka Housing, Fukuoka Japan

Steven Holl



The housing project was done between 1989 - 1991 by Steven Holl and consists of twenty eight apartments designed with the concept of void space and hinged space. The entire housing project was developed in collusion with three other architects each taking a different design approach. It is the deliberate design for void space which permeates through this project, forced at times to perform as a function of the building. The five story structure made itself so open that each of the twenty eight apartments has an exterior door. The void space develops throughout the structure into walkways, courtyards, contemplative areas and also simple places where sunlight is allowed to penetrate deeper into the building.

Fukuoka Housing, Fukuoka Japan

Steven Holl



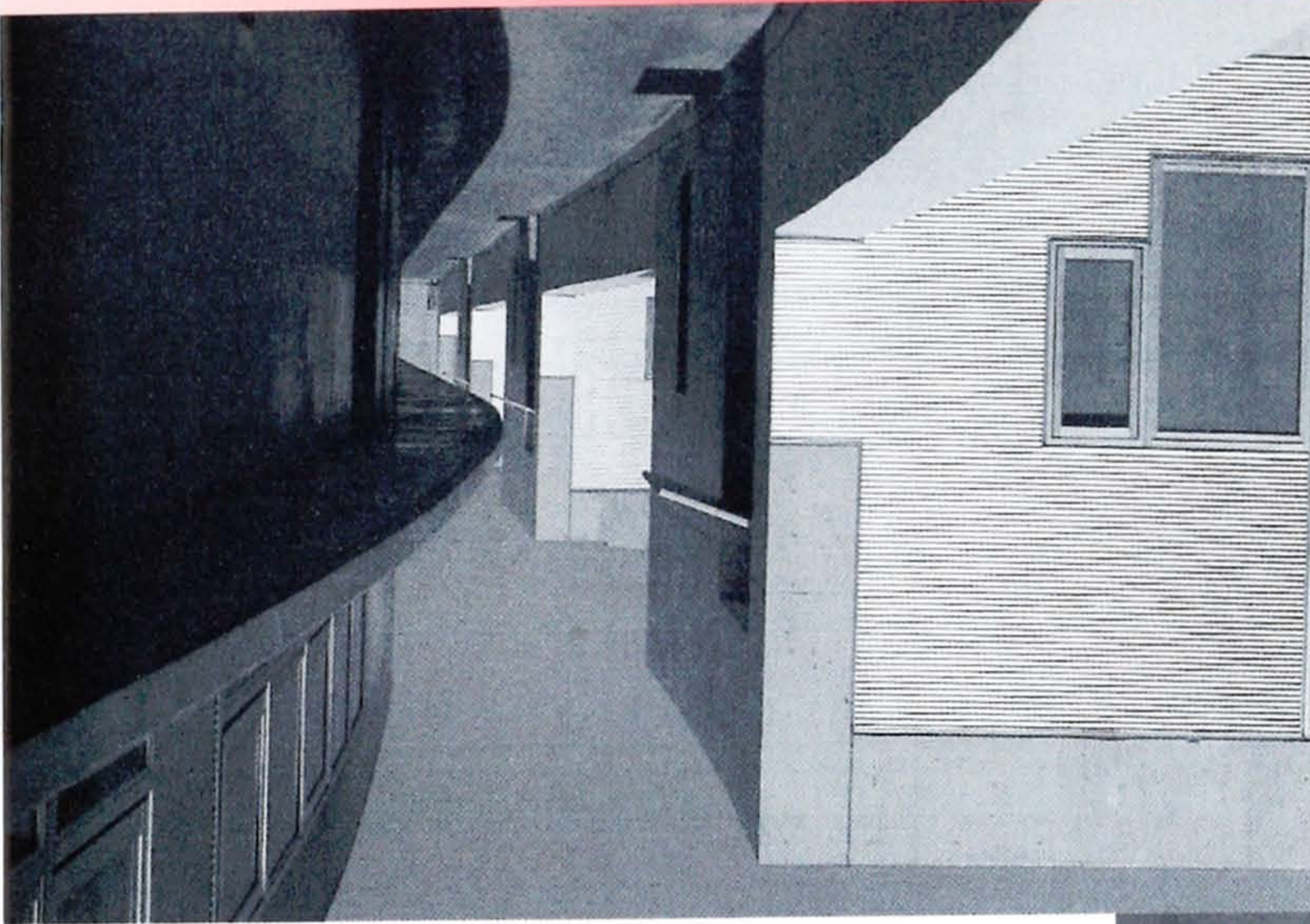
South facing voids



The design for this project used four south facing voids and four north facing voids with the south facing voids flooded with water. This use of void space on the south side, which is flooded with water allows light to be reflected up into the lower north side apartments and courtyards that would receive little direct sunlight otherwise. The ground floor, which is on the ground plain, of the north side was left open to provide open courts that are sheltered from the adjacent road and provide play areas for the children and seating for a cafe. The south facing voids on the other hand are meant to be meditative places that are apart from everyday life.

Fukuoka Housing, Fukuoka Japan

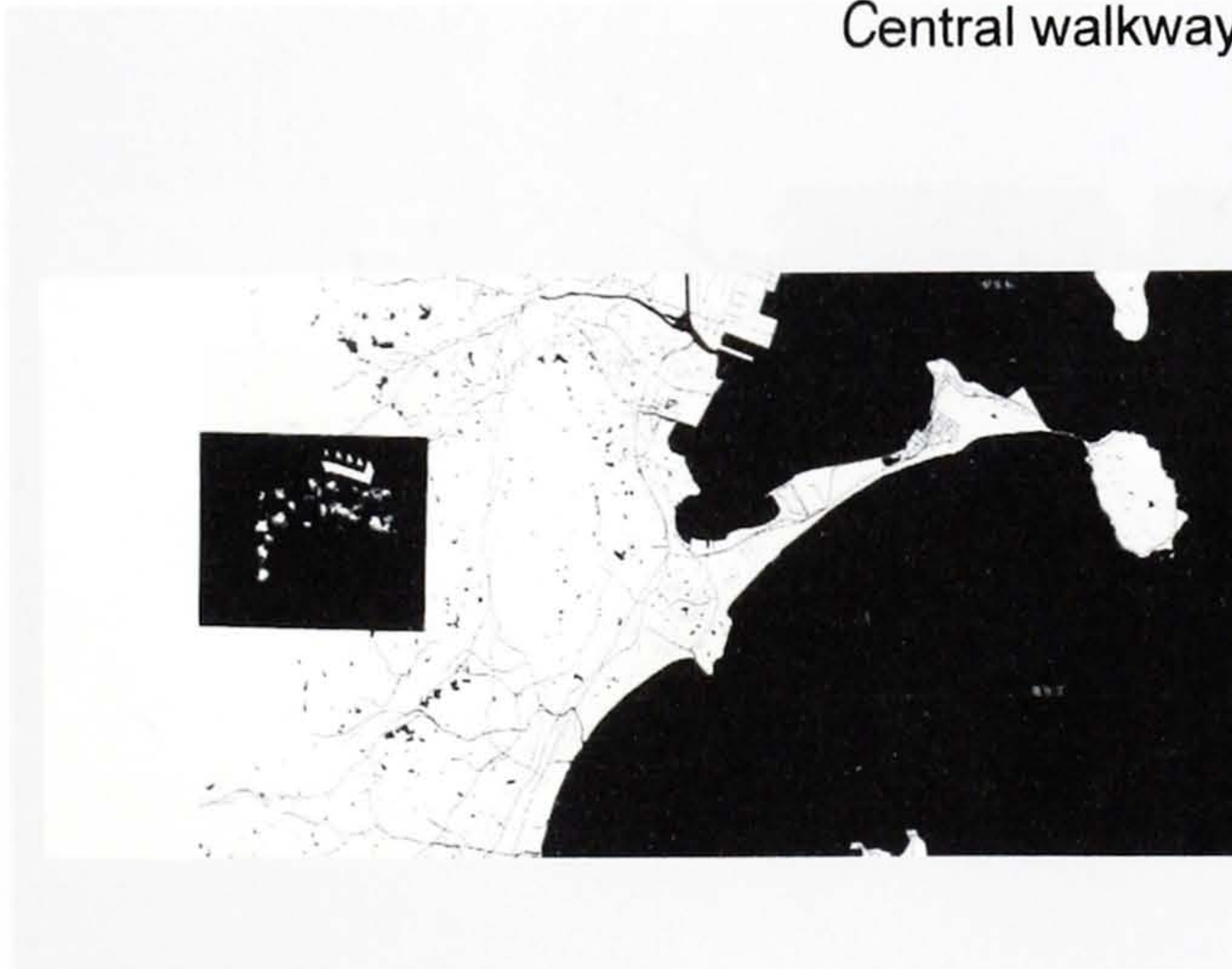
Steven Holl



South walkway



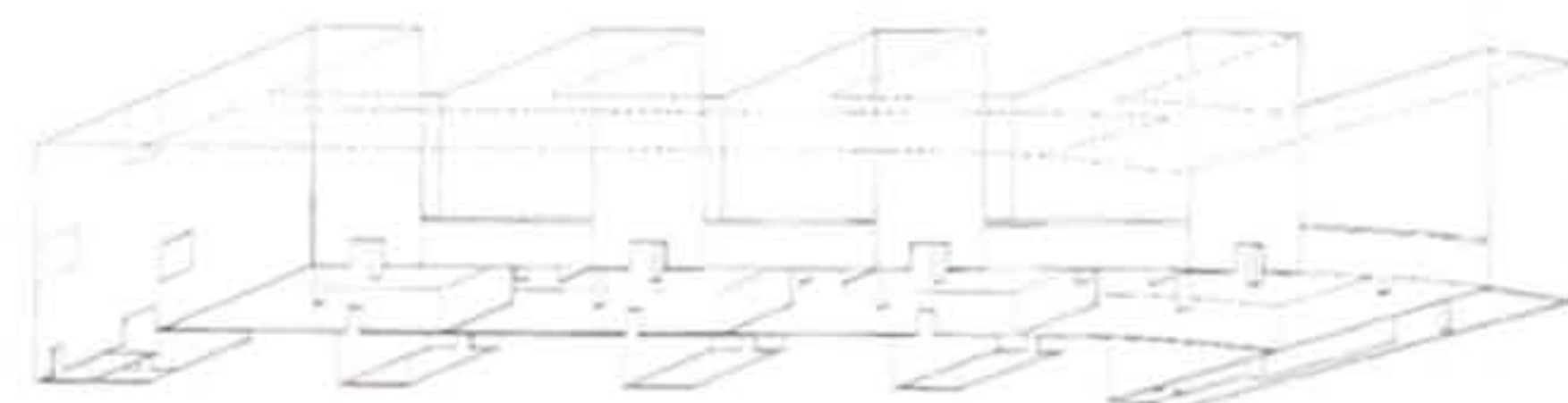
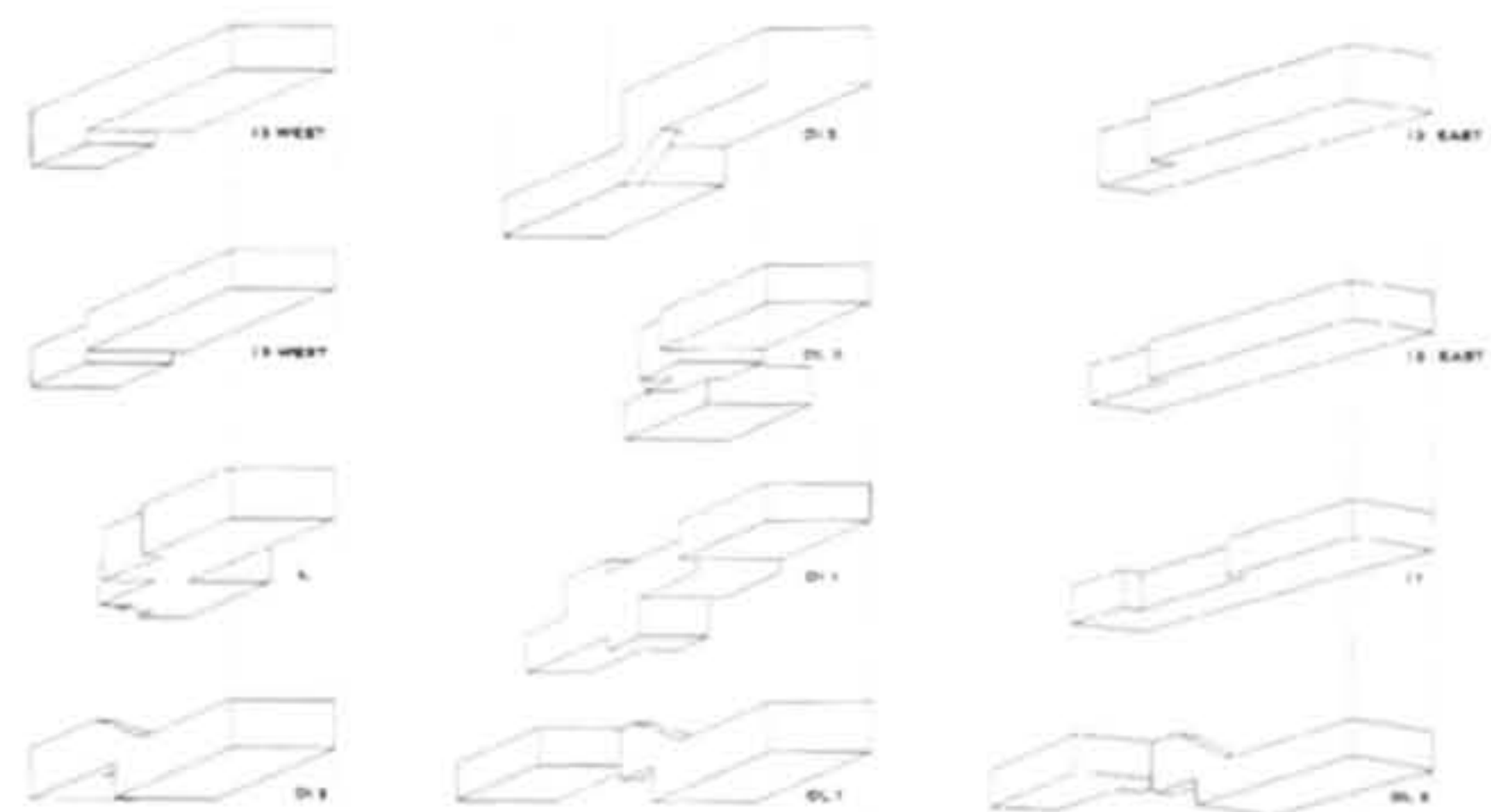
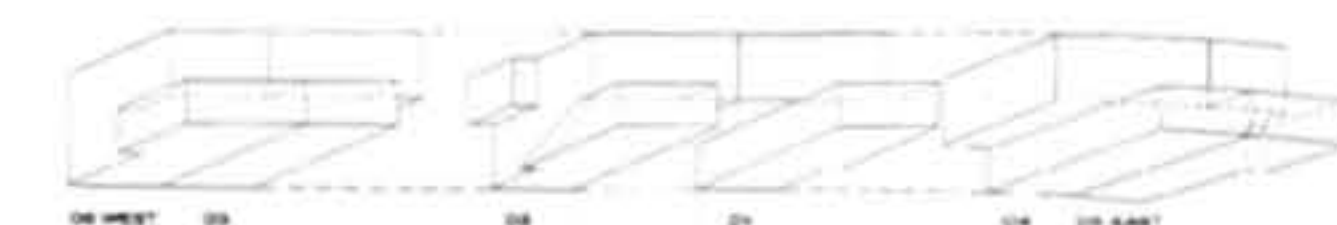
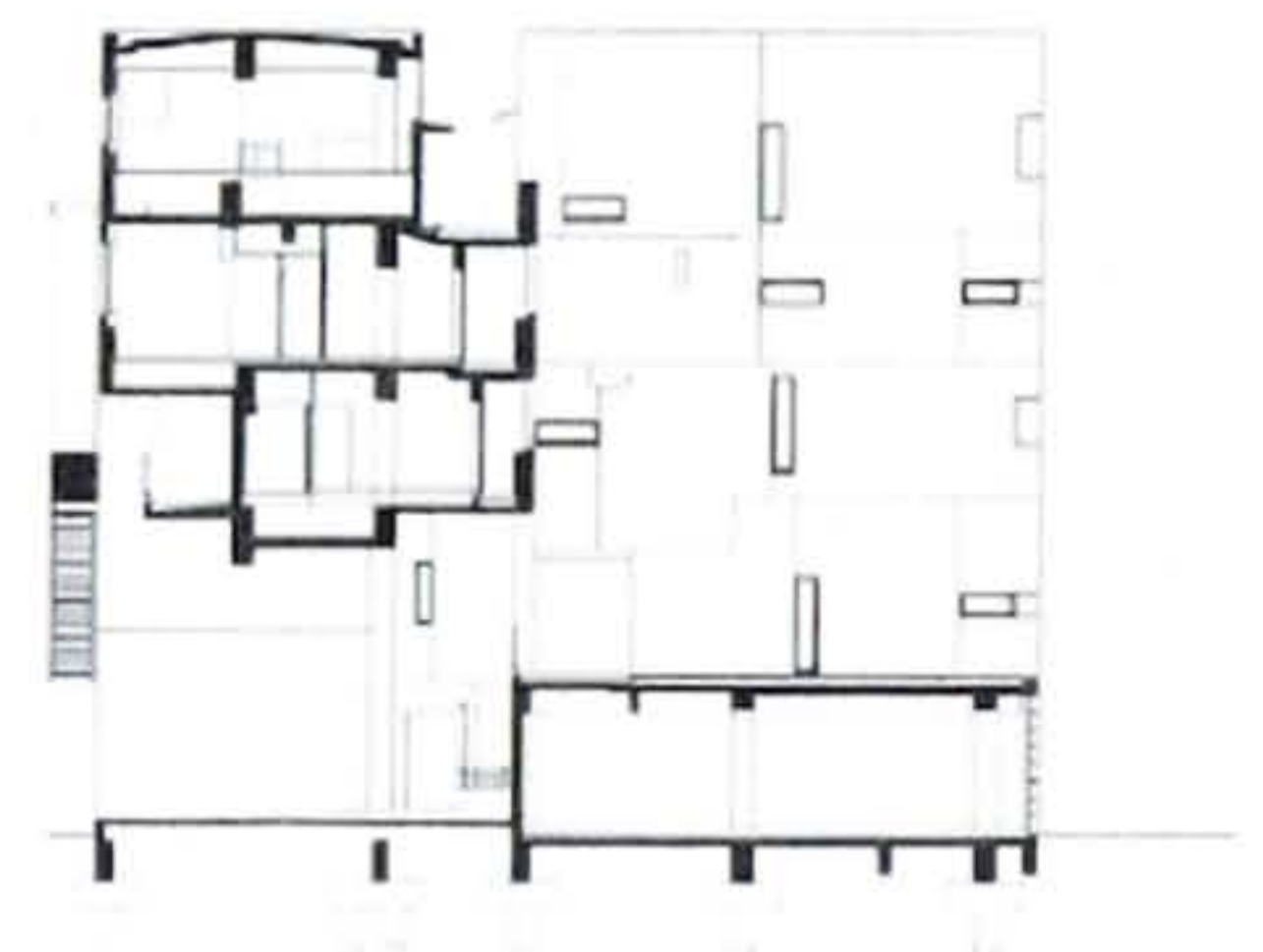
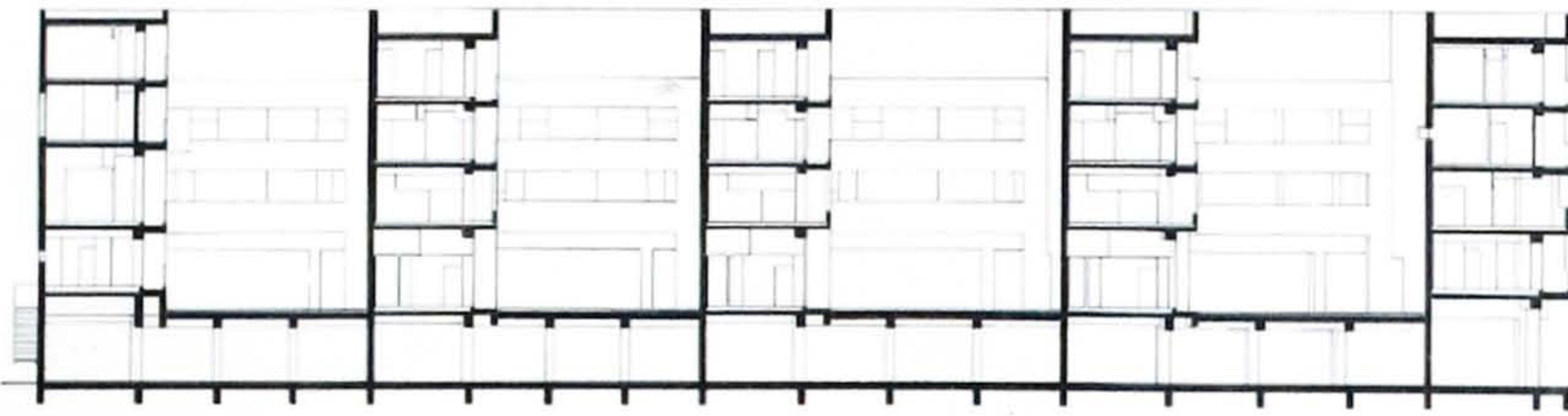
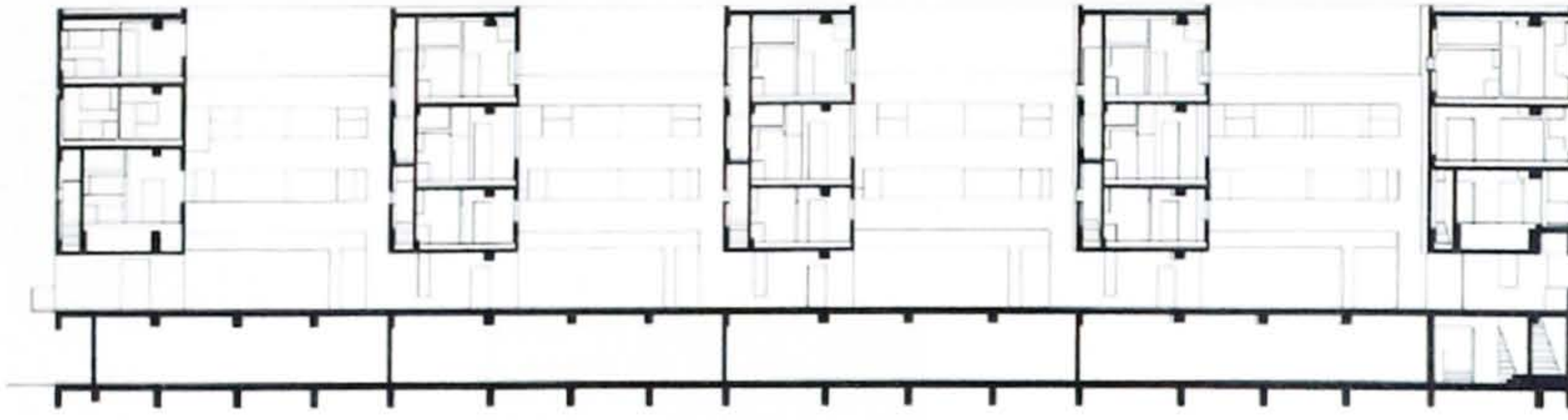
Central walkway



The buildings voids are connected from east to west by walkways that run through its central axis and near its south side lengthwise in the structure. These voided walkways develop different spatial relations as you walk going from covered space above to being uncovered to being walled on the sides to voided space on the left and right. It is an inside outside relationship in which the sky, the city, and the courtyards are part of a spatial phenomenon.

Fukuoka Housing, Fukuoka Japan

Steven Holl



The interlocking of the void spaces of the exterior is continued on the interior of the building as well. Designed within the twenty eight apartments there are five different types L shaped, I shaped, D shaped and the two combinations of DI and DL. Exploring further the idea of interlocking shapes there are eighteen variants of the five types so when looked at individually it takes on the feel of a chinese puzzle box.

Fukuoka Housing, Fukuoka Japan

Steven Holl



North facade



There are two elements that this project has similar to the program for Riverside Boulevard Detroit, Michigan. The first is the use of open space in which light is inevitably brought into.

The Void spaces Holl uses mimic the ideas I will use to create natural light and access to the exterior. How and why the views are created is also of influence to a developing process for a larger area inside a smaller one inside a smaller one. In Holl's case he does that in reference to a larger area than the site, such as the sky and the city, and within the building itself.

Java Island, Eastern Harbour District

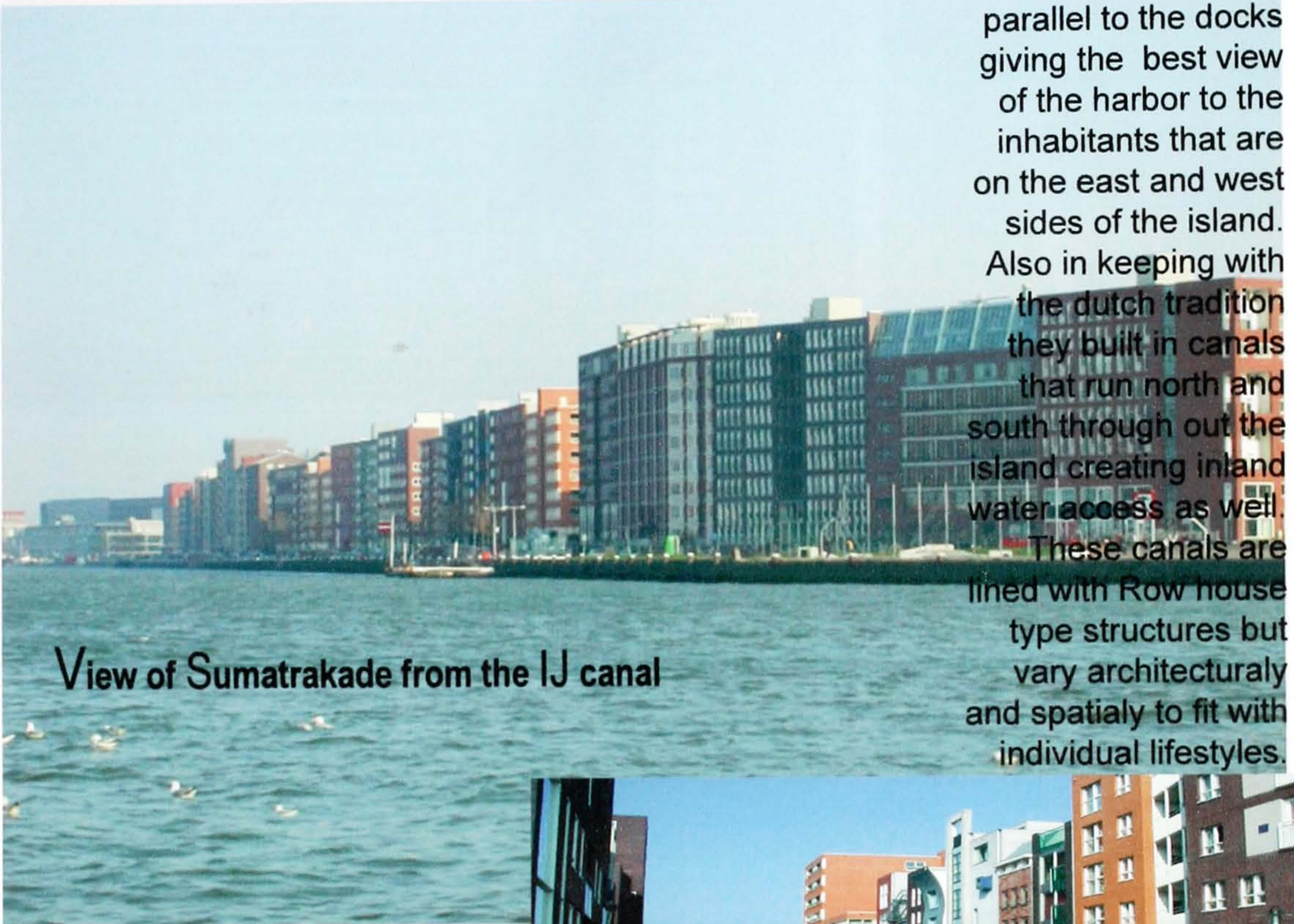
Amsterdam

On java island most of the residences are parallel to the docks giving the best view of the harbor to the inhabitants that are on the east and west sides of the island.

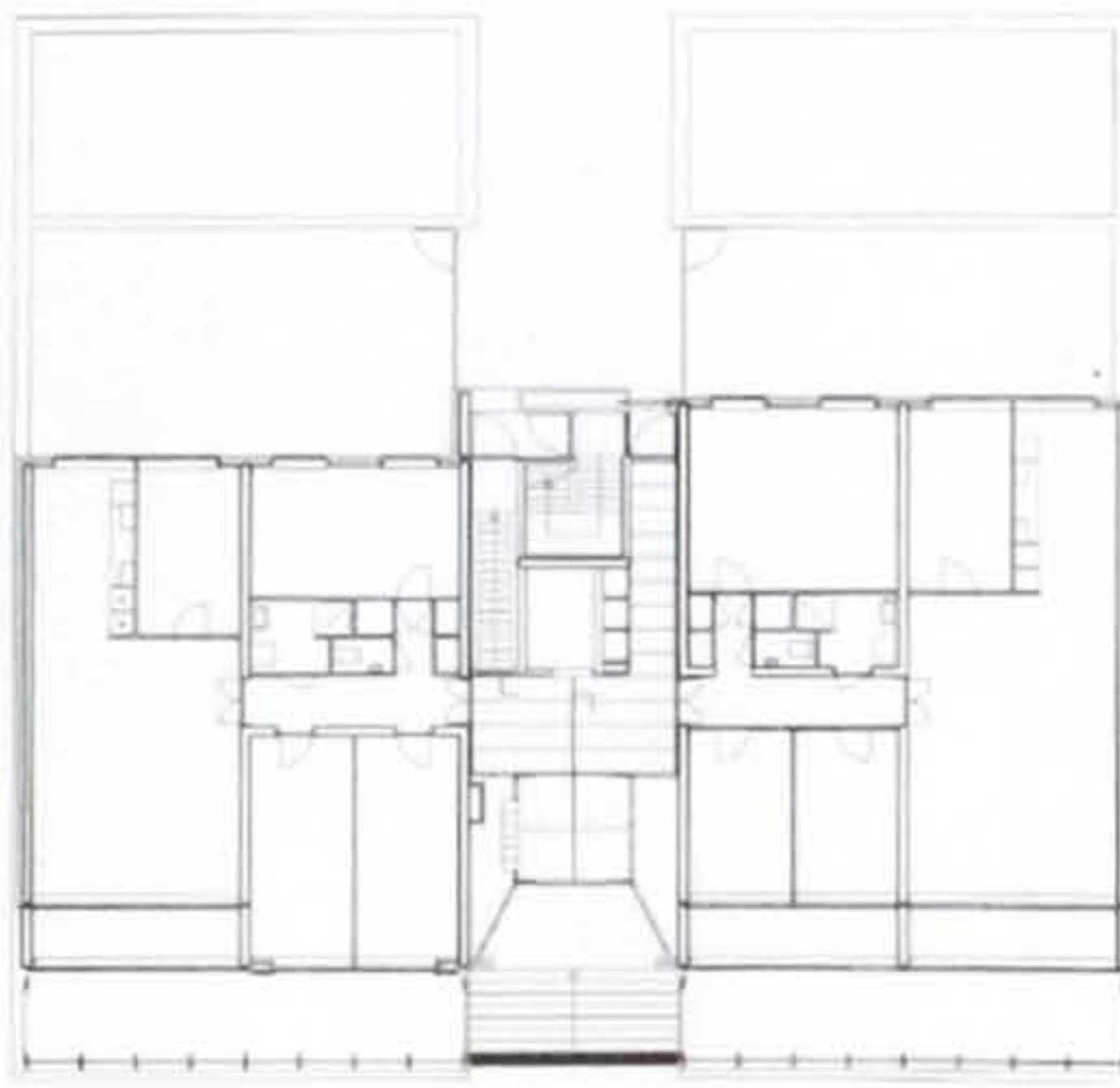
Also in keeping with the dutch tradition they built in canals that run north and south through out the island creating inland water access as well.

These canals are lined with Row house type structures but vary architecturally and spatially to fit with individual lifestyles.

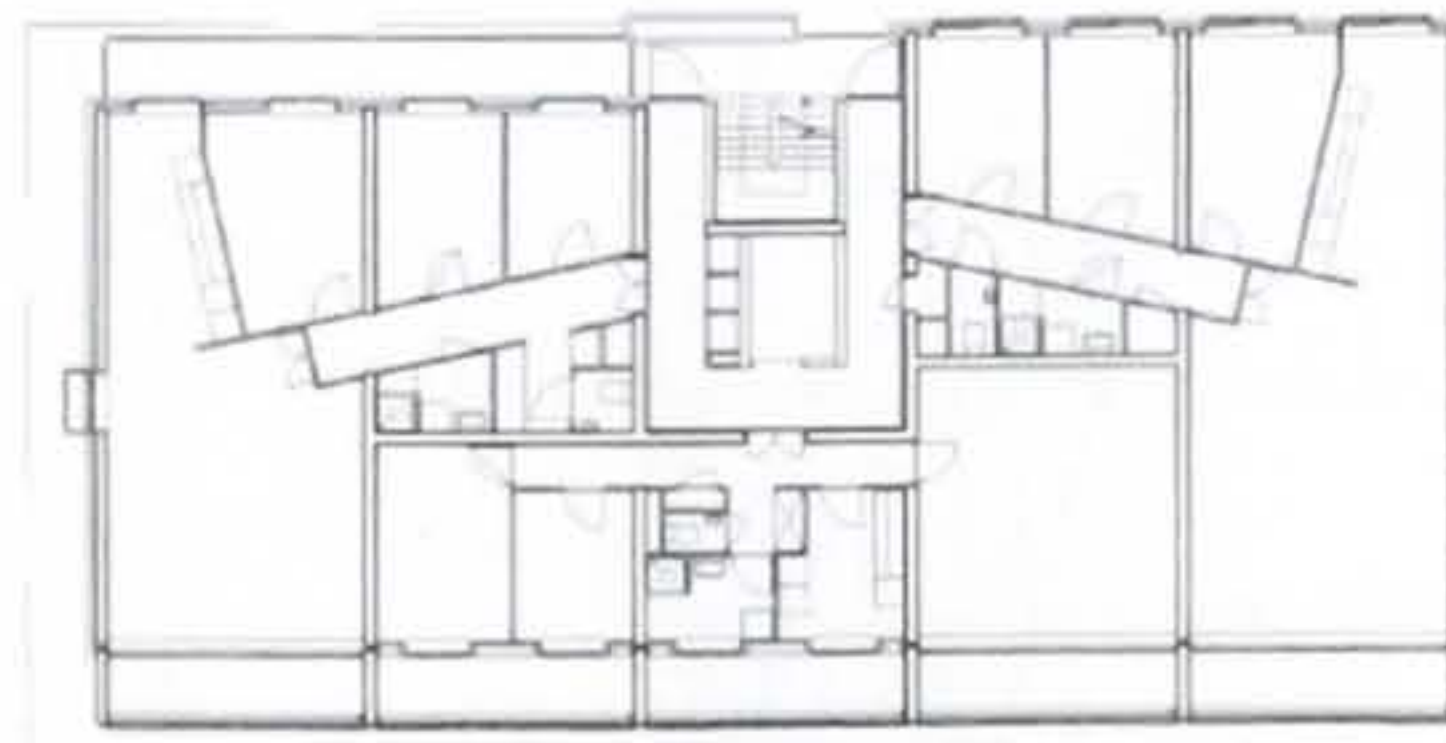
View of Sumatrakade from the IJ canal



Java Island, Eastern Harbour District Amsterdam



ground floor



first floor

The architect Sjoerd Soeters through planning increased the density of Java by triple the Netherlands national average of most new Dutch building. The 100 units per hectare is roughly equivalent to forty units per acre which in the U.S. is overwhelmingly found in high-rise cities, the difference on Java being that buildings are limited to six stories on the south side and eight on the north. The architect in solving the idea of fitting a high density of people comfortably in a small space and still developing engaging buildings was to use "stemples" or standard building templates. Five units of 5.4 meters forms a stemple which houses roughly 20 to 30 dwellings.



first floor



Java Island, Eastern Harbour District

Amsterdam

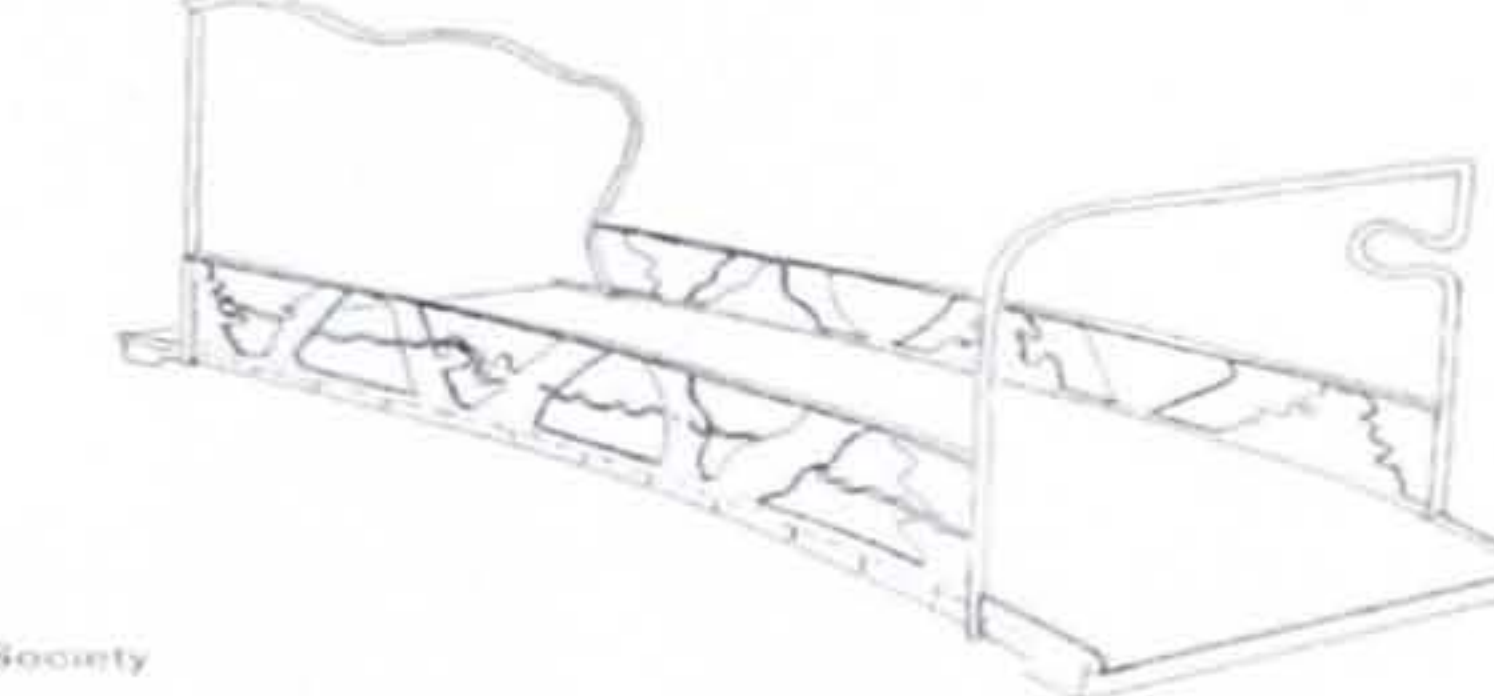
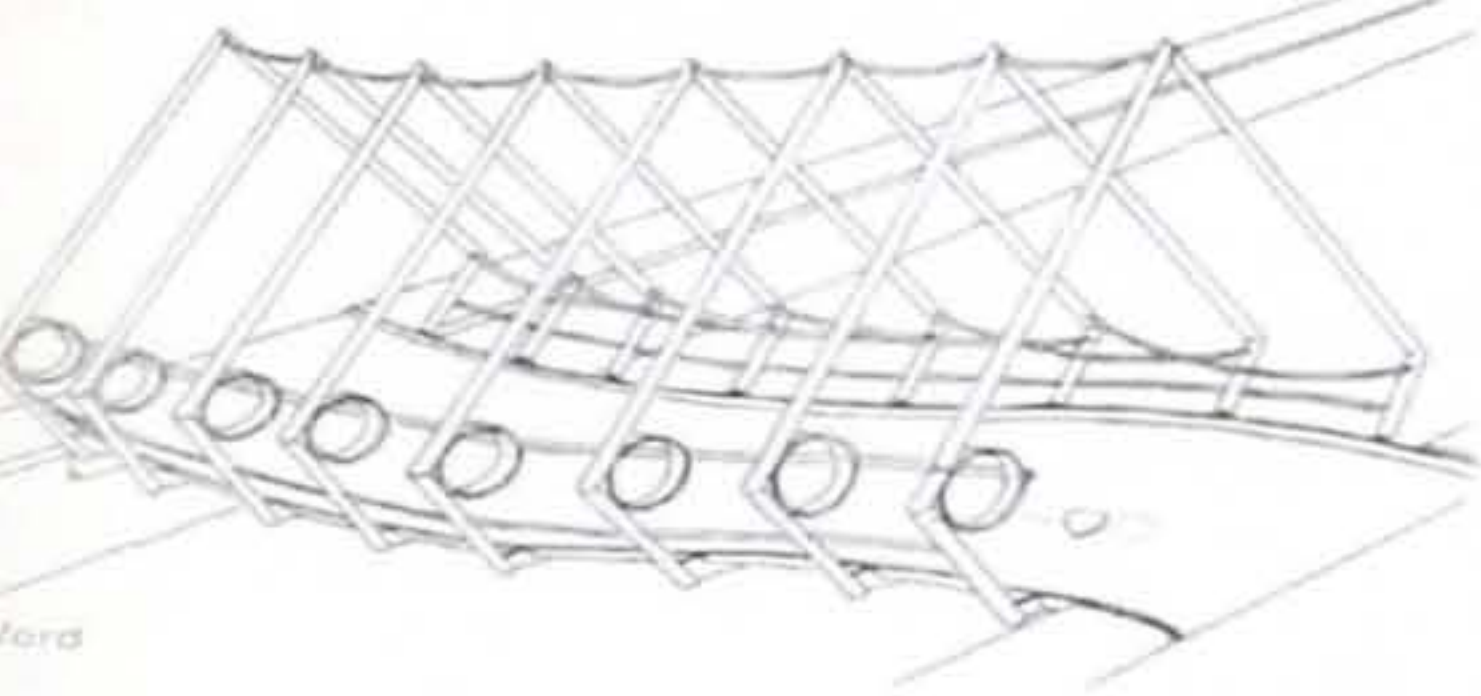
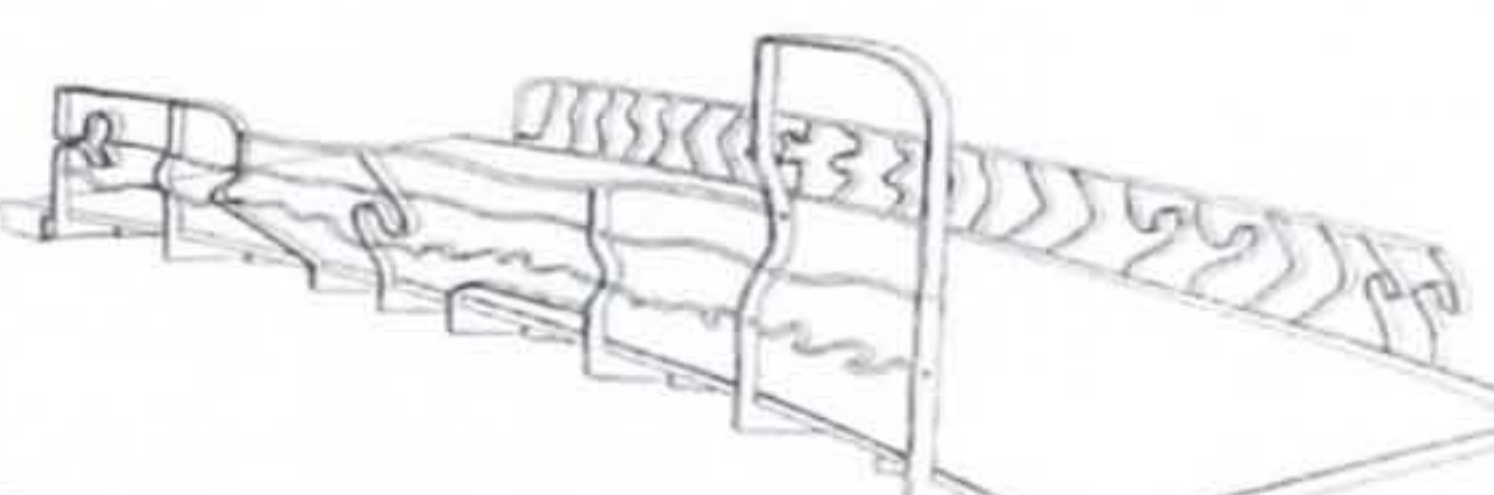
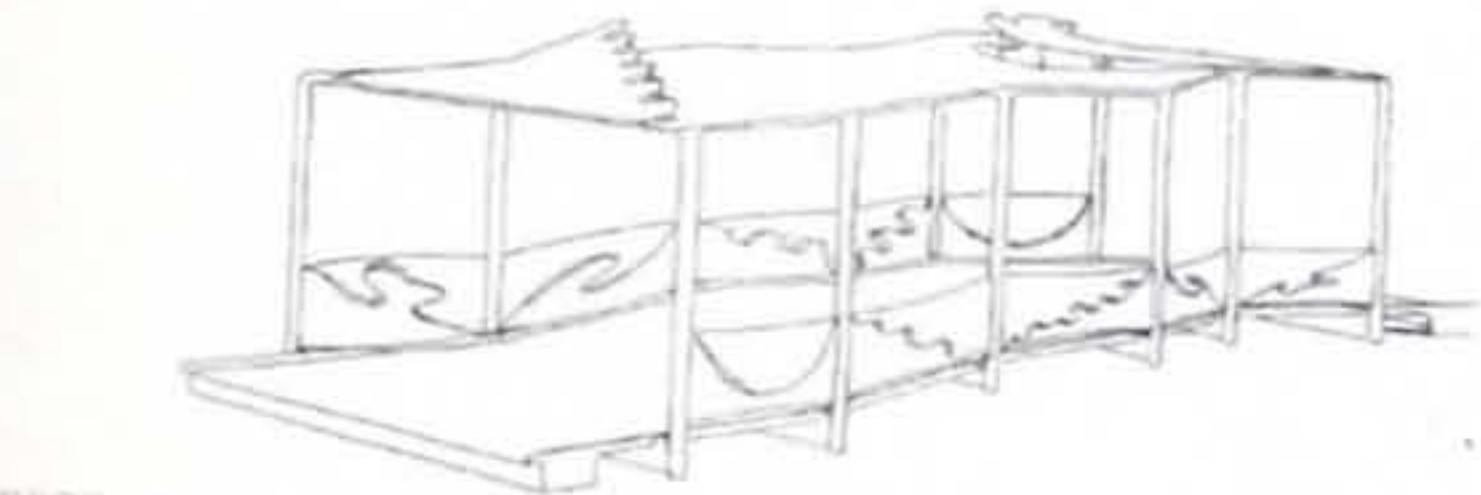
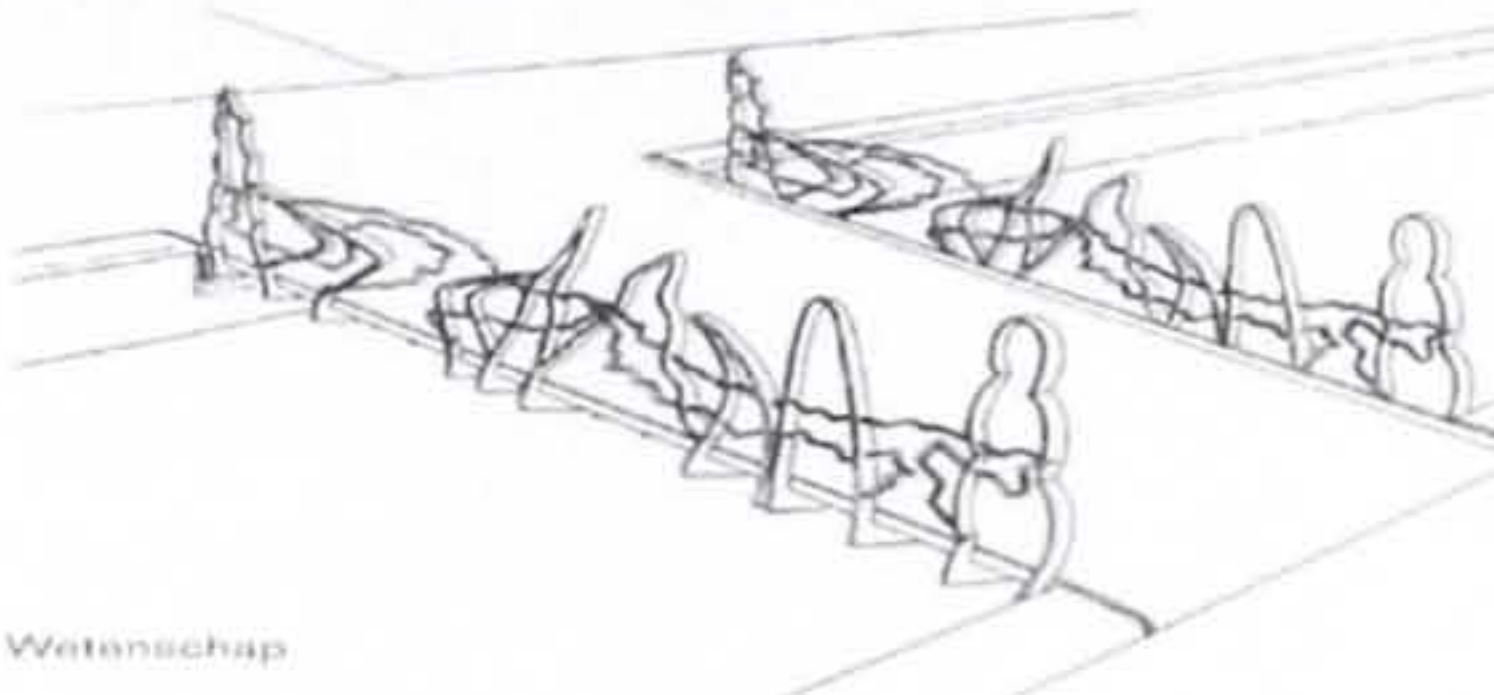
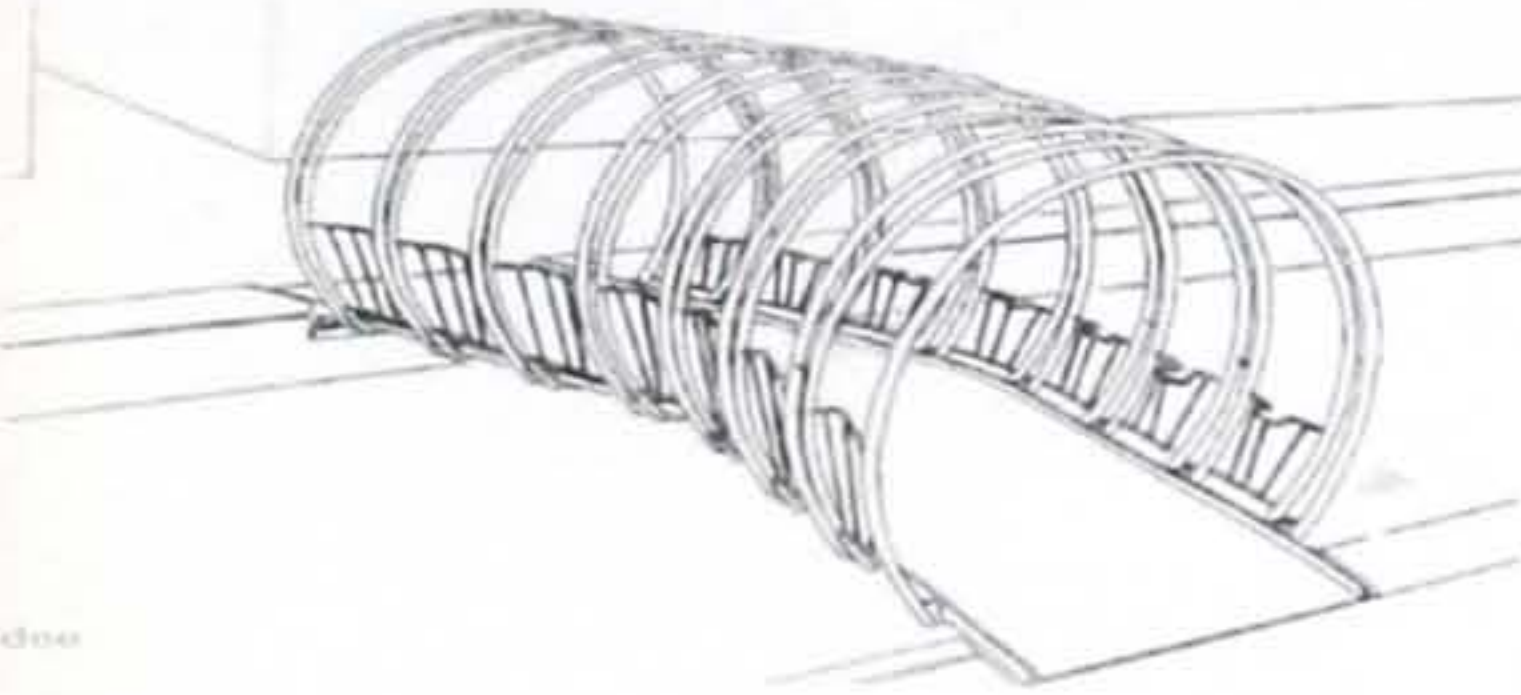


During the planning period of Java island it was proposed that the the Woonatlas (Housing atlas) become part of the program. the housing atlas highly differentiated forms of households and their specific needs were documented. These housing types included dwellings for hobbyists, dwellings for people who share houses, kangaroo dwellings , in which a child or parent lives independently in a seperate unit within the home, among others. Two programatic issues were a subcategory for housing the first being that each unit be 5.4 meters wide which translates roughly into the size of a two car garage. The other being that the master plan demanded that there must be between a 30% to 50% void in each of the houses to allow sunlight into them. What is exceptional about this concept is that in the beginning each individual house was to be designed by a different architect; however in the end after resident protest it was limited to twelve different designs.

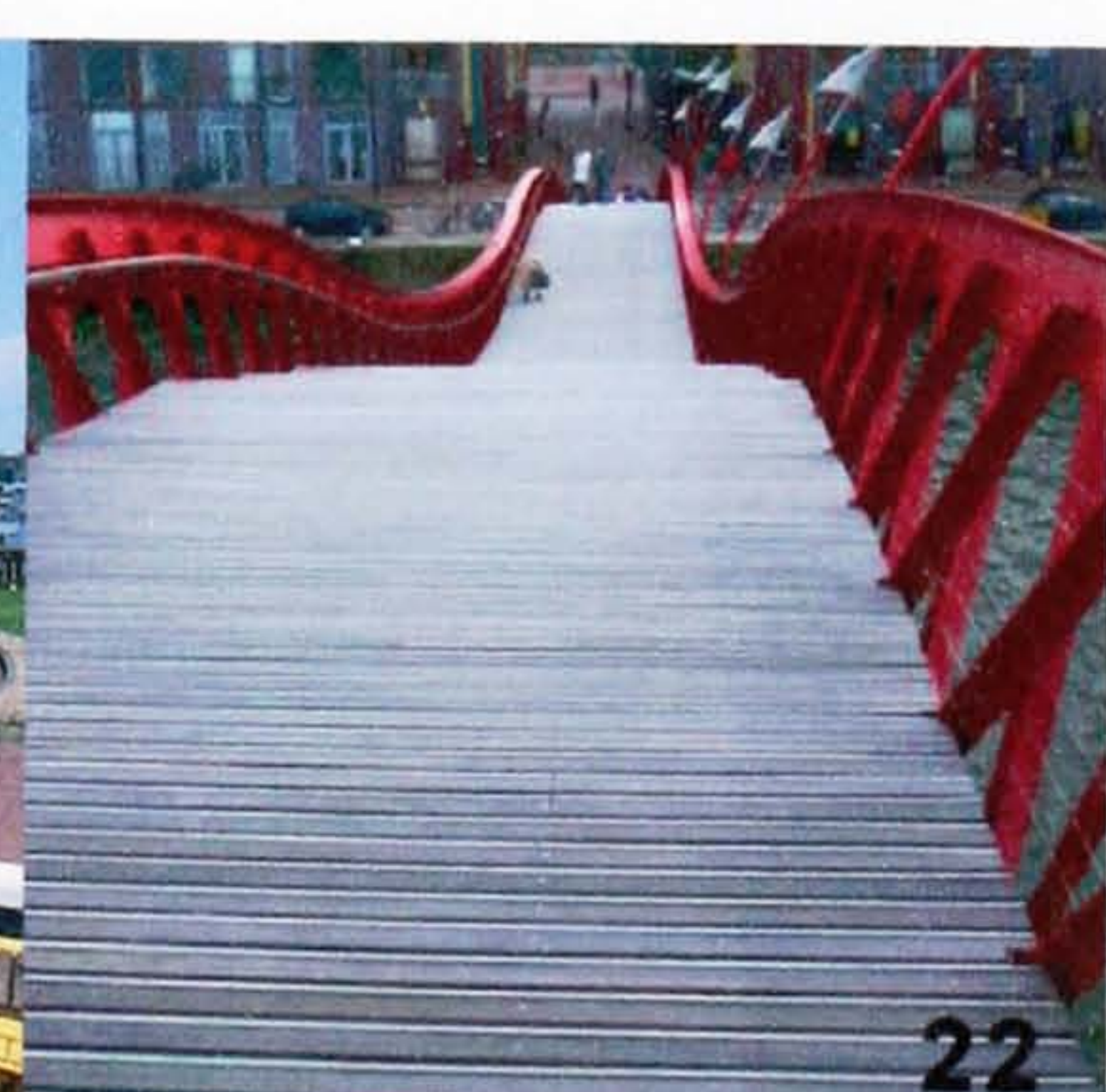
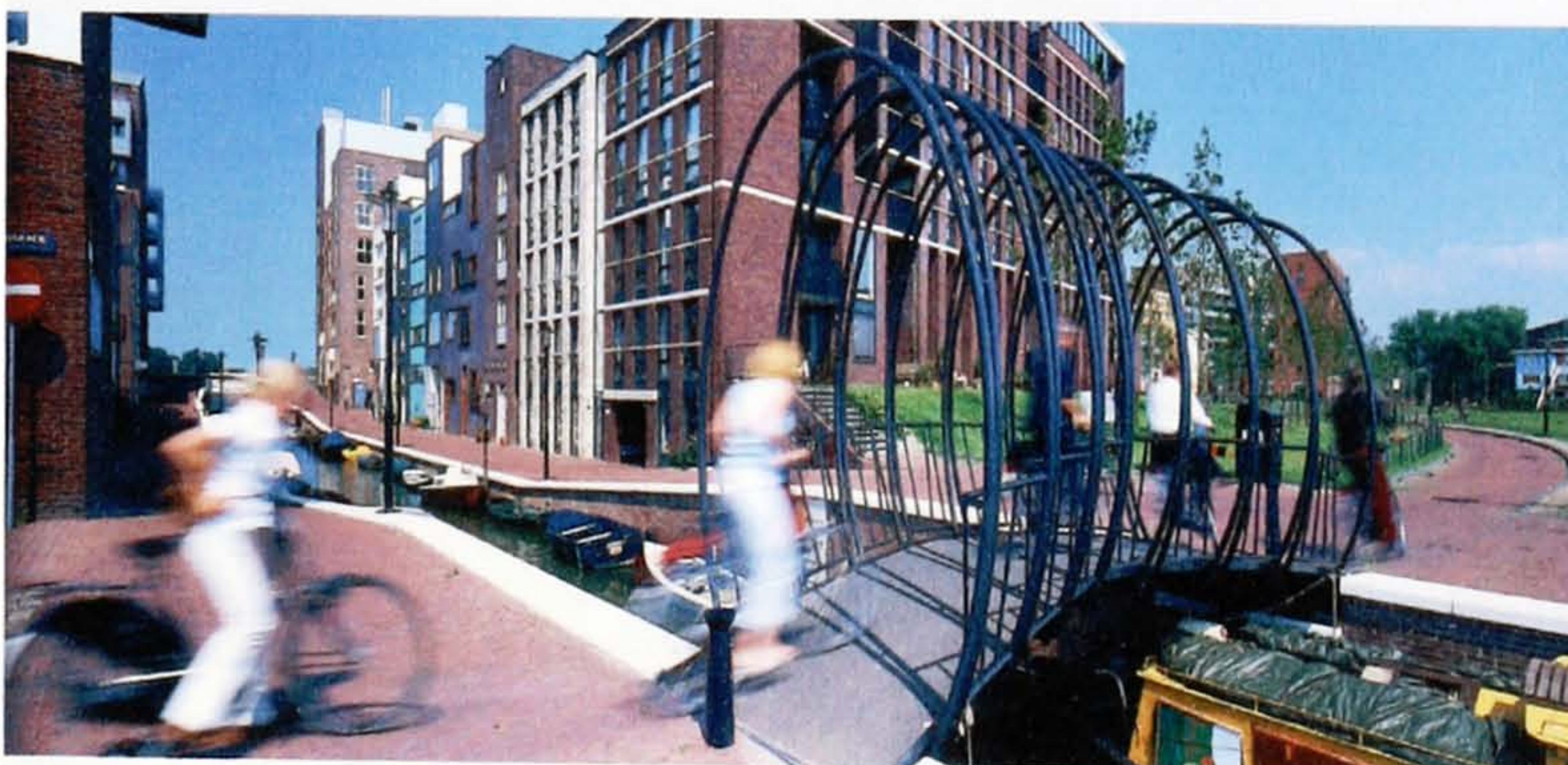
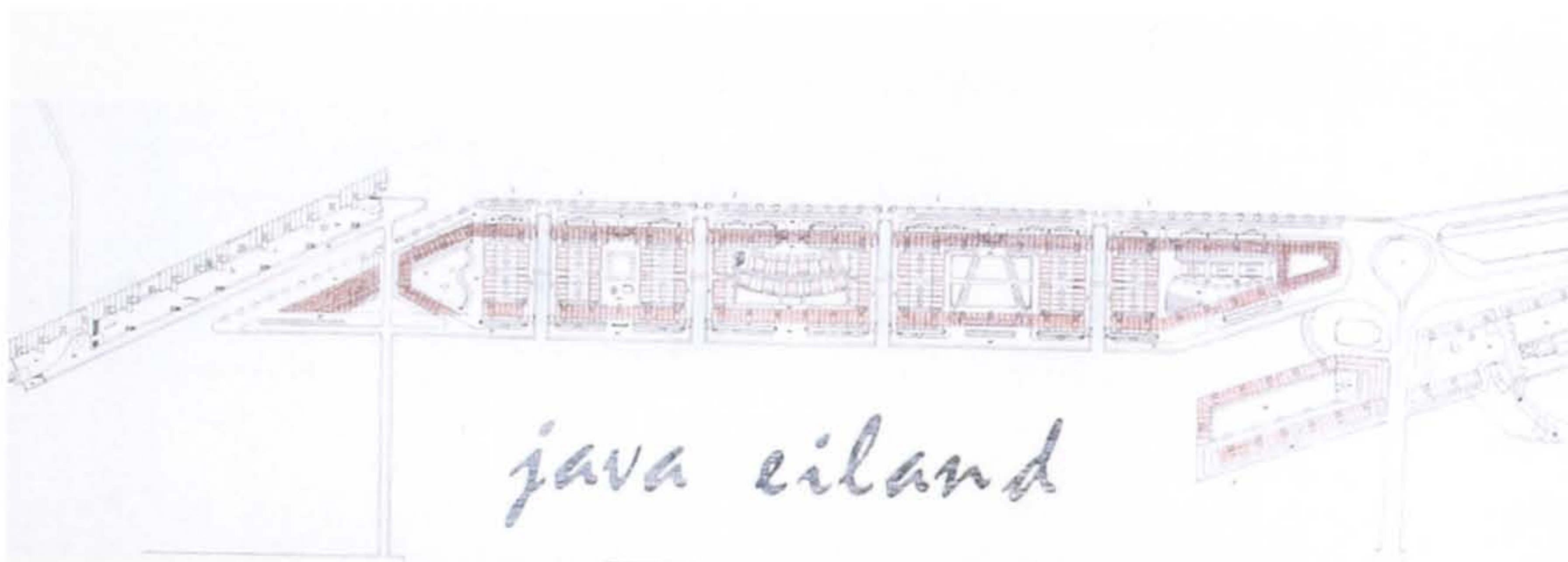


Java Island, Eastern Harbour District

Amsterdam

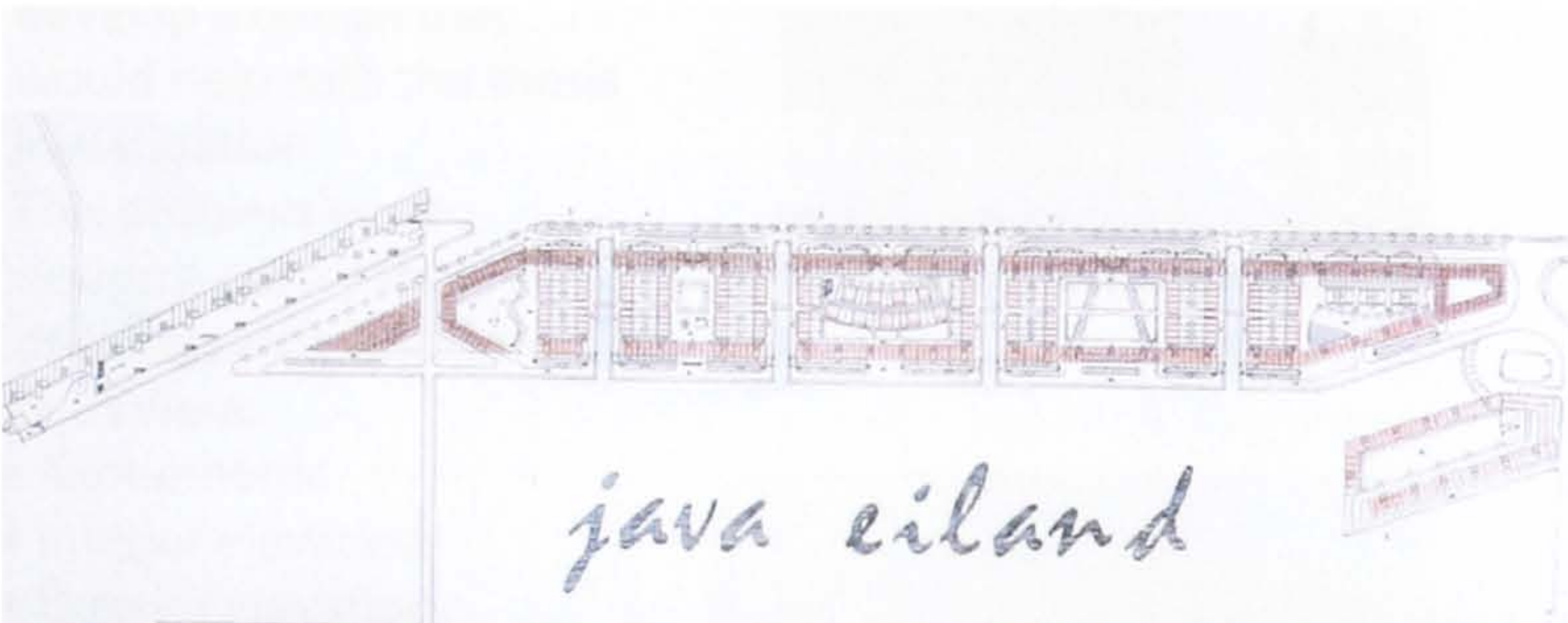


Pedestrian walkways and bike paths are the encouraged form of travel for most urban planning programs, but how they treat this issue differs. For the Java Island project with its bisecting canals bridges would be needed to connect the island to the mainland for vehicular traffic, and within itself for vehicles but with the emphasis on walking or bicycling. The vehicular traffic was routed to the north side of the island and was reduced to one travel lane and one parking lane. For the pedestrian mode of travel unique bridges were designed to connect Java to itself. The pedestrian bridges going over the Java Island canal were designed by using an artistic alphabet that has each of the bridges represent a word.



Java Island, Eastern Harbour District

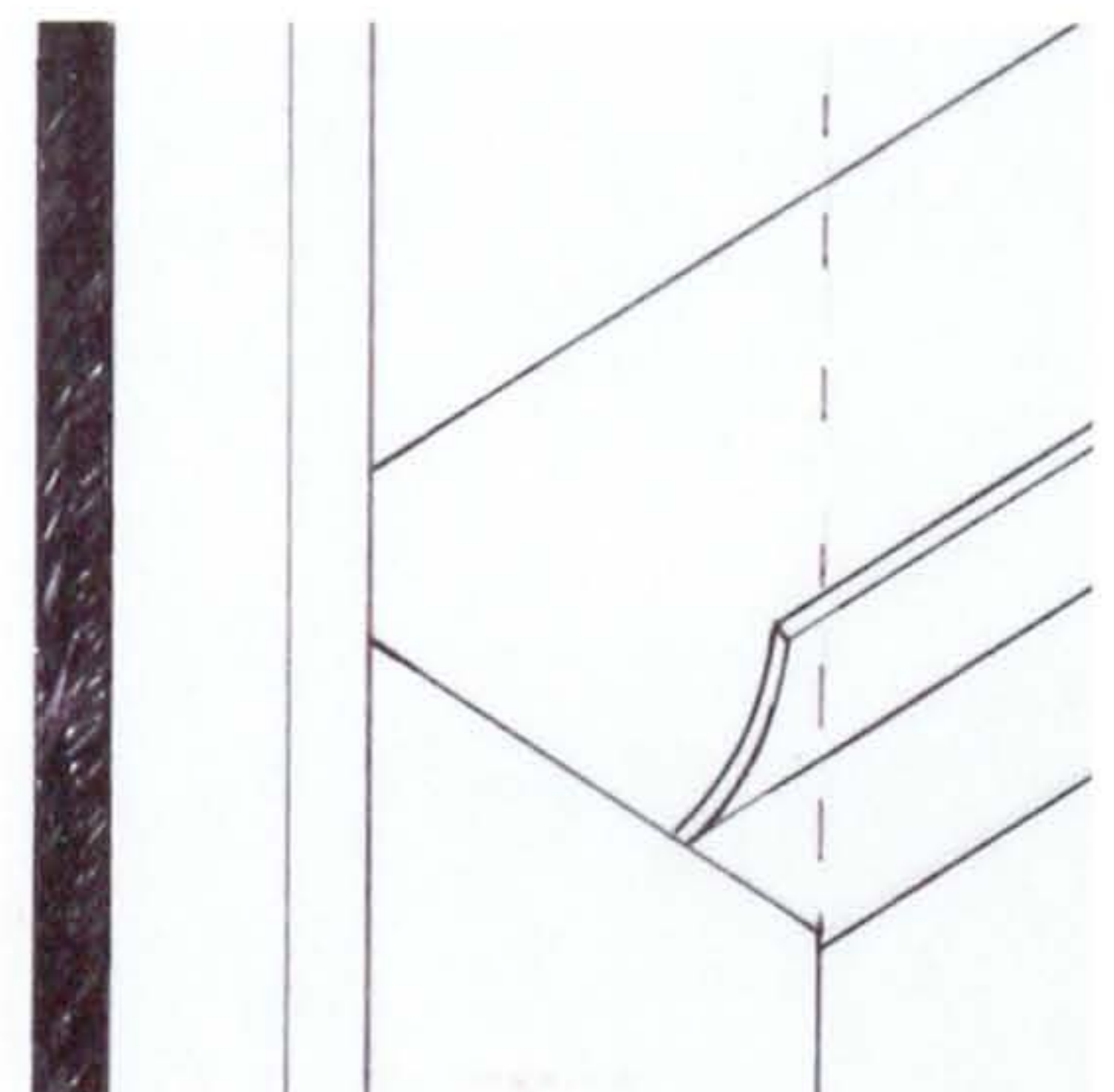
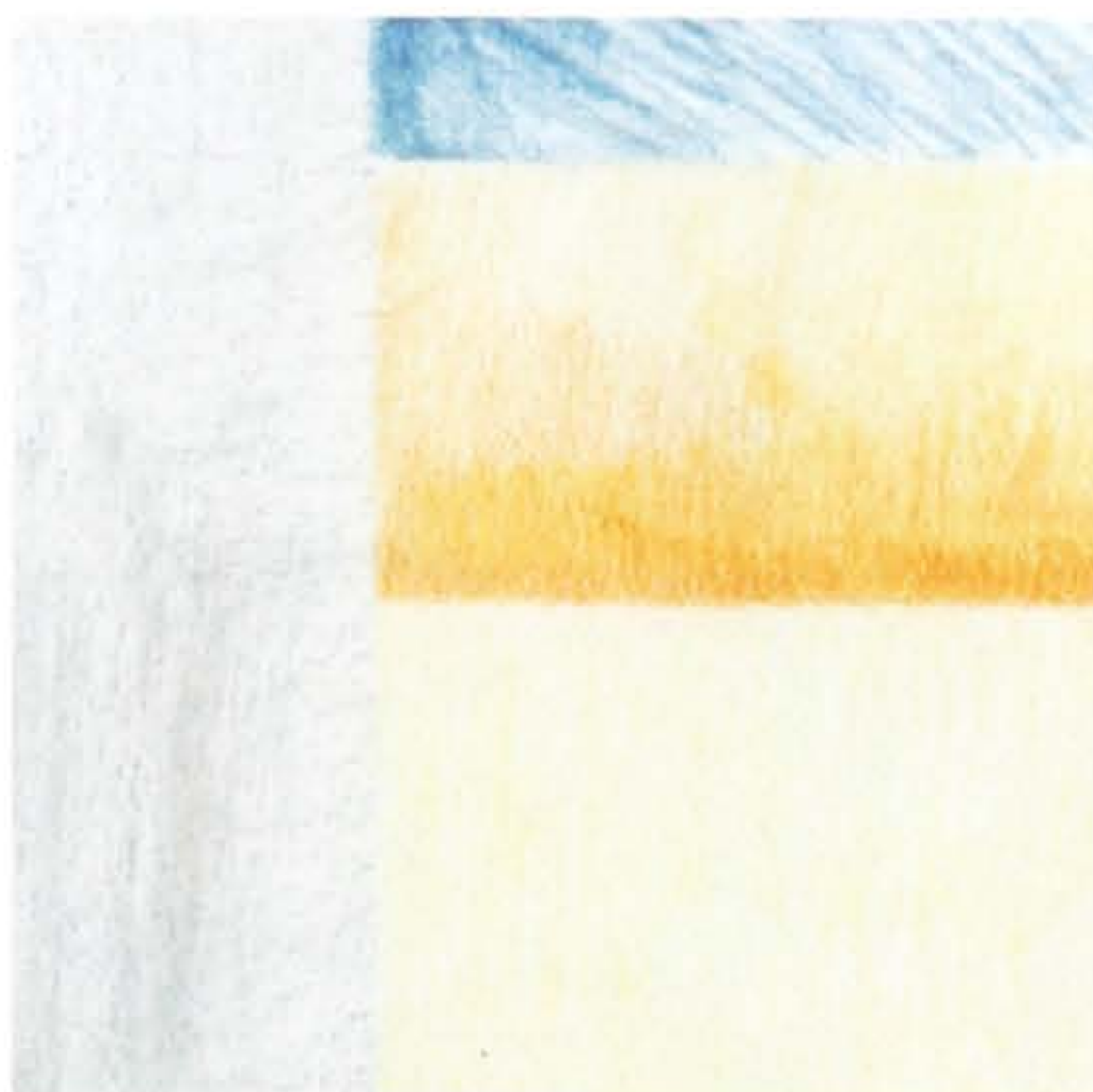
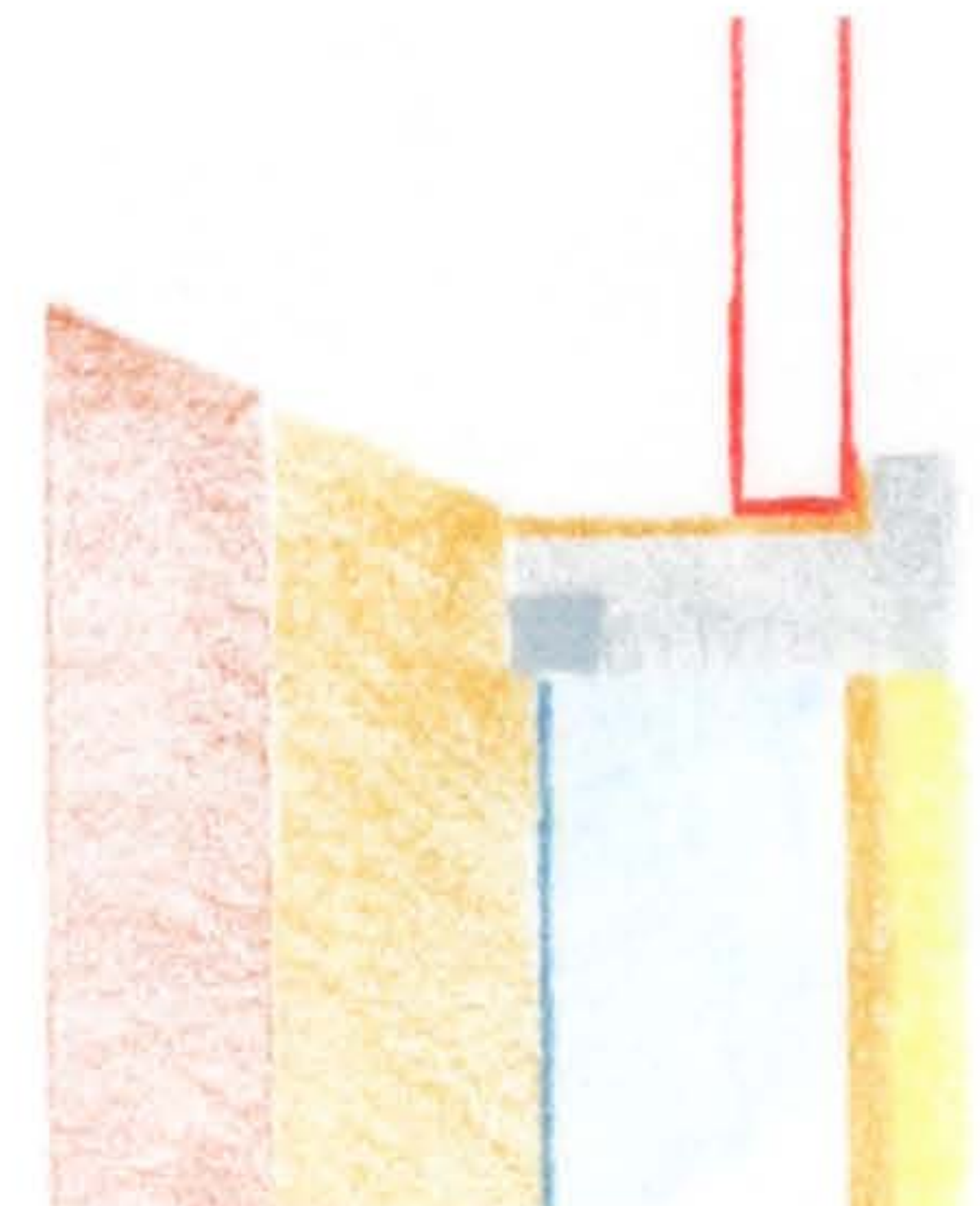
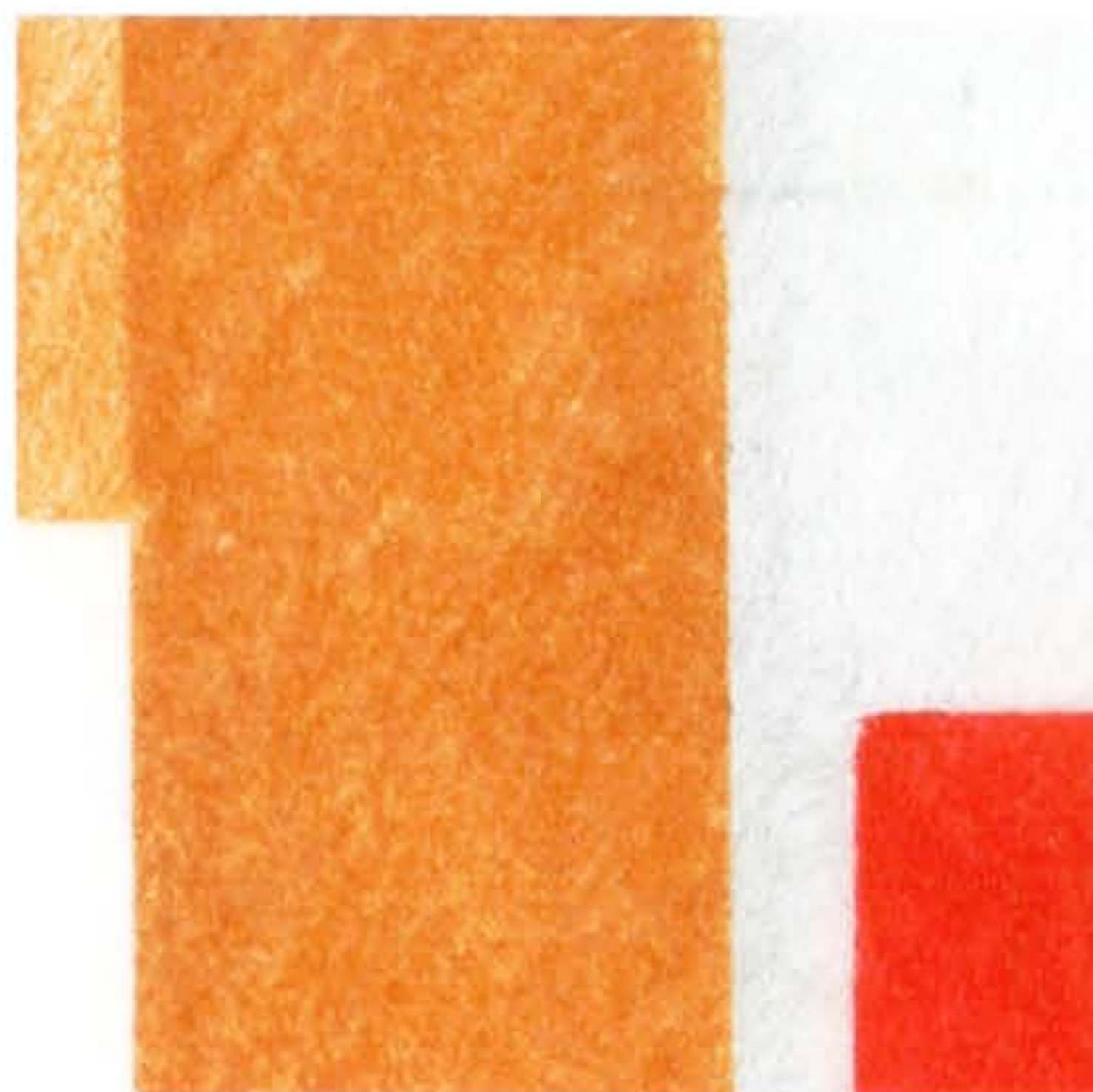
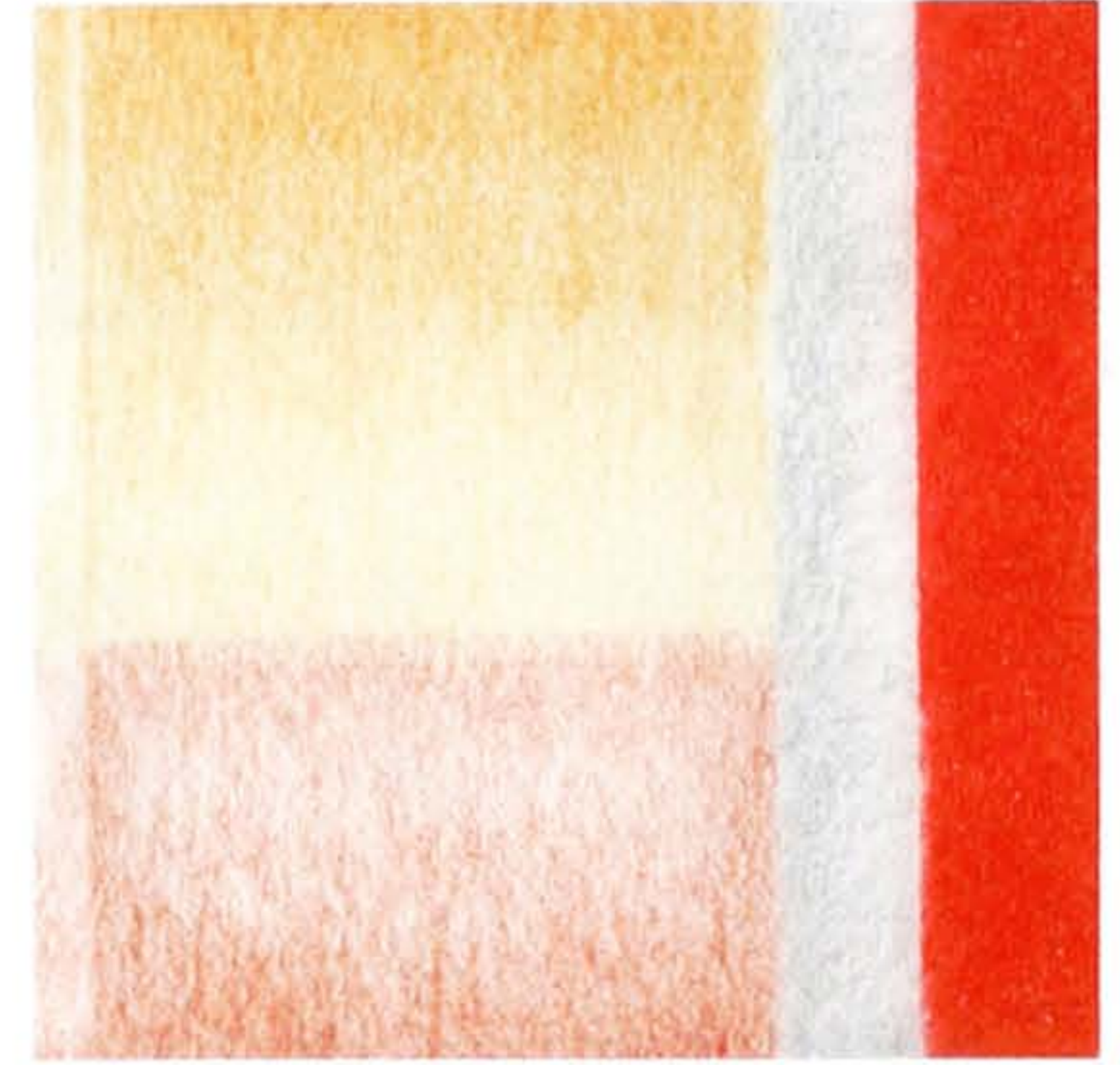
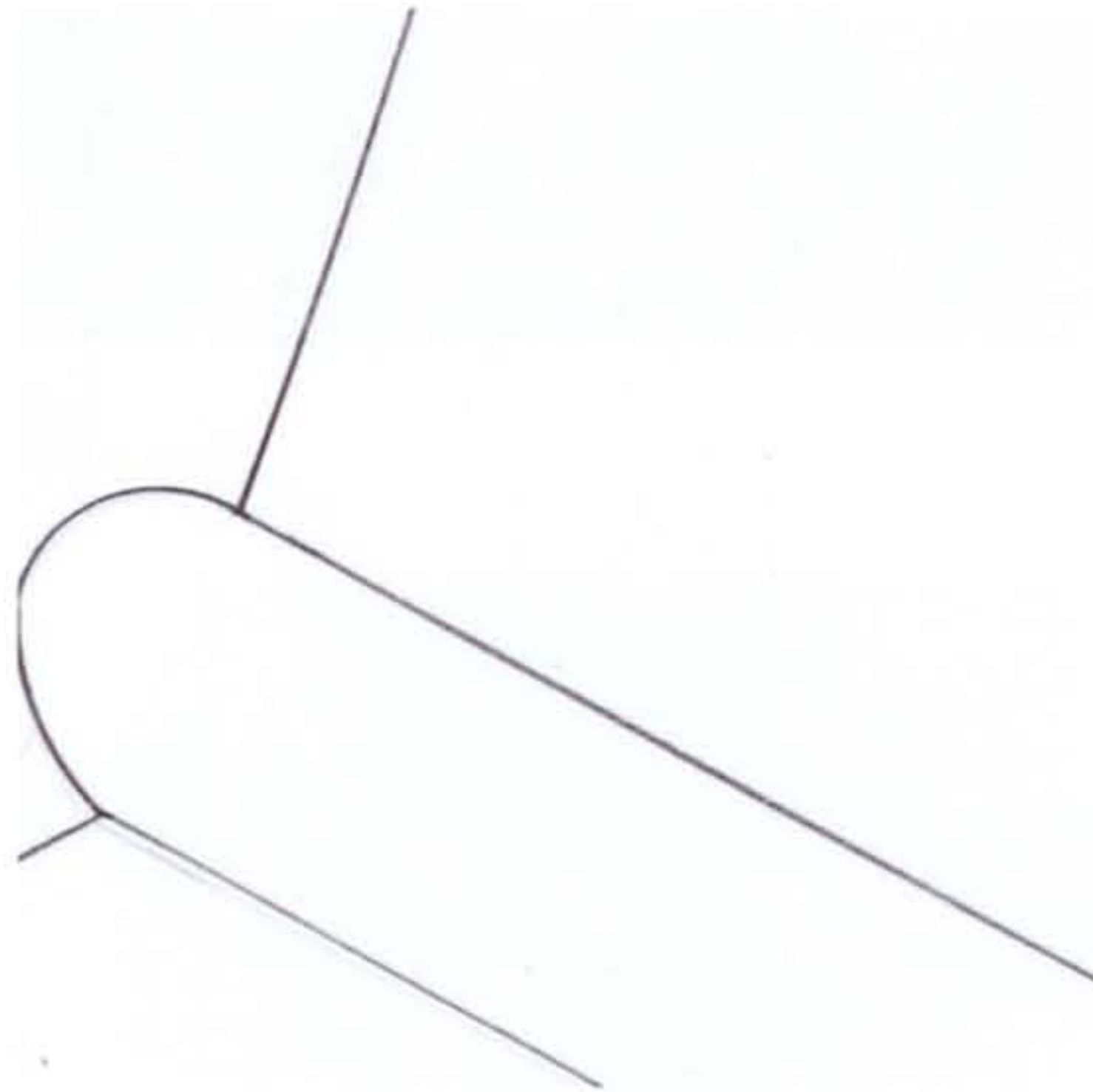
Amsterdam



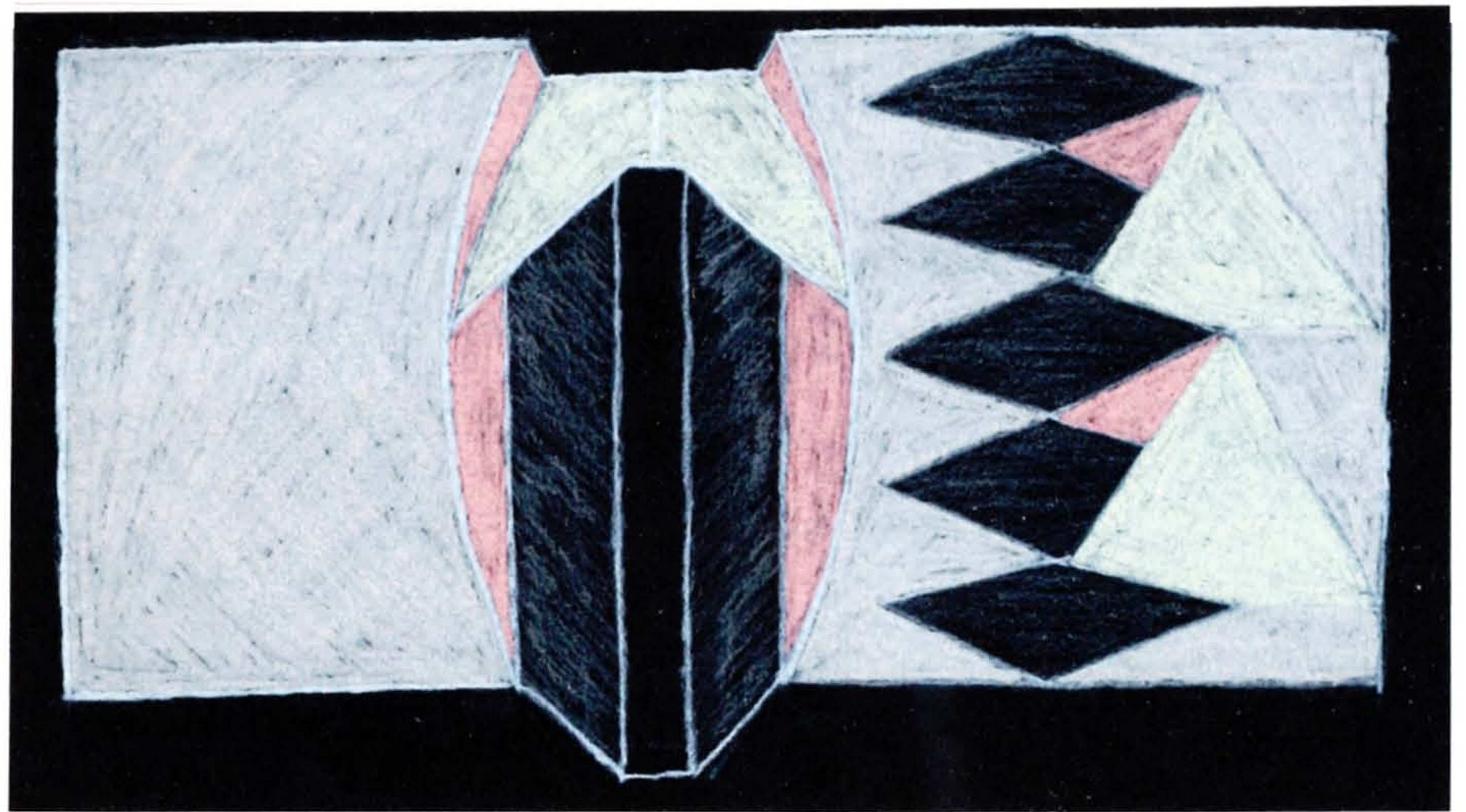
The width of Java at 138 meters (480 feet) required that sacrifices would have to be made to preserve the desired density of the project. This was accomplished by keeping vehicles to the exterior of the island and limiting the amount of public space available. The public space was limited to certain parts of the middle of the island with private plots that faced the center were incorporated as well. These private plots allocated to the dwellers become a patchwork of personal taste and individual identity that coincides with the architecture that surrounds it. These private spaces also allow that every building on the Island has some southern exposure to take advantage of the sun's light.

The sketch problem was done early in term I of the masters year. The sketch problem we were given was to design a store front that would ultimately be part of a larger building with each of the students projects connected side by side. Each student was given a different item that there store would sell and from that develop a design that would be in line with the thesis project. The thought behind this I think was to try and develop a design that would help with the thesis investigation. This problem was to design a pastry shop, the drawings that were asked of us were:

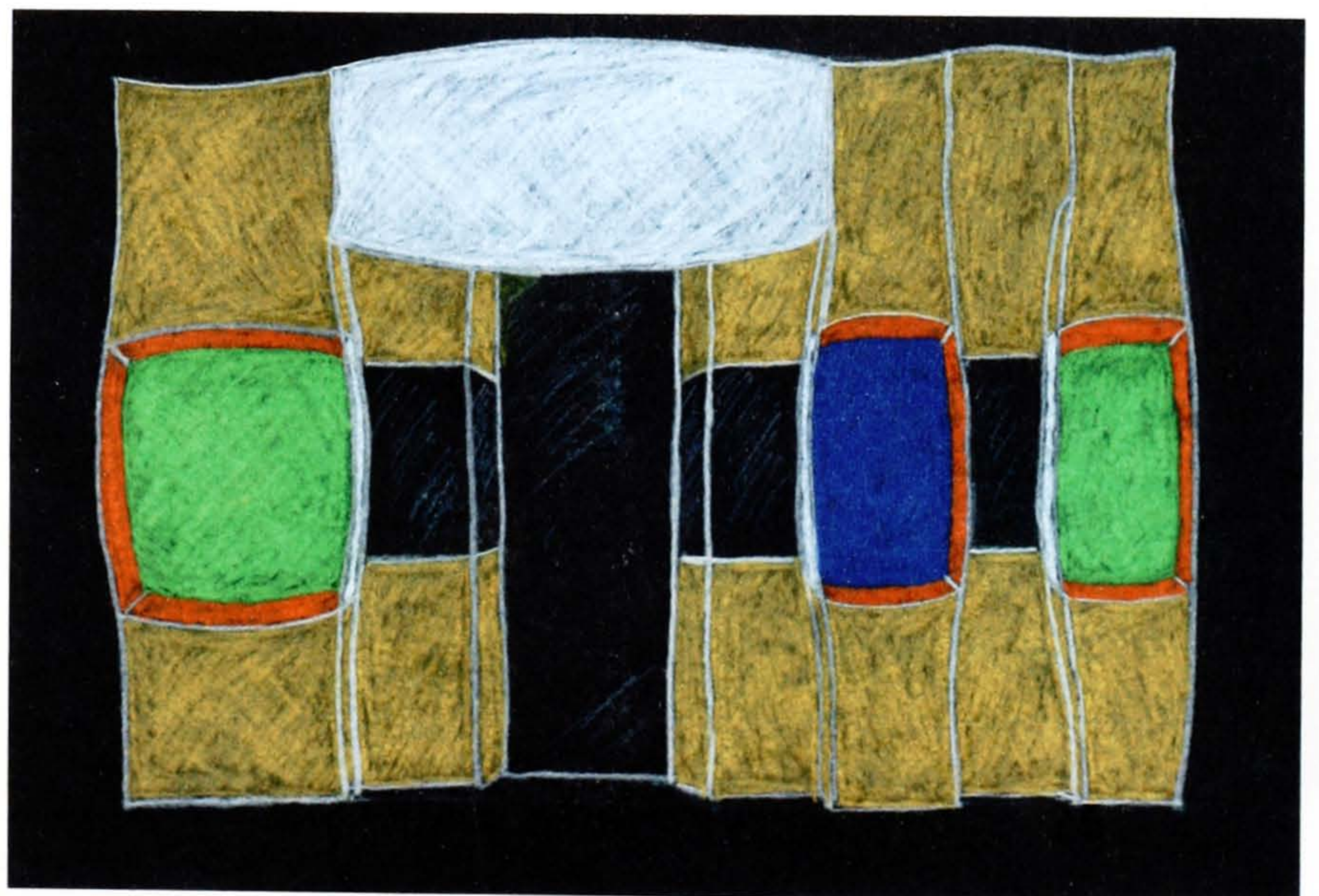
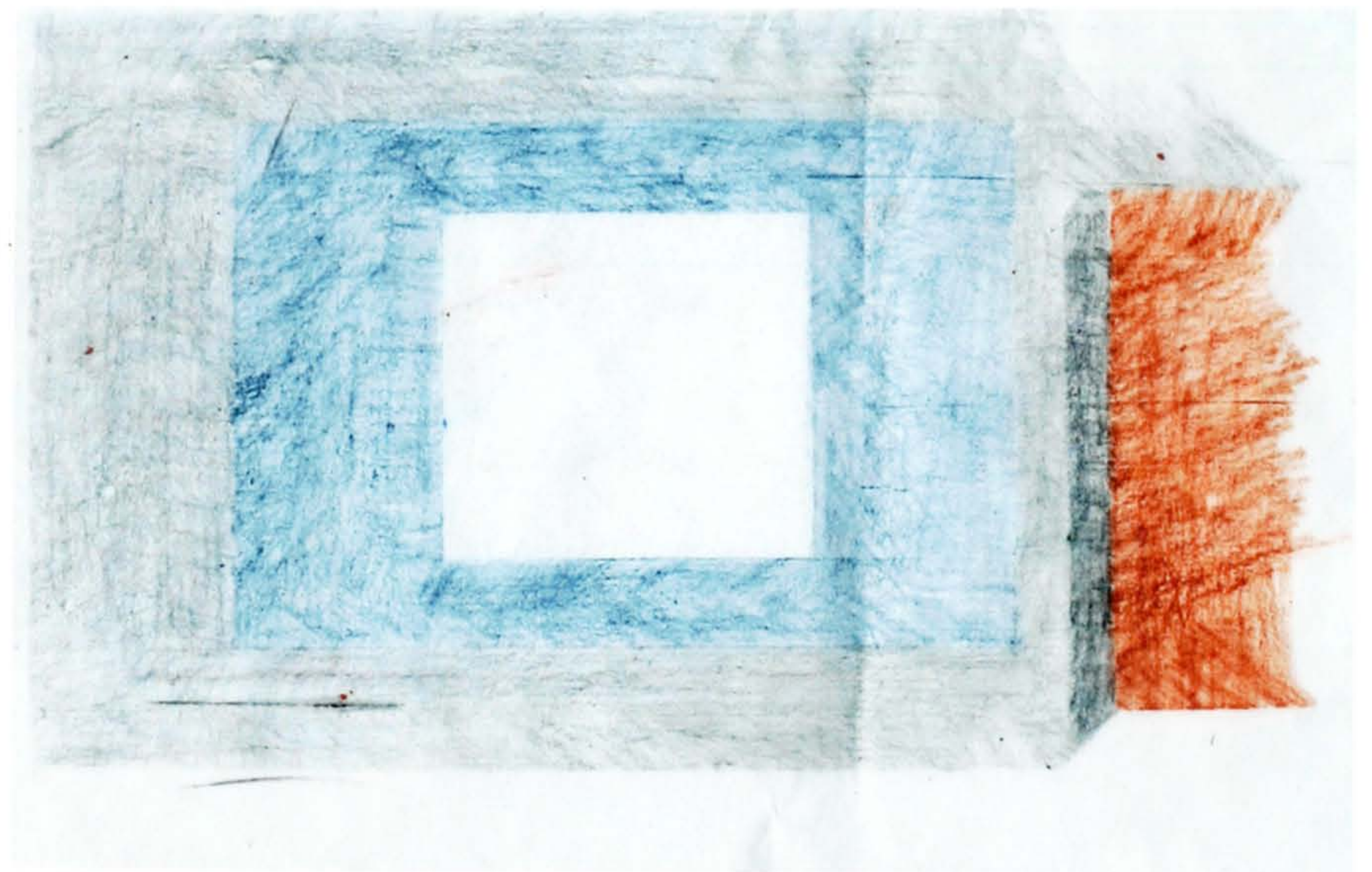
- Axonometric
- Interior elevation
- Exterior elevation
- Horizontal section of store front



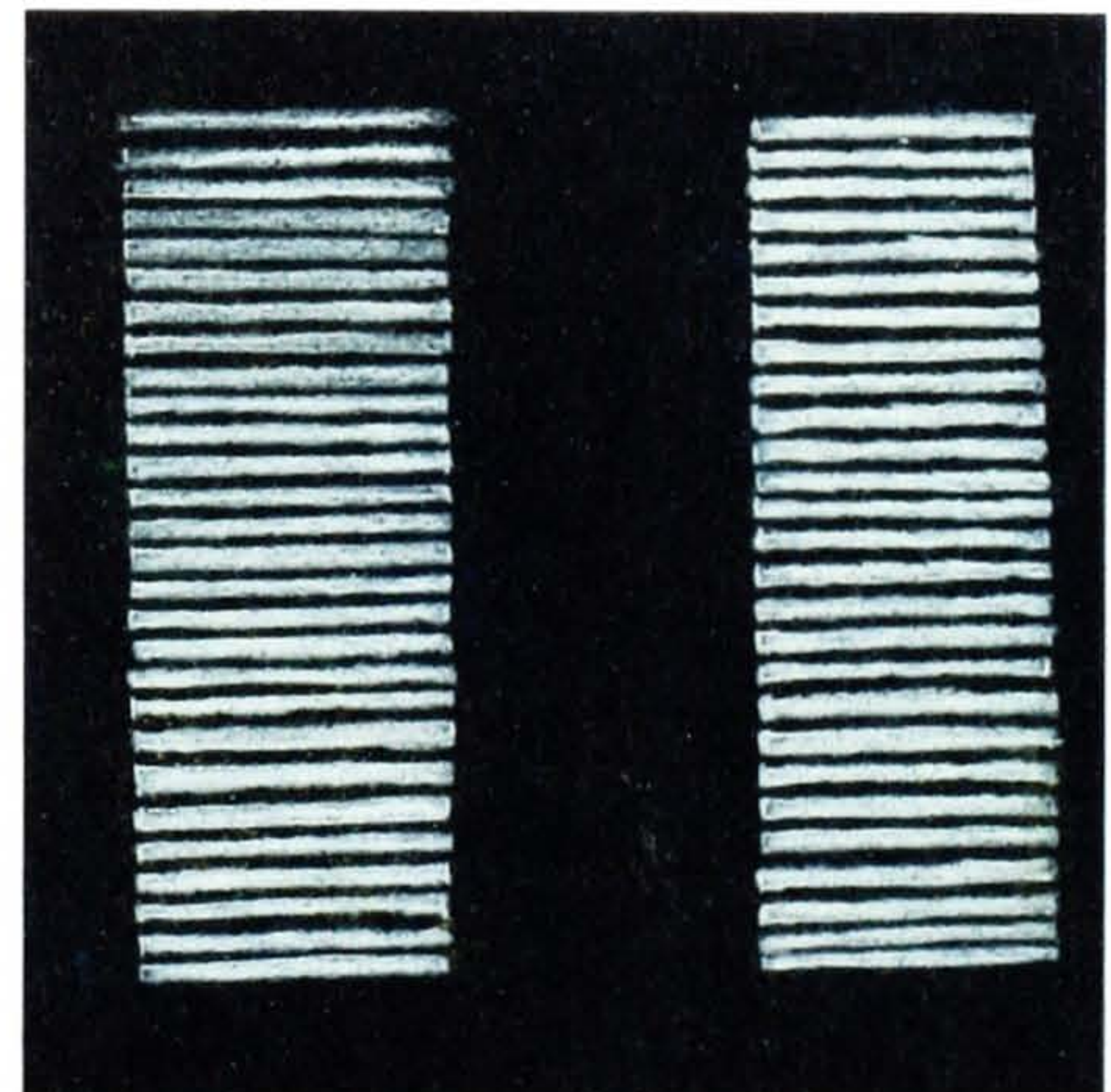
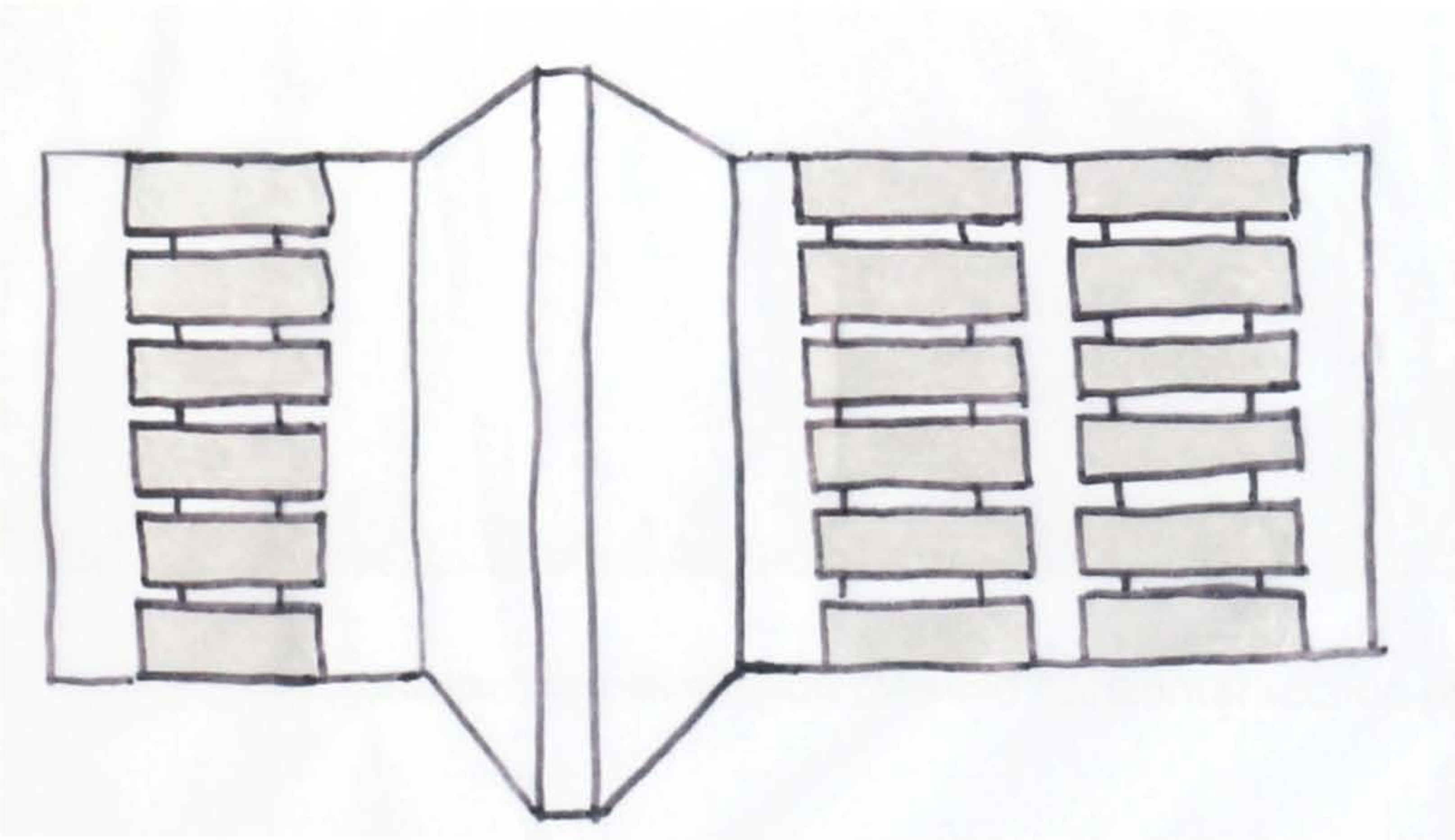
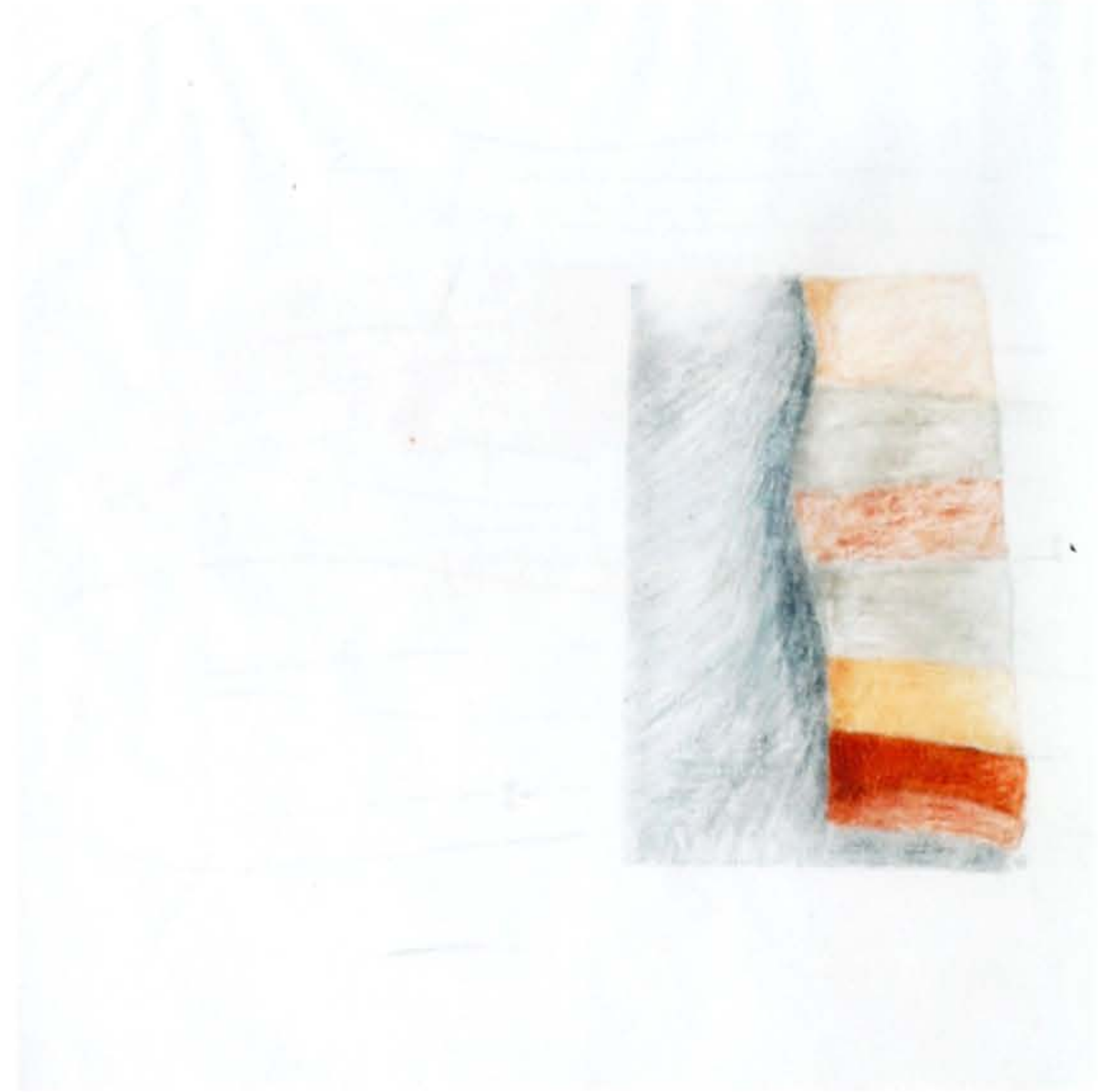
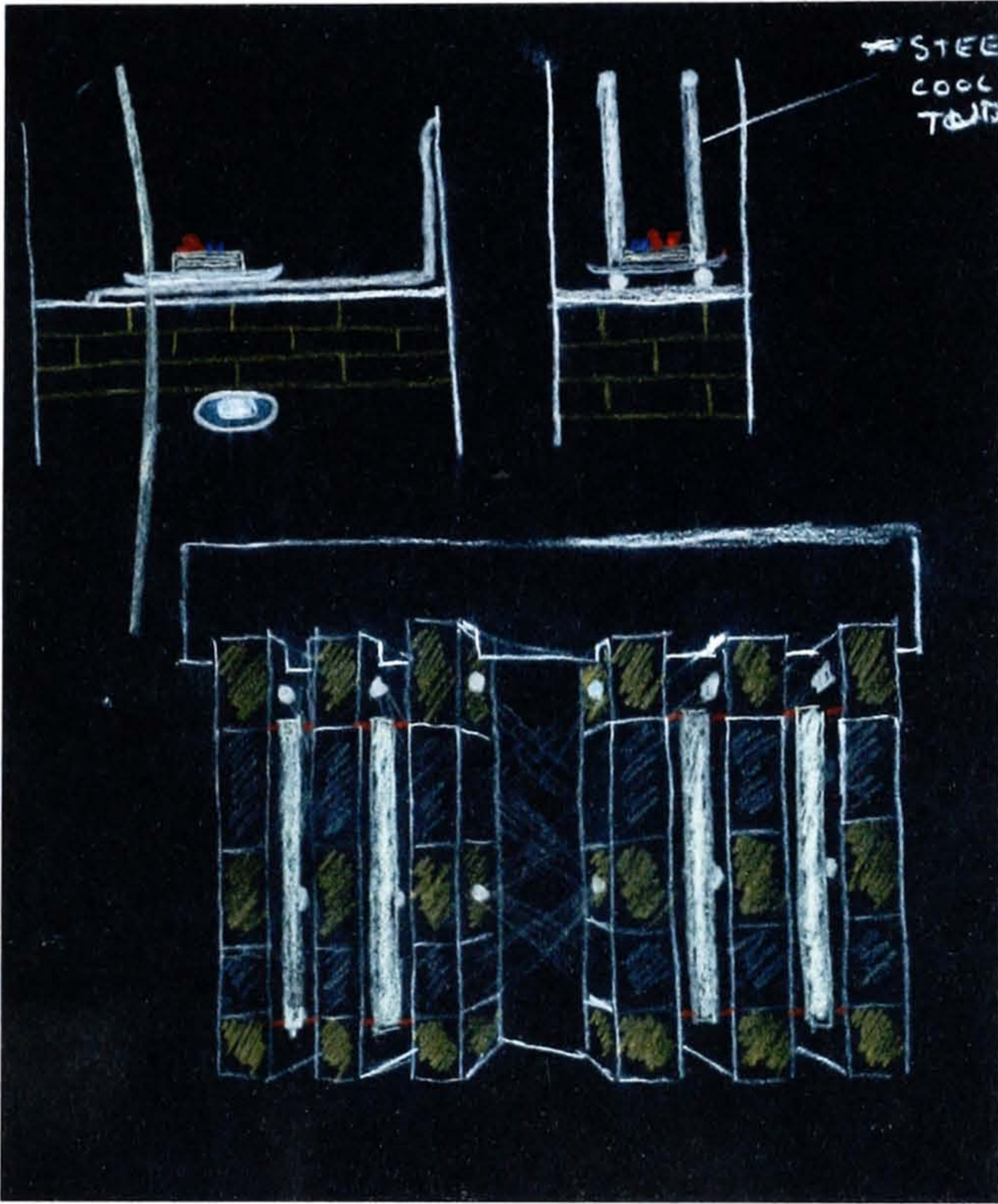
Storefront Problem Sketches



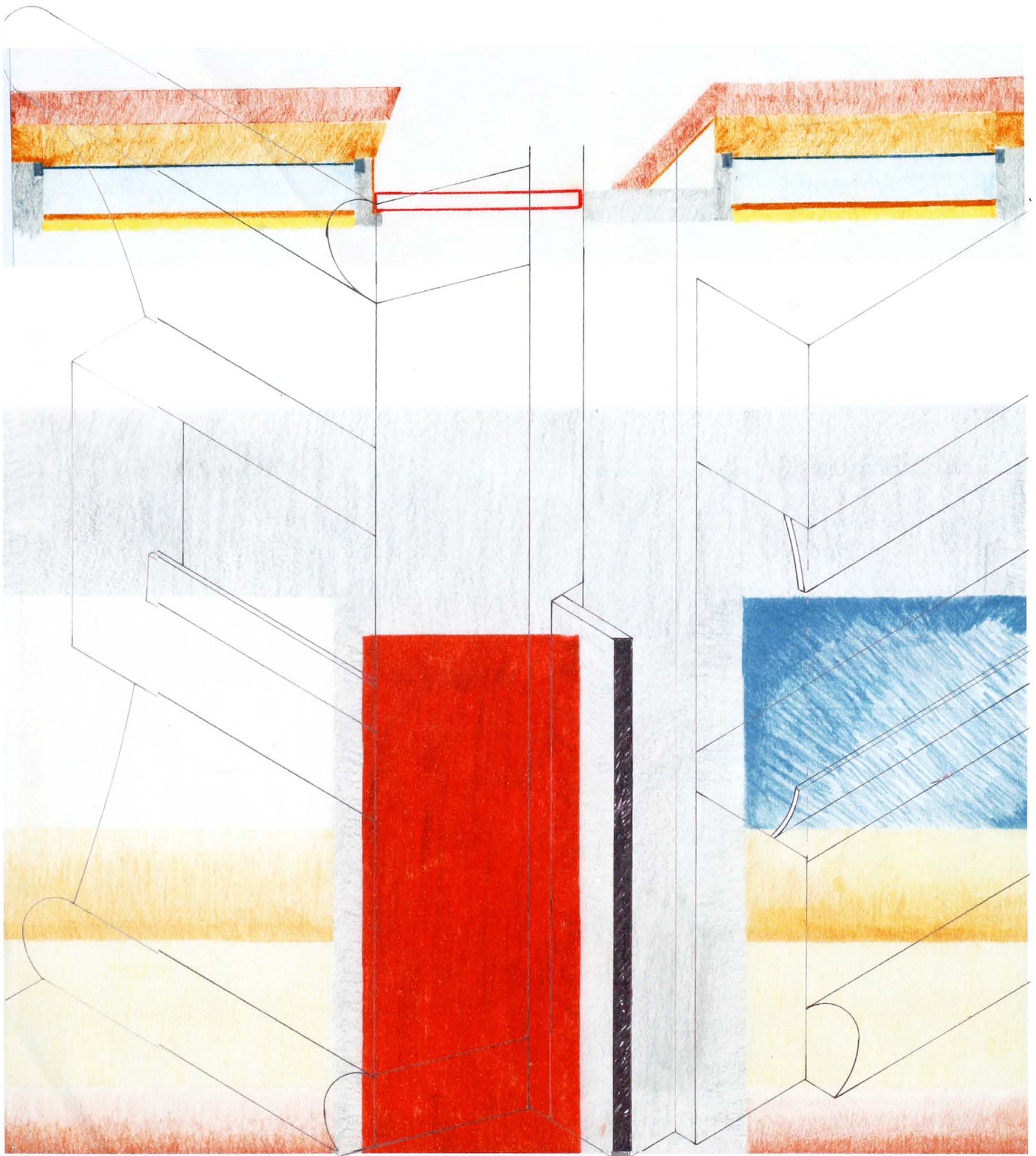
These sketches represent the design process and were used to develop different ideas for the store front. Different mediums were used in order to explore how the building proposal could be represented.



Sketches that were developed for materiality, building facade, section and color of the storefront.



Storefront design for pastry shoppe



Axonometric wall-section overlaid horizontal section of facade and interior rendering

Final rendered facade for the pastry shoppe



EAST OF CASS BETWEEN WEST MONTCALM AND WEST ADAMS, DETROIT, MI



42degrees 20 minutes North Latitude
83 degrees 3 minutes West Longitude
Elevation 597 Feet Above Sea Level

Prevailing winds SW 10.4 mph

SKY COVER

SUNRISE TO SUNSET

| | |
|----------------|----------|
| -clear | 76 days |
| -partly cloudy | 105 days |
| -cloudy | 184 days |



SURROUNDING BUILDINGS

Cass Avenue and W Montcalm



United Artists Building



The Castle -Cass Ave. and W



DENSITY

POPULATION 2000

19,969

HOUSING OCCUPANCY

OCCUPIED 85.6%

VACANT 14.4%

AVERAGE HOUSEHOLD SIZE

OWNER OCCUPIED 1.70

RENTER OCCUPIED 1.60

HOUSING

HIGH DENSITY
MEDIUM DENSITY
SINGLE FAMILY

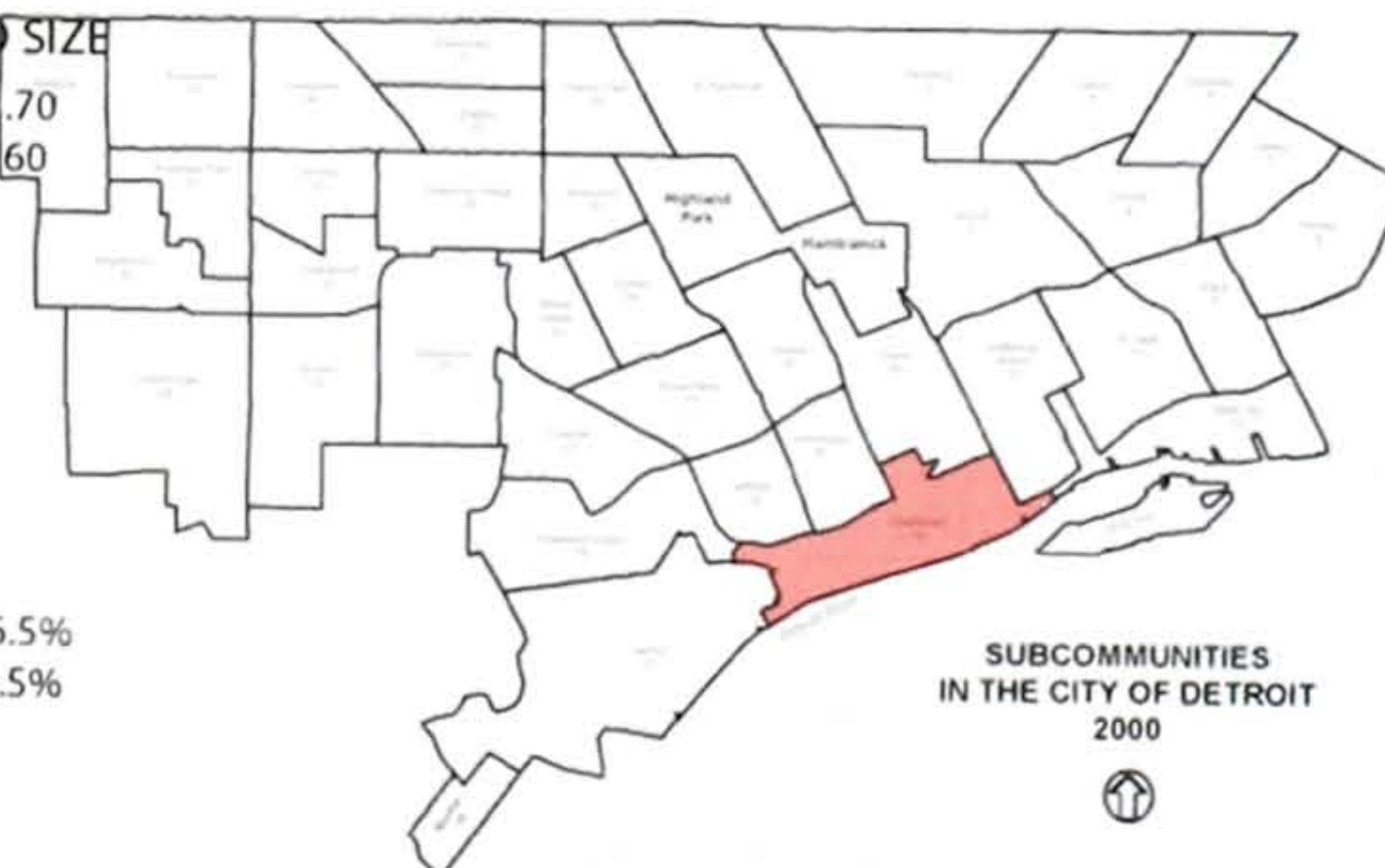
OWNER OCCUPIED 16.5%

RENTER OCCUPIED 83.5%

MEDIAN AGE

FEMALE 43.2 YEARS

MALE 36.8 YEARS



SUBCOMMUNITIES
IN THE CITY OF DETROIT
2000

ACCESS ROUTES

MAJOR ROADS

INTERSTATE 75 6 LANES .2 MILES

WOODWARD AVE 6 LANES .3 MILES

GRAND RIVER 4 LANES 200 FEET

MINOR ROADS

W ADAMS 2 LANES

W ELIZABETH 2 LANES

W COLUMBIA 2 LANES

W MONTCALM 2 LANES

LAGUNA BEACH, CALIFORNIA



ACCESS ROADS

MAJOR

STATE HIGHWAY 133
PACIFIC COAST HIGHWAY

FOUR LANES
FOUR LANES

MINOR

LAGUNA BOWL ROAD
EMERALD CANYON ROAD

TWO LANES
TWO LANES

PACIFIC COAST HIGHWAY LAGUNA BEACH, CA



SITE HISTORY

DENSITY

POPULATION 2000
24,250

HOUSING OCCUPANCY

OCCUPIED 88.6%
VACANT 11.4%

AVERAGE HOUSEHOLD SIZE

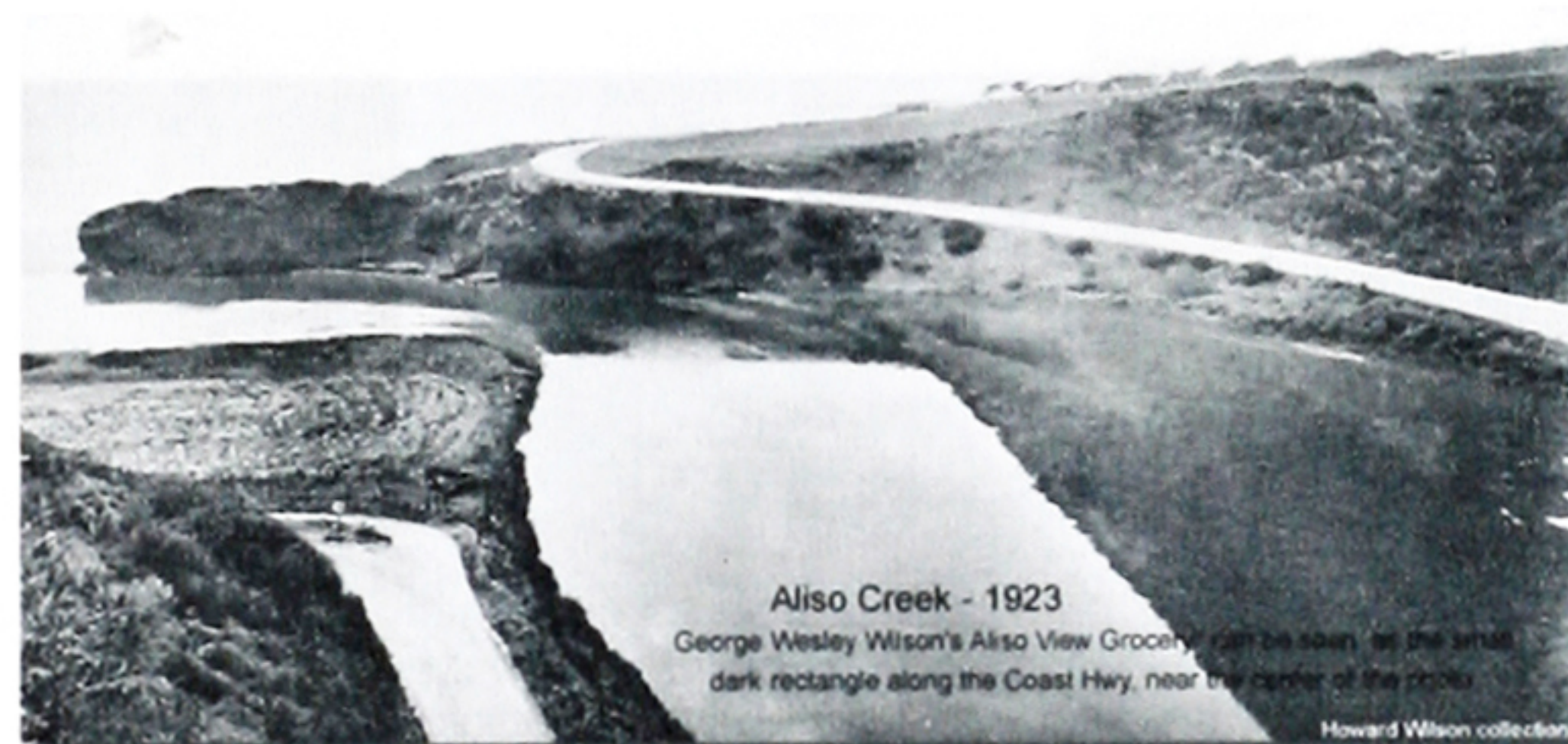
OWNER OCCUPIED 2.23
RENTER OCCUPIED 1.78

HOUSING

OWNER OCCUPIED 60.1%
RENTER OCCUPIED 39.9%

BEACH ACCESS

Irvine Cove
Crescent Bay
Shaw's Cove
Boat Canyon
Diver's Cove
Picnic Beach
Rockpile
Main Beach
Sleepy Hollow
St. Ann's Street
Thalia Street
Oak Street
Brook's Street
Mountain Road
Bluebird Canyon
Pearl Street
Wood's Cove
Moss Point
Rockledge
Victoria Beach
Treasure Island
Thousand Steps
Aliso Beach



TIDE POOLS

Crescent Bay
Shaw's Cove
Main Beach
Pearl St.
Moss Point
Treasure Island



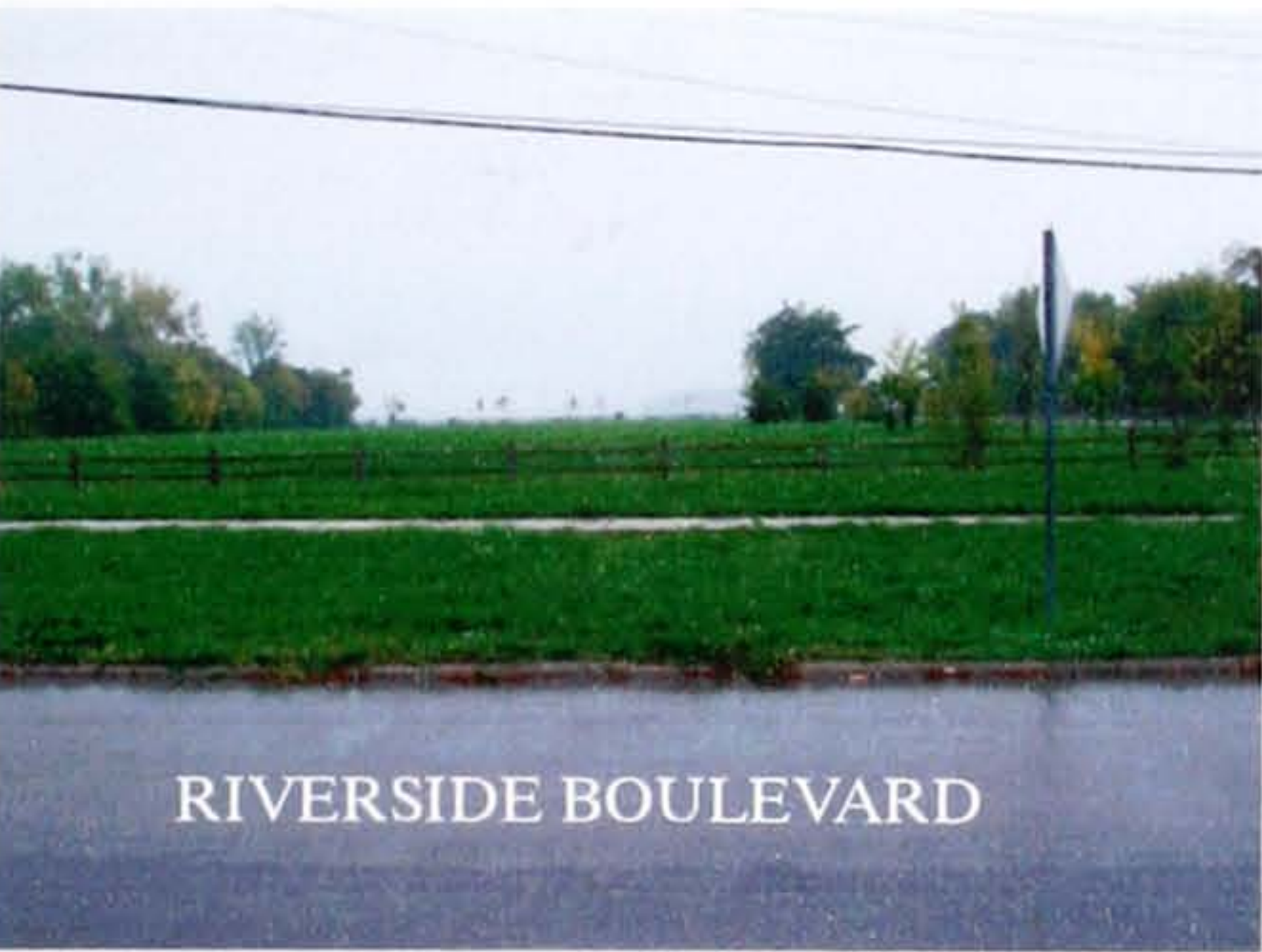
33degrees 32minutes North Latitude
117 degrees 46 minutes West Longitude
Elevation 9-400 Feet Above Sea Level

30

RIVERSIDE BOULEVARD DETROIT, MICHIGAN

ACCESS ROADS

| | |
|----------------|-------------|
| MAJOR | SIX LANE |
| EAST JEFFERSON | 1.2 MILES N |
| MINOR | TWO LANE |
| ALTER | .1 MILES NE |
| RIVERSIDE BLVD | CONNECTING |



41degrees 21minutes North Latitude
82 degrees 56 minutes West Longitude
Elevation 574 Feet Above Sea Level

Prevailing winds SW 10.4 mph

SKY COVER
SUNRISE TO SUNSET

| | |
|----------------|----------|
| -clear | 76 days |
| -partly cloudy | 105 days |
| -cloudy | 184 days |

SURROUNDING BUILDINGS

EAST OF ALTER ROAD:
DETROIT

Single family homes

WEST OF ALTER ROAD:
GROSSE POINT PARK

Single family homes
Medium sized community structure

ALTERNATIVE ACCESS

DETROIT RIVER
ONE CANAL



DENSITY

POPULATION 2000
14,470

HOUSING OCCUPANCY

| | |
|----------|-------|
| OCCUPIED | 85.6% |
| VACANT | 14.4% |

AVERAGE HOUSEHOLD SIZE

| | |
|-----------------|------|
| OWNER OCCUPIED | 2.43 |
| RENTER OCCUPIED | 1.88 |

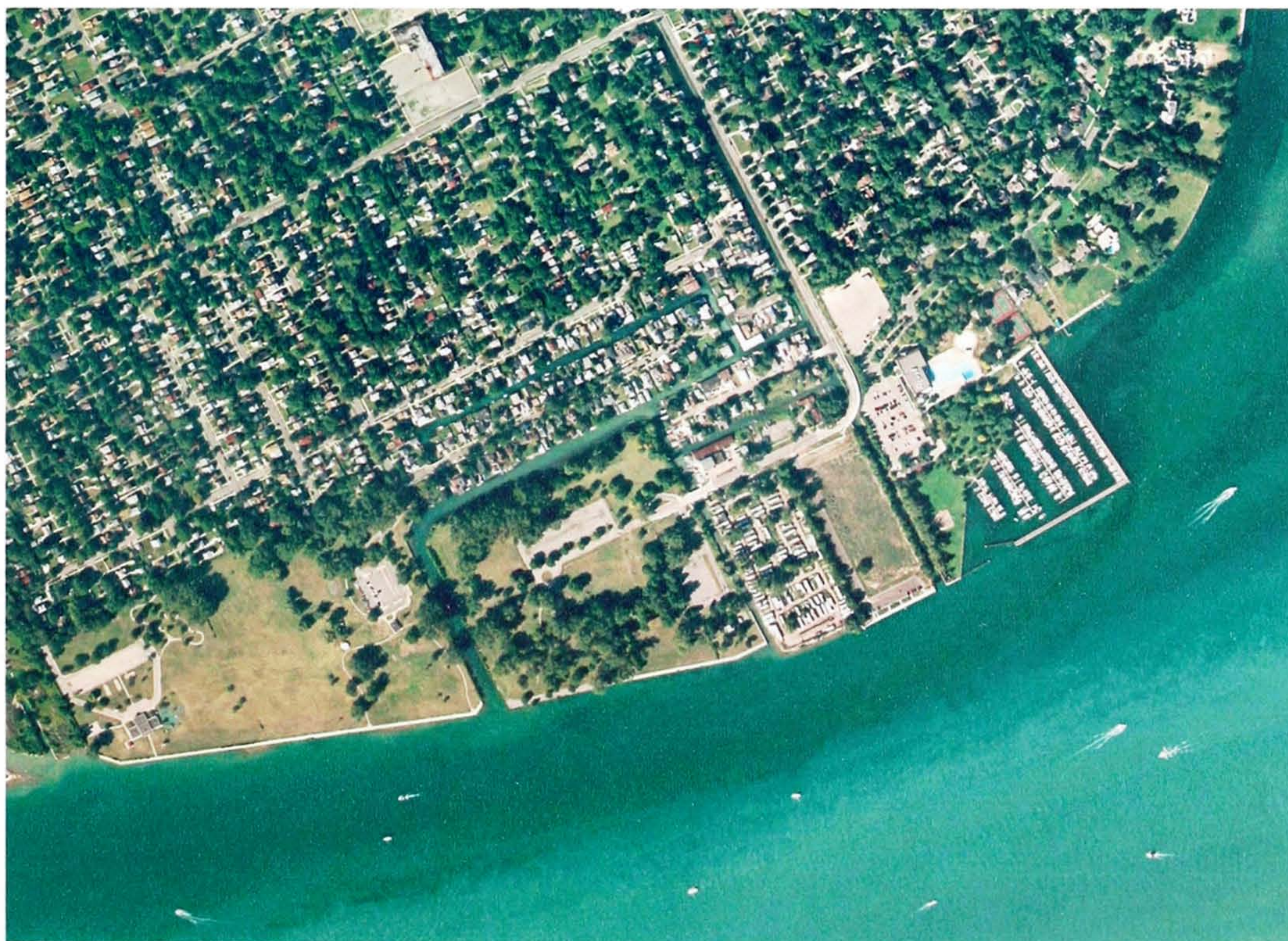
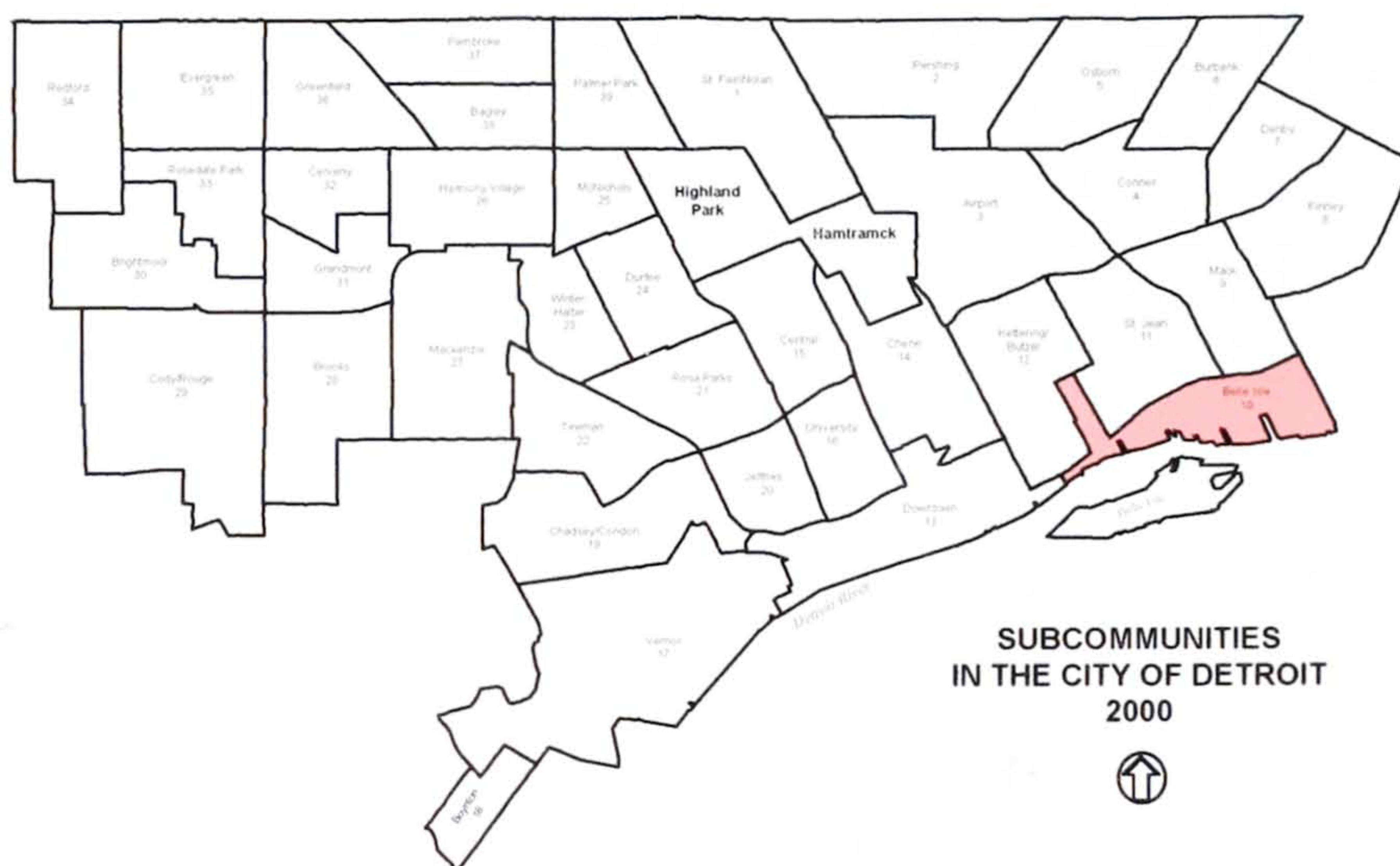
HOUSING

SINGLE FAMILY HOMES

| | |
|-----------------|-------|
| OWNER OCCUPIED | 39.8% |
| RENTER OCCUPIED | 60.2% |

MEDIAN AGE

| | |
|--------|------|
| FEMALE | 42.6 |
| MALE | 37.4 |



SITE HISTORY

WINDMILL POINT LIGHTHOUSE 1935



BEFORE MARINE HOSPITAL



U.S. MARINE HOSPITAL 1949 AND TRAILOR PARK



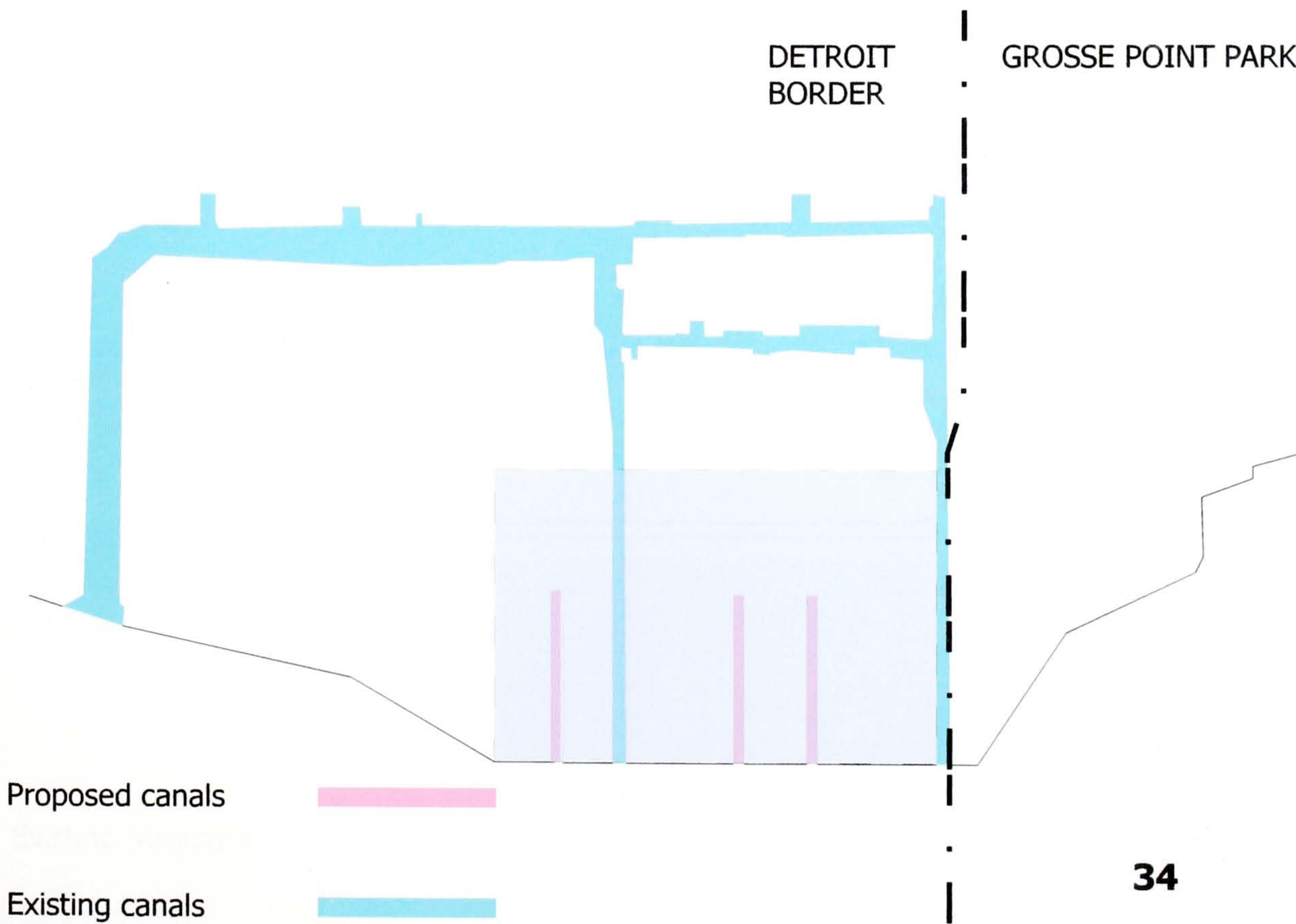
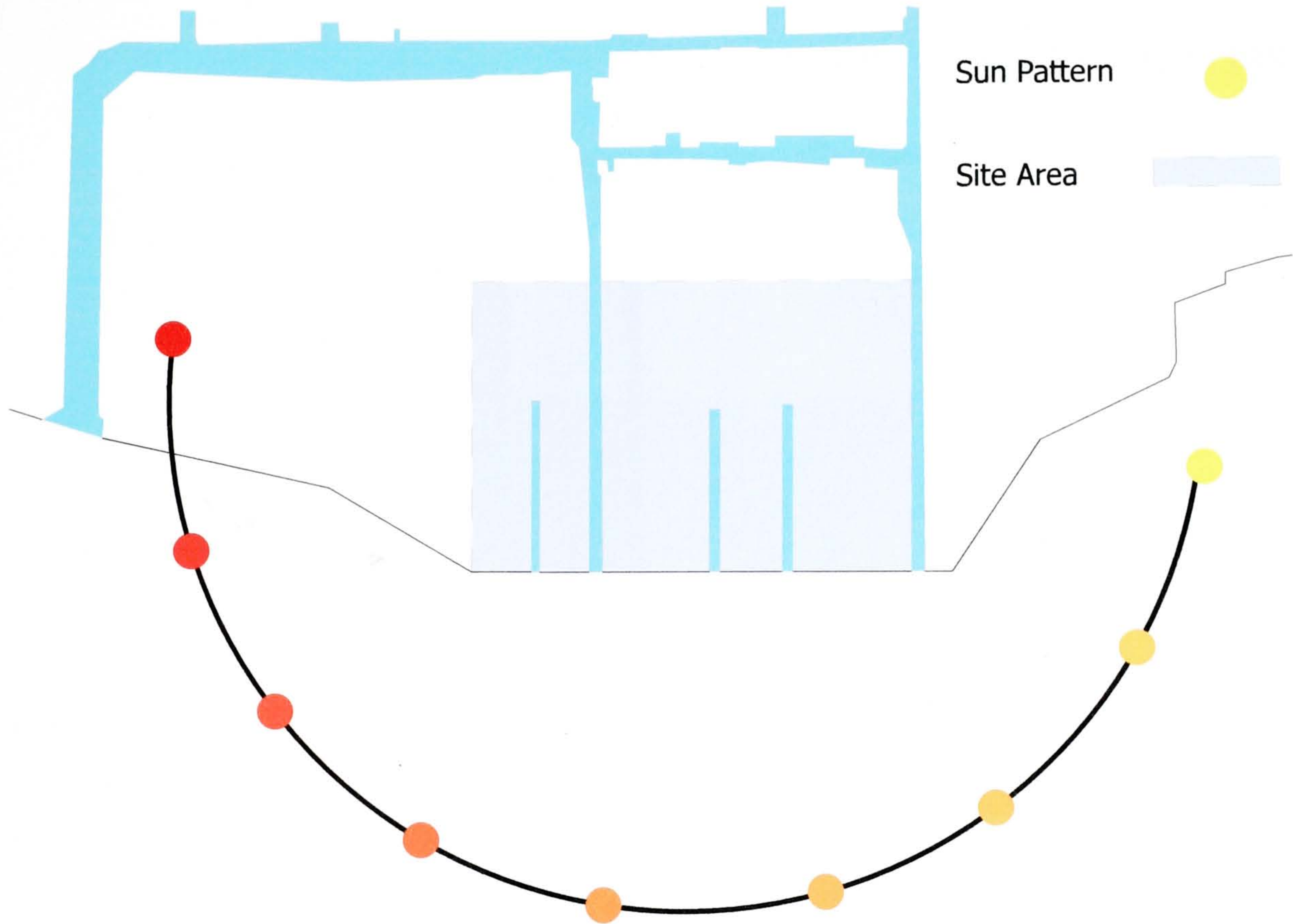
1981 RUINS OF MARINE HOSPITAL AND TRAILOR PARK

U.S. MARINE HOSPITAL



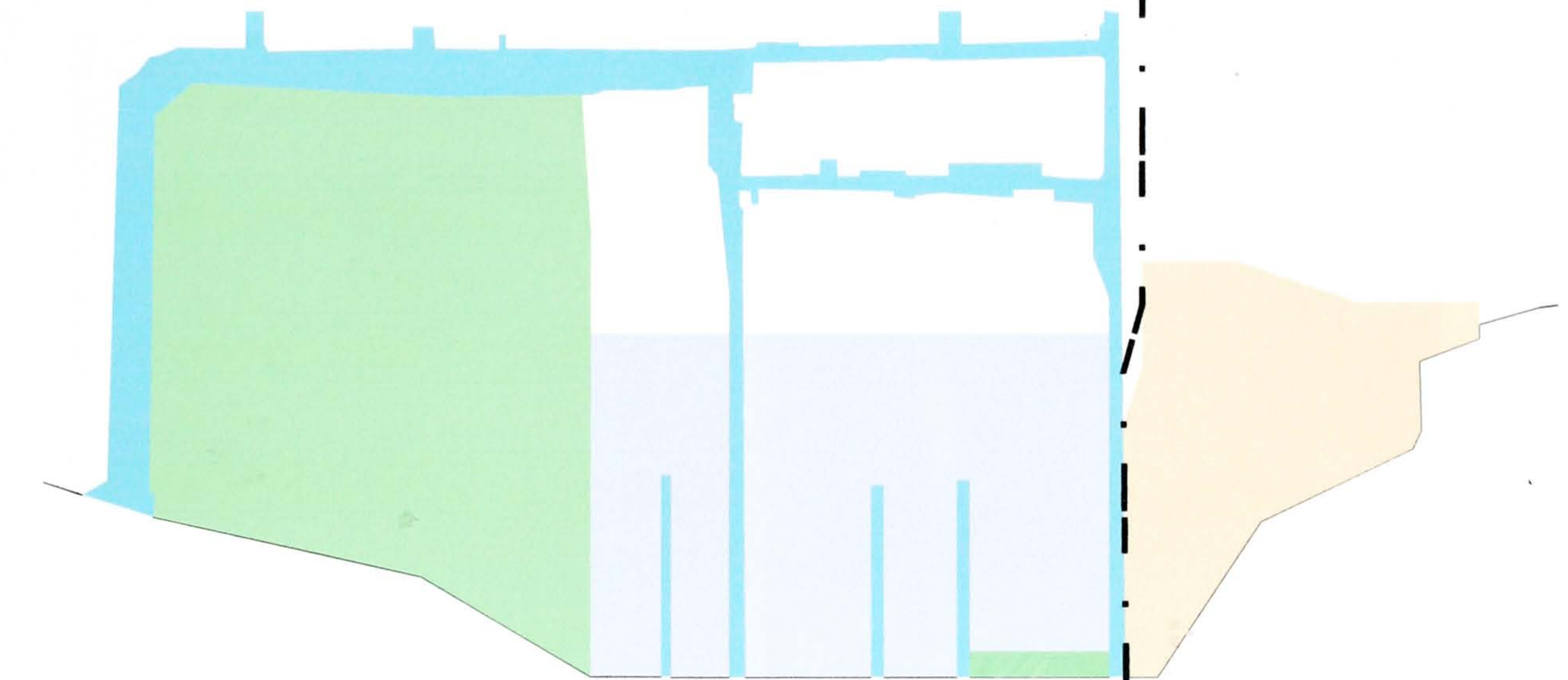
LIGHTHOUSE AT WINDMILL POINT 2005





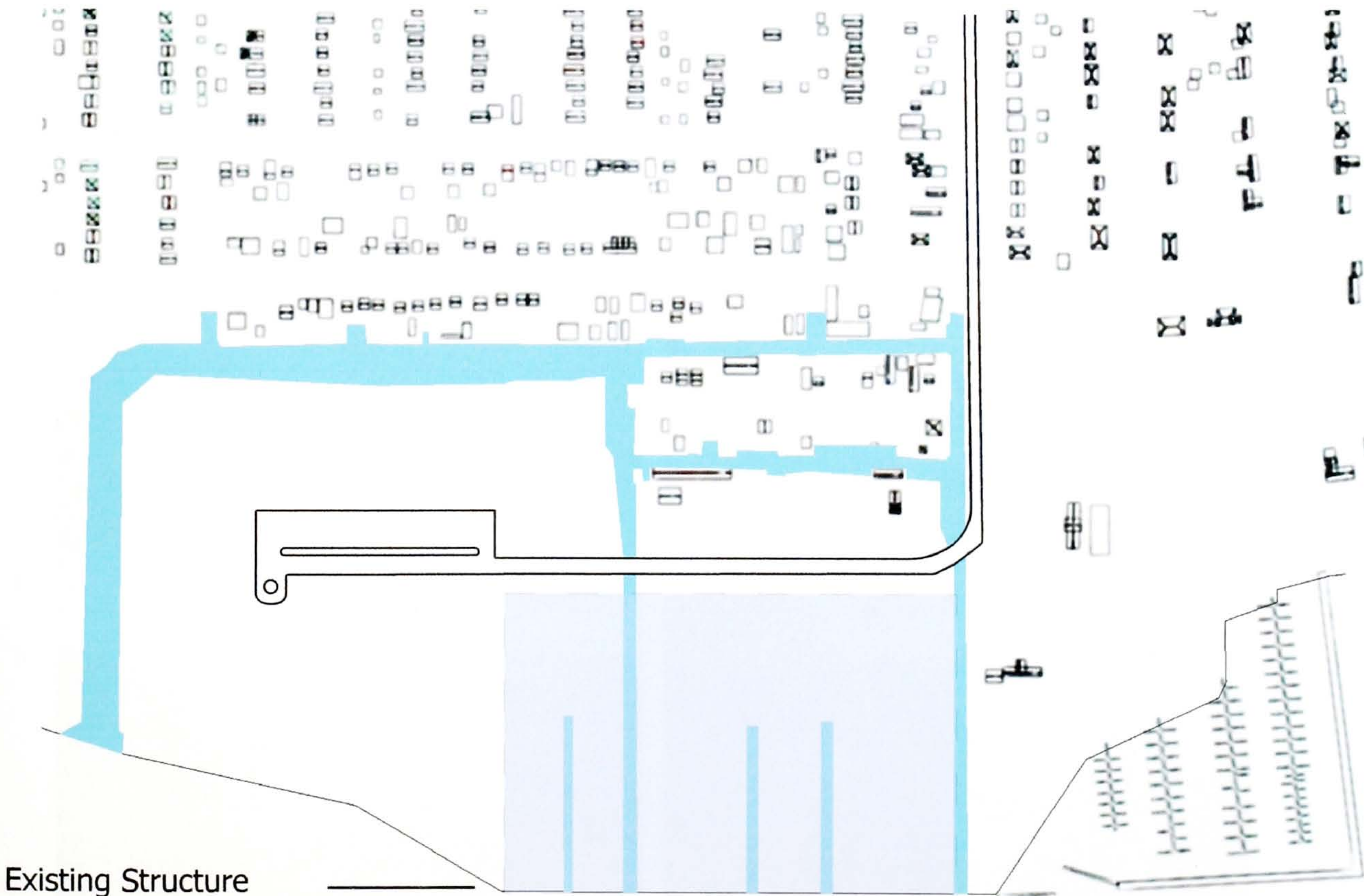
DETROIT

GROSSE POINT PARK



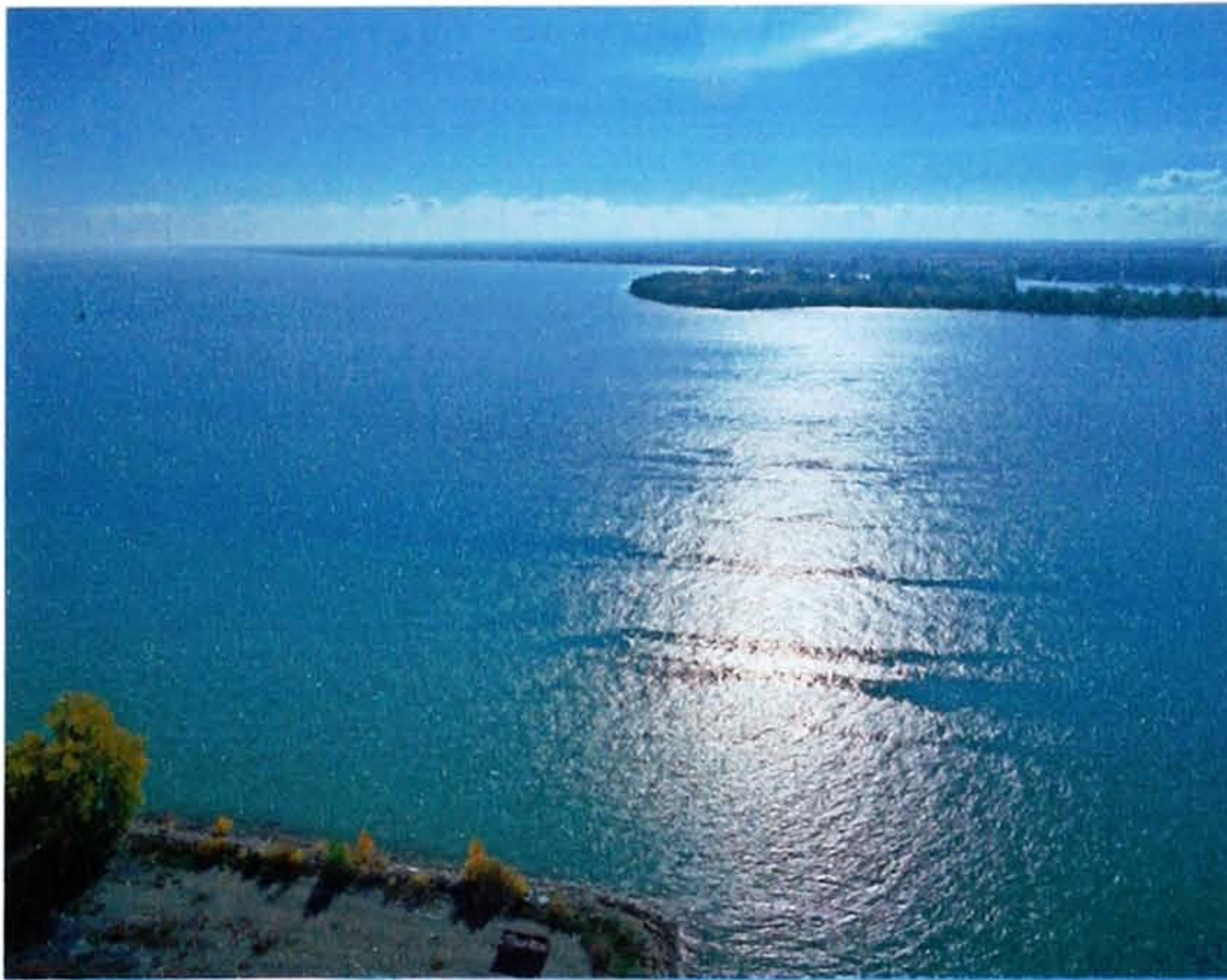
Public Space

Privatized Public Space



Existing Structure

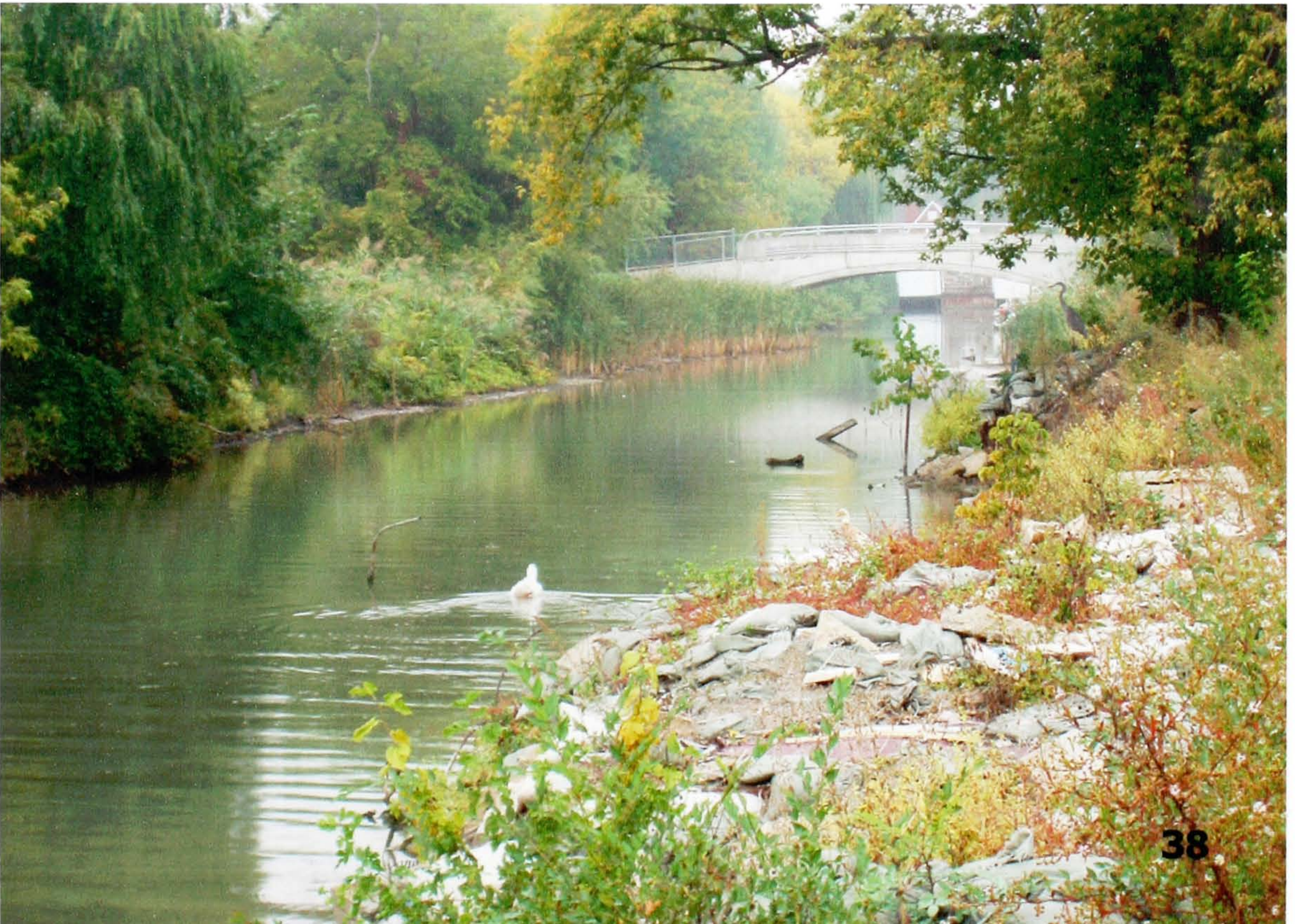
Areal view of area bordering the site

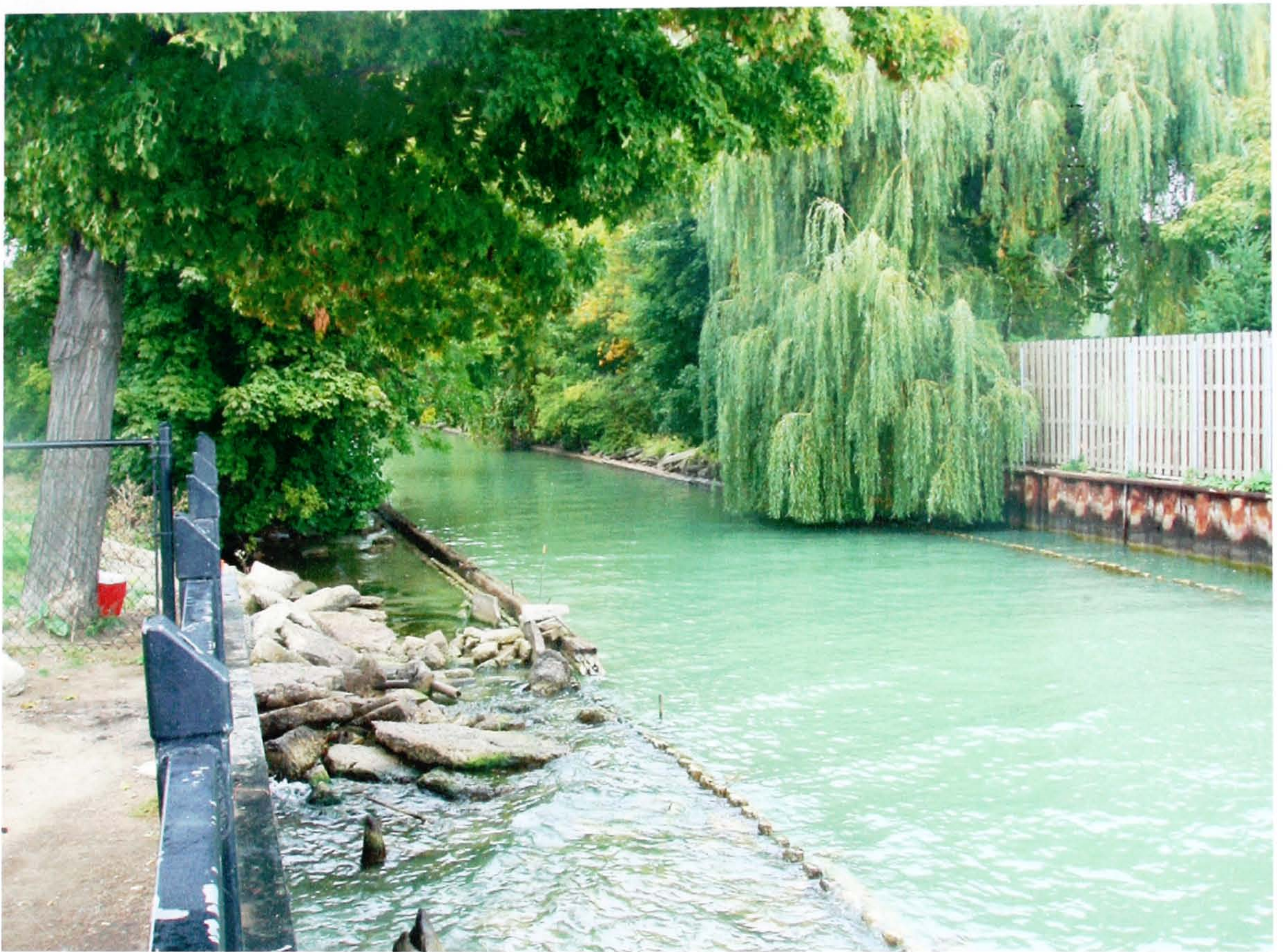


Areal view of the site taken above the Detroit River Looking North



Pictures of the canals that run through and next to the site.





Project Identification

The Canal Housing Works project is a housing development that deals with the complexity of life and the different needs people have developed either through their lifestyle, personal preference or other choices they have made. The site for the housing development is on the southeastern most part of Detroit. It is situated on the Detroit River and has canals that run through and next to the site. The site itself is approximately 11.5 acres it has a public park adjoining it on the west. The south border of the site is the Detroit River in which a canal runs into it along the eastern border of the site. On the North side of the site Riverside Boulevard forms its edge with a small marina opposite the road once past the marina going north another canal is present on the north side of which are single family homes. The key issues having to do with site are the canals, the river, public and private space as well as the border with Grosse Point Park on the eastern side. As they appear now the canals are between thirty to forty feet wide changing due to poor maintenance in some areas and buildings in others.

Key Elements:

- Development of housing
- Grosse Point Park – Detroit border
- Development of site
- Canals
- Detroit River and water activities that are a part of it.
- Surrounding community

Articulation of Intent

The intent of this project is to cultivate a medium density housing development in which place is prime force that drives the design. The Canal Housing Works project is one that will attempt to cater to a variety of different lifestyles one that is similar in nature to the Java Island project in Amsterdam. The housing will be developed so that these lifestyles are not separated but mixed together forming a diverse community in which people can live.

The program is to revolve around three different types of residences:

- 1) Row type housing for single families
- 2) Flats for either small families or single people
- 3) Lofts for people that are either younger or have a more transient lifestyle

Qualities of Spaces

A. Quantities required

In this housing exploration there will be different housing typologies in use including the single family home, single occupant flats, row type housing, among others, that will include full time residents and part time residents such as the "snow birds" as well as renters and owners. As the typologies vary the unit sizes will differ as well, for example the single occupant flat will be approximately 850sq feet where as the single family home can be up to 3600sq feet. The number of units will be roughly 13 per acre of the gross area of the site, which is from road to river and from canal to edge of park approximately 11.8 acres for a total of around 150 units.

B. Purpose/Functions

Like a jigsaw puzzle with many pieces this project can be viewed as a process of fitting together of parts to form groups that explore boundaries and when put together as a whole will still give individual aspects woven into the completed work.

Each unit will have an entryway with its qualitative use and connection to the rest of the space varying by housing typology, for example the single family home will be larger than a single occupant flat, but will have the same function as a place of greeting and situating as well as discarding and preparing. This space is where public leads in to public in a certain way but also to the private (and vice versa) in the aspect that is owned property.

The kitchen is an activity place and should be considered as a space that is likely to be used during meaningful human experiences. The structure of the kitchen should be one of a semi-private layout. In which specific singular actions will be brought into focus as well as being capable of perceptually extending beyond its concrete boundaries.

The living area will be designed to become the second most public area of the living unit, as a collecting place for the inhabitants to gather in a comfortable atmosphere and depending on the housing situation will have direct links to outdoor spaces. This space may serve as a rainy day area or a nighttime winding down area so there is a consideration to exterior elemental phenomena. This space should be directly accessible from the entryway as an extension of a public place where the experience of human interactivity is the prevailing action.

The area of space that will link the public living area and the kitchen will be the dining room. This area collective place however in as much as it is considered a gathering place it is situational and should be a more subtle experience of coming together, one in which objects or actions as they are experienced by subjects can become a focus of the space. In celebration of the act of dining there should be architectural elements

such as walls, arches, windows or some other construct that coincides with the movement through the one particular room to the other.

The office will be a private area with dual uses and multiple functions the foremost of which should be the accomplishment of tasks that are associated with the inhabitant's obligations to perform needed duties. As well this should be an area capable of reflection in which discretion of the individual to outside influences are discouraged. This space should be detached programmatically from most of the other areas of the dwelling unit and somewhat elevated to consummate the idea of a different purpose.

The bathrooms will vary in size from use to use and from unit to unit with some requiring use from guests to others that are personal retreats from a long day of work. Depending on the function of the bathroom (as it is in an example on that is exclusive to the master bedroom), it can be considered a retreat or cleansing place where an act such as bathing can be a direct sensory experience focused on the subject as they are engaging in a specific act.

The bedrooms are private areas that will engage exterior views as a personal experience. These are to be intimate spaces where the focus is on how the inhabitants act when they are in a secluded setting and how the sentient influences the sensible.

Laundry room/ Utility room will be designated as public space for the apartment like units and as private spaces for the individual housing units. Where it is a public space there will be a utilitarian type layout where laundry duties will be done, where as in the individual residences the space will be characterized by the needs of movement by a single individual.

Parking spaces/ Garages are areas along with there use as a storage place of our vehicles will be situated in a way that it is an act of observing and being observed by the neighbors. The idea is to allocate the resident parking so that an interior perimeter of parking is provided to establish a community of public space where the the opportunity of participating in similar acts constitutes a connection for the neighbors.

C. Activities

The activities for each room will sometimes overlap as well as being specific to an allocated action, for example the kitchen will be primarily designated for a place of preparing meals but it can also be a place where conversations occur and eating can be done as well.

The entryway is a space where greetings and farewells occur. Also the space will be used as temporary storage for small items such as jackets, shoes, umbrellas, car keys, etc... that will be used in the preparation of leaving and the discarding of these objects upon entering.

The kitchen will be a place where food is prepared (cleaning, washing, cutting, slicing, blending, mixing, measuring, etc...), dishes are cleaned as well as an informal dining area where food will be eaten.

The living area is the relaxation activity center of the dwelling unit where people can sit and converse or gather to watch a ballgame on the television, do small projects, play video games, read, as well as just relaxing and unwinding.

The dining area is a place where meals are eaten and conversations occur in a semi formal setting.

The office space is where work is done relating to the occupants job or studies. This will be a place also where the computer can be located and research done as well as other computer related activities such as surfing the web, editing pictures, paying bills among many other activities. This will also be a place for reflecting or other quiet actions such as reading or writing.

Bathrooms will be used for toiletry needs such as cleansing, grooming, and other biological needs.

Bedrooms are primarily for sleeping, but other uses are dressing, and addressing of a new day as well as relaxing.

The laundry room is where washing, sorting, folding and ironing will take place and in the instances where it is a public space will involve communicating as people wait to finish their laundry.

E. Special considerations

Special considerations will develop as the schematic design develops and will addressed independently of each other and how it reflects the program as a whole

F. Equipment / Furnishings

No special equipment needed.

G. Behavioral Considerations

The unit sizes and spaces will be programmed by their typologies. The correlation of interior spaces will be continued on the exterior with connected spaces such as patios, balconies, decks, and terraces. This will be directed to provide a deliberate focus to certain phenomena to the typology addressed, for example the single occupant flat will not have need for a formal dining area compared to the single family home.

H. Structural Systems

Due to the site and its development there are issues that need to be taken up structurally. The first relates to the additional canal and what type of seawall will be used as well as the existing canal running through the site which currently has an earthen bank. Also the seawall on what is the middle portion of the property on the riverfront is composed of piled up concrete boulders where the other portion of the riverfront seawall is a concrete wall. Another consideration will be bridges that cross the canals on the riverfronts and one that will be needed further in on the site.

I. Mechanical / Electrical

Conventional mechanical and electrical systems appropriate to the needs of housing unit. Considerations for elevators will be developed as the size of each system should be to facilitate a coded approved function.

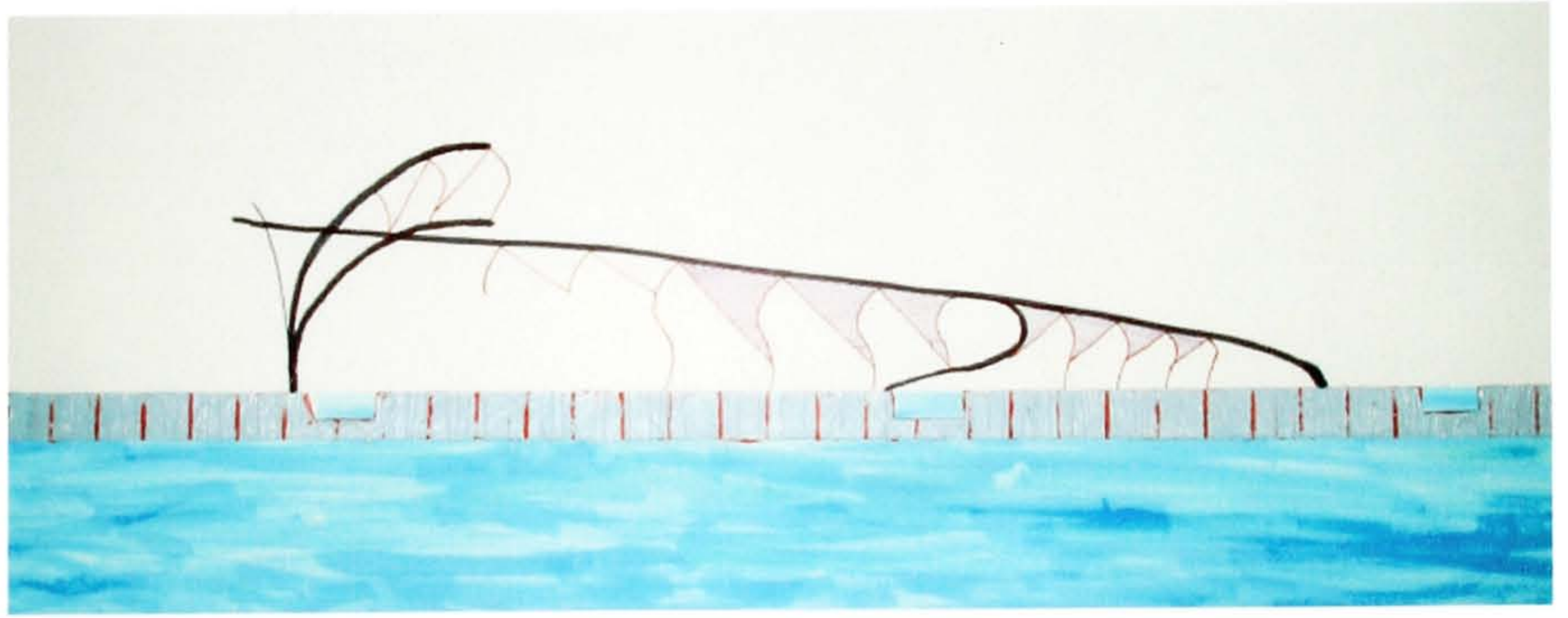
J. Site / Exterior Environmental Considerations

There are two primary exterior conditions particular to this site. One is a physical entity which penetrates the site and borders it on two sides. The other is Justas powerful but a bit more subtle use of a boundary that is not in itself a physical object. The former is the Detroit River and the canals that run through and around the site the latter are at once more blatant and defining than the water is. This non-physical boundary occurs on the East side of the property which is the boundary line between the city of Detroit and Grosse Pointe Park. *What lies across on the East side of the canal* is a park and a small marina that is gated and inaccessible to all non Grosse Pointe Park residents. This park that is on the riverfront completely discourages a walkable link between the two riverfront properties and even goes so far as blocking off streets near the area that at one time ran unimpeded between Detroit and Grosse Pointe Park. There is also a park that forms the western edge of the site. Taken in context the idea of physical and non-physical barriers should be developed in concert with physical and non-physical connections. These ideas should be developed through the thesis and not as separate entities that are only addressed as site specific problems. To do this the actions and perceptions that can engage these two site conditions will be developed as specific experiences that although they may seem interrelated are considered separate perceptual experiences.

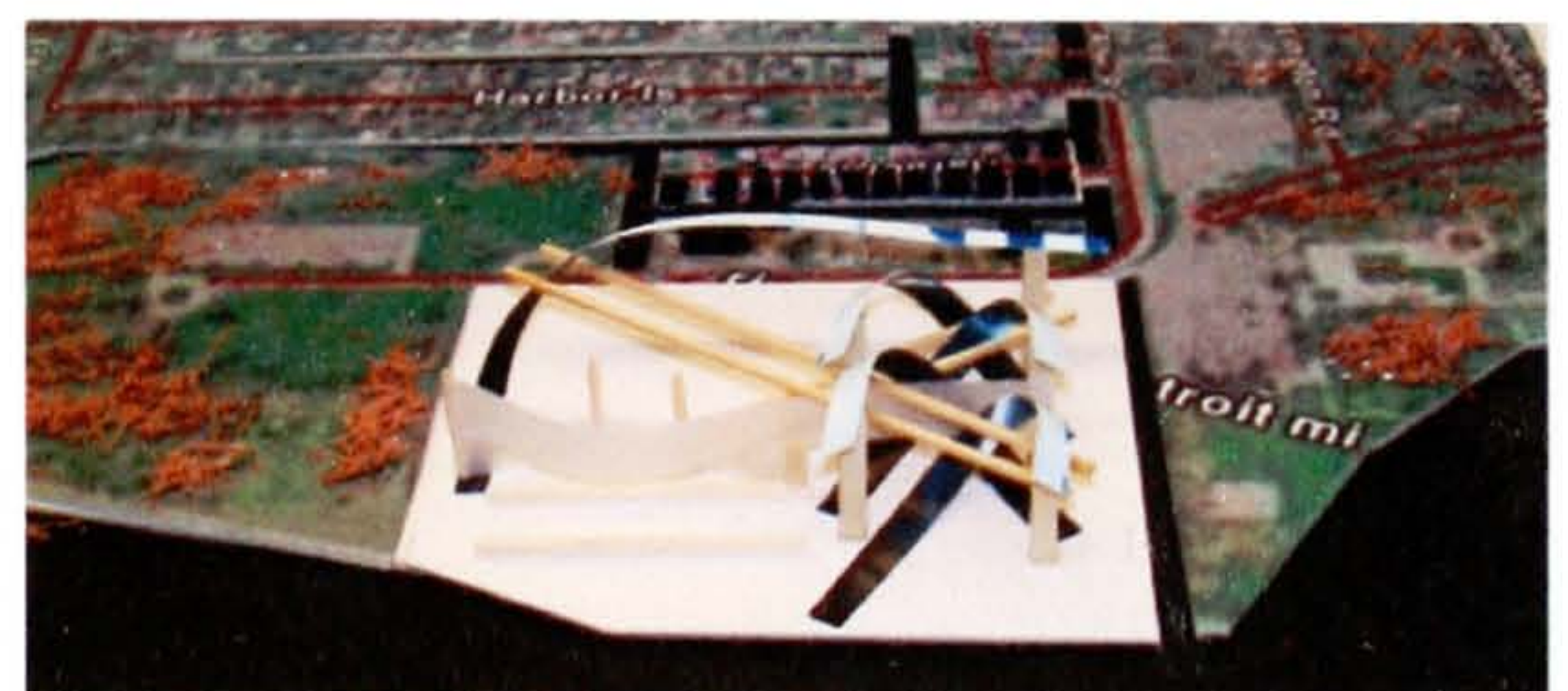
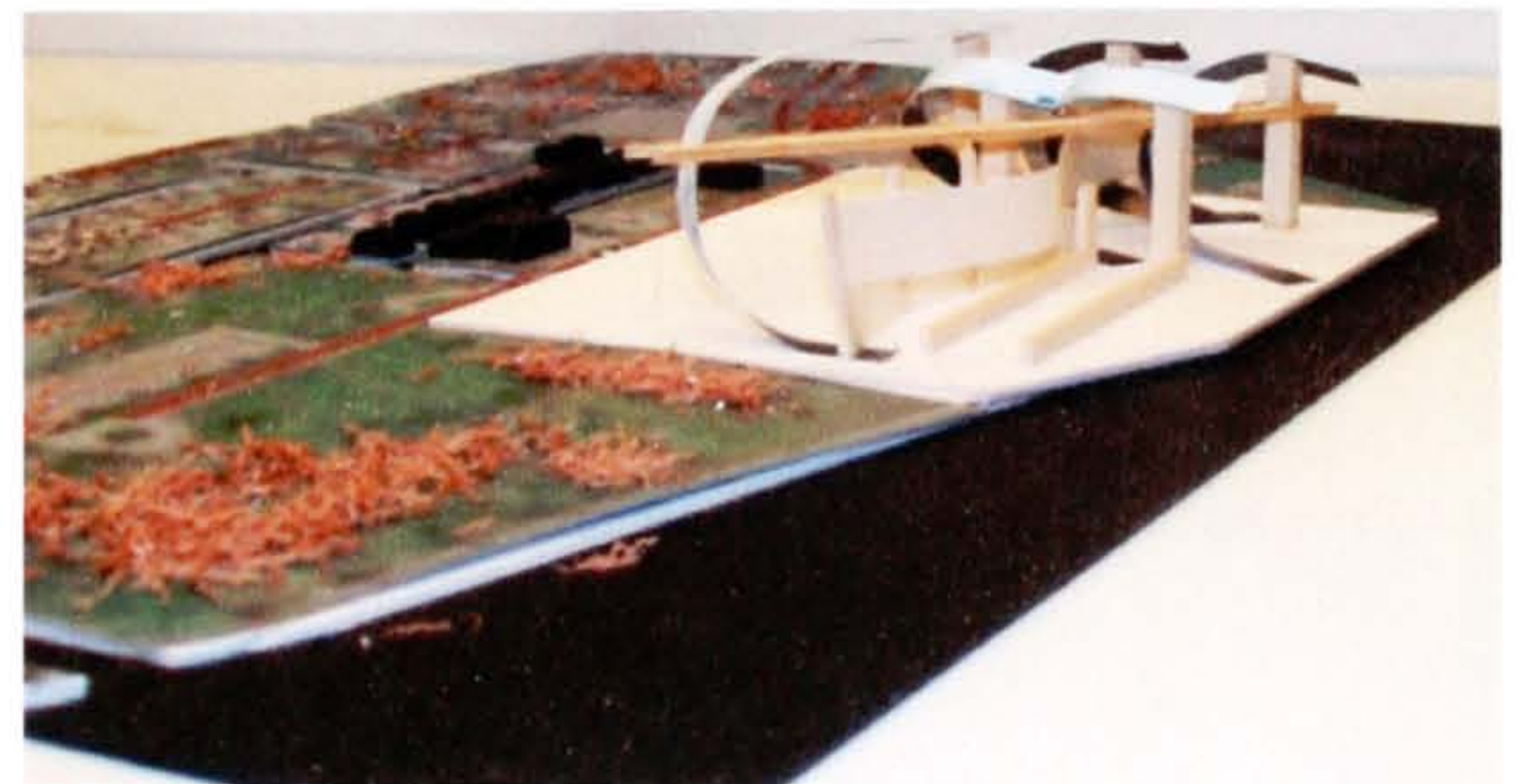
Quantitative Program Summary

154 units
11.75 acres gross area
13 units per acre

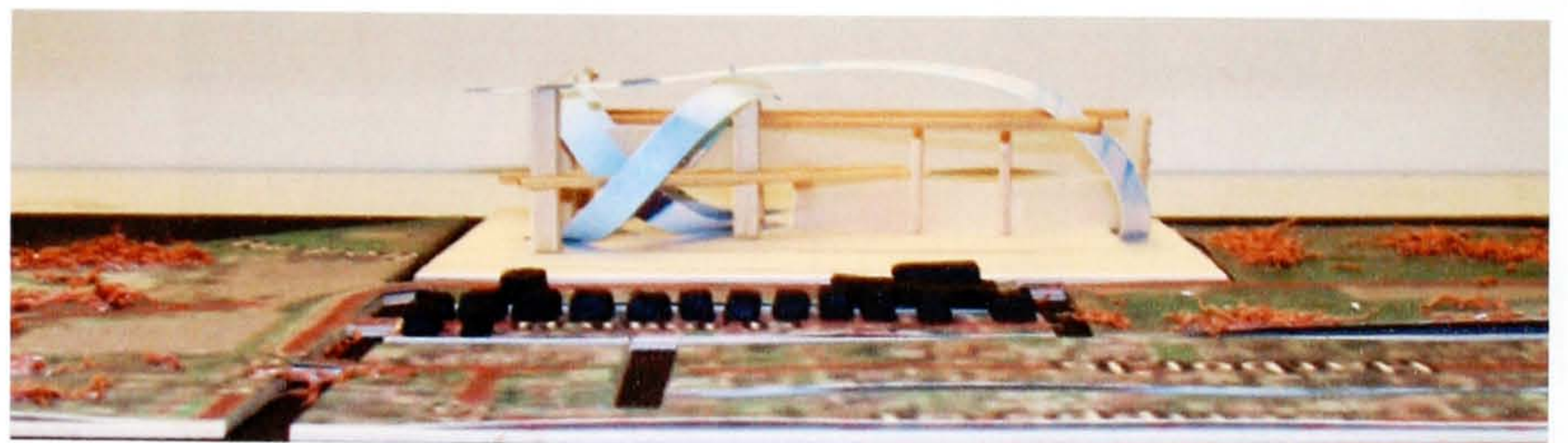
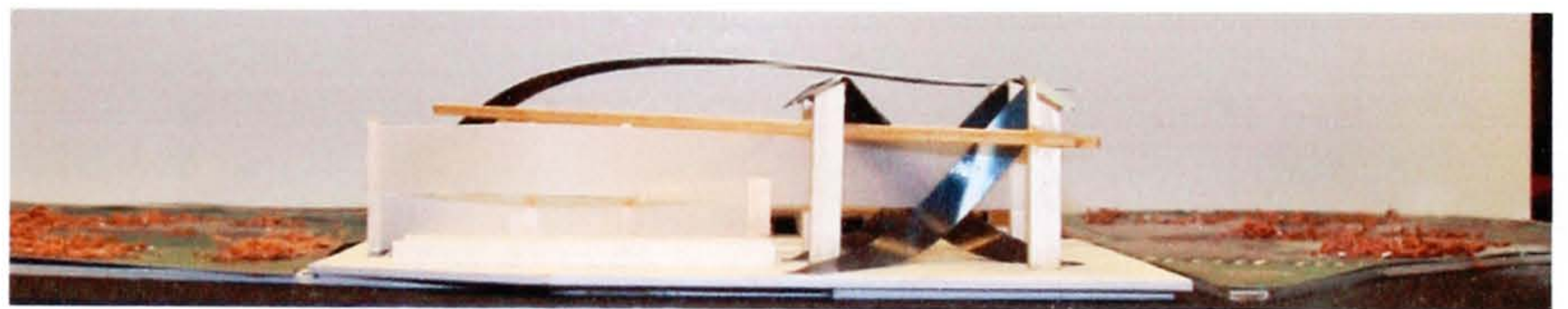
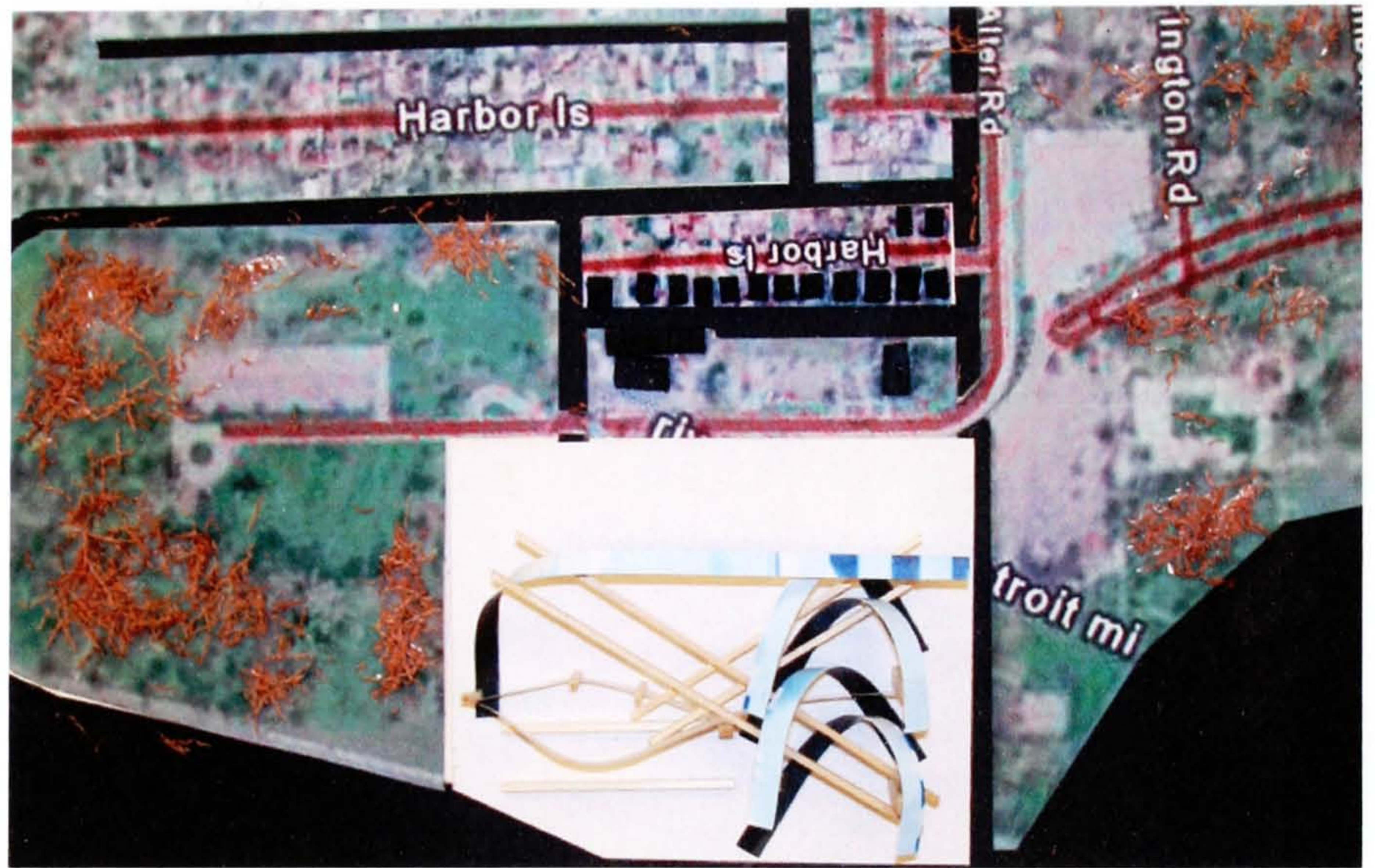
| | | |
|---------------------------|----------------|-----------------|
| LOFT 1 | 1600sq' | 16 units |
| Living Area / Dining area | 750sq' | |
| Kitchen | 150sq' | |
| Bathroom | 150sq' | |
| Bedroom | 400sq' | |
| Closet | 100sq' | |
| LOFT 2 | 1800sq' | 24 units |
| Living Area / Dining area | 750sq' | |
| Kitchen | 150sq' | |
| Bathroom | 150sq' | |
| Bedroom | 500sq' | |
| Closet | 100sq' | |
| Office | 150sq' | |
| FLAT 1 | 2000sq' | 36 units |
| Living Area | 400sq' | |
| Dining Area | 300sq' | |
| Kitchen | 225sq' | |
| Bathroom | 150sq' | |
| Bedroom | 400sq' | |
| Office | 150sq' | |
| Laundry | 100sq' | |
| Closet | 150sq' | |
| FLAT 2 | 2400sq' | 28 units |
| Living Area | 500sq' | |
| Dining Area | 300sq' | |
| Kitchen | 225sq' | |
| Bathroom 1 | 200sq' | |
| Bathroom 2 | 100sq' | |
| Bedroom | 400sq' | |
| Office | 200sq' | |
| Laundry | 100sq' | |
| Closet | 200sq' | |
| SINGLE FAMILY HOME | 3200sq' | 50 units |
| Living Area | 400sq' | |
| Dining Area | 300sq' | |
| Kitchen | 300sq' | |
| Bathroom 1 | 250sq' | |
| Bathroom 2 | 100sq' | |
| Bathroom 3 | 100sq' | |
| Laundry | 100sq' | |
| Bedroom 1 | 500sq' | |
| Bedroom 2 | 200sq' | |
| Office | 200sq' | |
| Closet | 450sq' | |
| Entry | 100sq' | |



The intent of thesis at this point was heavily influenced by place and the nature of the site. To begin to look at the site by the way of the phenomenon that was pervasive to the site and what events did they produce were questions that influenced the thinking of this study. Two things that were observed while visiting the site were the watercraft that were out on the river at the time and also there was a strong wind that was blowing inland. An idea was proposed to think about a form that could be based on the two elements seen at the site.

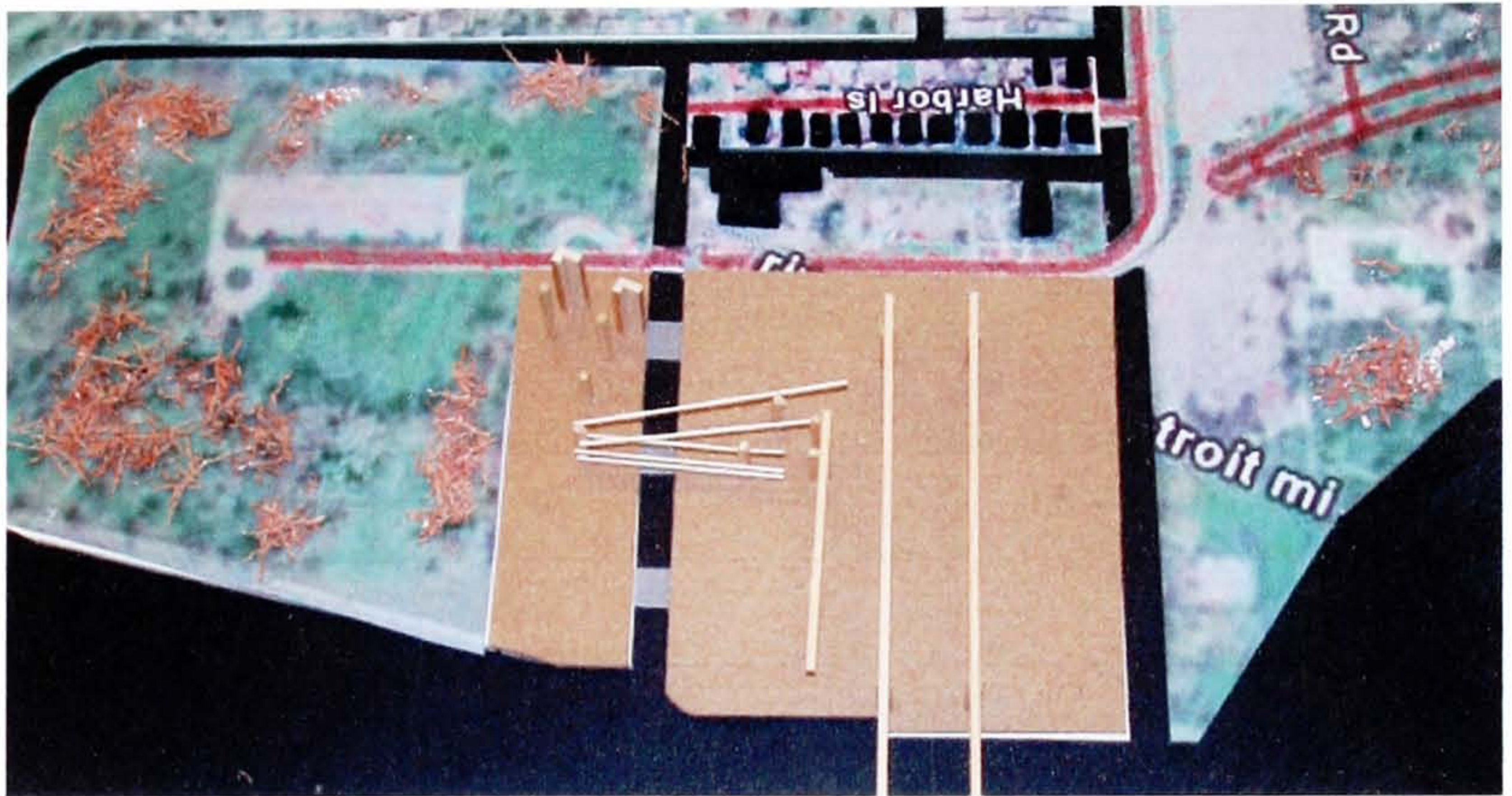
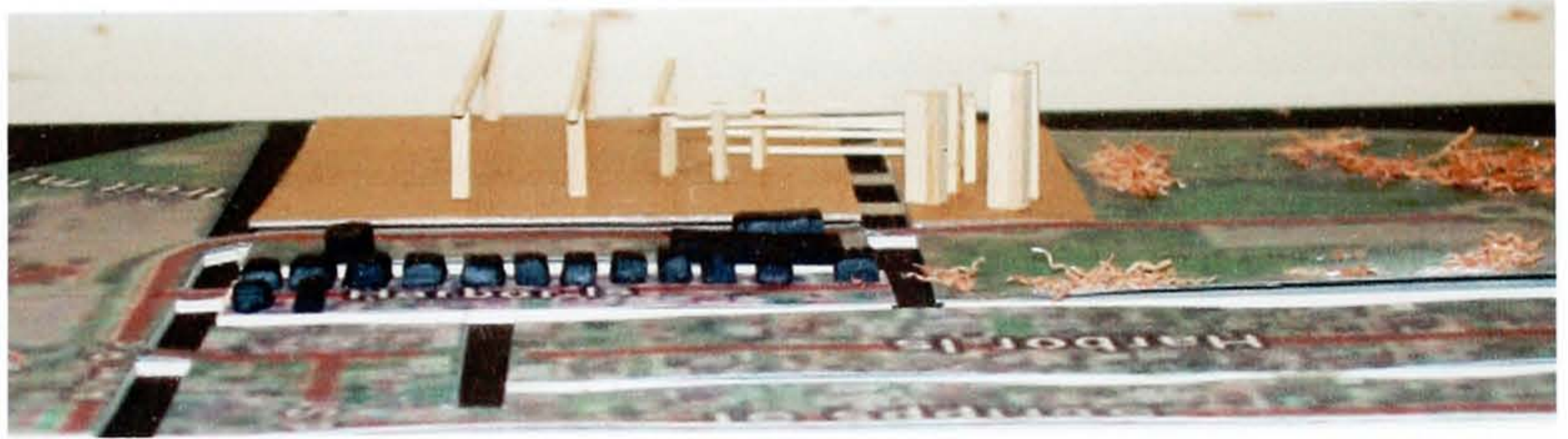


The form of the structure would take its shape from the act of a sailboat being blown over. At this point it was an attempt at trying to get a feel for the site without recognizing many of the issues that were involved. The curved shapes of the paper were in building form to represent billowing sails with a rigid frame that ran through the site to abstractly represent the mast.

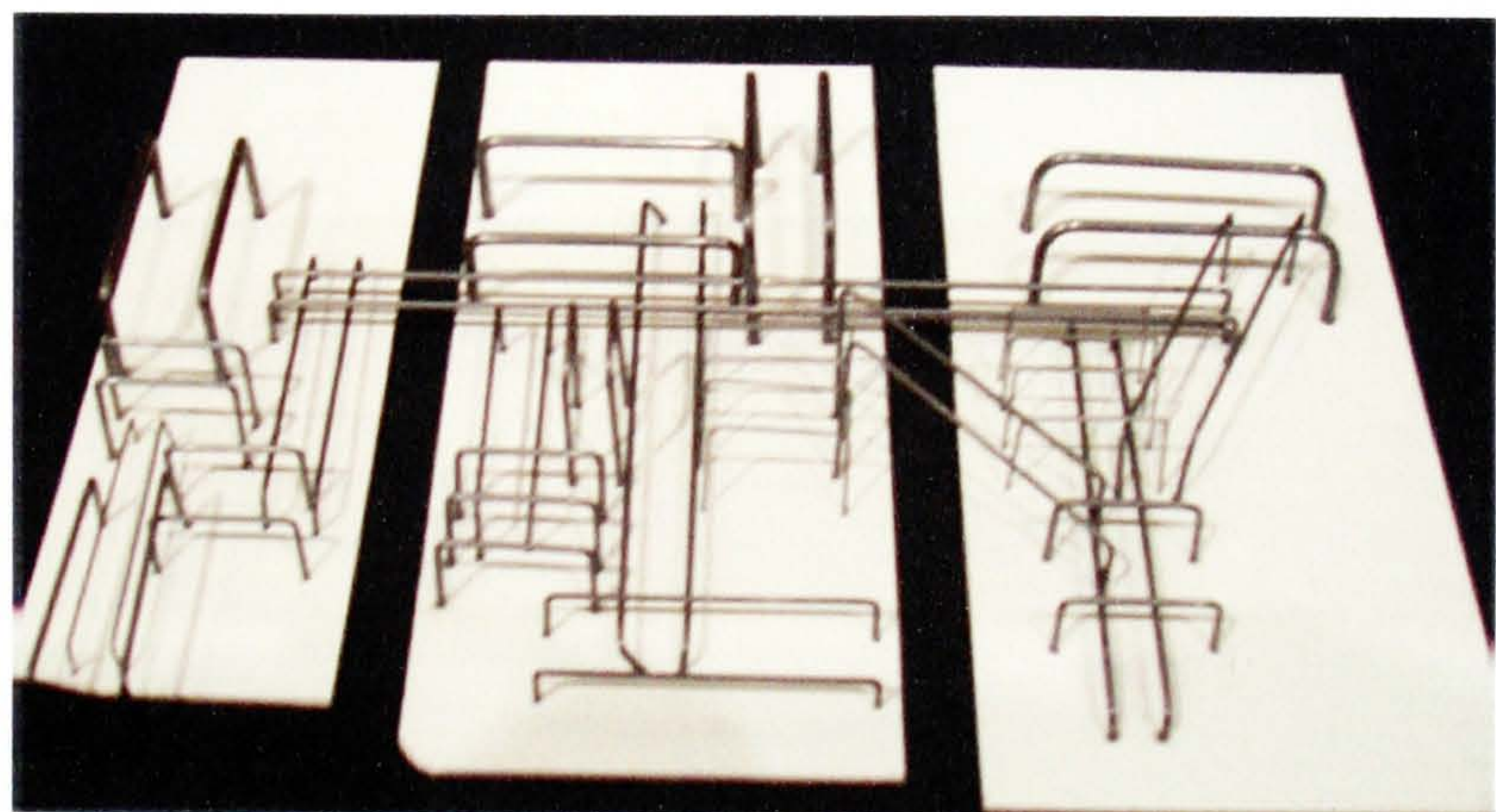
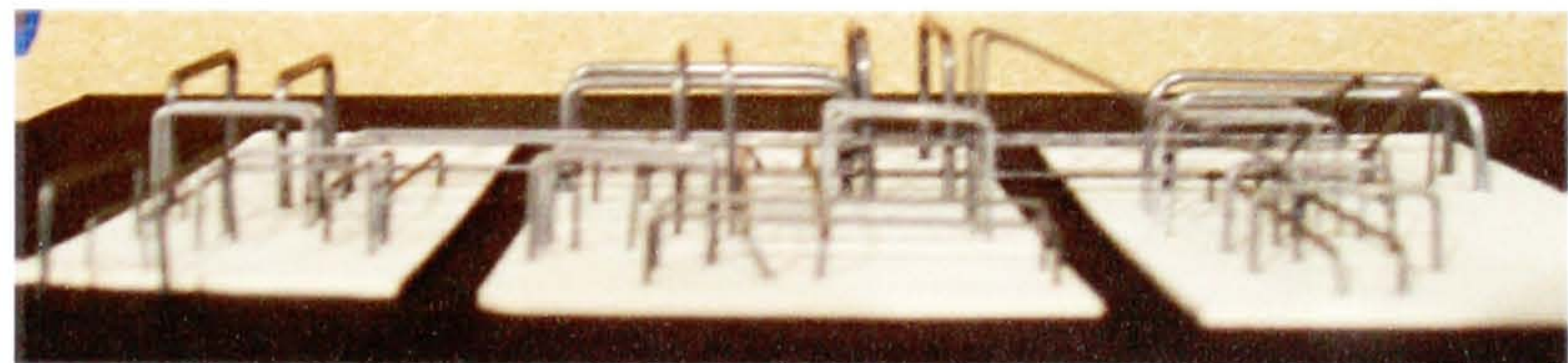


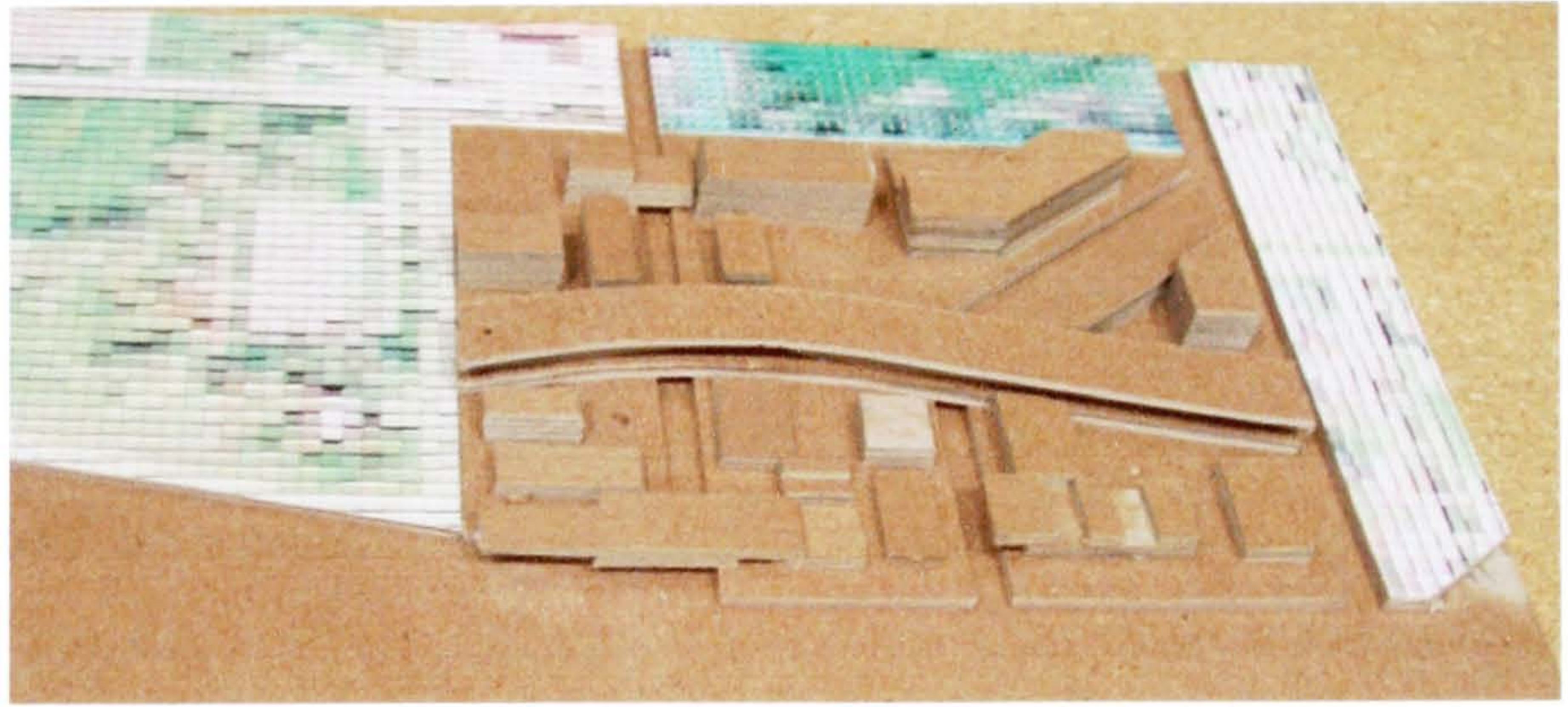
Transition

It was at this stage that a feel for the site as place and some of its implications were beginning to be questioned. The step that was taken to break away from the previous concept was to look back at what the thesis was looking to investigate.

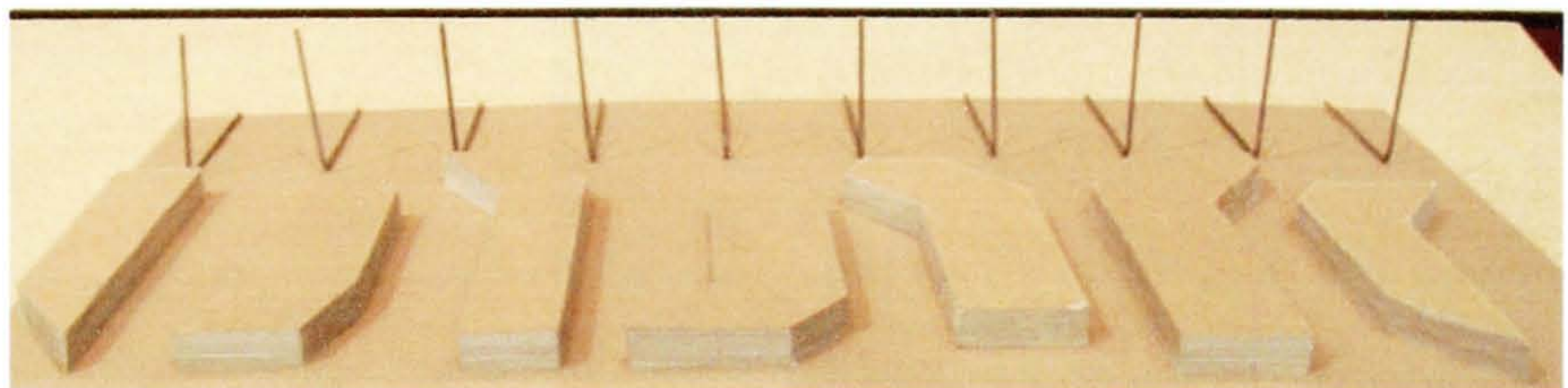


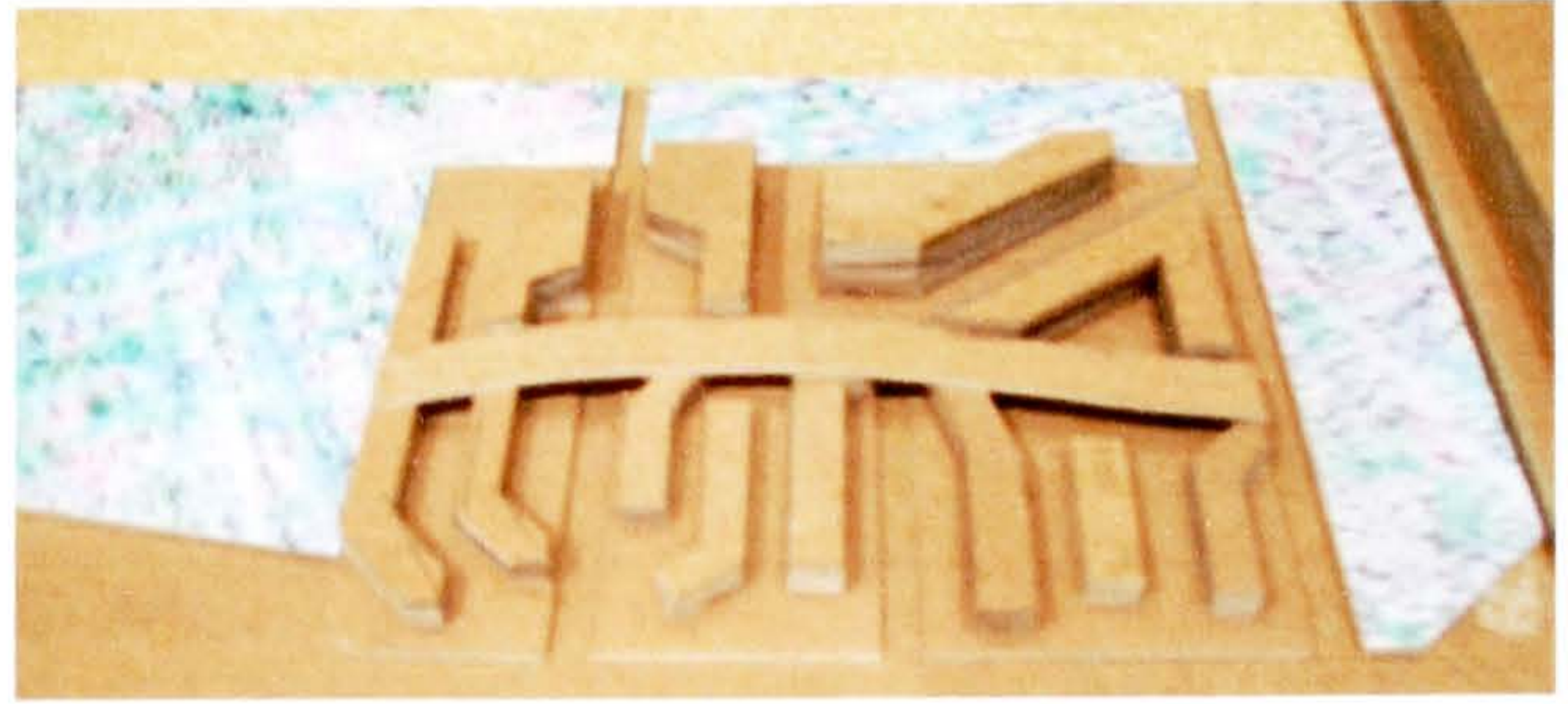
To retrace my steps back to the thesis I looked at what the final project hoped to accomplish, which was a medium density housing development. Thin steel rods were used to start a dialouge of the crisscrossing and connection of objects throughout the site.





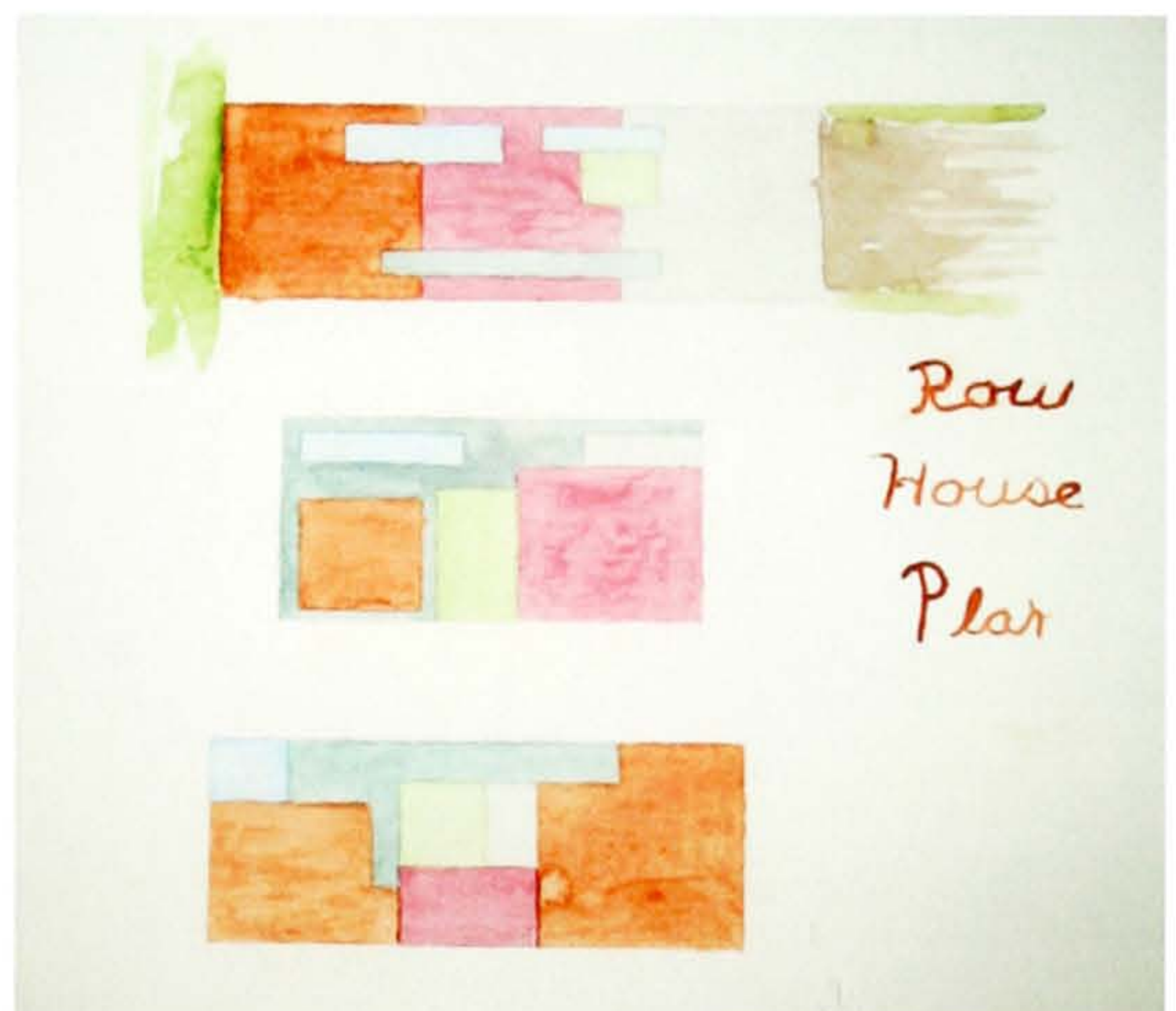
These studies started to look at the idea of a structure that would become an abstract version of a seawall in which there would be separate living experiences for the inhabitants on one side as opposed to the other. The wall structure that was to be built was not intended to separate the community, but the effect became apparent later.





A more refined attempt was made from the idea of the built barrier in which the form of the lower lying buildings would represent natural jetties that penetrate out into the water. Or possibly the view that the water itself had carved out the structures.



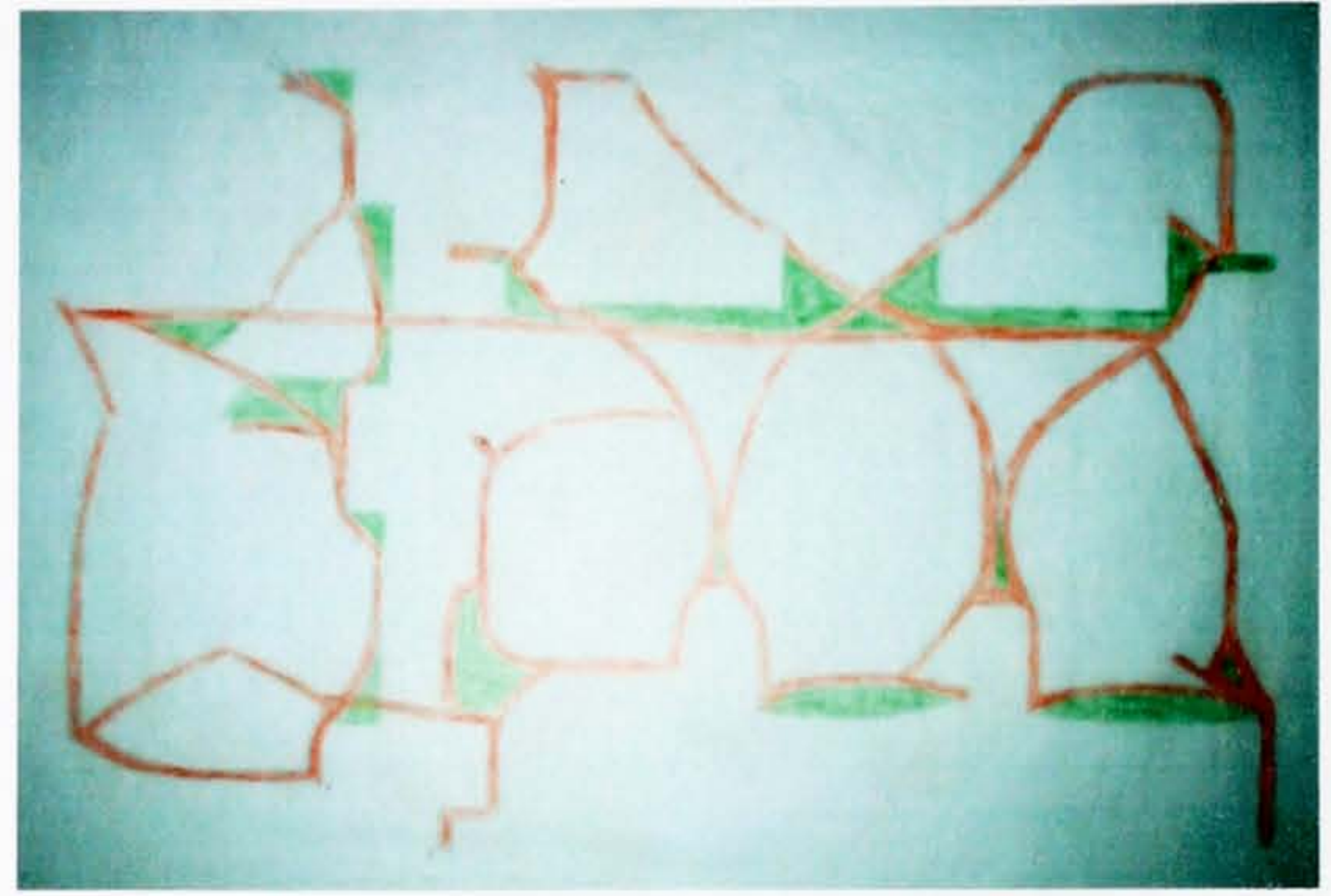


Watercolor paintings that were partially based on previous models. The paintings were used to relate to the smaller scale of the development.

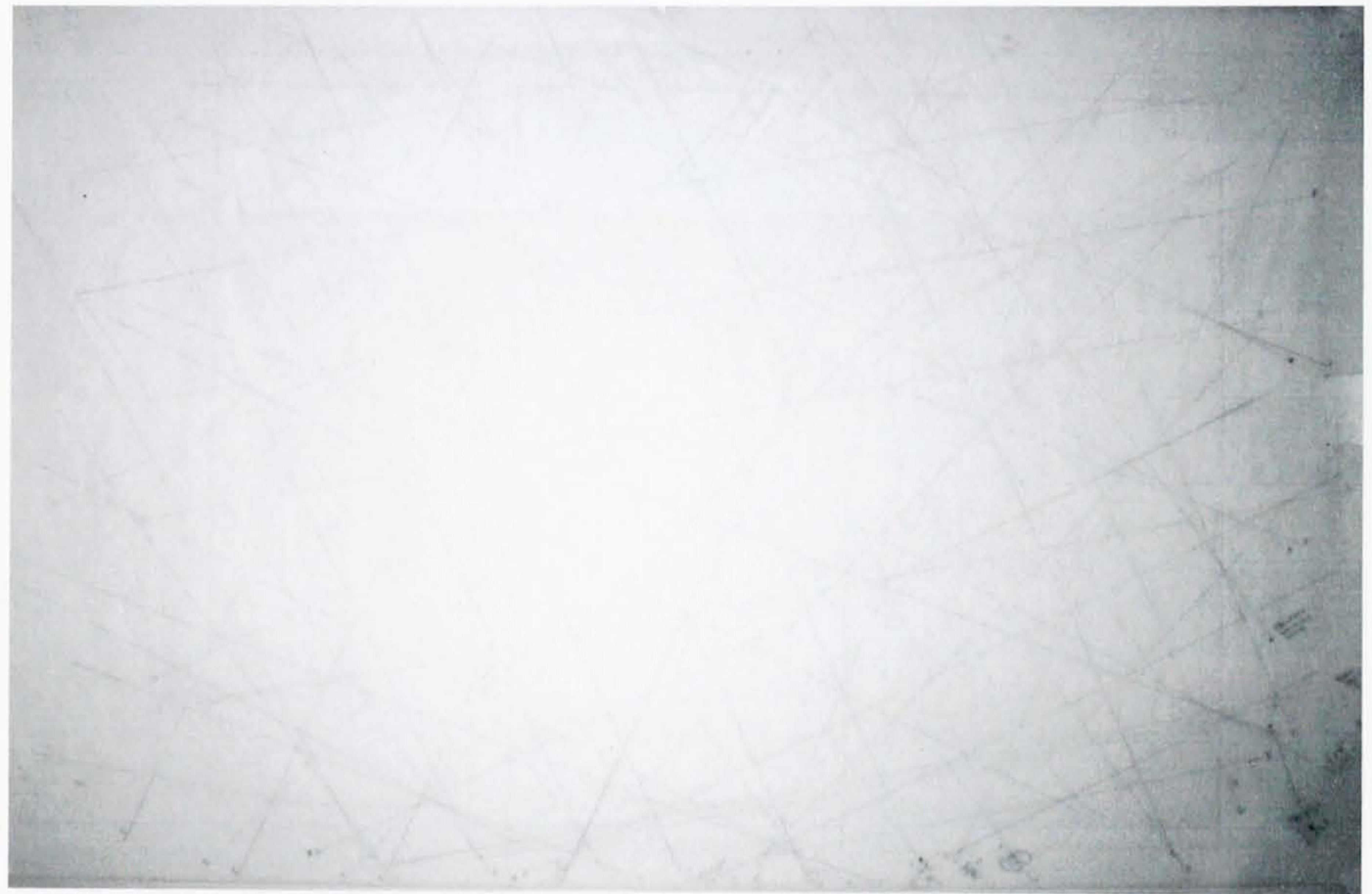


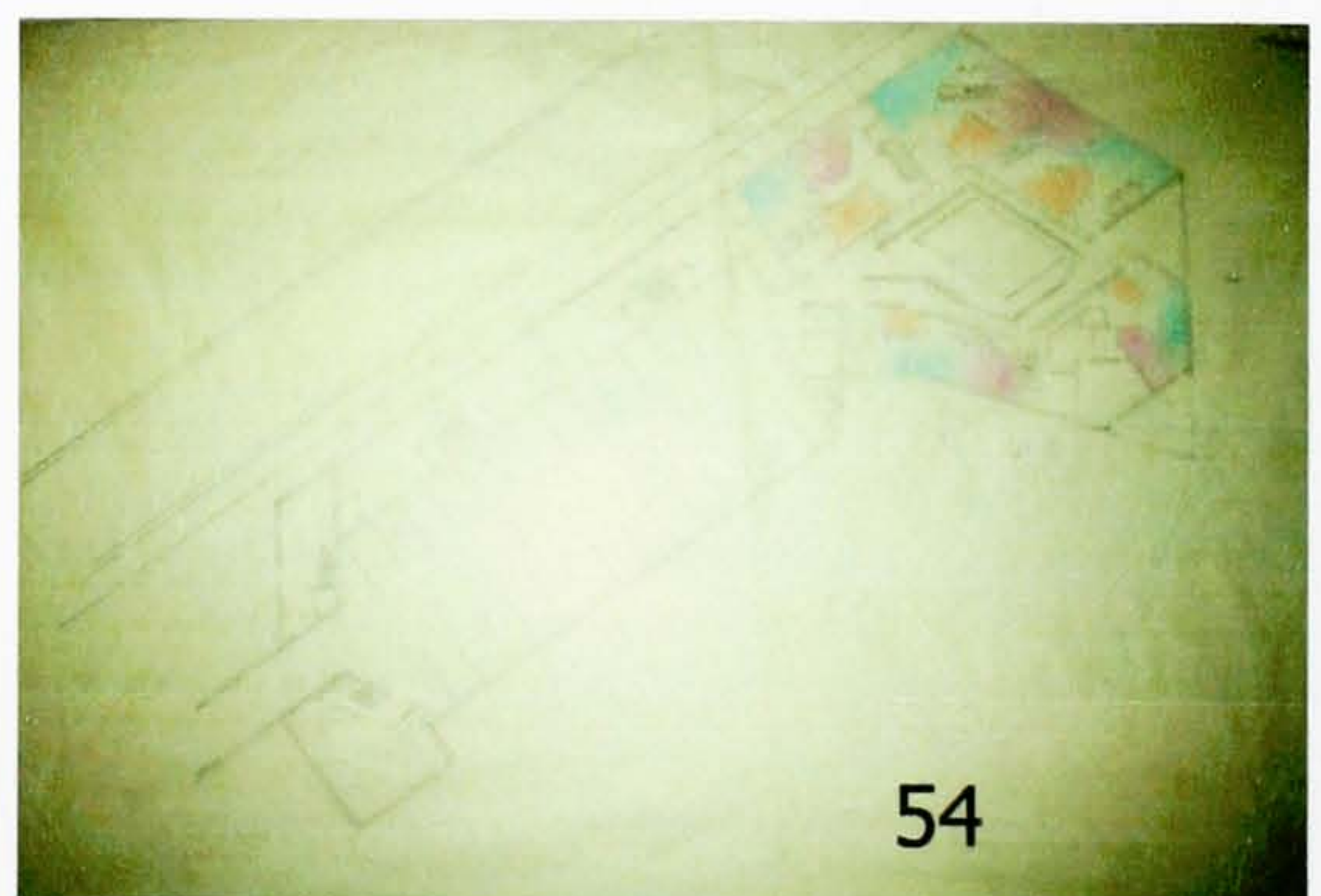
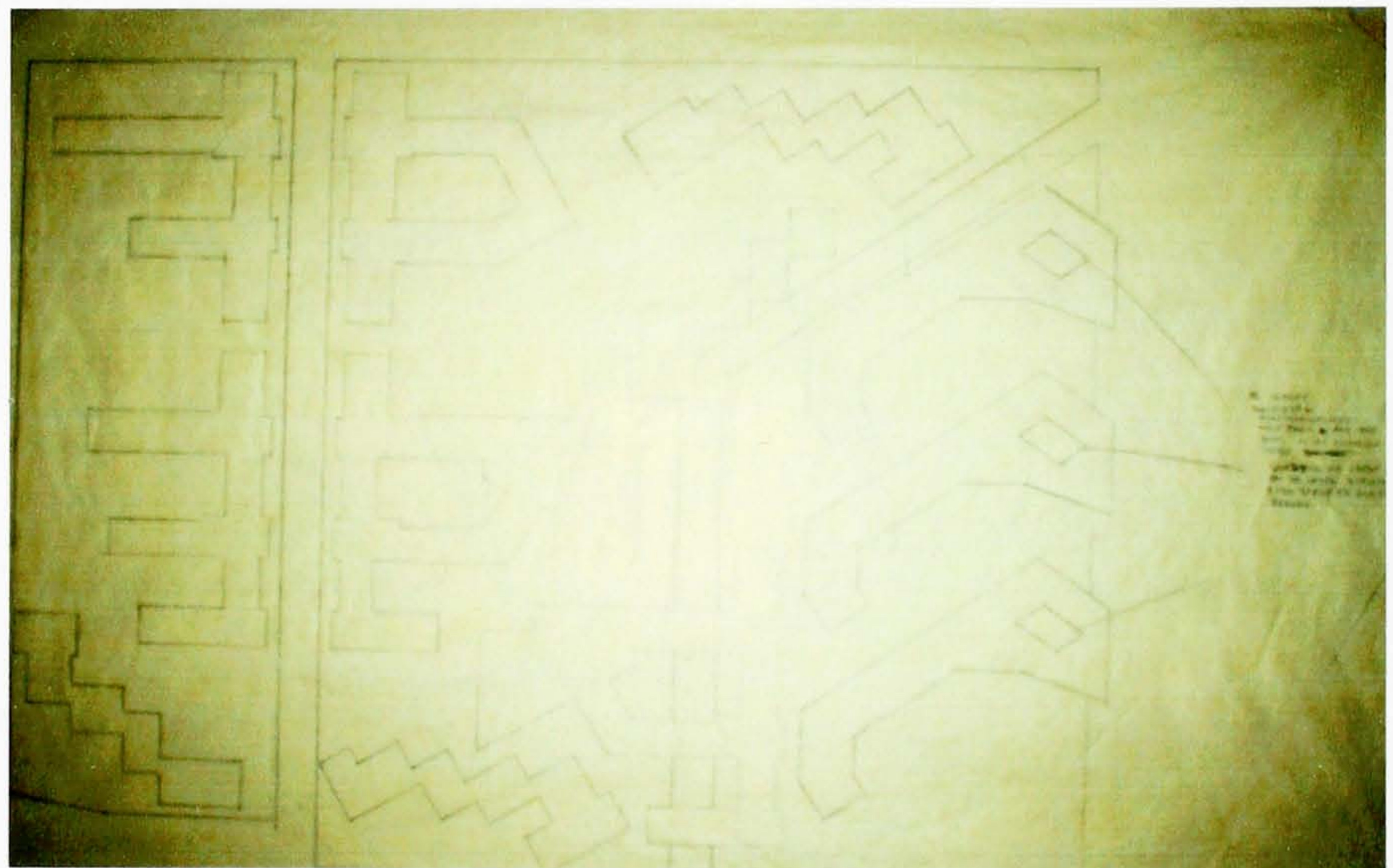
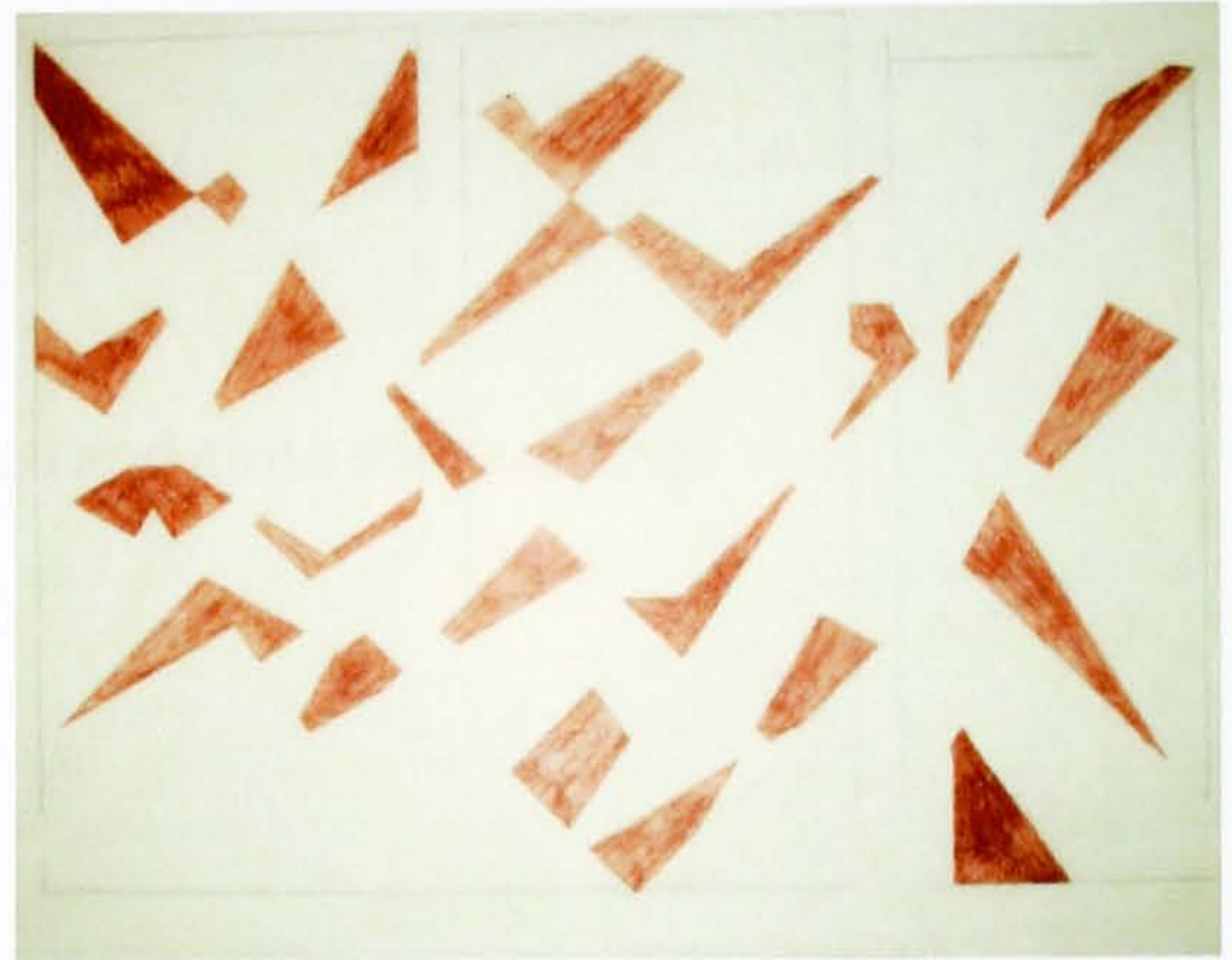
The water color paintings were used to demonstrate an intention of materiality as well as the thought that the water that would be running through the site would be in context with using watercolors to express it.



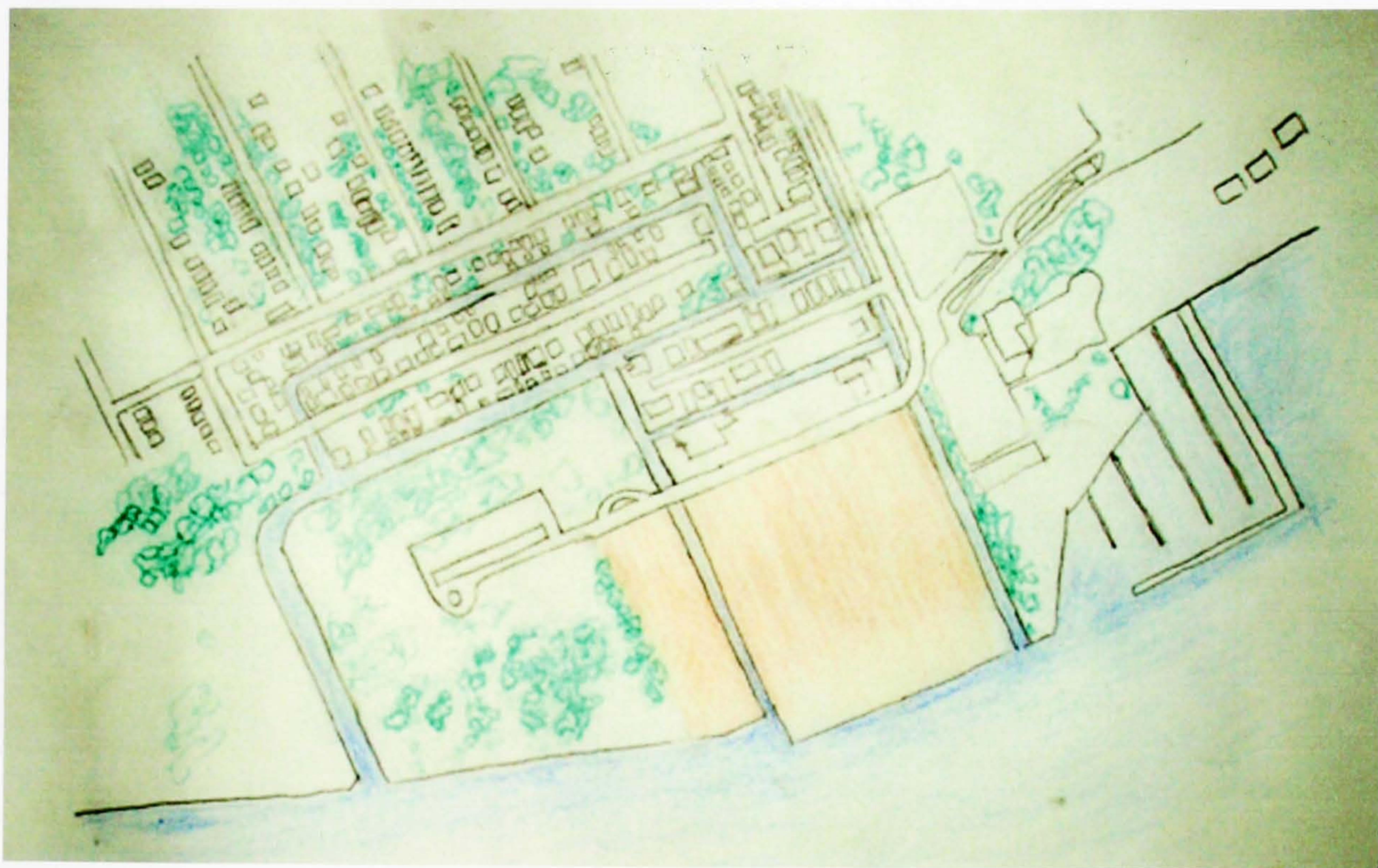


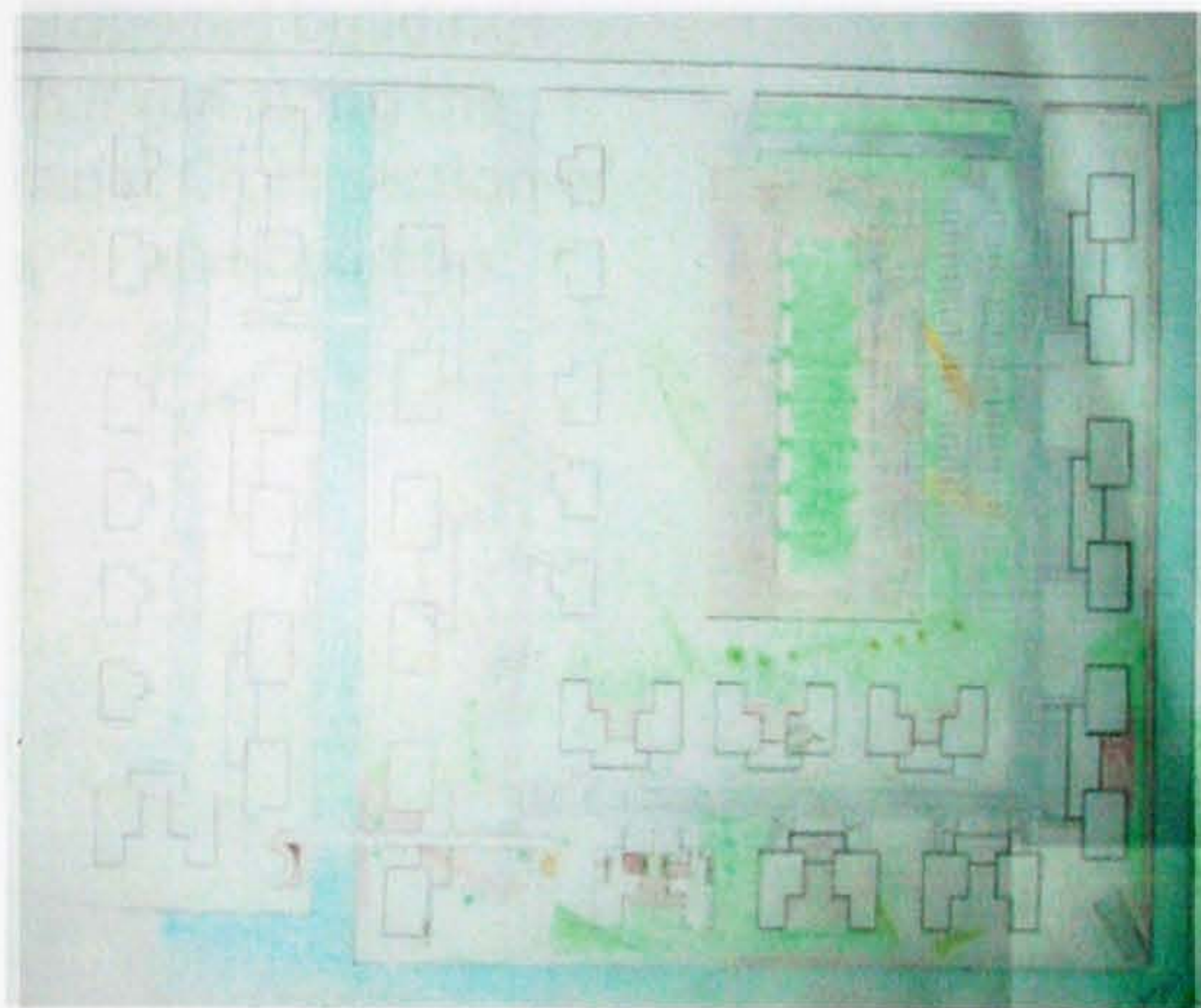
To begin the schematic phase of the thesis the issues of public space and light and shadow were once again addressed. The ideas that came from these diagrams proved to be more difficult to turn into a thoughtful site plan.



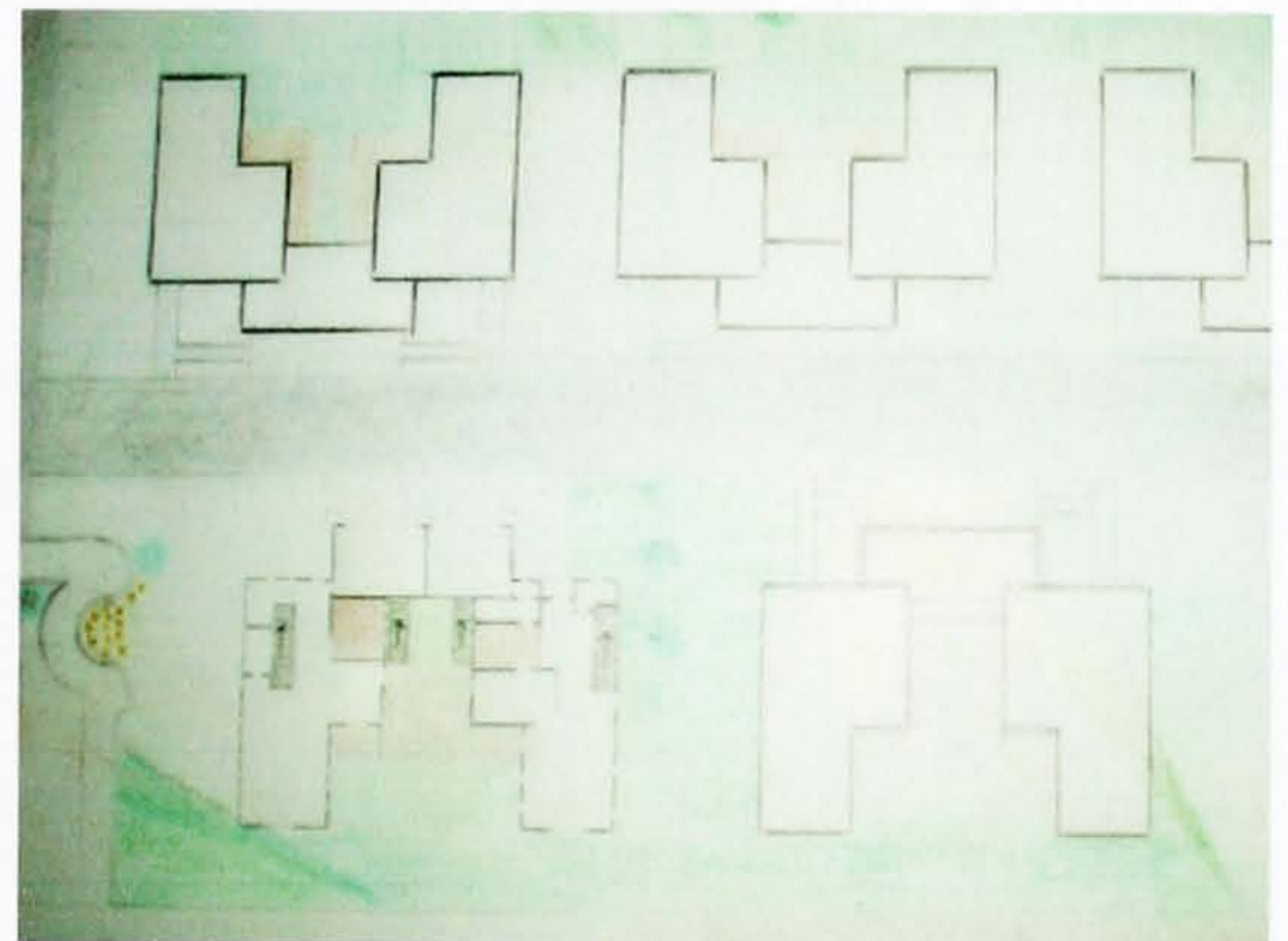
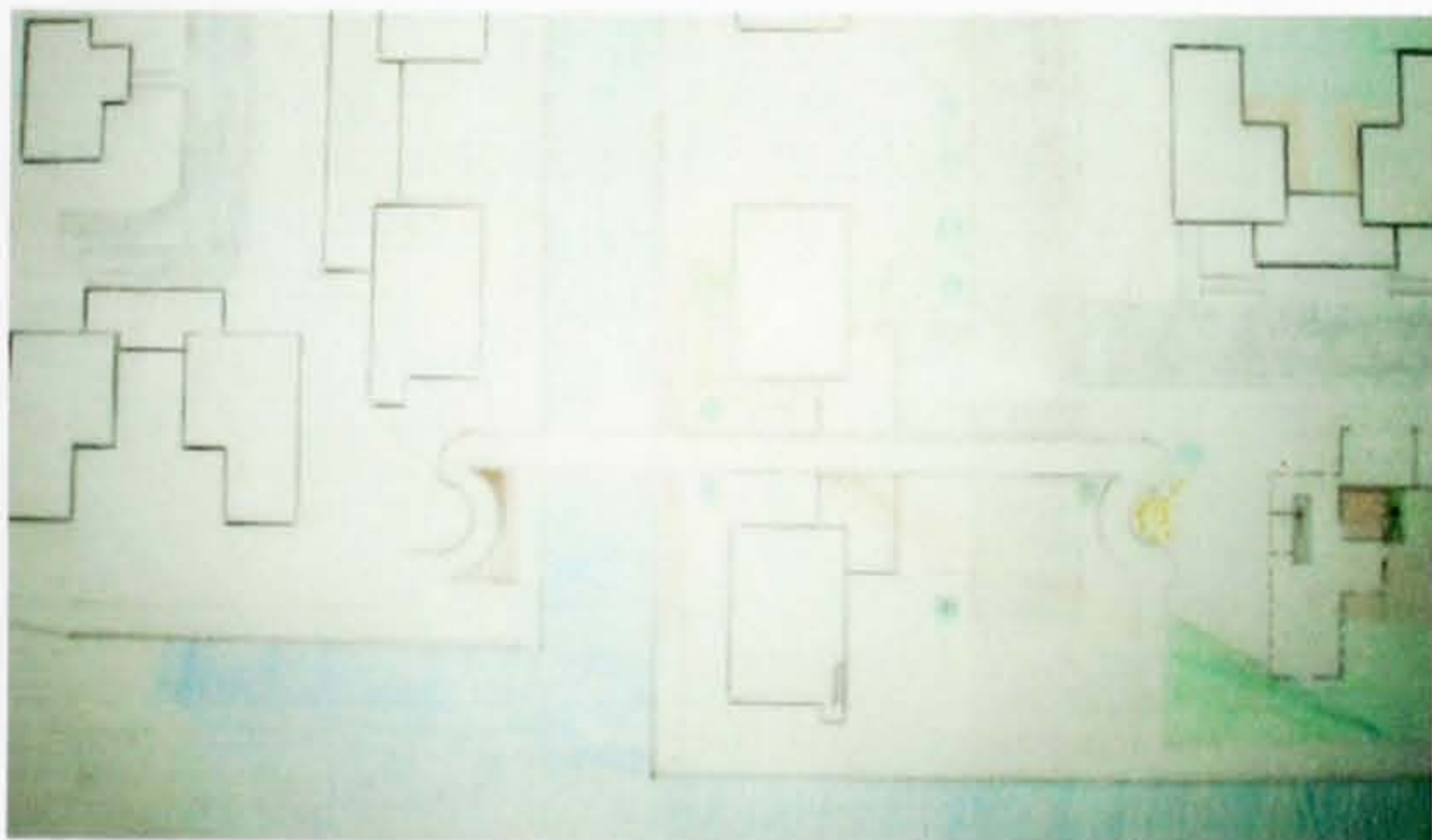


Colored pencil drawing of Riverside Boulevard and close surroundings

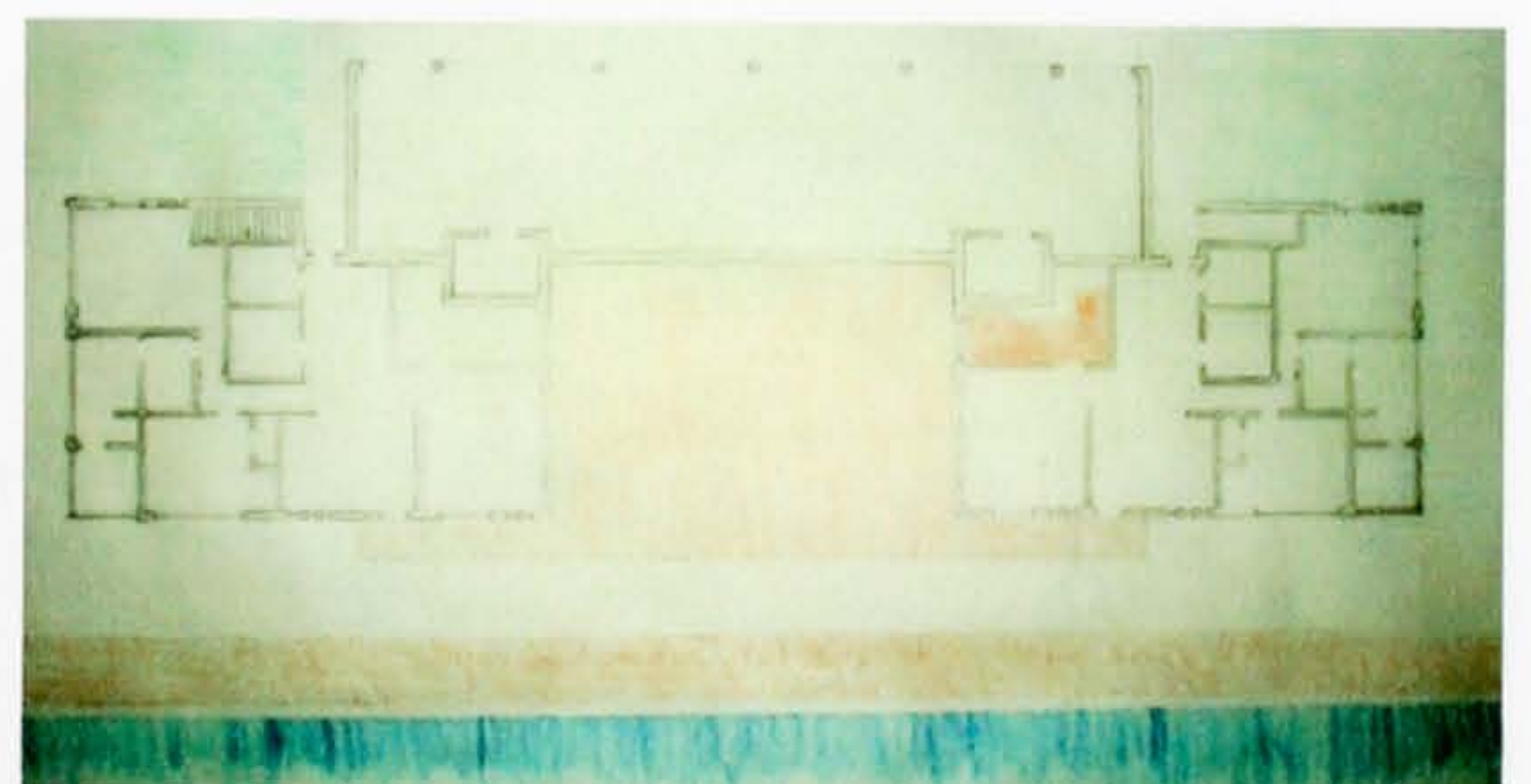




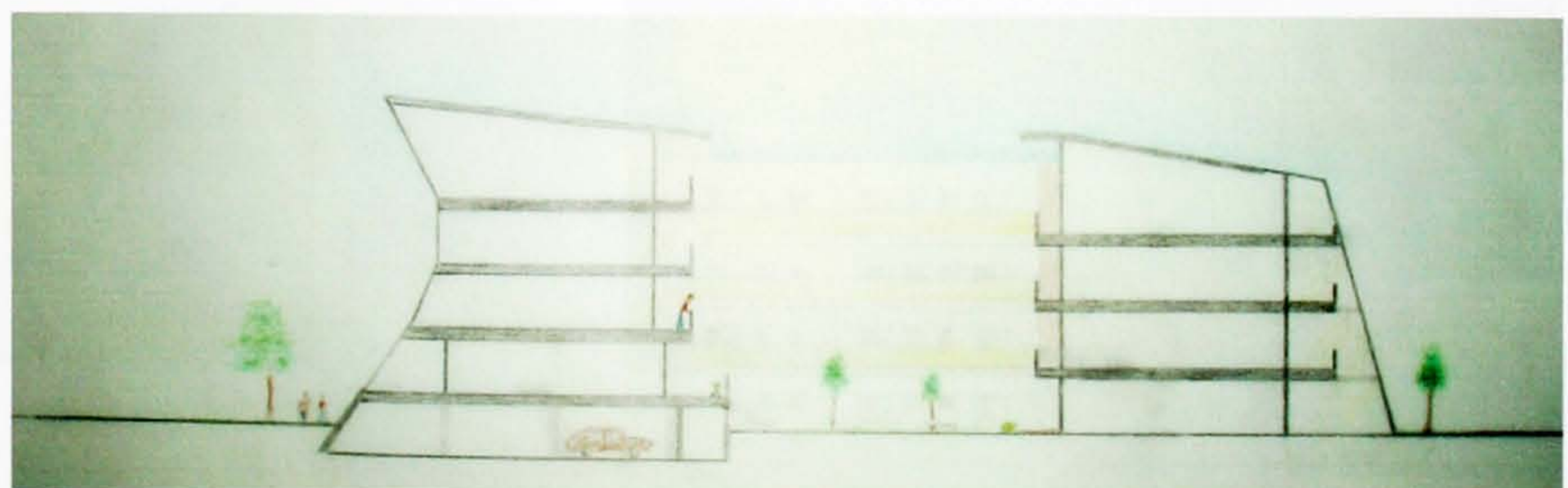
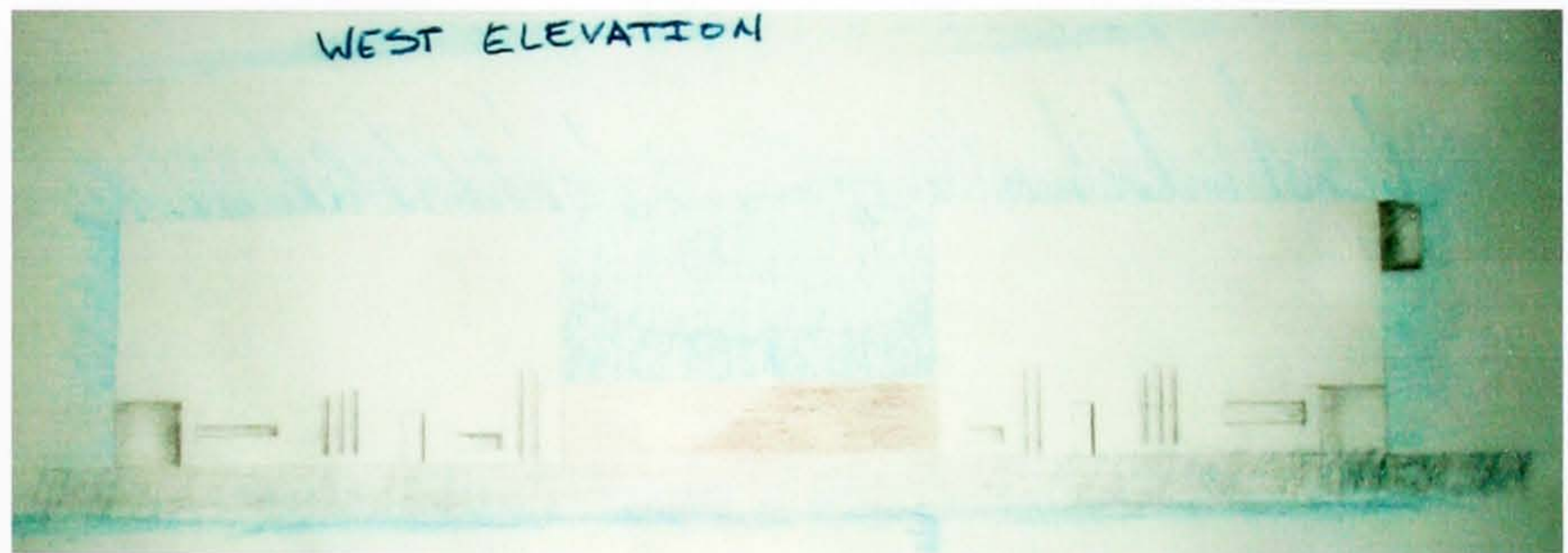
Proposed site plan drawing done in colored pencil

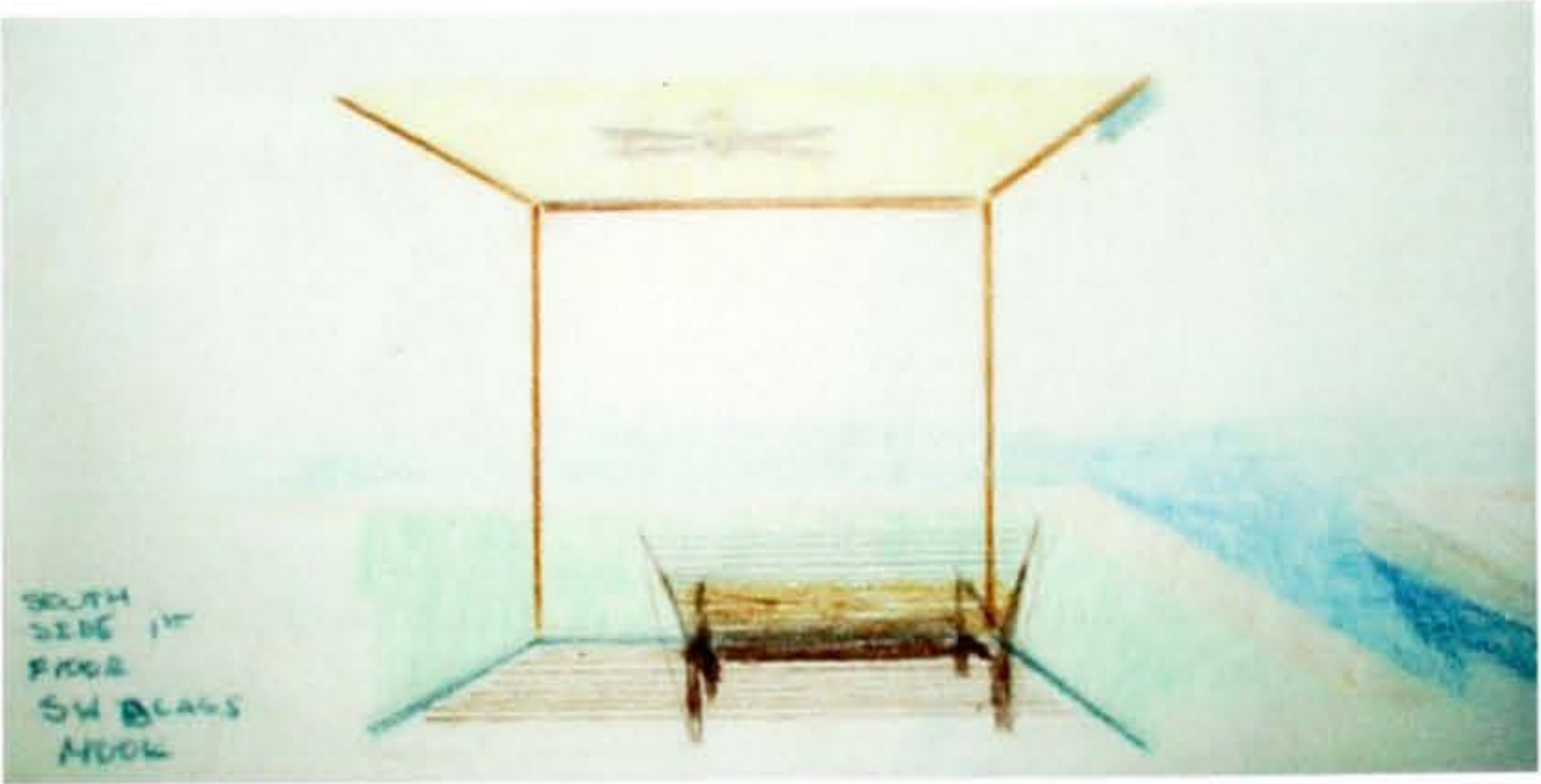
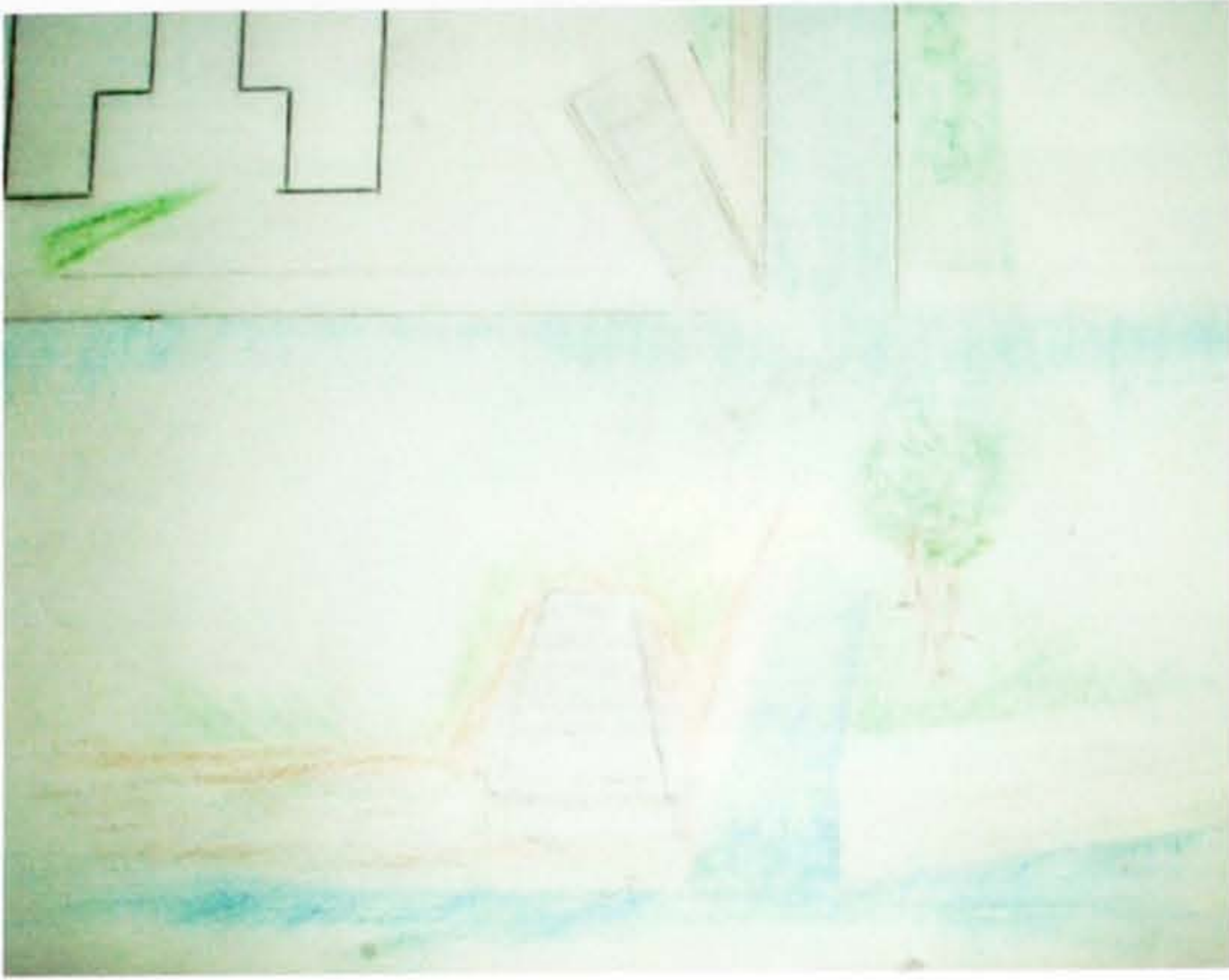


Preliminary floor plans of housing along the river and the canal

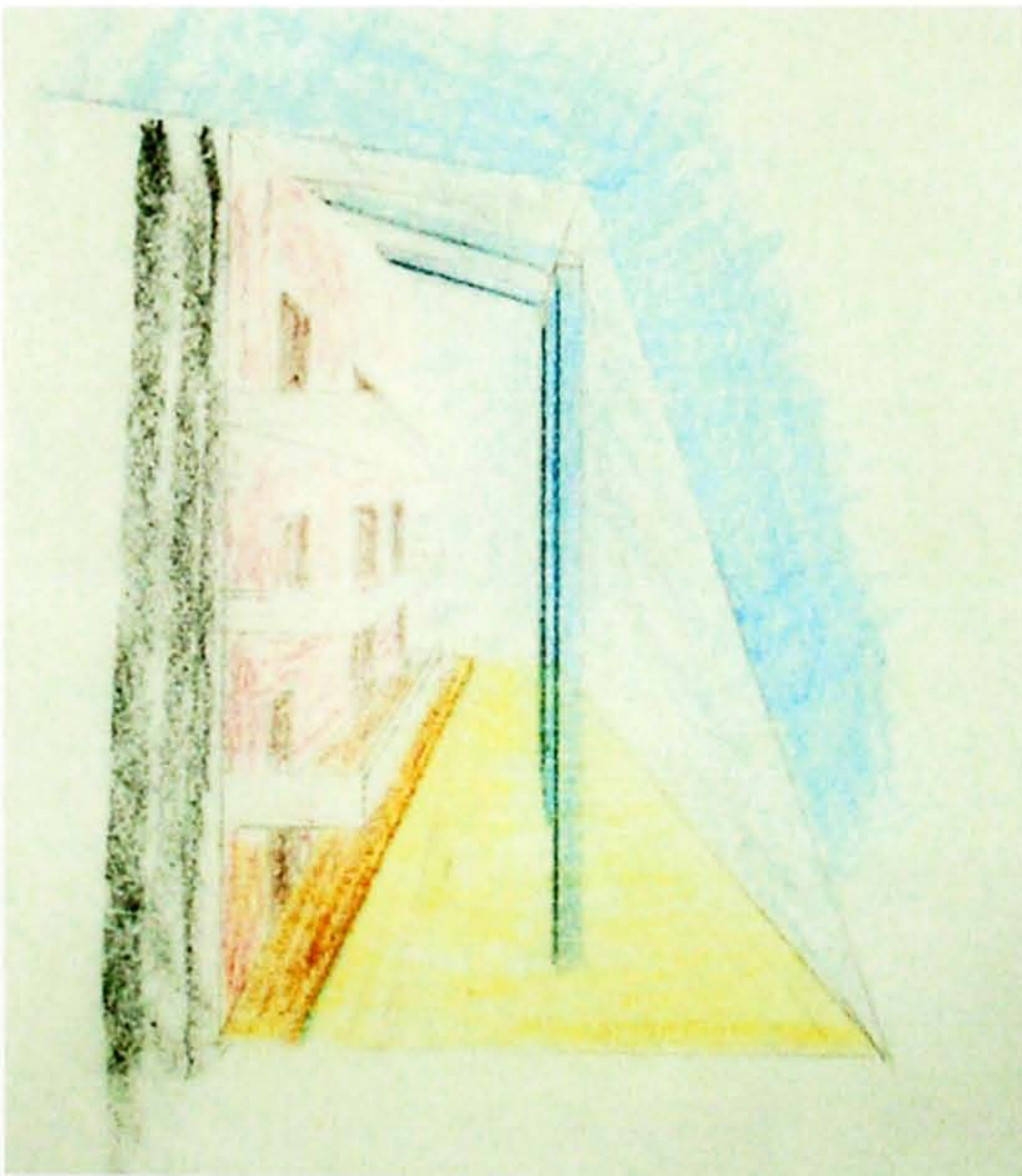
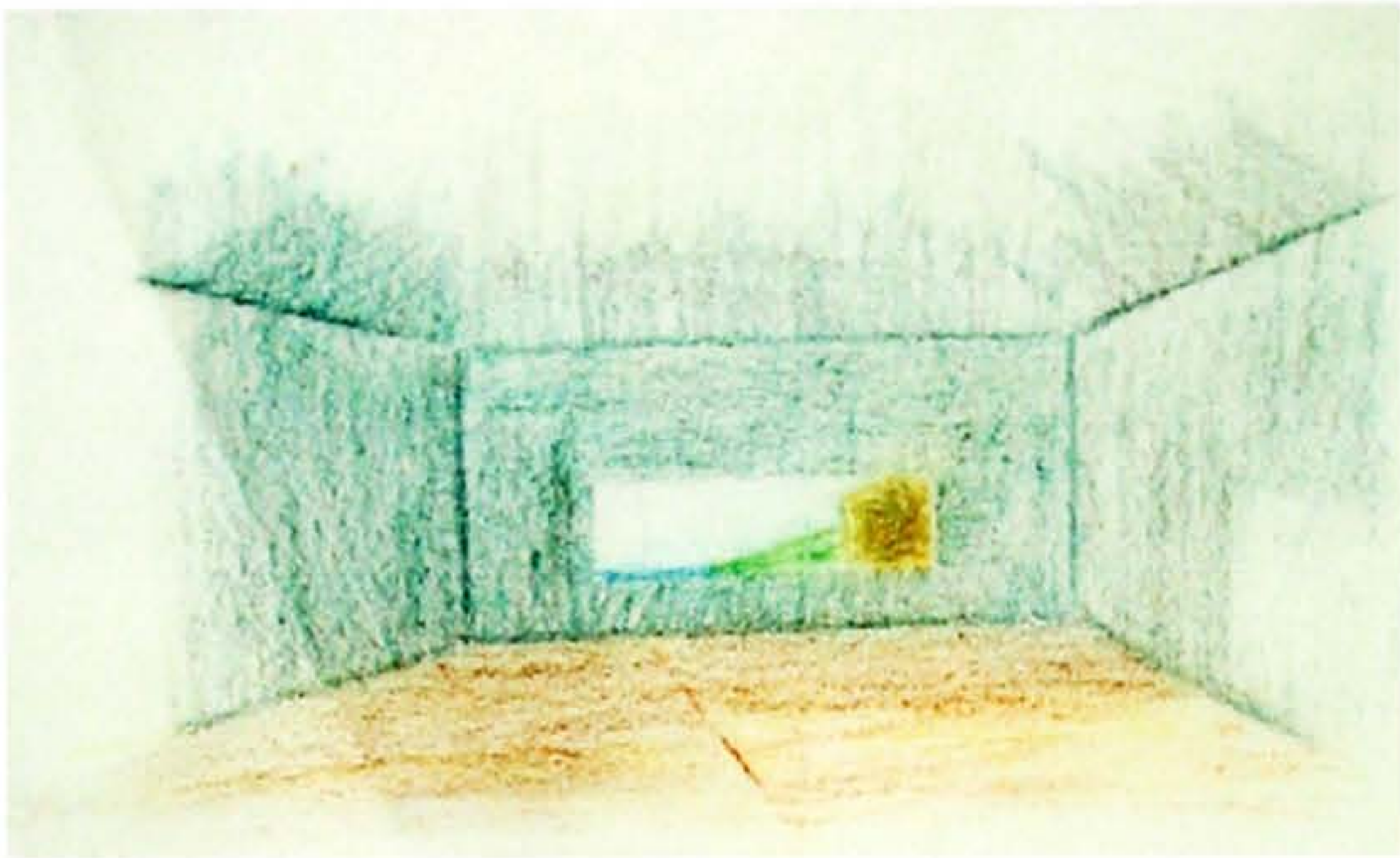


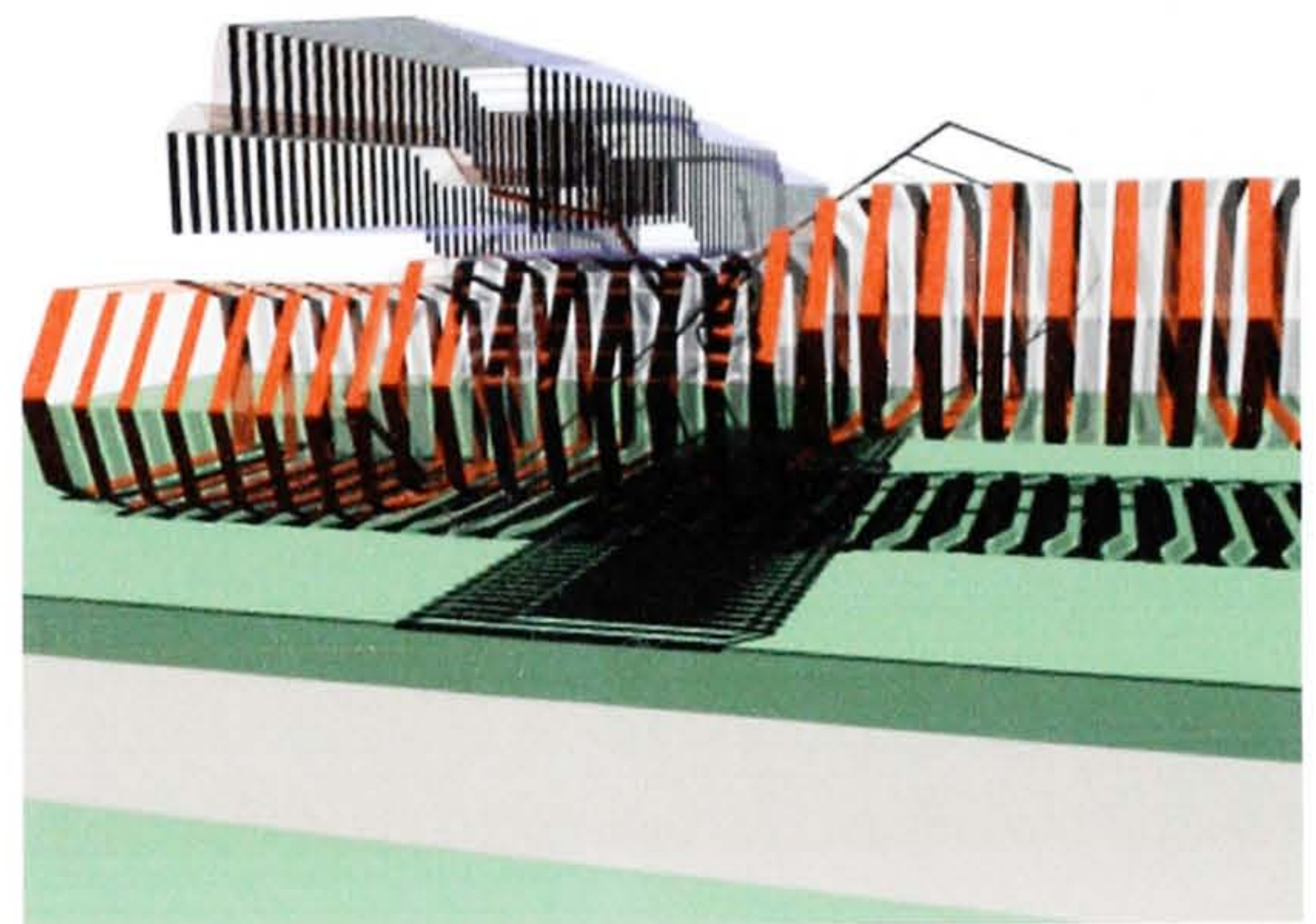
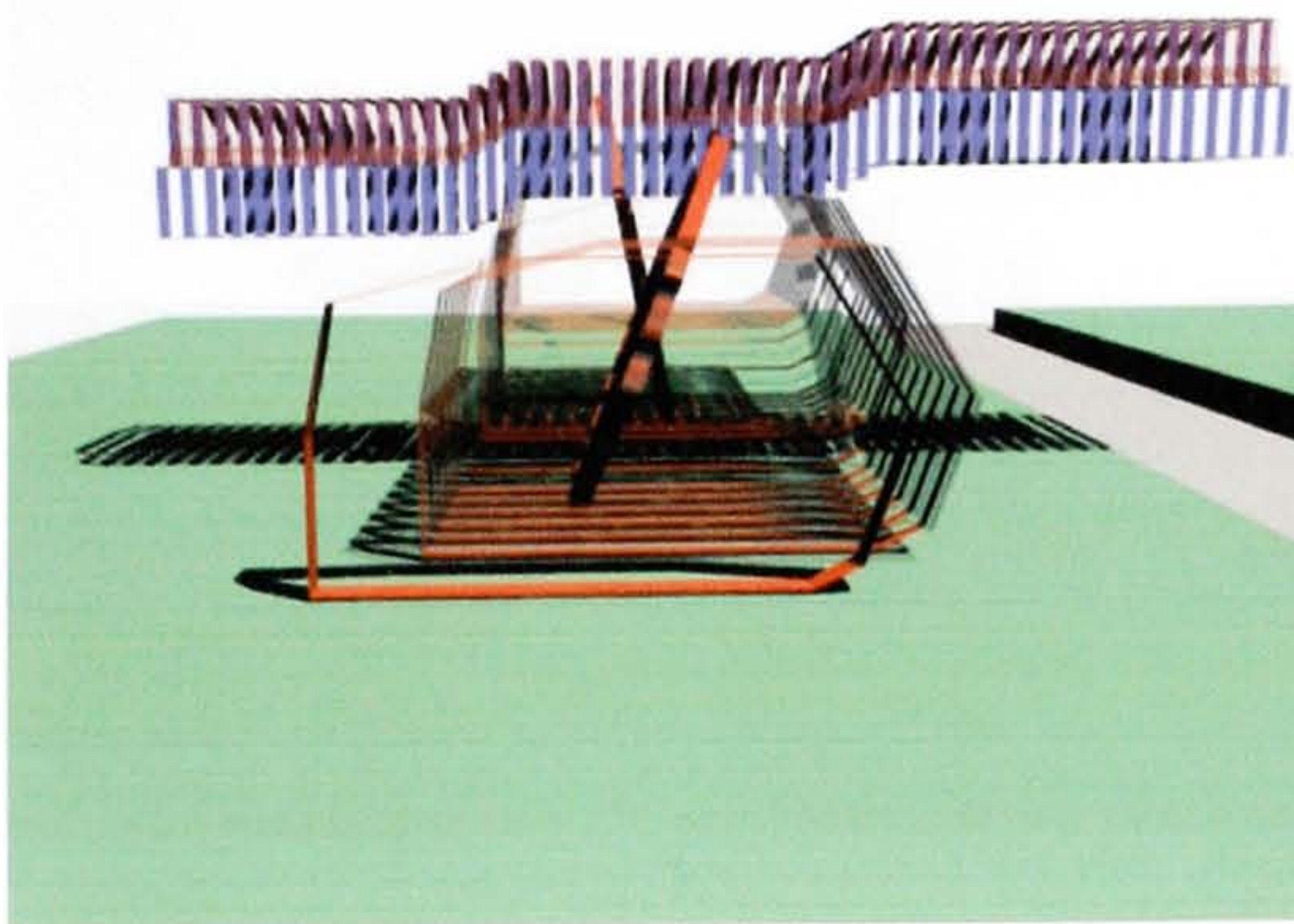
Elevations of
proposed buildings
that run along the
canal. Cross section of
a 50 unit building.



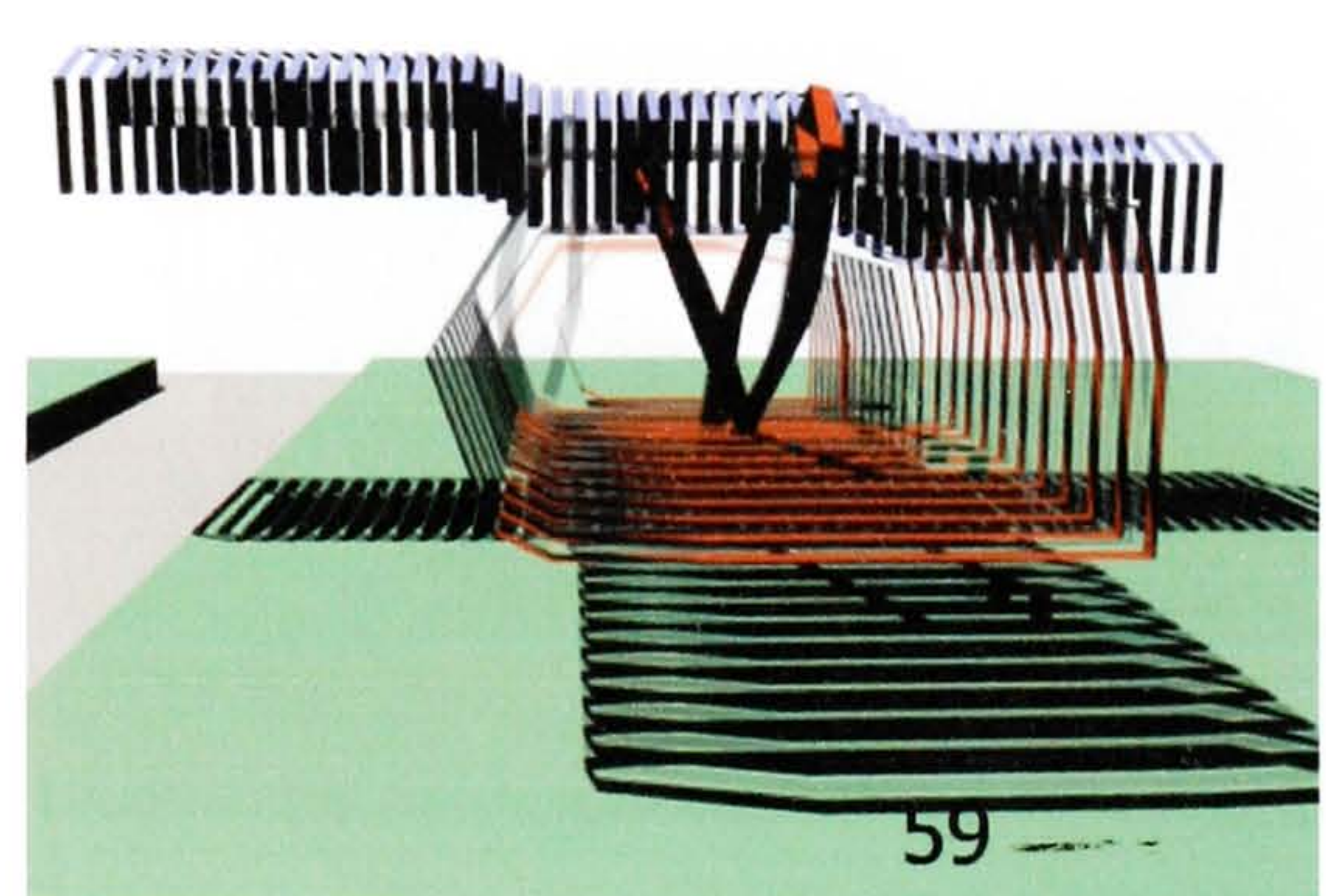
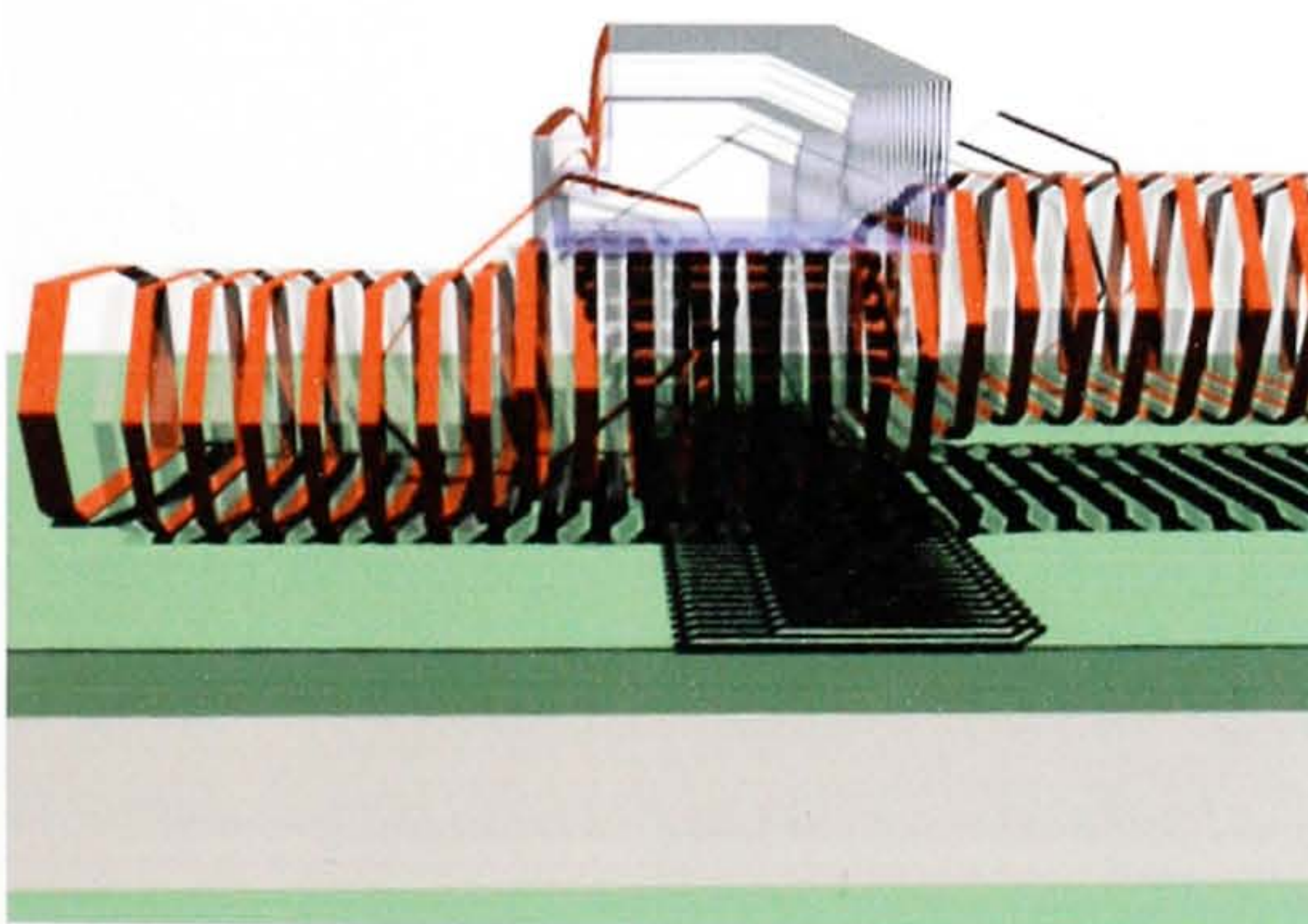
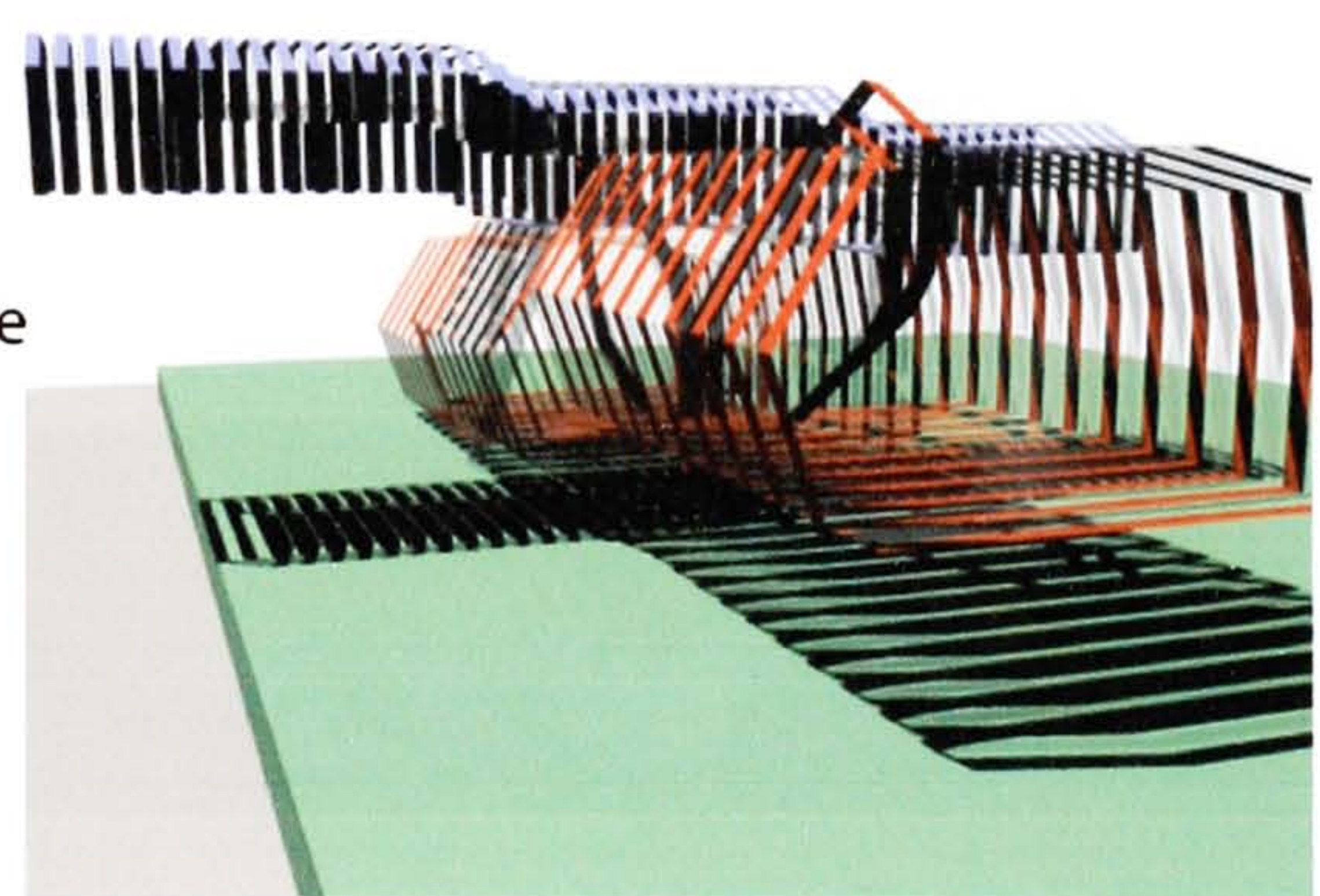
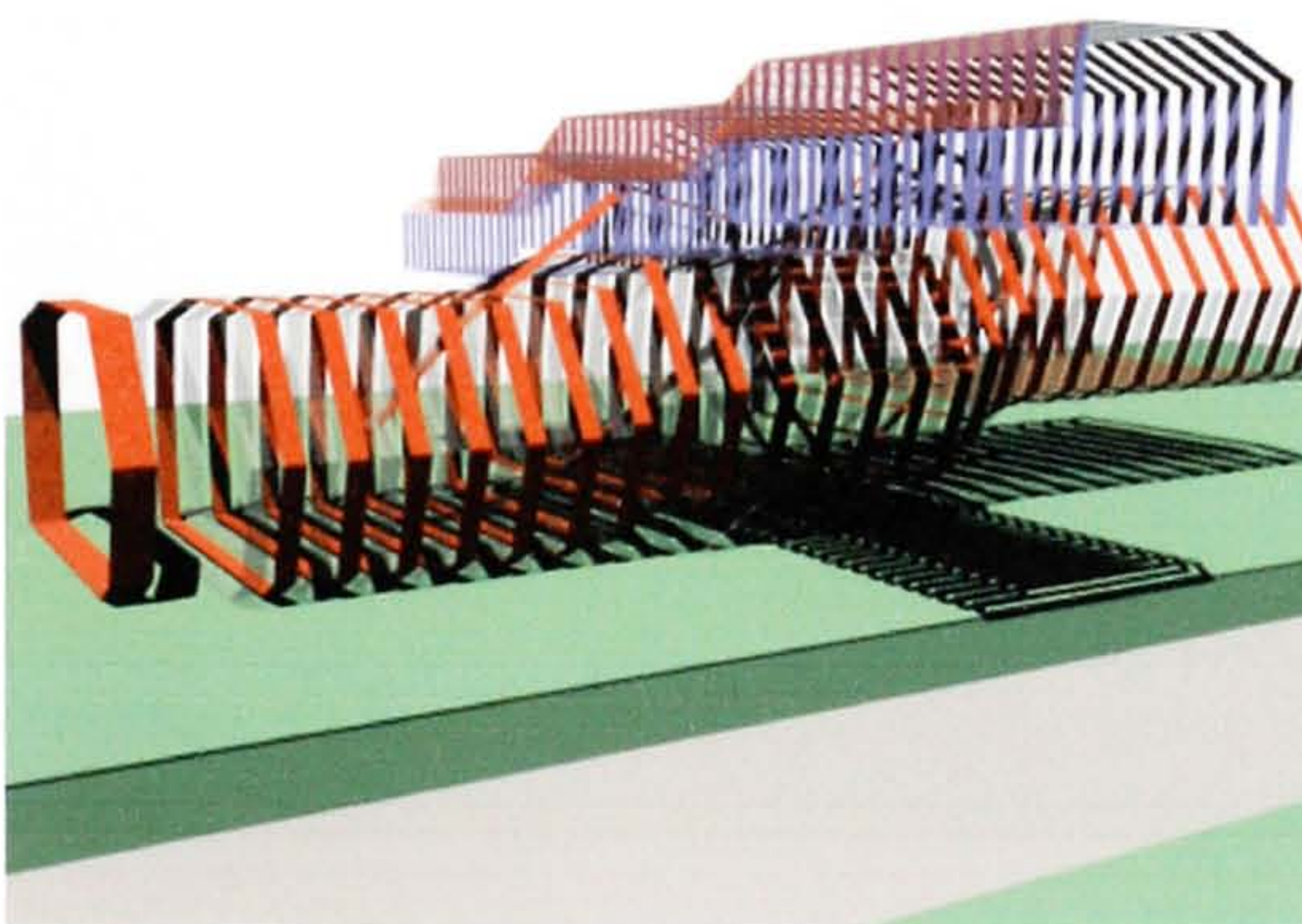
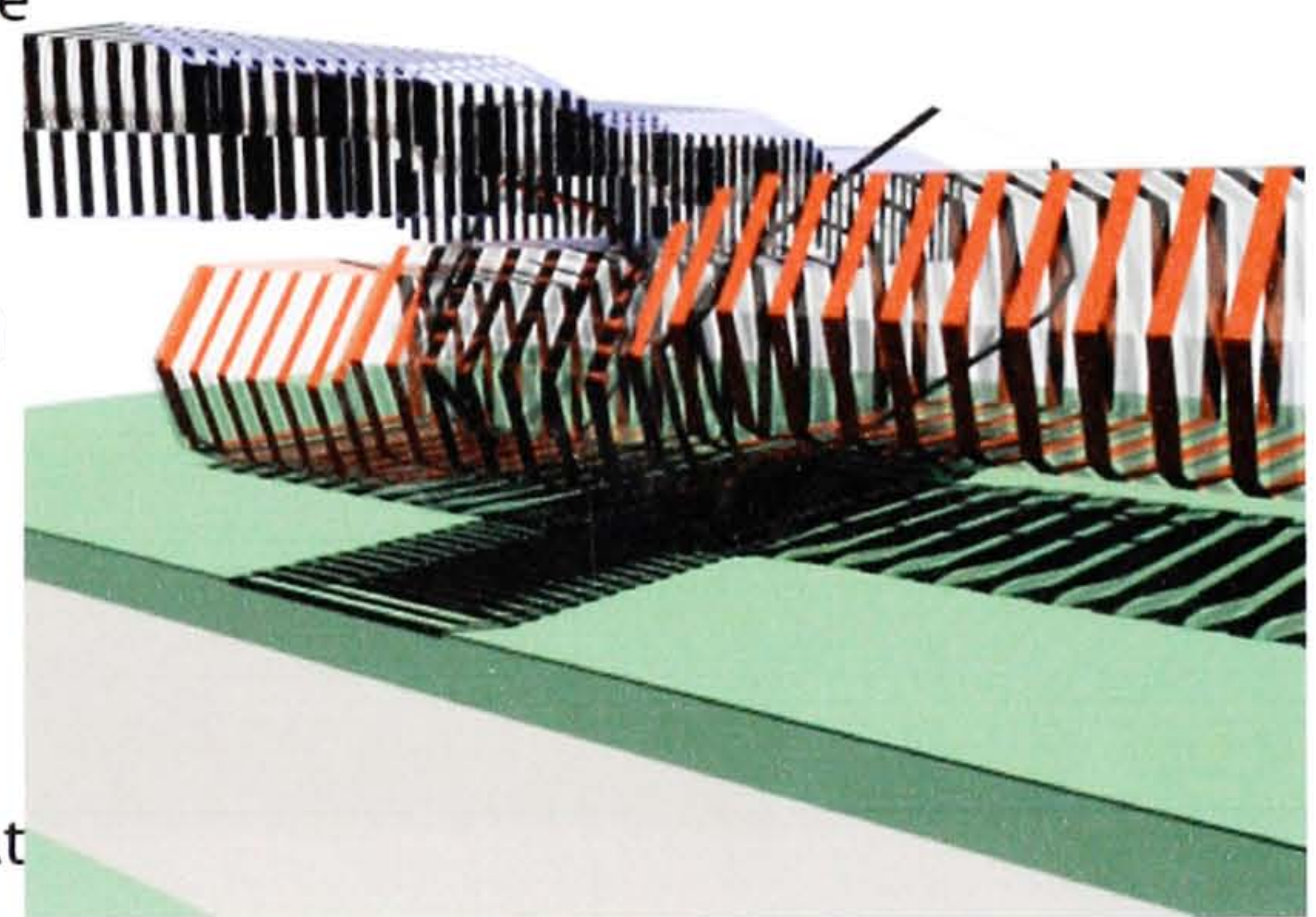
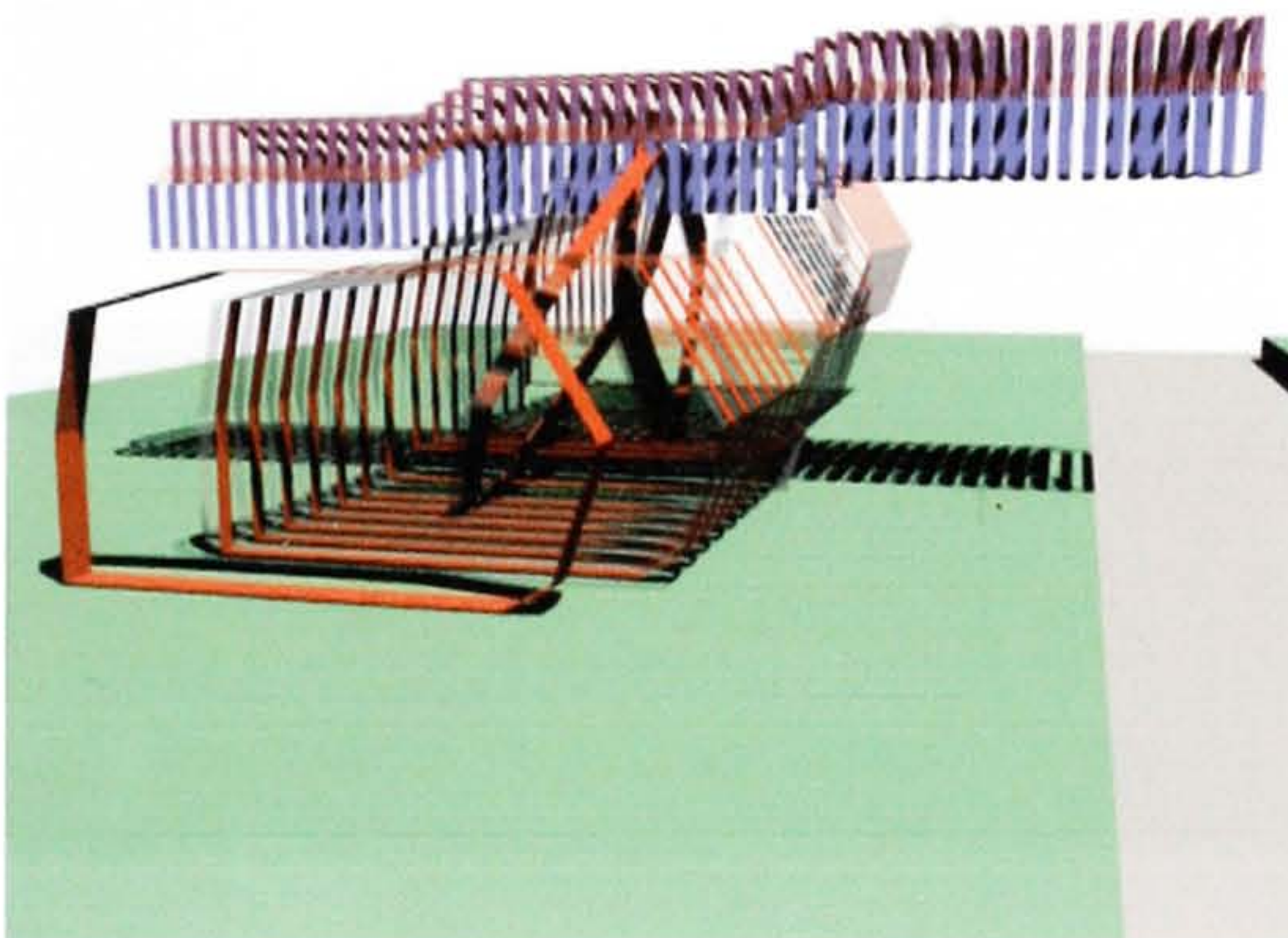


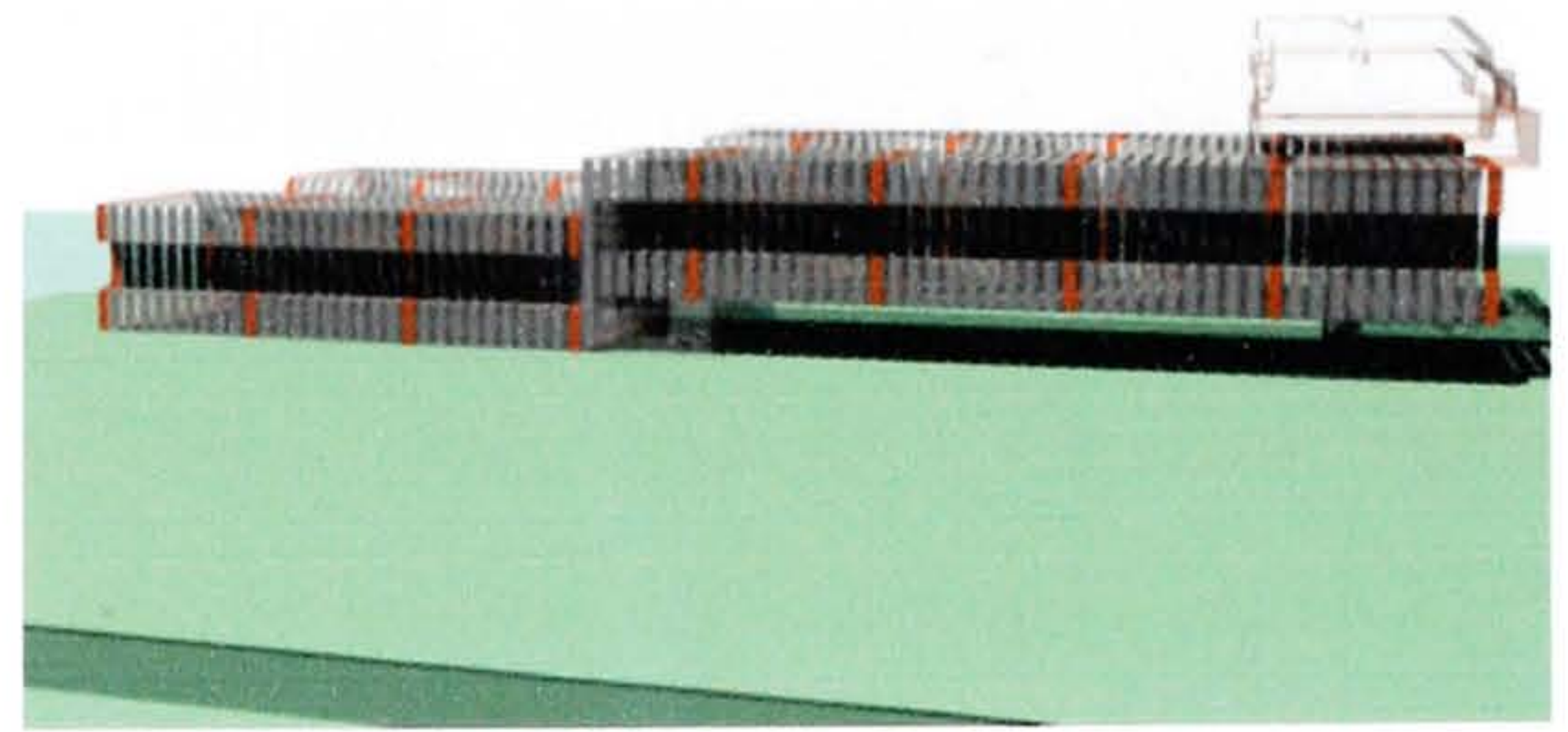
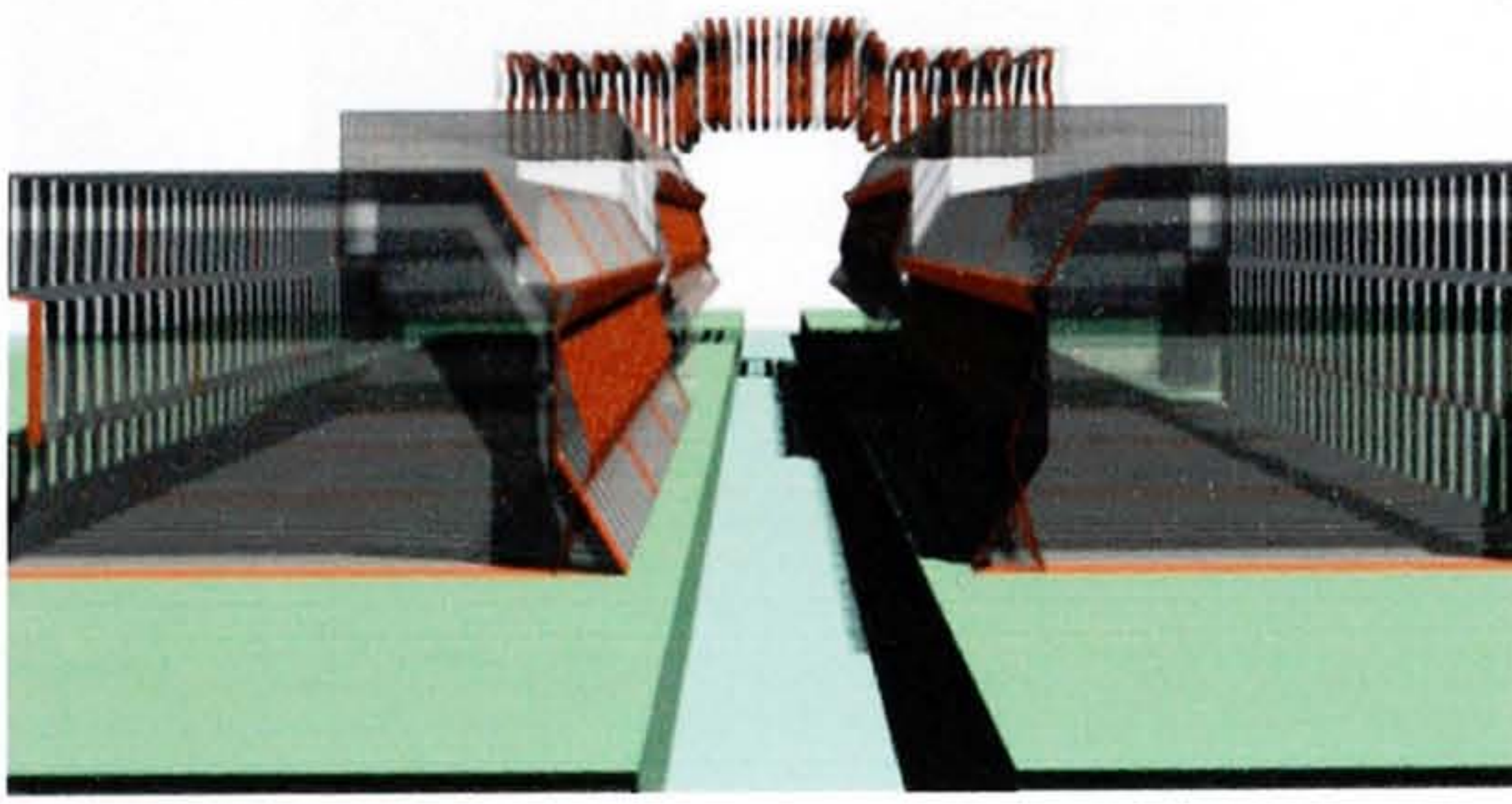
Investigations into the possibilities that could present themselves.



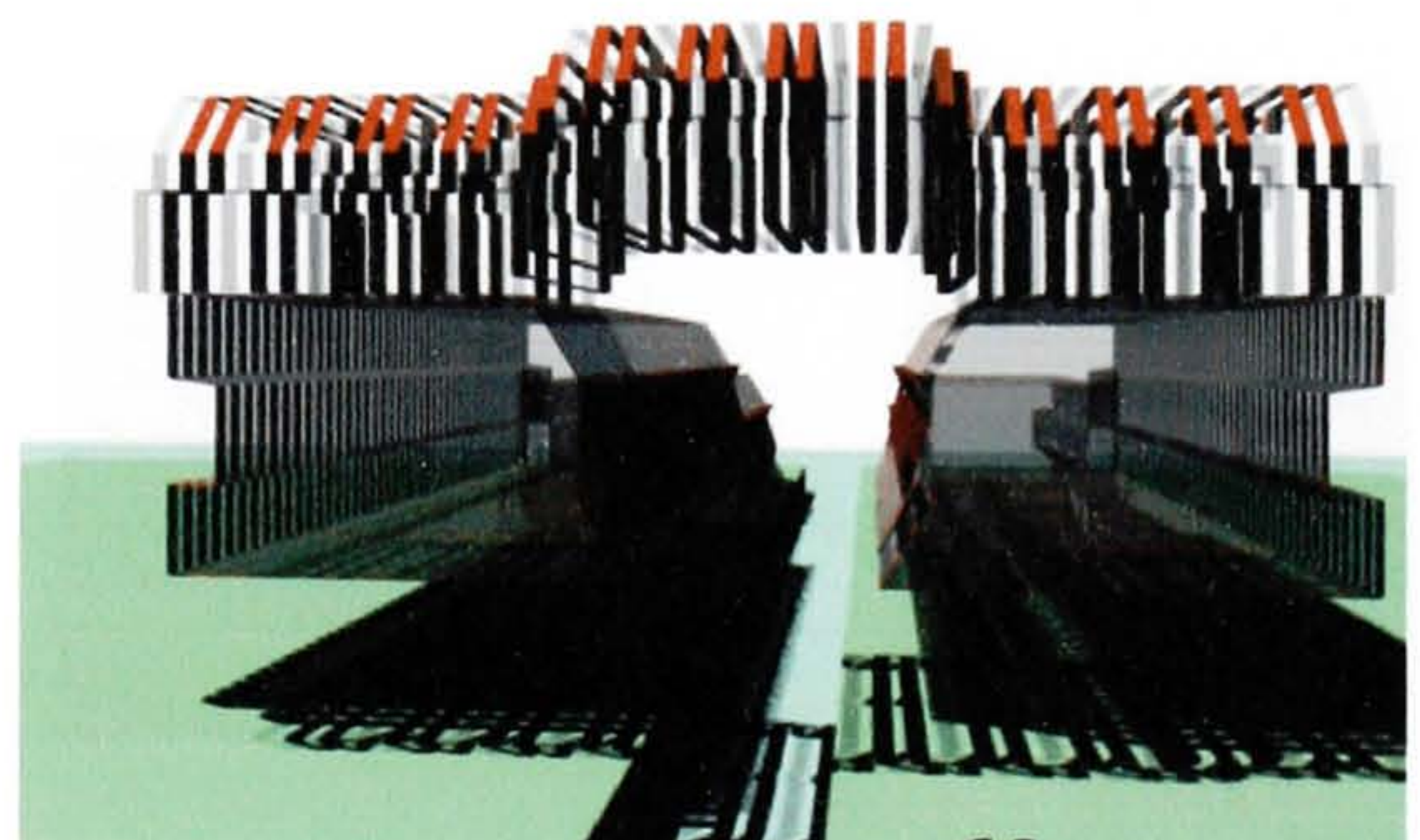
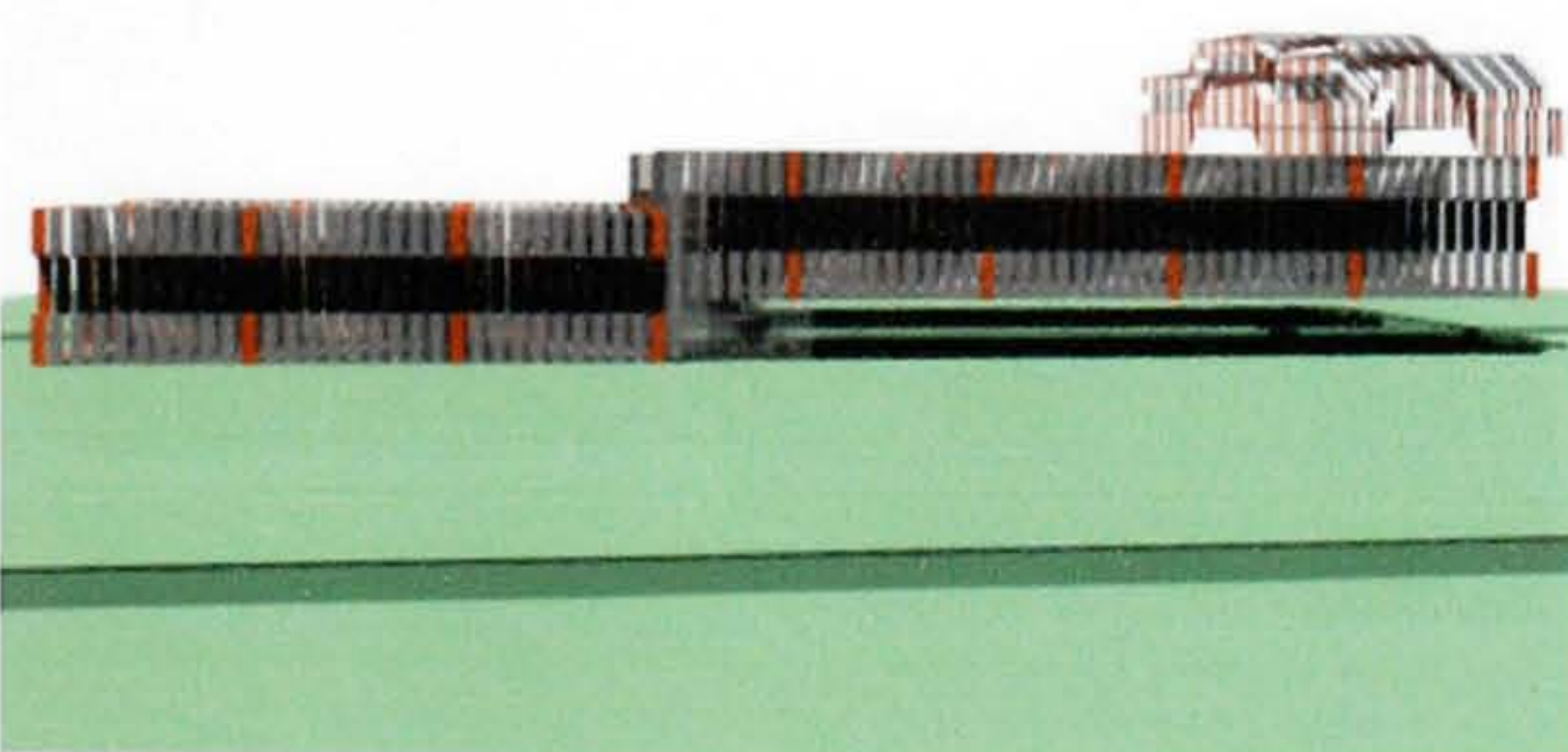
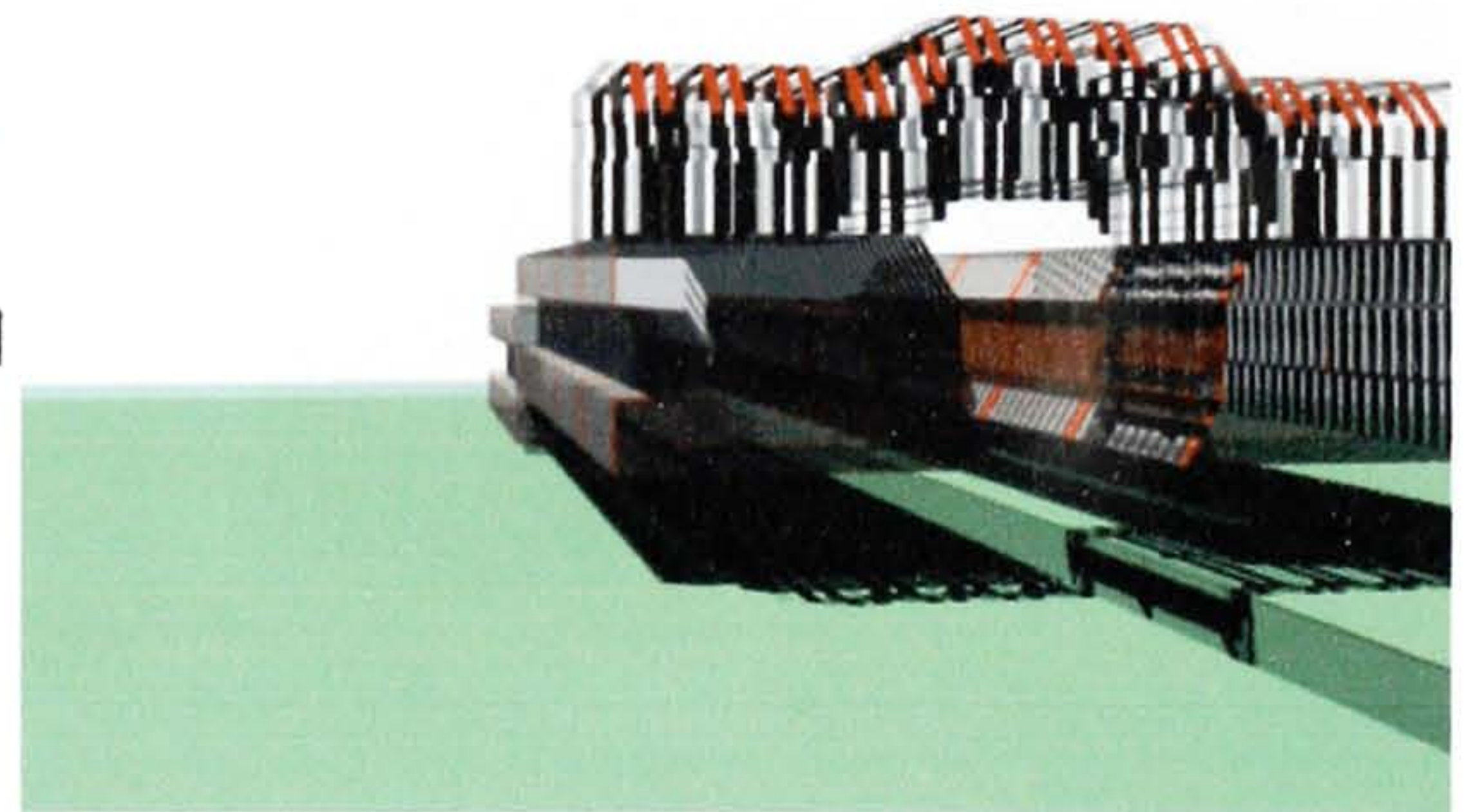
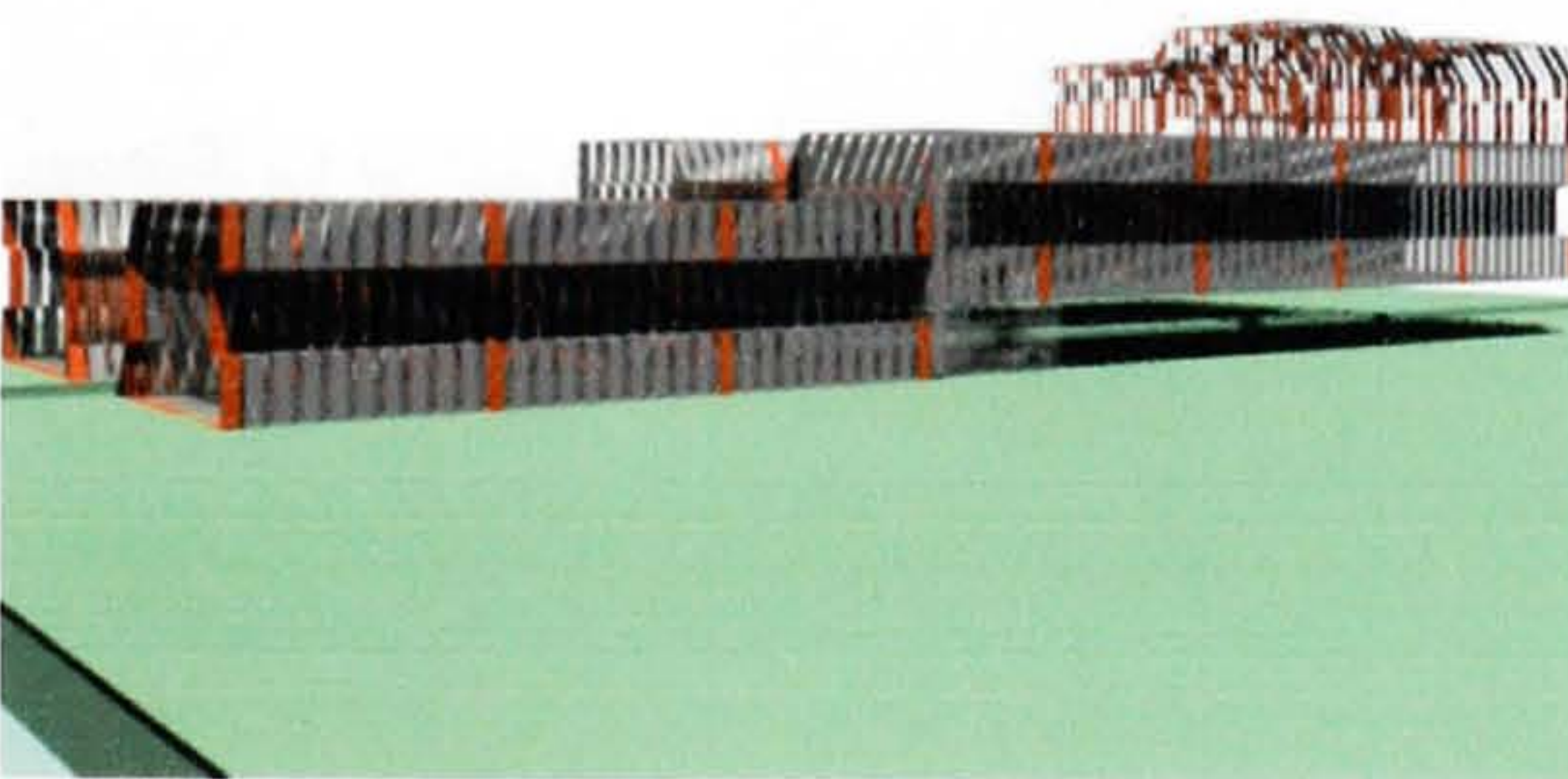
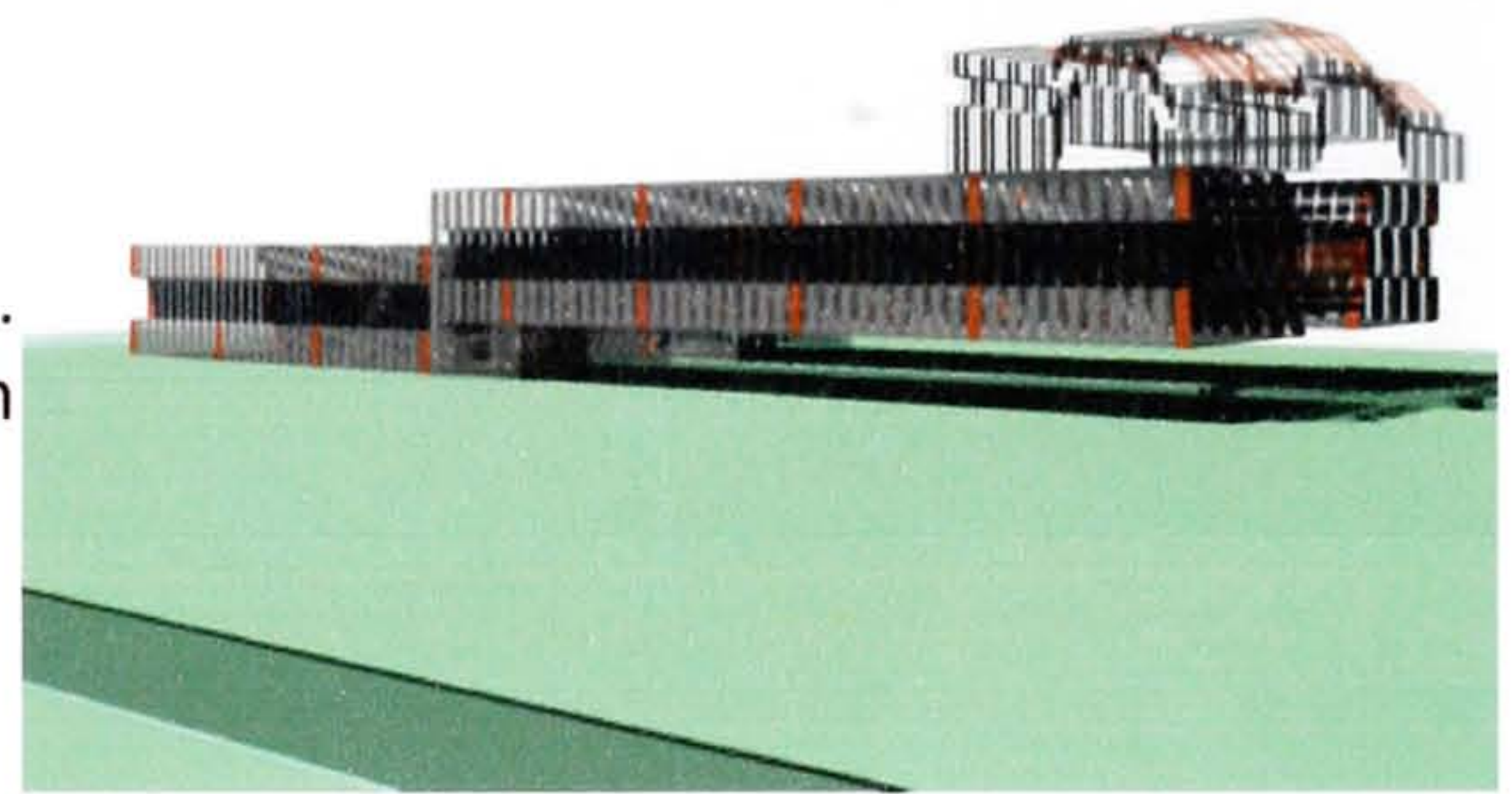
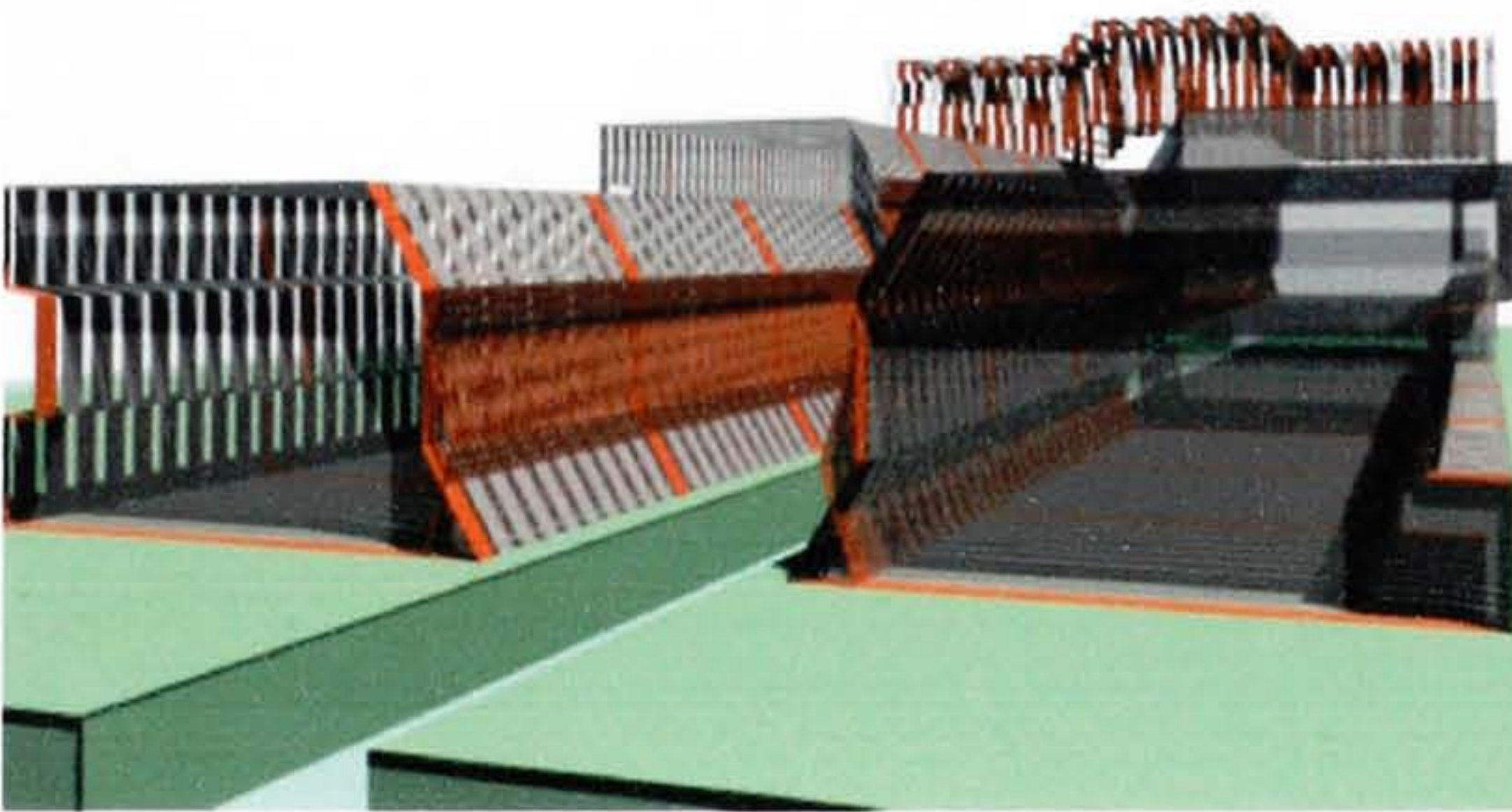


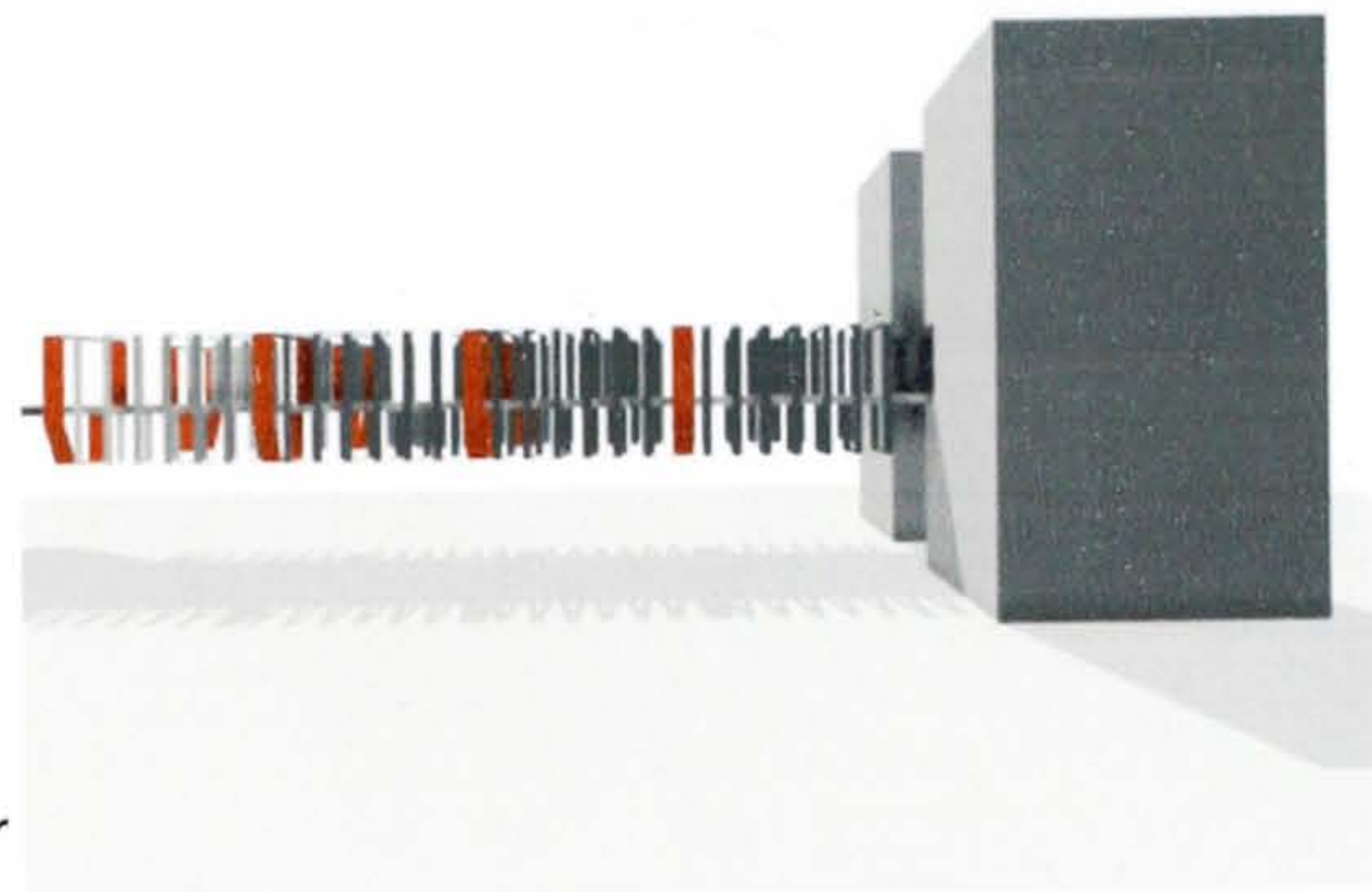
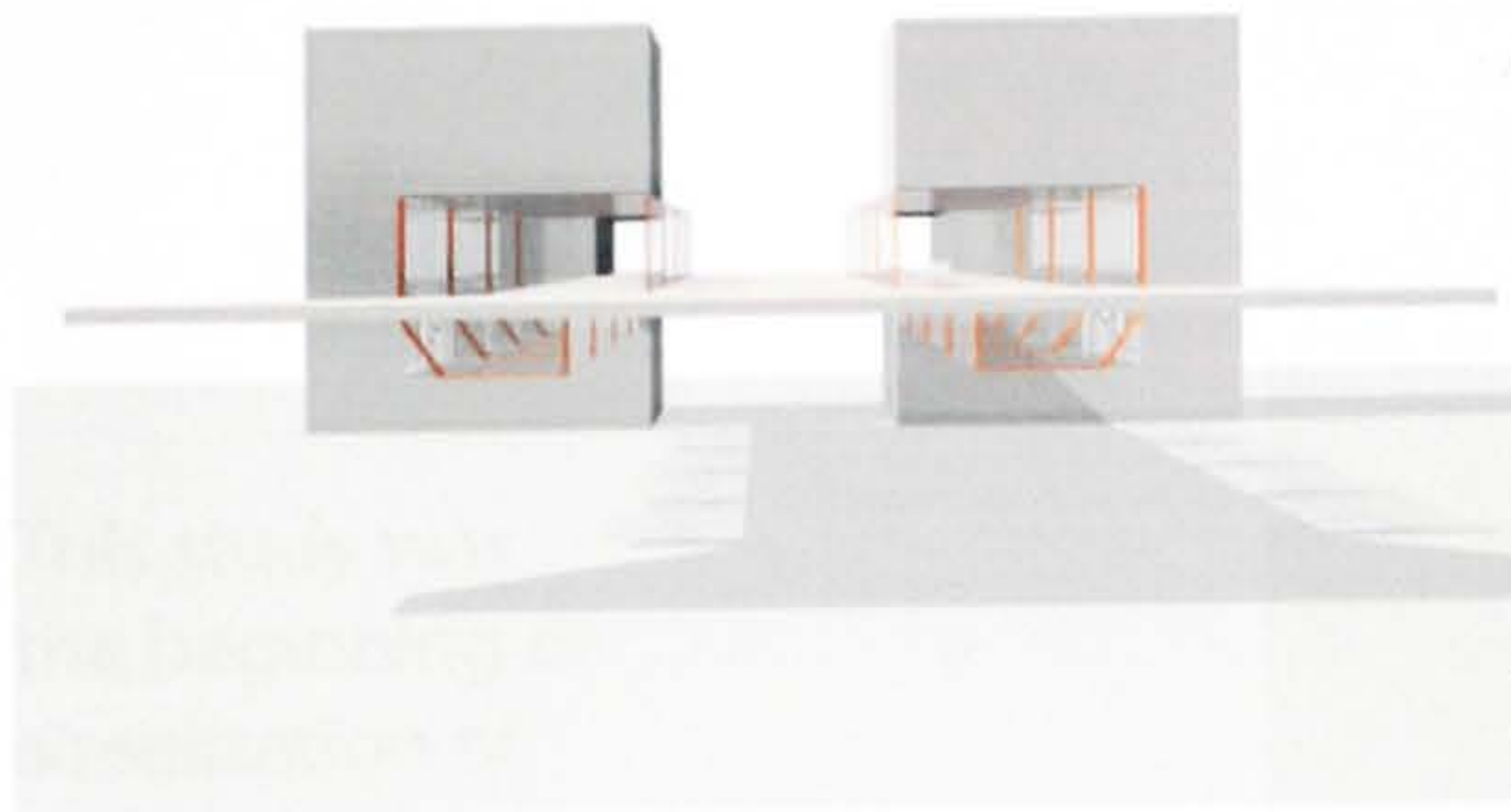
To further explore the question of density the a 3D modeling program was used. The intention was to study form as it sits on the site. The program was useful as an organizational tool and to start to visualize the interior elements of the project. At one point the modeling also served as an generator of the idea of ribs that would encircle the building jutting out or tucking in as the program dictated.



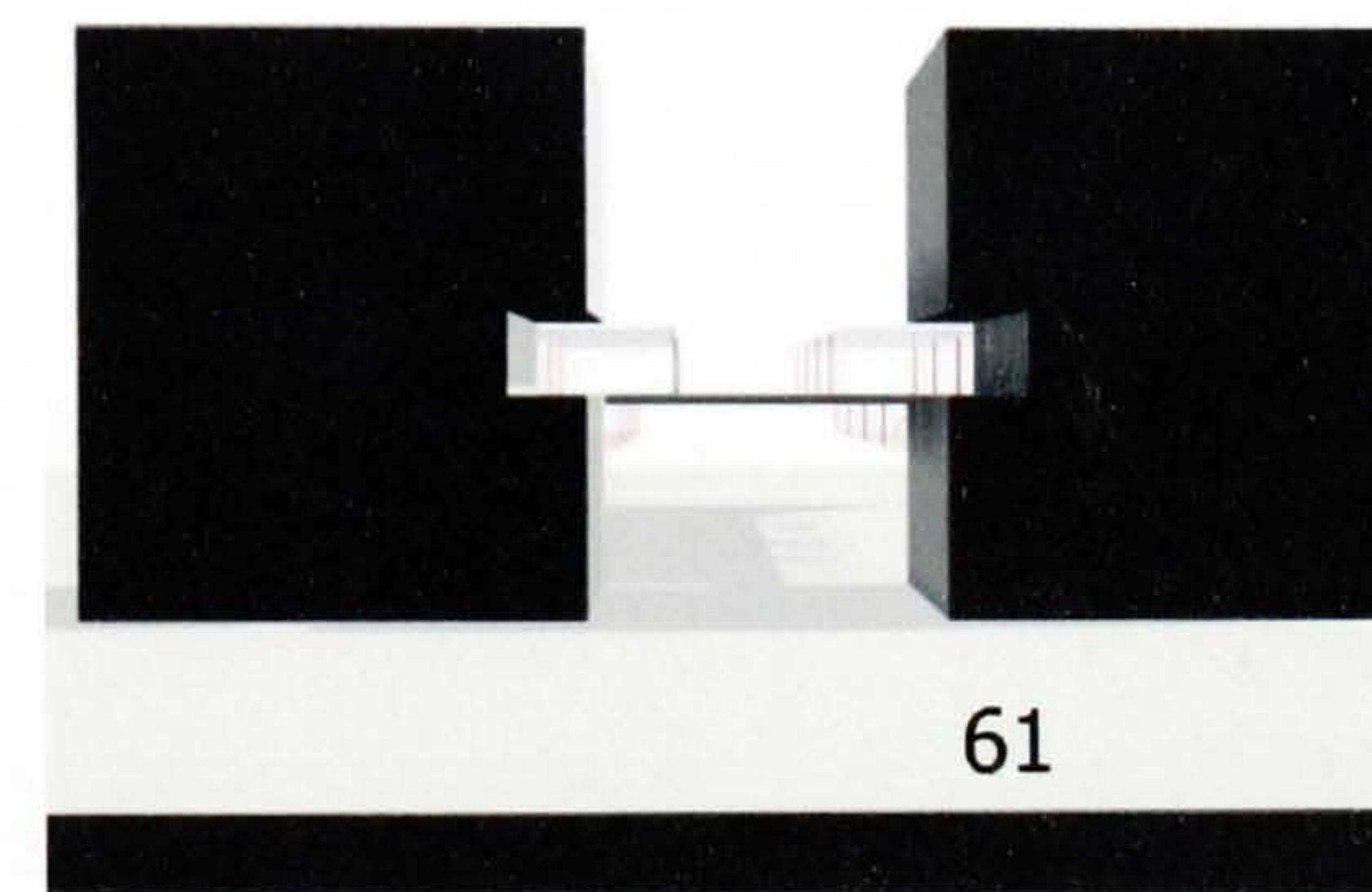
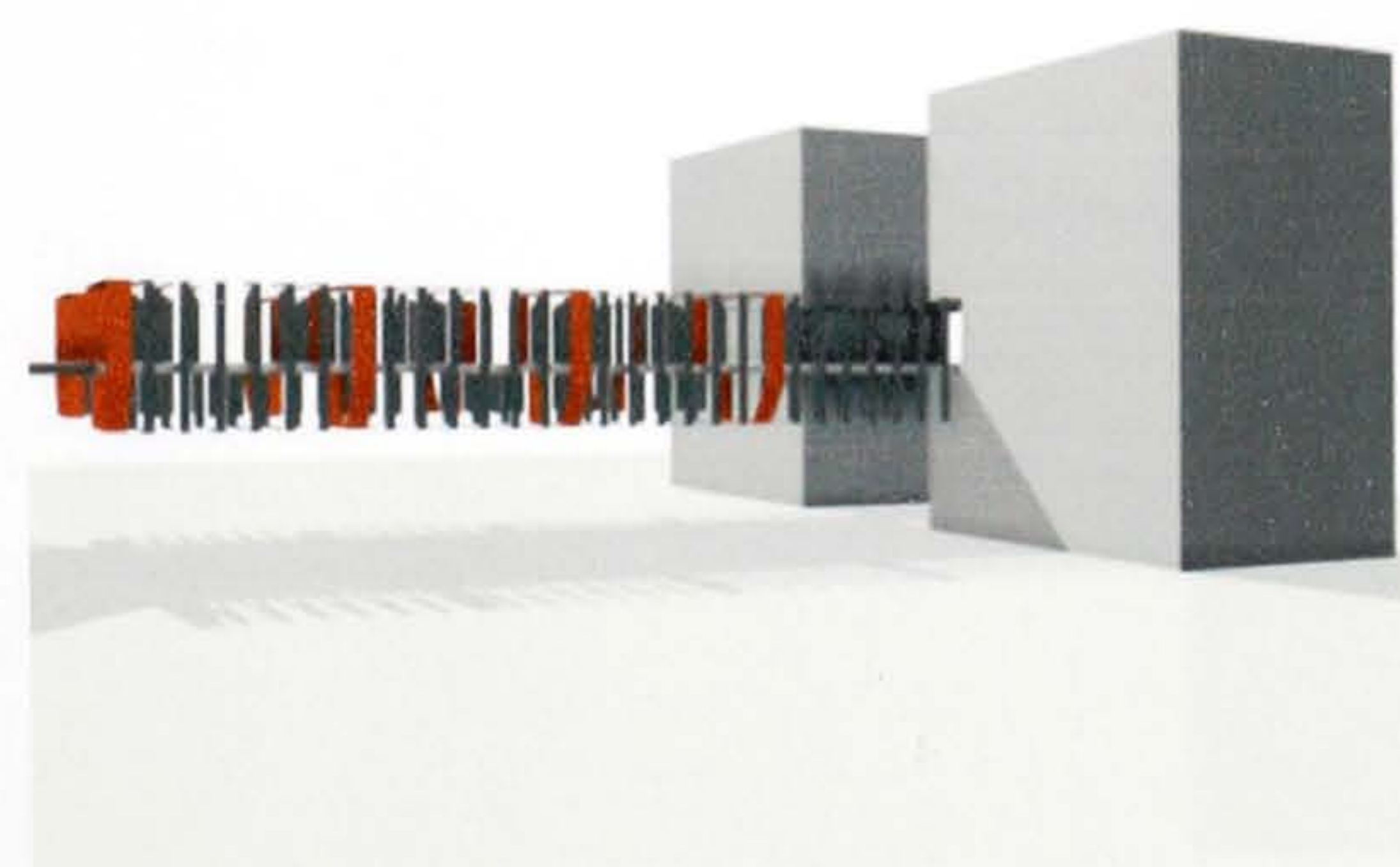
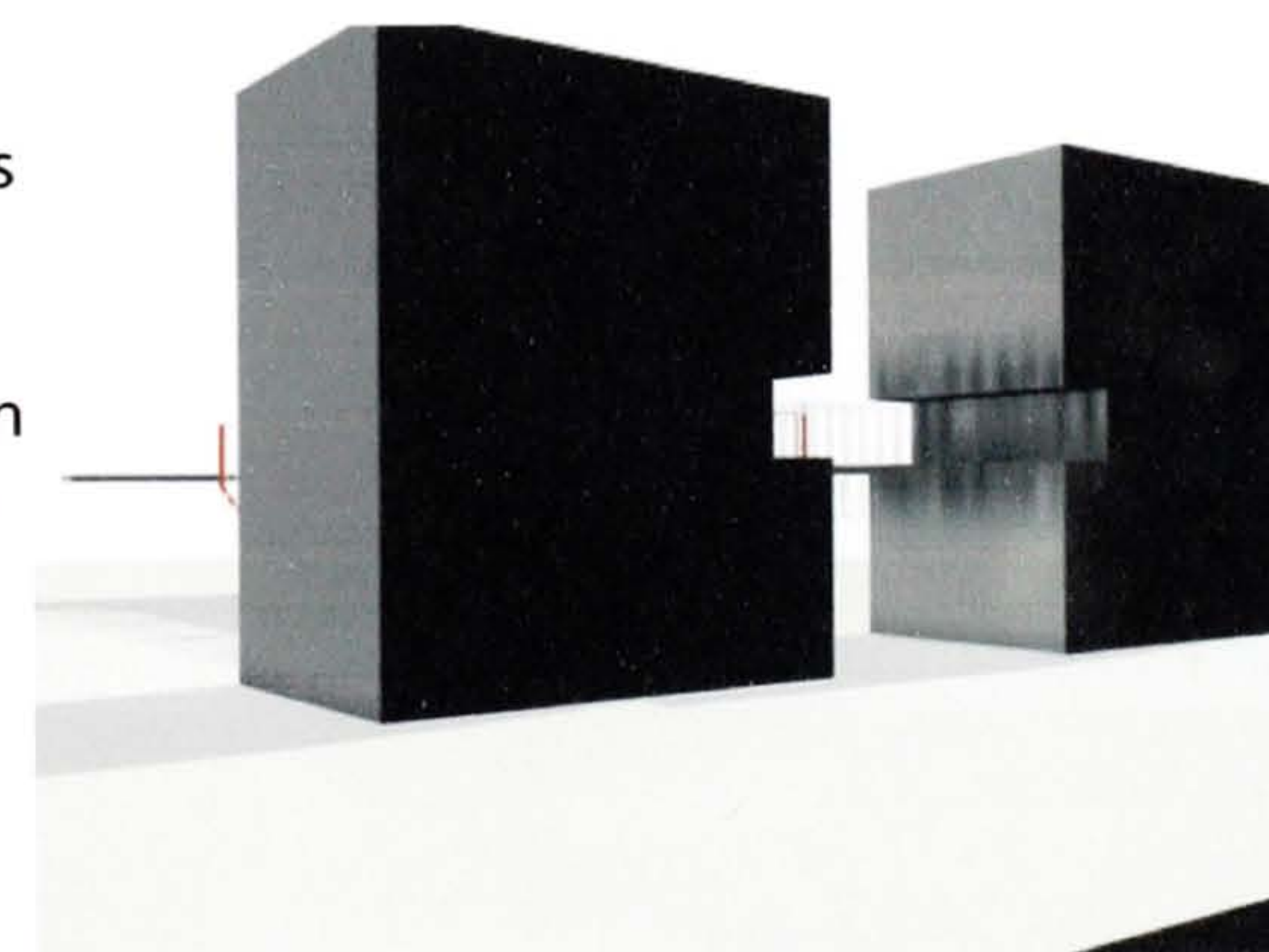
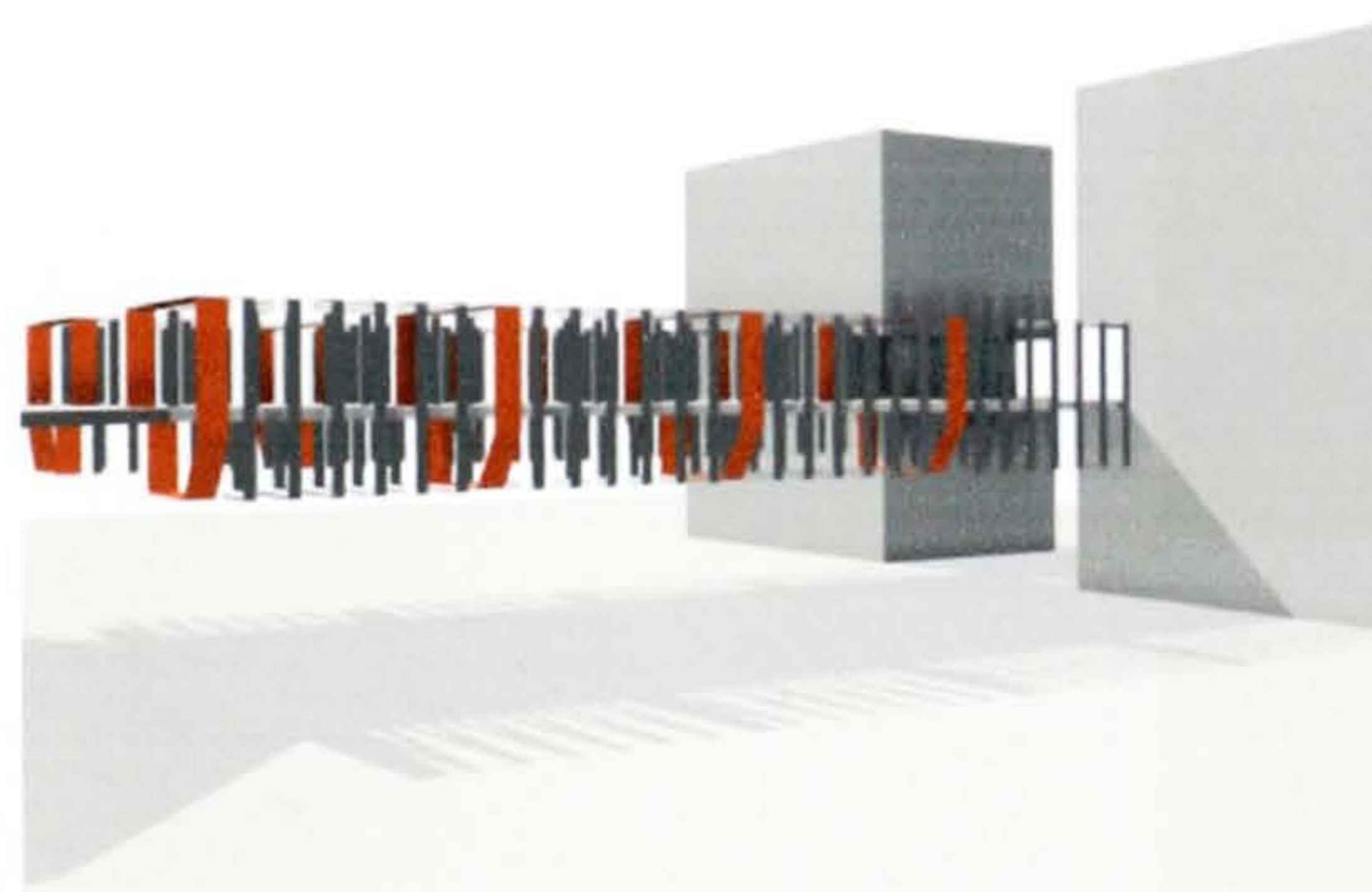
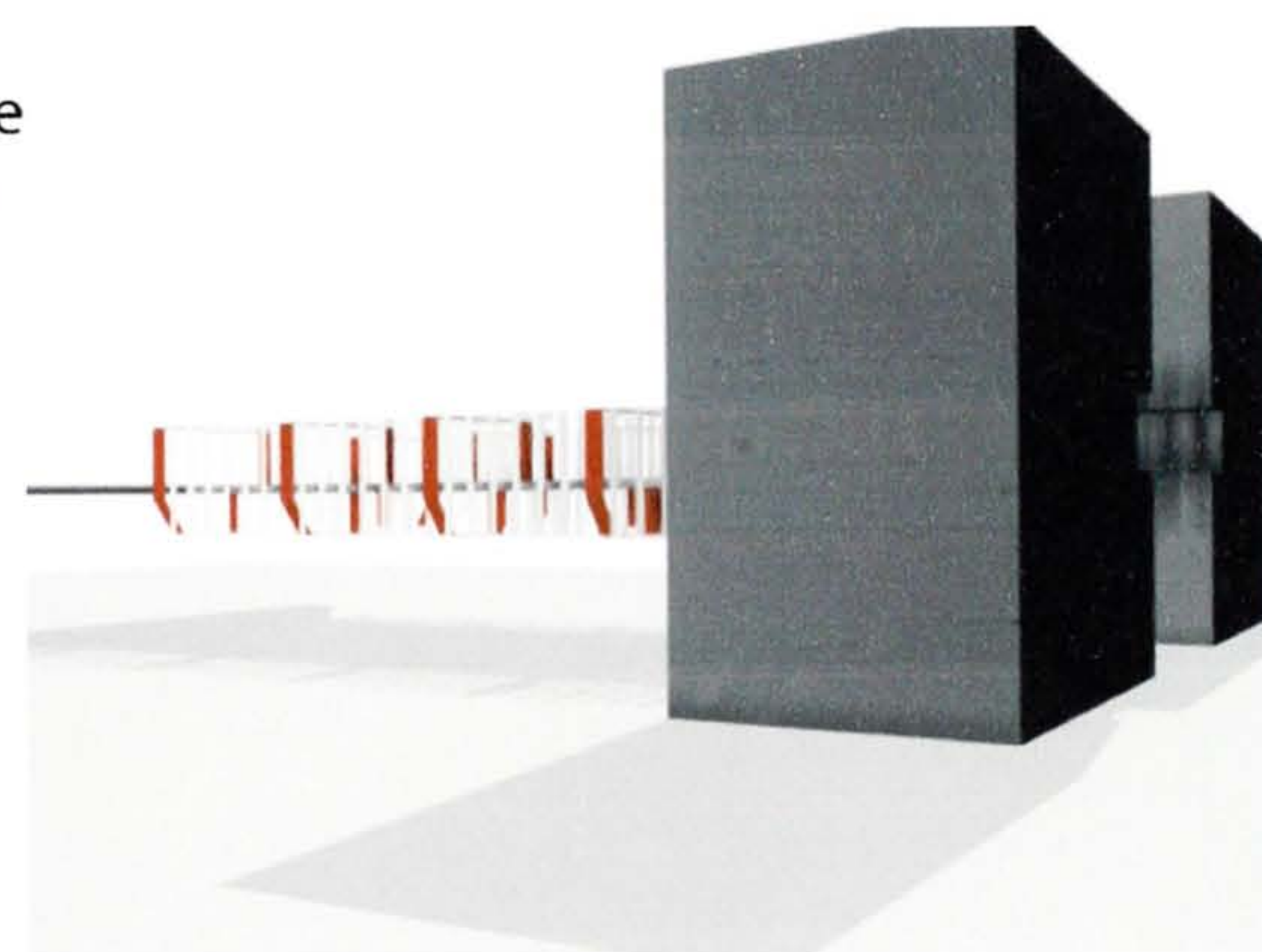
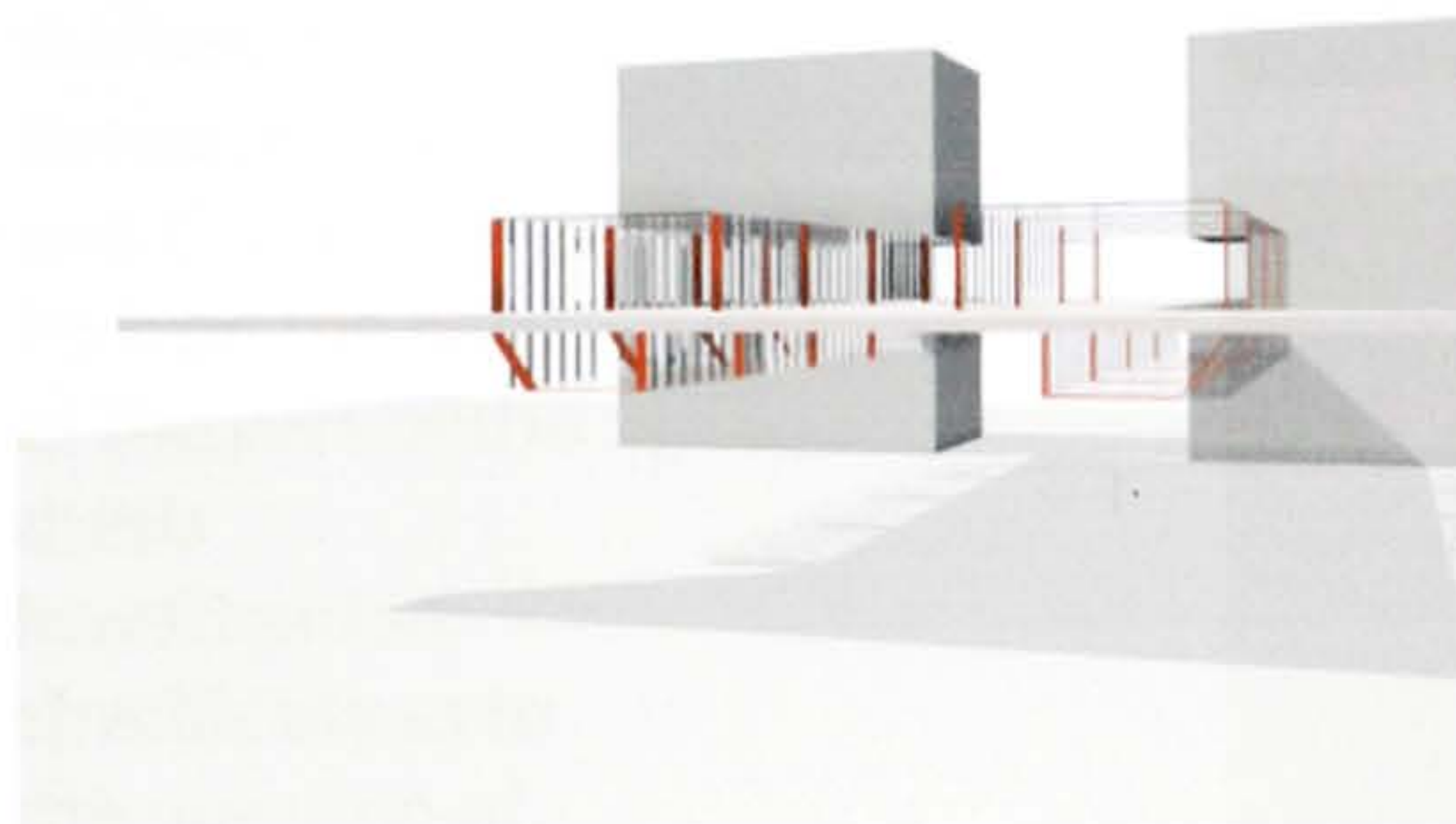


Several different forms started to emerge that would coincide with the site development . It was through this investigation that the program started to control the form of the structure. Specifically how large the structure should be and what amount of land it would sit on.

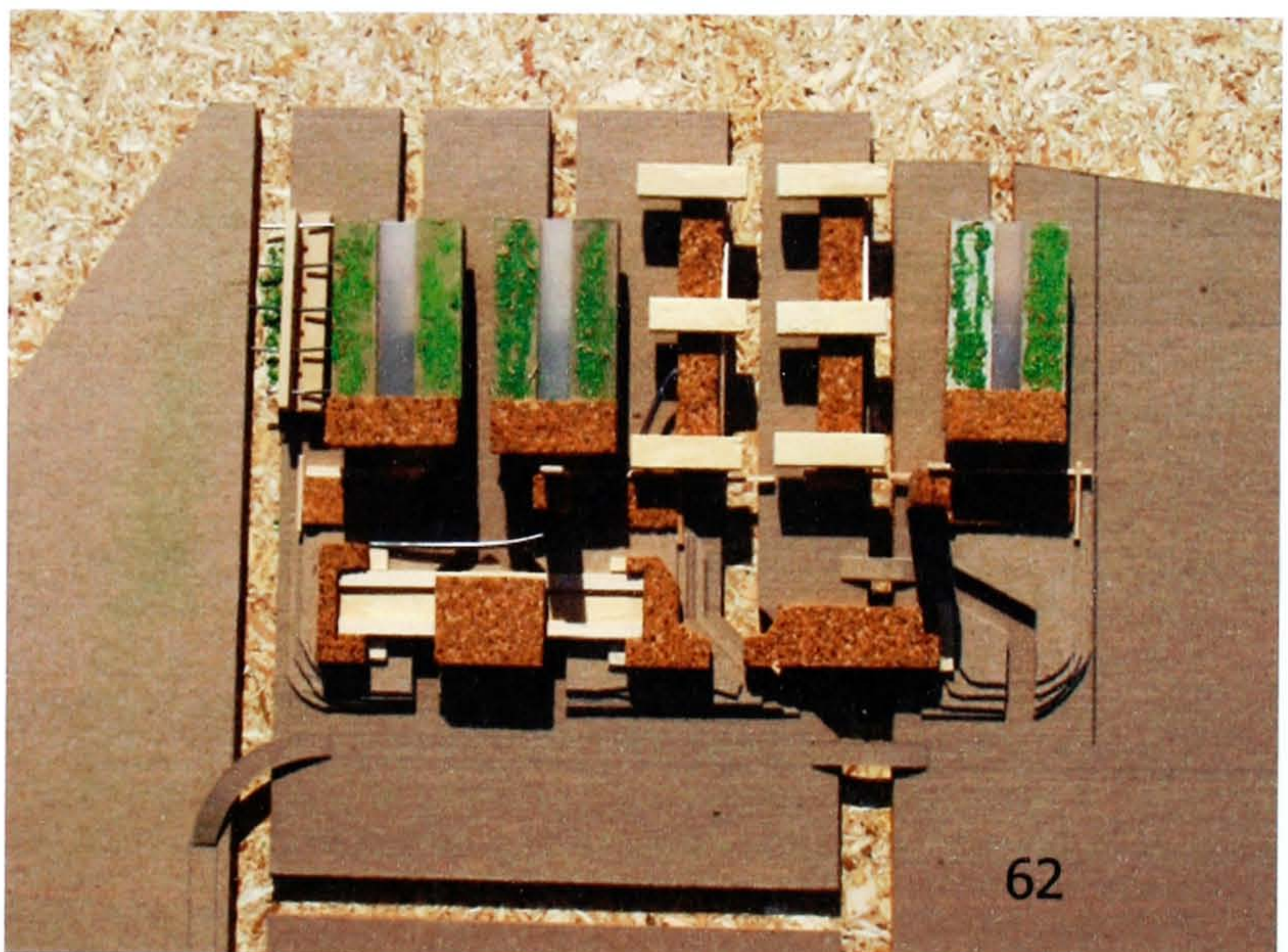
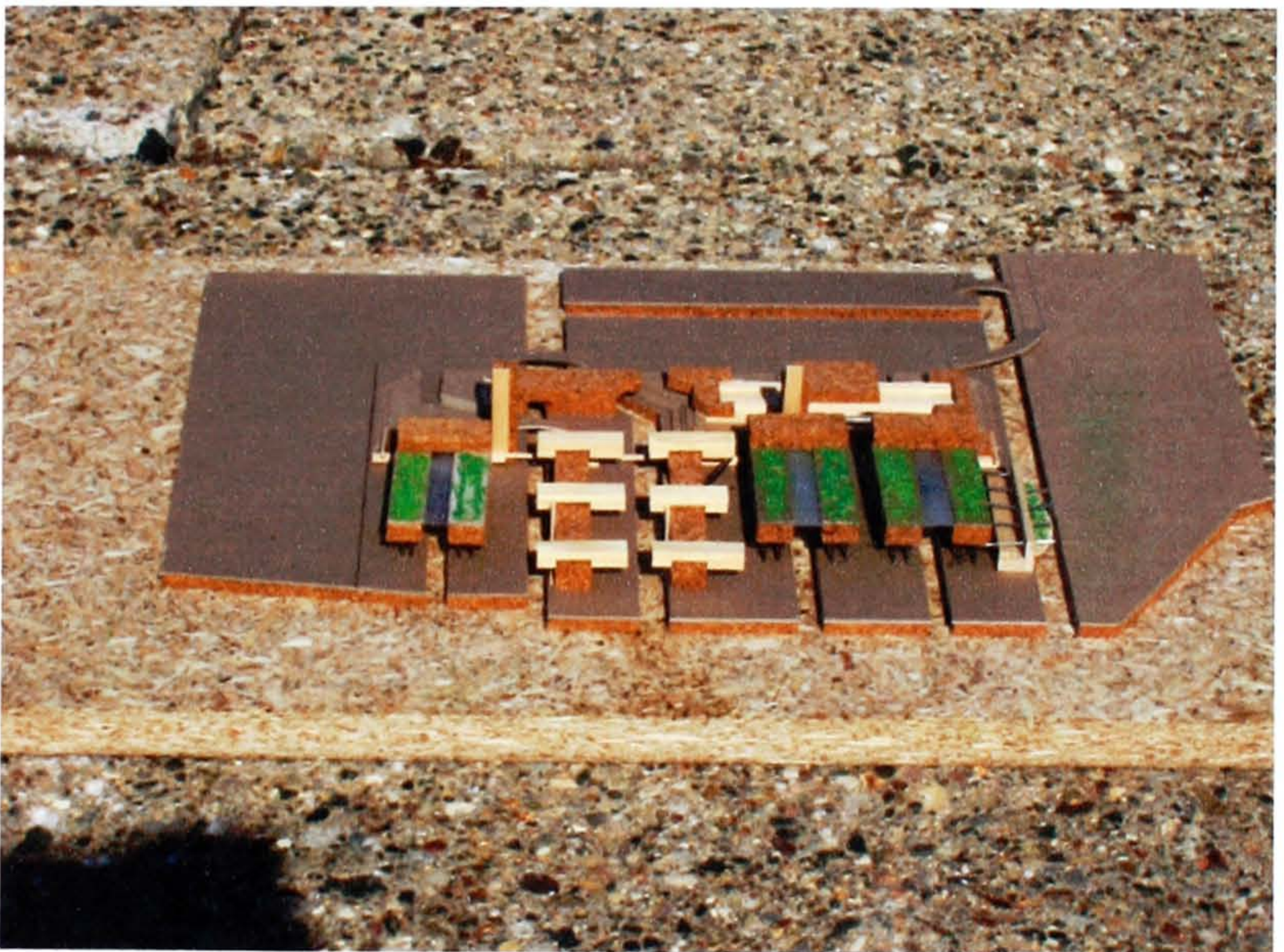
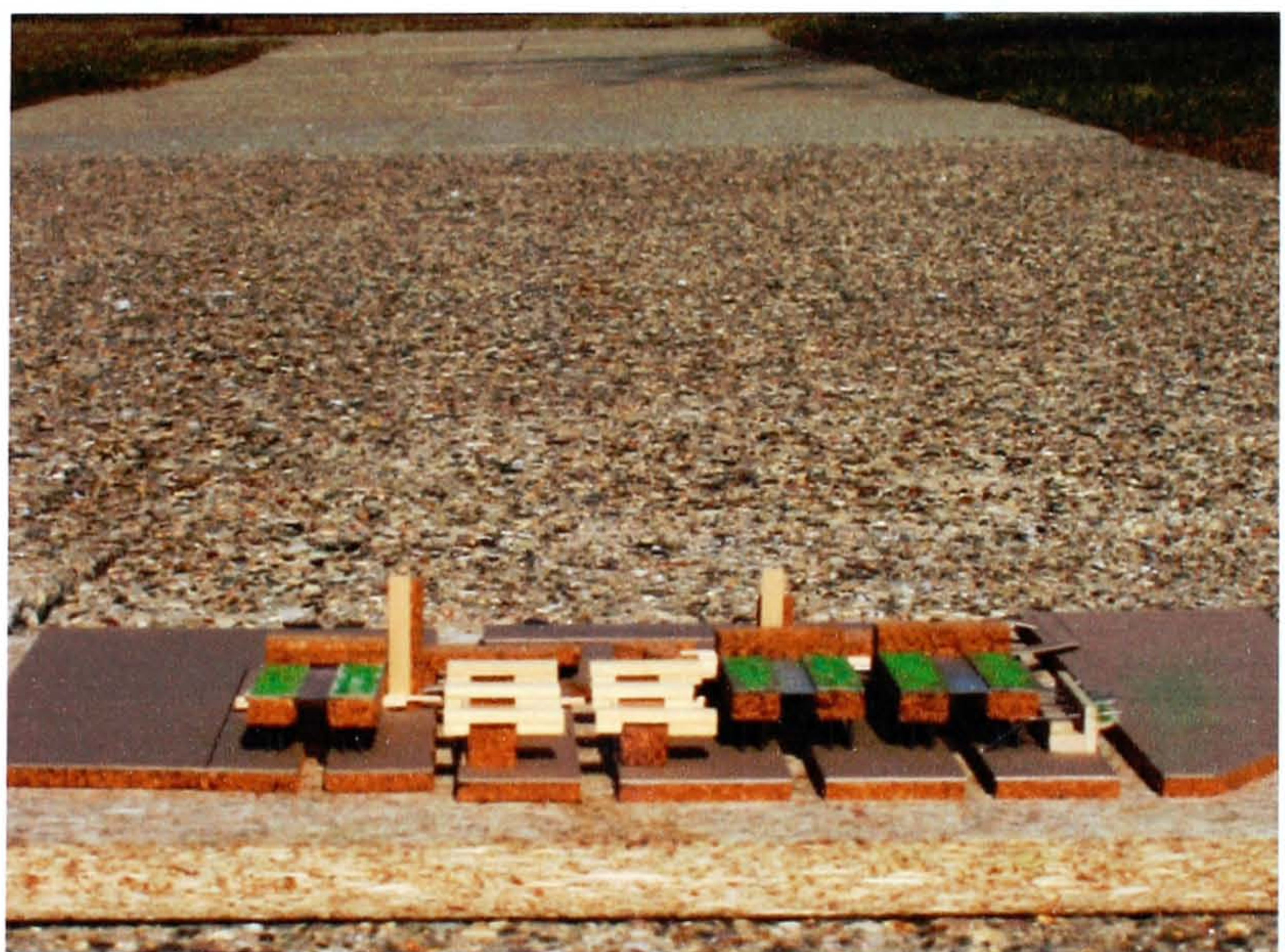




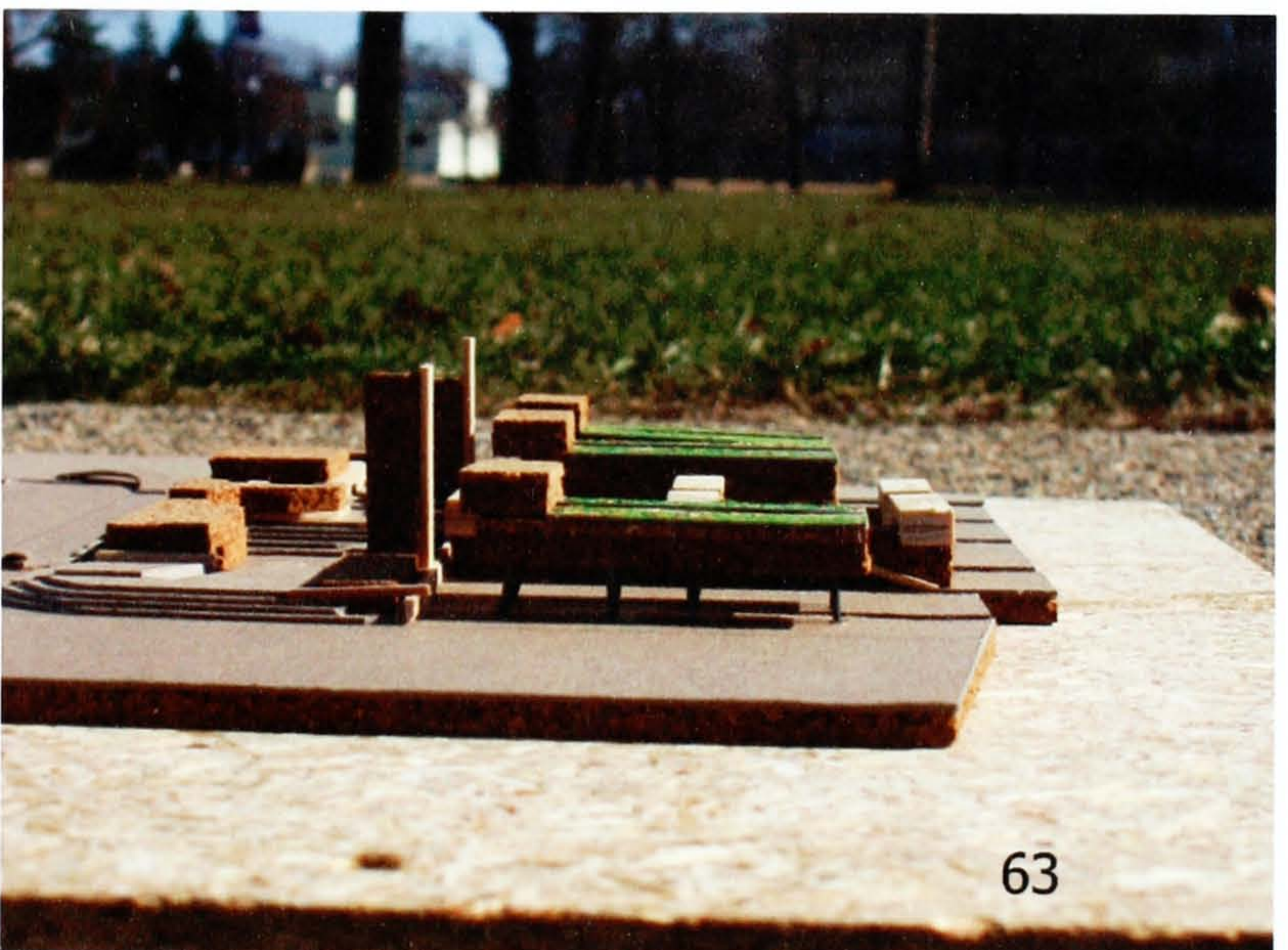
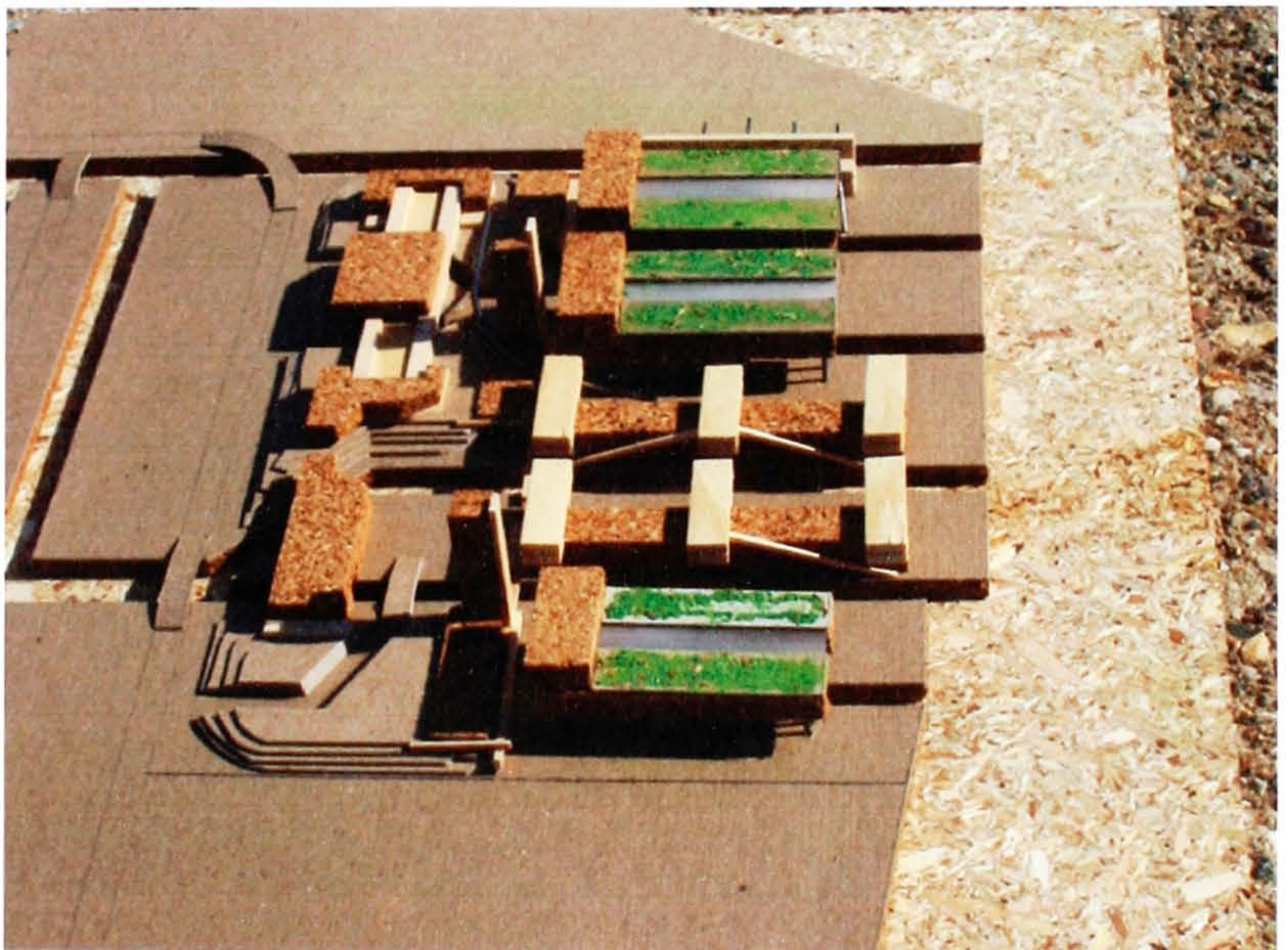
The reason for the suspended living units was to provide an opening in which the outside community could still see and be a part of the river. The intention was not to have the larger structures on each side to become a fence, but was treated as a landmark in which you can look through



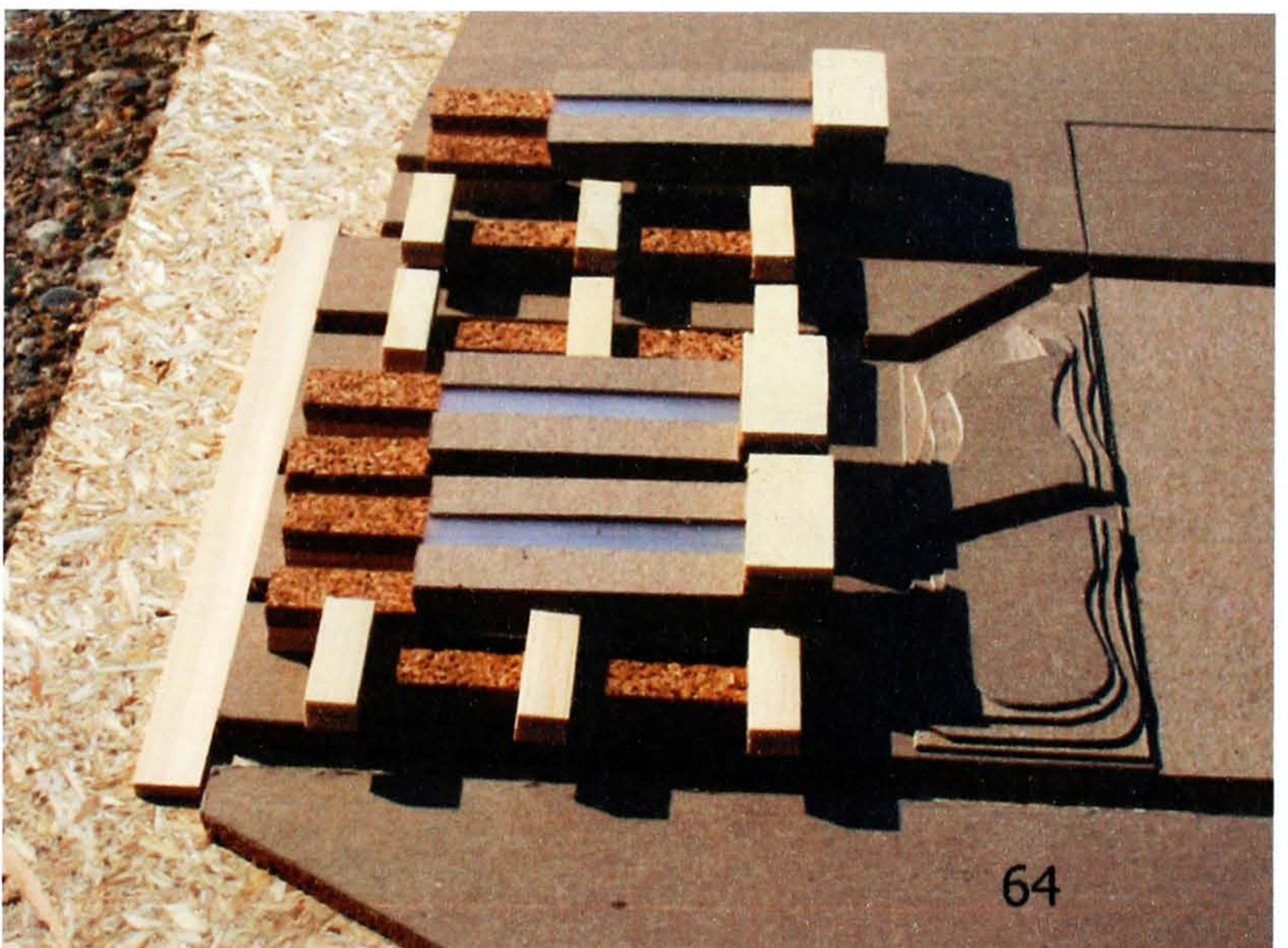
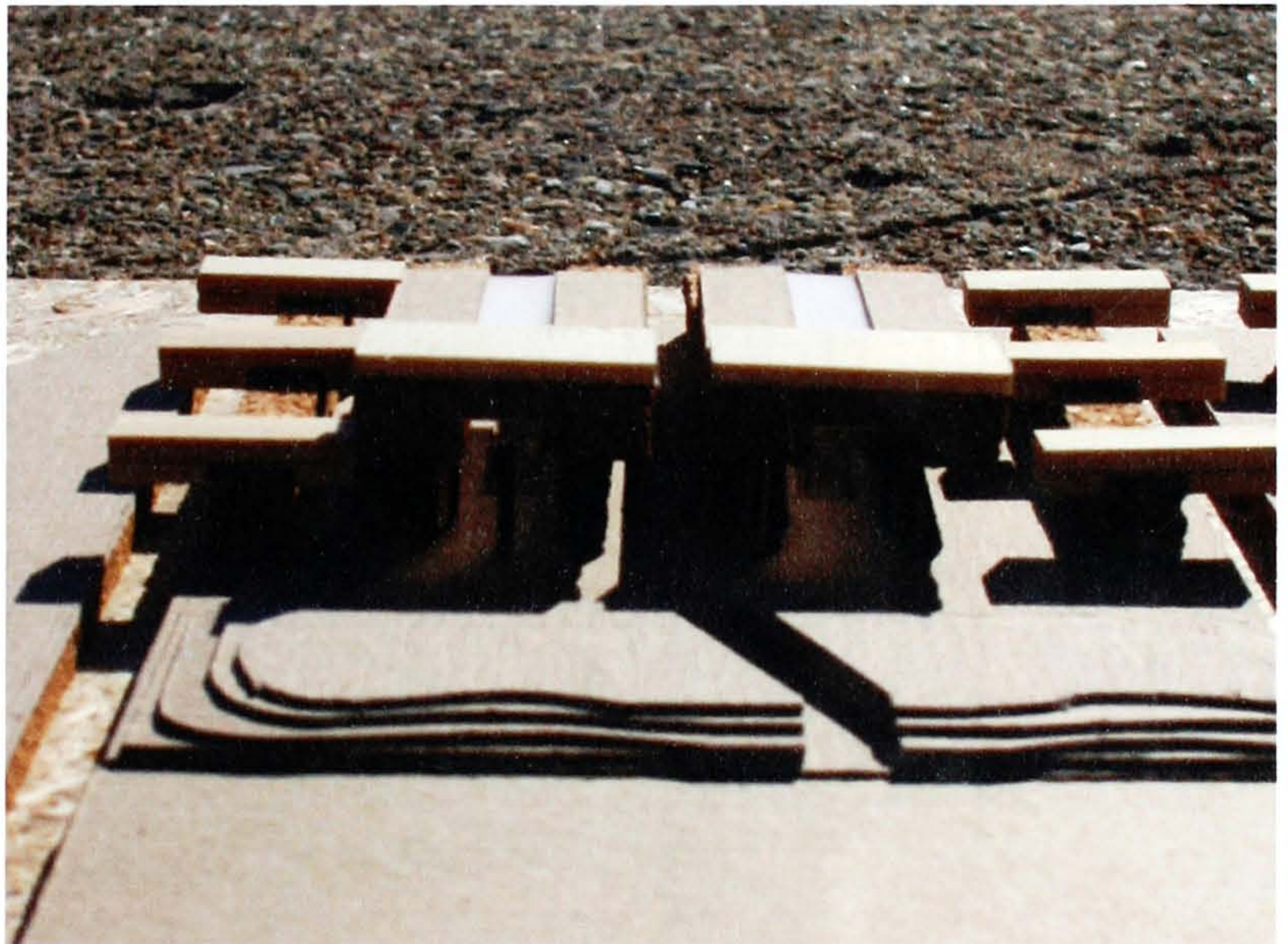
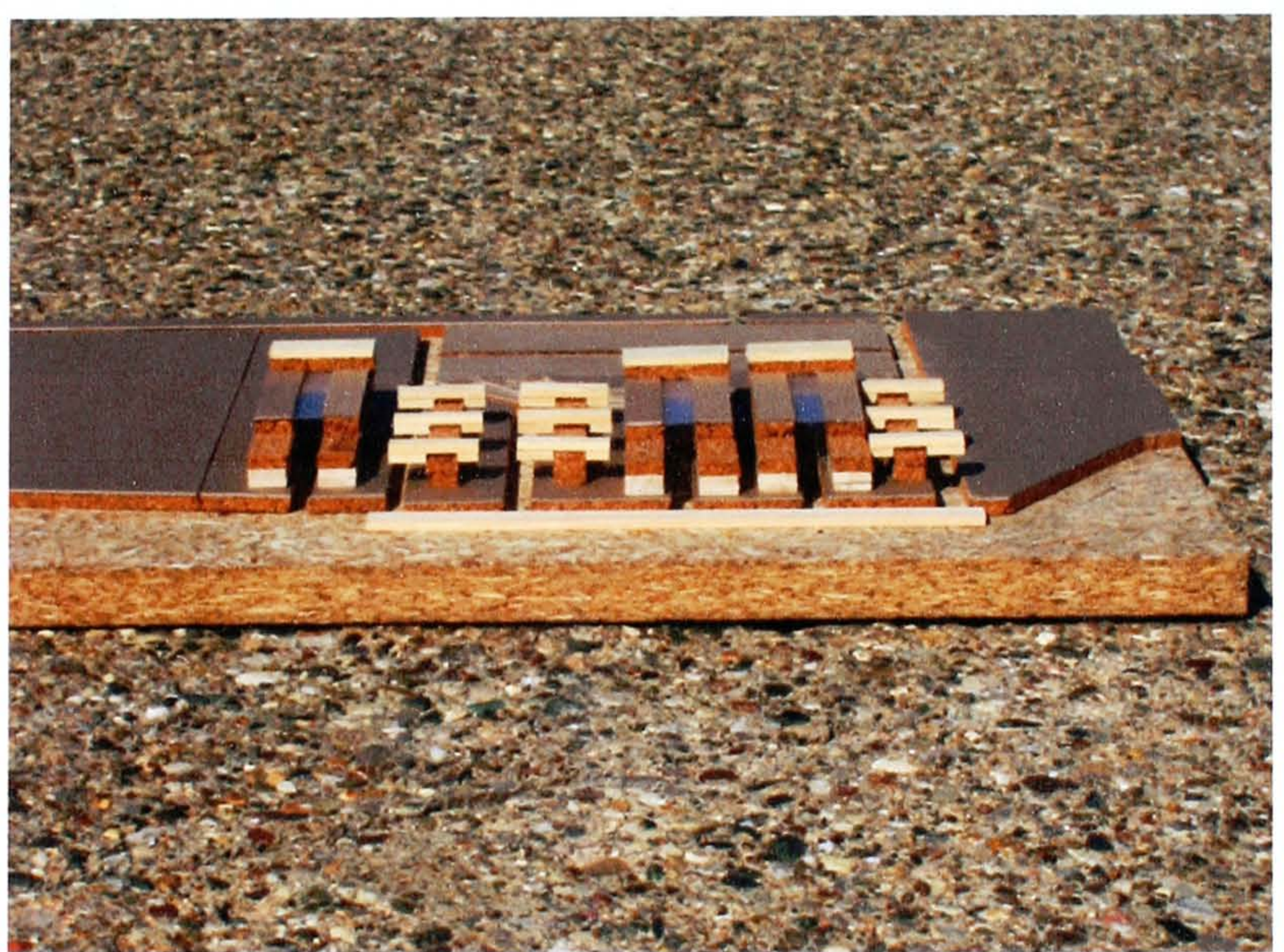
This study was the beginning of a realization of some of how complex the site was. The intention was to look at the issue of the barrier Between Detroit and Grosse Point Park on the level of the part of the thesis investigation, specifically as to the question of place.

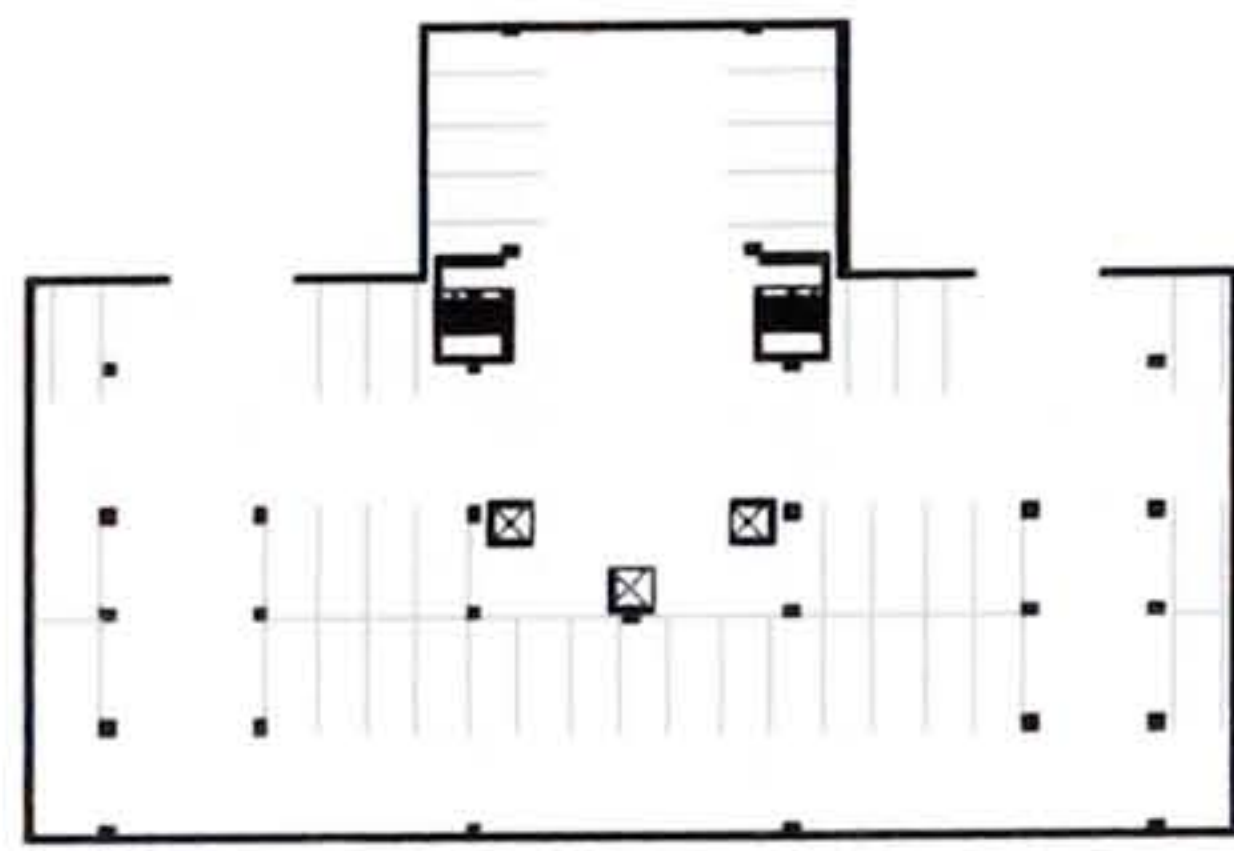


Another part of the thesis that dealt with place was looked into in this study as well. It was the surrounding community which had canals that ran through them giving water access to those who were not immediately situated on the river. So to take a thoughtful and beneficial approach to the site planning of the development new canals were proposed.

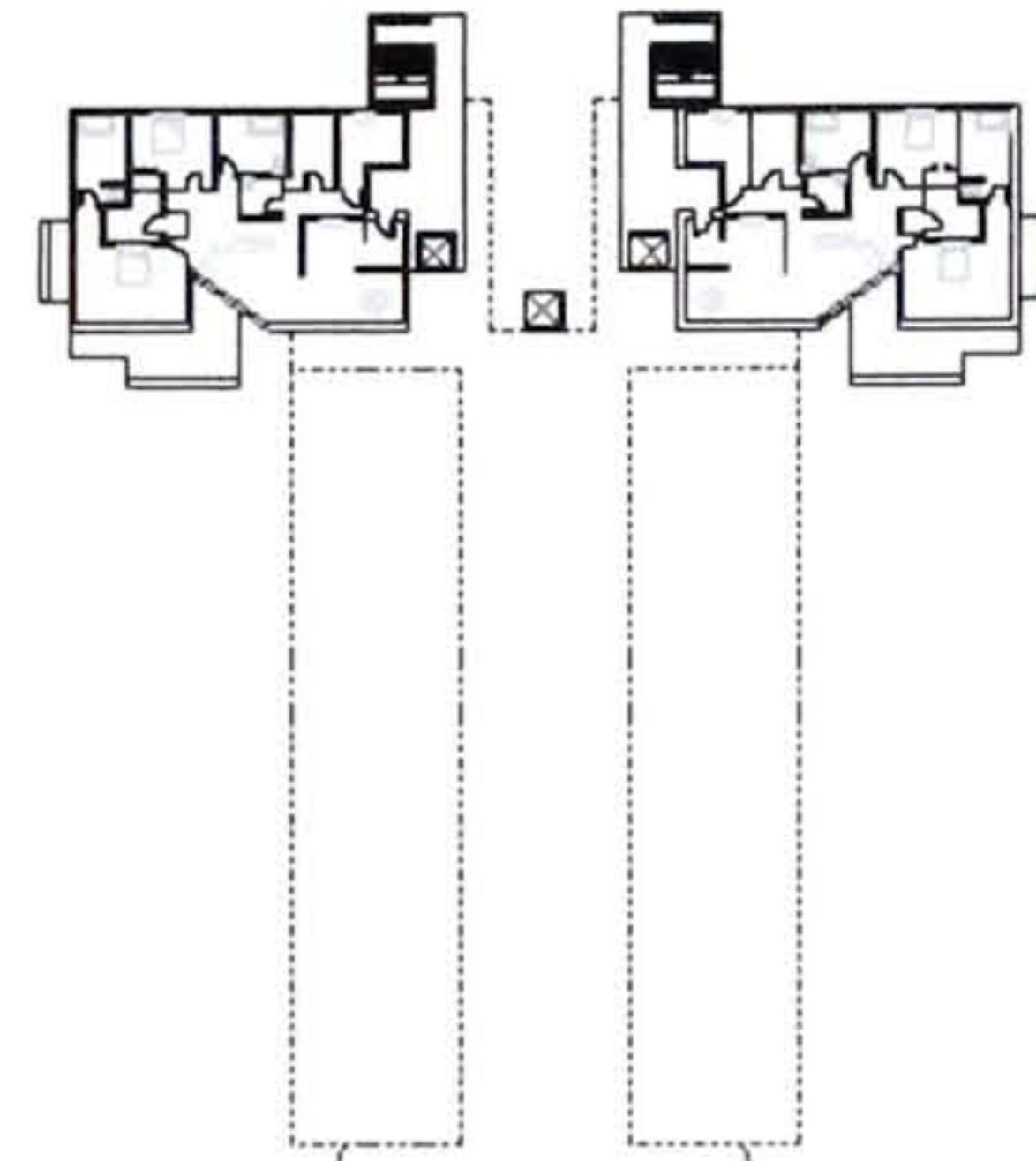
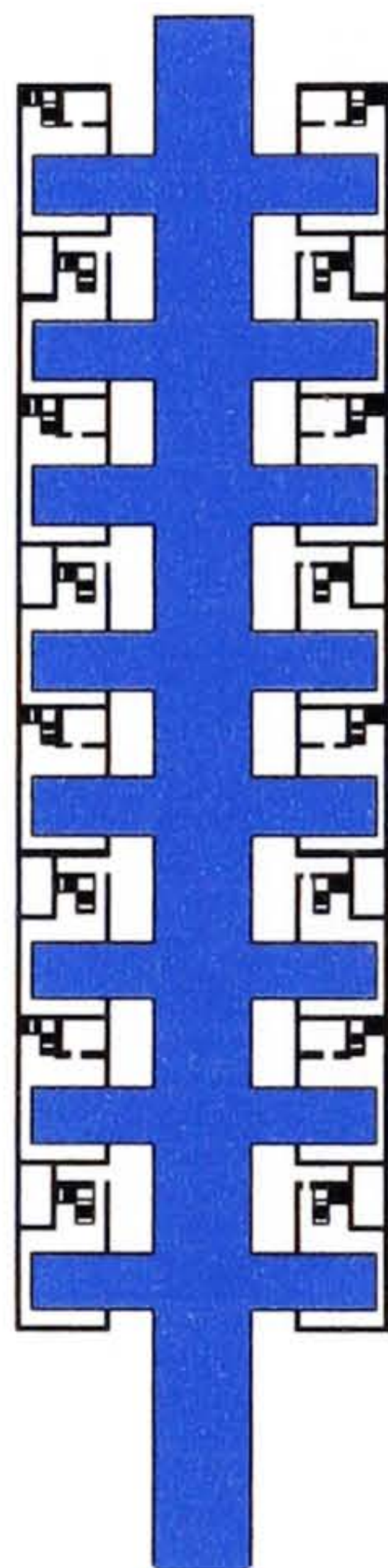


An issue that was raised from the previous model was that there still seemed to be too many things happening at once. In this study the idea was to clarify the density of the site and to think about how the sunlight would engage it. The use of a long narrow building form allowed sunlight to penetrate both sides of the structure and still coincided with the desired density.

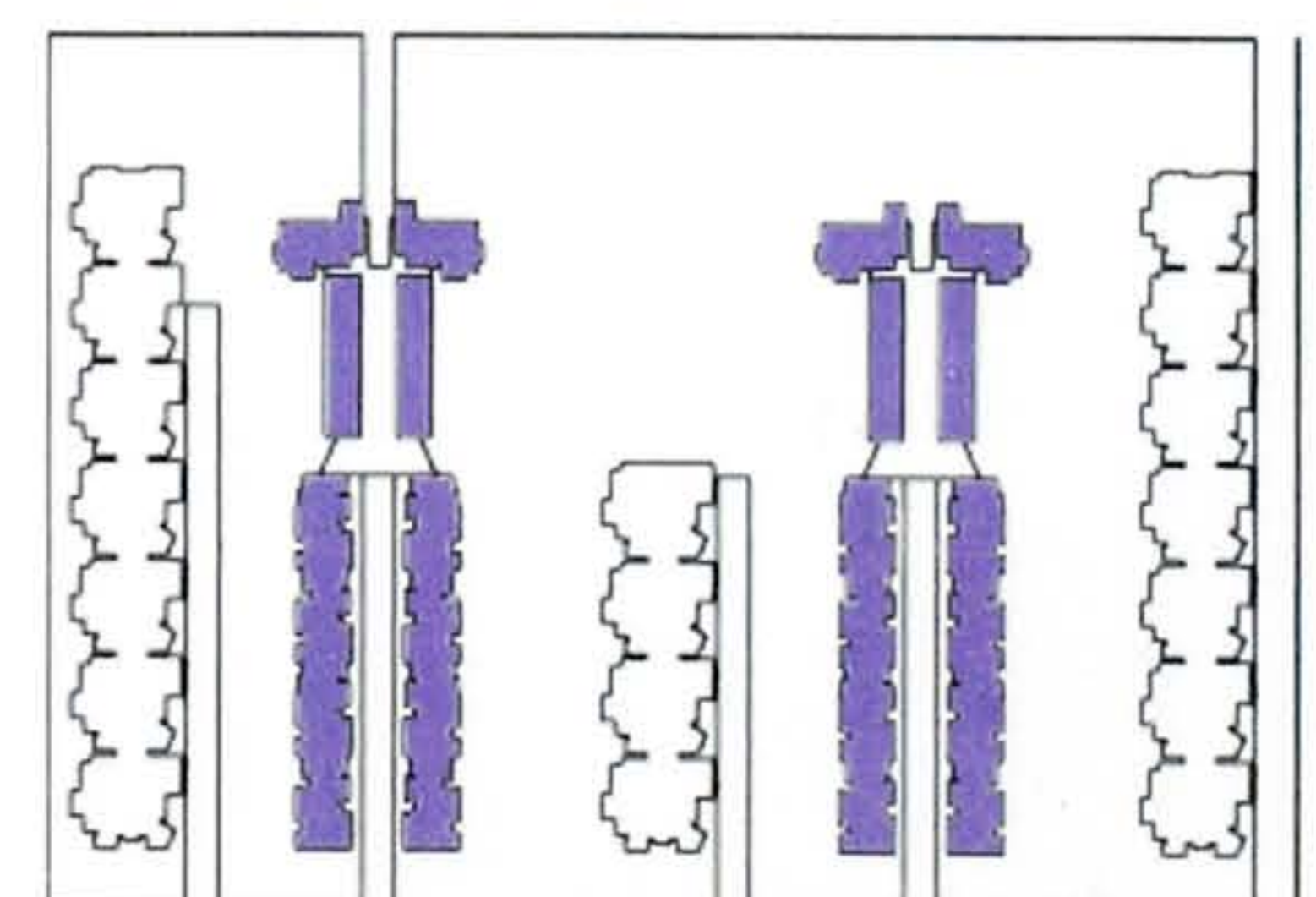
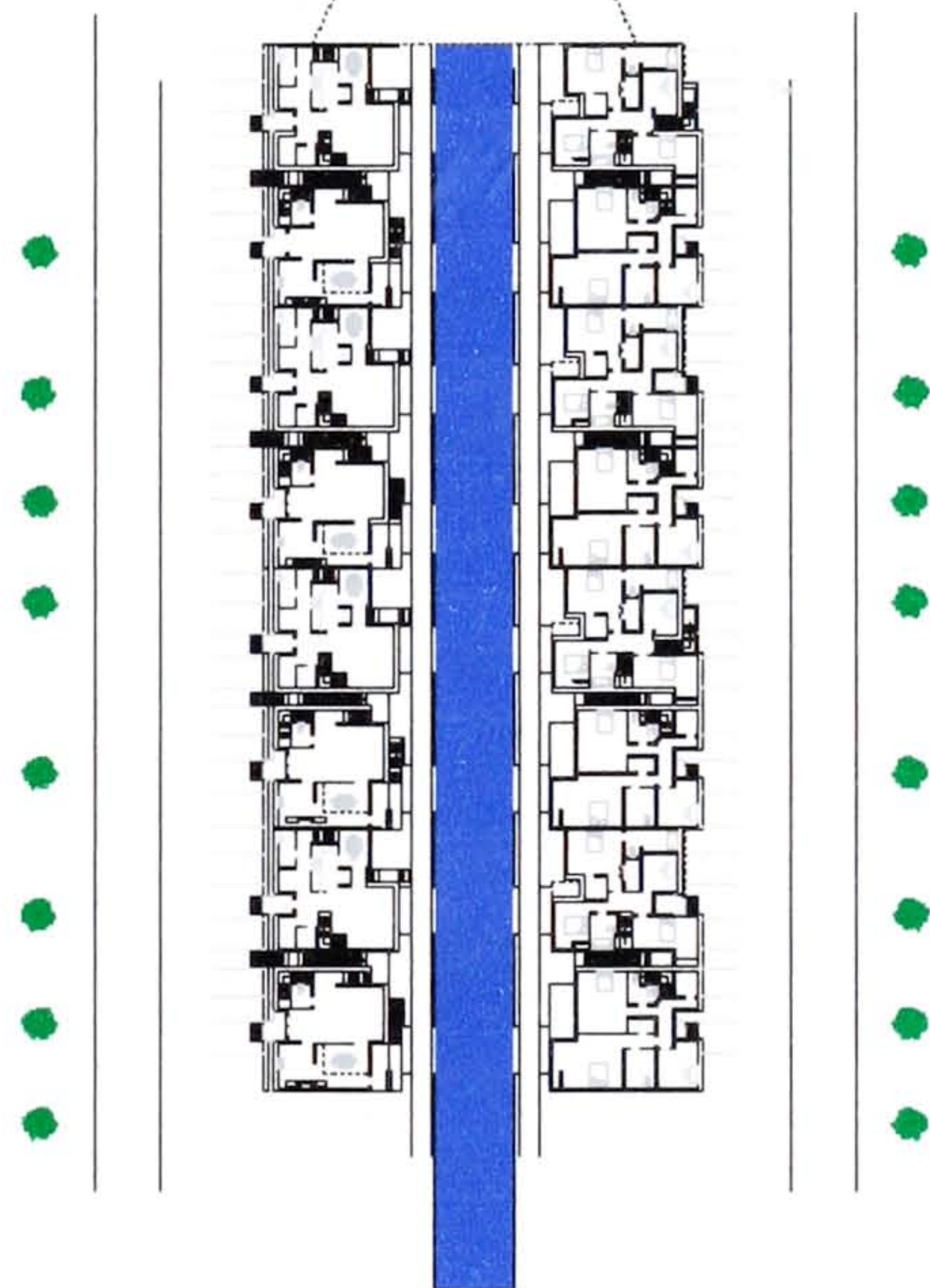


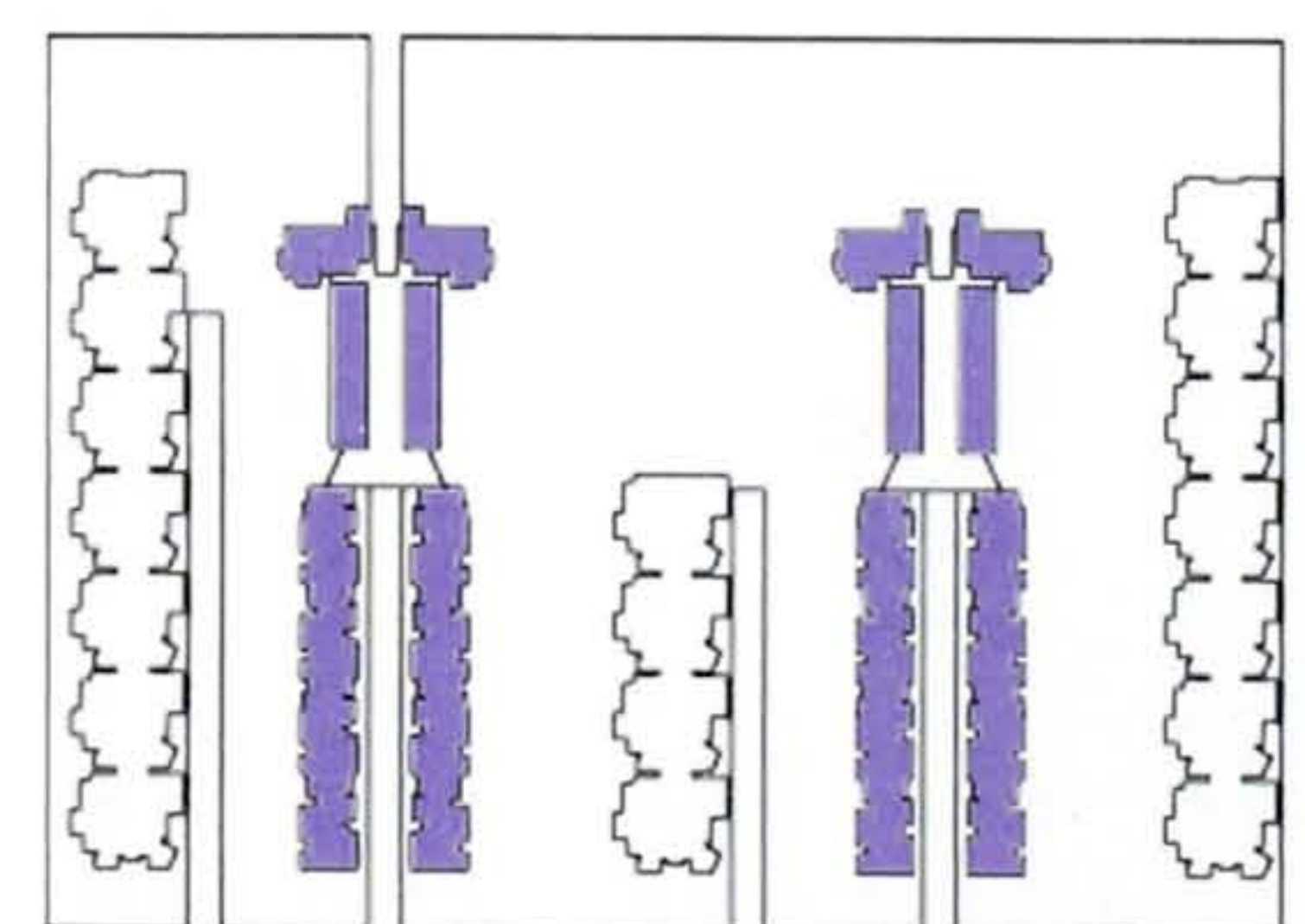
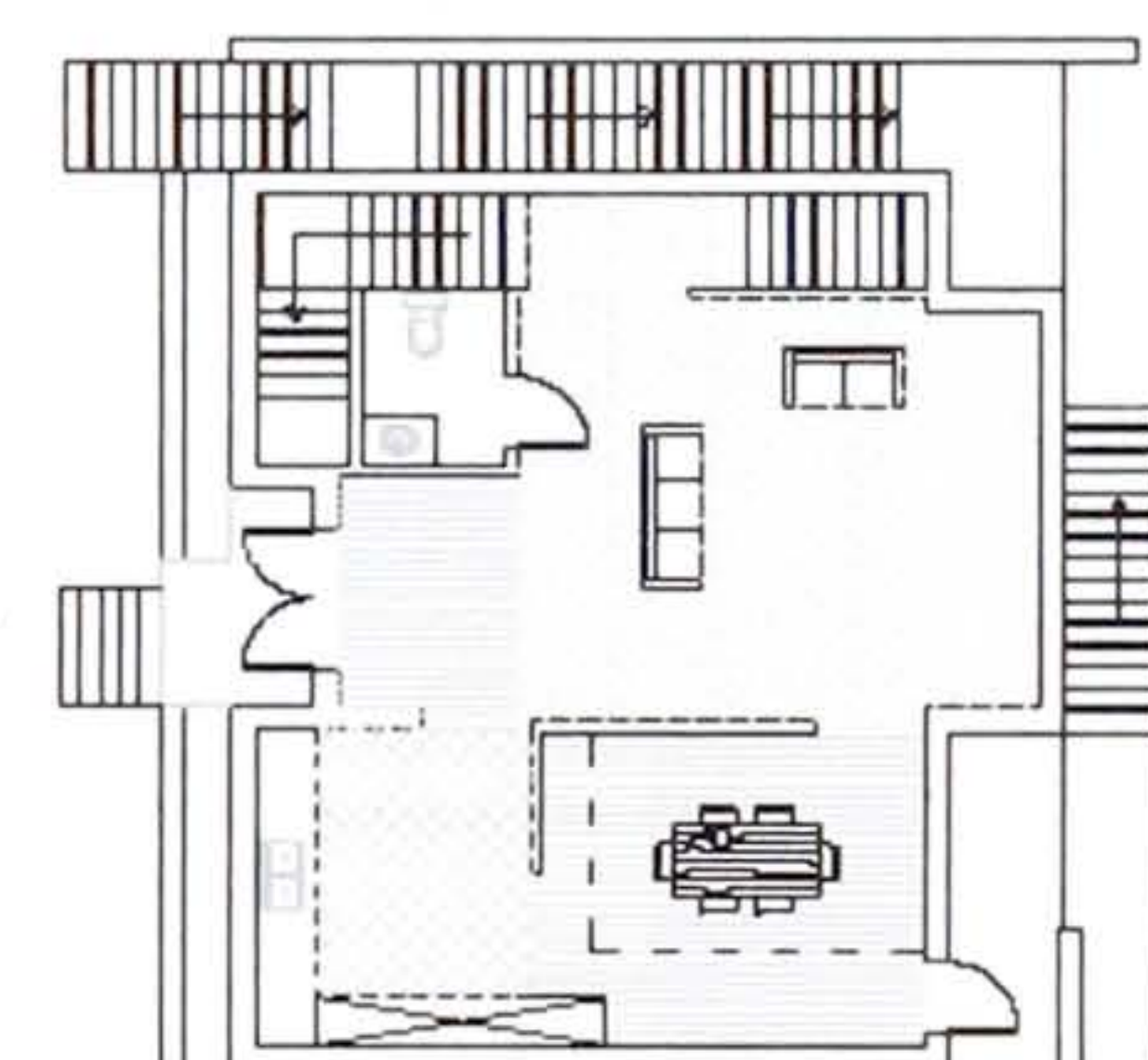
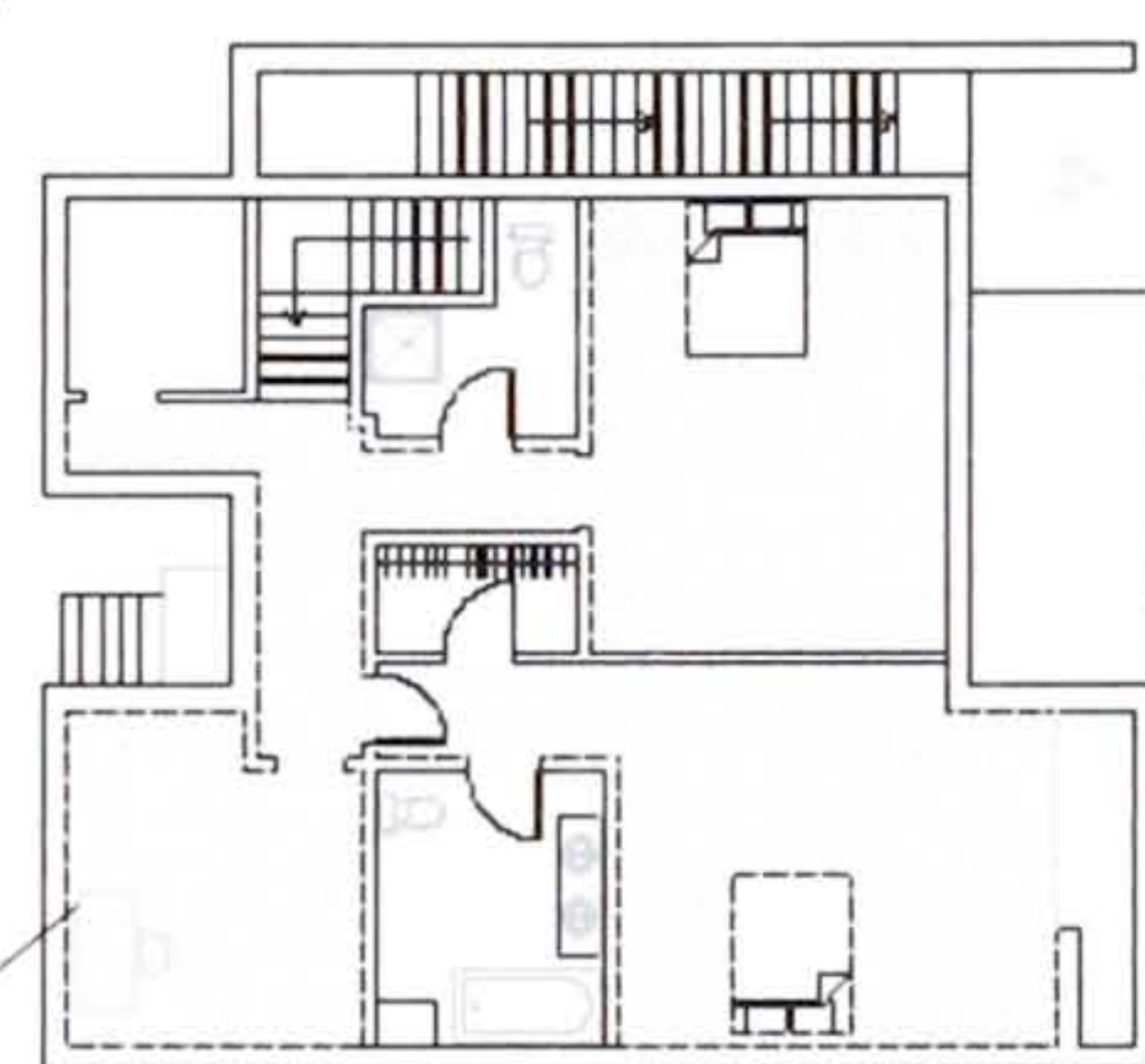
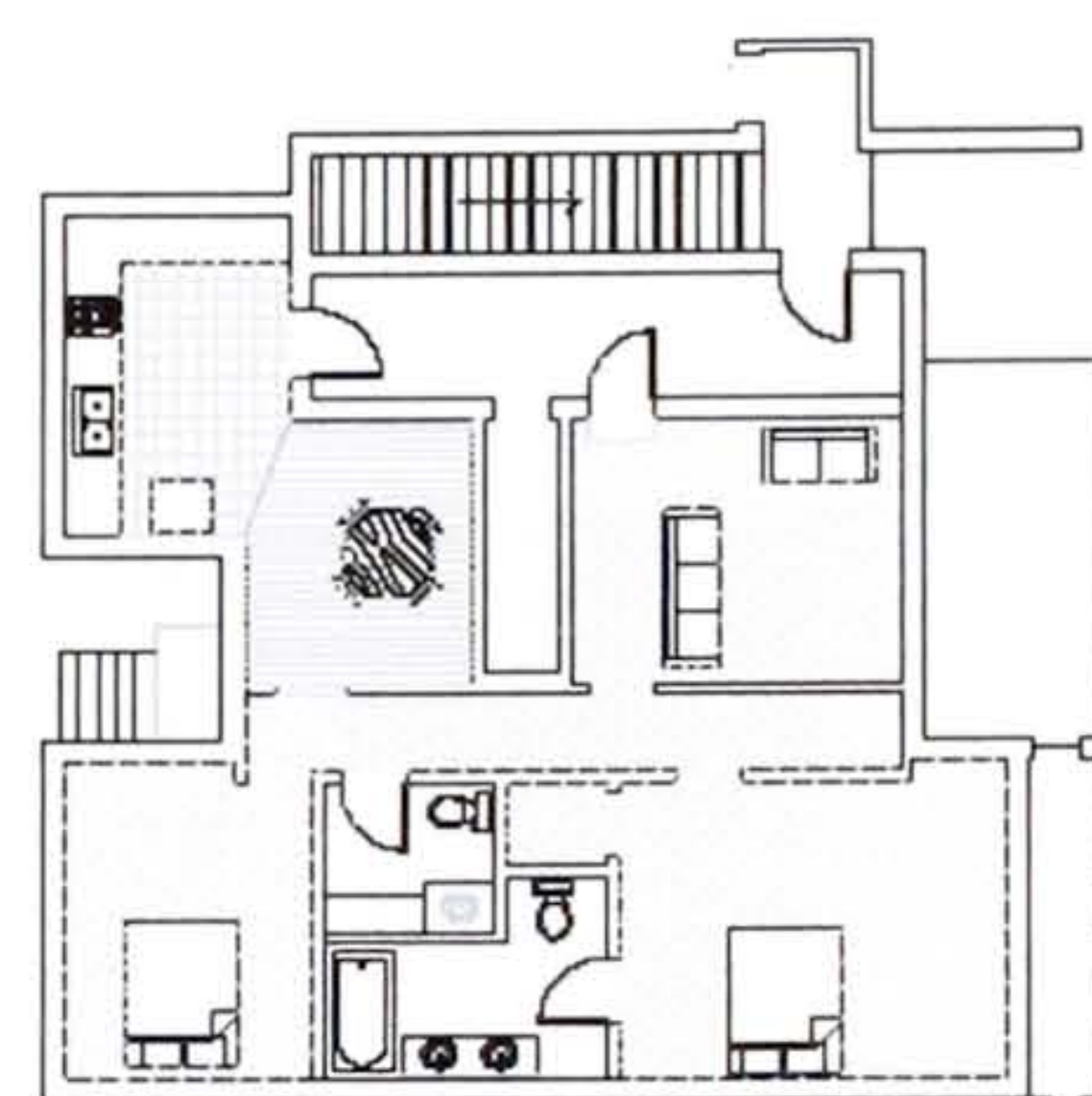
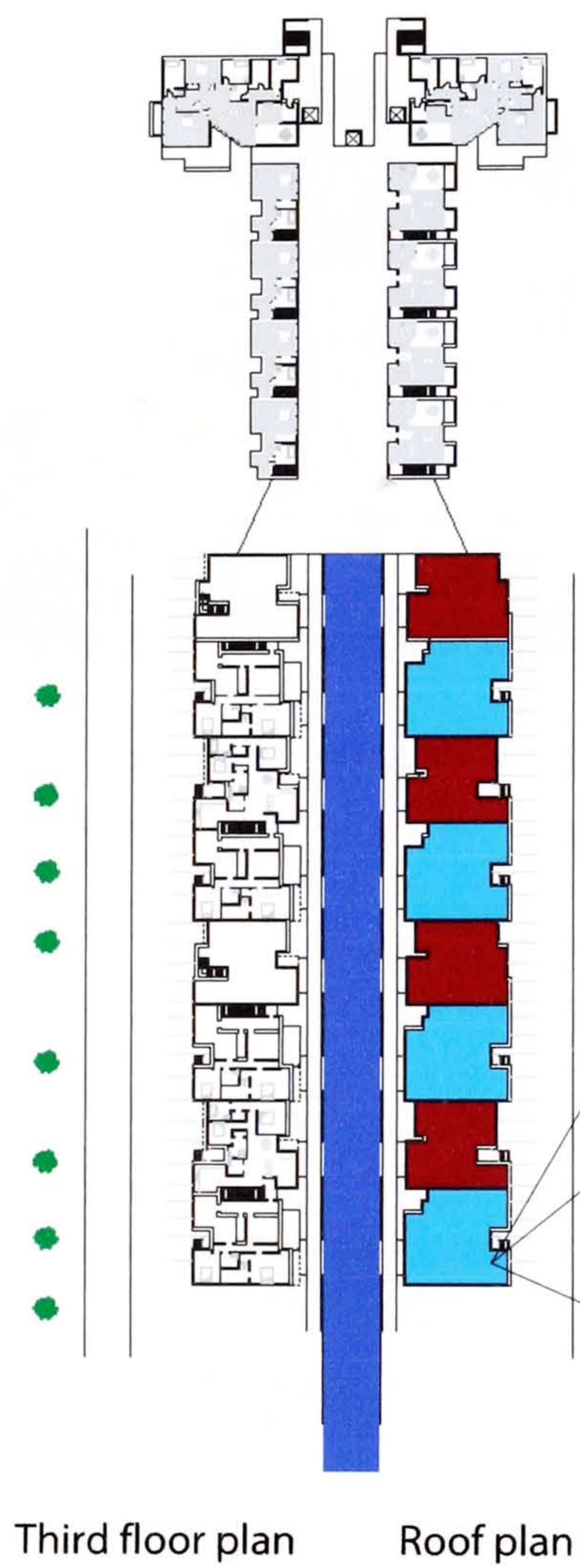


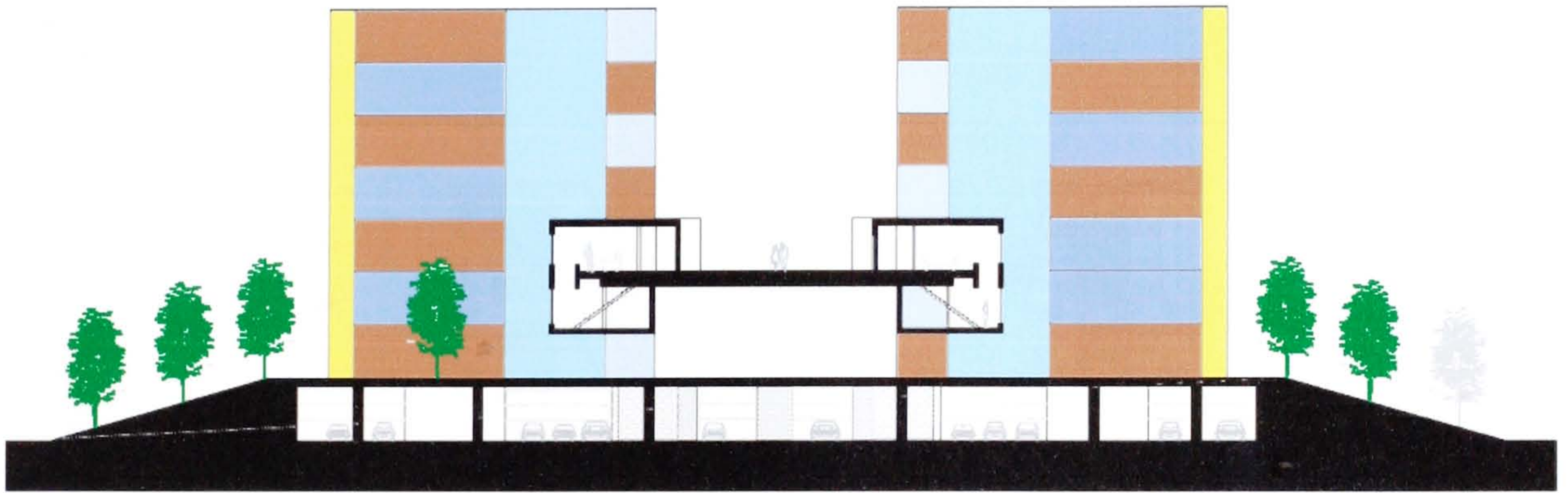
Basement plan



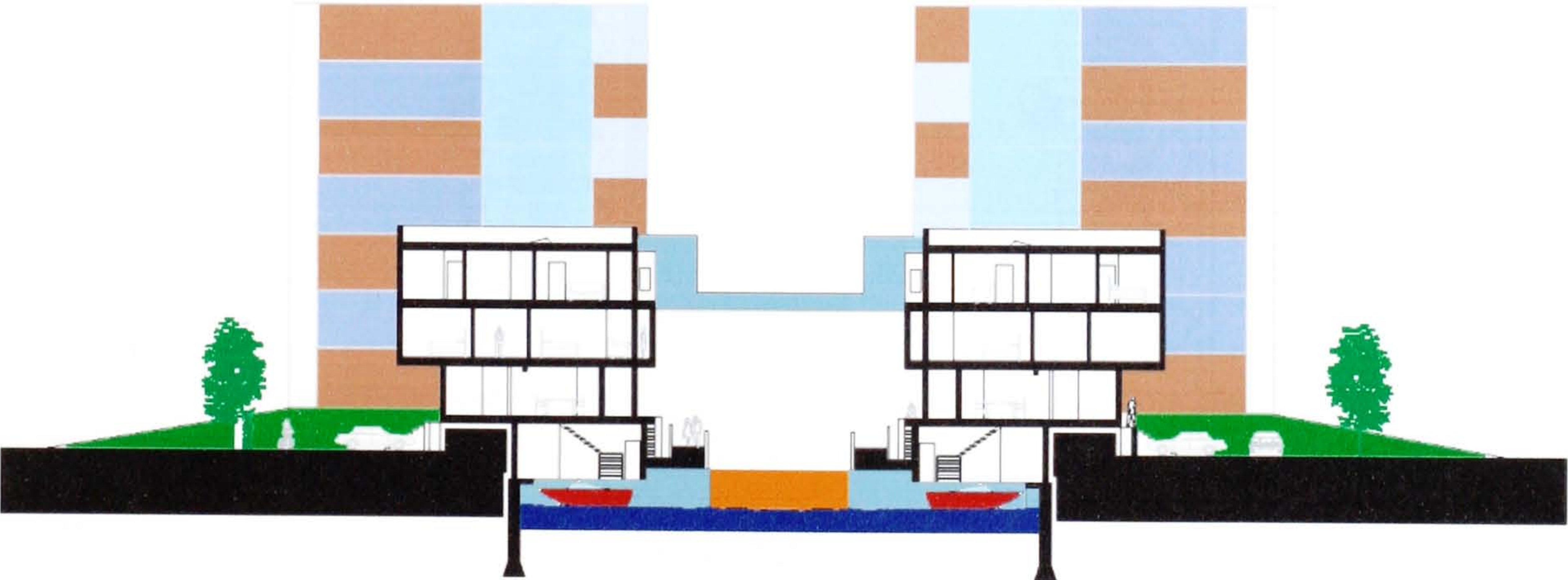
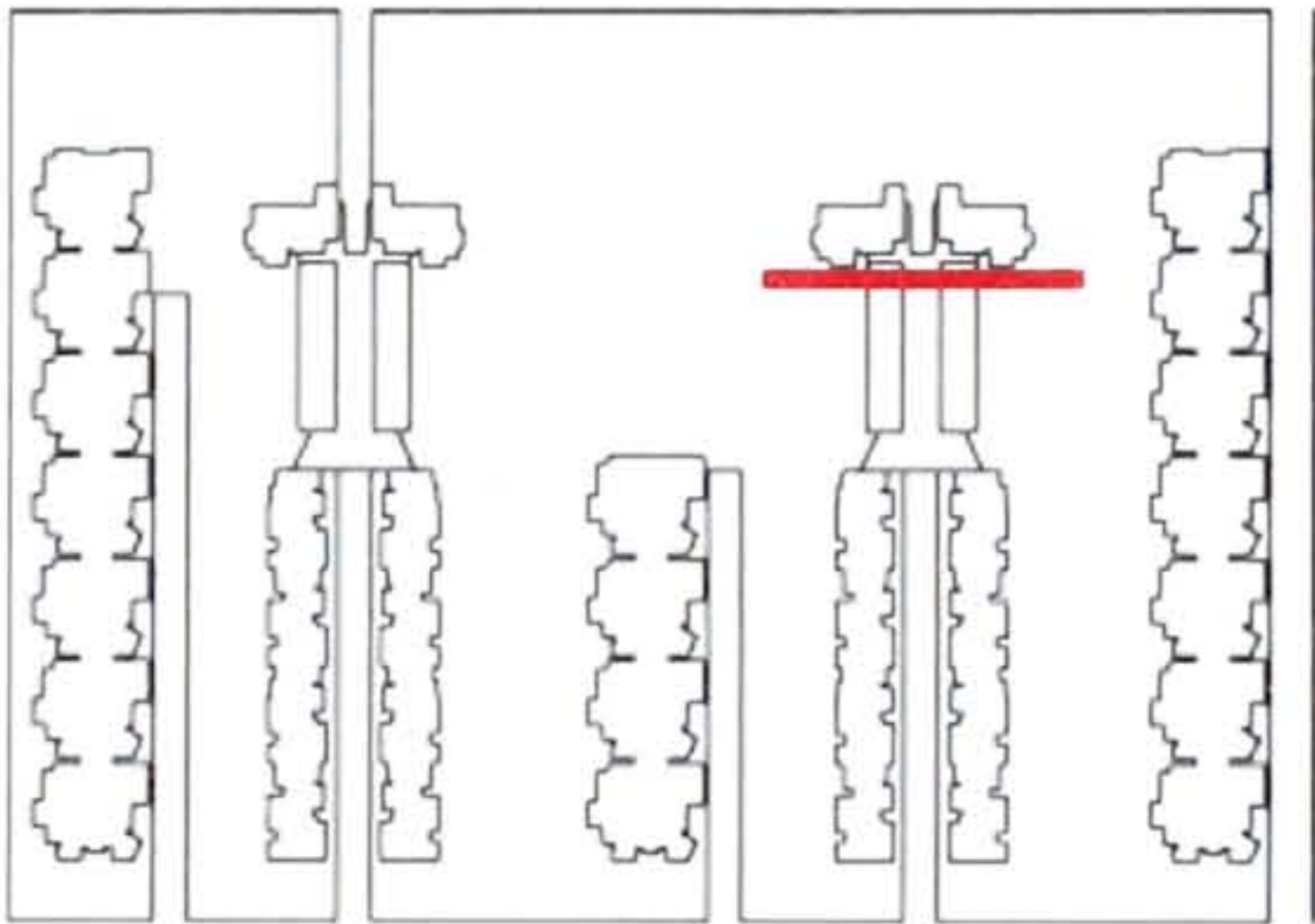
First floor plan



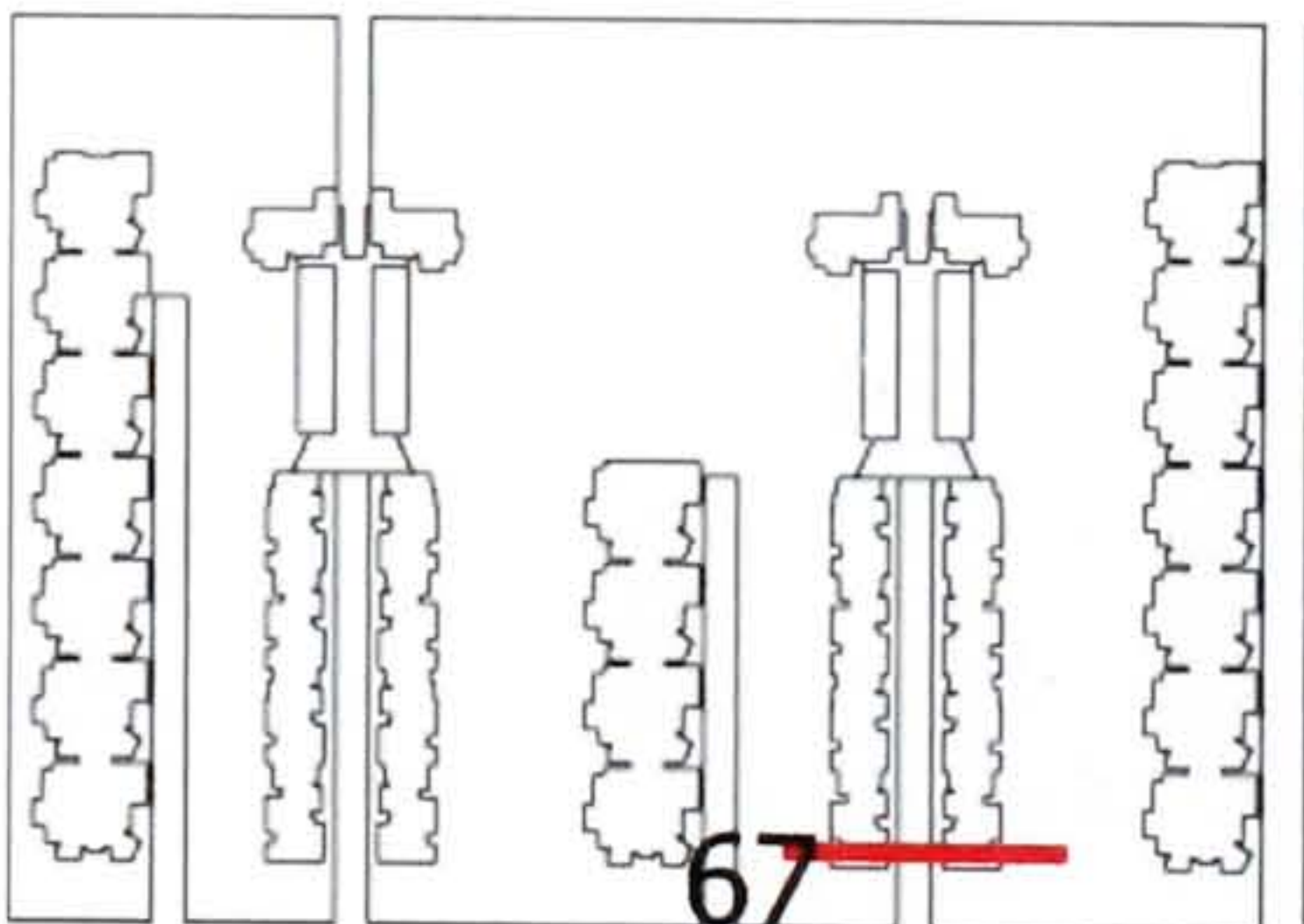




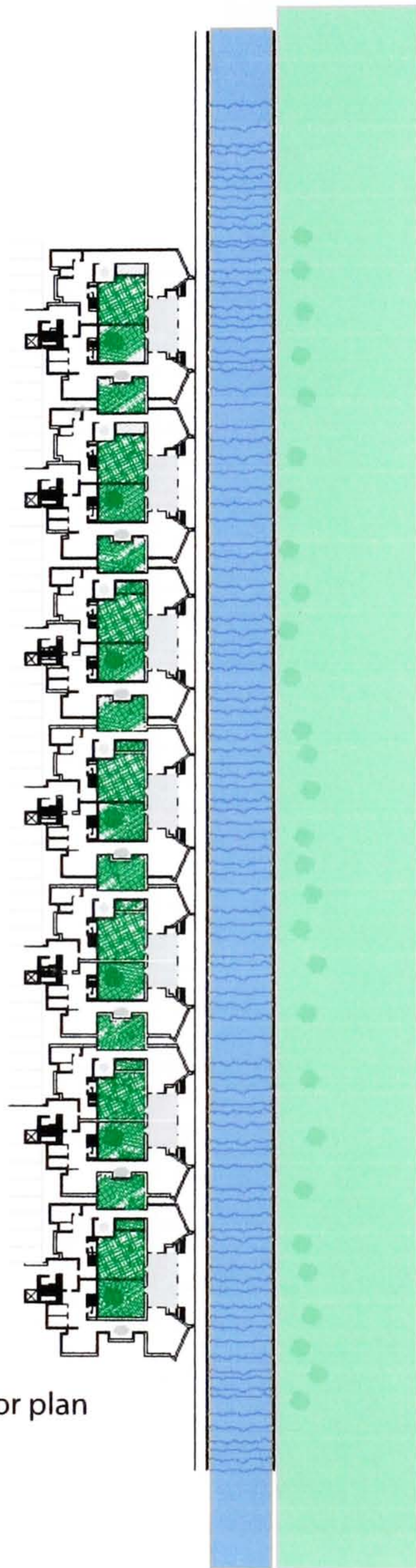
Cross section through the lofts with the parking garage shown



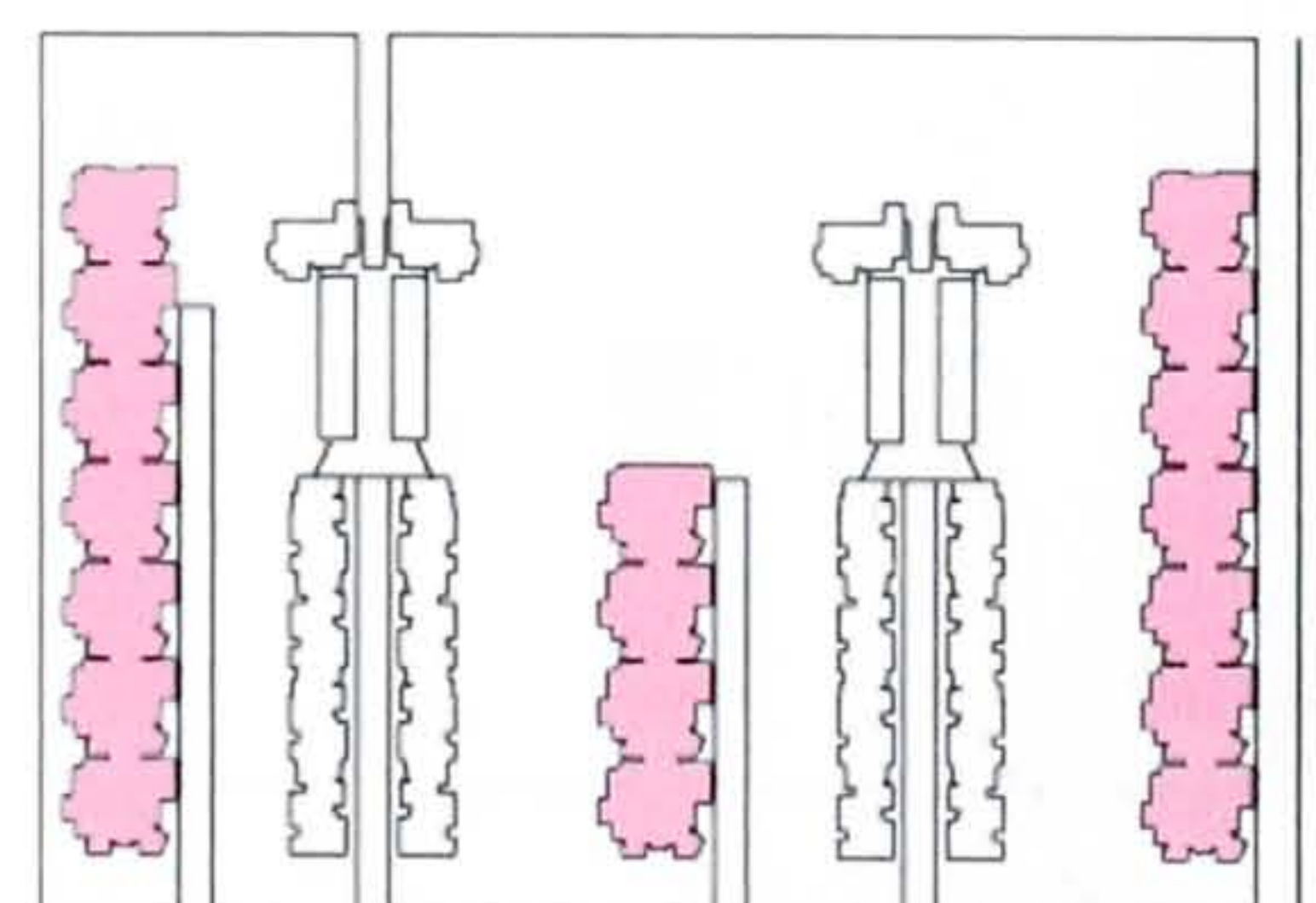
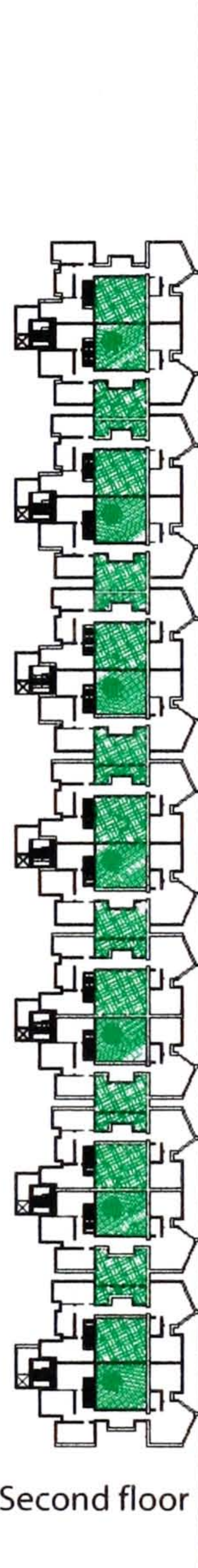
Cross section through the four levels of the riverfront unit



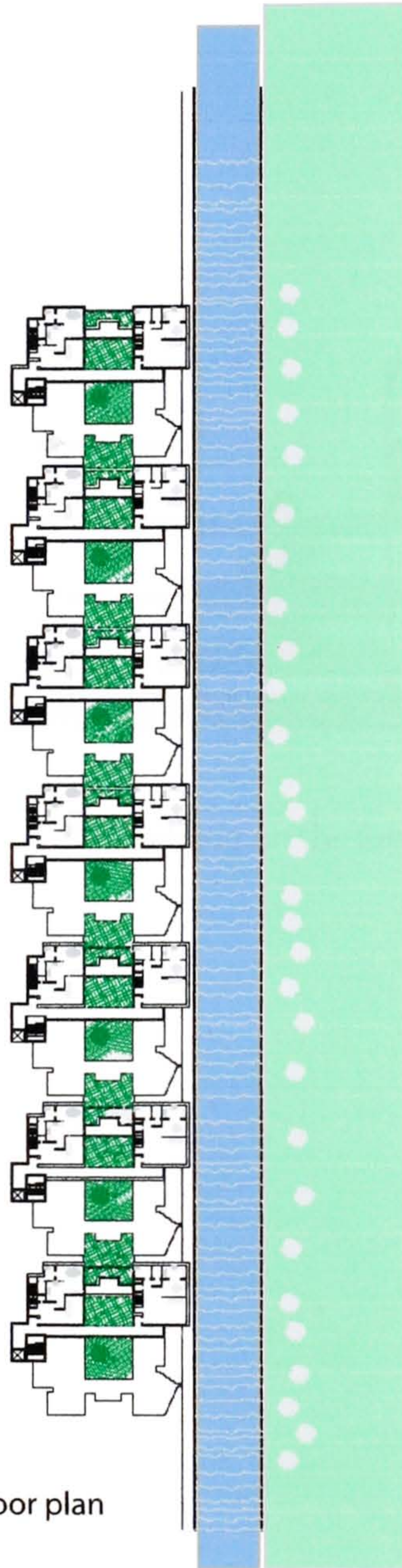
First floor plan



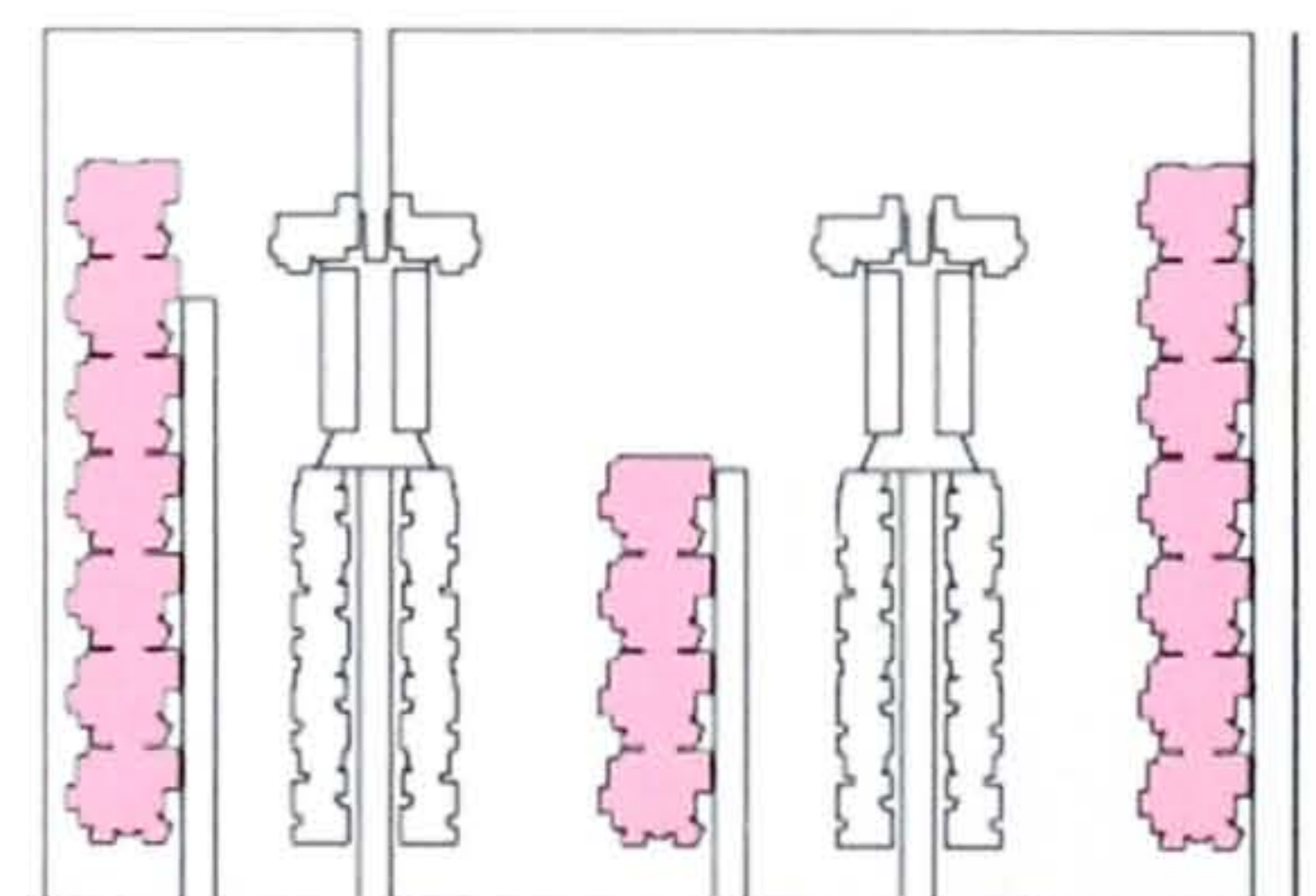
Second floor plan



Third floor plan

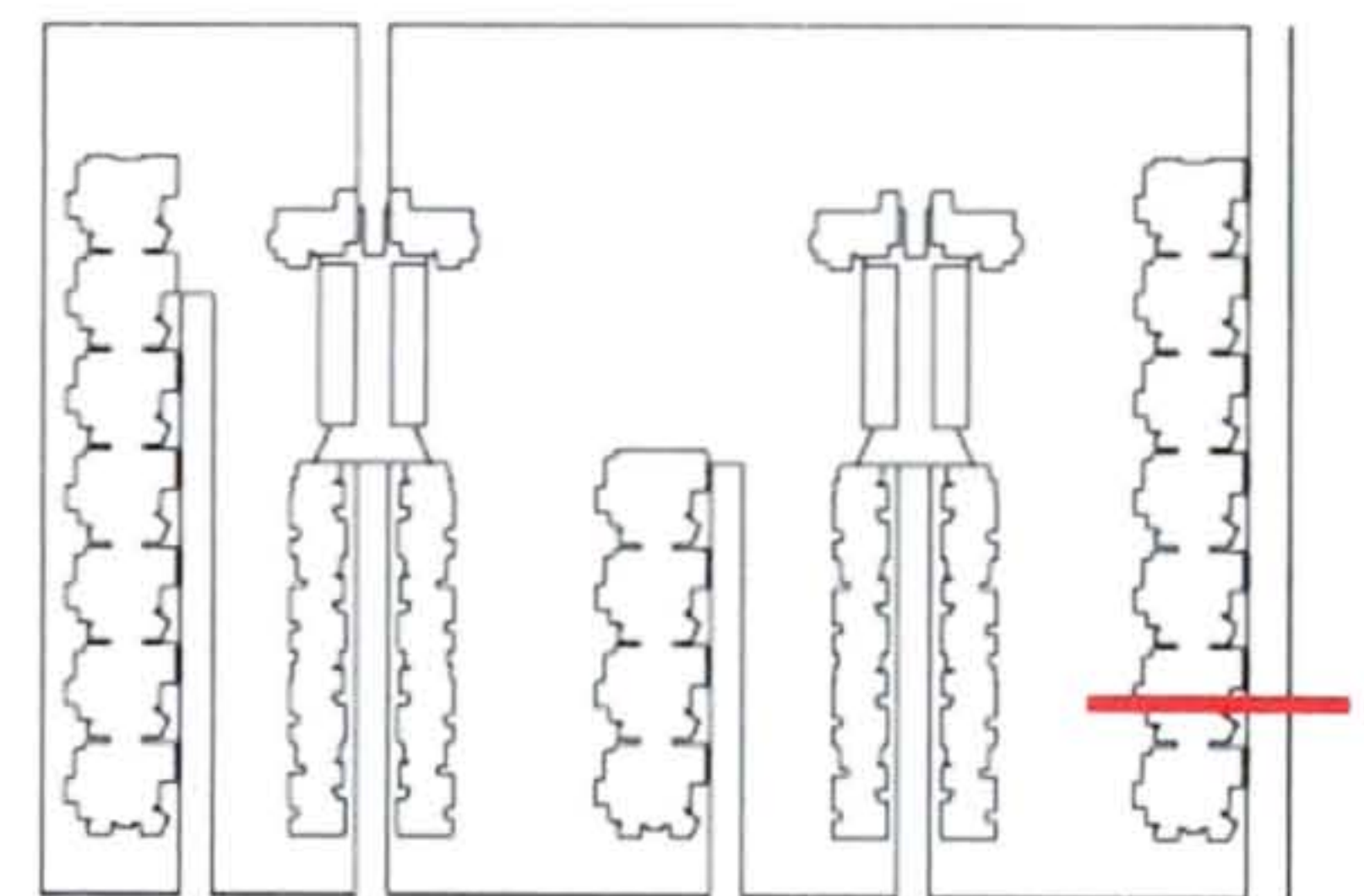


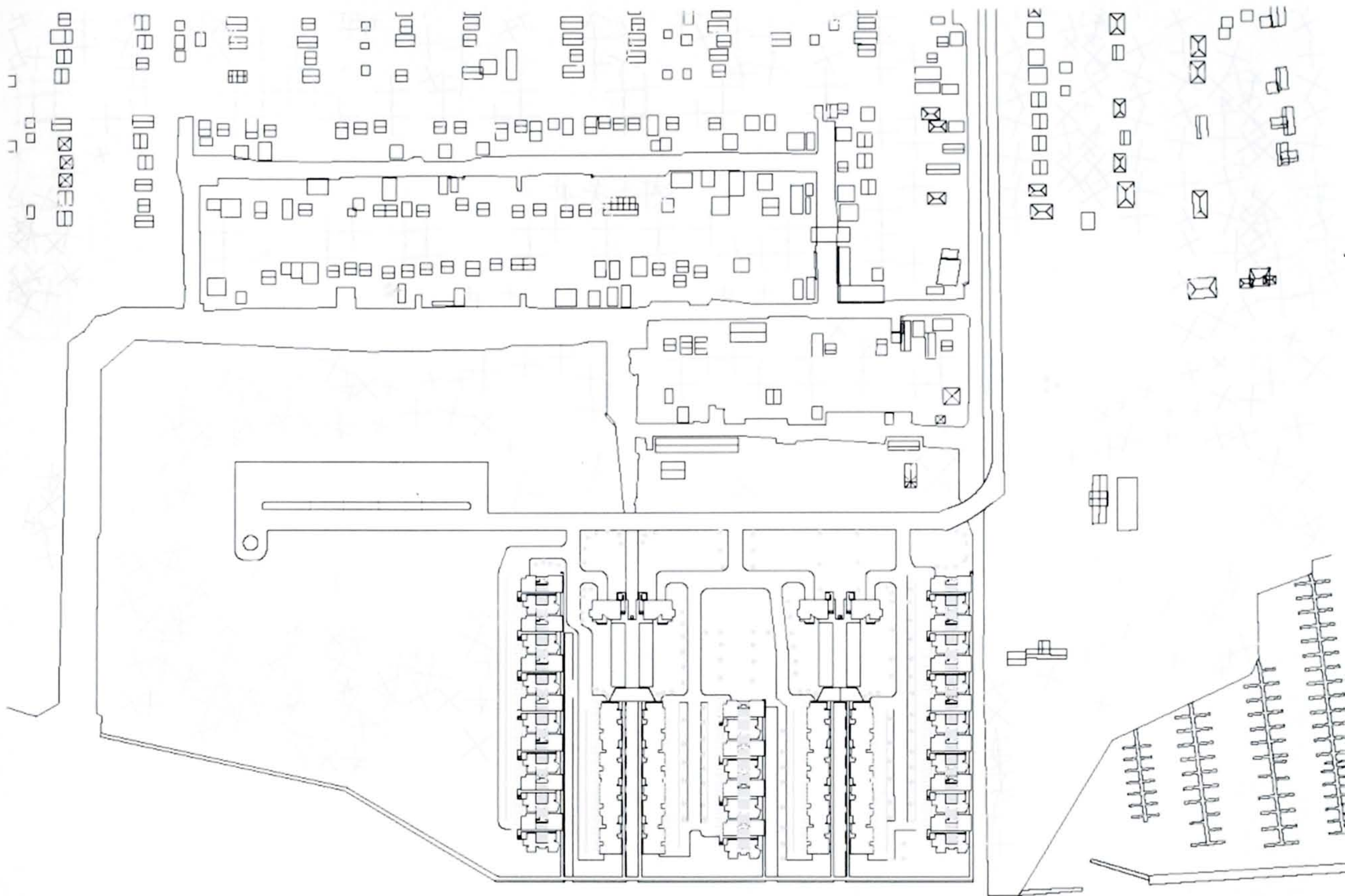
Fourth floor plan



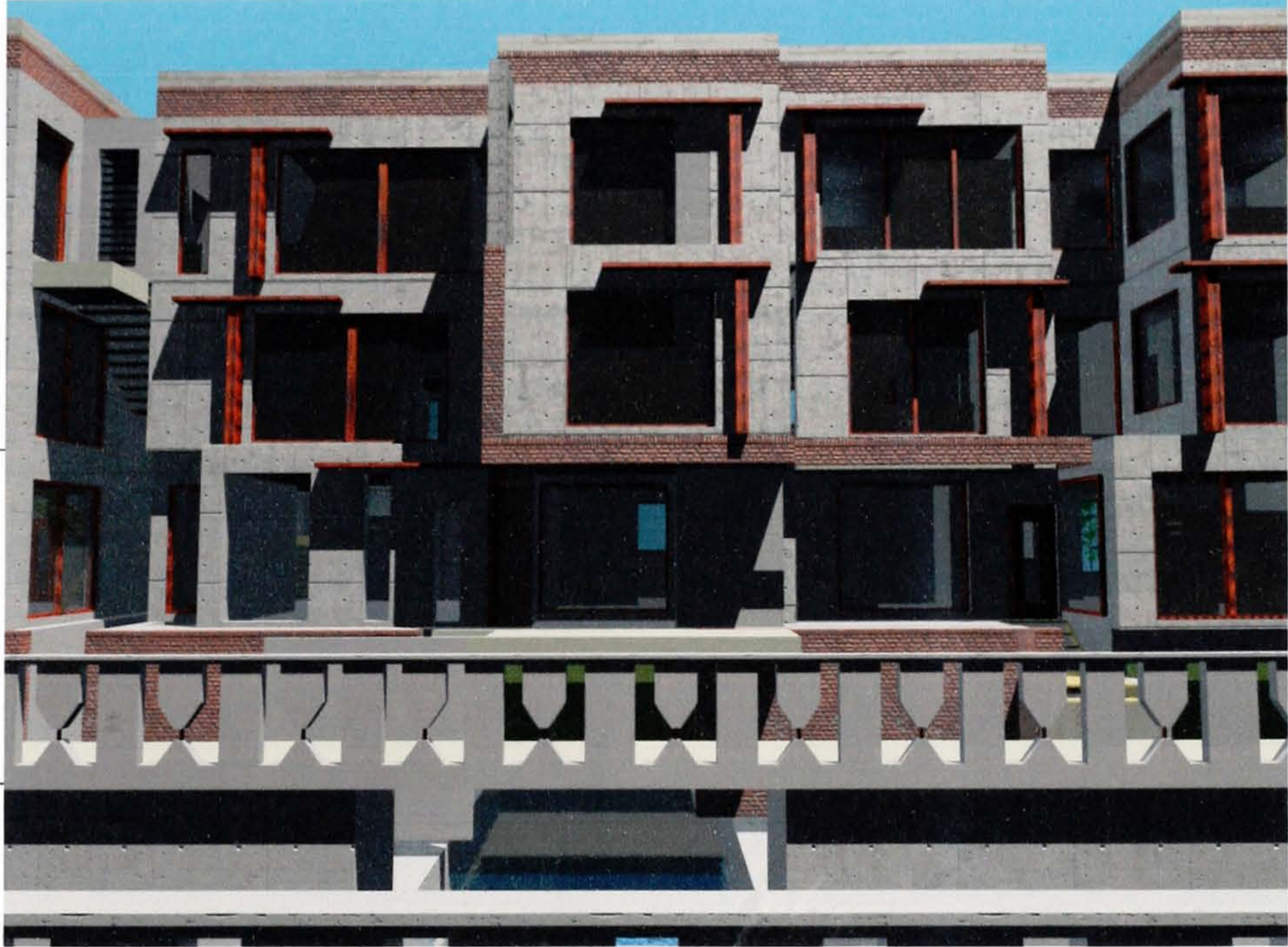
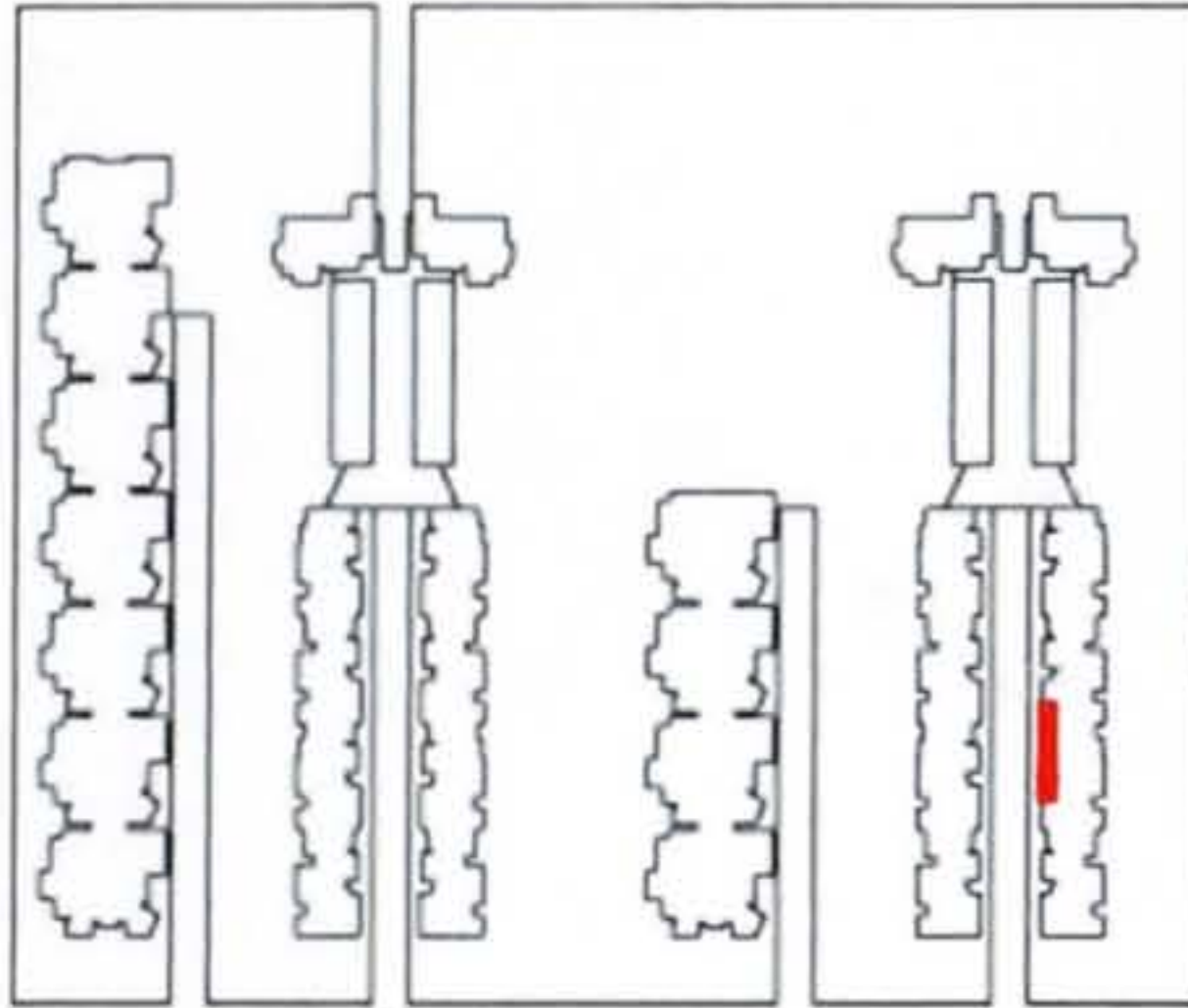


Cross section through the building on the East canal

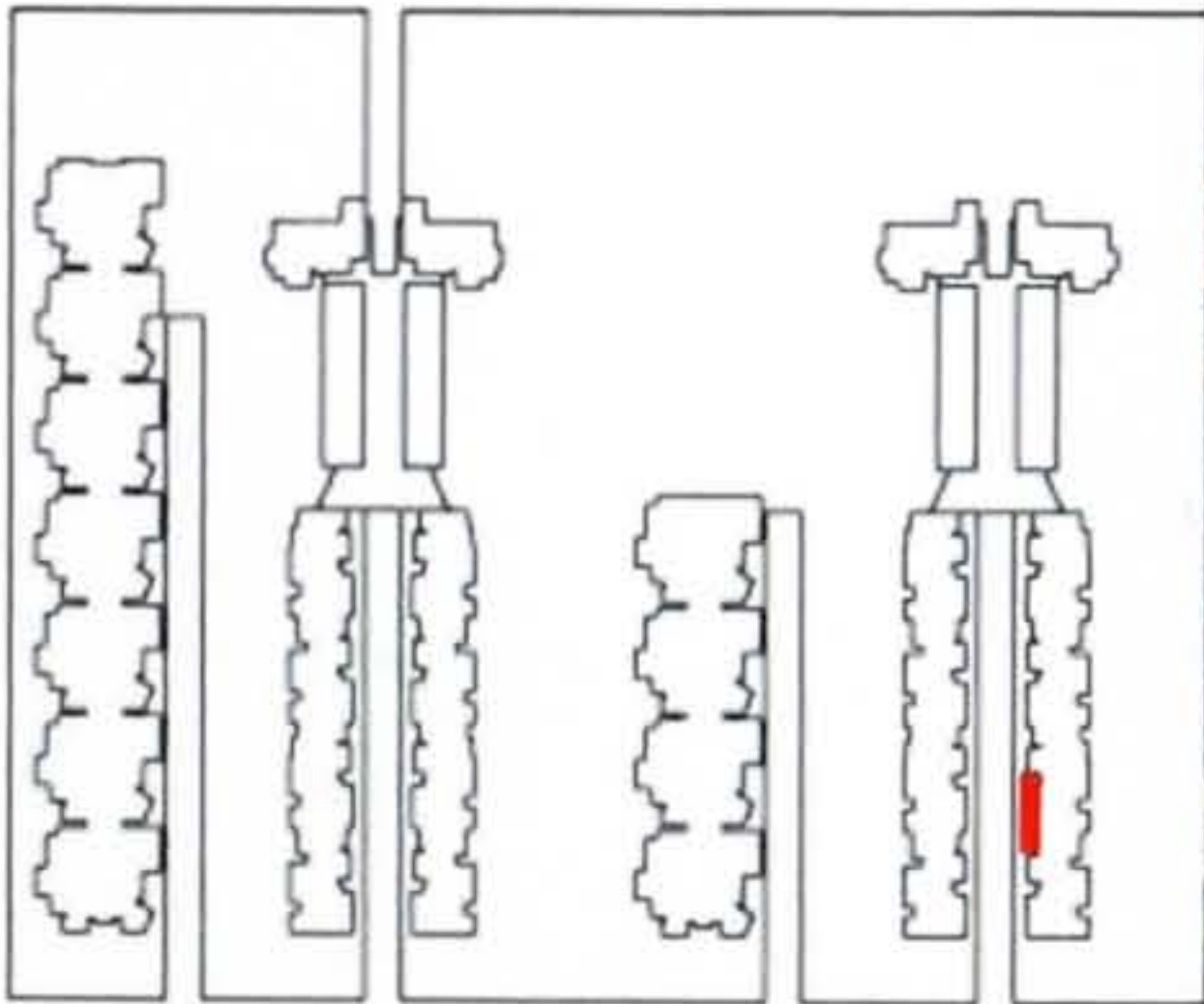




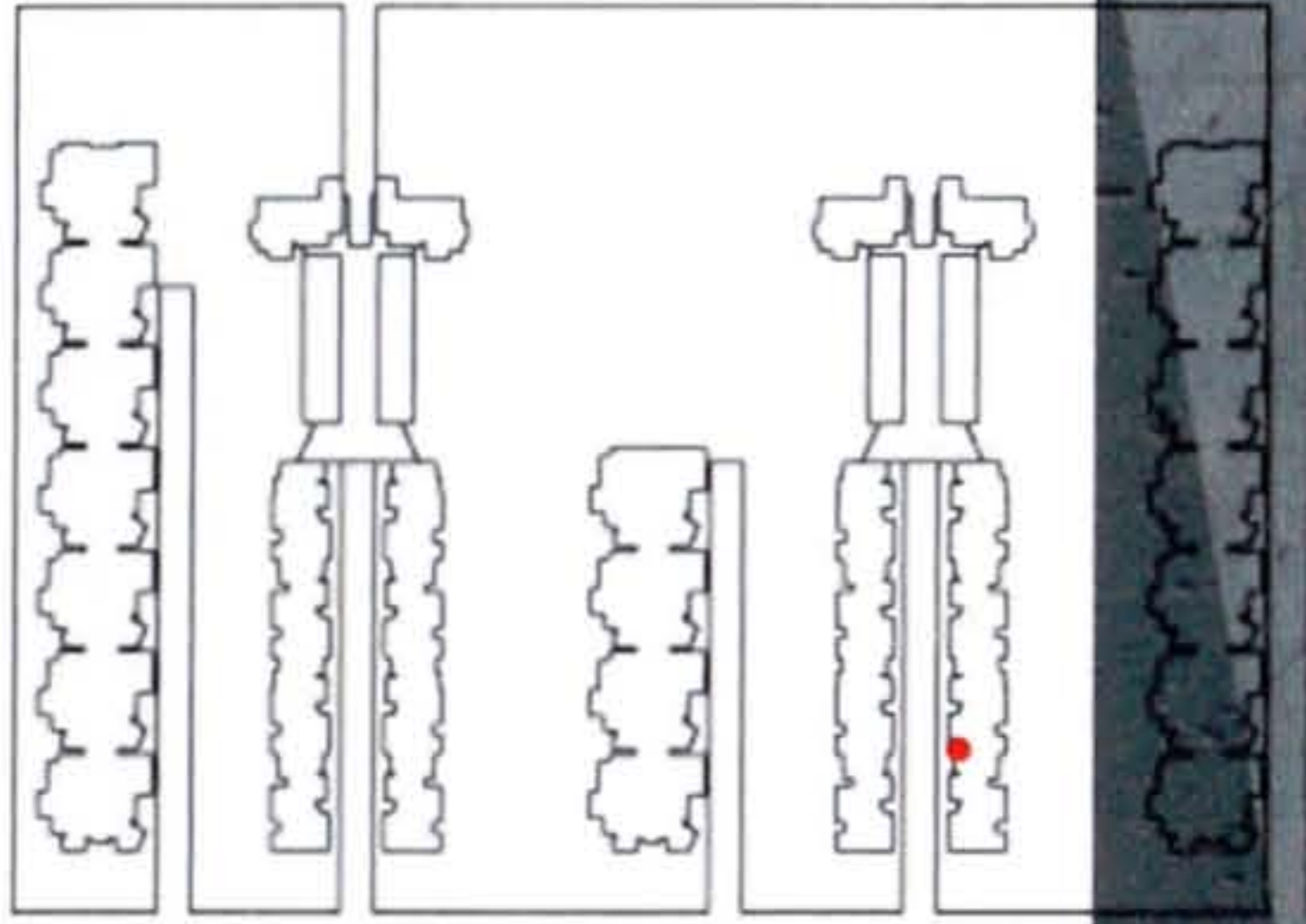
Site plan Canal Housing Project



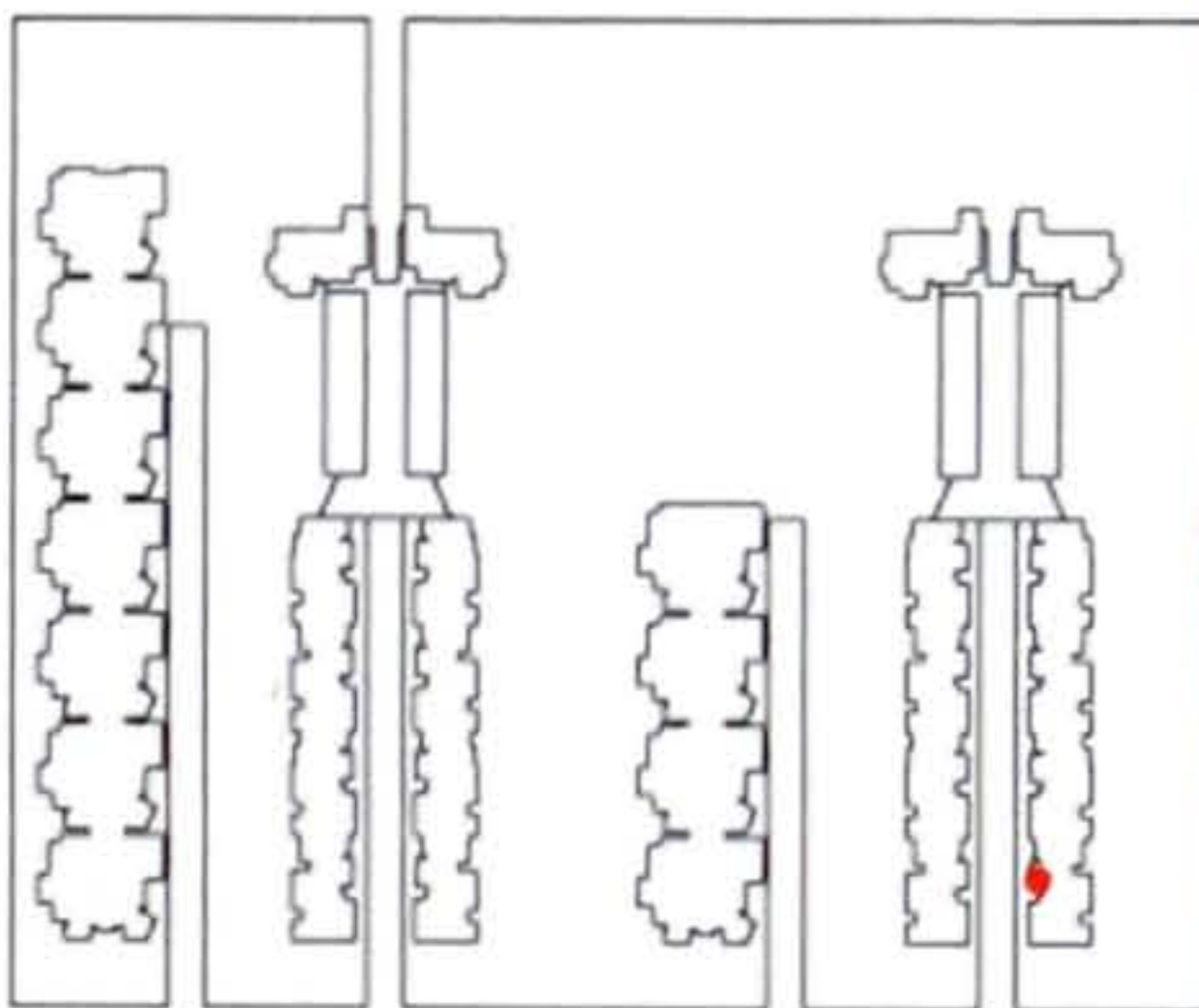
Perspective elevation of the canal side of the building # 1



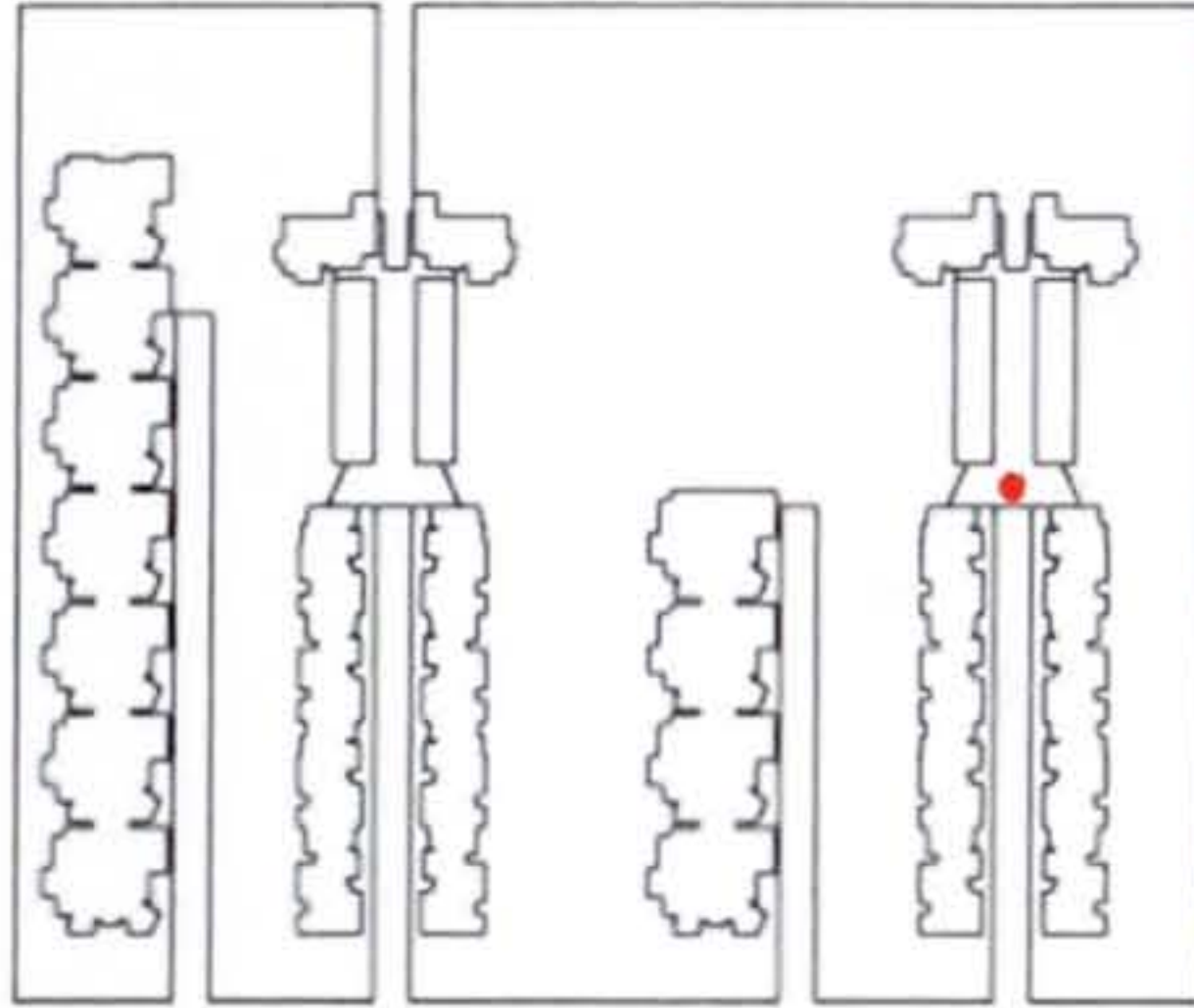
Perspective elevation of the canal side of the building # 2



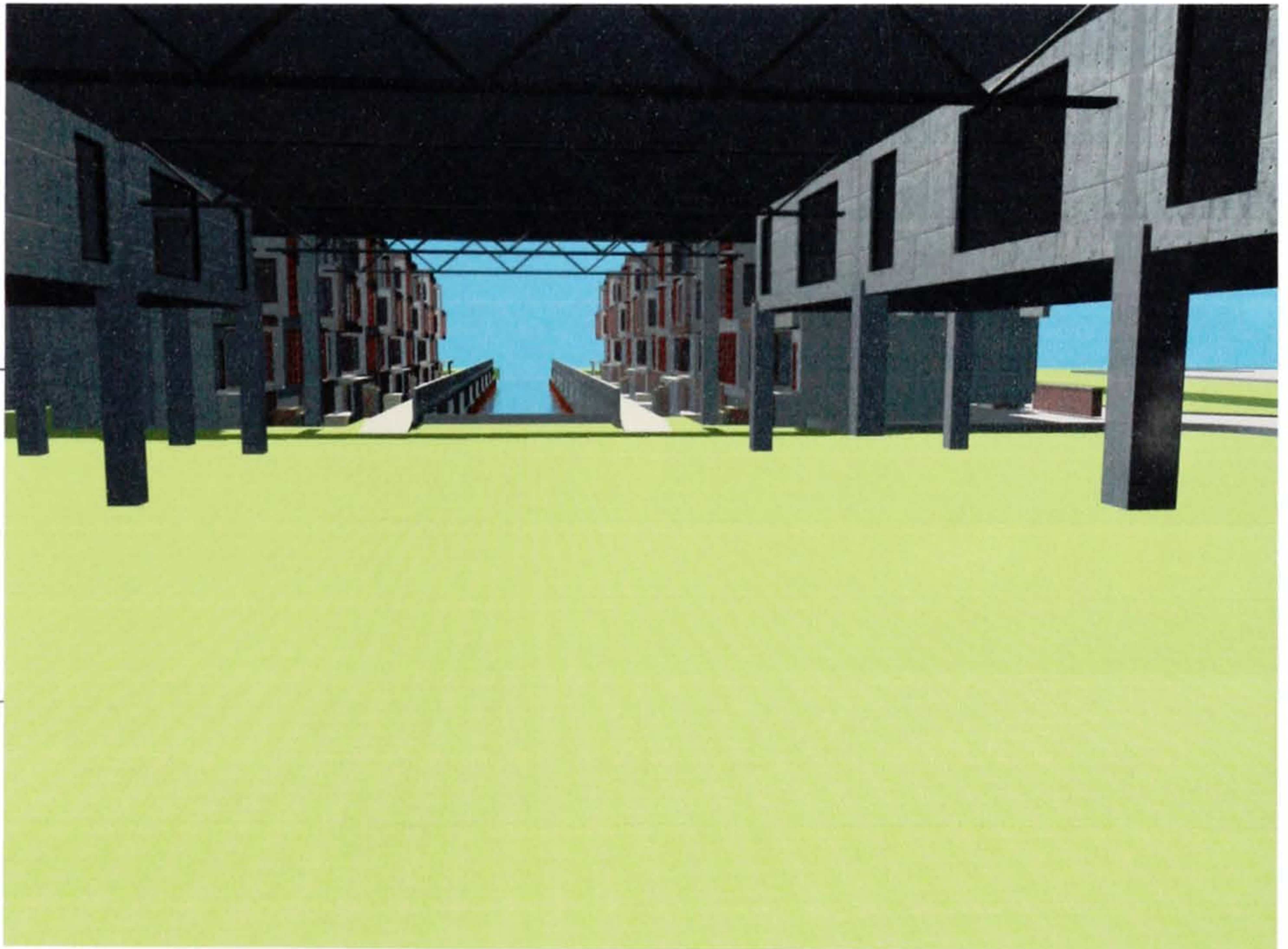
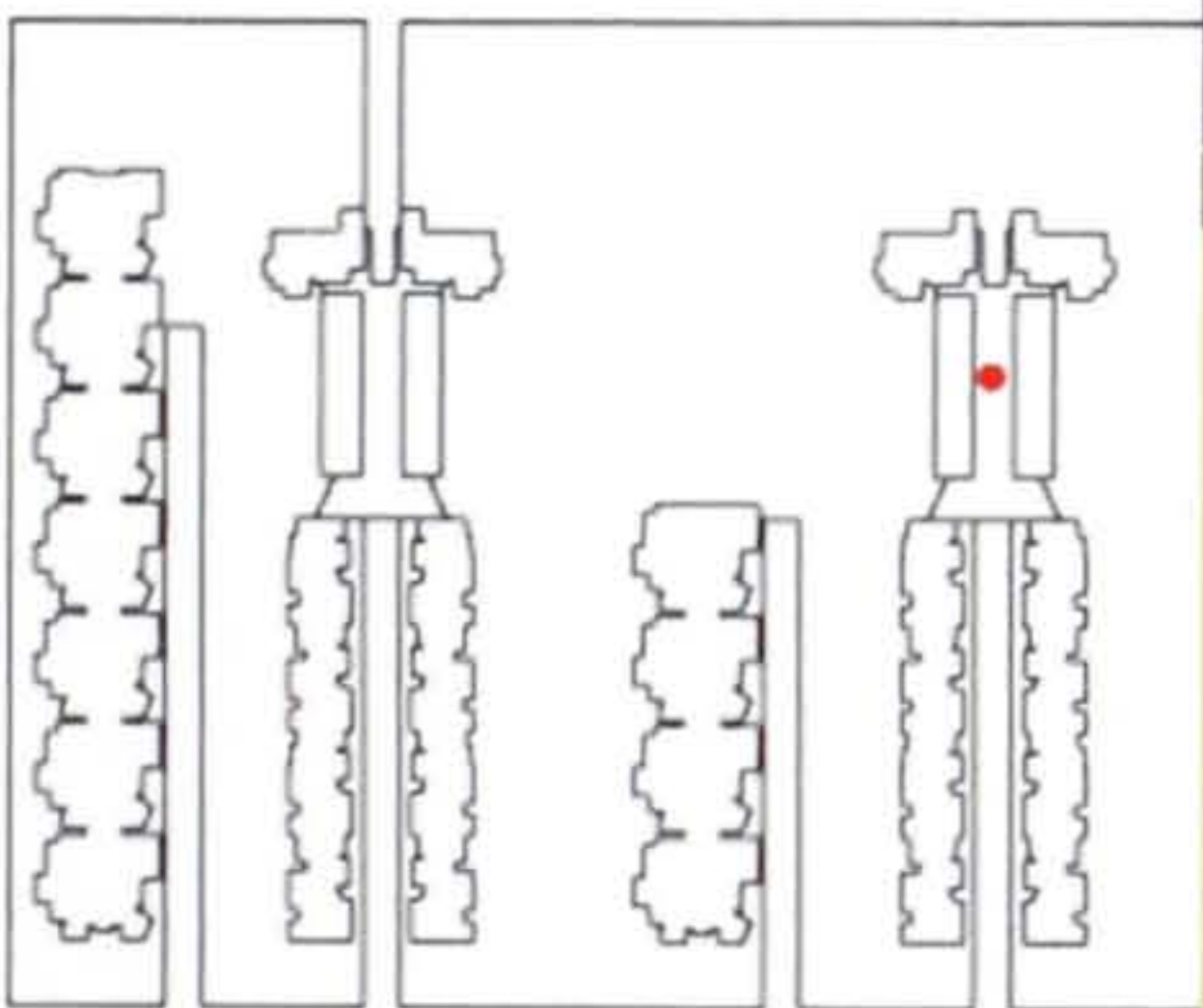
Rendering of third floor exterior hallway that looks out on the canal



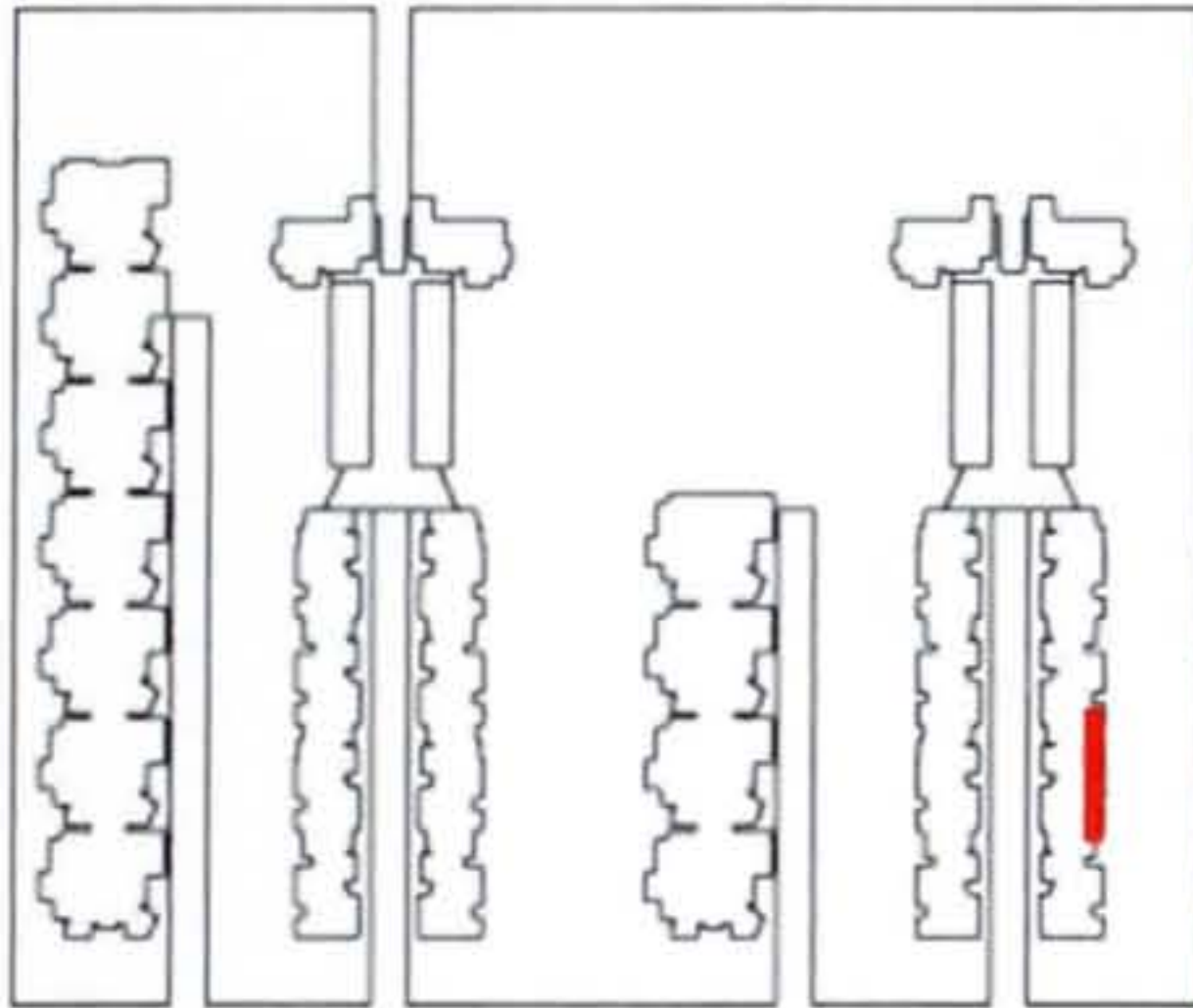
Interior perspective of sun room that looks out onto canal



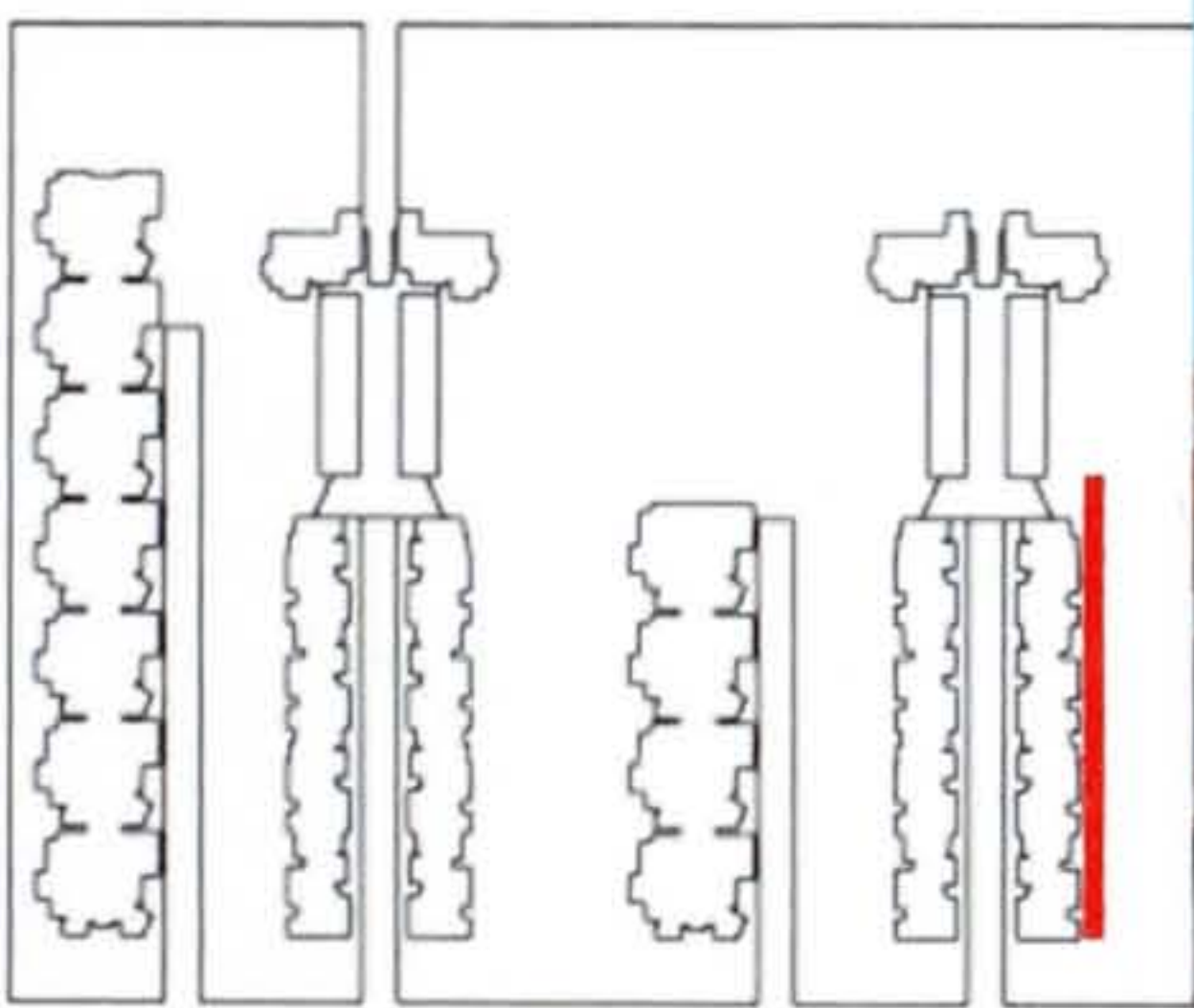
Rendering of canal from the edge of the sea wall



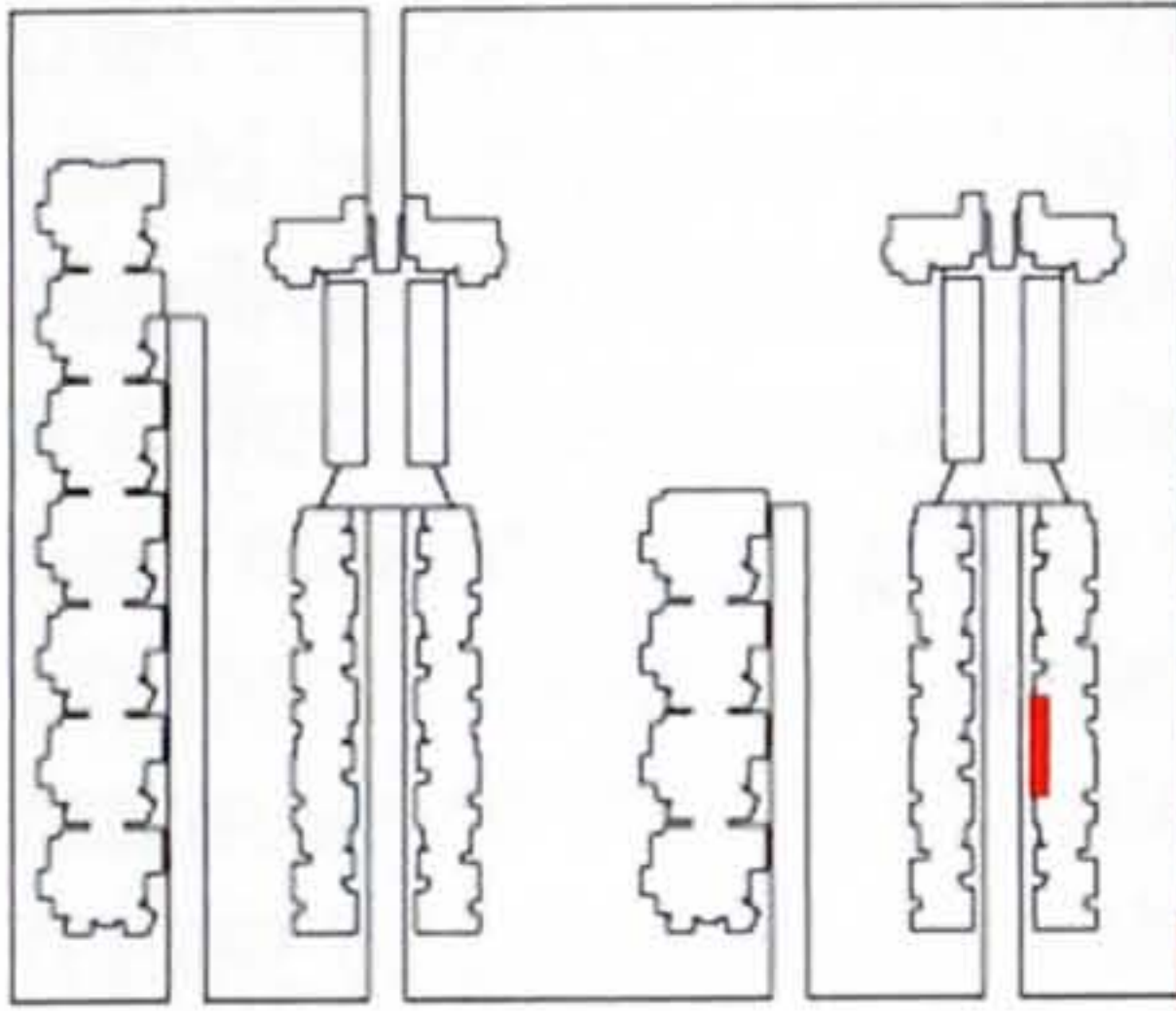
Rendering of the hanging lofts and out onto the canal



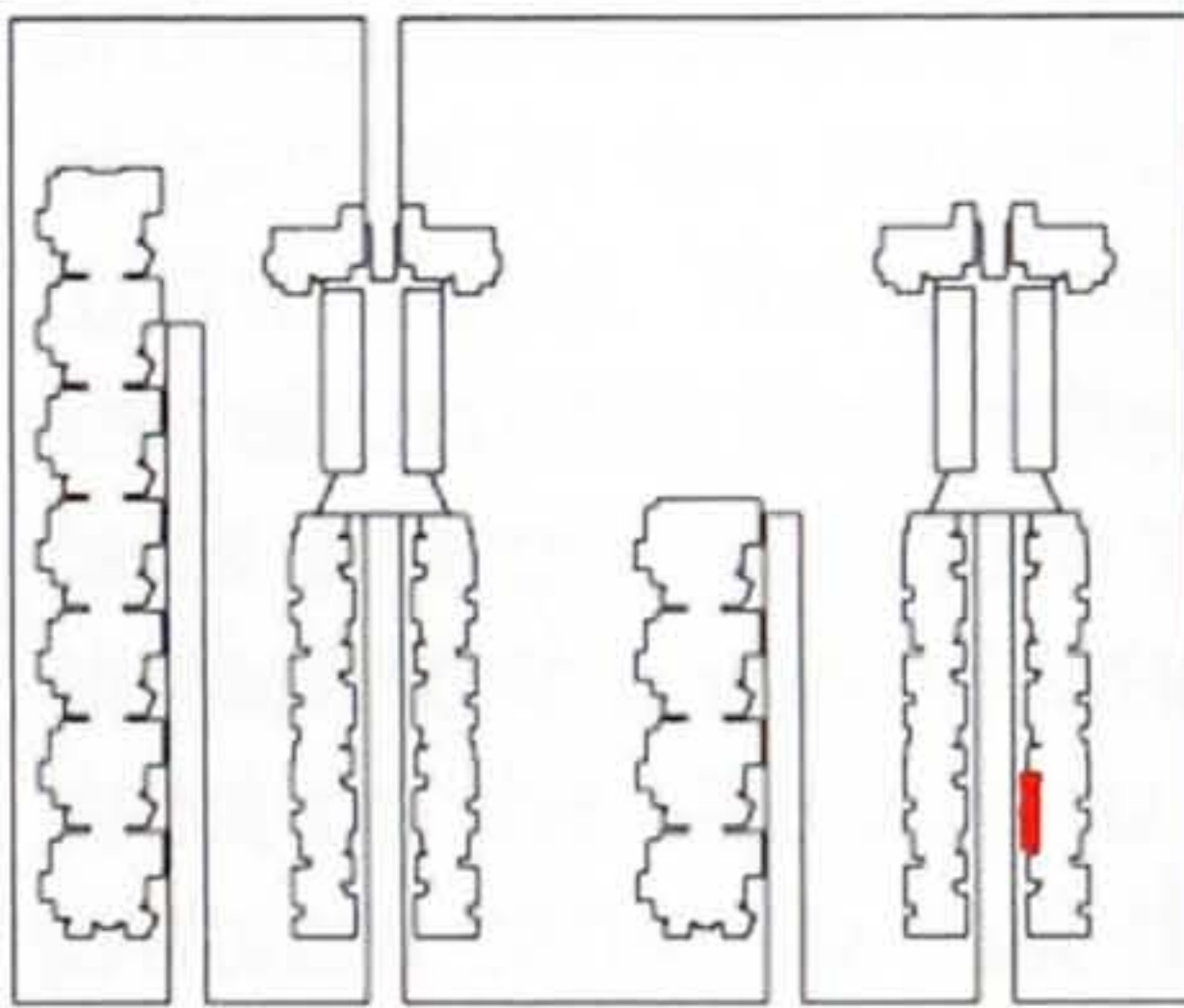
Perspective elevation of the entry way into the building



Perspective of the front of the building and street



Perspective as seen from the water showing boat openings



Night perspective shot from walkway across the canal

CONCLUSION

The object for this investigation at the outset of the process was to try and find a solid footing on which to base future architectural decisions as they would arise. It was with that thought of trying to gain a better understanding of what architecture is and what it could be that started to steer the decisions for a thesis. It was through philosophical readings and lectures which exposed ideas and raised questions on what or how to gain a different understanding or perception of things, people and events. This investigation was meant to be a way to architecturally study different concepts and what the effects produced were; however there is no simple philosophical solution to most issues because of the multitude of issues that commonly seem to come up. For instance in trying to provide something such as security for some you will likely offend others and instead of keeping them away it may provoke their interest. A lesson learned from philosophy and architecture is that if you are not careful you may become caught in a circle proving and disproving yourself again and again. Philosophy does have great value in the world of architecture, but as I have found out it must act like the materials it wants to represent concrete at times translucent at others and flexible as well.

The idea of place in the thesis questioning was one that was a struggle throughout the schematic and into the design development phase. The issues of what the location represented and also to where it was seemed to have a pushing and pulling effect on the project. First the question was raised should the history of the site be a driving force behind the development, showing its roots into the philosophy of the design? Second was the ground condition of the site and what could be a solution to start to carve into it or marry something to it? Third was the condition that the location itself served as a barrier through physical and nonphysical means. This problem of the barrier brought up questions as well as to what extent and to what considerations should be put on it. So now that some of the questions were asked how it could be turned into an architectural project? At first step to address the ground condition and to keep the idea of barrier in the process was to look at the seawall because it is a barrier from the land to the water. The concept came about that some of the housing near the river would be low structures that jutted out like jetties on the land towards the river and that further back a larger structure would butt up against these low structures perpendicularly similar to the way in which a natural seawall is this larger structure that ran East and West on the site was to be a connection that ran throughout the site. However the problem came up that the structure running from East to West actually became a barrier to the haves and have-nots closing itself off from the surrounding community.

The idea of light and shadow was also introduced in the thesis and at one point took on a prominent role in developing the site planning aspect of the project. What was looked at was could the sun and the light and shadows it cast develop from a program a form that would bring specific perceptual experiences to the act of dwelling. This study although difficult to accomplish on the large scale of the building development was one in which was of significant benefit to the final project. The study itself was on the angles

of the sun and at what times of the day and which parts of the year was the direction of the sun coming from and how both the shadow and the light affect the architecture as well as the inhabitants. Through finding out the sun angles there became a conscious effort in designing there would have to be a certain amount of distance away for a set height so that the sunlight could be directed into or shielded away.

Upon reflection of the final project for the thesis some solutions presented themselves fairly straightforward while others have become open ended. What the project itself became from the thesis is far from what it started out as. The final building proposal was successful in that it fulfilled the requirements of a medium density housing development. There were also large strides made for the final project that the ground conditions of the location were manipulated but in that massaging it brought the site into greater conjunction with the feel of the community, in effect not creating or changing place but blending it. The scope of the project was too large and looking back it should have been controlled to the extent that certain aspects of the thesis, such as what and how would people dwell in the overall space and in the smaller ones that are found inside it, were overlooked in the rush to provide planning in which these events occur. It is because this was a project about dwelling that the thesis of the project or the scale on which it was based could have been changed while still maintaining integrity of the thesis question on a more individual scale.

End Notes

Counterpath Traveling with Jaques Derrida The thought of unrepresentable approach is one in which deals with proximity and initiation. The passage on p.167 brought insight to me on how an understanding of the Detroit-Gross Point Park border could be directed into an architectural element. The edge involved is one that is not accosted but is threatened by the presence of another.

Annotated Bibliography

- **Parallax** Steven Holl, Princeton Architectural Press 2000
The chapter of Speed of Shadow that speaks of the scientific nature of light and its physical presence. For my Thesis it was important for me to understand the nature in which light can presence itself.
- **Intertwining** Steven Holl, Princeton Architectural Press 1989
- **Anchoring** Steven Holl, Princeton Architectural Press
- **Light and Water** Tadao Ando, Monacelli Press 2003
Light and Water is pregnant with images of light and shadow, materiality and form. The idea of changing materiality of objects and the transience of time are similar in form to my investigation of light and its properties through changing seasons.
- **Carlo Scarpa The Craft of Architecture** Hatje Kantz, MAK 2003
- **The Hedgehog and the Fox** Isaiah Berlin, Elephant Paperback 1993
originally published in 1953.
The Hedgehog and the Fox is an essay that deals with being dedicated to one big thing like the hedgehog or many things like the fox. The use of this book to my thesis is subjective to how I can engage the objective.
- **The Fold Leibniz and the Baroque** Gilles Deleuze, University of Minnesota Press 1993
This book argues the idea of a single entity with many layers, surfaces, and folds weaving together all through the elements of a baroque philosophy and its aesthetic views.
- **Theorizing a New Agenda for Architecture** Kate Nesbitt, Princeton Architectural Press 1996
- **Difference and Repetition** Gilles Deleuze, Columbia University Press 1994
- **Eisenman Inside Out Selected Writings 1963-1988** Peter Eisenman, Yale University 2004
- **10x10** Phaidon Press Limited 2000
This book exposed 100 architects and their projects this book through its imagery gave ideas for exploration on structure and materiality.
- **Counterpath Traveling with Jacques Derrida** Catherine Malabou & Jacques Derrida, Stanford University Press 2004

In this travelogue Derrida speaks of the place and the non-place as an organizational articulation. To me this reflects the ideas of density and void.

- **Blur The Making Of Nothing** Elizabeth Diller & Ricardo Scofidio, Harry N. Abrams Inc. 2002
- **Daylight In Architecture** Benjamin H. Evans, Architectural Record 1981
This is a reference book that deals with some of the scientific attributes of light such as lumens, veiling reflections, contrast, perception of brightness, etc□
- **Light & Space Modern Architecture 2** Yukio Futagawa, A.D.A. Edita 1994
The photographic imagery in this book gives example of the way light presences itself by color and shadow as well as defining materiality and space.
- **Eastern Harbor District Amsterdam** Urbanism and Architecture
Physical Planning Department Amsterdam, NAI Publishers 2003
- **Invisible Cities** Italo Calvino, Harcourt Inc. 1974
This book is a collection of short fictional stories describing Qualities of cities through the reading of which ideas such as transience and threshold emerge.
- **Constructions** John Rajchman, MIT Press 1998
Constructions questions the theory and approach of architecture, the section on abstraction questions how form can be drawn from matter.
- **Foucault** Gilles Deleuze, University of Minnesota Press 1988
 - **Steven Holl** Francesco Garofalo, Universe Publishing 2003