

# A SCHOOL OF CULINARY DESIGN FOR ALEXANDRIA

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Thesis submitted to the faculty of the Virginia Polytechnic Institute and  
State University in partial fulfillment of the requirements for the degree of

Master of Architecture  
in  
Architecture

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ABSTRACT

The need for a space for the community to gather and the underutilization of the waterfront led to the design of a public space for Alexandria. A school of culinary design was chosen to elevate the current situation of the site by supporting the open space and giving back to the community.

The culinary school served as a vessel to explore the truthfulness of materials and structure, and the aesthetics of the unfinished. The design of the culinary school conveys the story of its making by revealing the structural elements and not covering them with unnecessary finishes. The materials used in the design are true to their nature.

The project serves as a place to create culinary art and to express the spirit of the architecture.

*“When a building is being made, free of servitude, its spirit to be is high ... When the building stands complete and in use, it seems to want to tell you about the adventure of its making. But all the parts locked in servitude make this story of little interest. When its use is spent and it becomes a ruin, the wonder of its beginning appears again.”*

*Louis Kahn*

(qtd. in Levine, “The Aesthetic of the Unfinished and the Example of Louis Kahn.” , 245)

*“Architecture, whether as a town or a building, is the reconciliation of ourselves with the natural land. At the necessary juncture of culture and place, architecture seeks not only the minimal ruin of landscape but something more difficult: a replacement of what was lost with something that atones for the loss.”*

*W.G. Clark*  
(Replacement, 10)



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#### GENERAL AUDIENCE ABSTRACT

The need for a space for the community to gather and the underutilization of the waterfront led to the design of a public space for Alexandria. A school of culinary design was chosen to support the open space, and served as a vessel to explore the truthfulness of materials and structure. The design of the culinary school reveals how the structure of the building works and educates the public about architecture.

to my parents: my architects...

to SM,  
for your endless support...

Thank you,  
Susan, Jaan, Markus and Paul,  
for guiding me through this process

TABLE OF CONTENTS

<b>Appetizer</b>	1
The Site	2
The Program	4
<b>Main Course</b>	5
Ingredients   Initial sketches	6
Preparation   Design process	7
The Dish   Final Design + Drawings	13
<b>Dessert   Conclusion</b>	31
<b>Image Credits</b>	32
<b>References</b>	32

**APPETIZER**

the Site and the Building Program

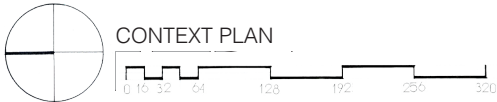




FIGURE - GROUND PLAN OF ALEXANDRIA

## THE SITE

Alexandria was founded in 1749 as a tobacco port town and became a “key trading port” by the 1780’s. Part of the Potomac shoreline was filled in to build wharves. The waterfront housed sugar refineries, mills and tobacco warehouses.<sup>1</sup> By the 20th century Alexandria had an industrial waterfront. Today, parks (as well as parking lots) have replaced the industrial buildings, but some warehouses remain on the waterfront.<sup>2</sup>

*“there are still opportunities to enhance it by further building on the history and character of the past and incorporating activities and elements that can help sustain its future.”*

*(“Waterfront Small Area Plan” 4)*

The city of Alexandria has started to implement the ‘Waterfront Small Area Plan’ to revitalize the waterfront. However, the plan mostly consists of hotels, retail and housing.

*“this planning effort continues the process of adapting the City’s waterfront from an active port in the 18th and 19th centuries, and an industrial center in the late 19th to mid-20th centuries, to a 21st century waterfront that is publicly accessible, economically viable, environmentally and historically sensitive, culturally rich and operationally sustainable for residents and visitors alike.”*

*(“Waterfront Small Area Plan” 8)*

- <sup>1</sup> “A Brief History of Alexandria”  
<sup>2</sup> “Waterfront Small Area Plan,” 3-4



ALEXANDRIA WATERFRONT SMALL AREA PLAN: Image altered from “Waterfront Small Area Plan” (front matter)





CONTEXT PLAN FOR POTENTIAL SITES



IMAGE OF BEACHCOMBERS RESTAURANT c.1947  
John C. Richards Collection, Alexandria Library – Local History/Special Collections

Living in and studying Alexandria I realized that Old Town Alexandria did not have many places for the public to gather and saw this as an opportunity to design a space for the community.

The city's history and the current underutilization of the waterfront led me to consider a site on the waterfront of Alexandria. Proximity to King Street, the main artery of Old Town, was necessary for the new public space to be accessible to the community.

After considering two different locations on the waterfront, I chose the site at the corner of Strand Street and Prince Street, currently occupied by a parking lot and a rundown, unoccupied building.

The building at the chosen site was built as Beachcombers Restaurant in 1946. The building was initially built in the water, on piles. In 1954, the site was filled in and the restaurant closed.<sup>3</sup>

Although I decided not to include the Beachcombers Restaurant building in my design, the spirit of the building came through in the final design of the project.

<sup>3</sup> "Historic Buildings and Places on the Waterfront"



COLLAGE OF SITE: FALL 2014



*“Cooking, like architecture, manifests itself in building. The cook, like the architect, draws on an infinite array of creative resources, which make it possible to create wonders from basic construction materials.”*

*Ferran Adria*

*(qtd. in Frascari, Canadian Cosmopoiesis: Meditations on Cuisine and Architecture, 1)*

*“Architecture and cuisine manifest themselves in the making; both evolve and last in the form of memories, tastes, and time ... both are based on thinking with things rather than thinking about things.”*

*Marco Frascari*

*(Frascari, 1)*

**THE PROGRAM**

To create a successful public open space, good design is not always enough. With the desire to design such a space for Alexandria, I needed a program that could draw people to and support a public space.

Food and art are two forms of entertainment that people like to enjoy in public. However, I also wanted to give back to the community in the form of knowledge and experience. Combining food and art to design a school for the culinary arts seemed appropriate.

The culinary school would include:

**Kitchen classrooms**  
for the instruction in food preparation and the preparation of food

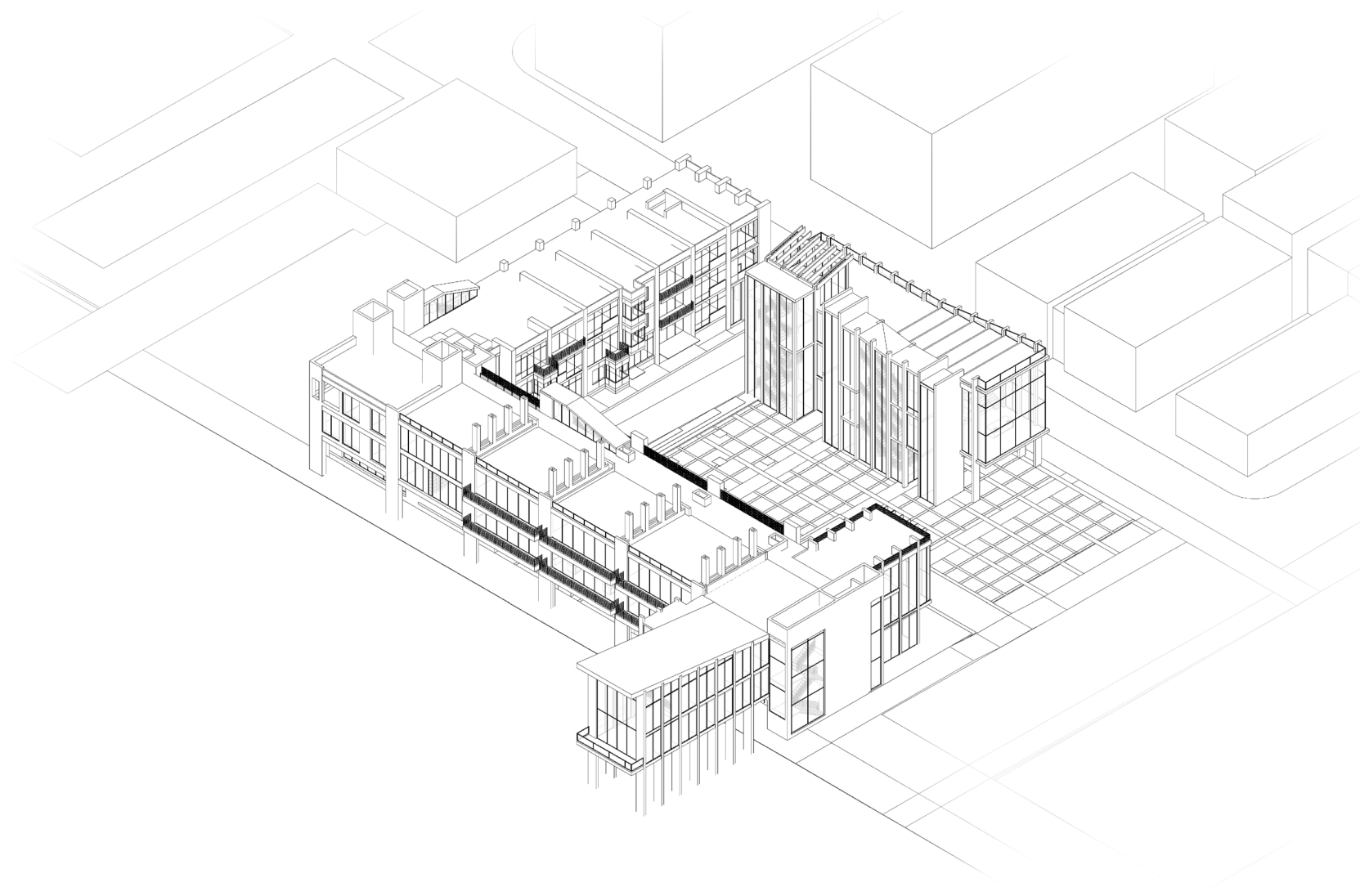
**Dining areas**  
for food to be experienced by the public and students to gain experience in the culinary arts

**Cooking theater**  
for demonstration of culinary techniques, and lectures

**Supporting spaces**  
**Storage**  
**Cold Storage**  
**Changing rooms**

**Academic Spaces**  
**Library**  
**Faculty offices**

**Student Housing**  
**Apartments**  
**Common spaces**

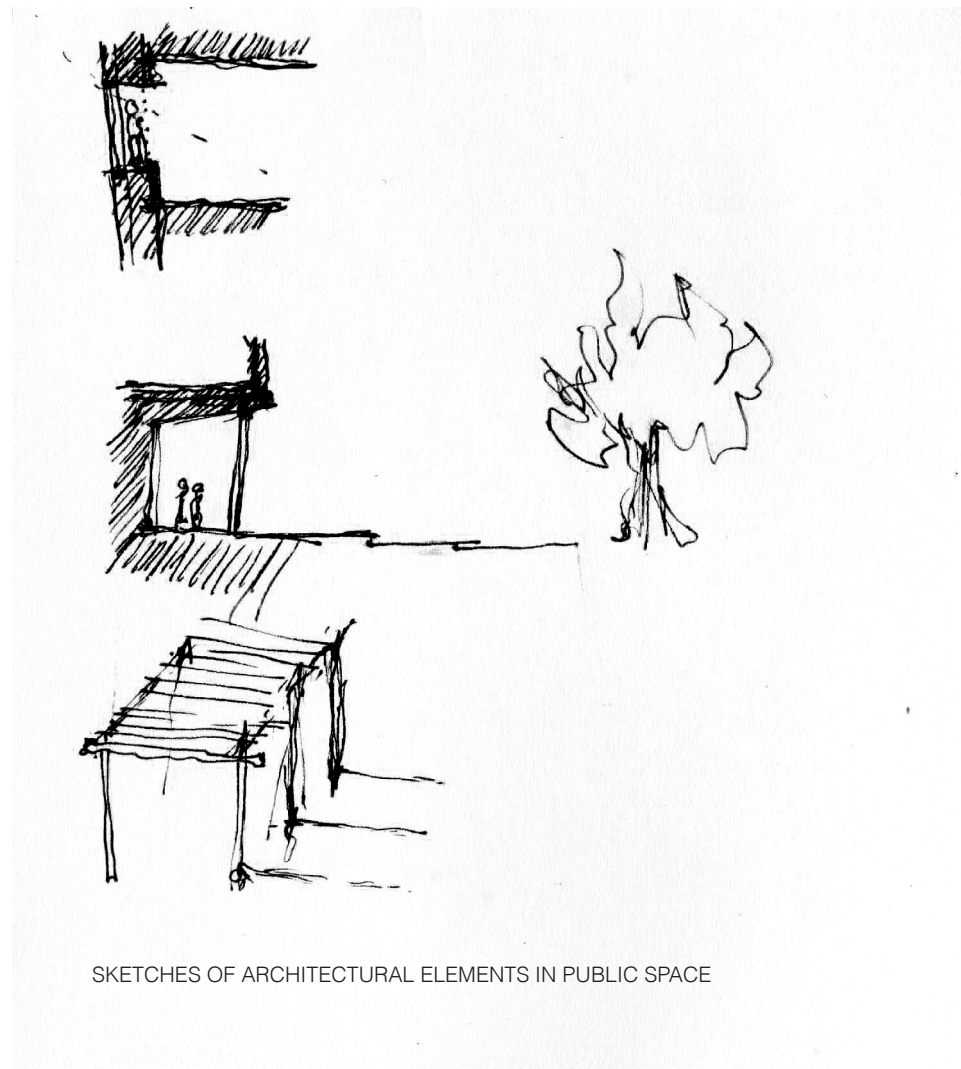


## MAIN COURSE

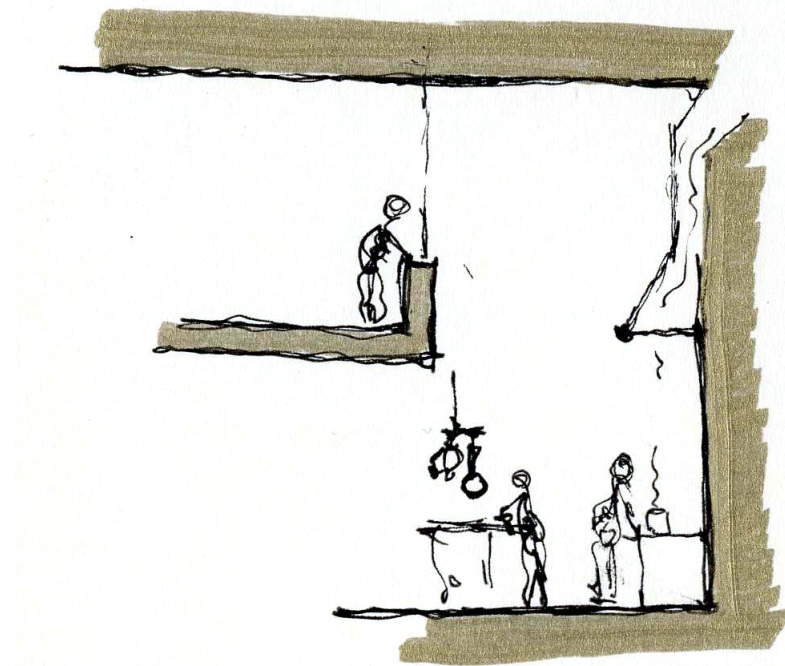
*Kitchens, Restaurant, Cooking Theater and Housing  
come together to create a courtyard...*

The Ingredients  
Preparation  
The Dish





SKETCHES OF ARCHITECTURAL ELEMENTS IN PUBLIC SPACE



SKETCH OF KITCHEN WITH VIEWING BALCONY

## THE INGREDIENTS | Initial Sketches

After deciding on a site and program for the project, I started to design moments that would take place in the culinary school.

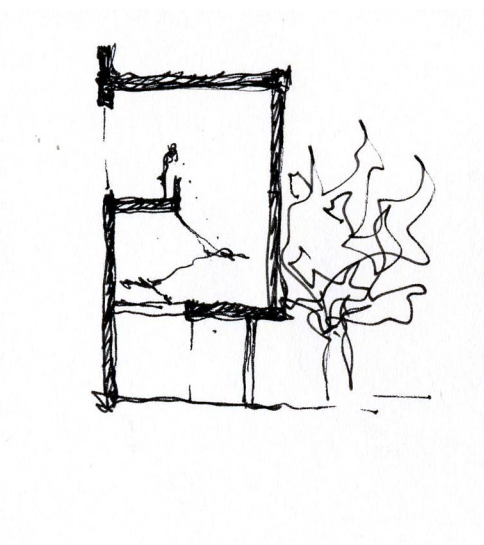
My initial sketches included:

Colonnades: to define the edge of the public space (the courtyard as well as the street) and create shelter for the public

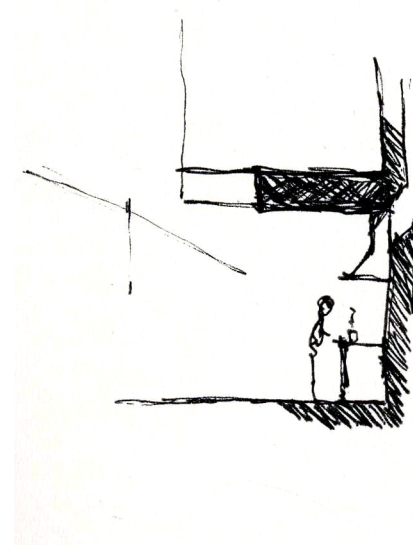
Viewing platforms: to watch demonstrations of cooking techniques and food preparation

Viewing balconies into kitchens: to observe the cooking and preparation of the food

This sketch also shows how the cooking spaces might be arranged, with cooking and fire contained by the walls, while preparation can take place away from them.



SKETCH OF VIEWING PLATFORM

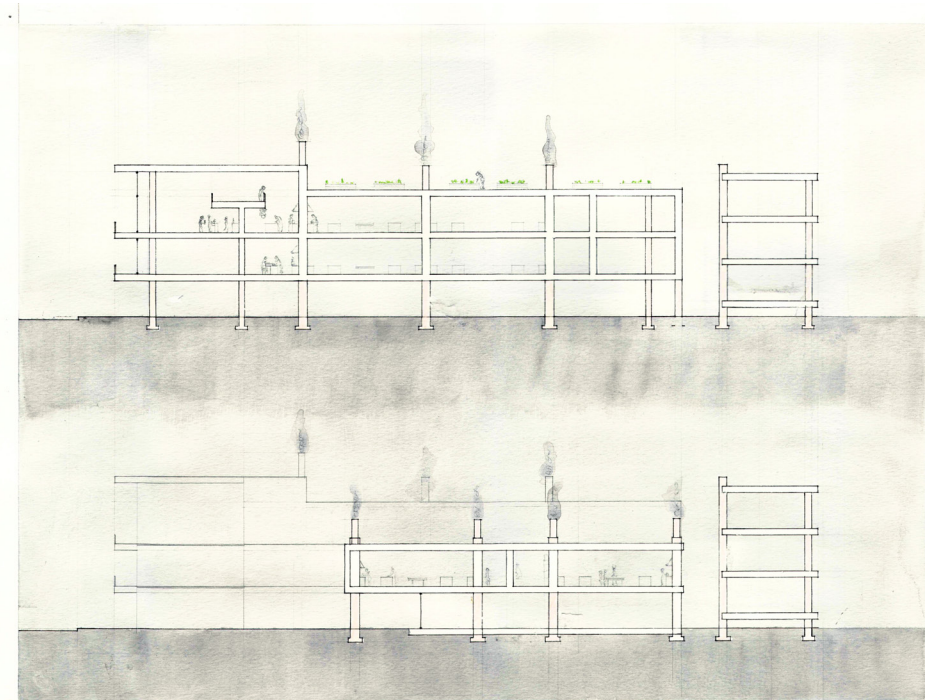


SKETCH OF COOKING SPACE

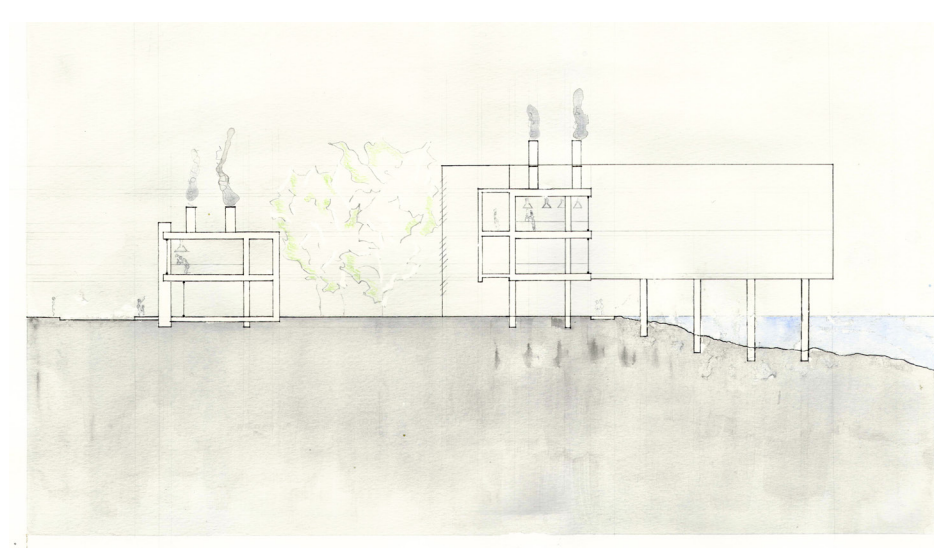
These initial sketches created a group of ingredients for me to work with. The desire to show the structure of the design created an opportunity to highlight a primary material, and concrete became another ingredient.

With the group of ingredients chosen, I set forth to create the recipe.

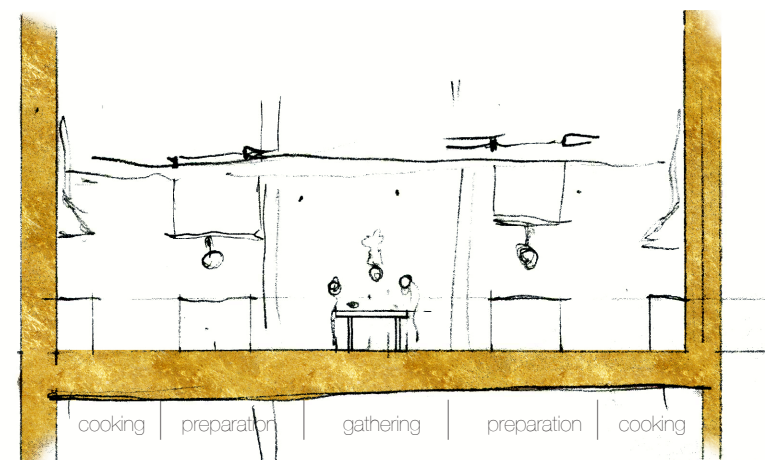




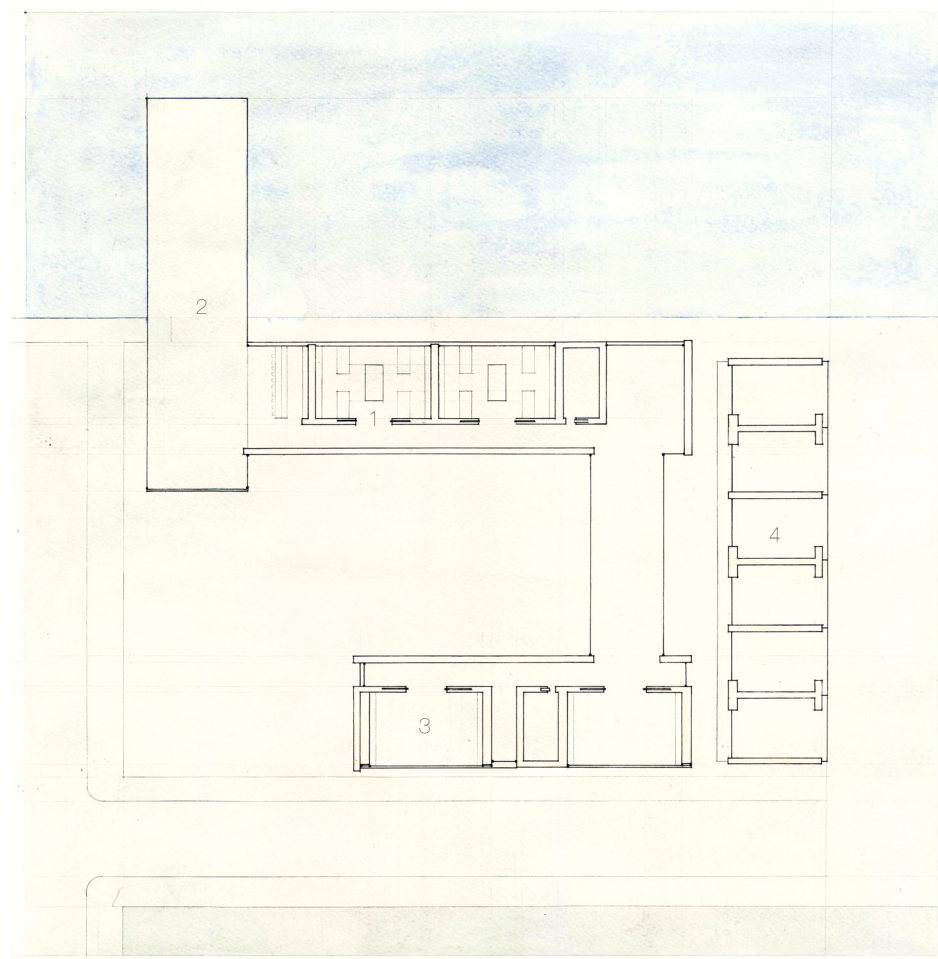
SECTIONS THROUGH KITCHENS (north-south) - PHASE I



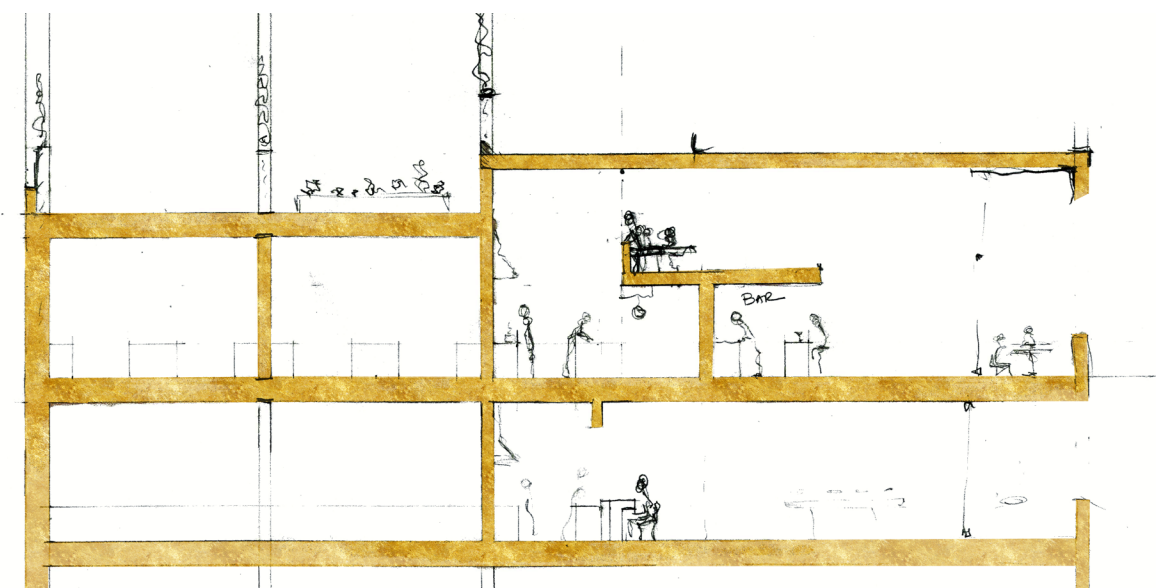
SECTION THROUGH KITCHENS + COURTYARD (east-west) - PHASE I



SECTION OF KITCHEN CLASSROOM - PHASE I



PLAN - PHASE I



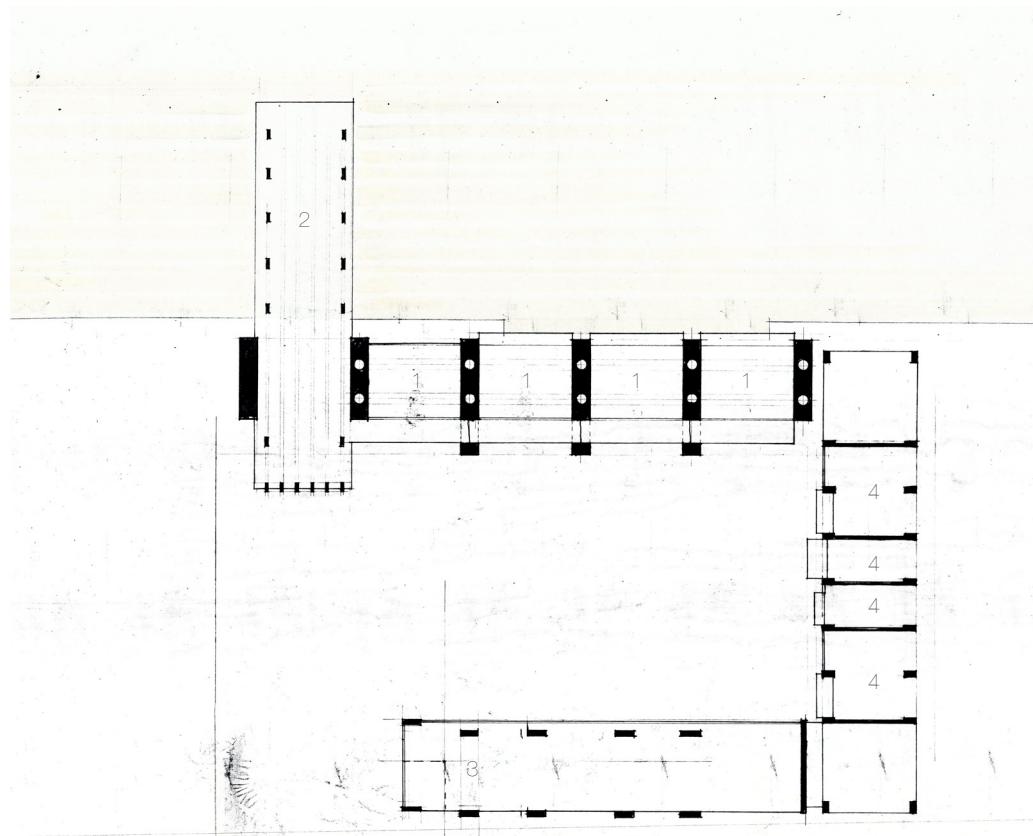
SECTION OF KITCHENS + DINING AREA - PHASE I

## PREPARATION | Design Process

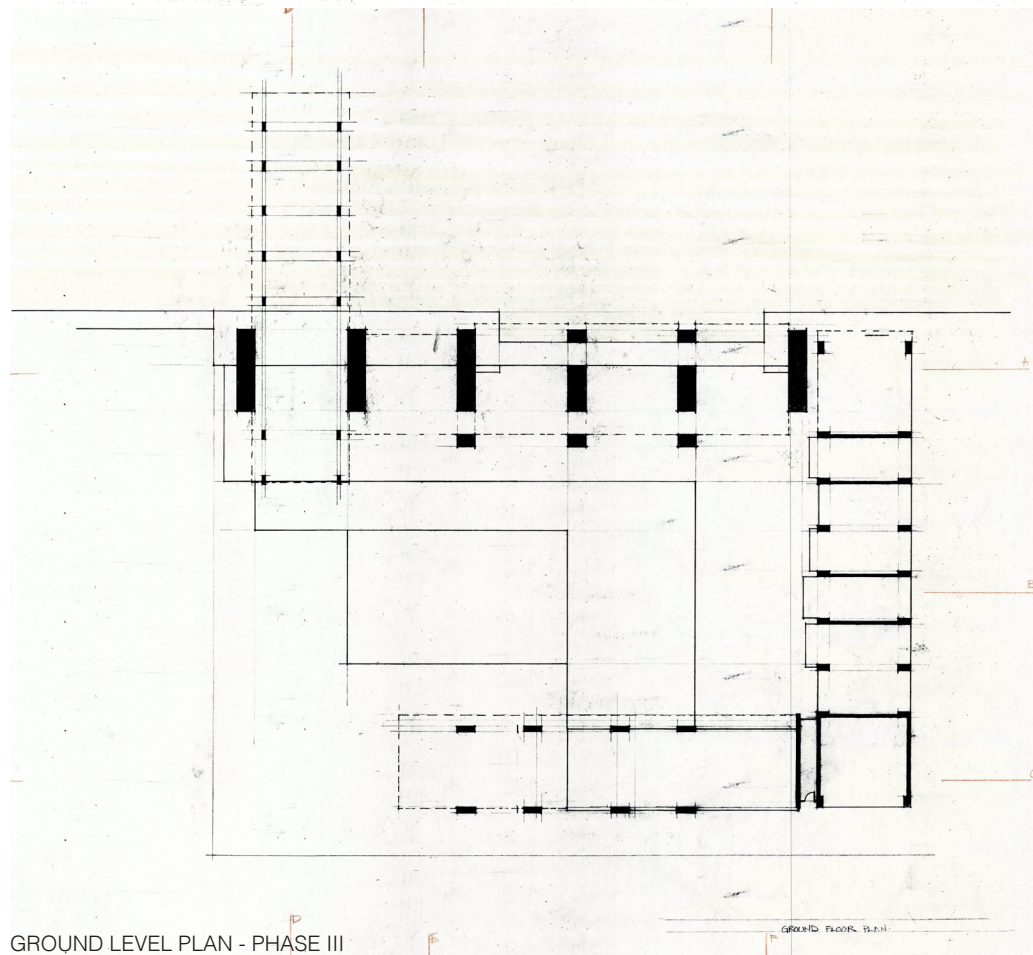
Adding onto the initial ideas of the sketches, the kitchen is separated into three areas: cooking, preparation and gathering (for instructions and discussions). The preparation areas are arranged so that students can observe the work of others. A kitchen with a viewing balcony and cooking areas with a dining bar become the connection to the dining area.

In the first phase of the design process the four main parts of the building program wrap around the site to define a courtyard.

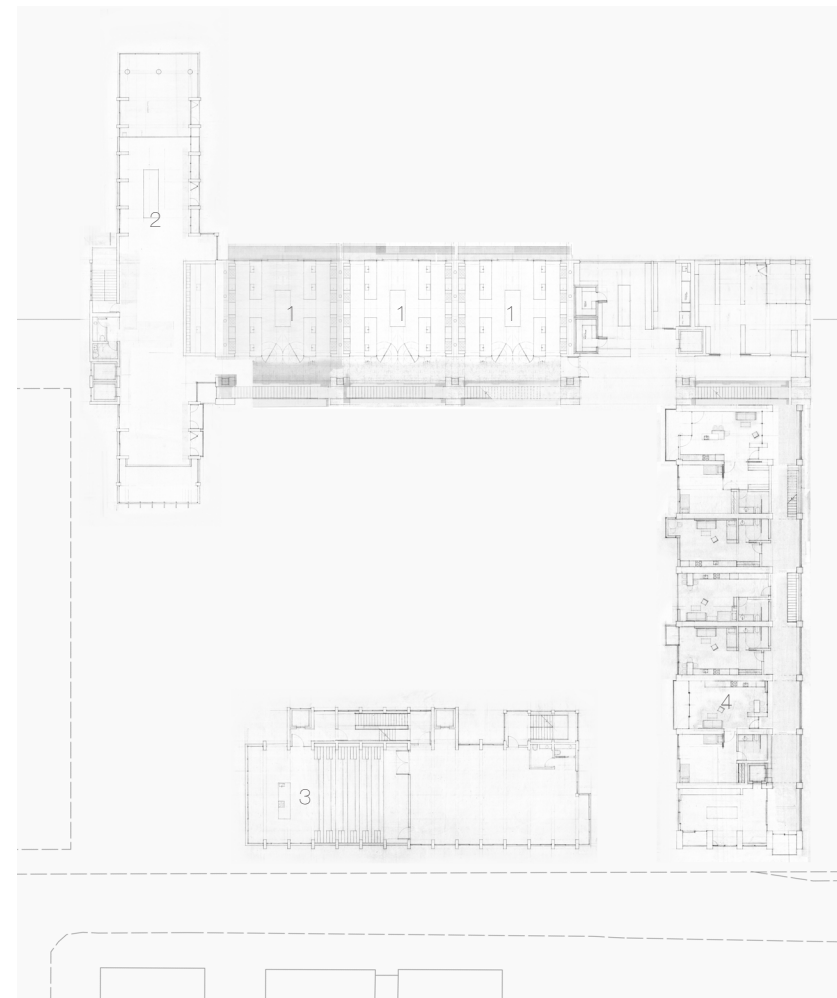




LEVEL 2 PLAN - PHASE III



GROUND LEVEL PLAN - PHASE III



LEVEL 3 PLAN - PHASE IV

- 1 - Kitchens
- 2 - Restaurant
- 3 - Cooking Theater
- 4 - Student Housing

The arrangement of the different parts of the building program has changed slightly throughout the design process. However, the building masses always carry the initial notion of wrapping around the site. This creates an open space that is separated from the street. The volume of the restaurant is offset from Strand Street, leaving the northwest corner open, allowing the public into the courtyard, but still defining the edge of the site.

Plan of *Phase I* suggests the arrangement of the kitchens along the water. The student housing is a freestanding component away from the courtyard. The structure of the buildings is not apparent yet.

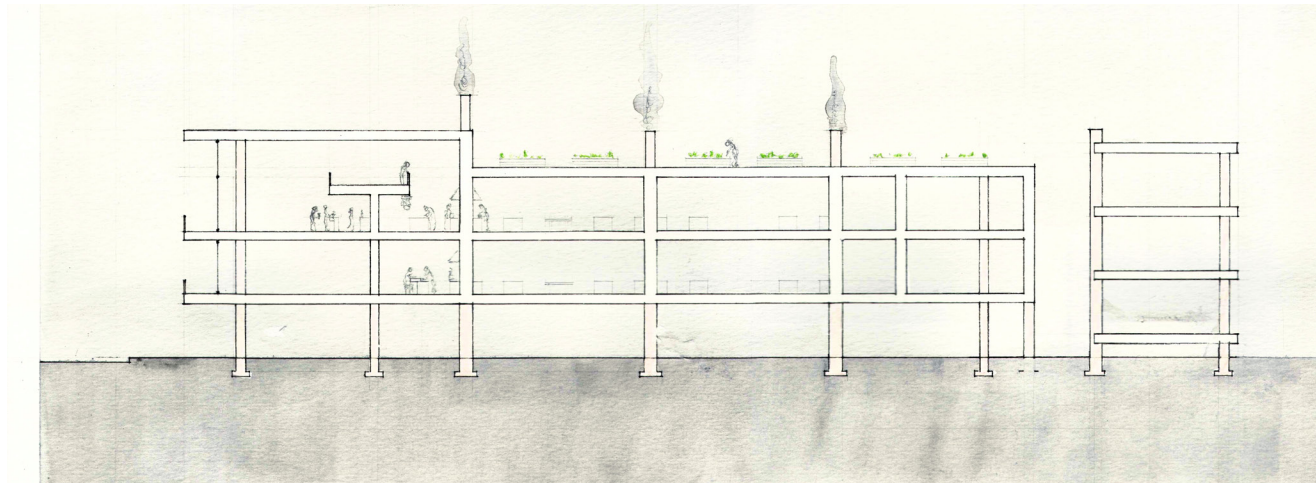
By *Phase III* the kitchen walls become thick masses that host the chimneys. The four parts of the building program start to gain their own character through the different structural elements they use. The student housing infers apartments of different sizes.

In *Phase IV* the architectural elements become clearer. The restaurants columns change direction to allow for the flow of the Potomac. The thick walls of the kitchens are carved into in order to receive the cooking spaces.

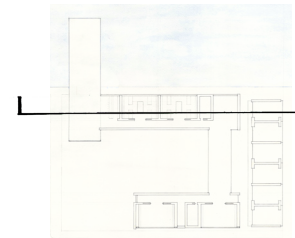
The residential spaces respond to elements from the kitchens, with structural walls separating the spaces and circulation running perpendicular to the walls.

Like the restaurant, the structural elements of the cooking theater become perpendicular to the courtyard, allowing the building to be more welcoming to the public.

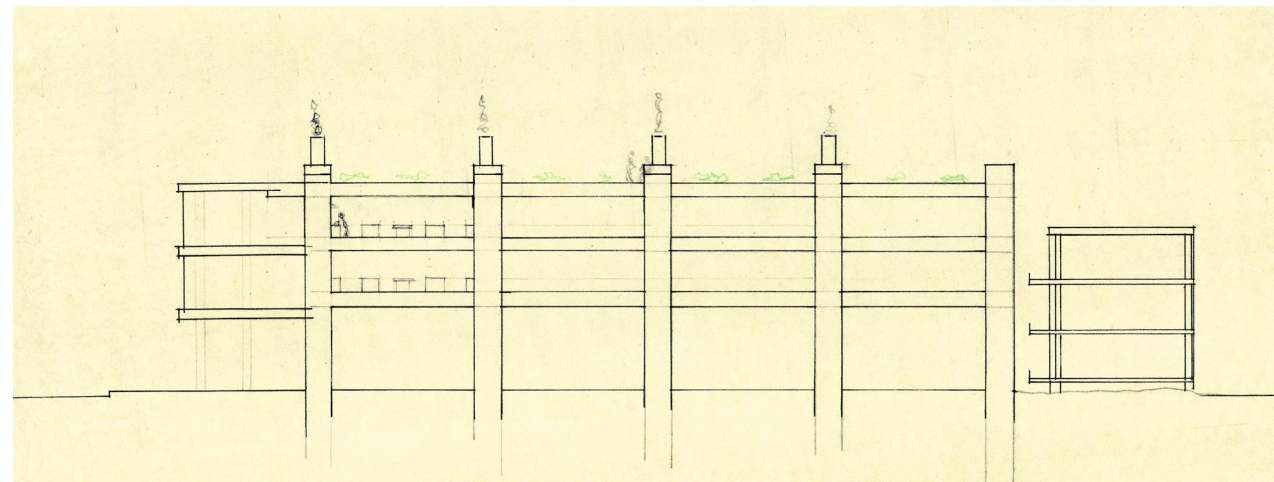




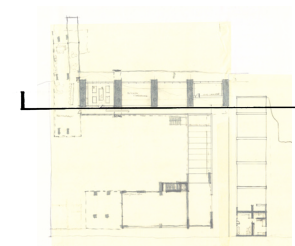
SECTION OF KITCHENS - PHASE I



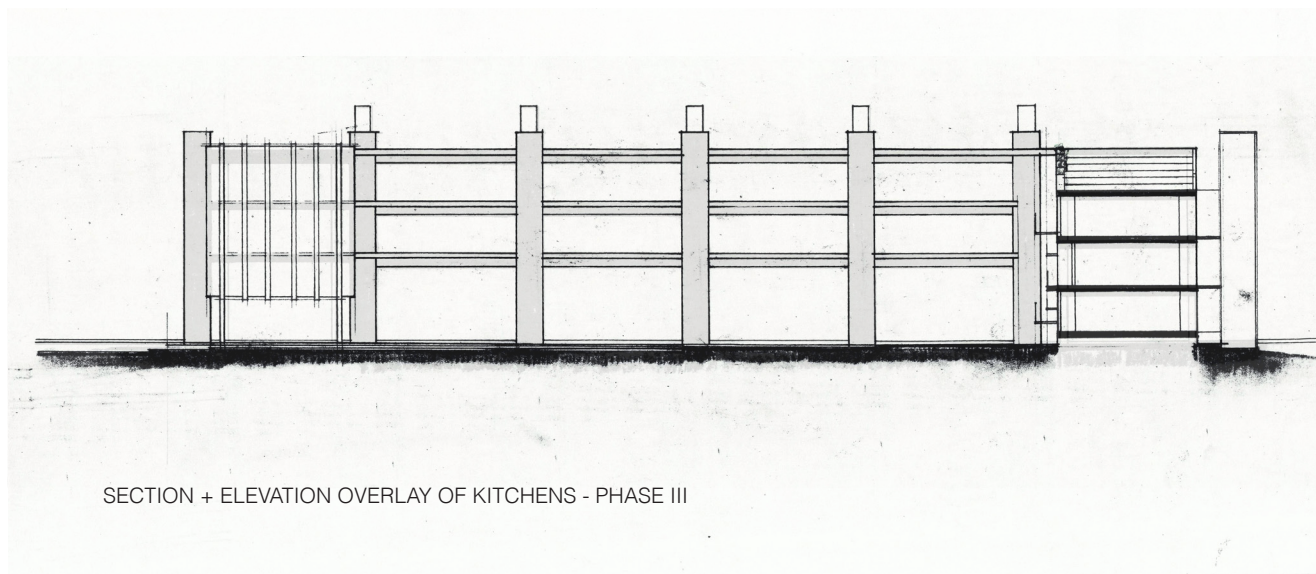
The kitchens are placed along the water in reference to the industrial past of Alexandria's waterfront. The food preparation areas are elevated to comply with flood regulations. This creates an opportunity for the ground floor to become part of the courtyard and connect the courtyard to the water.



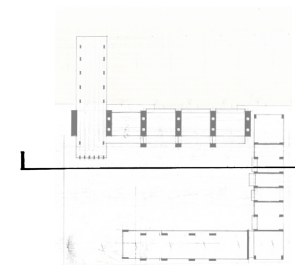
SECTION OF KITCHENS - PHASE II



In *Phase II + III* the idea of the industrial kitchens along the water becomes stronger. The walls are thick masses and the chimneys are carved into them. The walls become elements of both structure and service.

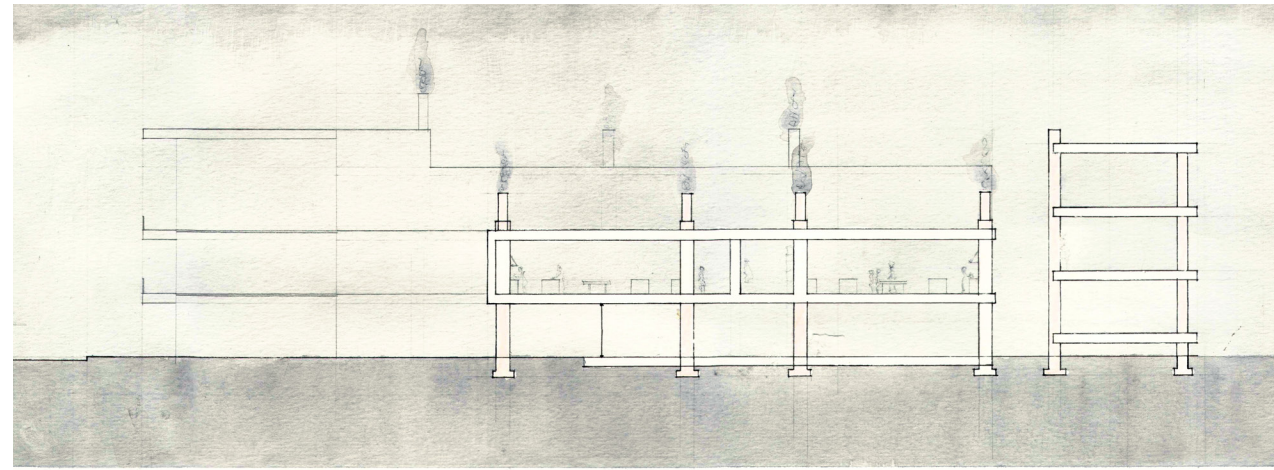


SECTION + ELEVATION OVERLAY OF KITCHENS - PHASE III

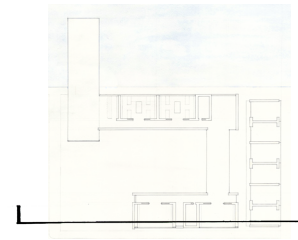


The first floor of the apartments are lifted off the ground to protect against flooding. In *Phase II + III* architectural elements such as balconies become present in the housing units.



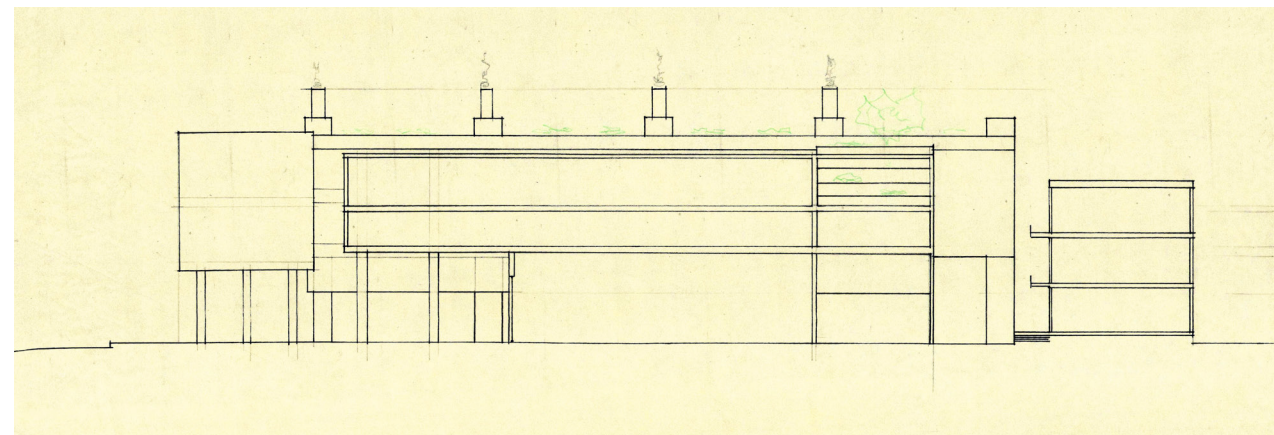


SECTION OF KITCHENS - PHASE I

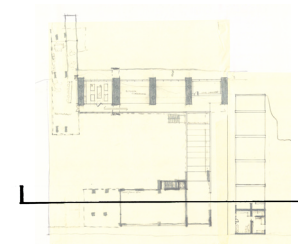


Across the courtyard from the kitchens (*Phase I*) additional cooking areas with an assembly space on the ground floor define the edge of the street.

In *Phase II* the building becomes academic space with assembly areas that connect to the cooking theater, which runs perpendicular the building. (*Section of cooking theater - Phase II*)

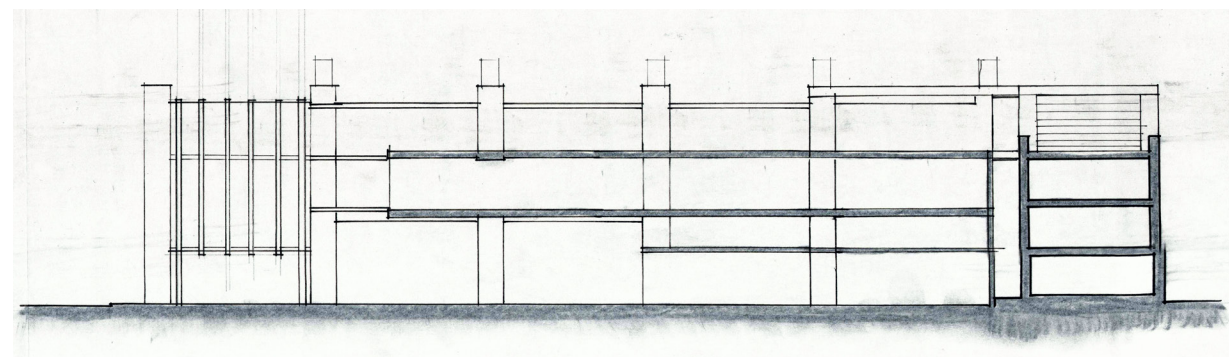


SECTION OF ACADEMIC BUILDING - PHASE II

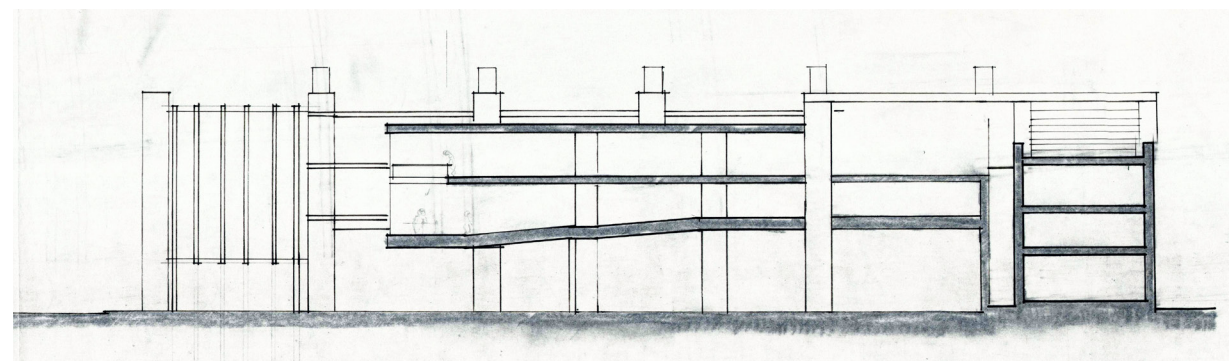


In *Phase III* the cooking theater is moved into the academic building on Strand Street. This allows passers-by to see culinary demonstration from the street and creates intrigue and interest in learning about culinary arts. The lower floor and southern end of the building are reserved for academic use.

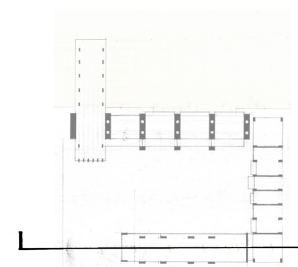
The northern end of the building, in all three phases, is left open on the ground floor to create a gateway to the courtyard.



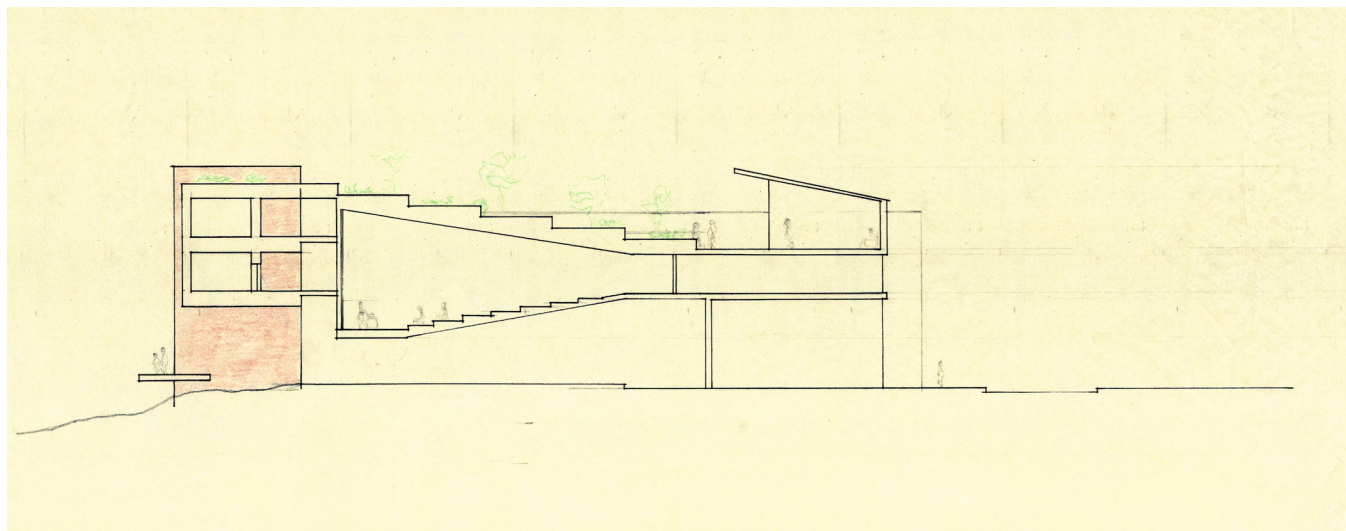
ALTERNATIVE SECTION OF COOKING THEATER - PHASE III



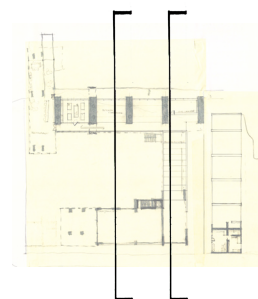
SECTION OF COOKING THEATER - PHASE III



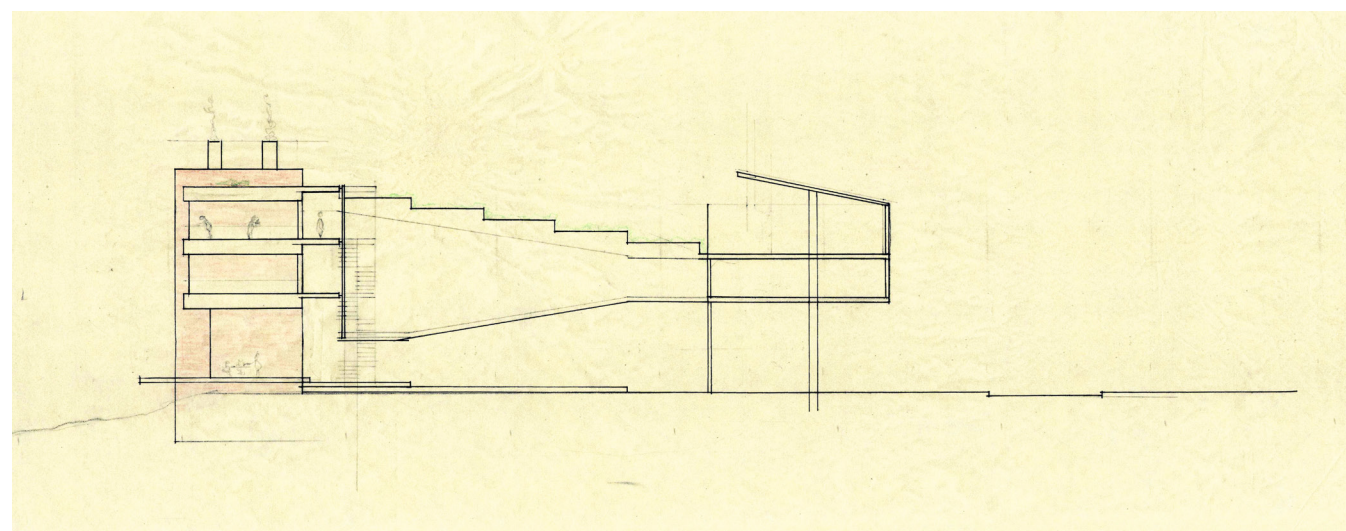




SECTION OF COOKING THEATER - PHASE II

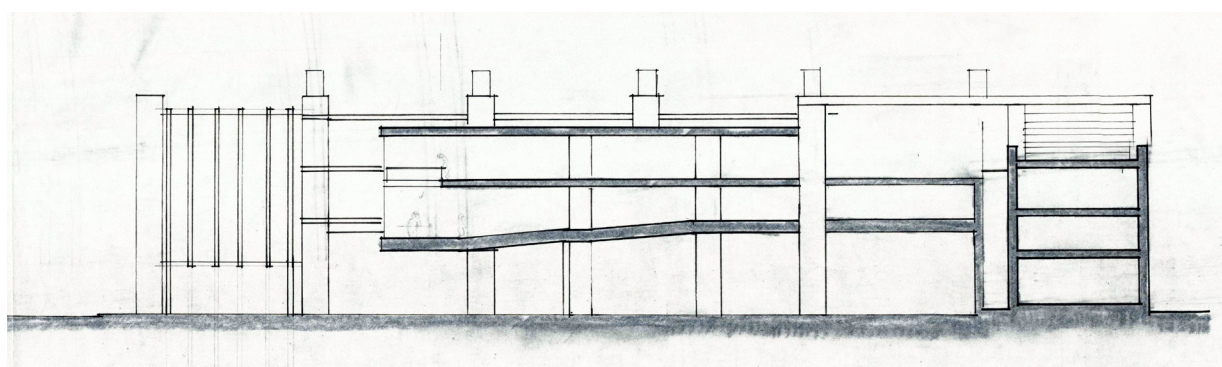


The *Phase II* cooking theater is accessed through the Strand Street building and the demonstration area connects to the building of the kitchen classrooms. The sloping roof of the cooking theater acts as a stepped roof garden connecting the top floor of the academic building to the roof gardens above the kitchens.

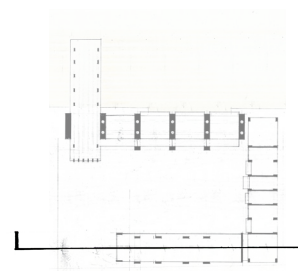


ELEVATION OF COOKING THEATER- PHASE II  
CUT THROUGH KITCHEN CLASSROOMS + COURTYARD

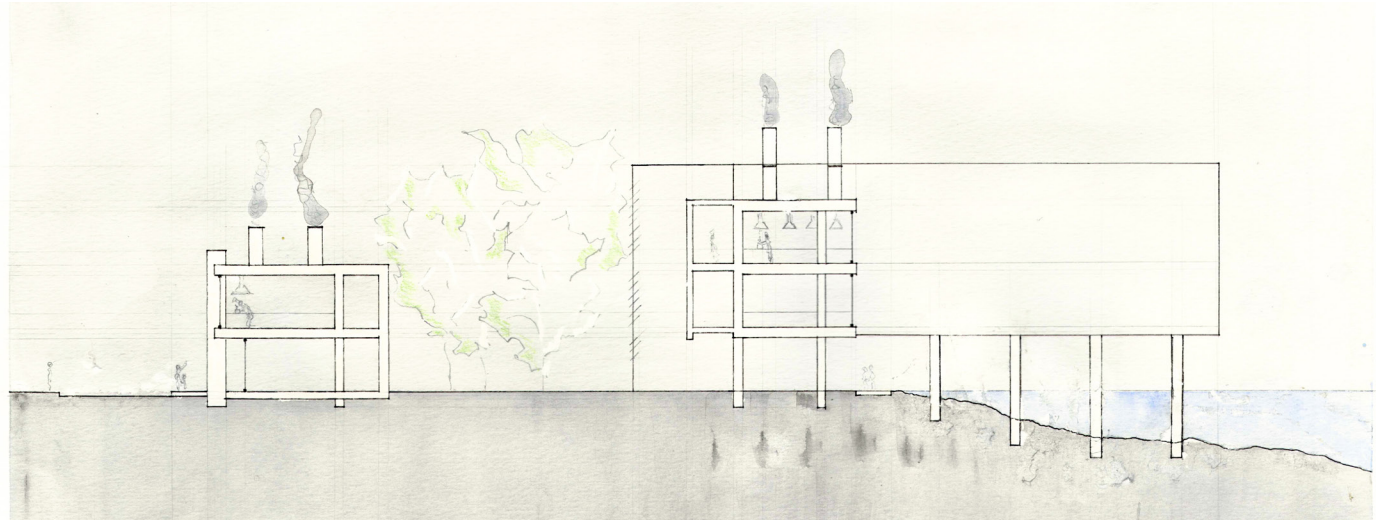
The sections show the walkway along the water for continuous access to the waterfront and the intension of a hung screen for shading from the western sun.



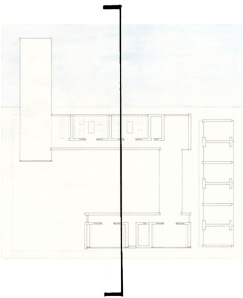
SECTION OF COOKING THEATER - PHASE III



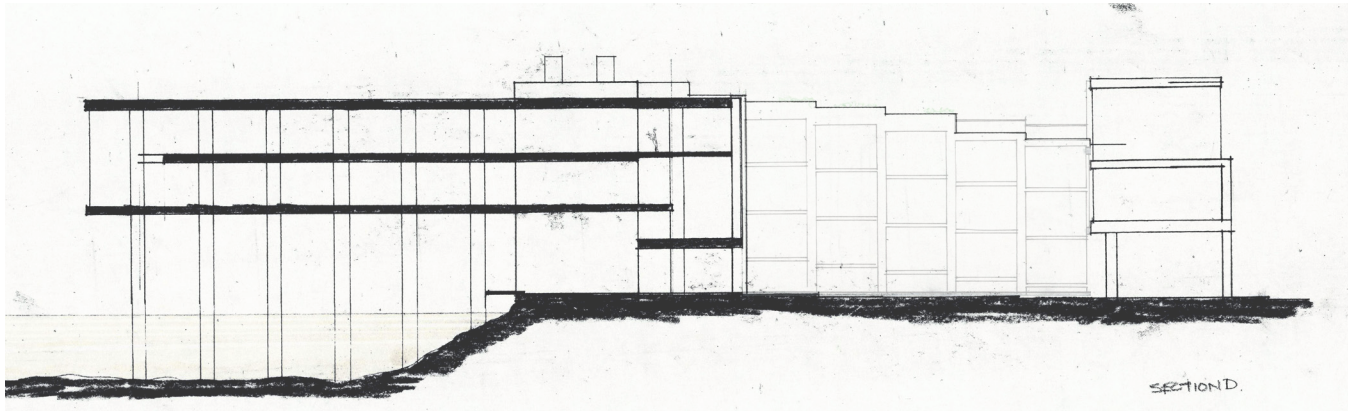




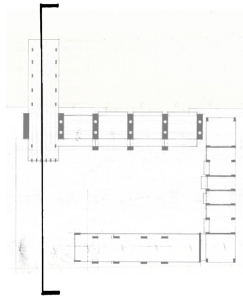
EAST-WEST SECTION THROUGH COURTYARD - PHASE I



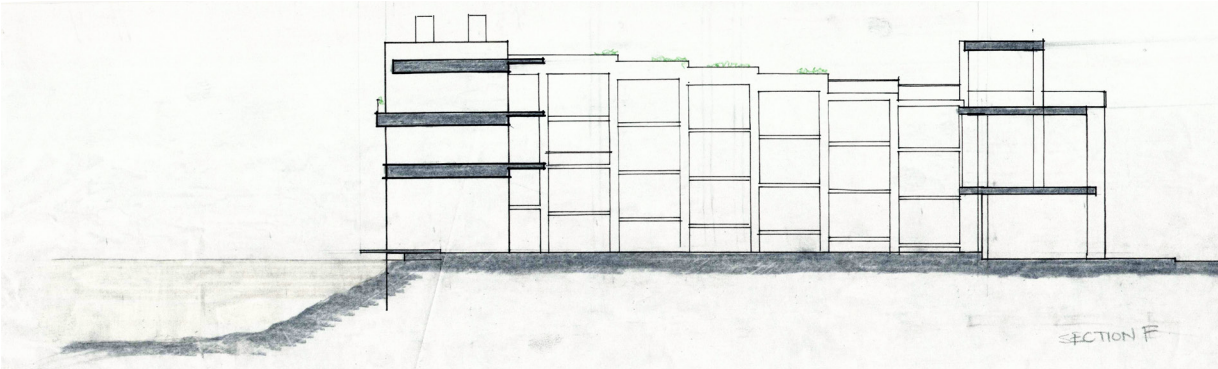
The volume of the restaurant in *Phase I* is connected to the building of the kitchens, but reaches out onto the water. The idea of columns in the water is present in the drawing.



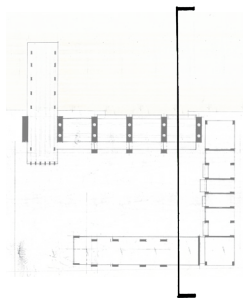
SECTION OF RESTAURANT - PHASE III



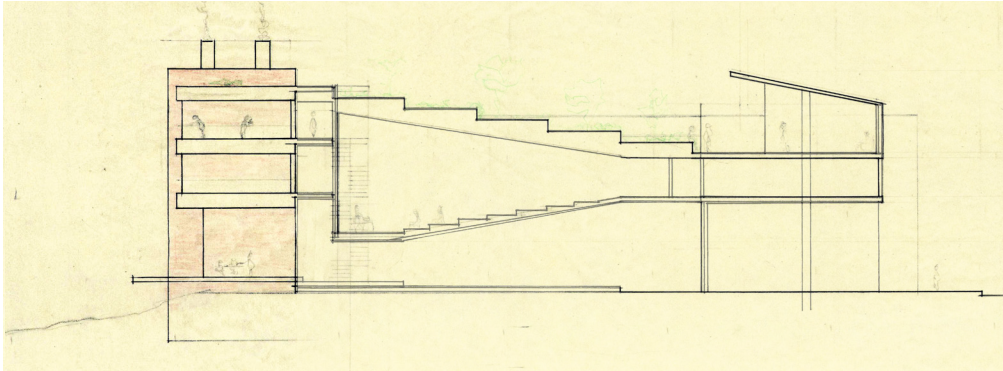
By *Phase III* the structural ideas of the restaurant become clearer. The columns become the defining element of the restaurant. The 3<sup>rd</sup> floor is pulled back on the east end of the restaurant to create a double height dining space.



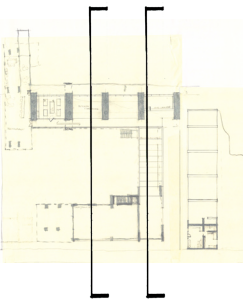
SECTION THROUGH COURTYARD: SHOWING STUDENT HOUSING - PHASE III



With the cooking theater moved to the building along Strand Street, student housing is used to create the connection between the two buildings. The stepped arrangement of the apartments is lost in later phases of the project in favor of elements that reference the row houses of Old Town.



OVERLAY OF SECTION + ELEVATION OF COOKING THEATER - PHASE II



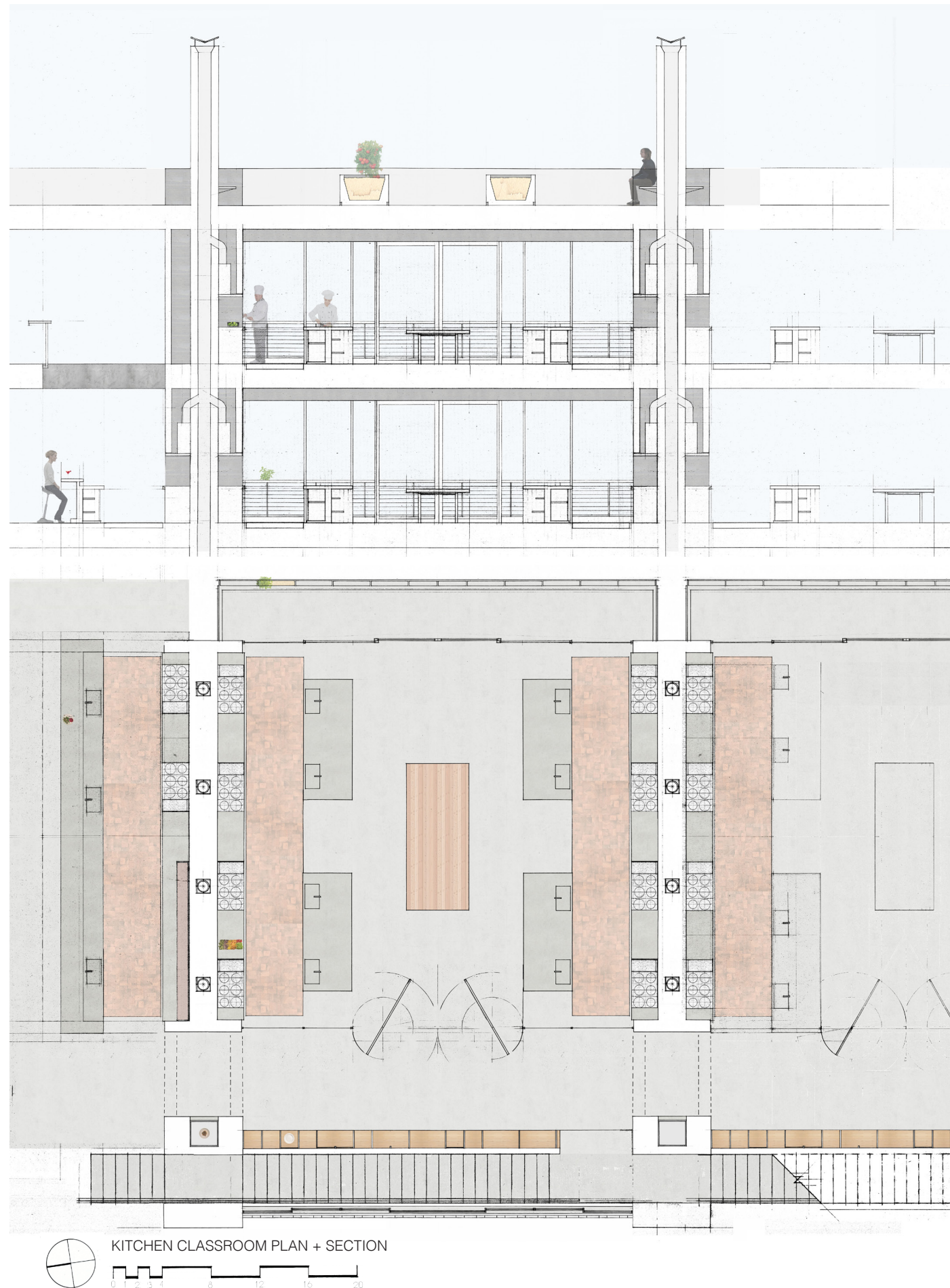




VIEW OF RESTAURANT, COURTYARD AND COOKING THEATER, FROM THE CORNER OF PRINCE + STRAND STREET

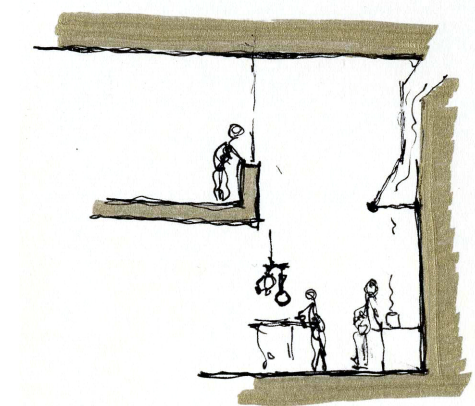
**THE DISH** | Final Design and Drawings





The cooking spaces become part of the architecture in the kitchen classrooms. The counters are cast of concrete and fold up from the floor or are carved into the walls. The wall becomes the structure of the building as well as where the cooking takes place. The concrete floor between the cooking and preparation areas is carved out for end grain wood inlays, to create a more comfortable work area for the students who are on their feet for long periods of time. The board form concrete walls and the chimneys reflect the industrial nature of the kitchens and recall the industrial past of Alexandria's waterfront.

The first wall of the kitchen classrooms also supports two cooking stations in the dining area. These cooking stations can be viewed by restaurant guests at the dining bar and from the viewing balcony on the 3<sup>rd</sup> floor of the restaurant.



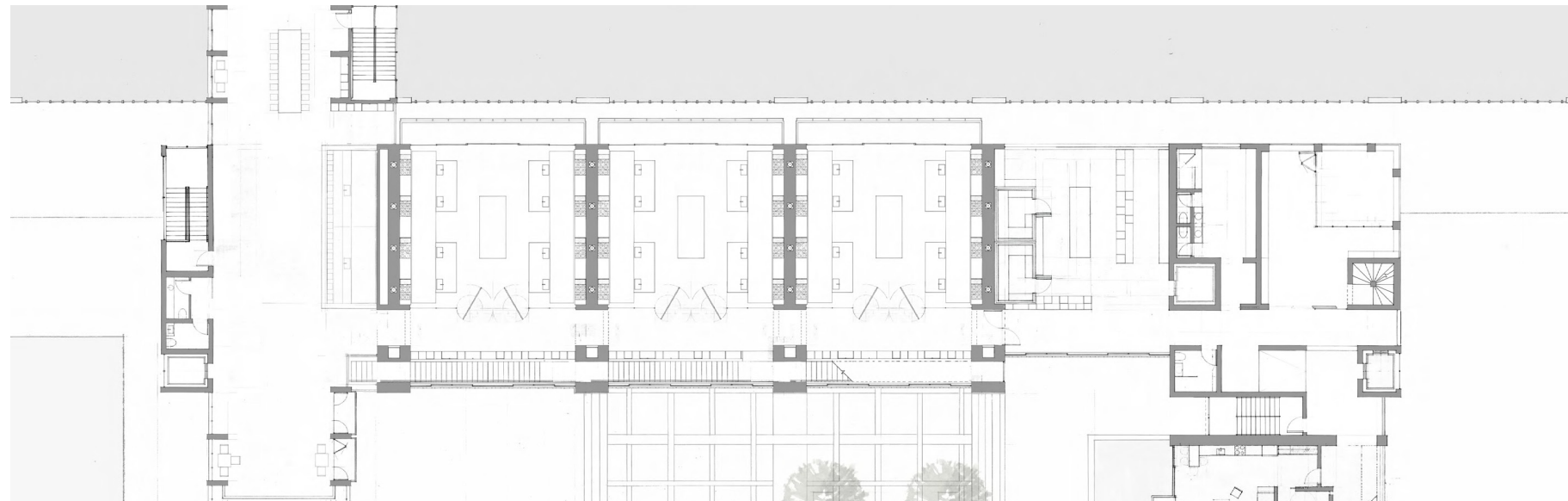
SKETCH OF KITCHEN  
WITH VIEWING BALCONY

The initial sketch of the kitchens is reflected in the final drawings of this area.





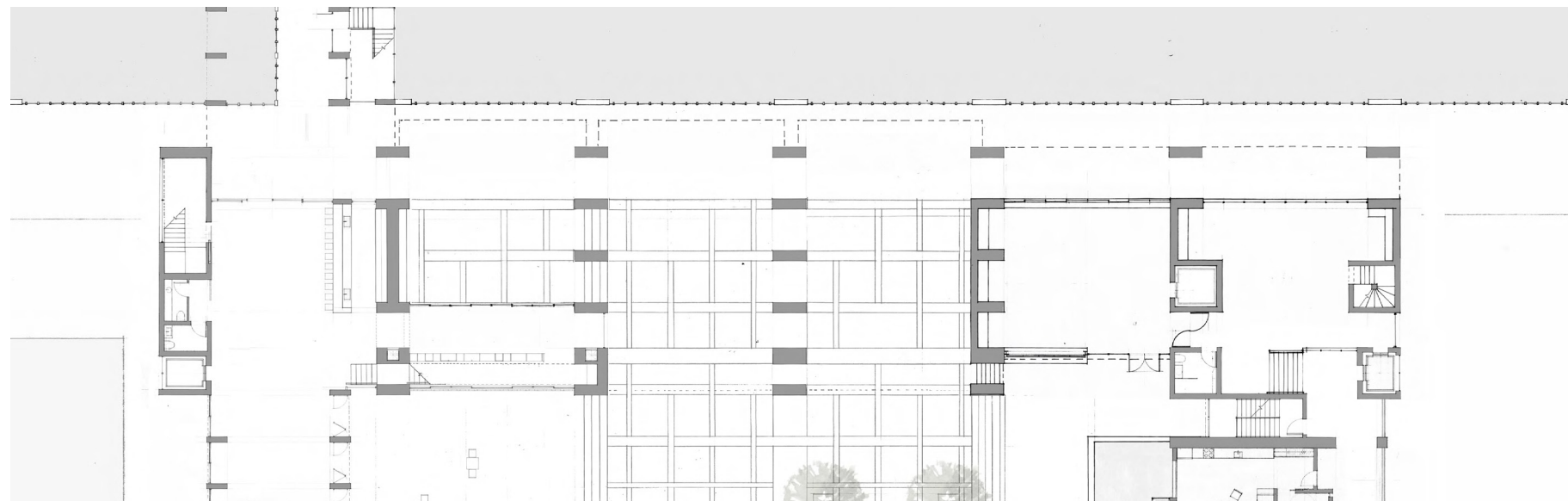
VIEW OF KITCHEN CLASSROOM



KITCHEN CLASSROOMS + SUPPORT AREAS LEVEL 3 PLAN



KITCHEN CLASSROOMS + SUPPORT AREAS LEVEL 2 PLAN



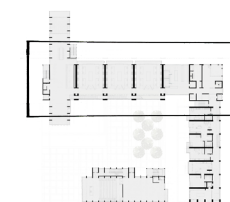
KITCHEN CLASSROOMS + SUPPORT AREAS GROUND LEVEL PLAN

Next to the kitchen classrooms are the support spaces for the kitchens. Storage rooms and dishwashing facilities occupy the bay next to the kitchen classrooms. The ground floor is used to accept produce deliveries, with a driveway that leads to it from Strand Street and a service elevator for easy transportation to the storage rooms.

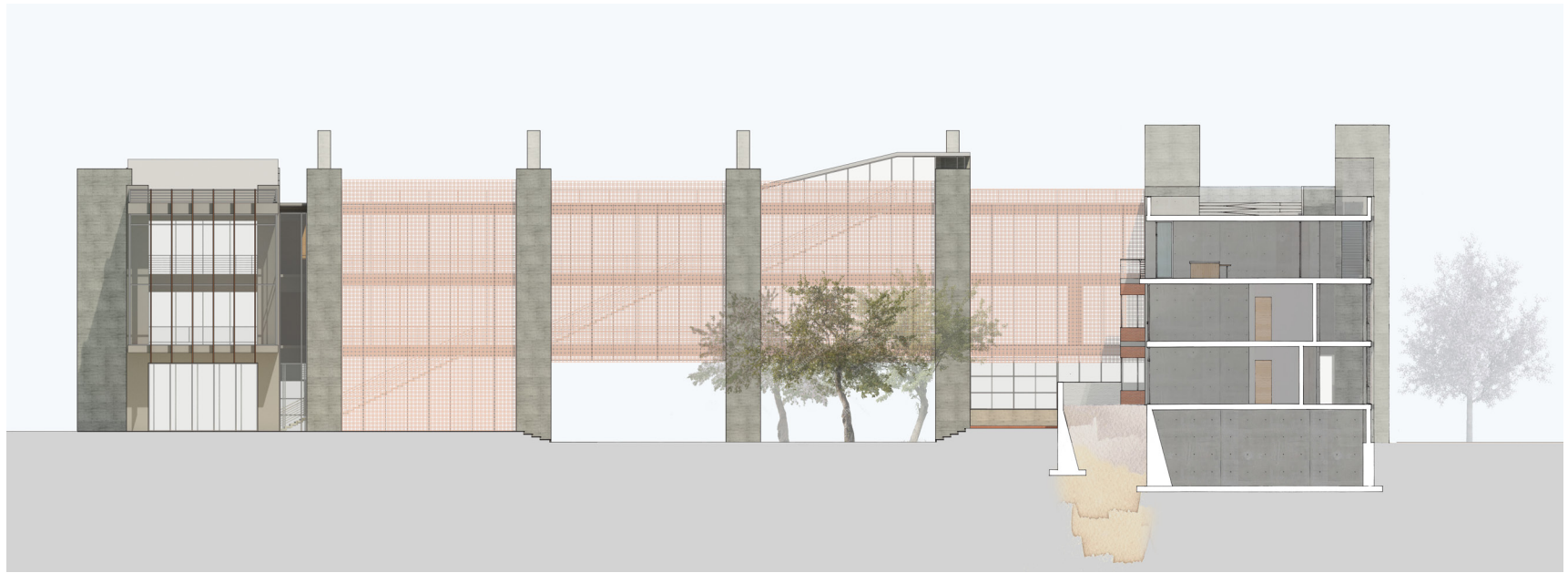
In the changing rooms, the service areas (shower and bathrooms) are carved into the wall. The wall acts as structure and the service element, similar to the walls of the kitchen classrooms.

At the south end of the building, in the library, the walls house the bookshelves. On the 3<sup>rd</sup> floor, the southeast corner opens up as a reading porch.

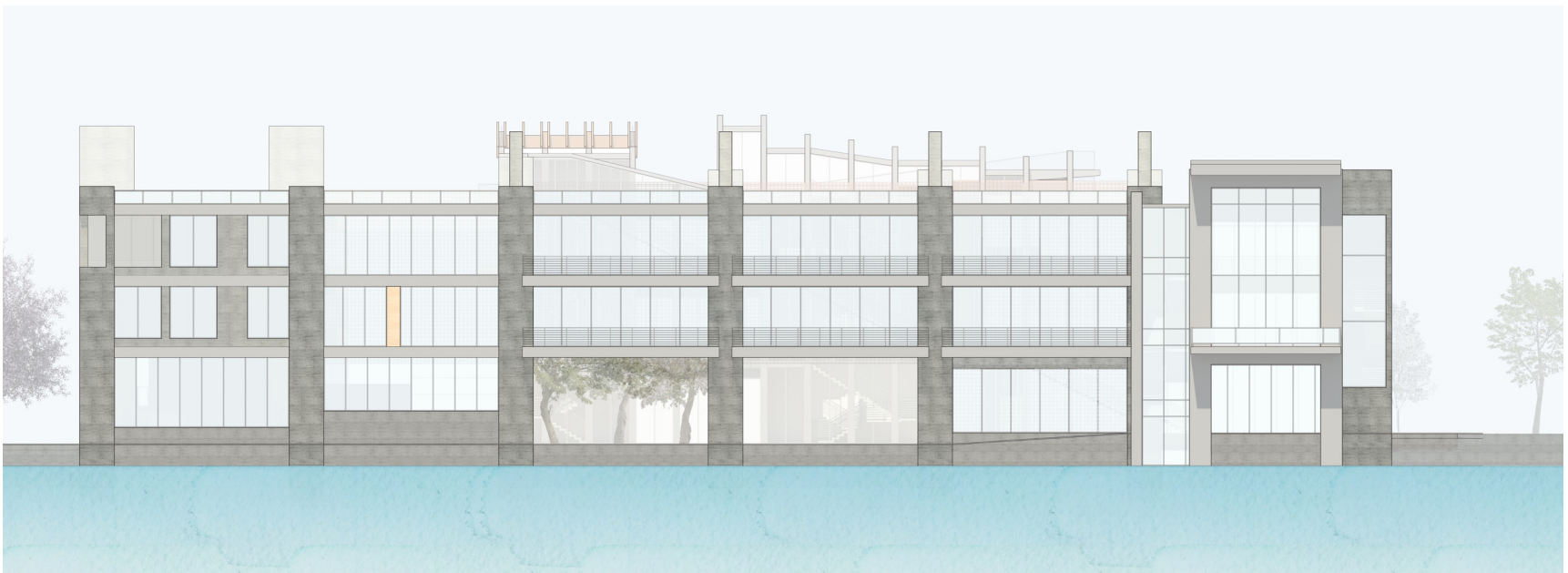
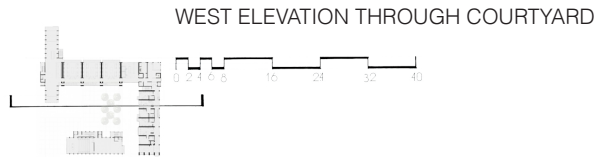
The north wall becomes the service space for the restaurant, which occupies the northernmost bay of the building.

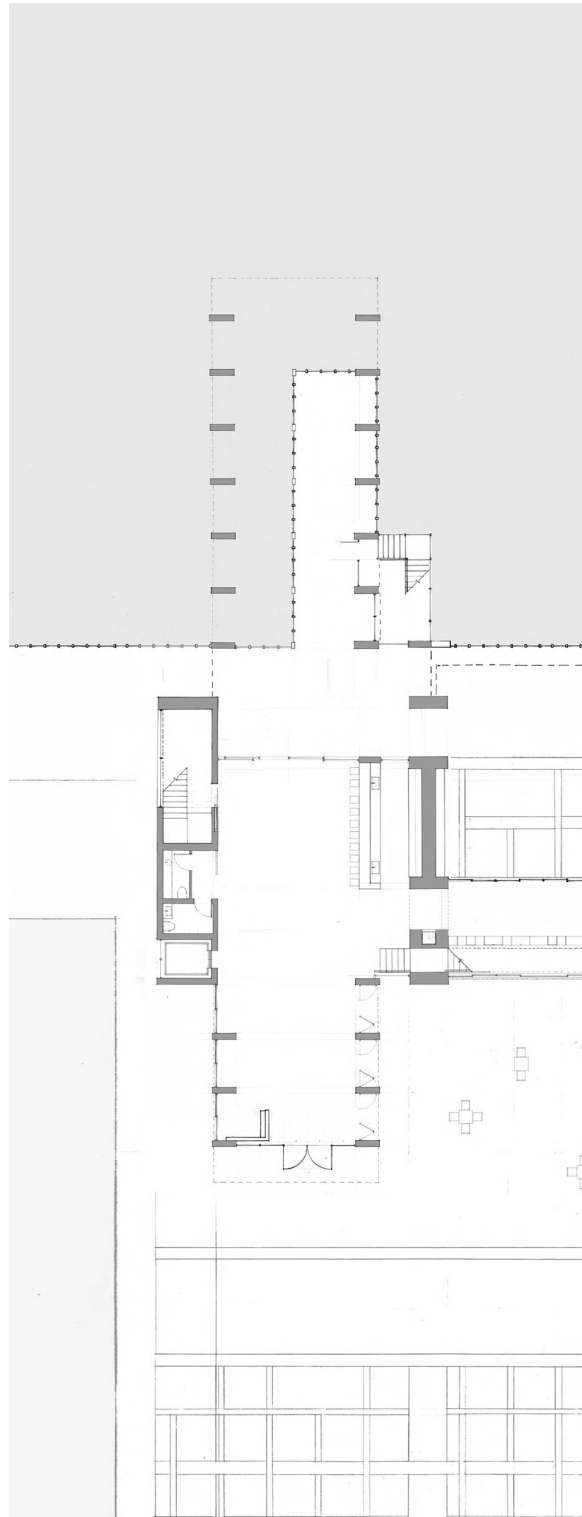




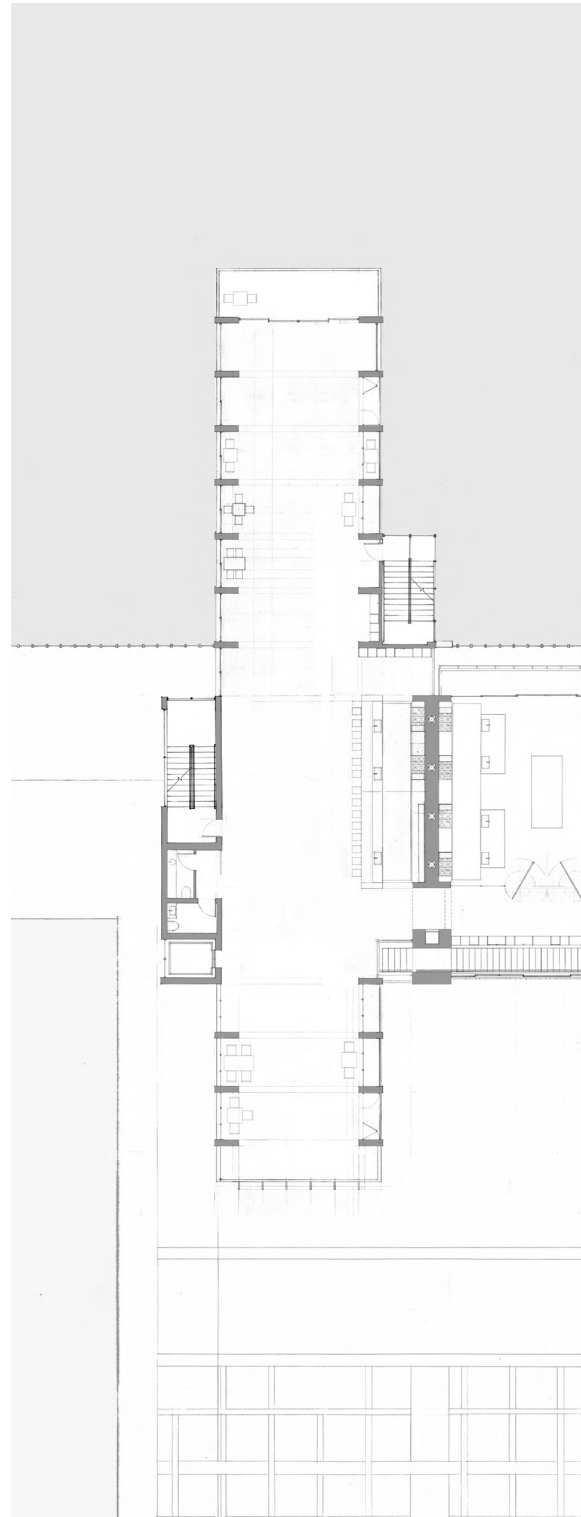


Courtyard West Elevation shows the copper screen used for shading the stairs and corridor for the kitchen classrooms.

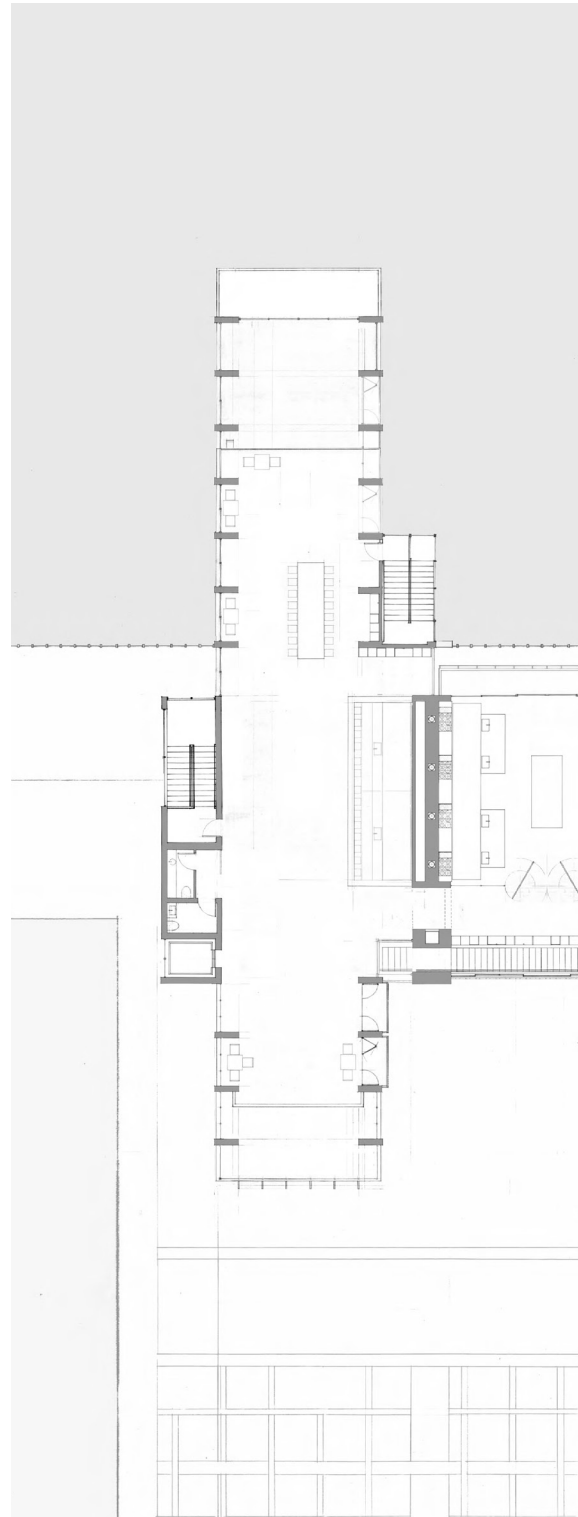




RESTAURANT GROUND LEVEL PLAN



RESTAURANT LEVEL 2 PLAN

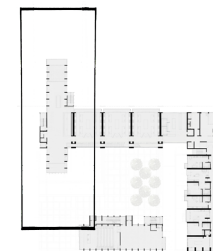


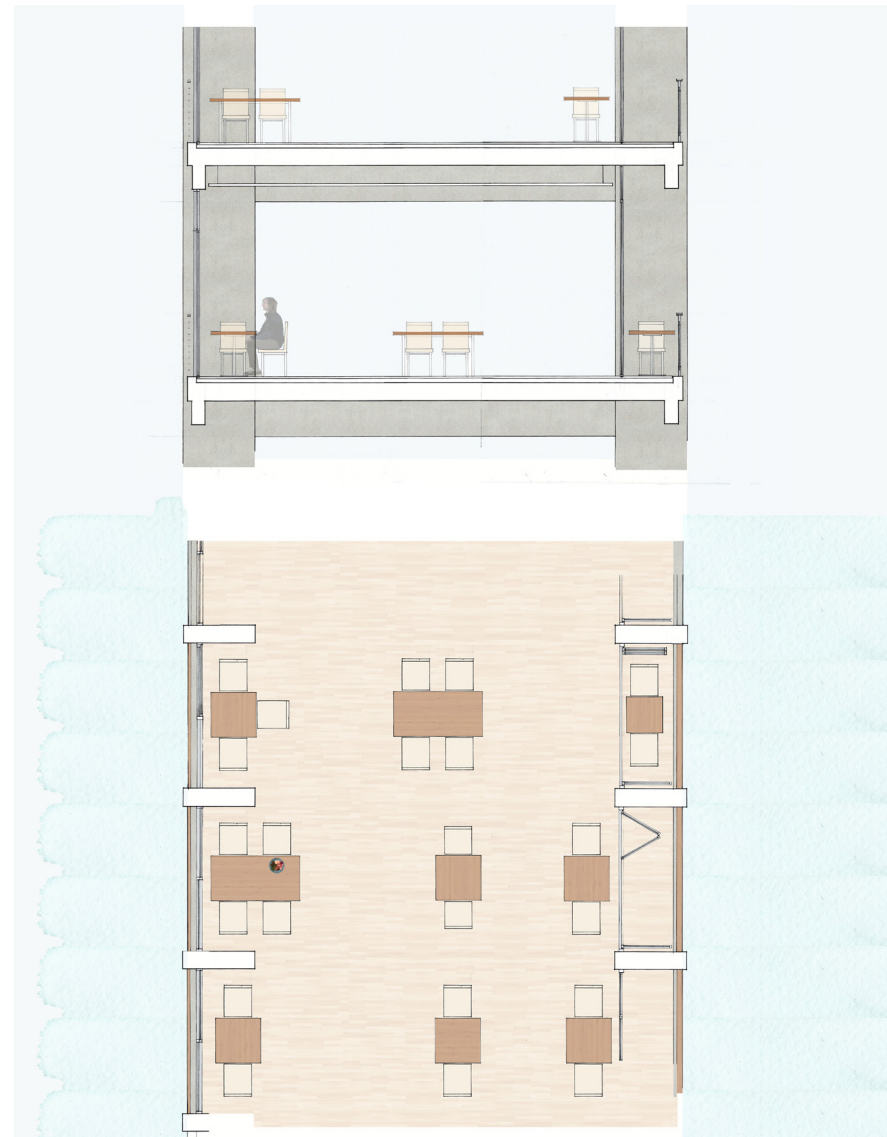
RESTAURANT LEVEL 3 PLAN

The Restaurant is in dialogue with the kitchens, but has its own character.

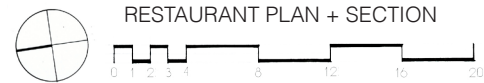
The dining areas reach into the courtyard and out onto the water. These areas are created with concrete columns instead of the thick walls of the kitchens, which allow the restaurant to feel more public than the kitchen areas.

On the ground floor the restaurant opens onto a dining patio in the courtyard.





RESTAURANT PLAN + SECTION

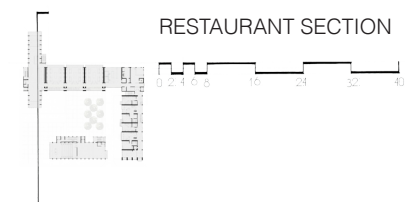
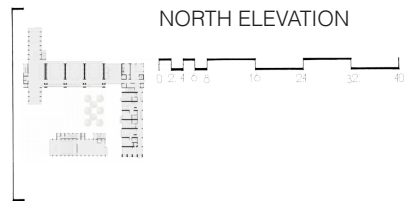


VIEW OF SECOND FLOOR DINING AREA + DINING BAR

The columns and beams of the restaurant are visually present on the inside and outside of the building to communicate the story of the making of the building.

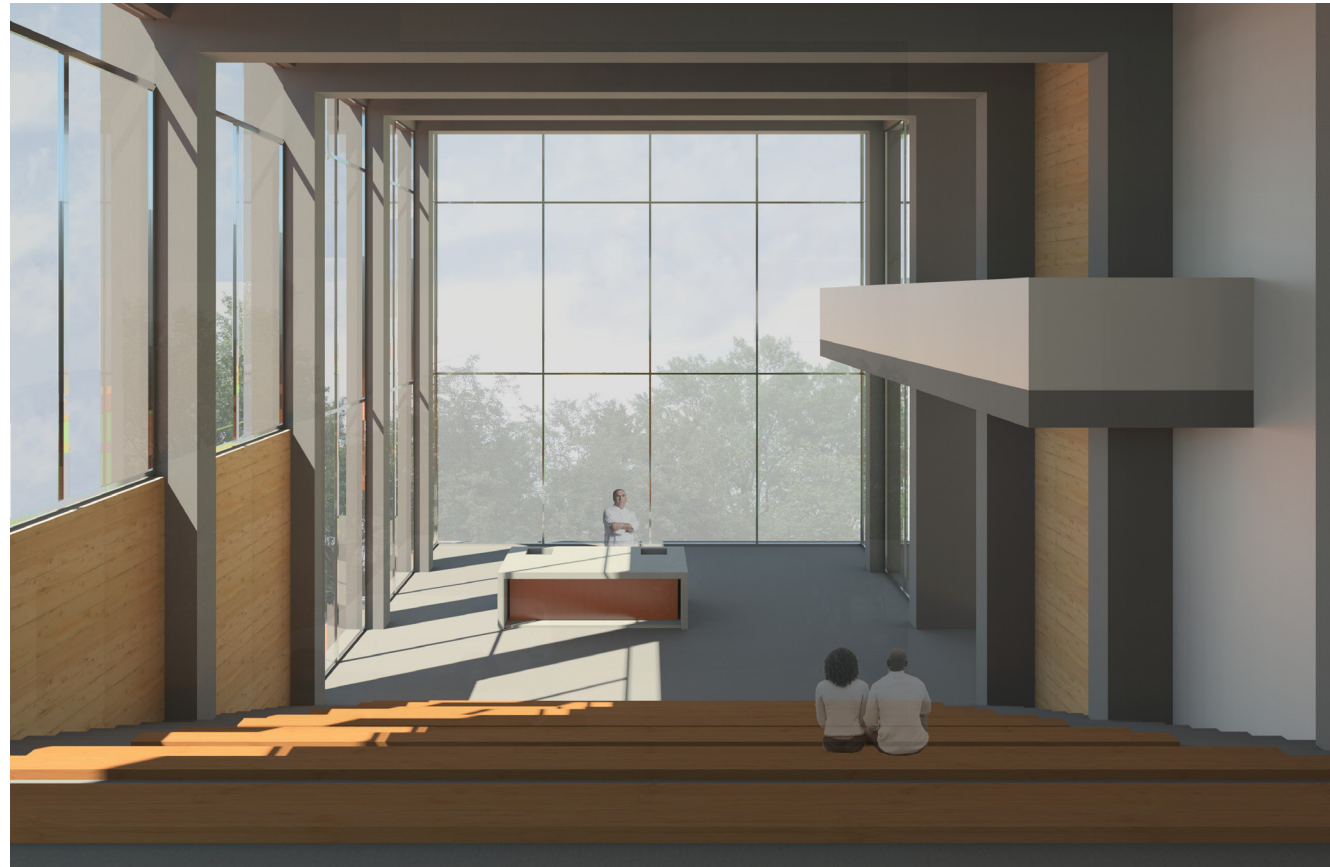
The columns are designed to divide the restaurant and give a layer of privacy to each group of diners. On the south side of the restaurant, the glass is pulled back from the edge of the building to create dining balconies. The columns and balconies also act as brise-soleil. On the north side, the glass is pushed to the edge of the building, letting in the light from the north.





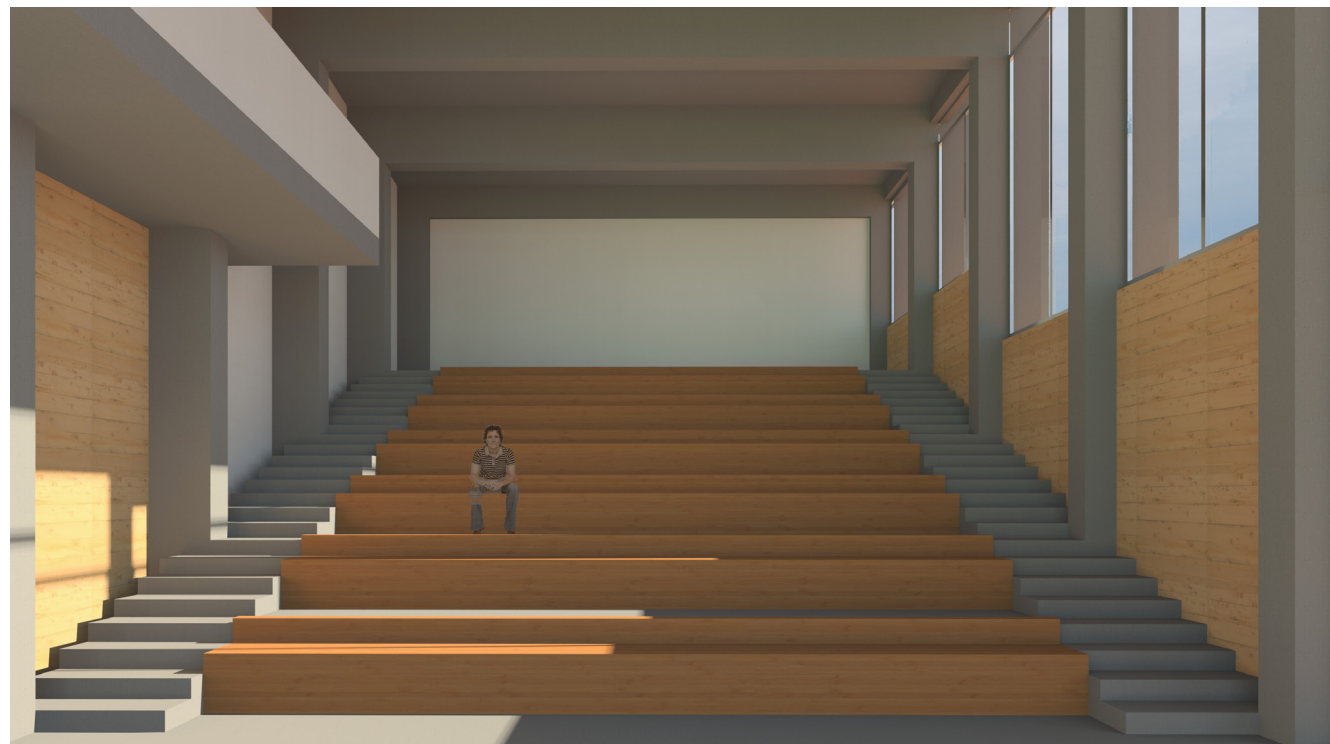
The roof of the restaurant slopes up on the east side creating a high ceiling at the east end of the restaurant.

[The architectural intentions of the Beachcombers Restaurant come through in these drawings, as the restaurant reaches out into the Potomac on columns, in a similar way to the Beachcombers Restaurant when it was initially built.]



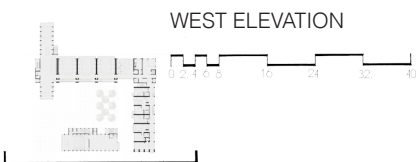
COOKING THEATER: VIEW OF DEMONSTRATION STAGE

The cooking theater creates a space for culinary demonstrations and lectures, both by faculty and guest chefs.



COOKING THEATER: SEATING

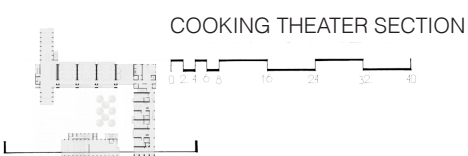
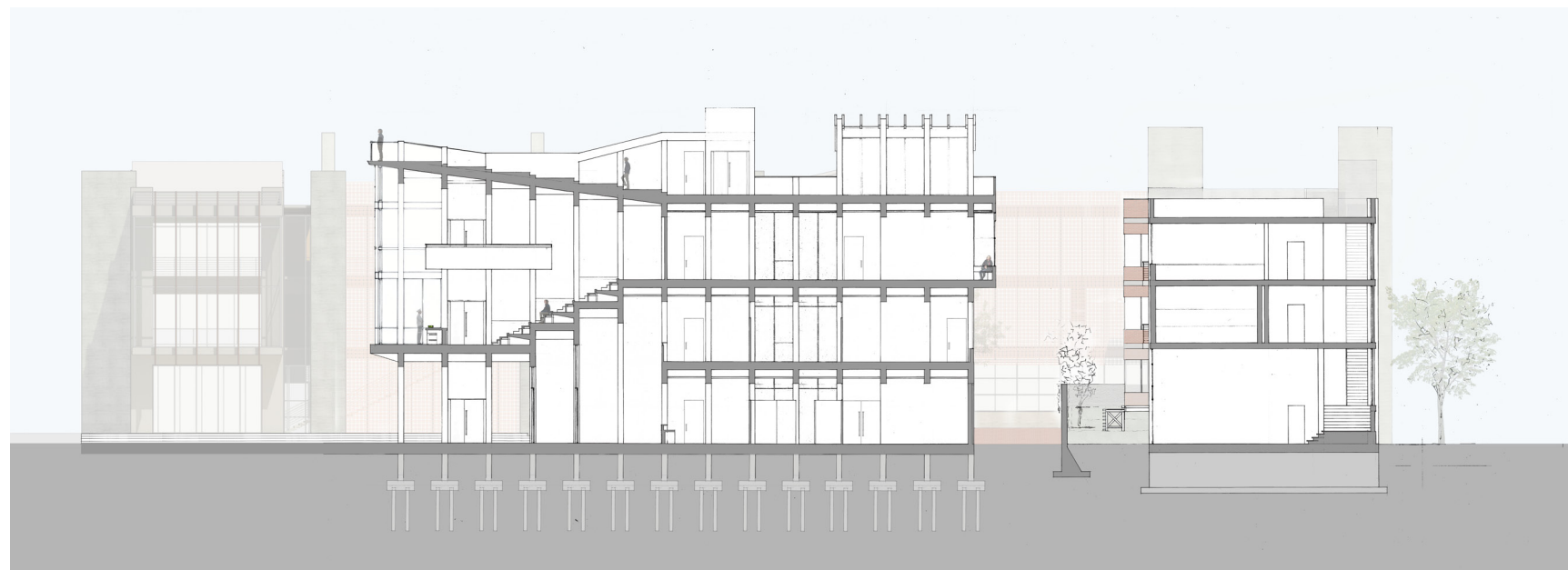


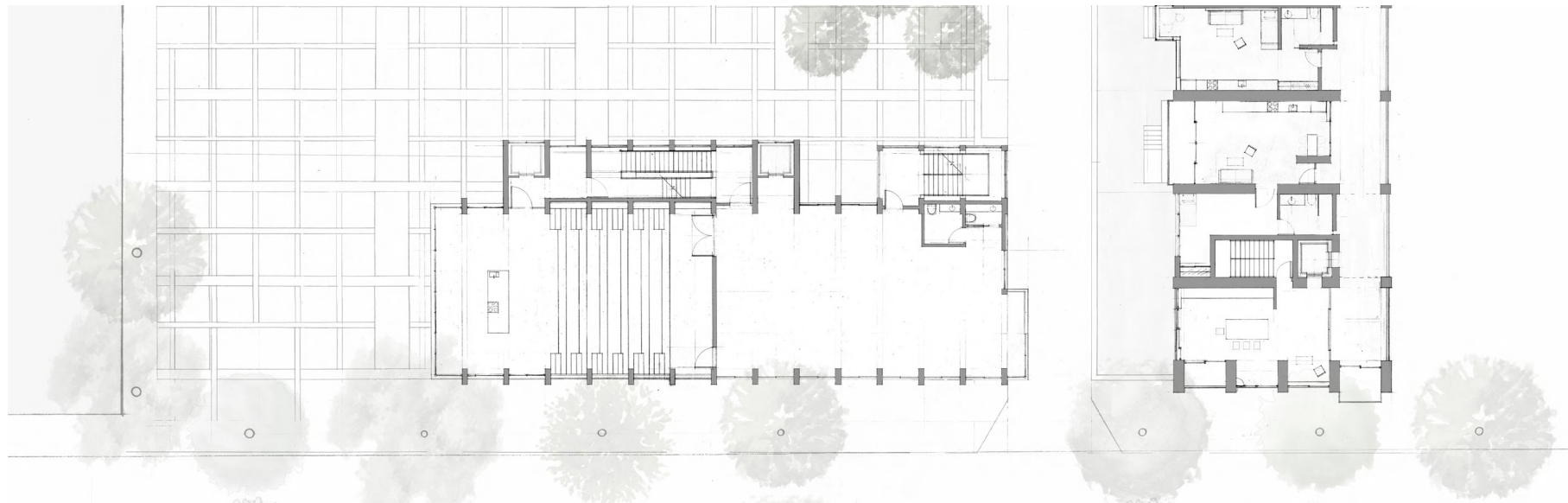


The columns and beams show through in the building in a similar way to the restaurant and tell the visitors “the adventure of its making.” Beams become steps and columns act as brise-soleils on the west façade.

The roof of the cooking theater slopes up to the north, creating a viewing deck that looks onto the Waterfront Park.

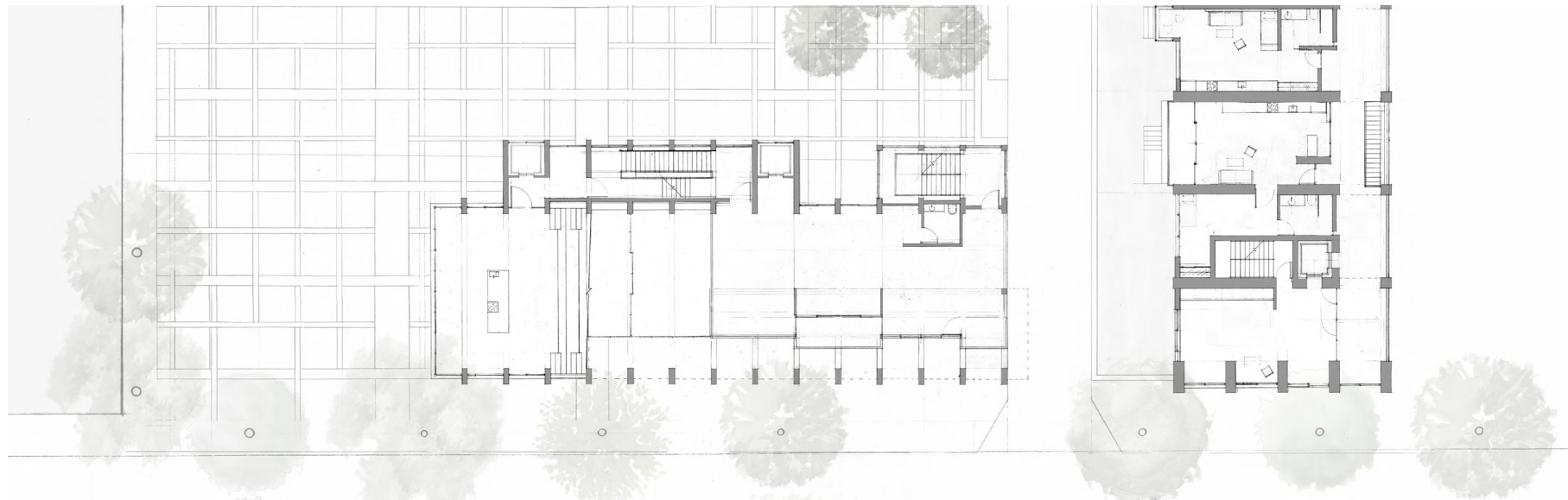
The amphitheater creates a stepped ceiling on the ground floor, forming a double height lobby. The north end of the ground floor is left open and serves as an entrance to the courtyard as well as the building.





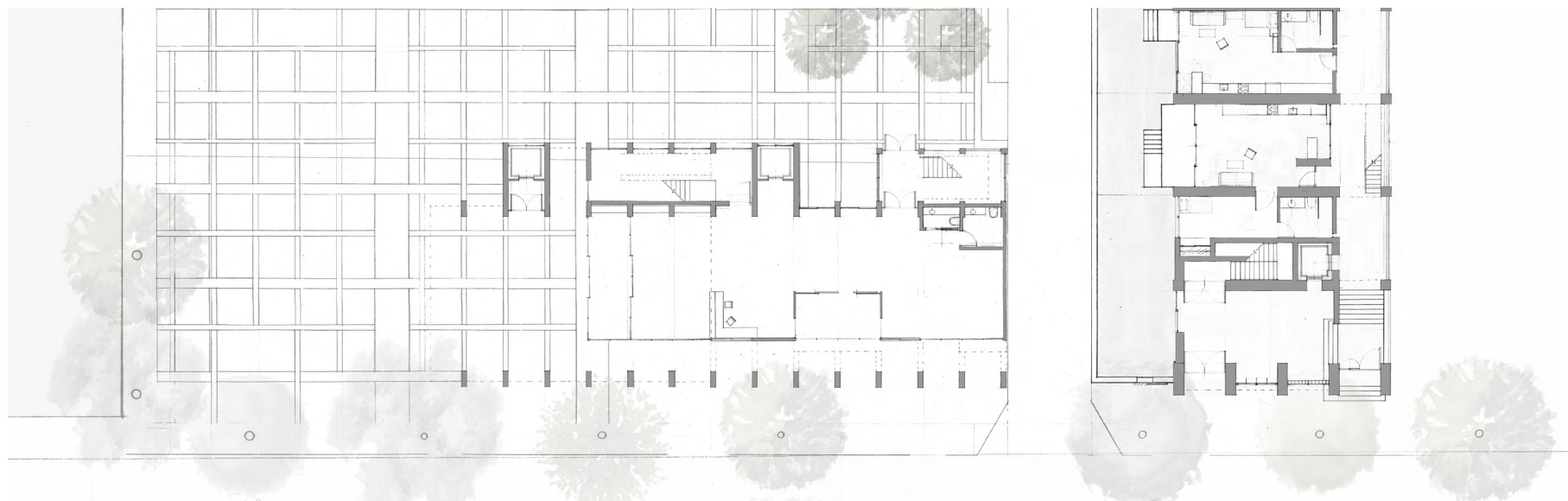
COOKING THEATER LEVEL 3 PLAN

The third floor of the building can be used as an assembly space and for receptions after culinary demonstrations.

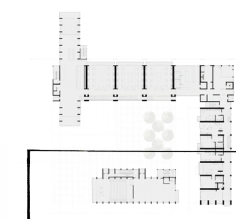


COOKING THEATER LEVEL 2 PLAN

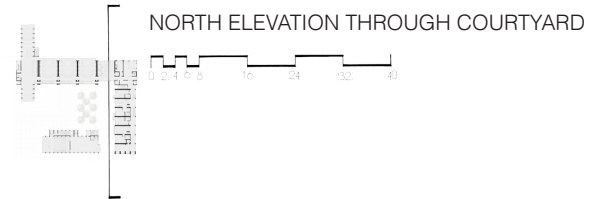
The second floor serves as offices for the faculty. The ground and second floors are pulled back from the edge of the street, forming a colonnade for the public and creating shade for the interior areas facing west.



COOKING THEATER GROUND LEVEL PLAN







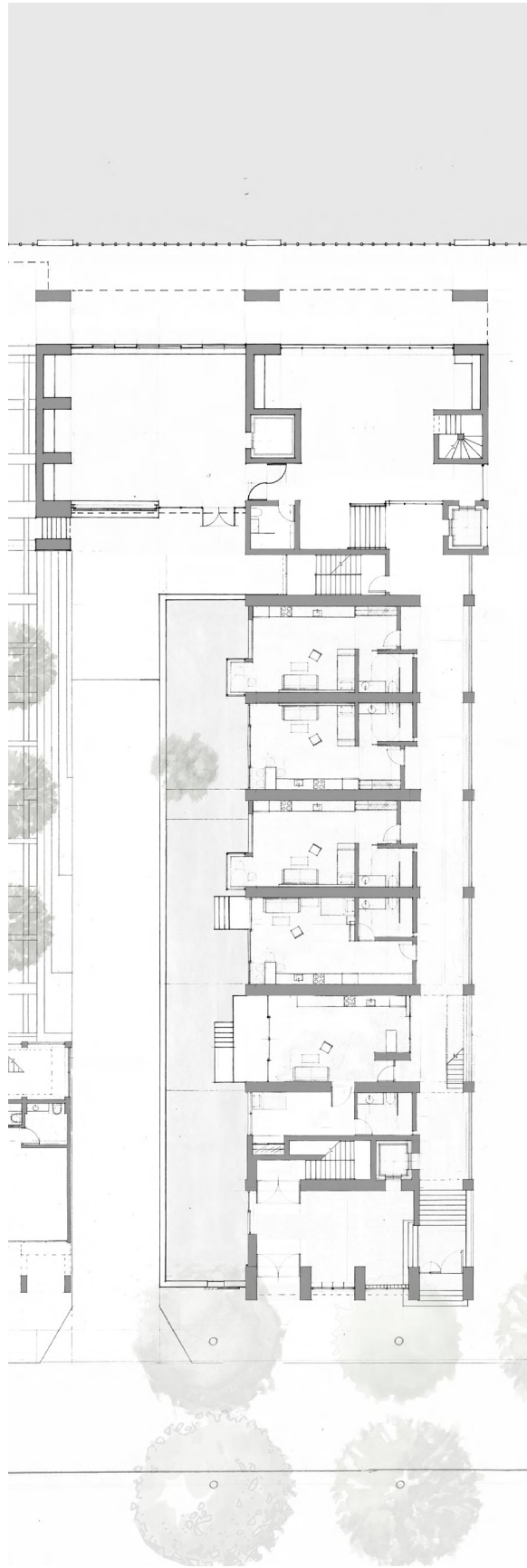
The student housing is inspired by the row houses of Old Town Alexandria. Elements such as bay windows and the use of bricks make their way into the residential component of the Culinary School.

The walls between the housing units act as the structure, making it more similar to the building that houses the kitchens than the public buildings.

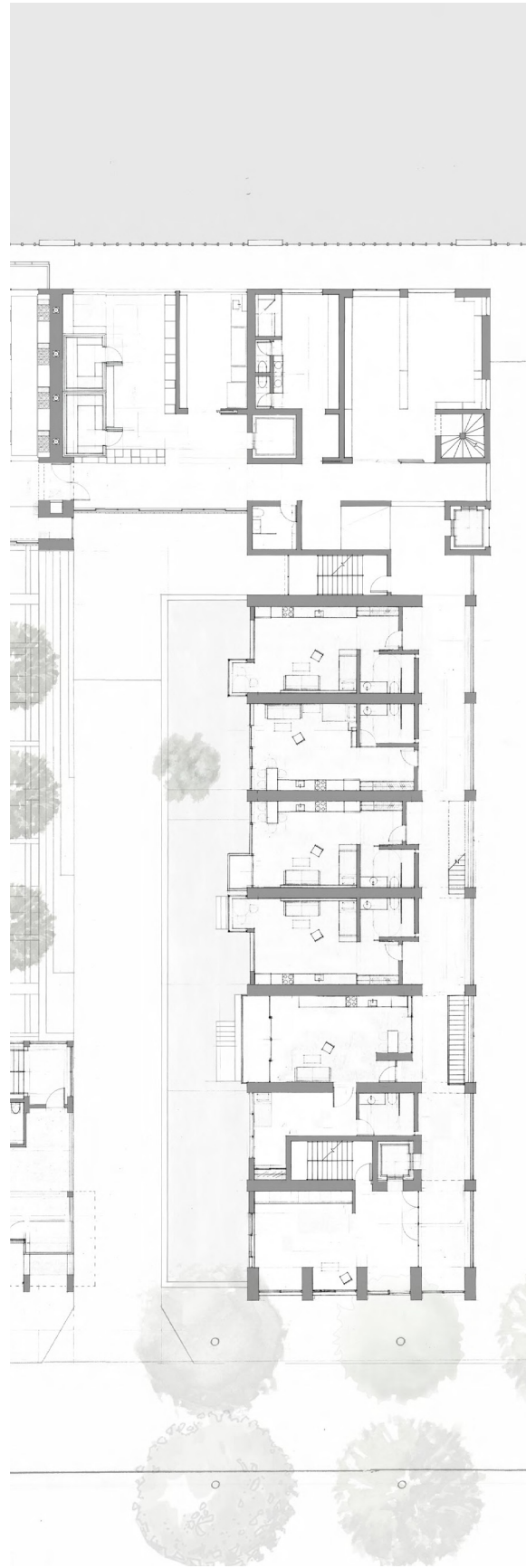


VIEW OF STUDENT APARTMENTS FROM COURTYARD

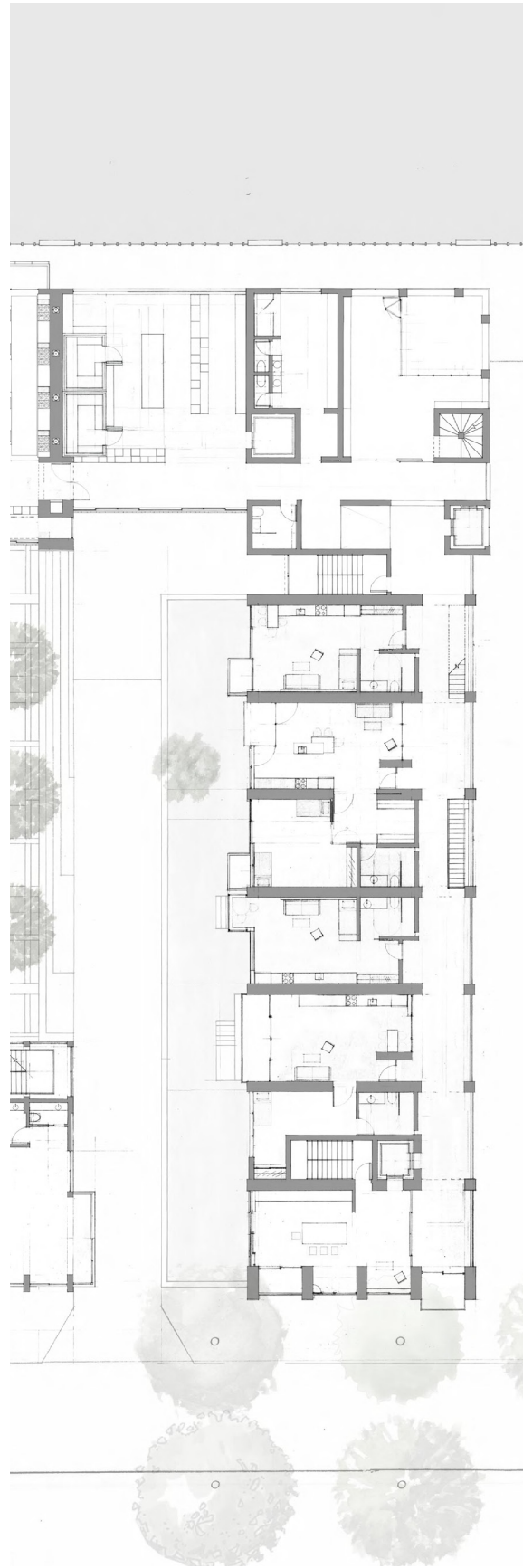




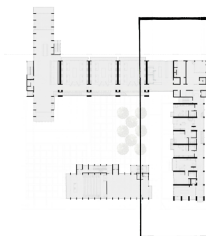
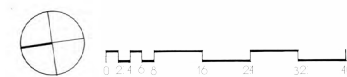
STUDENT HOUSING LEVEL 1 PLAN



STUDENT HOUSING LEVEL 2 PLAN



STUDENT HOUSING LEVEL 3 PLAN



The student housing consists of different types of apartments to create a more personalized sense to each unit. Bay windows, balconies and walled-in gardens connect the apartments to the outside and add to the individuality of the units.



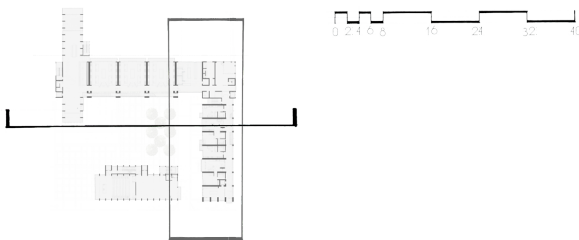
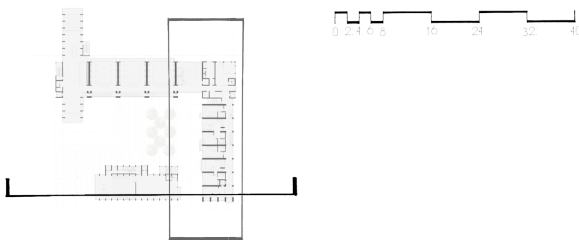
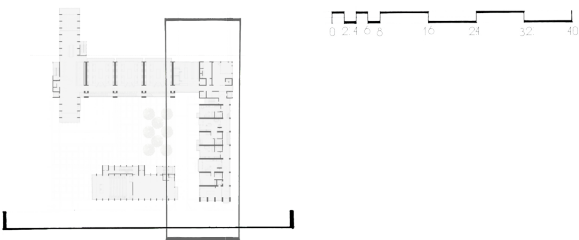
WEST ELEVATION OF STUDENT HOUSING



SECTION THROUGH COMMON ROOMS  
OF STUDENT HOUSING



SECTION THROUGH STUDENT HOUSING



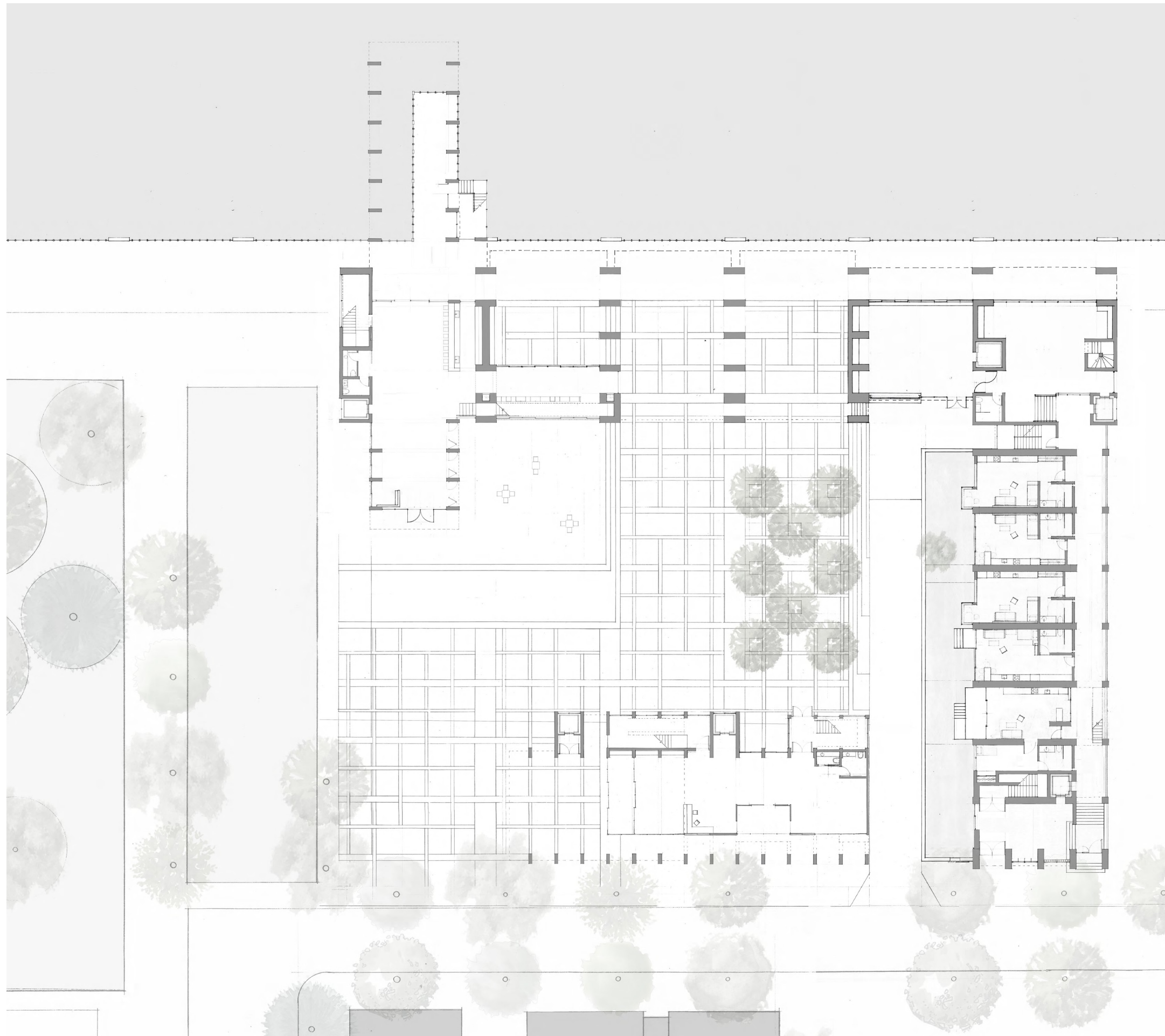
The first floor units are raised 7 feet above the courtyard to protect against the event of a 100-year flood.

The corridor on the south side of the apartments uses the copper screen for shading.



VIEW OF STAIRWAY FOR APARTMENTS  
WITH COPPER SHADING SCREEN





The Four parts of the building program come together to define the courtyard. The northwest corner of the site is left unoccupied and serves as the connection to the public realm.

The walkway along the water gives continuous access to the waterfront as required by the Alexandria Waterfront Plan.

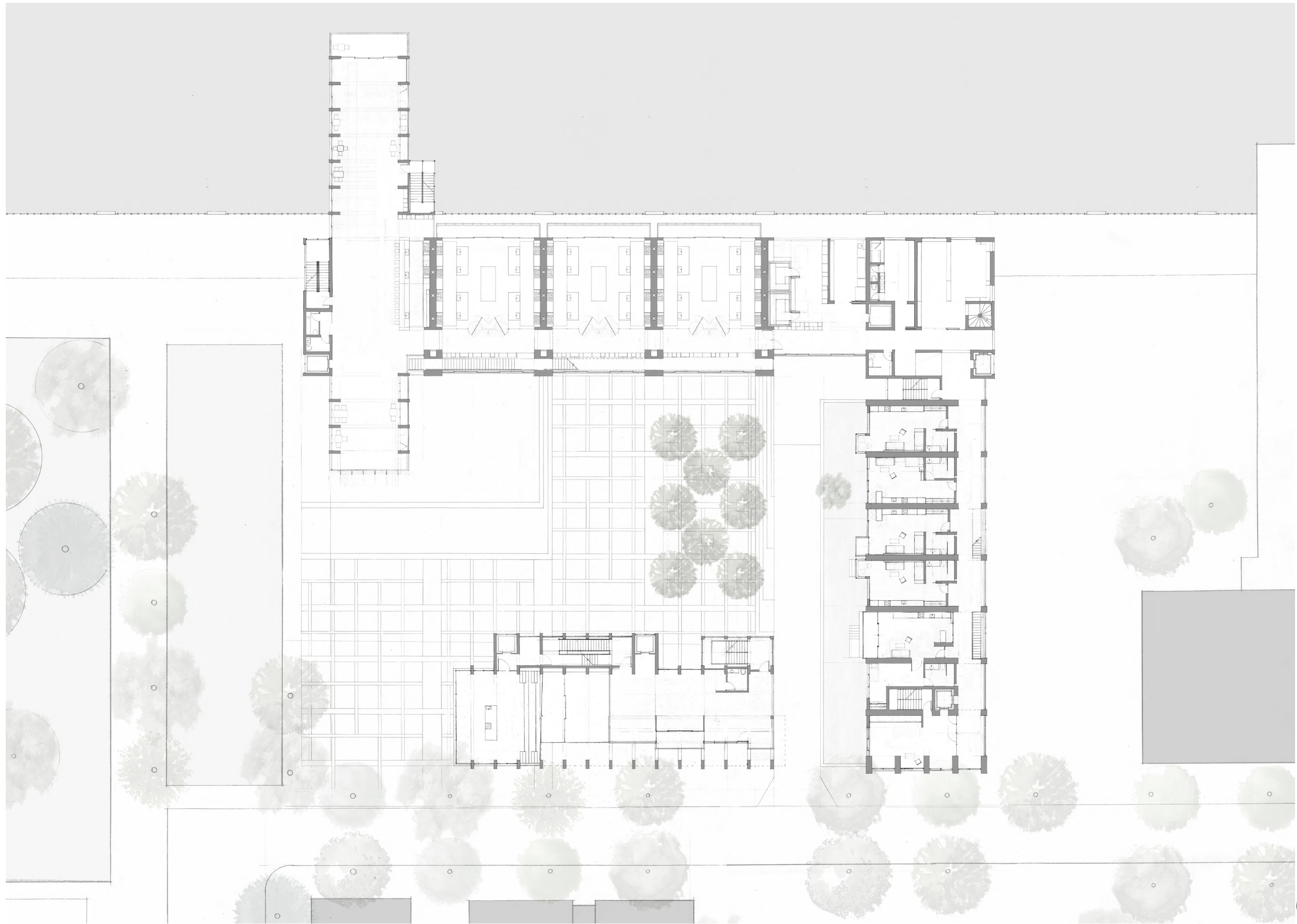
The pattern of the courtyard reflects the structures of the four components of the culinary school.

The wide bands of travertine refer to the walls of the kitchens. Marble bands run north-south. The wider bands represent the walls of the student apartments, while the thinner bands denote the columns of the restaurant. The structure of the cooking theater is represented through bands of gravel, which help with drainage.

The bands that represent the four different structures weave through one another to create the pattern. Dark gray slate becomes the background for the weaving bands.

The courtyard allows for a small orchard of apple trees. The apple trees act as a screen that partially hides the driveway. The trees also provide a layer of privacy for the student residences.

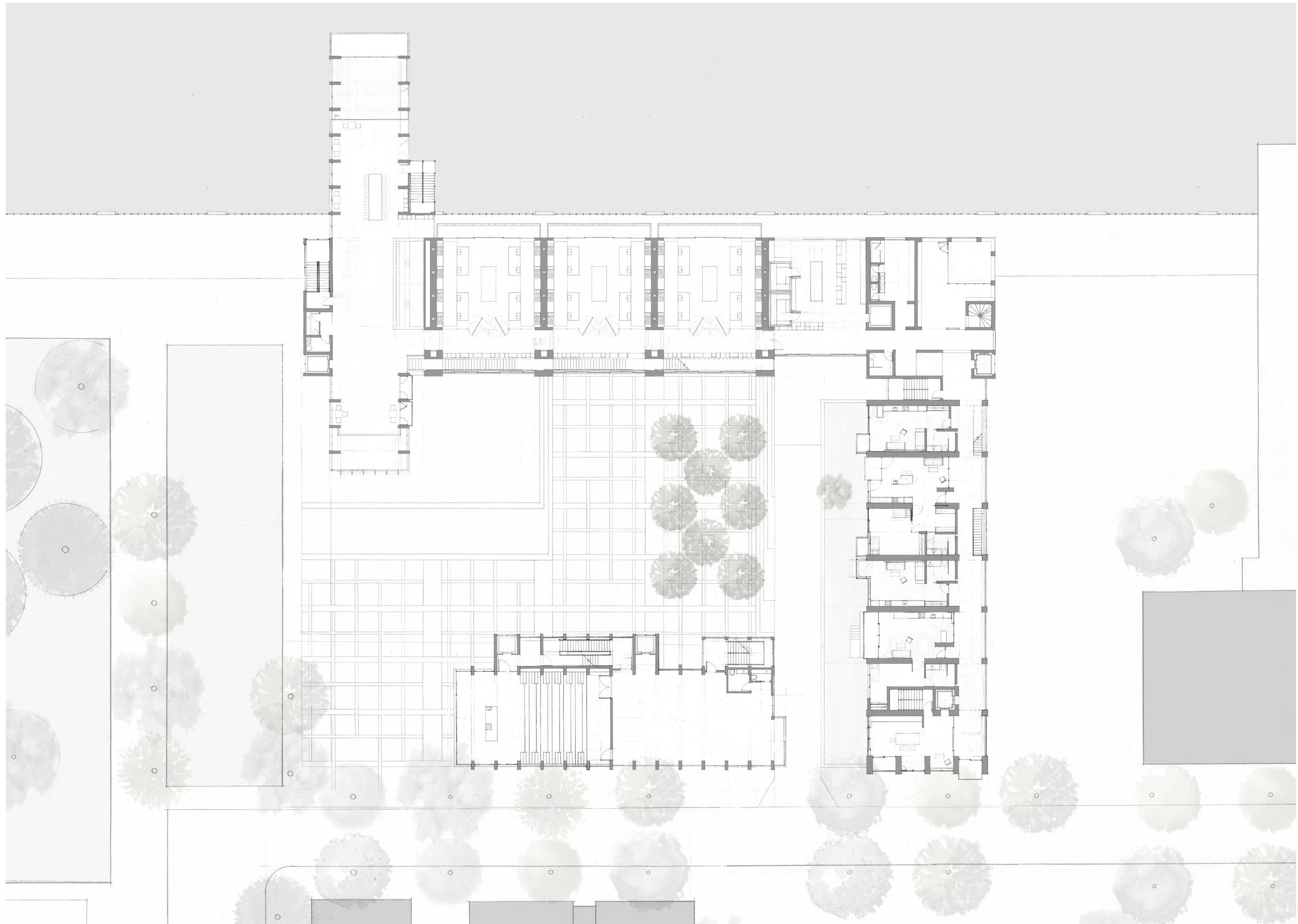
In addition to the apple 'orchard', the culinary school also grows fruits and vegetables on the roof gardens and herbs on the kitchen balconies for the students to use in the dishes they create.



LEVEL 2 PLAN



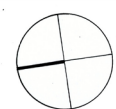
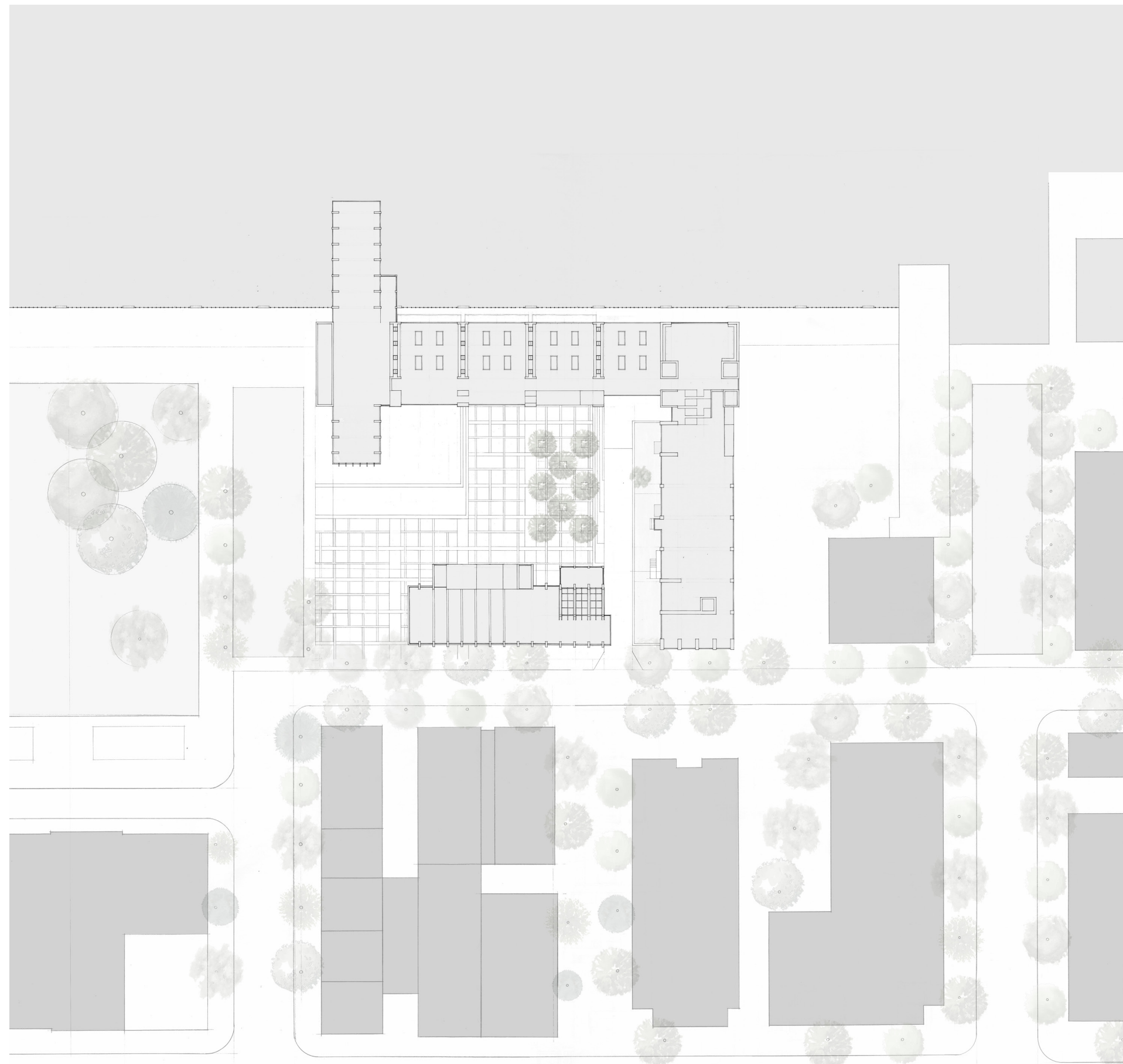




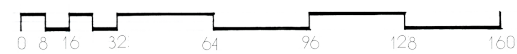
LEVEL 3 PLAN







ROOF PLAN





VIEW OF COPPER SHADING SCREEN

## DESSERT | Conclusion

Altogether the project serves as a public open space for the community, a space to create culinary art and to express the story of the making of the architecture.

The industrial feeling of the kitchens and the restaurant on the water speak to the history of the site, while the public courtyard and access to the waterfront weave it into the future of the city.

Through my thesis project I have studied a way of reflecting the 'spirit' of the building and conveying the process of its making by revealing the structure and staying true to the materials used in the design. The unhidden structure adorns the buildings without additional decorations.

Like the main ingredient in a well-composed dish, concrete becomes the main material of the project, elevated by a few complimentary materials. The supporting materials (brick, wood and copper), relate to Old Town.

In creating the drawings that represent the final design, I have used traditional techniques, such as hand drafting, combined with modern techniques of photoshopping and digital rendering, in a similar way to a chef who would draw on her traditional training and combine it with modern gastronomy techniques.



IMAGE CREDITS

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Alexandria Waterfront Small Area Plan:

“Waterfront Small Area Plan.” Digital image. *City of Alexandria, VA*. City of Alexandria Department of Planning and Zoning, 25 Feb. 2012. Web. Sept. 2014.

Image of Beachcombers Restaurant c.1947:

*John C. Richards Collection, Alexandria Library – Local History/Special Collections*

taken from:

Riker, Diane. *0 Prince Street: A Timeline*. 2008. TS. City of Alexandria, Alexandria. Title page

All other drawings and images are produced by the author.

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