

PORT

FO

LMO

**ARCHITECTURE PORTFOLIO**

Ruoning Zhang  
University of Toronto

2021

# TABLE OF CONTENTS

## ABOUT ME

<b>Education</b>	
2015.9-2018.8	<b>University of Toronto</b> [MA] Arch Studies (Design) [Minor] Economics [Minor] Mathematics
<b>Experience</b>	
2019.5-Now	Graphic Designer
2018.8-2019.5	Freelance Graphic Designer
2018.10	Photographer
2018.8-10	Intern Architect
<b>Competition</b>	
2019.01	Logo Design
2018.5	Digital Hologram Design
2018.3	Land Topography Design

**02** Academic: ARC361  
Architecture Studio III

**12** Academic: ARC201  
Design Studio II: How to design almost nothing

**20** Personal: The Spiral Museum  
Personal Project

**28** Academic: ARC200  
Drawing and Representation II

**34** Professional: Canal One  
Canal One Project, TongZhou  
CAG - China Architecture Design & Research Group

ARC361

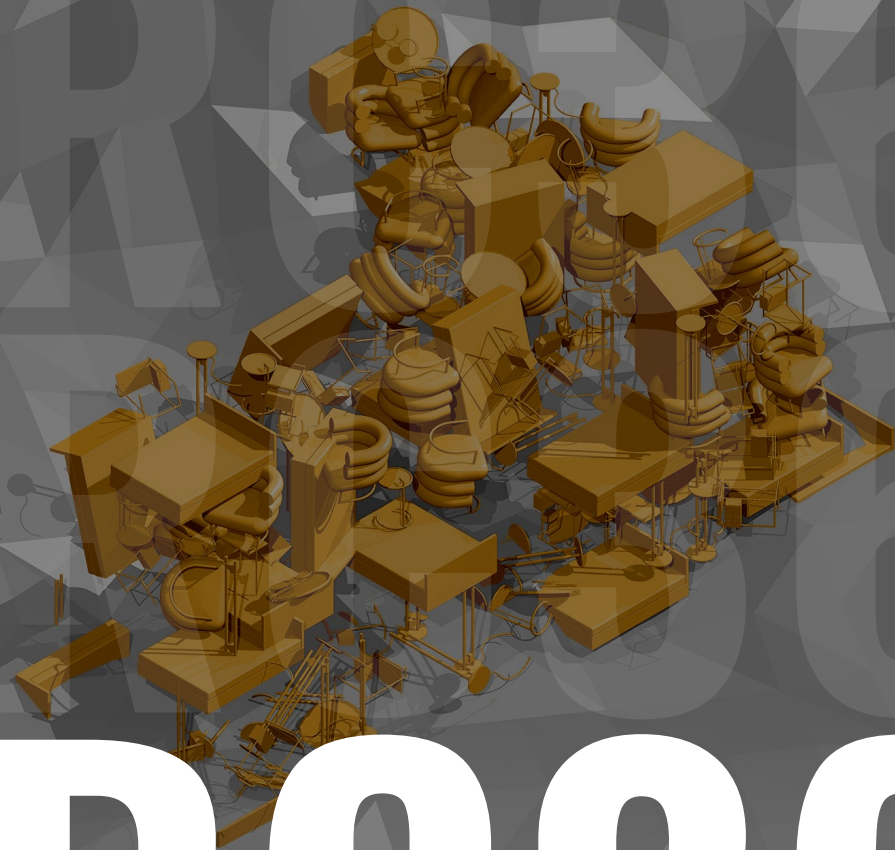
ARC201

MUSEUM

ARC200

CANAL 1

# ARC361

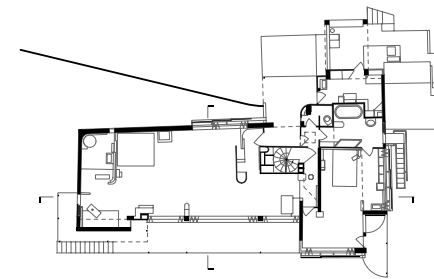
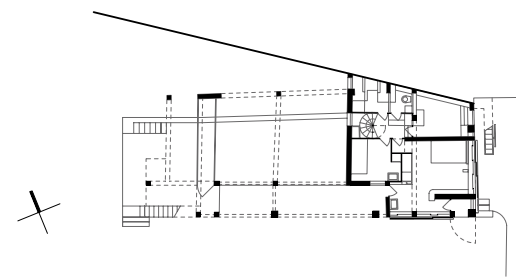
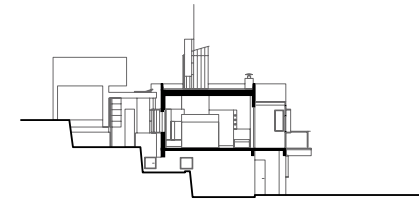
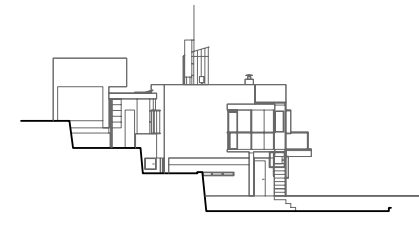
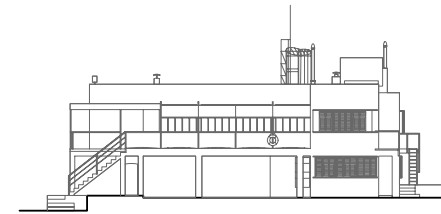


Year: 2017 Location: Toronto Type: Academic

## ARCHITECTURE STUDIO III

### House Precedent: E1027

Perching above the shore of Roquebrune-Cap-Martin and overlooking the Mediterranean, E. 1027, Eileen Gray's villa is built between 1926 and 1929 in collaboration with her lover Jean Badovici. Gray wanted to build a house that interact with the natural elements around her and build a structure with a constant evolution, following its relation to the sun, wind and sea.



ARC361

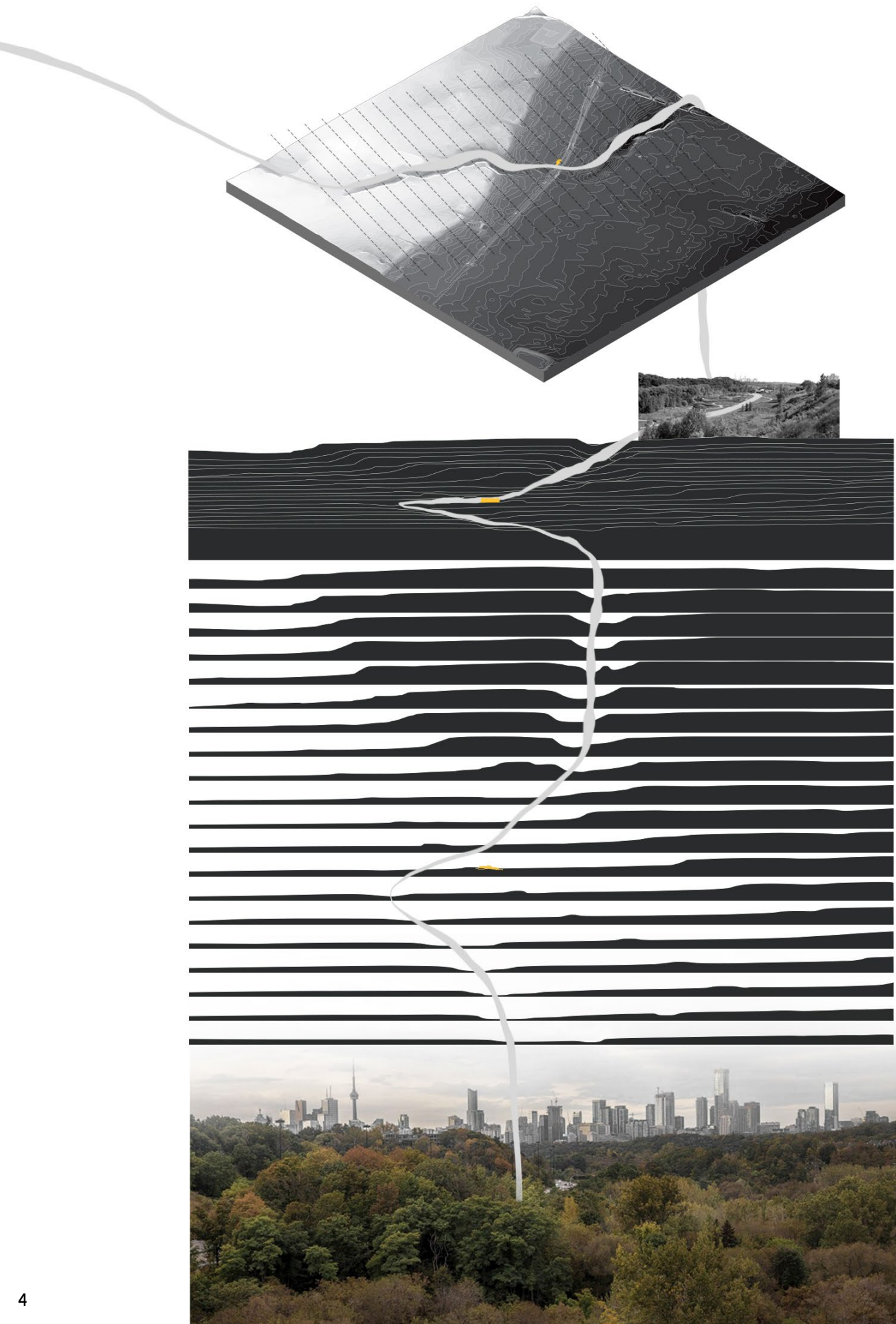
ARC201

MUSEU

ARC200

CANAL 1





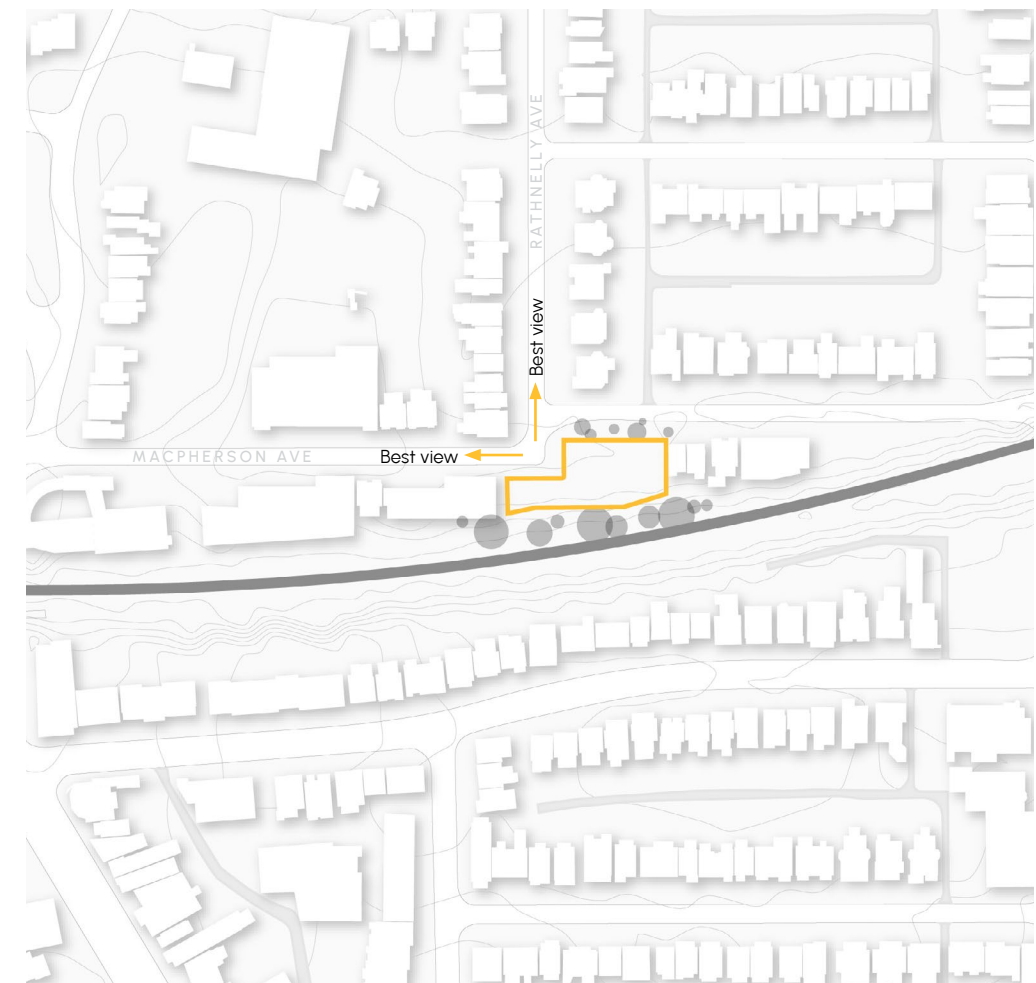
### SITE ANALYSIS (Left)

The site is located on a low-lying area adjacent the Rosedale Valley, which is prone to flooding. The site analysis on the left is represented by combining multiple site sections. The land altitude is reflected by the darkness on the isometric map and the flood risk is reflected by the width of the grey stream.

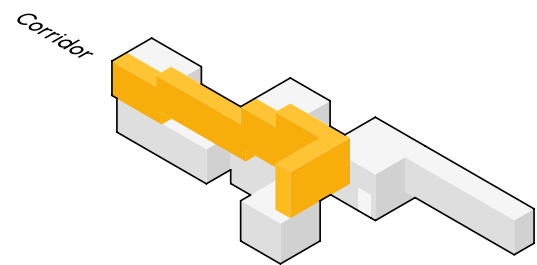
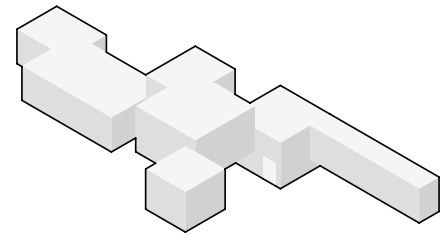
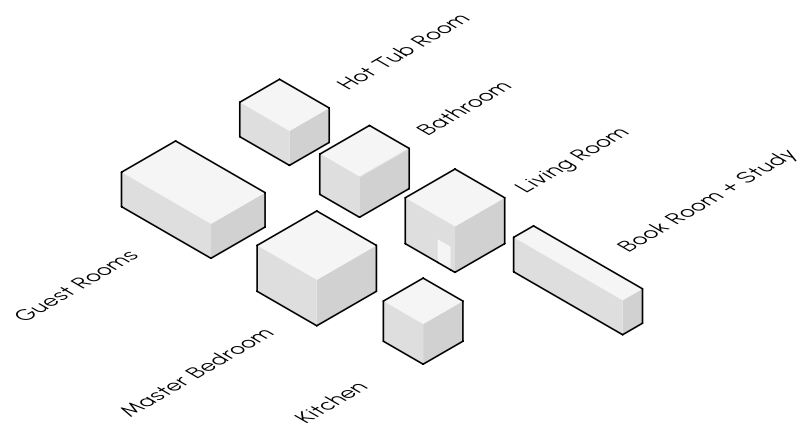
### SITE PLAN

Location: 251 Macpherson Ave, Toronto

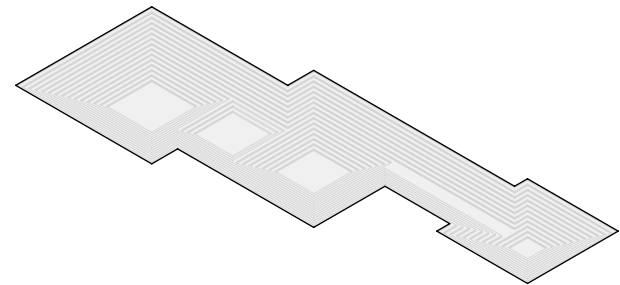
The unique location of this site of being on the end of both Rathnelly Ave and Macpherson Ave gives it two great views, which can be incorporated into the project by implementing two viewing devices facing these streets



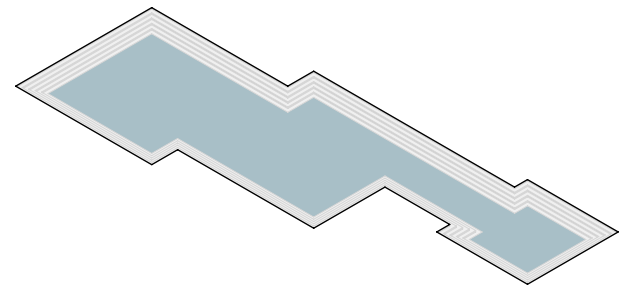




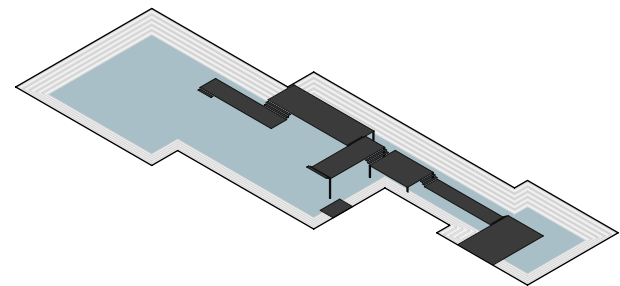
**PROGRAMS**



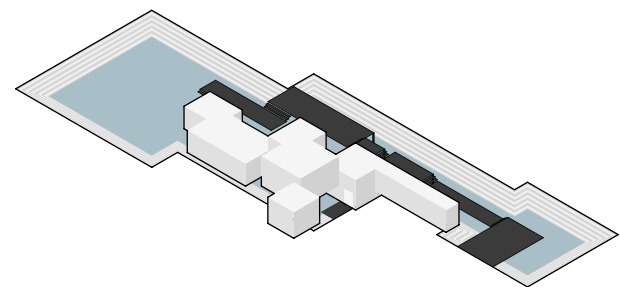
Pond



Pond + water



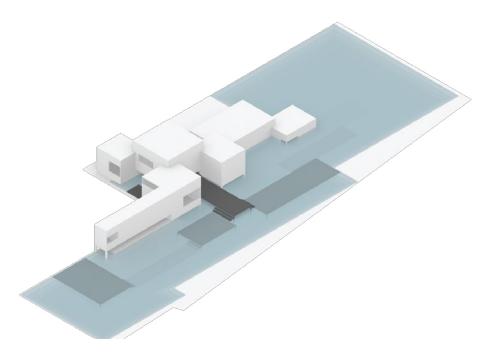
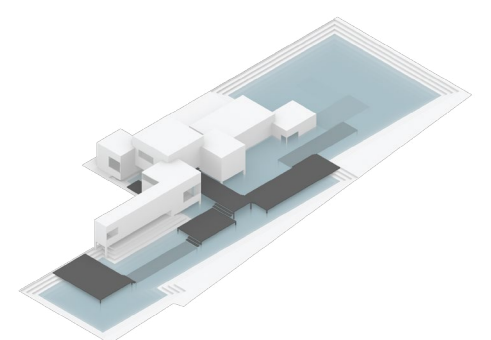
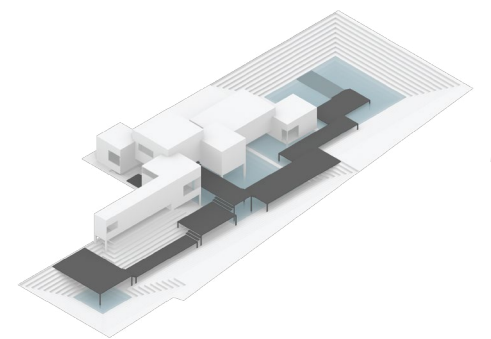
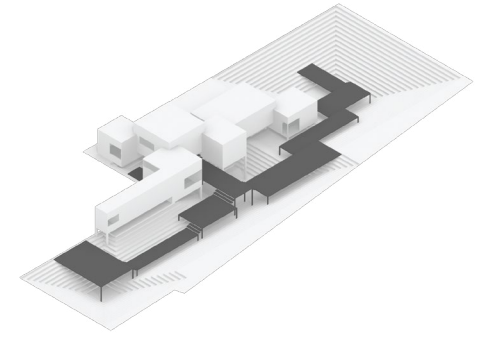
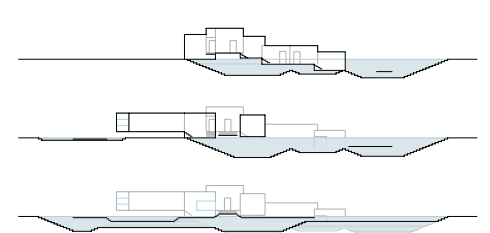
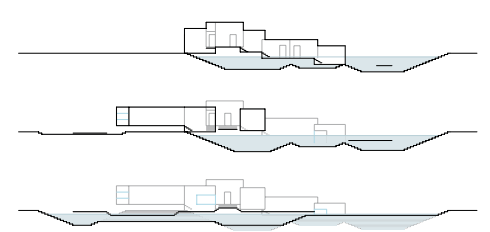
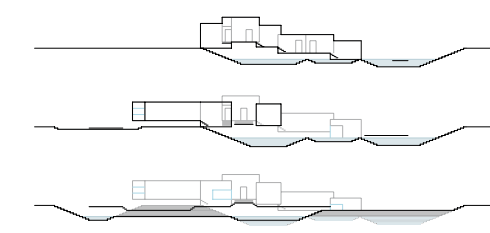
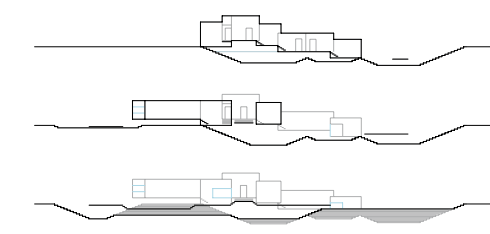
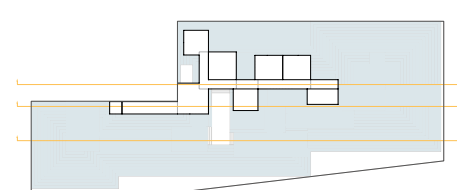
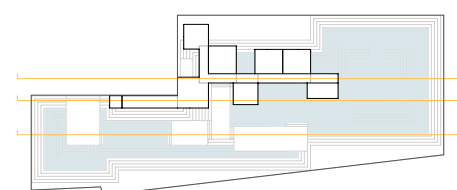
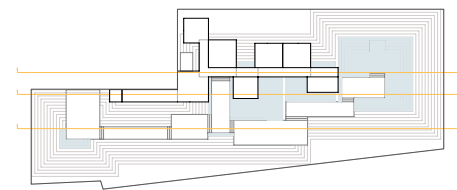
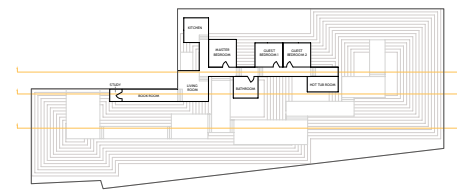
Pond + water + path



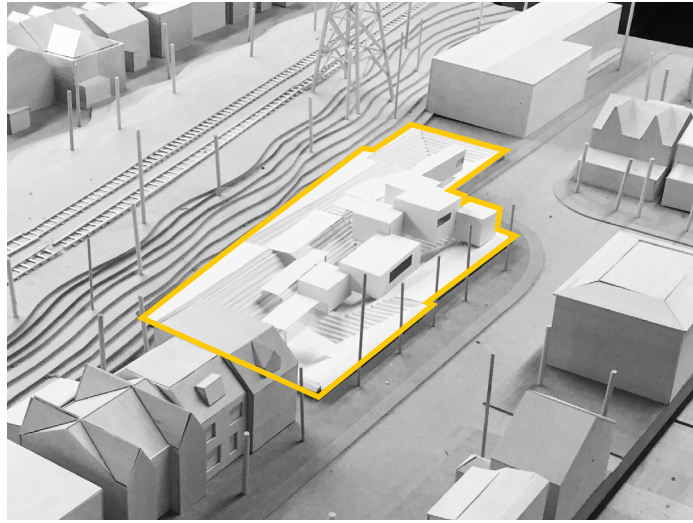
Pond + water + path + building

**Water-Recycling System — Plans and Sections**

The site can be transformed into a natural rainwater and floodwater collector to support 30-50% of the household water use.



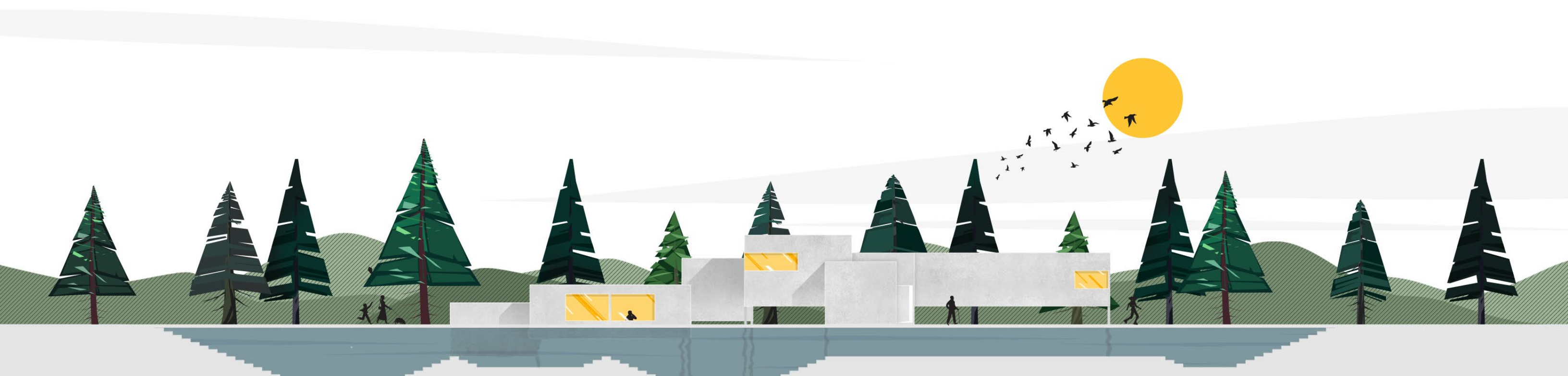
ARC361



Physical model (site model built by the class)



Physical model - Top view (site model built by the class)





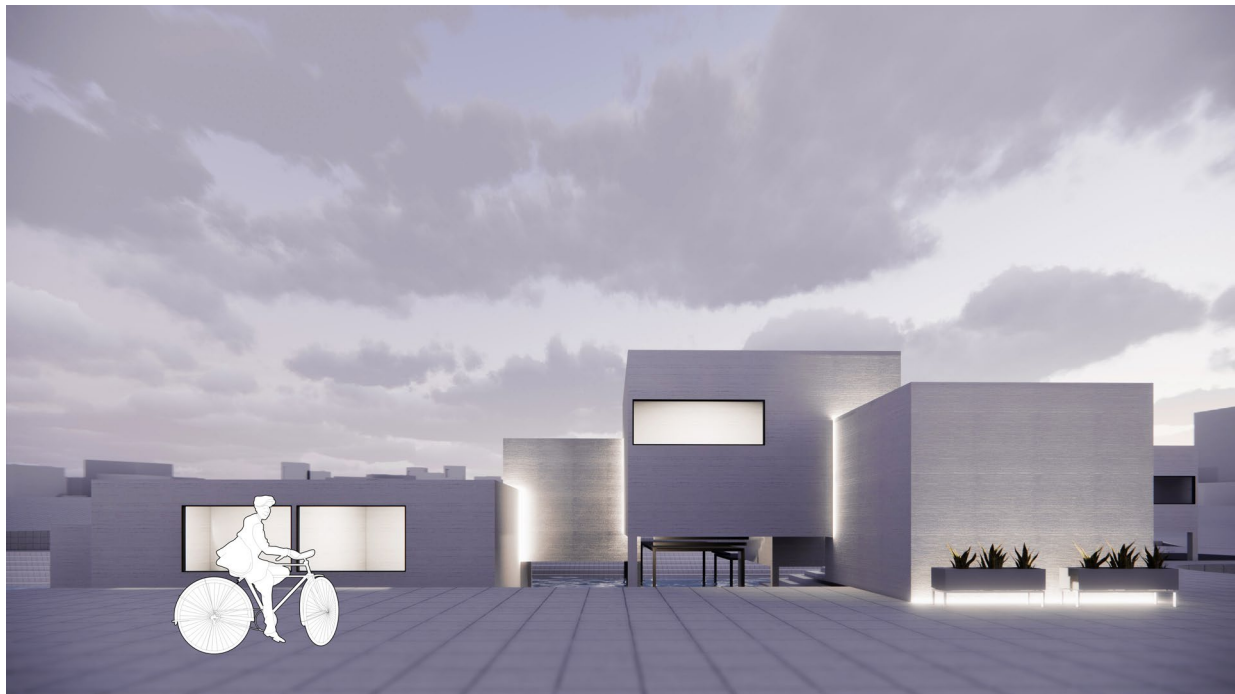


Rendering of the entrance



Rendering of the east side

ARC361



Rendering of the north side



Rendering of the back





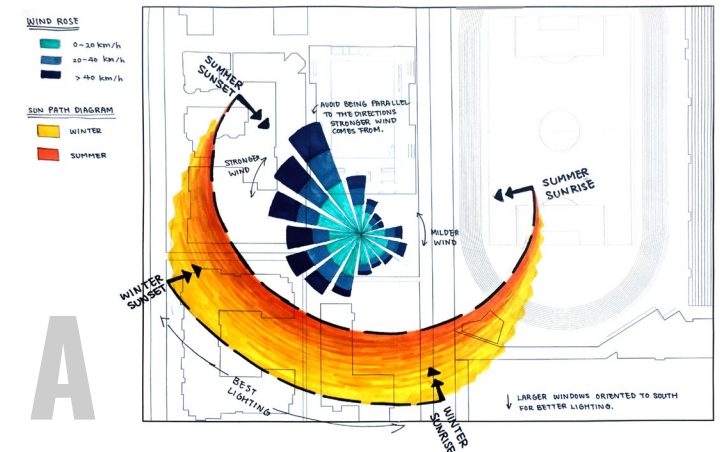
# ARCHITECTURE STUDIO II: How to design almost nothing

## BRIEF REQUIREMENT

The University has decided to address the shortage of available enclosed study spaces in Robarts Library by building a small satellite building behind the Goldring Centre with unique study spaces that can be reserved in advance by anyone in the undergraduate community. Design a series of 7 (or more) study spaces that are distributed in plan and section and linked by stairs and/or ramps on the former site of the Trinity College Tennis Courts. The proposals should not destroy or undermine the current use or qualities of these existing buildings.

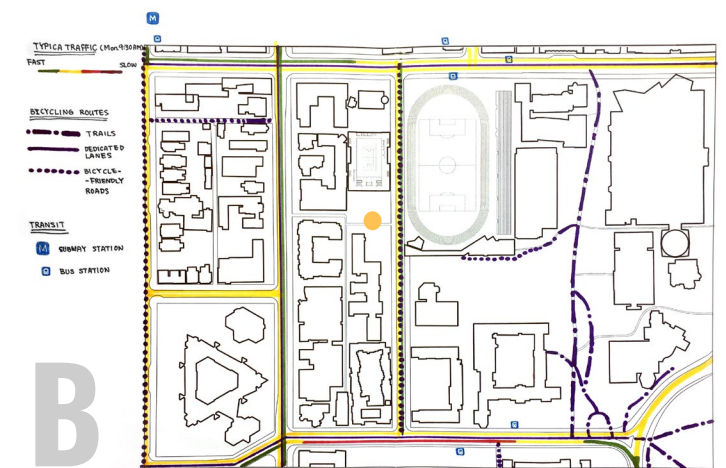
### Diagram A

The sun path and wind analysis helps determine the placement and orientation of the building entrances and windows.



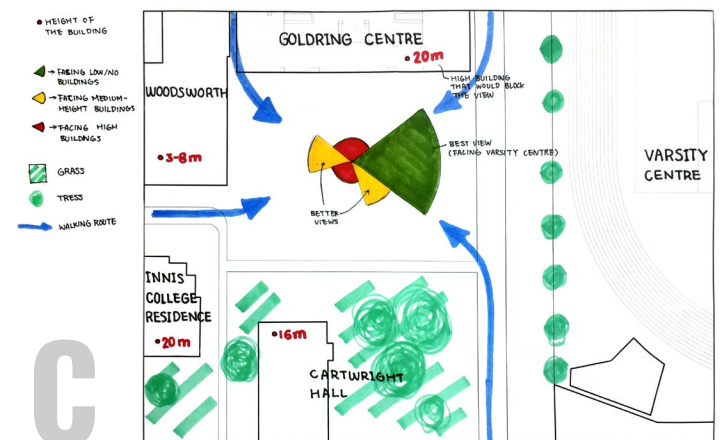
### Diagram B

This traffic diagrams and the student walking route from Diagram C help further determine where the entrances position should be to optimize mobility and accessibility.



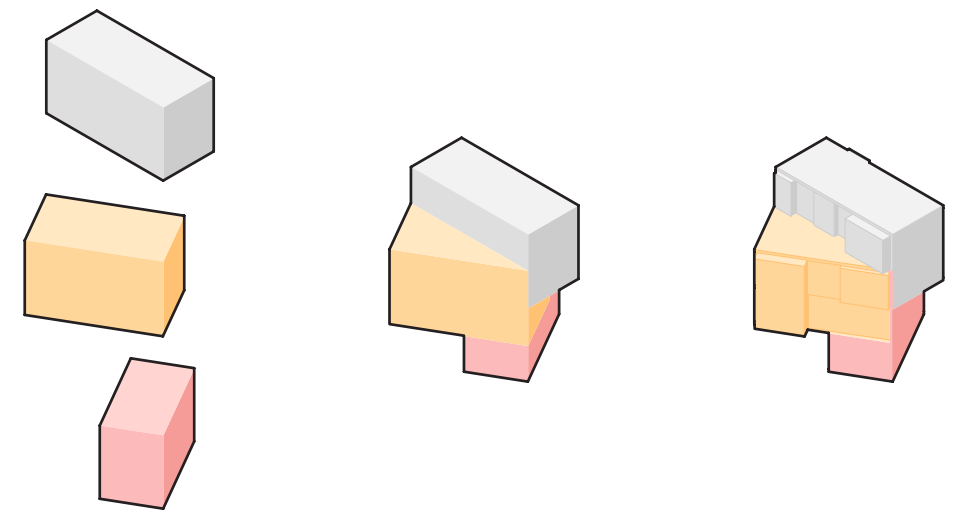
### Diagram C

The heights and volume of the surrounding buildings limit the visual potential of certain viewing directions, however the vista of the varsity centre can be utilized through installing large windows

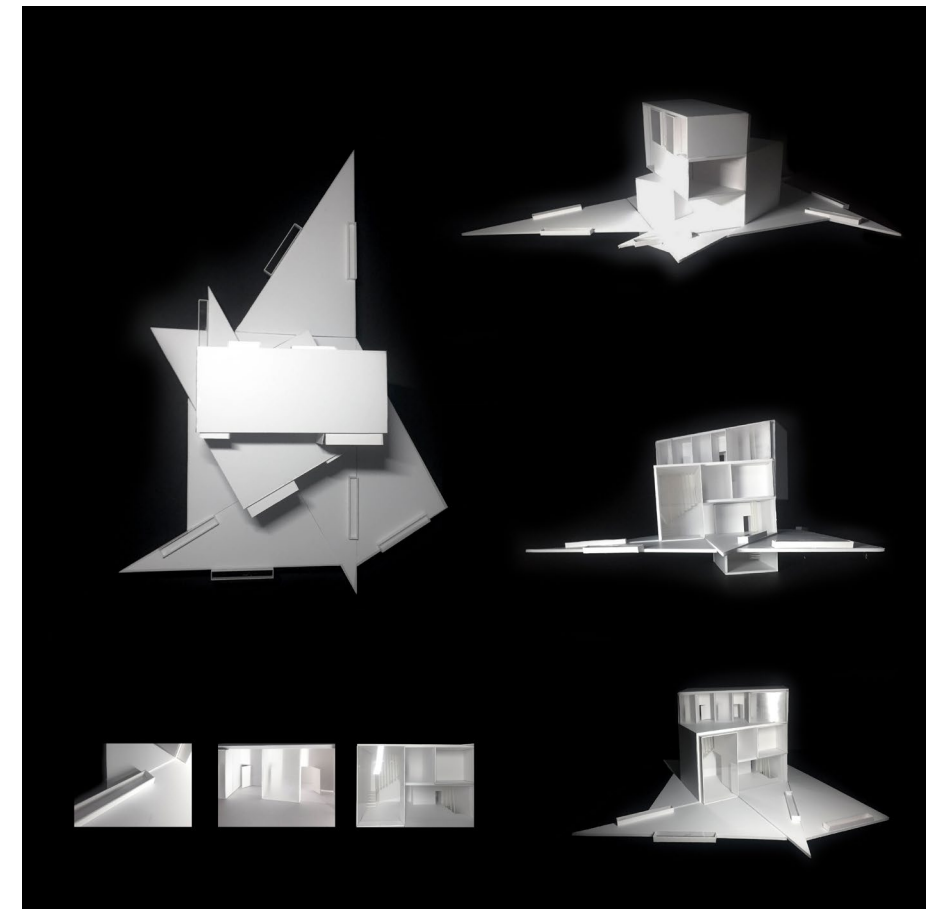


ARC361  
ARC201  
MUSE  
ARC200  
CANAL 1





DESIGN LOGIC



PHYSICAL MODEL

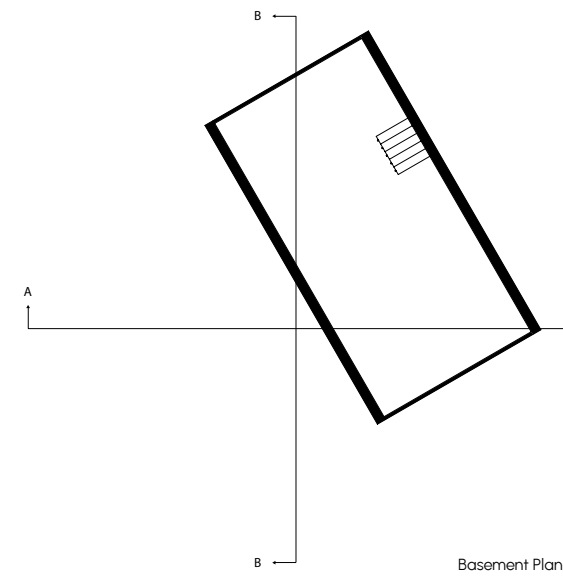




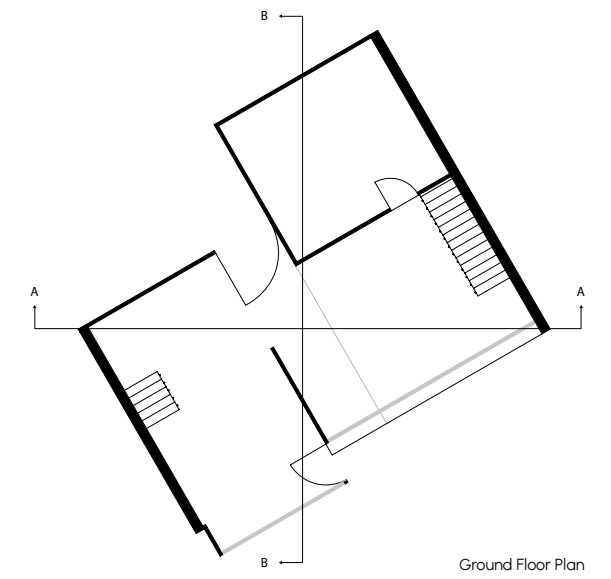
Top view rendering



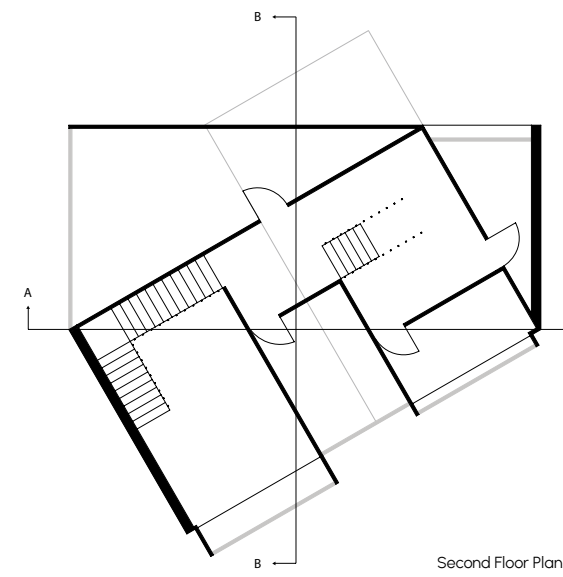
Elevation rendering



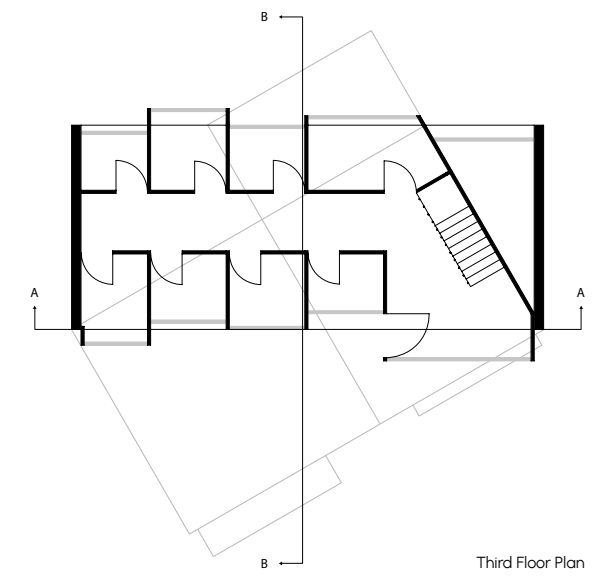
Basement Plan



Ground Floor Plan

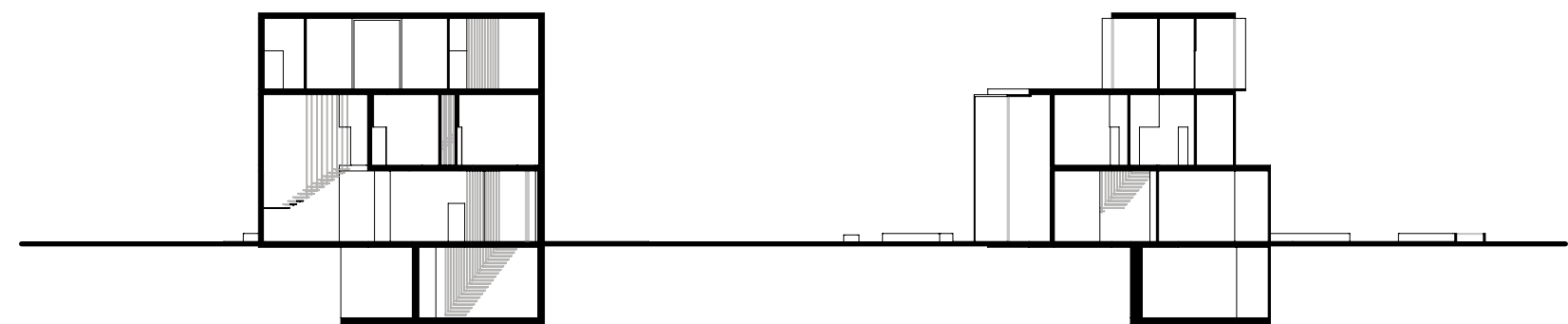


Second Floor Plan



Third Floor Plan

ARC201



Section A

Section B





Rendering of the back entrance



Rendering of the main entrance at night



Rendering of the ground floor study area

ARC201



Rendering of the aerial view



Rendering of the balcony



Rendering of the second floor study area



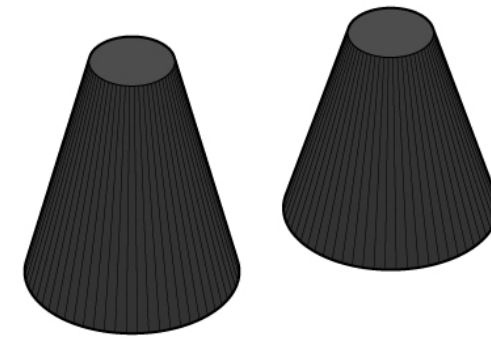


Year: 2020 Location: Toronto Type: Personal

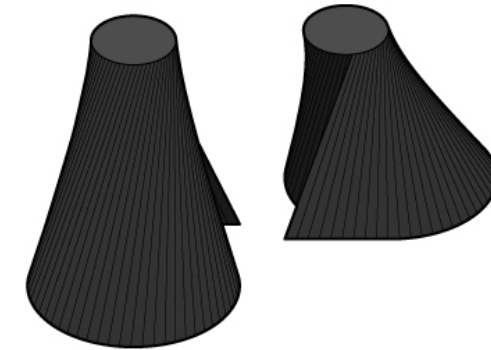
## THE SPIRAL MUSEUM

This small-scale museum offers exhibition space with a clear continuous circulation path throughout the structure. The pathway integrates with the exterior organic-shape ramp and the skyway bridge, which at the same time act as major viewing devices.

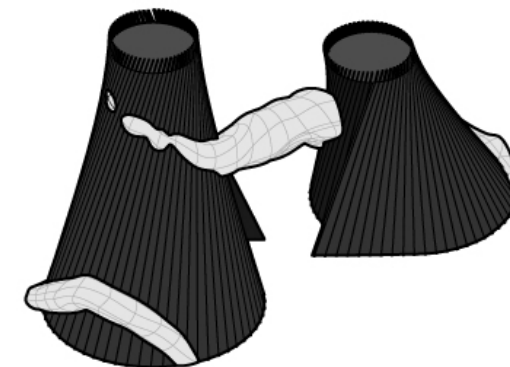
Conical Frustum



Twist & Shift



Sprawl



DESIGN LOGIC

ARC361

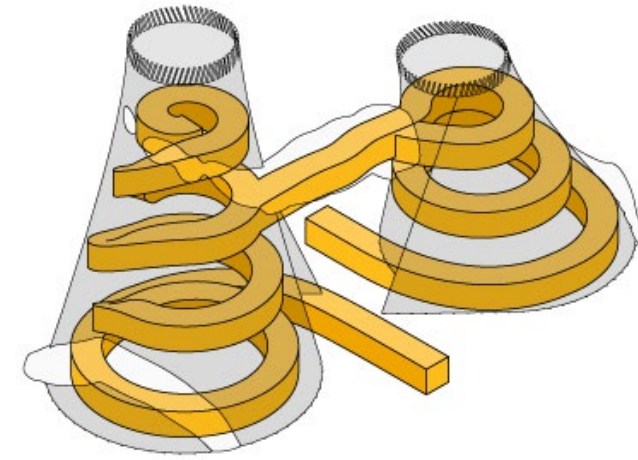
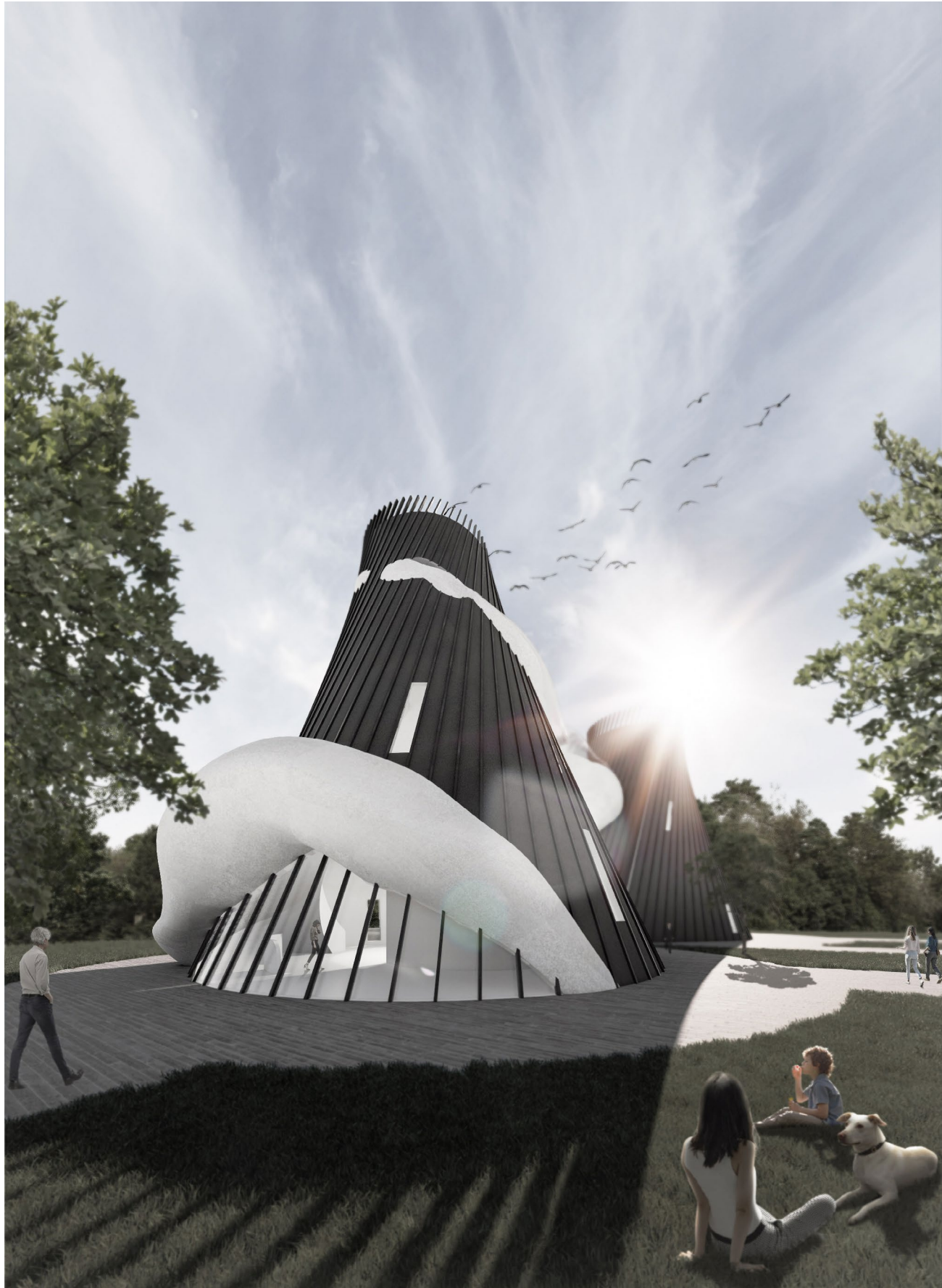
ARC201

MUSEUM

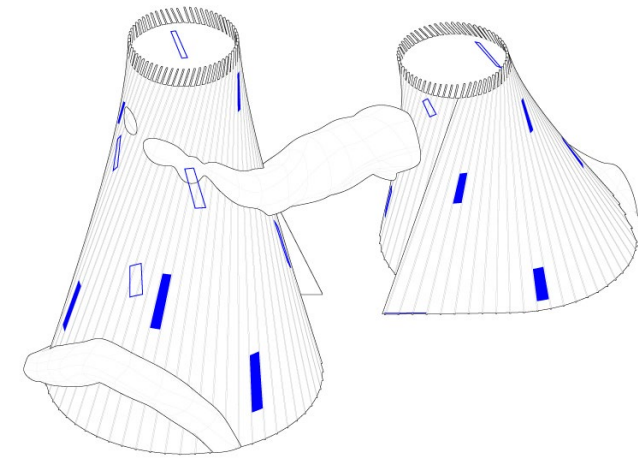
ARC200

CANAL 1



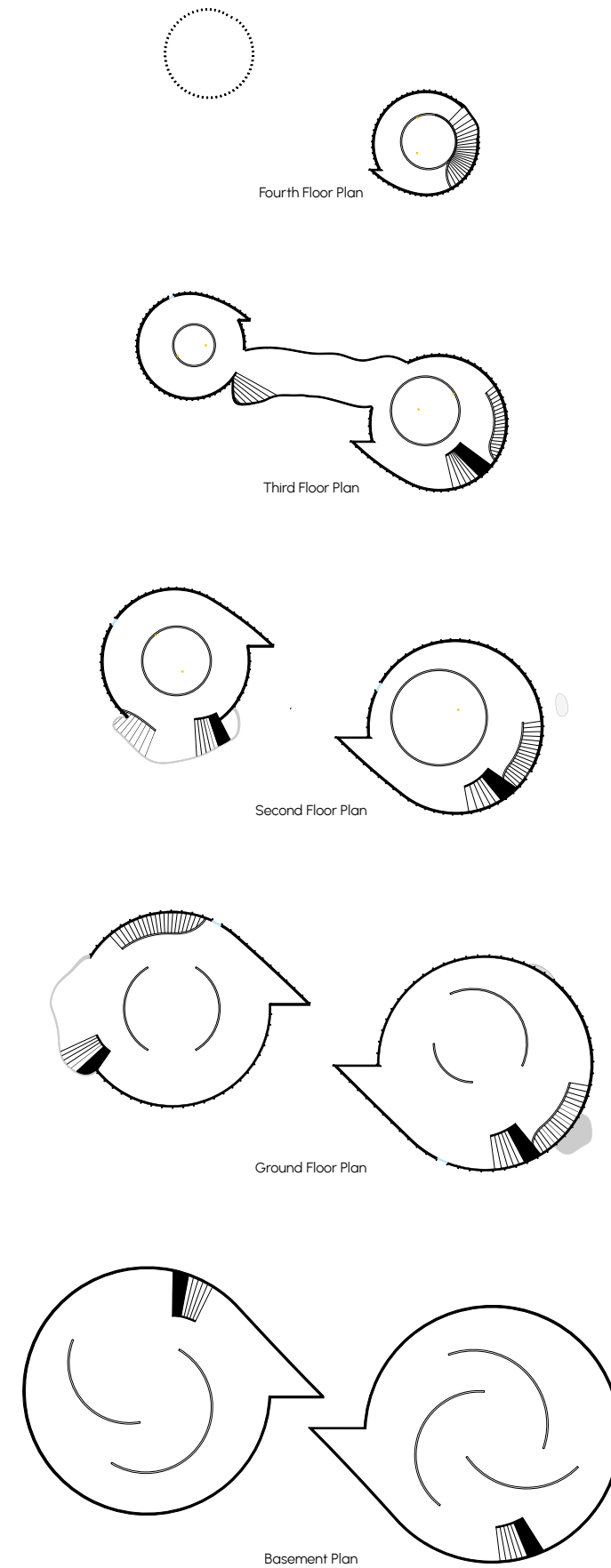
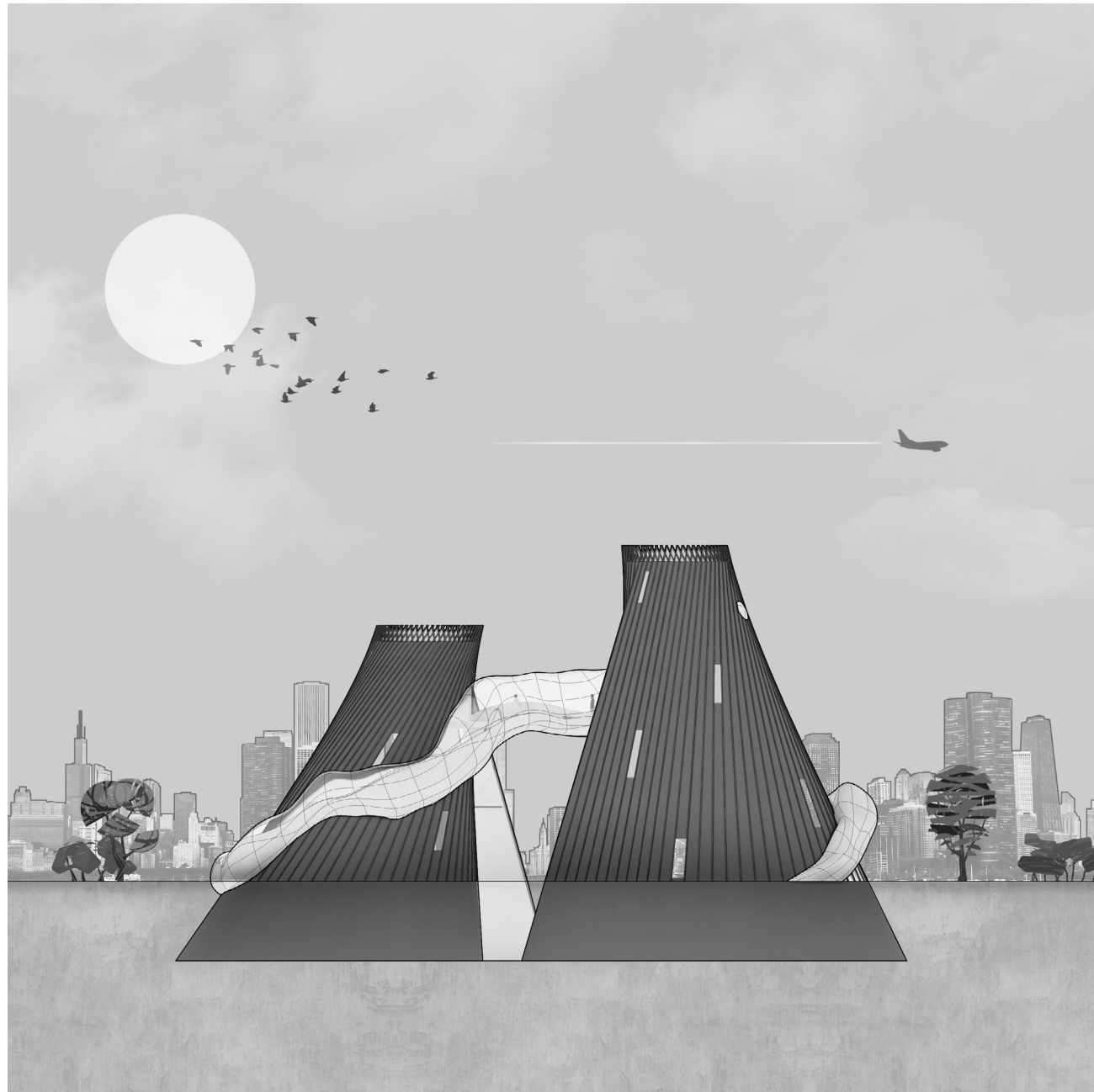


CIRCULATION



VISTA



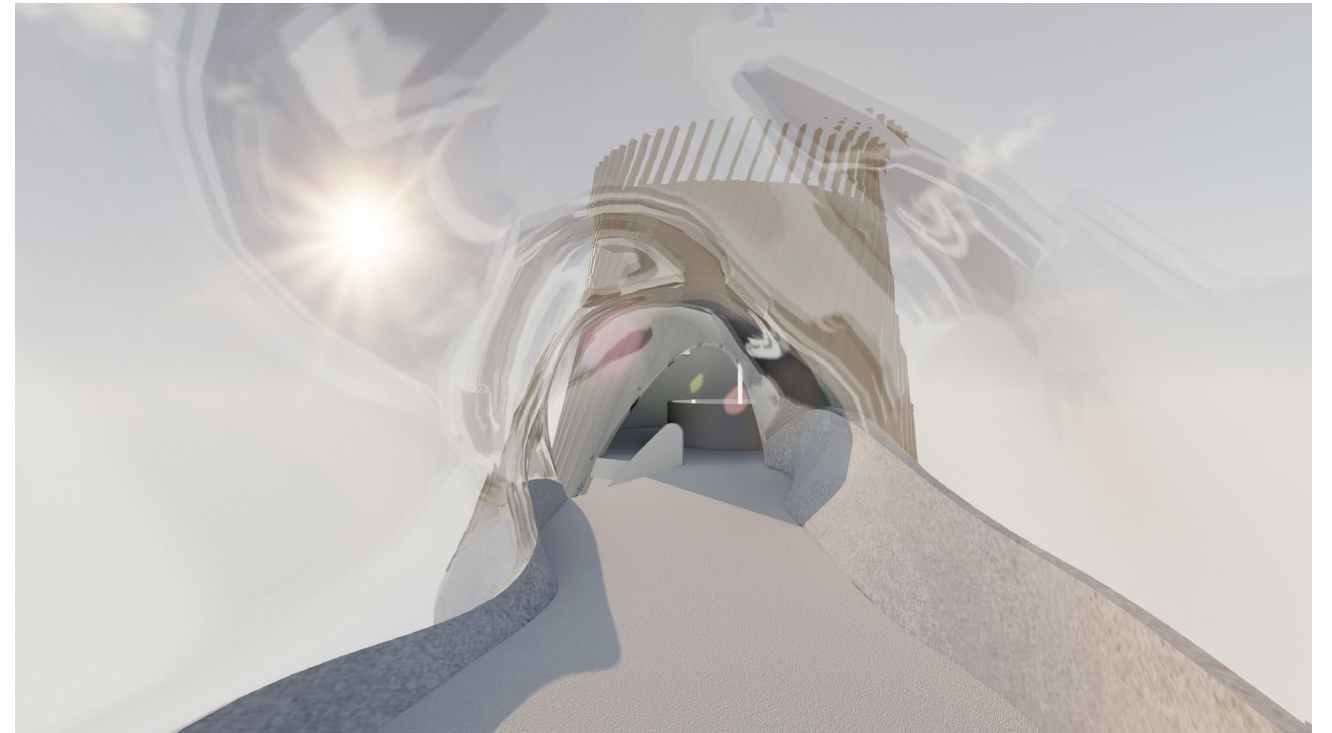


MUSEUM

1:500



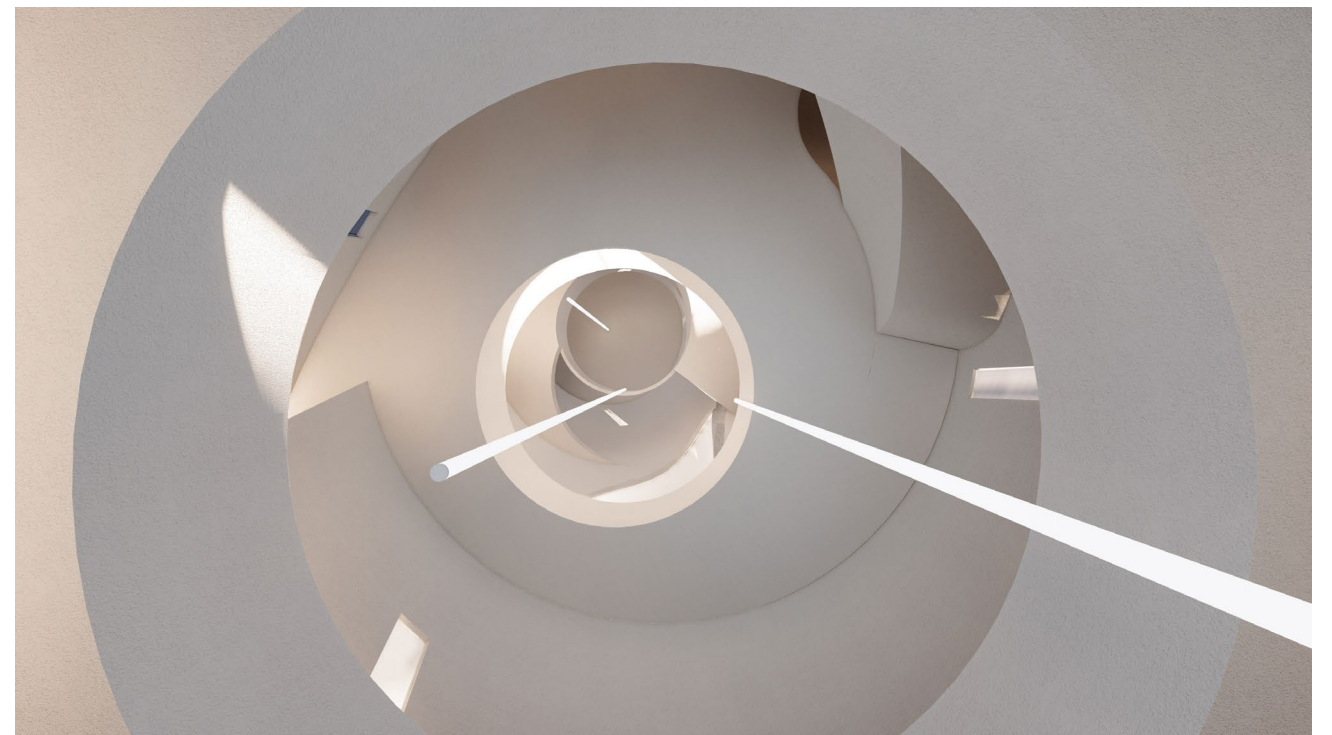
Rendering of the north side



Rendering of the skyway bridge



Rendering of the south side



Rendering of the center

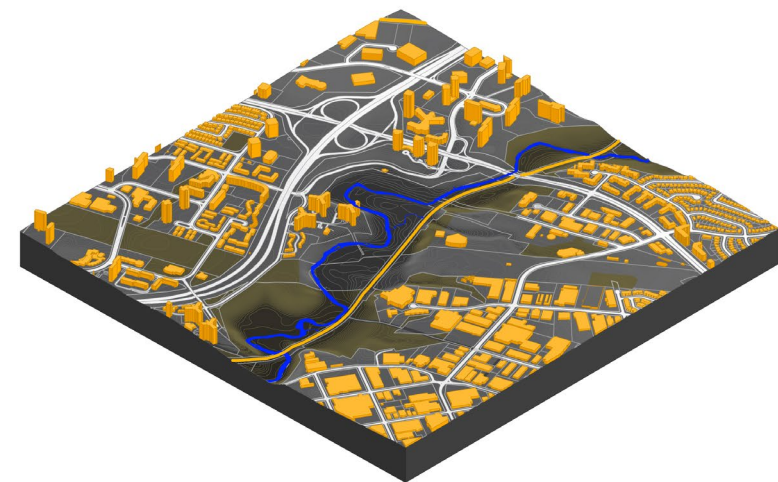
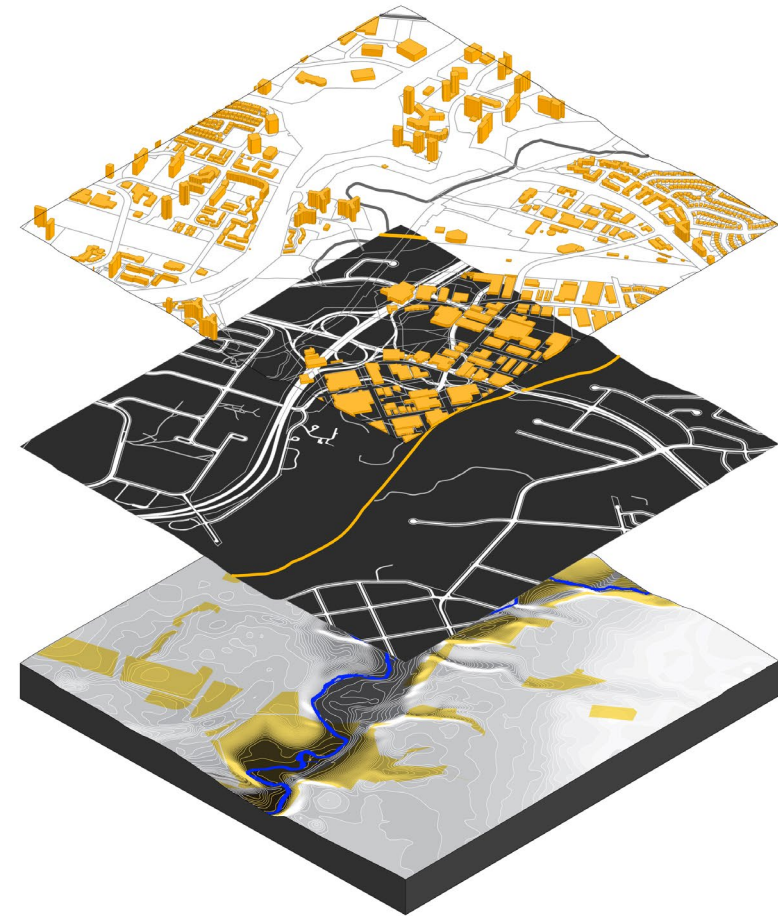


# ARC2000

Year: 2017 Location: Toronto Type: Academic

## DRAWING AND REPRESENTATION II

This course explores the methods of architectural representation with the focus on the capacities of drawings beyond the scale of the individual building – paying special attention to their production and application at the urban scale.



ARC361

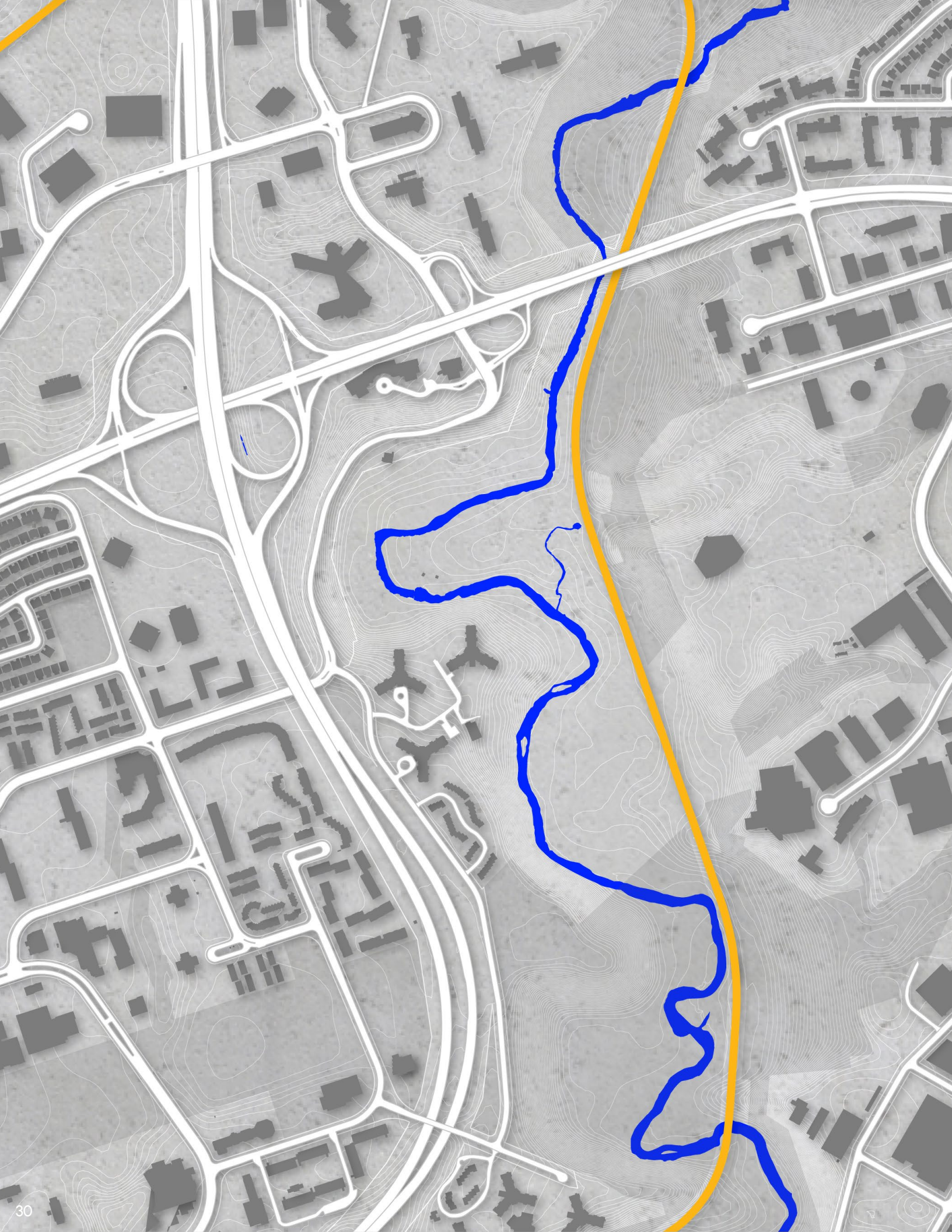
ARC201

MUSEU

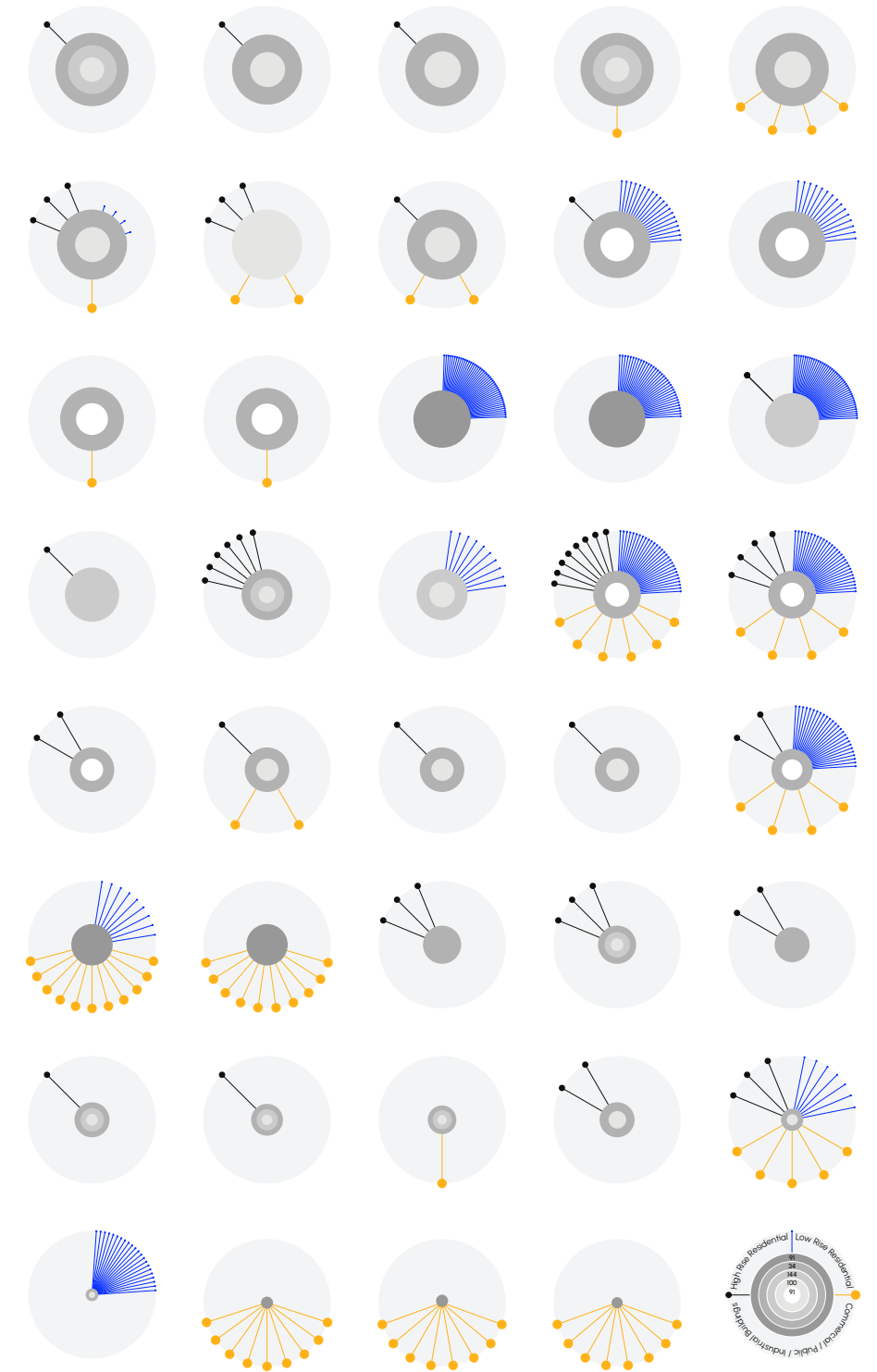
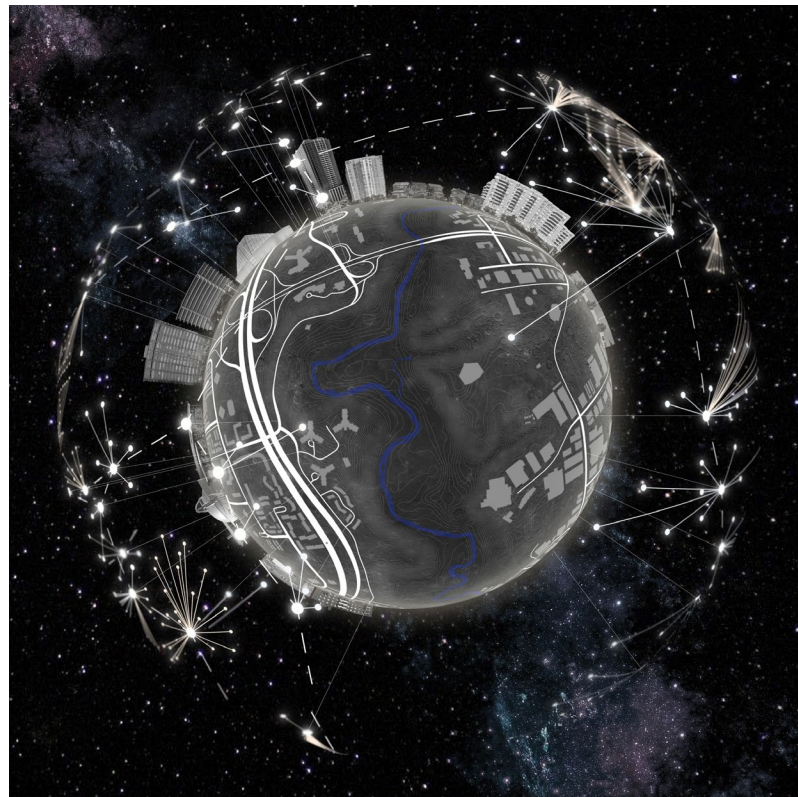
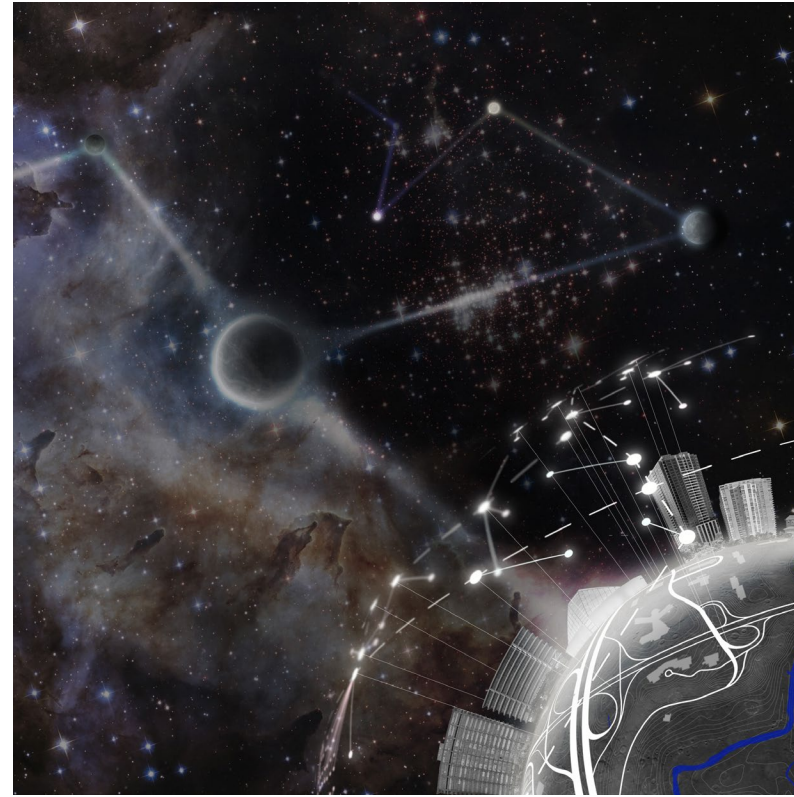
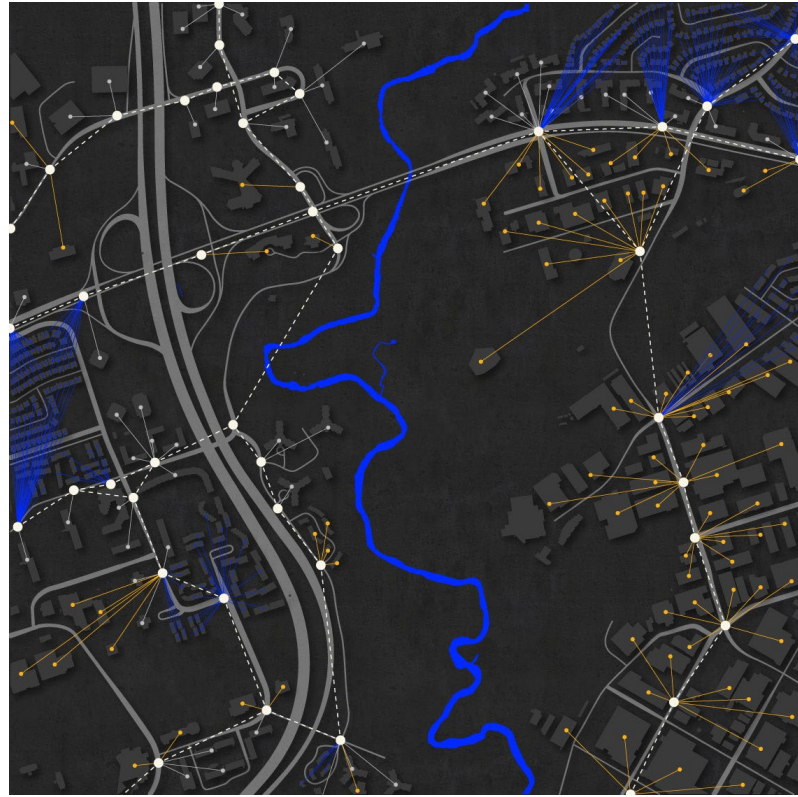
ARC200

CANAL 1









The diagram demonstrates the relationship between the compatibility of each public transit station and its surrounding buildings (high-rise, low-rise, and commercial)



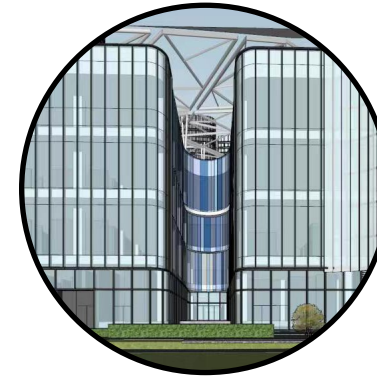
# CANAL 1

Year: 2018 Location: Beijing Type: Professional

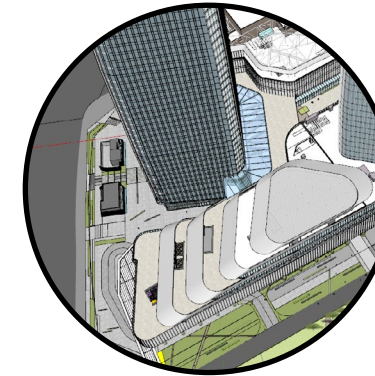
## CANAL ONE - CAG

TongZhou Canal One project is located in one of the most promising district of Beijing. Relying on its superior development prospects and the advantage of its geographical location, Canal One contributes high-end commercial buildings, offices, residential buildings and community facilities as an urban complex, and aim to become a new local landmark in the Tongzhou District.

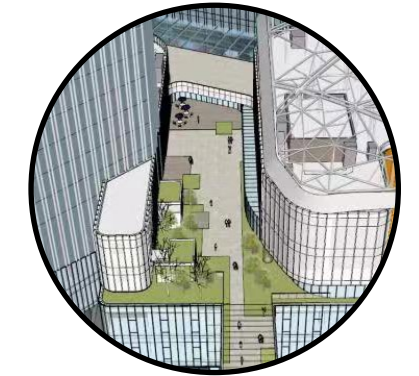
### My part:



**Part 1:**  
Southeast entrance U-shape glass façade tiles modeling and revision.



**Part 2:**  
Building #12 entrance eave modification and shopping center #5 floor plan columns revision.

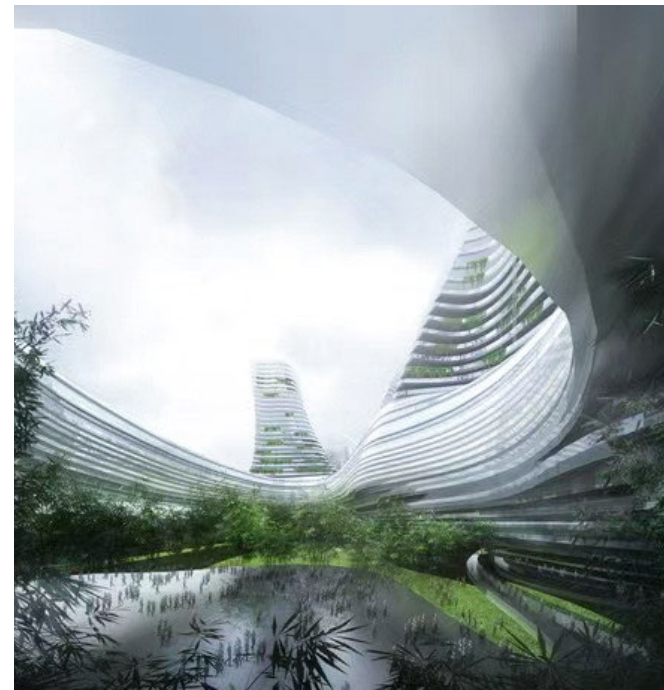
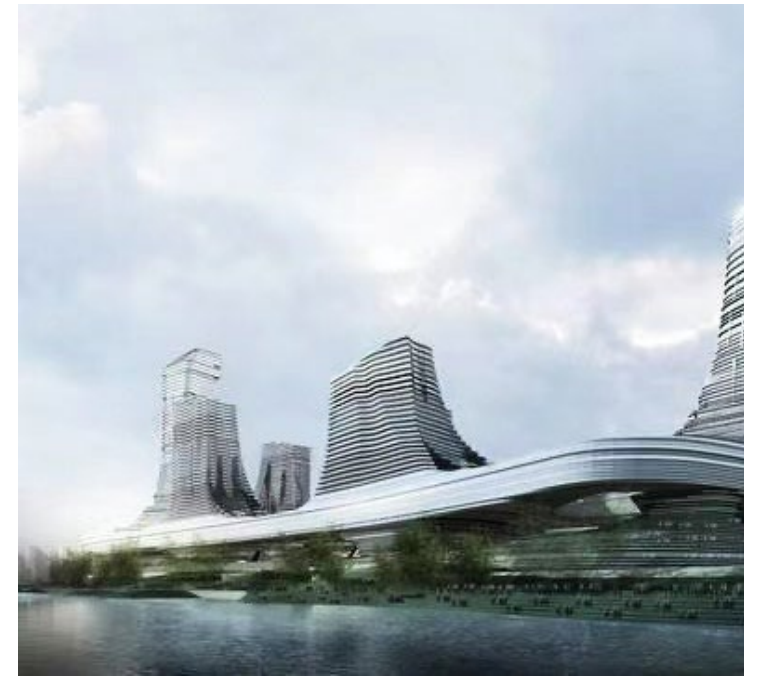
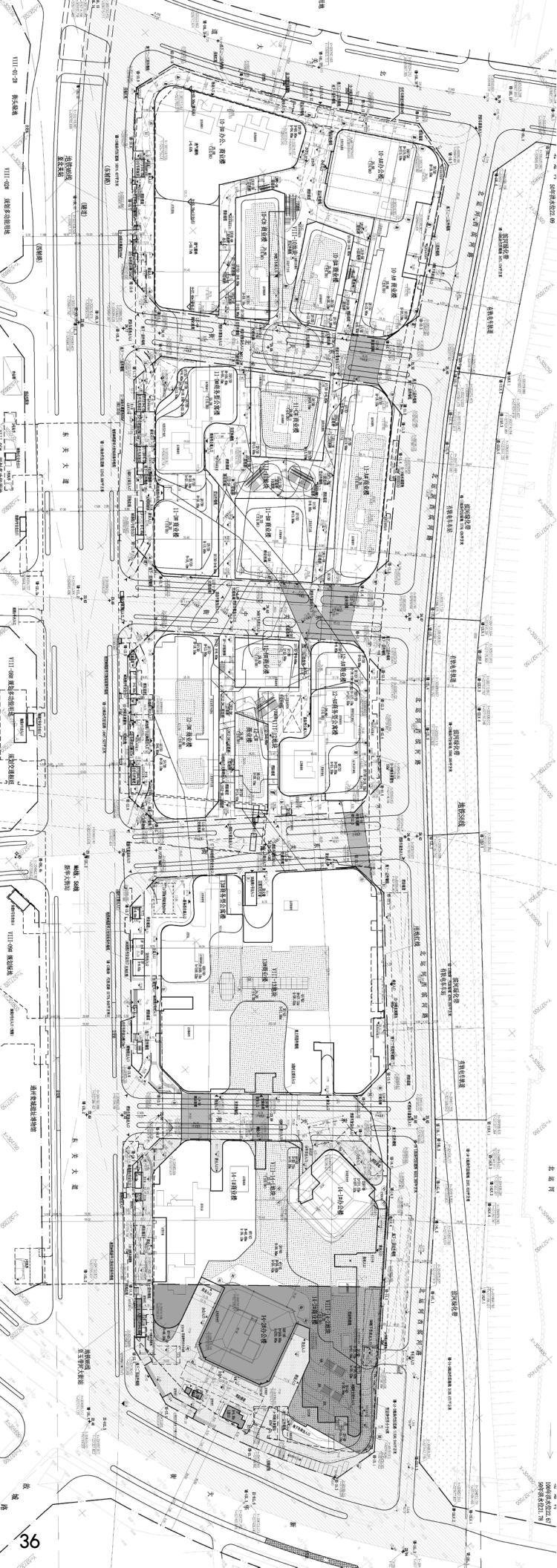


**Part 3:**  
Steel slats arrangement along the rooftop garden in between building #14-1 and #14-2.



ARC361  
ARC201  
MUSEU  
ARC200  
CANAL 1





CANAL 1





**Thank you!**

[ruoningz@outlook.com](mailto:ruoningz@outlook.com)