

ООО «ОДПС Сколково»
UDPC Skolkovo, LLC

Сколковский институт
науки и технологий
Skolkovo Institute of
Science and Technology

Комплект 0 Раздел 4: Альбом с
ориентировочными эскизами
фасадов

Set 0 Volume 4: Indicative Facade
Studies Sketchbook

REP-ARC0001

1 | 22 August 2012

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Номер проекта Job number
600199-18

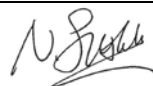
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Москва
ул. Краснопролетарская
д.36, 4-й этаж
36 Krasnoproletarskaya Street
4th Floor
Moscow 127473
Russia
www.arup.com

13 Fitzroy Street
London
W1T 4BQ
United Kingdom

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1 Введение

Содержание Комплекта документации 0 представлено в 4 Томах:

Том 1:

- Определение проекта
- Стандарты и нормативы
- Критерии проектирования конструкций и геотехники
- Критерии проектирования инженерных сетей
- Критерии проектирования пожарной безопасности

Том 2:

- Уточнённые требования к площадям
- Координация площадей, указанных в планировках в Задании и Комплекте документации 0
- Уточнённое Задание на проектирование лабораторий
- Технико-экономические показатели

Том 3:

- Чертежи

Том 4 (настоящий документ):

- Альбом с ориентировочными эскизами фасадов

1.1 Цель документа

Настоящий том должен рассматриваться совместно с чертежами фасадов зданий, приведёнными в Томе 3: Чертежи.

Настоящий том отражает ход работ по исследованию устройства фасадов зданий, выполненному Проектной группой до сдачи Комплекта документации 0.

Результаты исследования представлены только в качестве предварительной информации для Заказчика, и не отражают выбранный подход к устройству фасадов зданий, составляющих Проект. Следует ожидать, что на последующих стадиях проекта могут быть рассмотрены иные подходы к фасадам.

1 Introduction

The content of Set 0 is presented in four Volumes:

Volume 1:

- Project Definition
- Codes and Standards
- Structural and Geotechnical design criteria
- MEP design criteria
- Fire Engineering design criteria

Volume 2:

- Updated Program Area requirements
- Reconciliation of areas between Program Brief and Set 0 planning layouts
- Updated Laboratory Planning Design Brief
- Technical Economic Indices

Volume 3:

- Drawings

Volume 4 (this document):

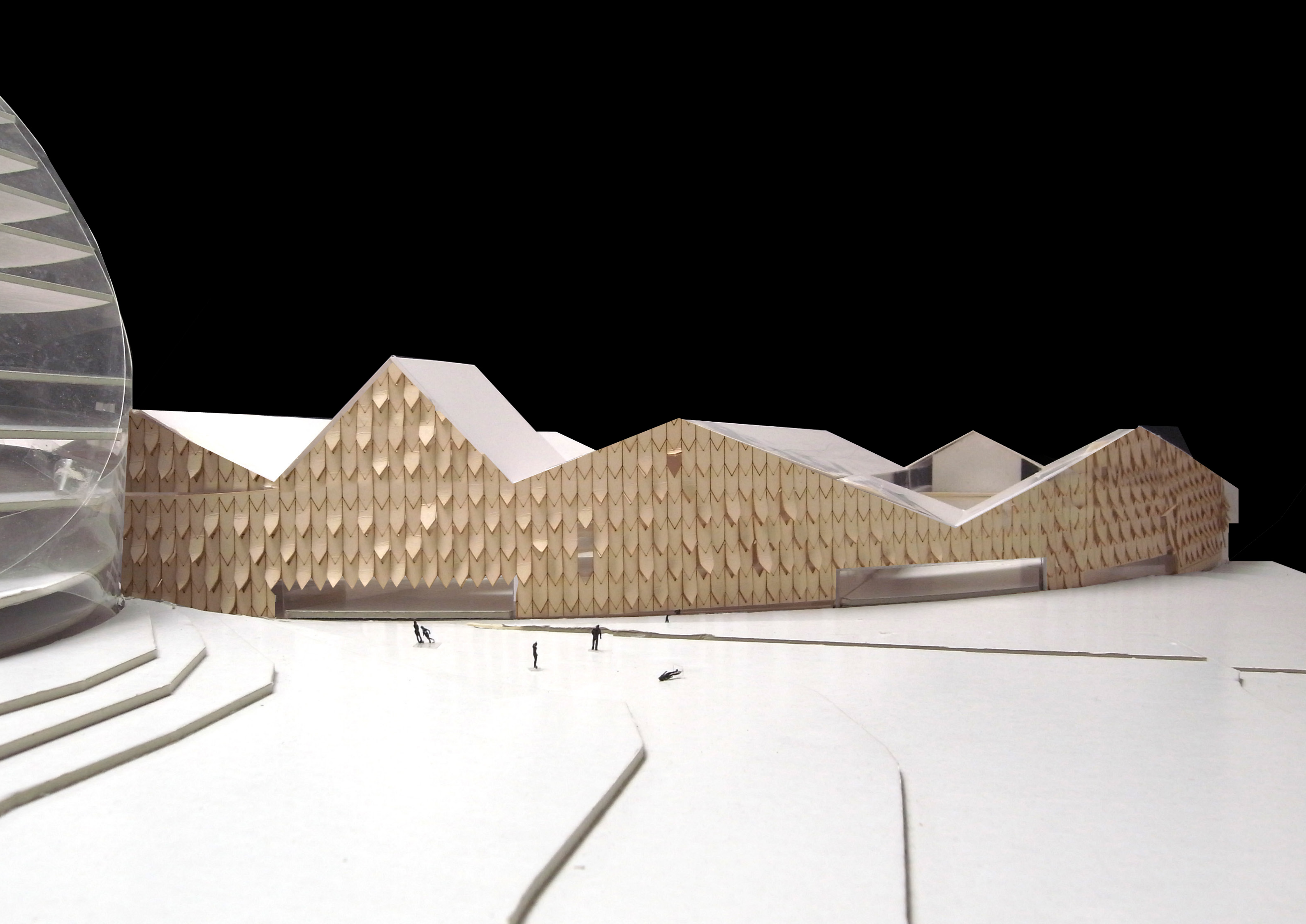
- Indicative Façade Studies Sketchbook

1.1 Purpose of document

The Indicative Façade Studies Sketchbook is to be read in conjunction with the Elevation drawings included in Volume 3: Drawings.

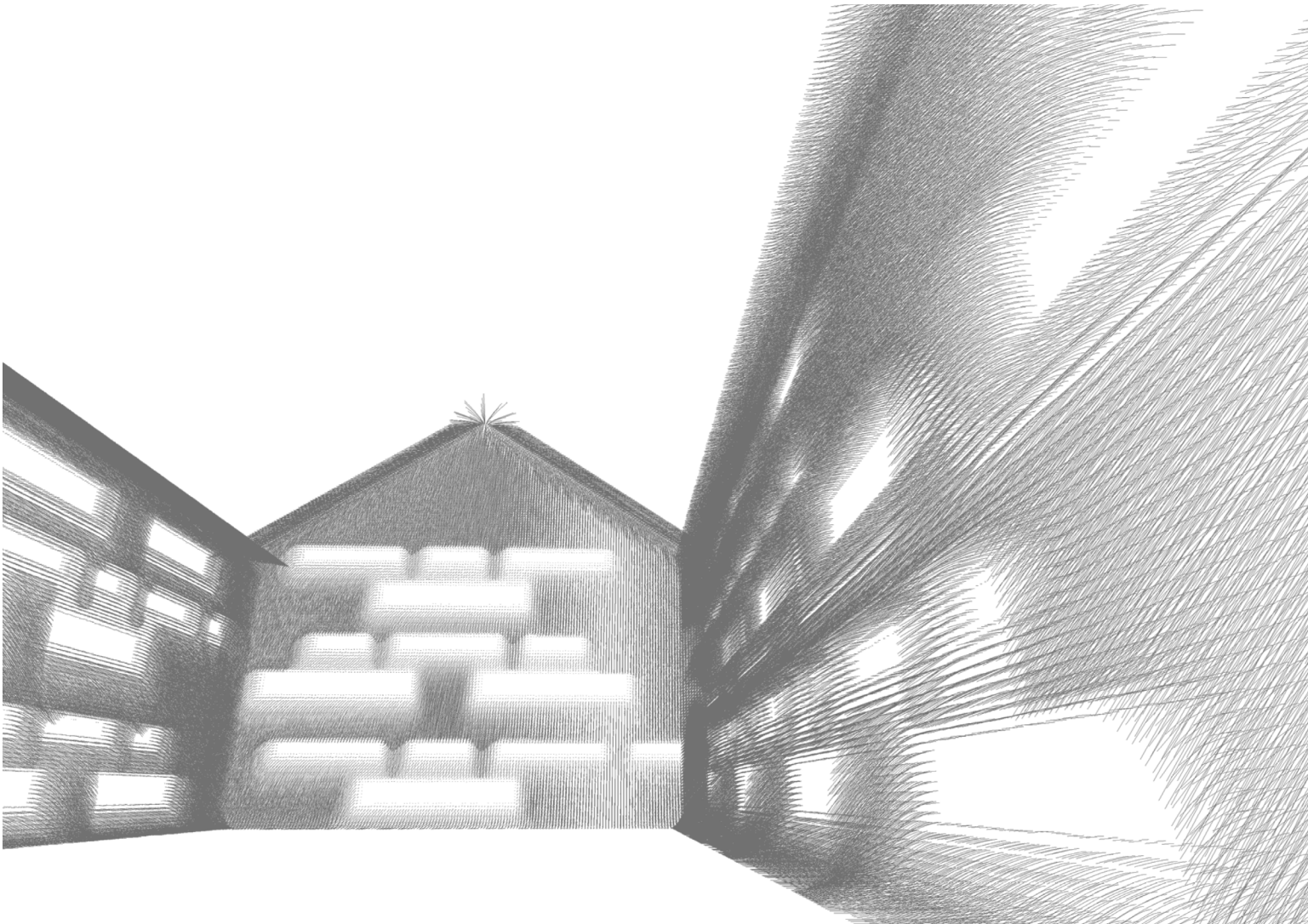
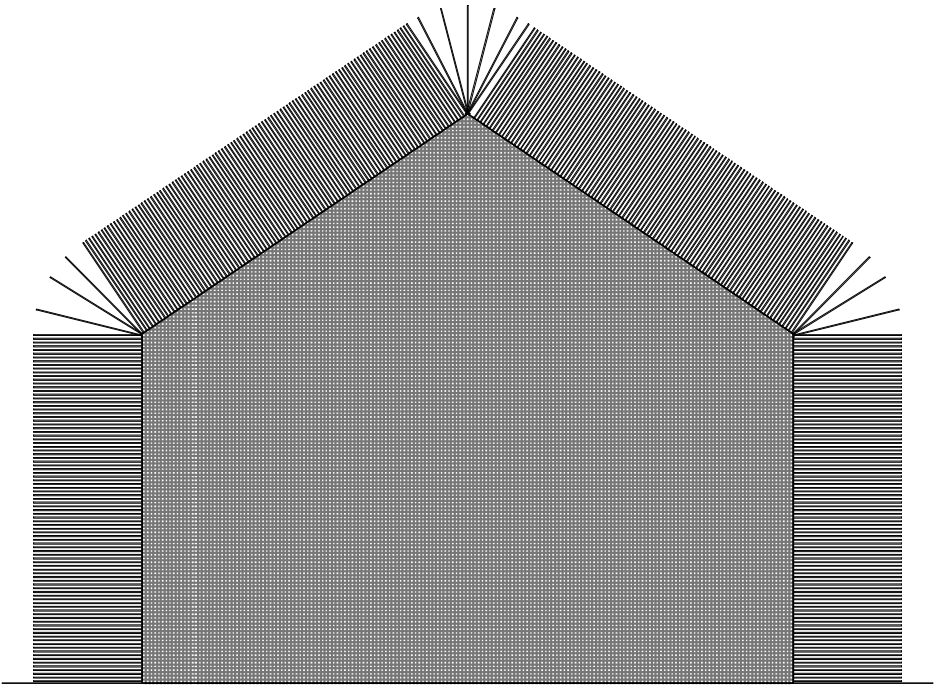
The Indicative Façade Studies Sketchbook presents the work-in-progress elevational studies that have been undertaken by the Design Team prior to the submission of Set 0.

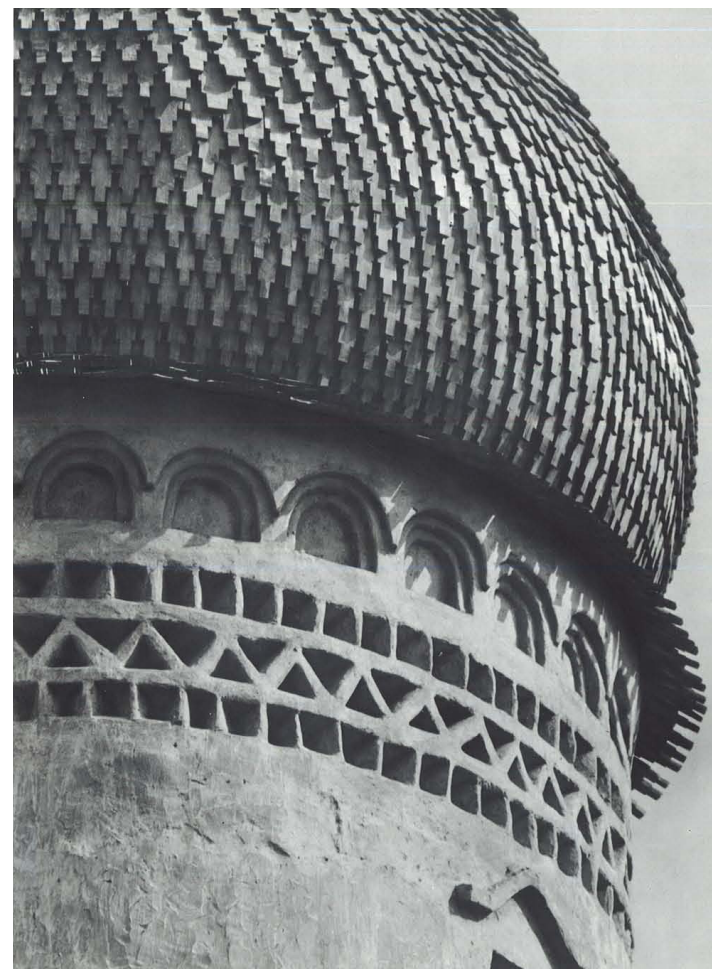
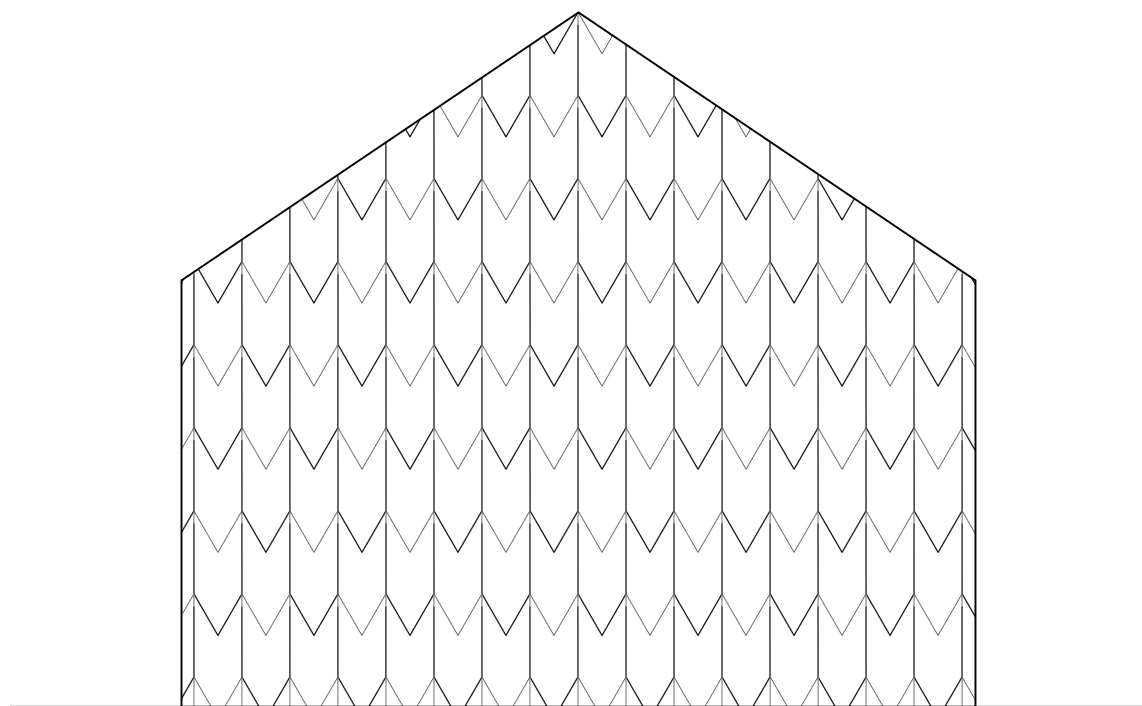
These studies are presented for initial Client information only and should not be considered to represent a preferred approach to the elevational treatment for the Project. It should be expected that different approaches may be explored during subsequent design stages.



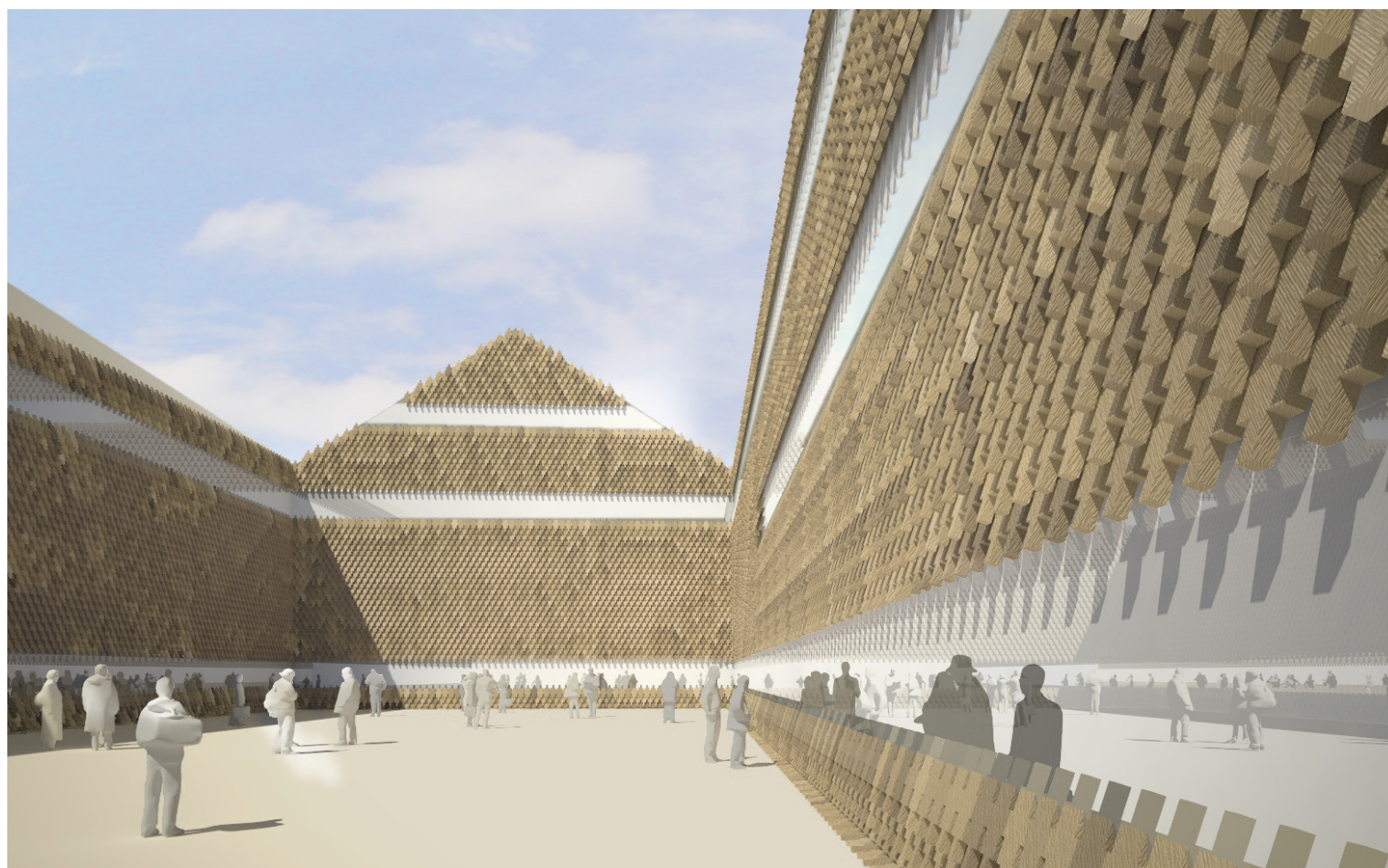
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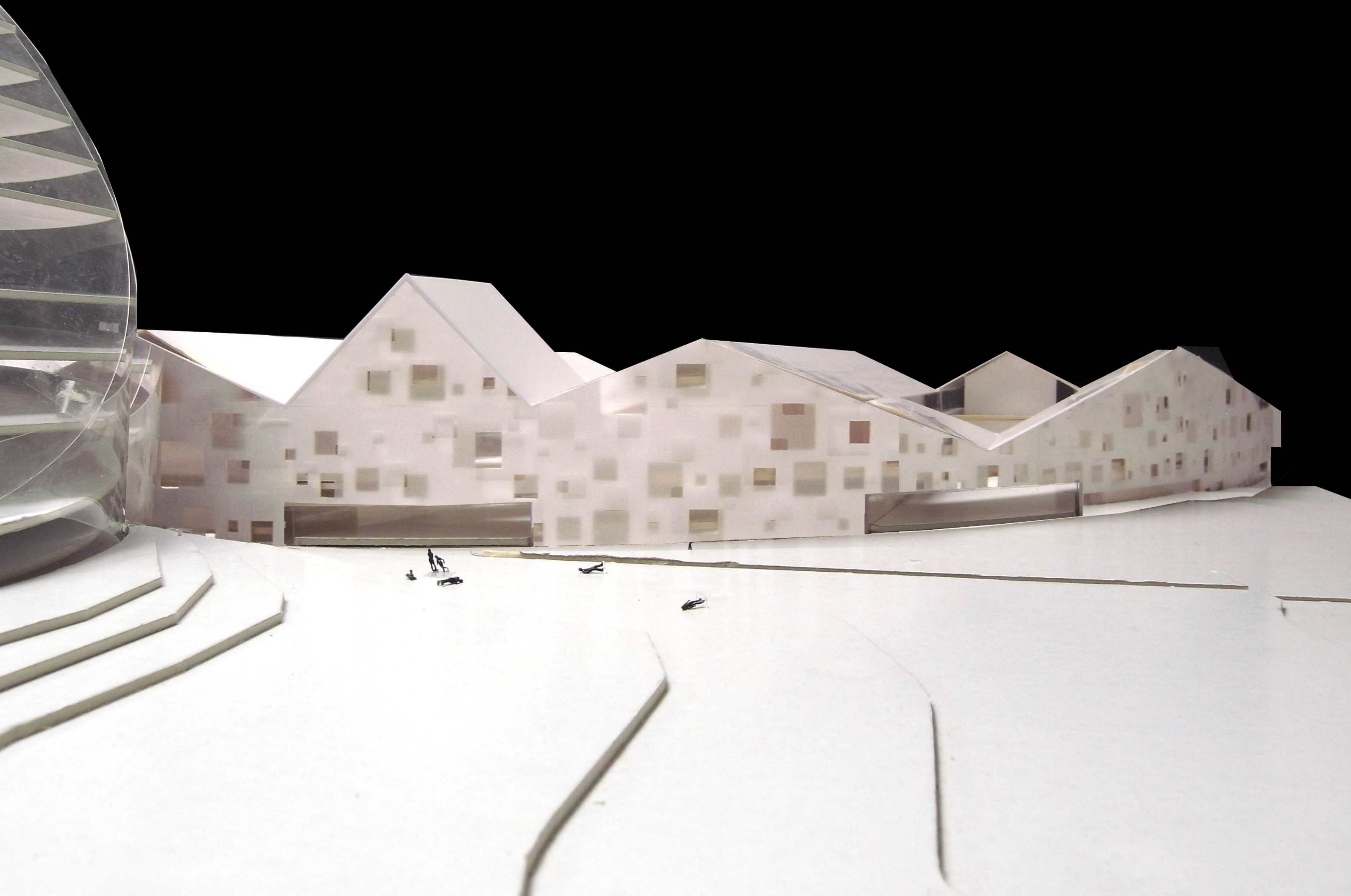
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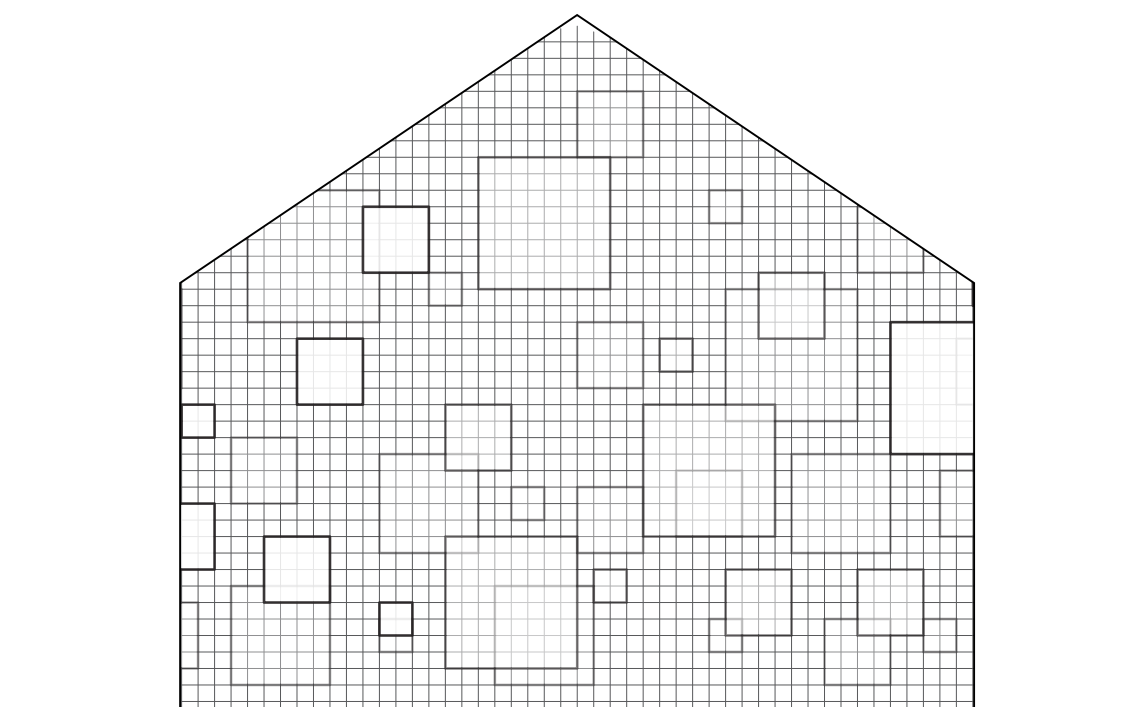


Russian Orthodox Church

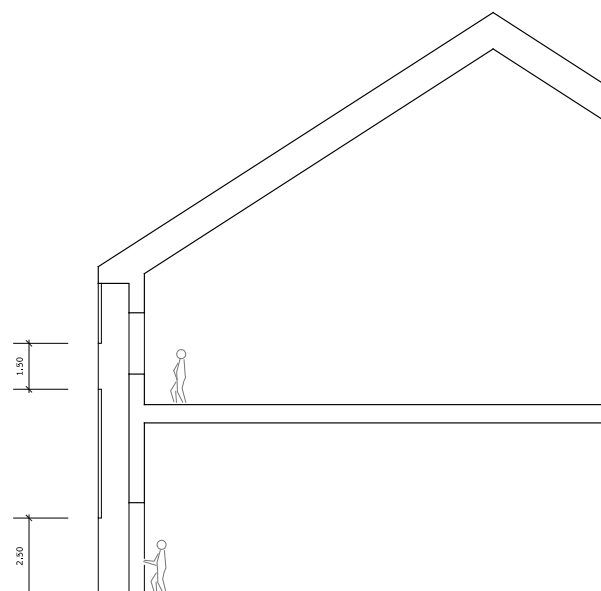




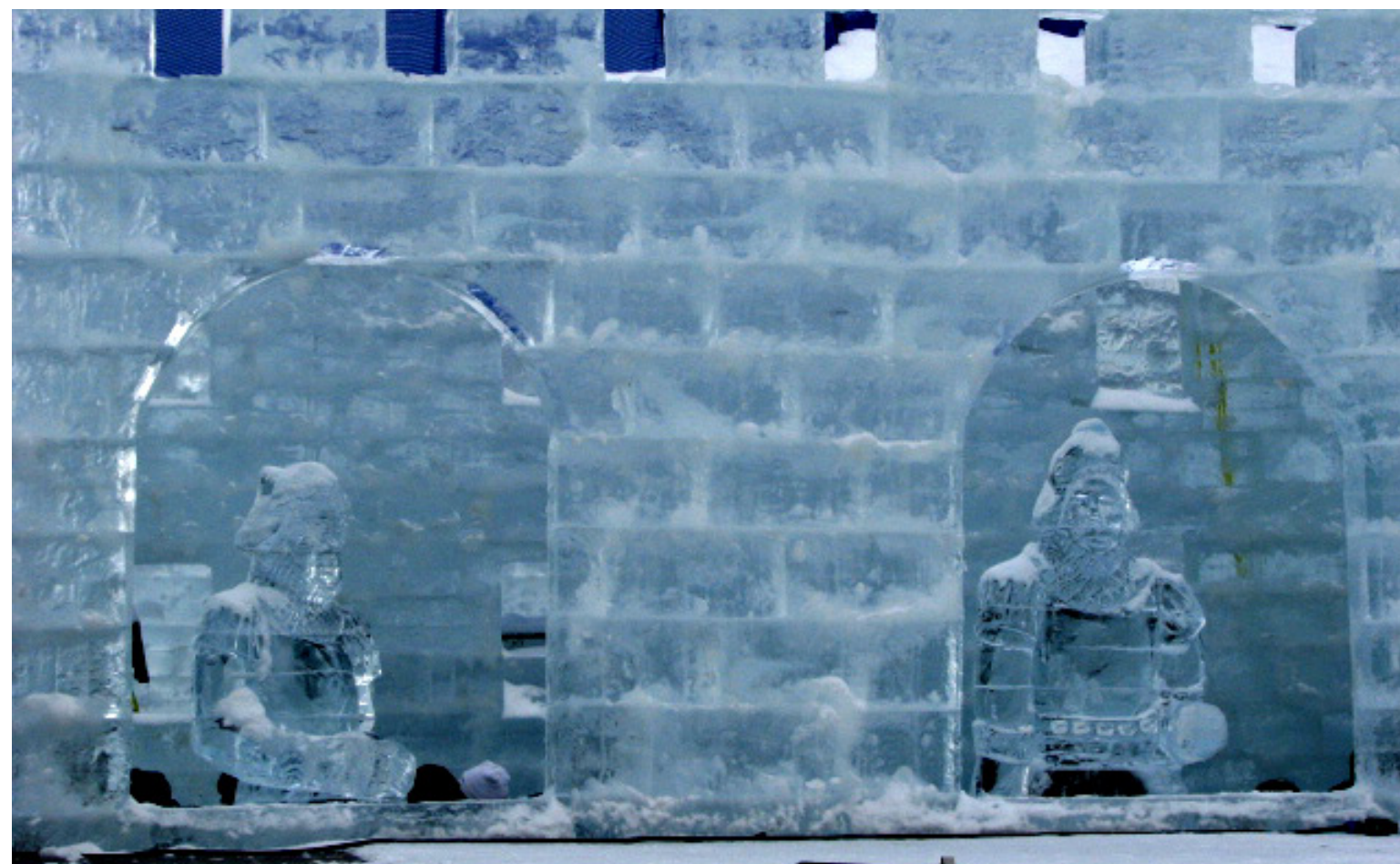
OPTION 2 - SHISHKA
FACADE

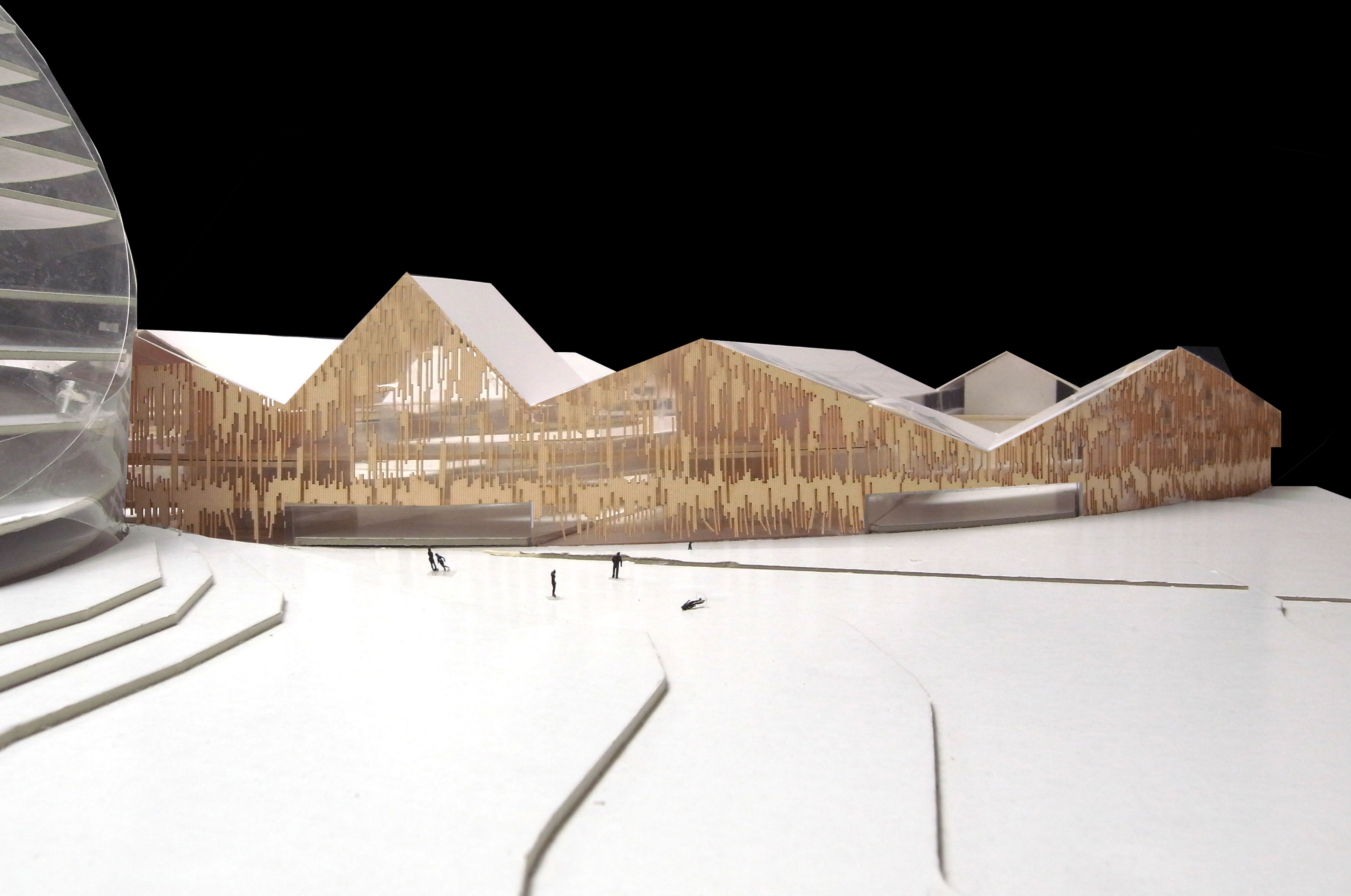


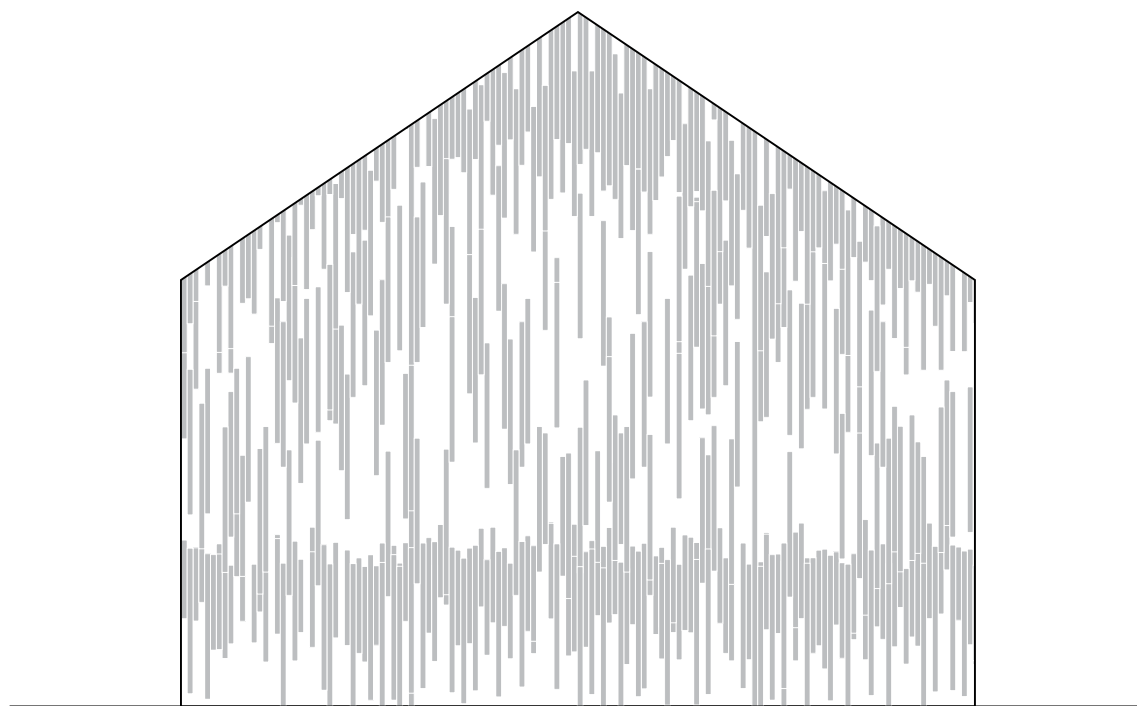
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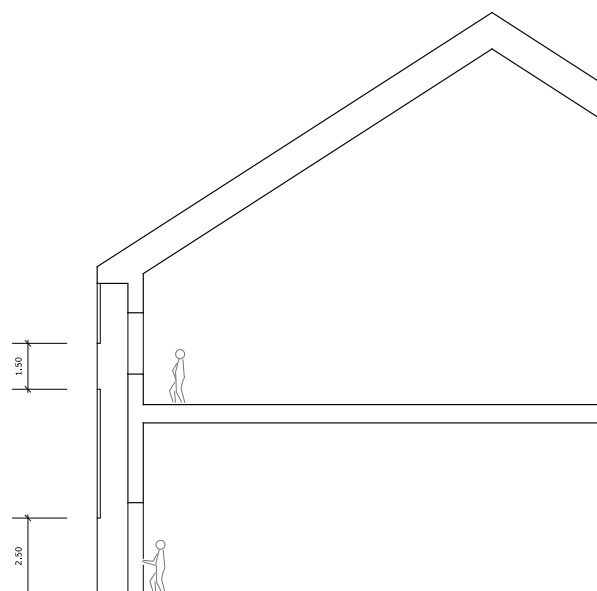
double layer penetrated facade 1:100







MODULE OF 20 CENTIMETER VERTICAL STRIPS - OPEN CLOSED



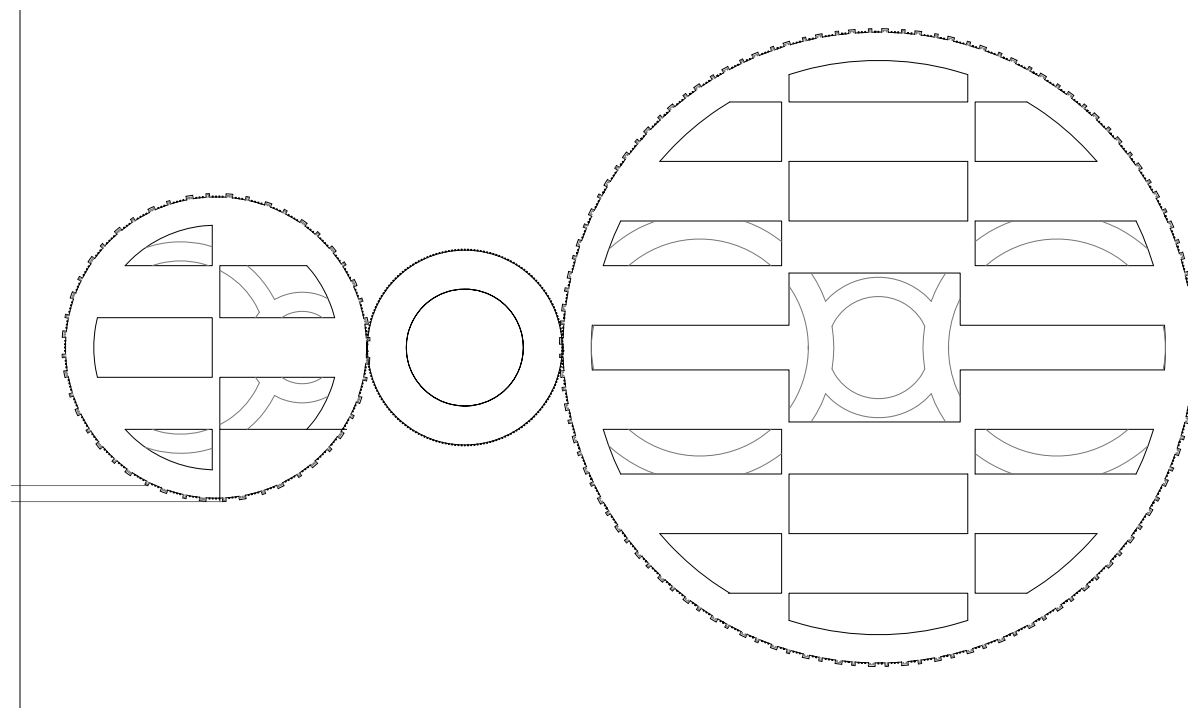
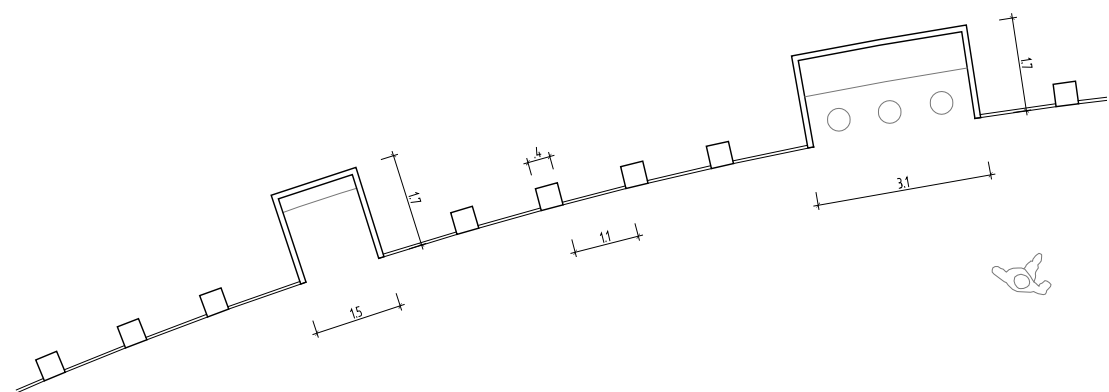
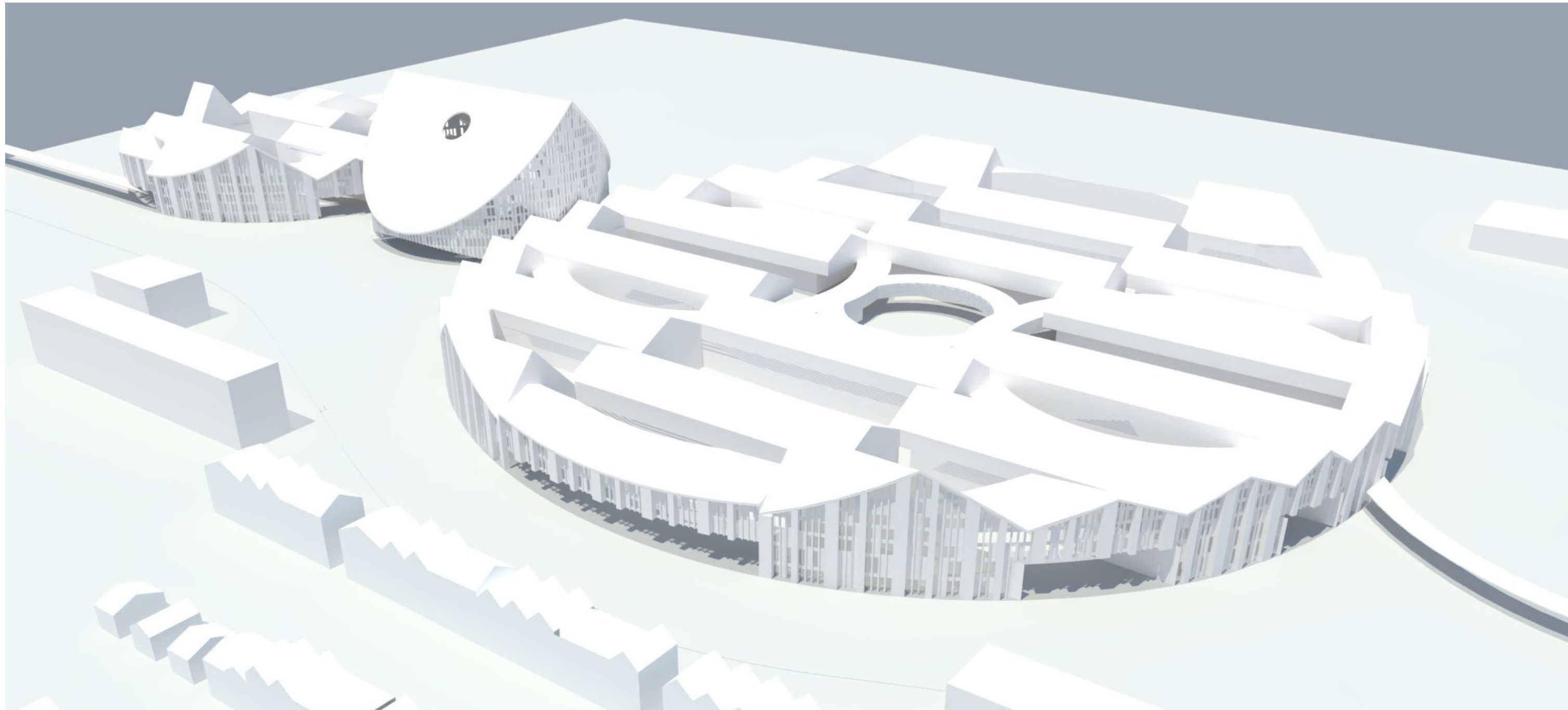
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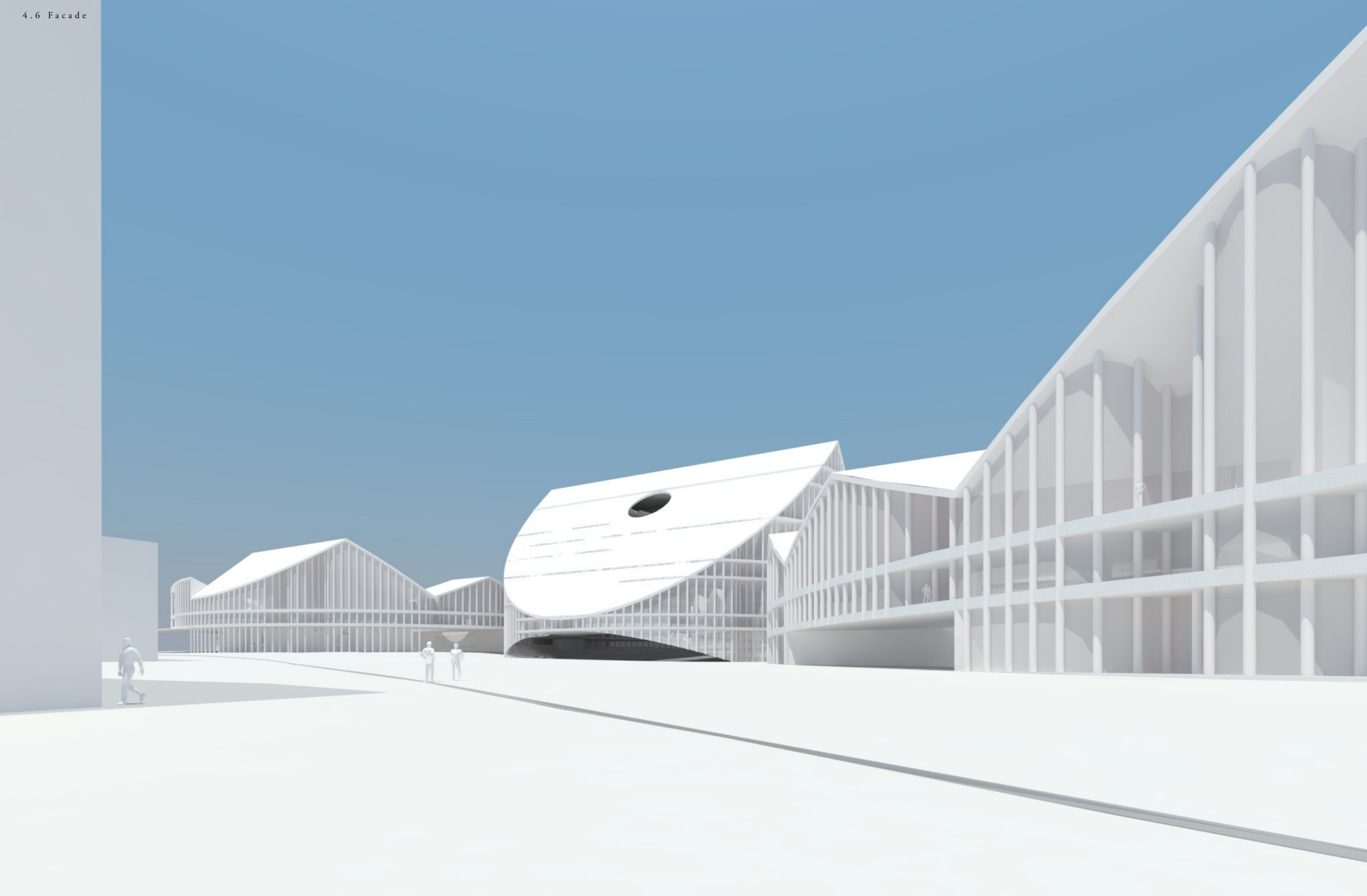


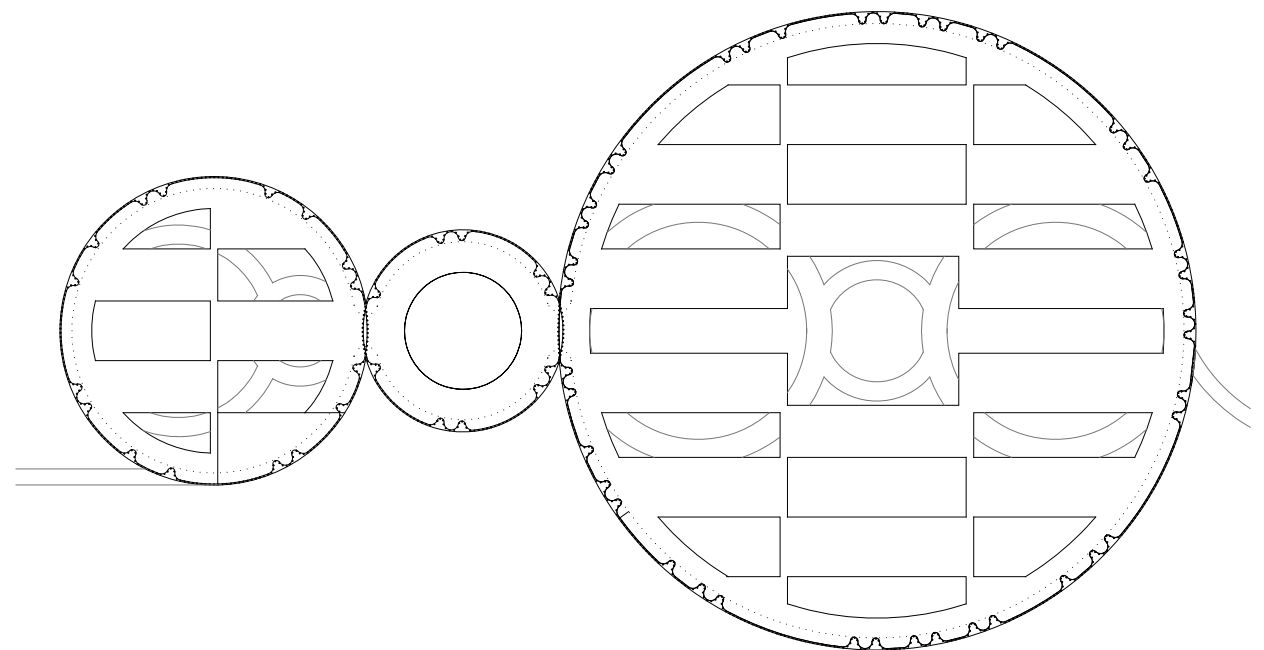
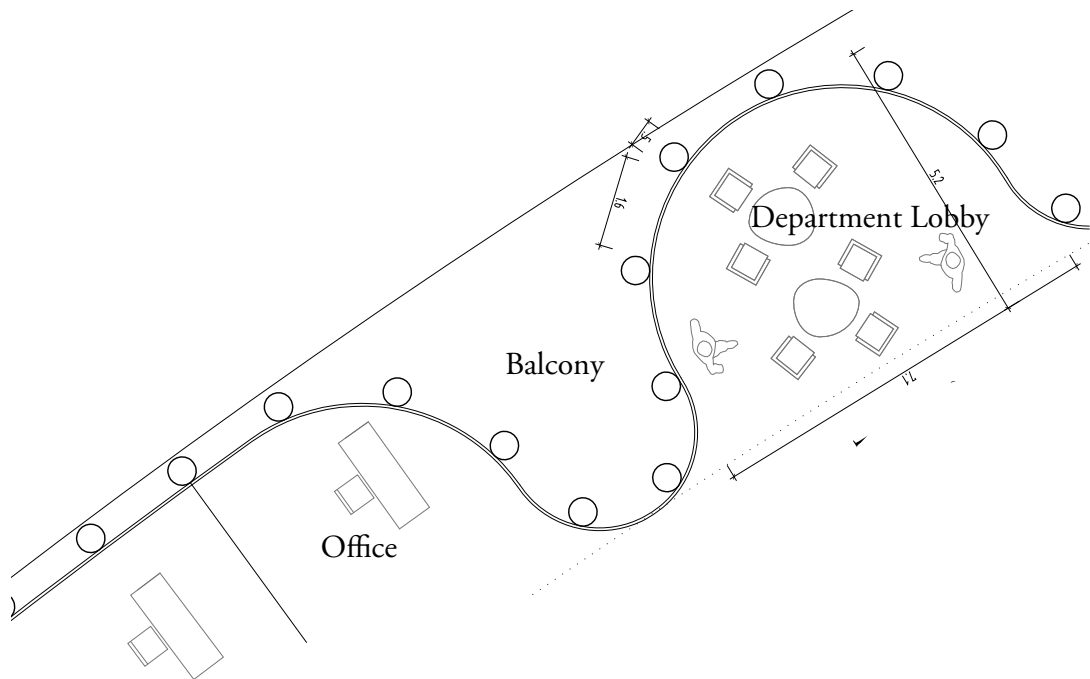
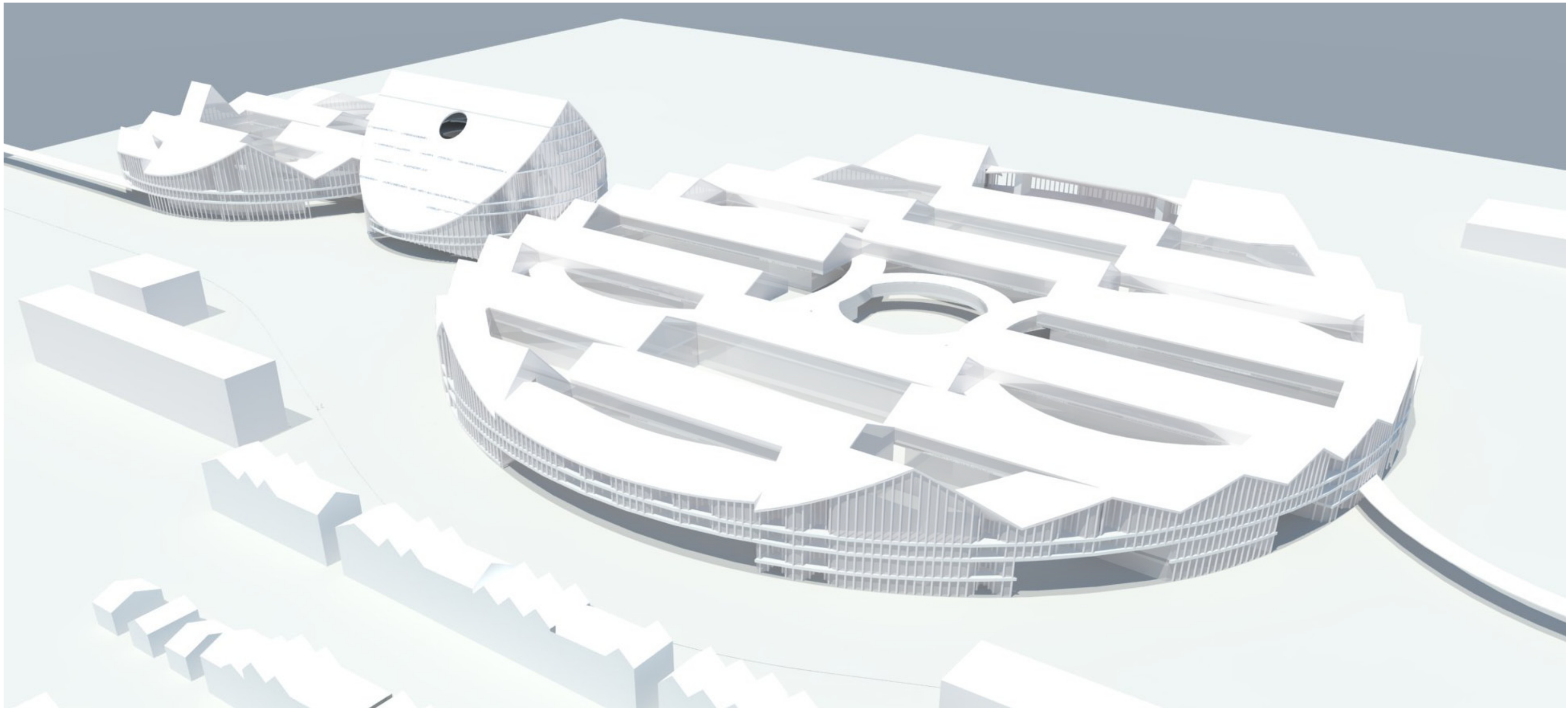


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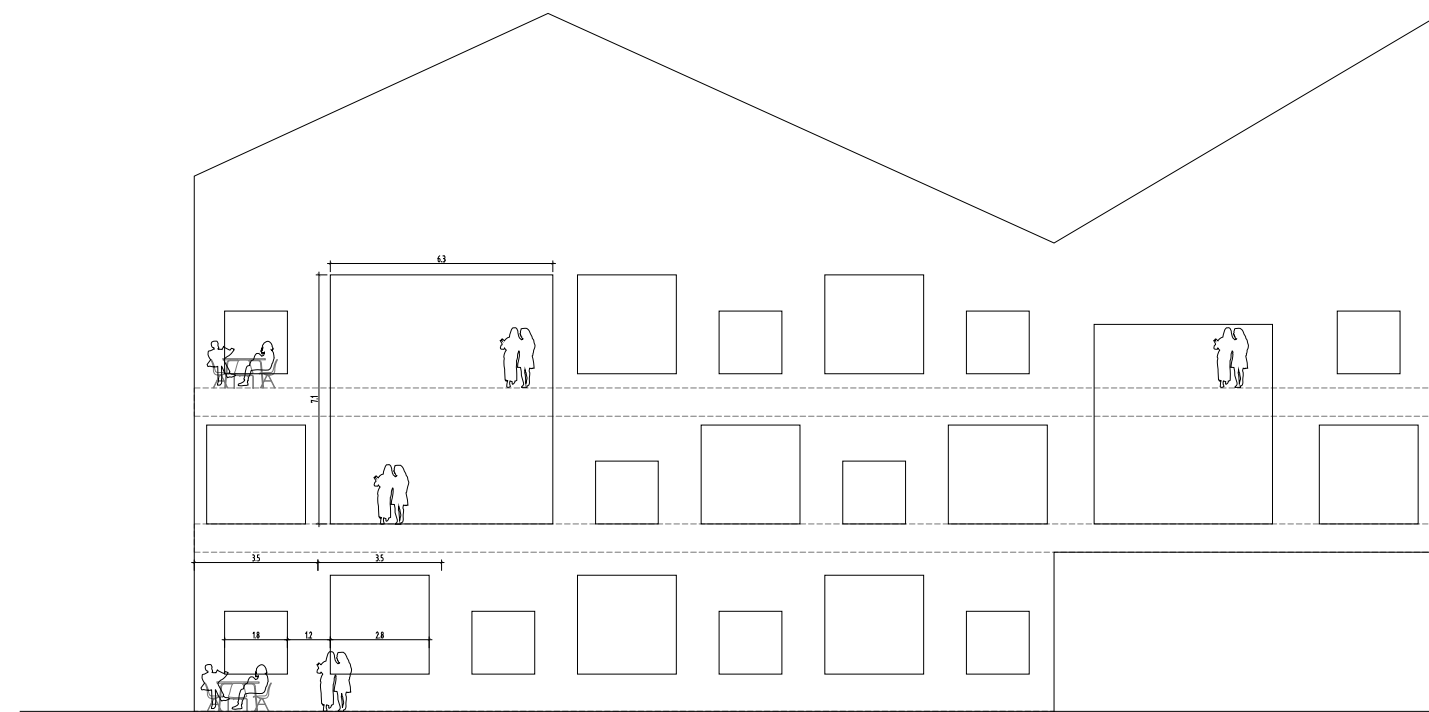
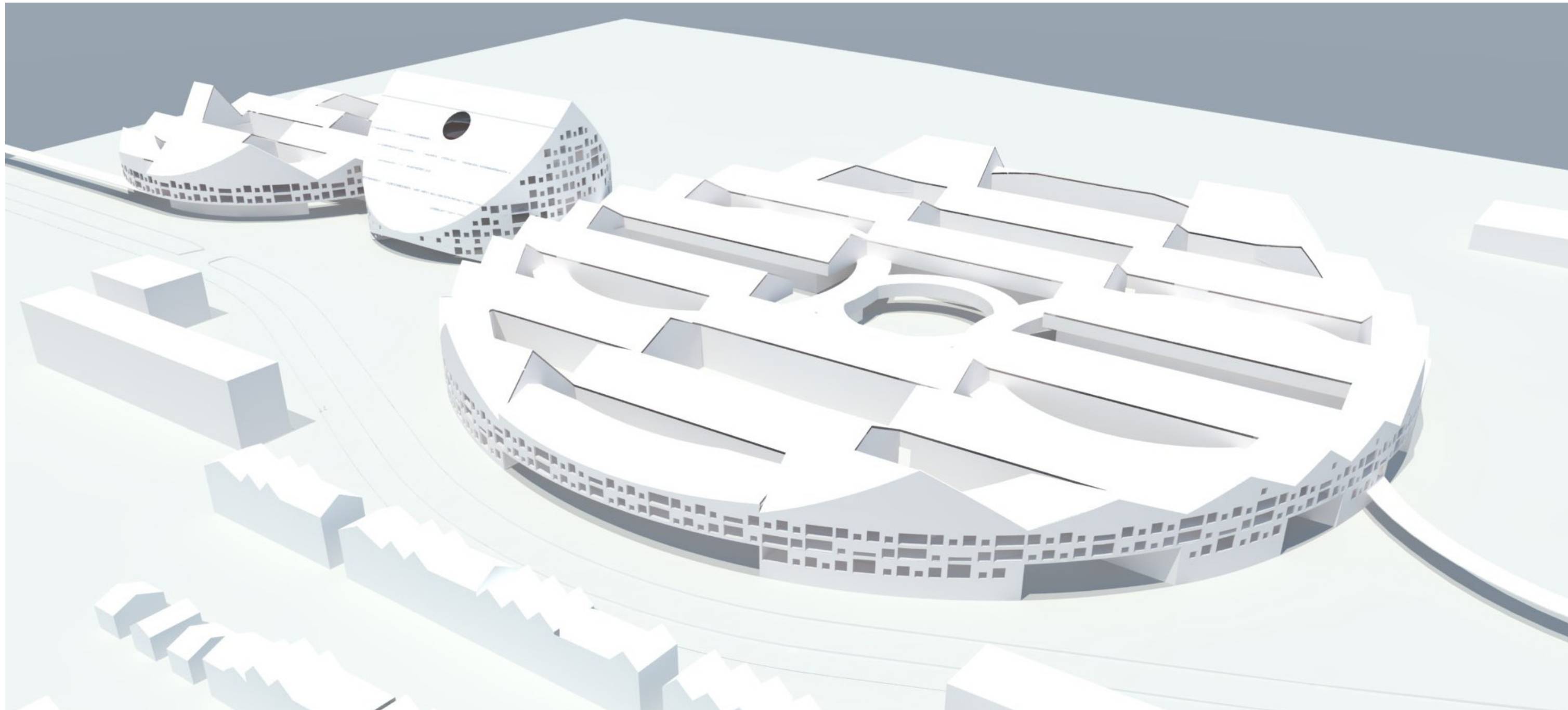


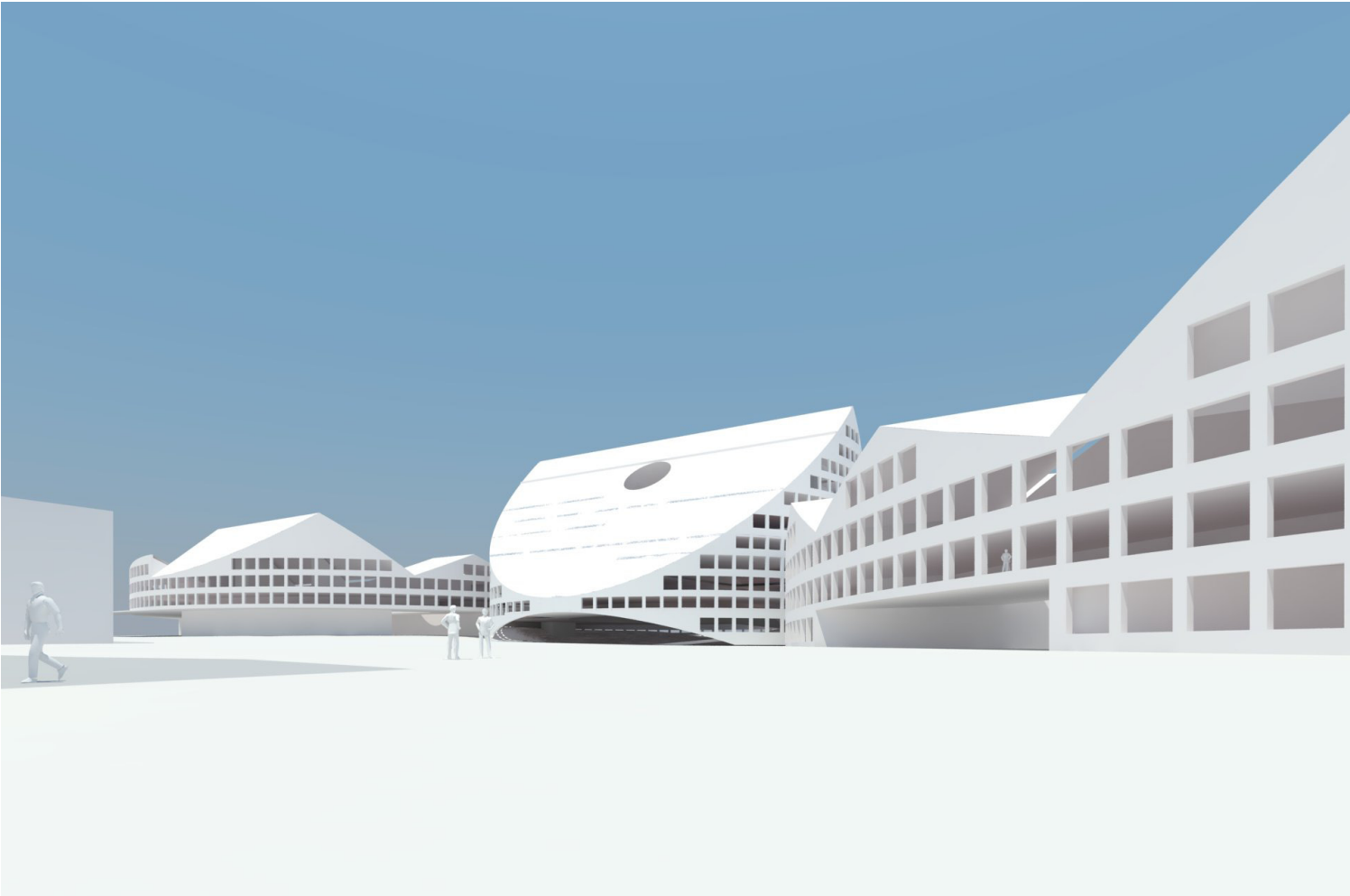


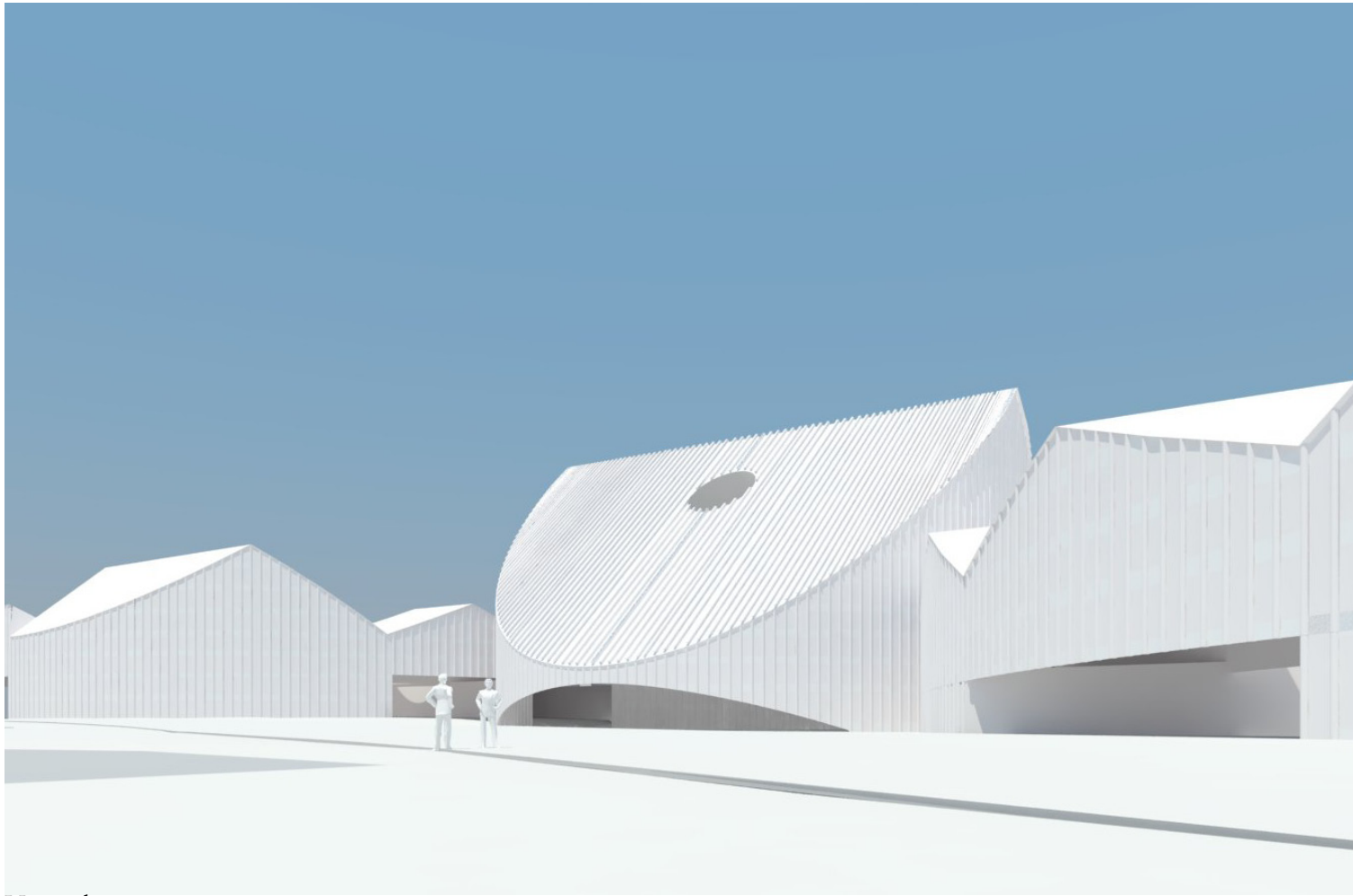




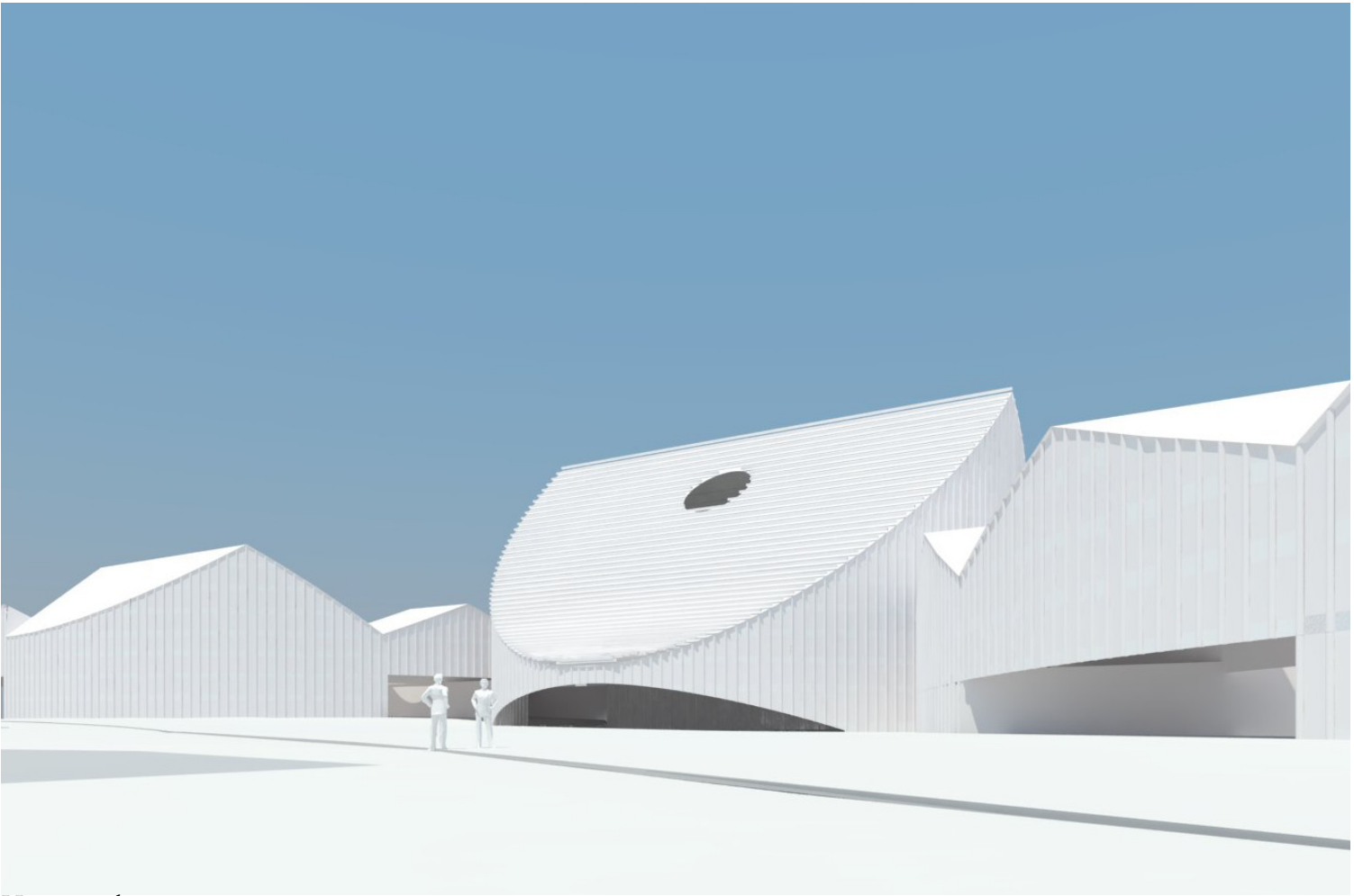




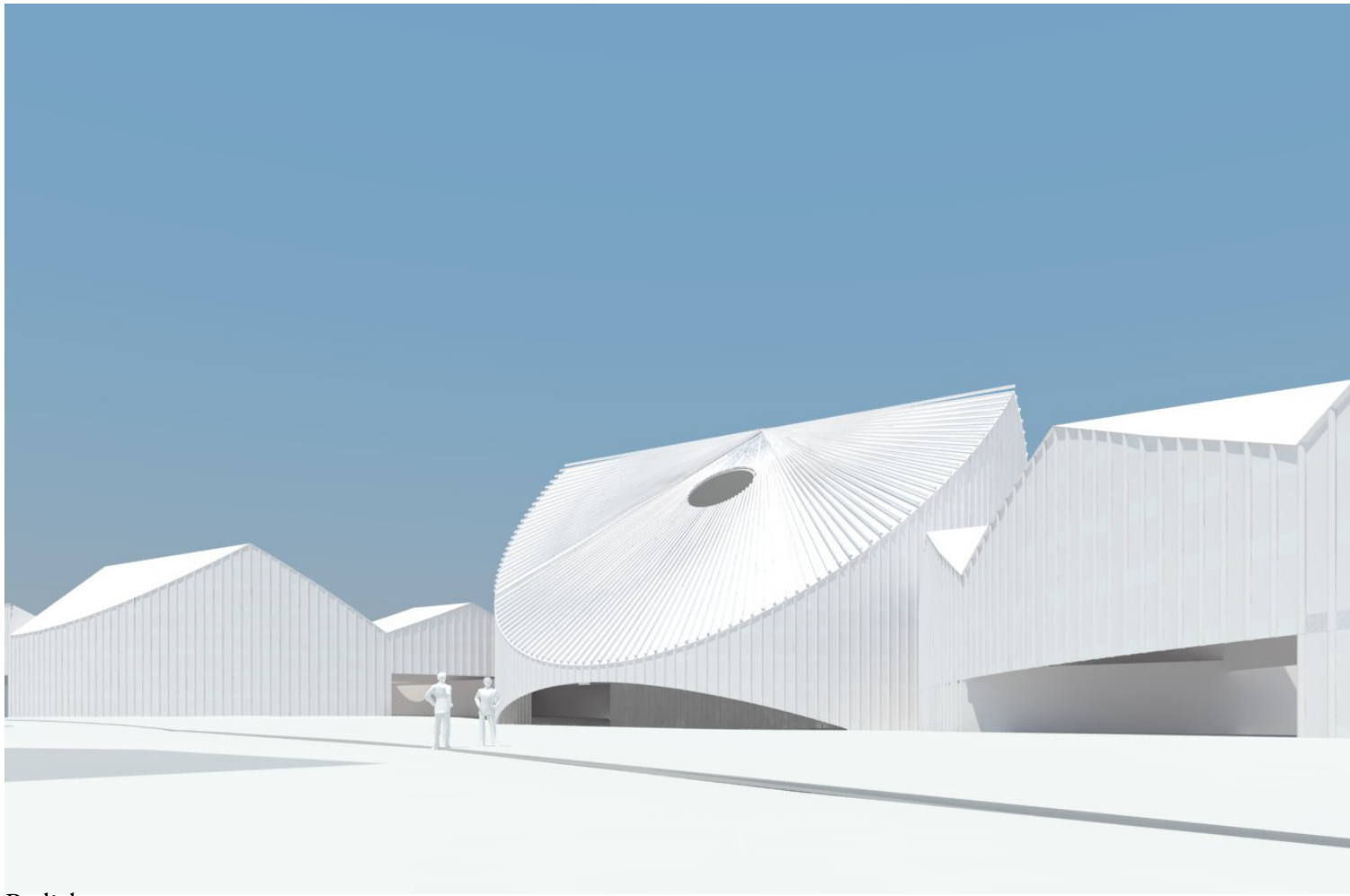




Vertical



Horizontal



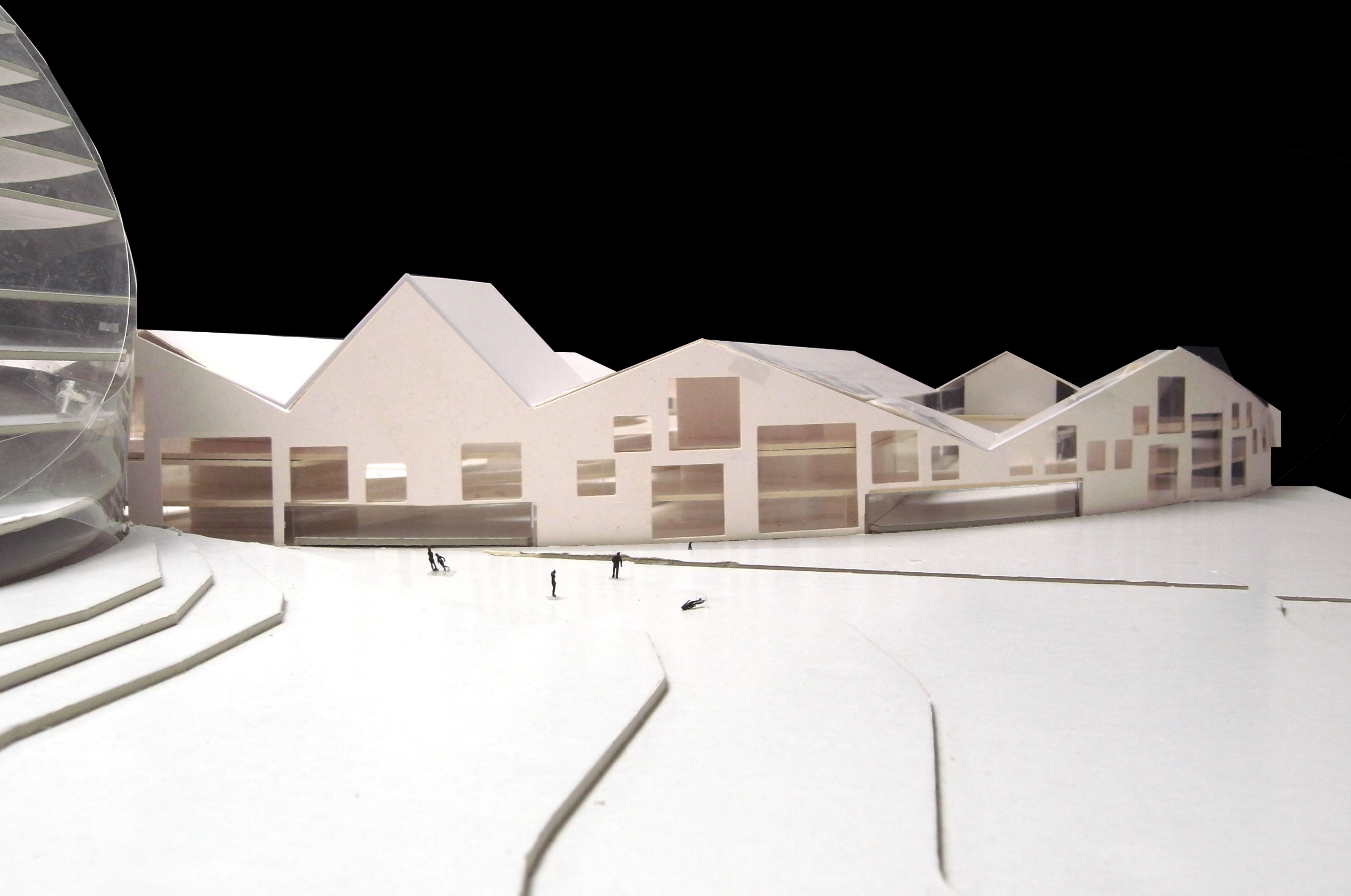
Radial

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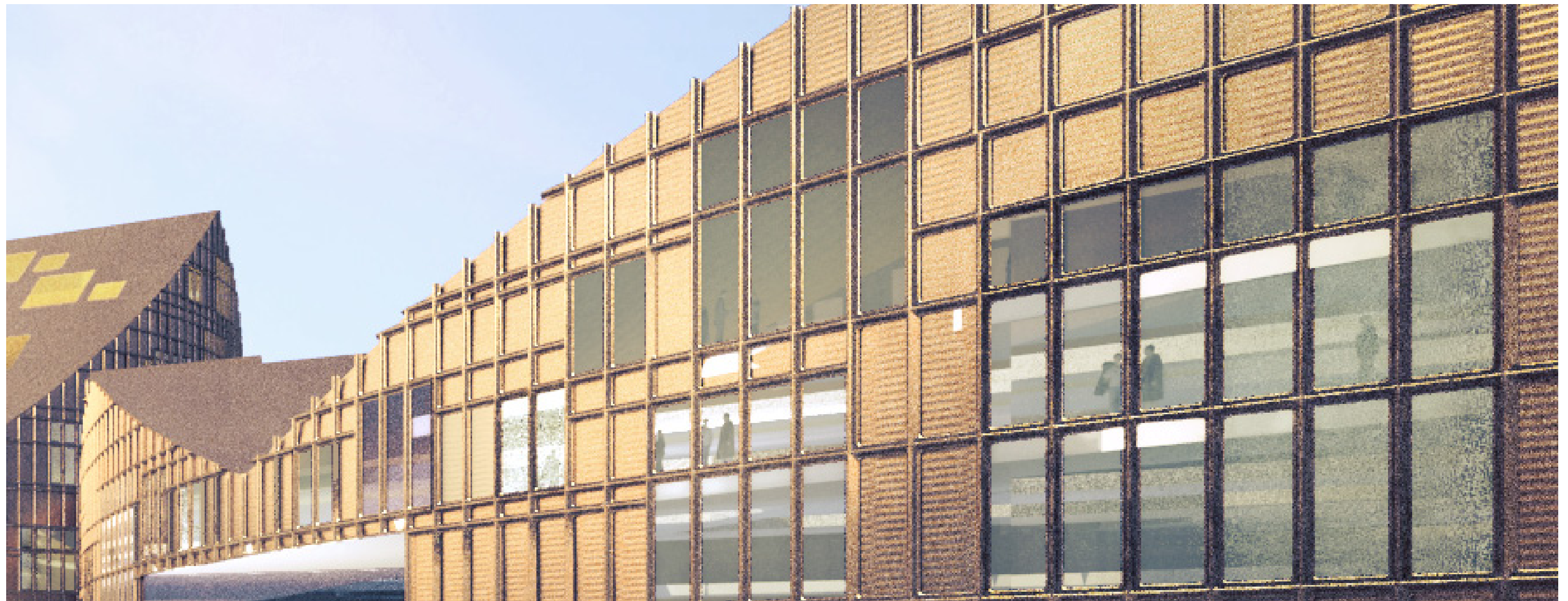
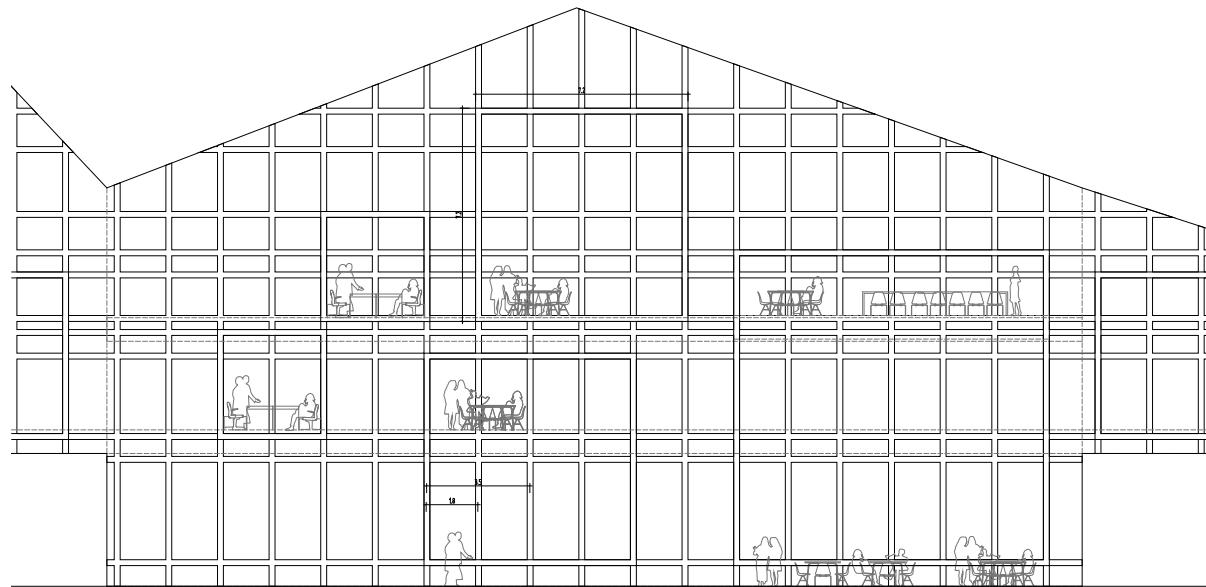
Window

AGORA
FACADE STUDIES

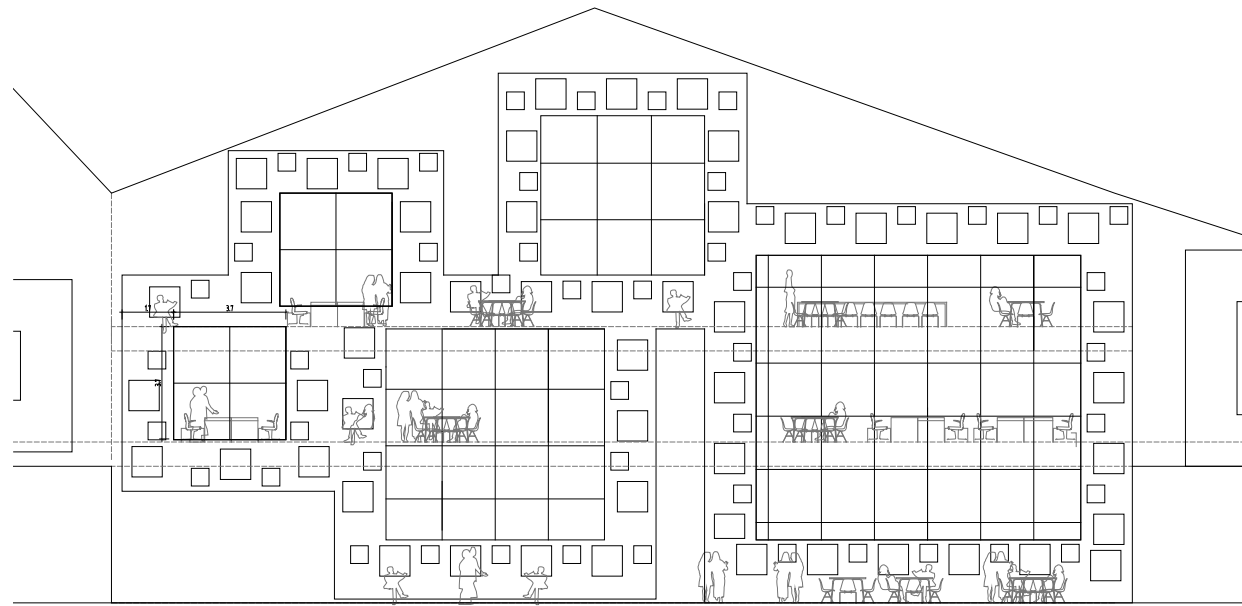


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G I A N T W I N D O W A N D I C O N







FACADE STUDIES-ICON / WINDOW FRAME

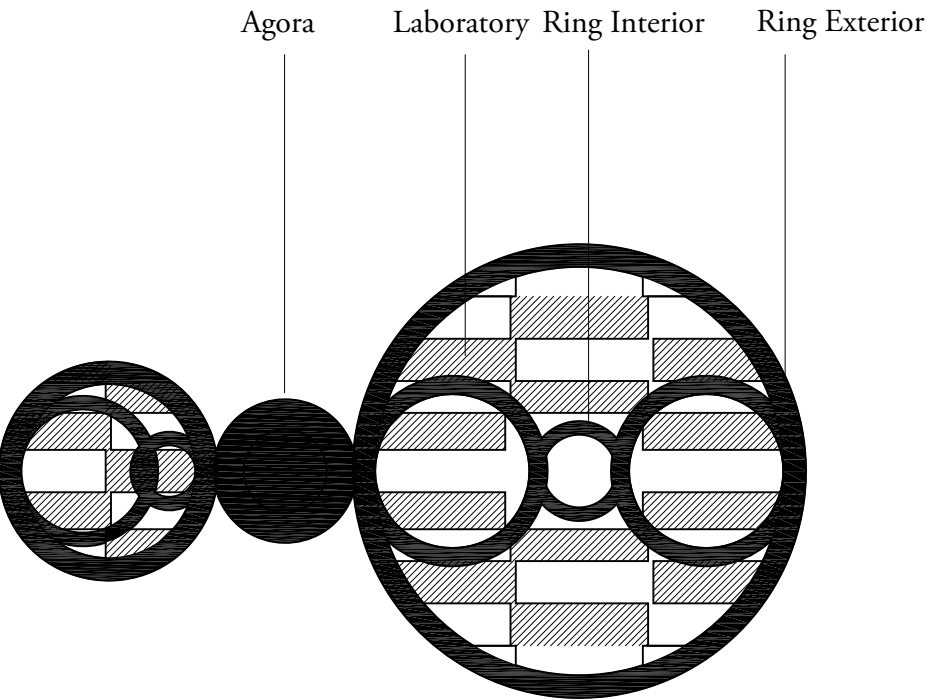
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Preliminary Key Figures

	Facade area:
Laboratories:	49 575 m2
Rings Exterior:	22 332 m2
Rings Interior:	5 046 m2
Agora (facade + roof):	17 213 m2
Total	94 166 m2

	Roof area:
Rings Exterior + Laboratories	55 350 m2
Rings Interior	7 192 m2
Total	62 542 m2

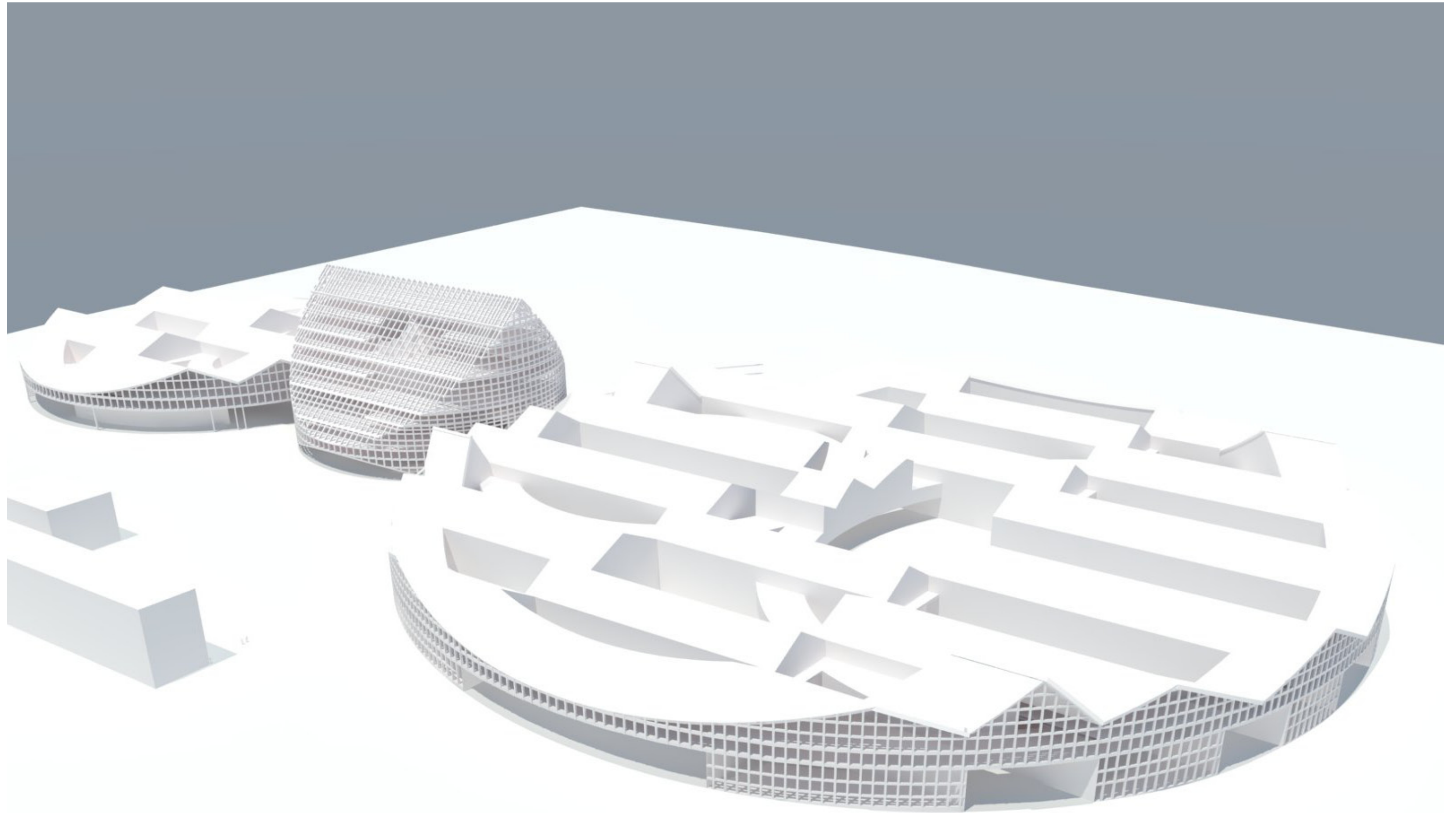
Envelope area:	163 900 m2
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	Facade Length:
Laboratories:	2 745 m
Rings exterior:	1 937 m
Rings interior:	1 097 m
Agora:	298 m
Total	6 077 m

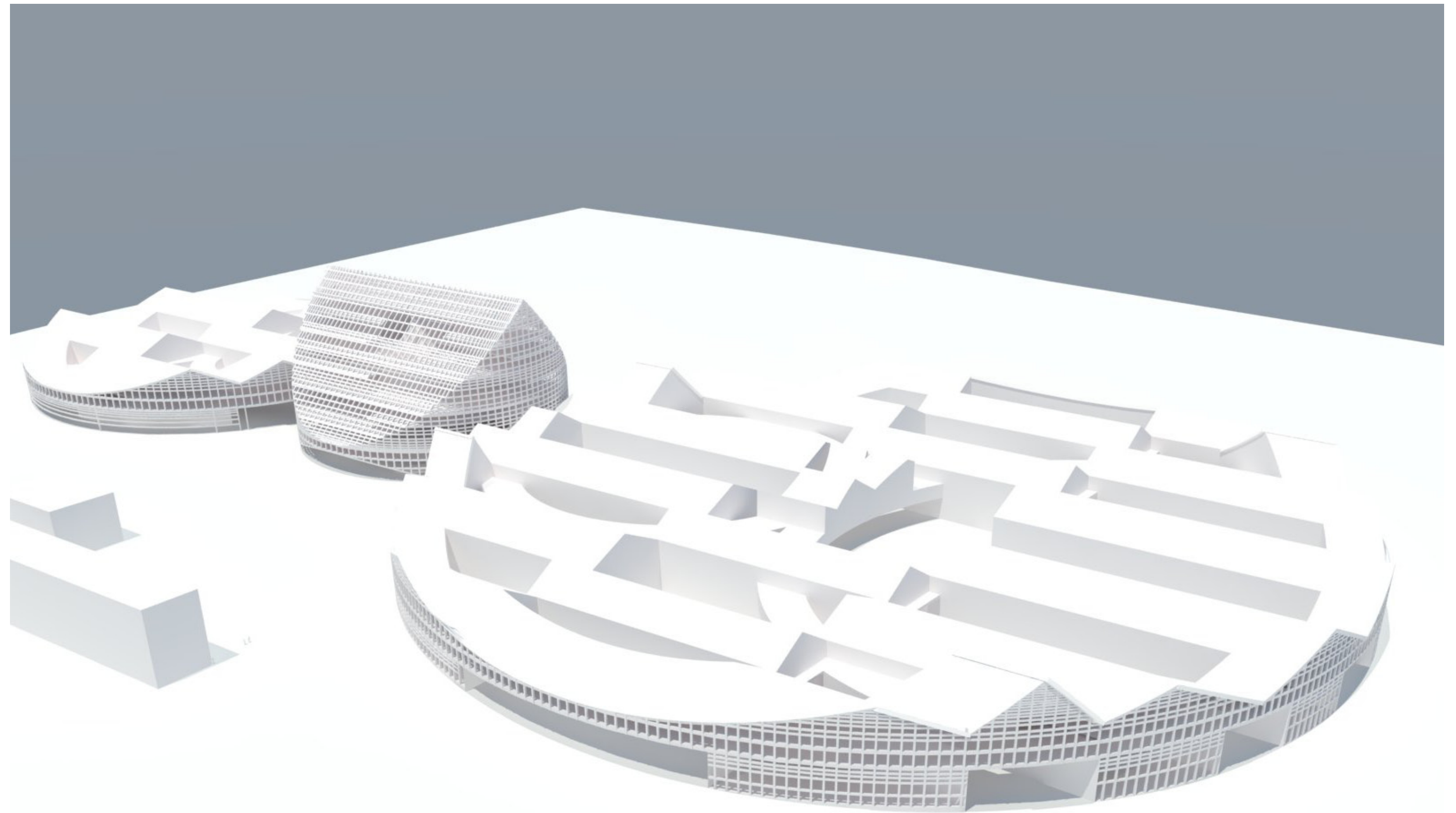


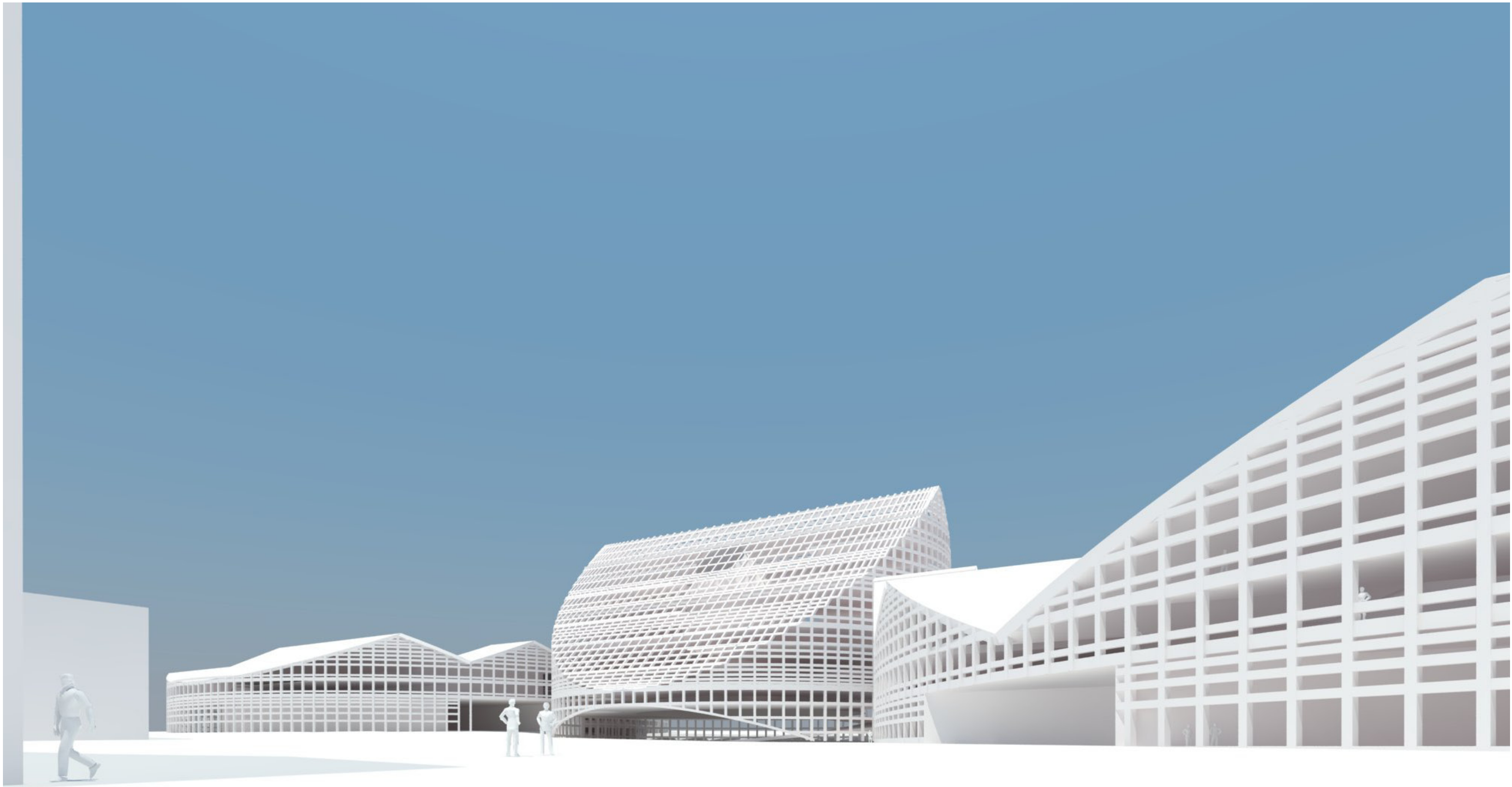
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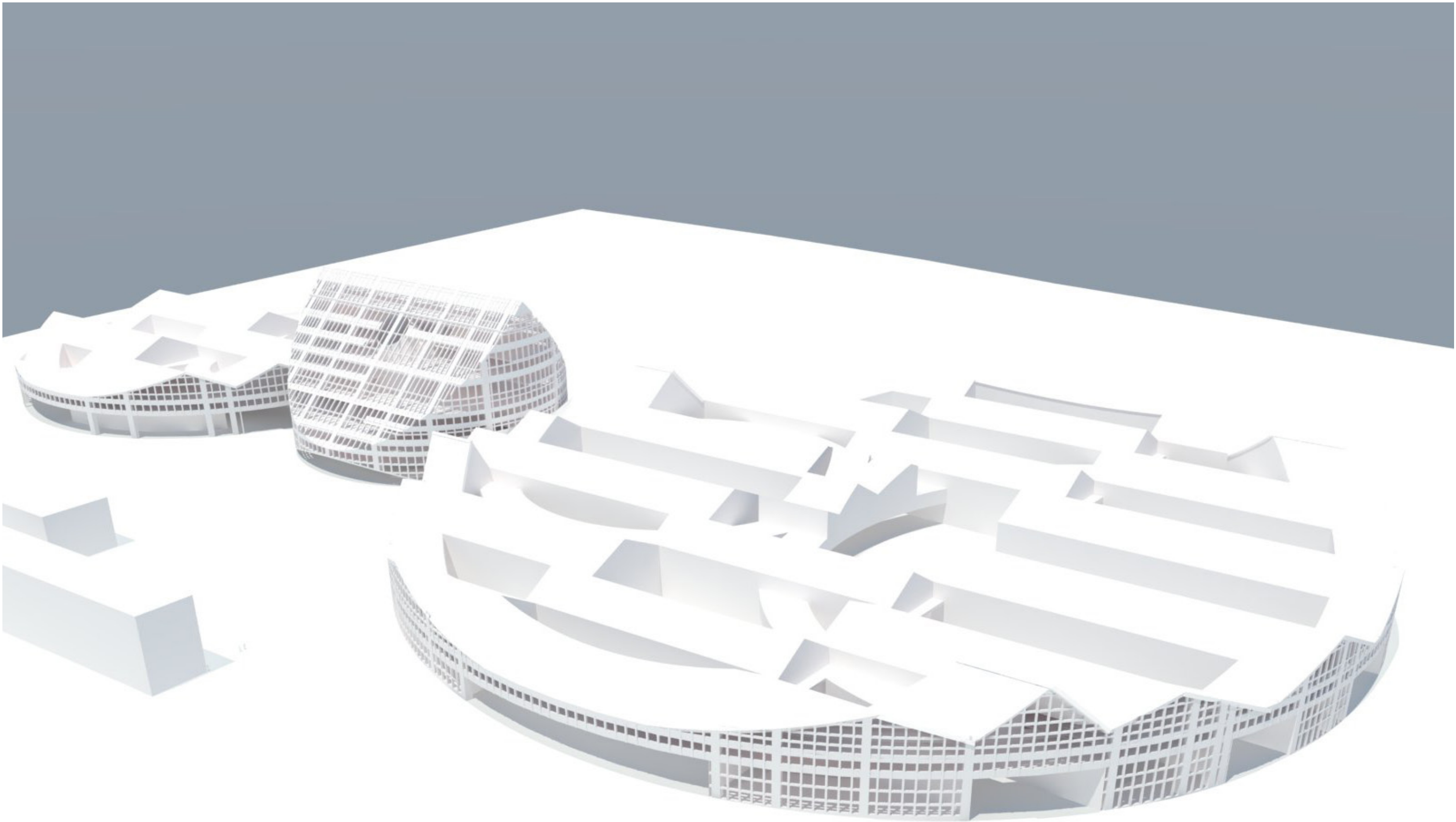
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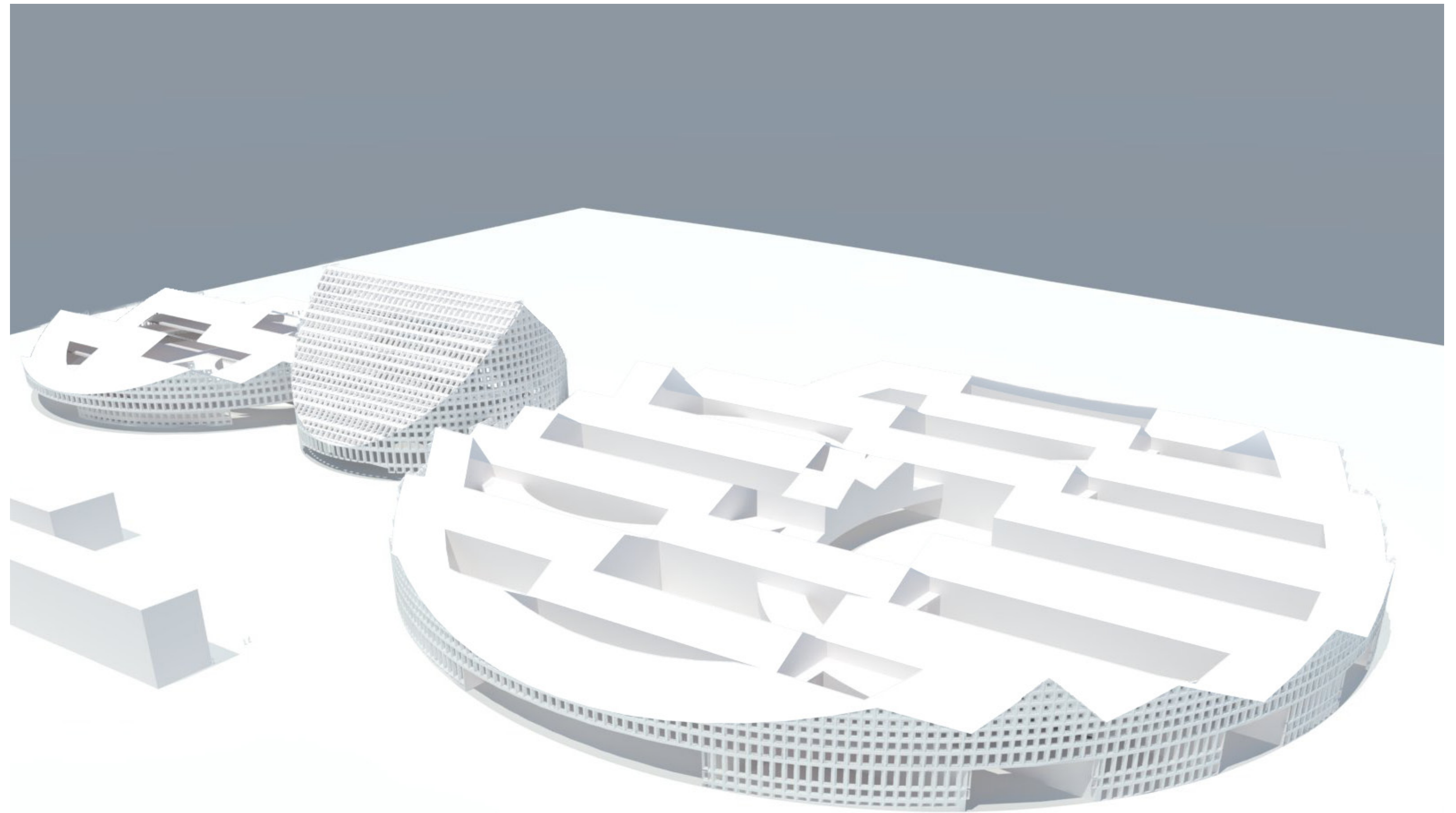


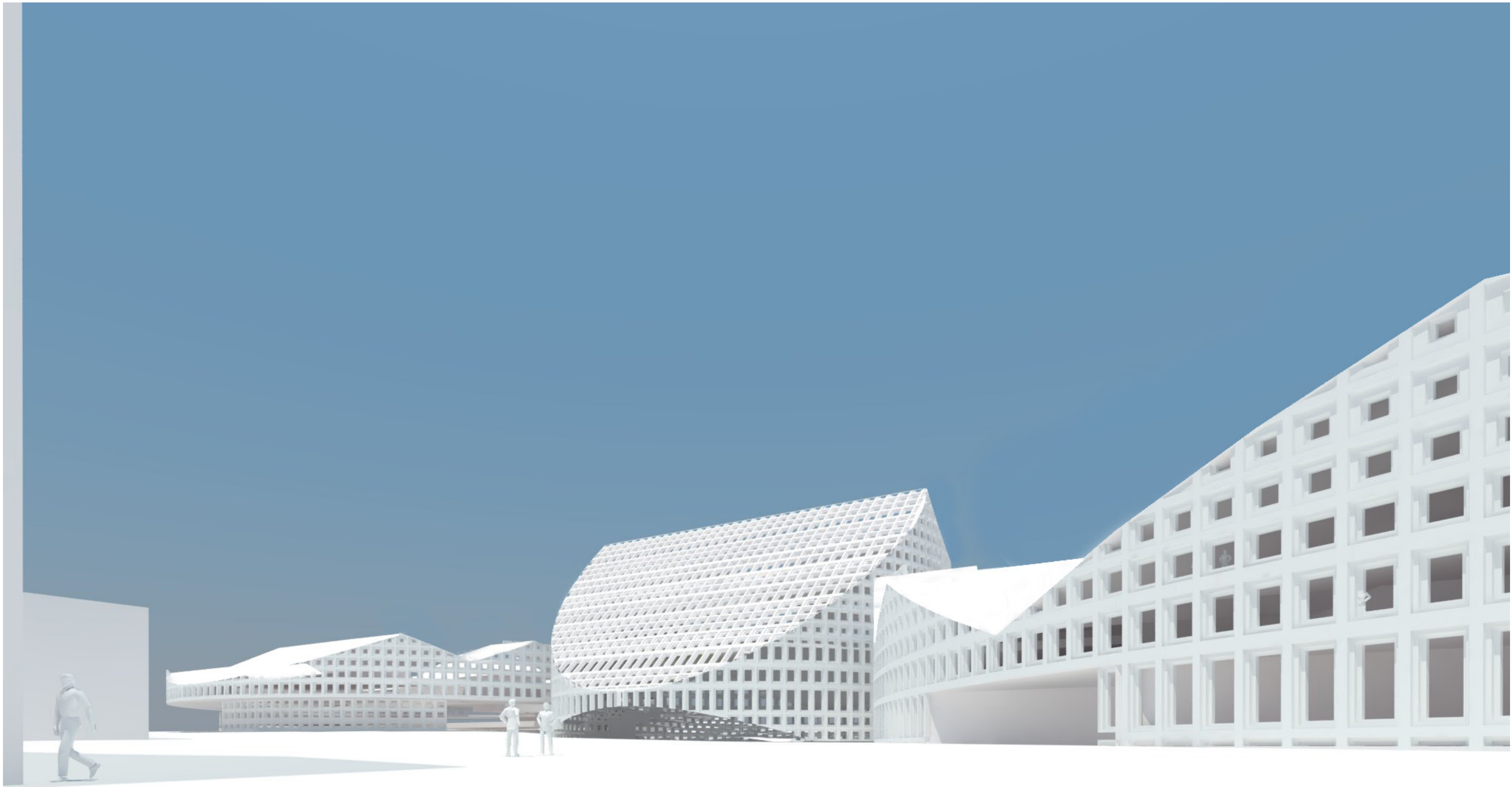






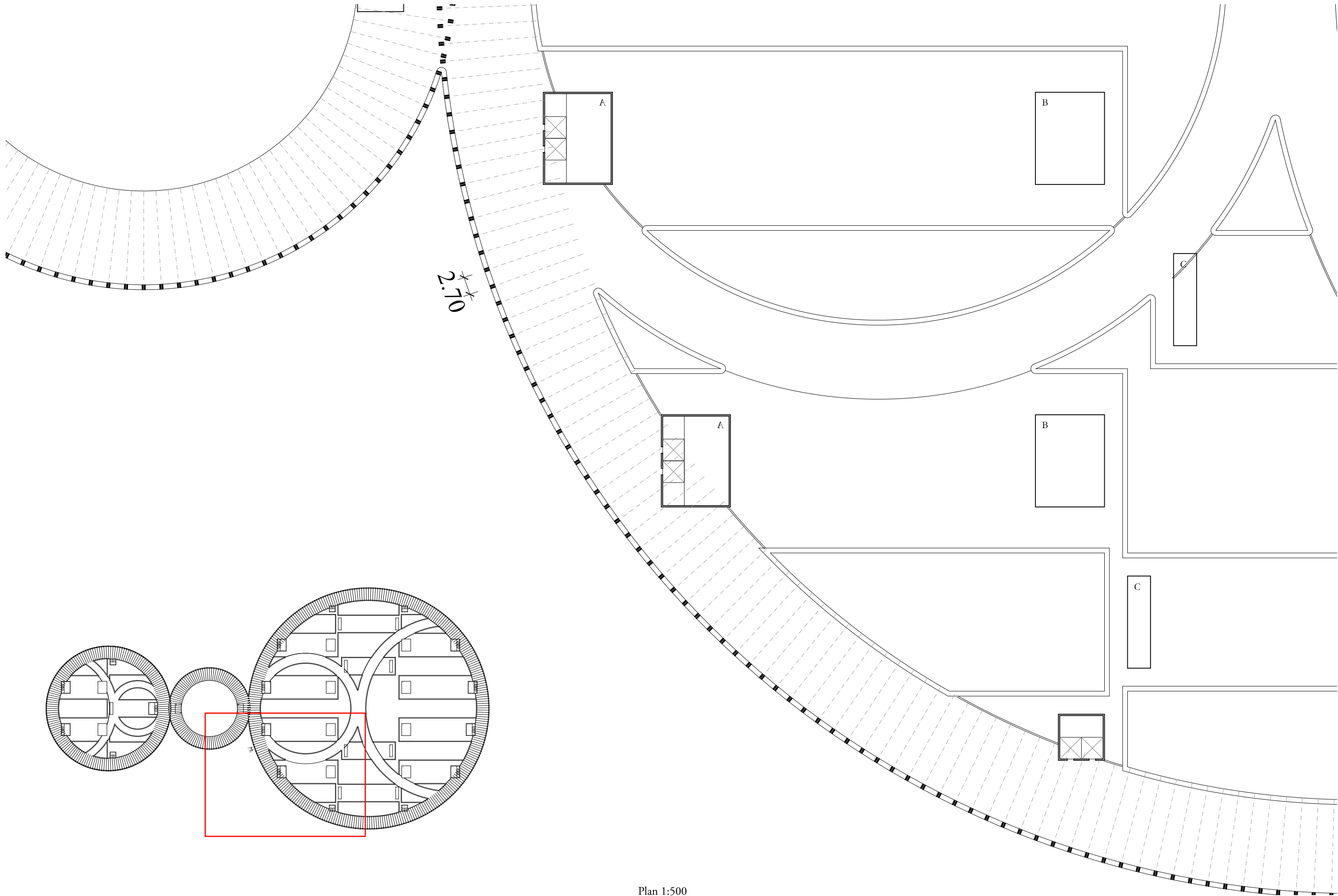


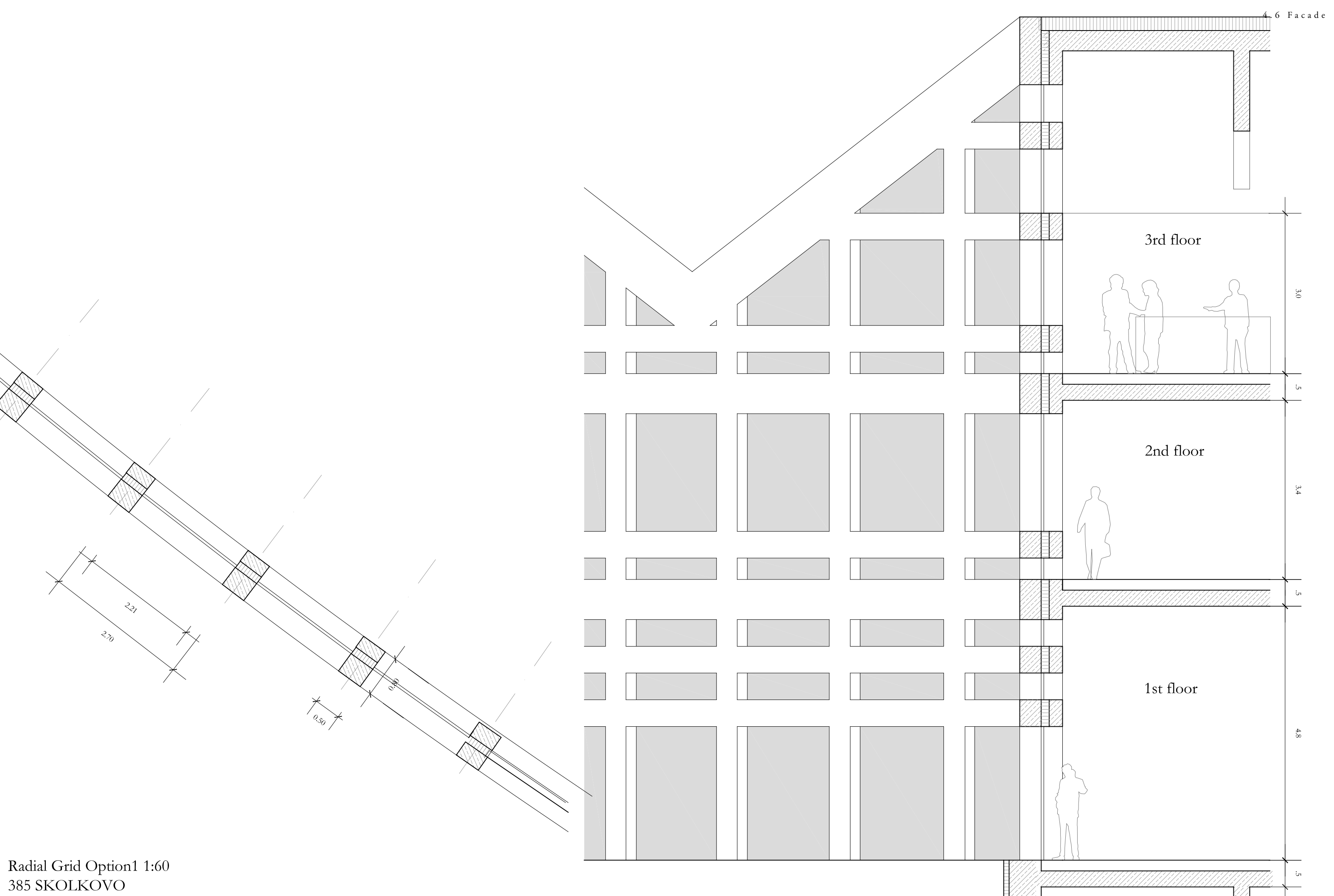




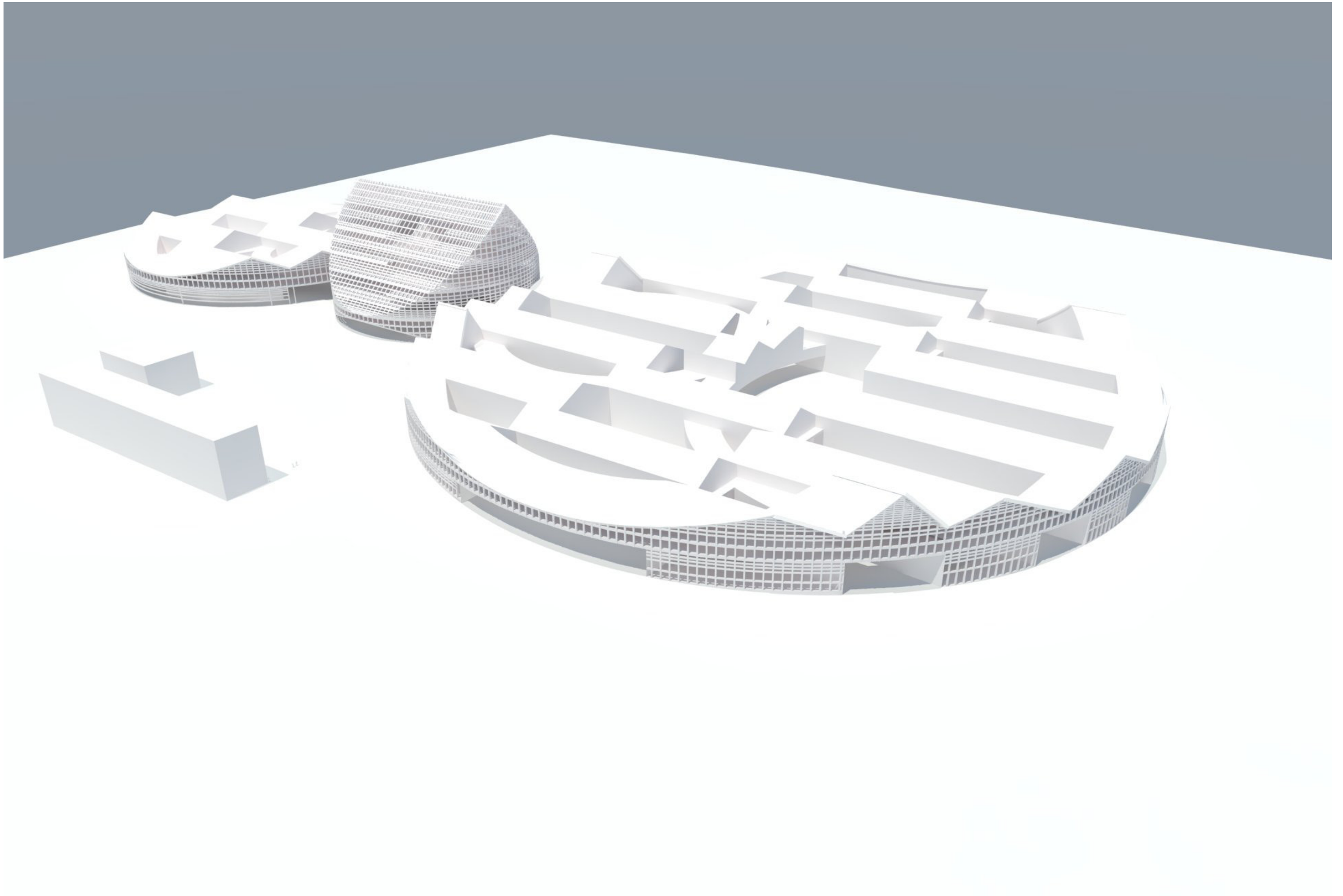
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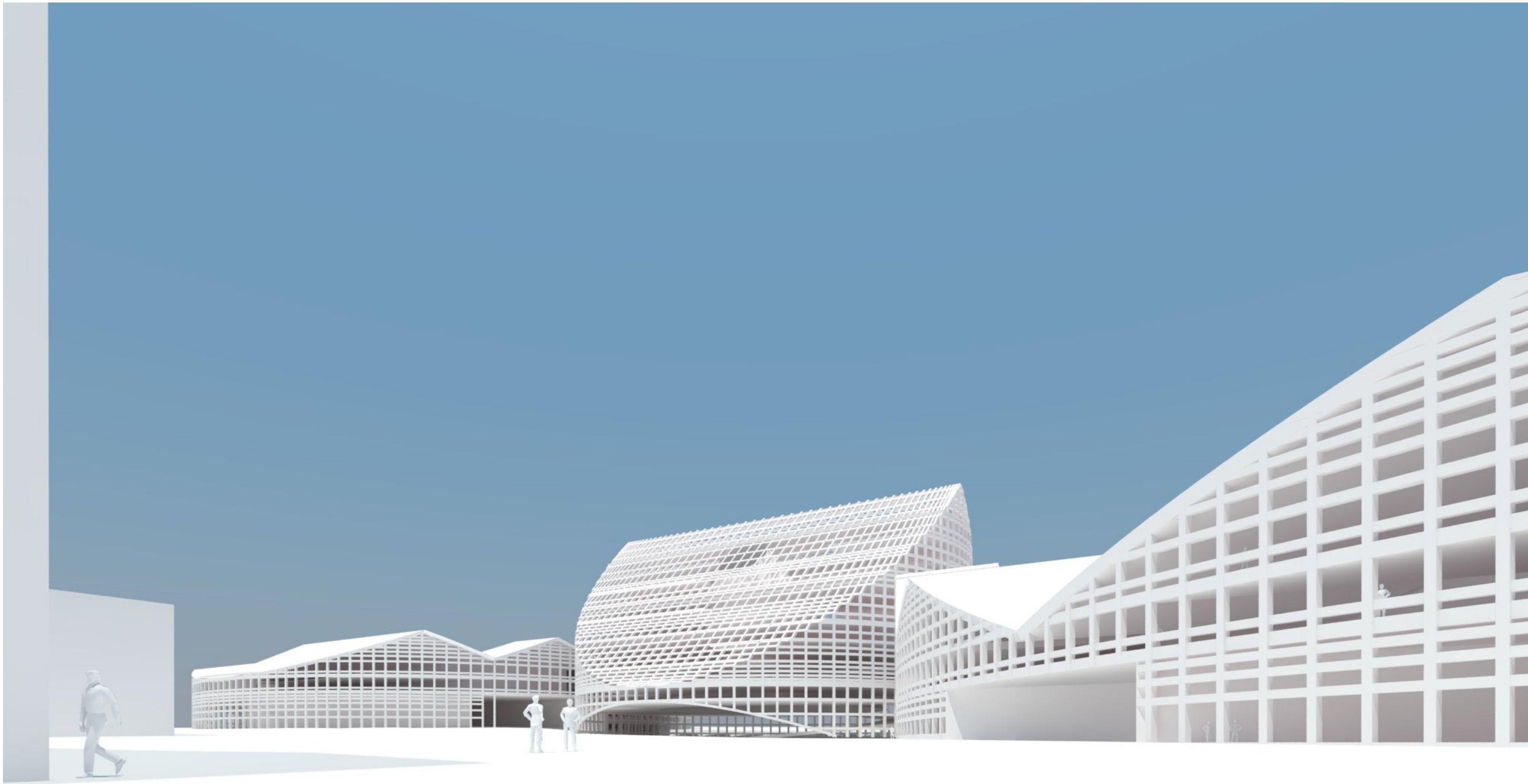
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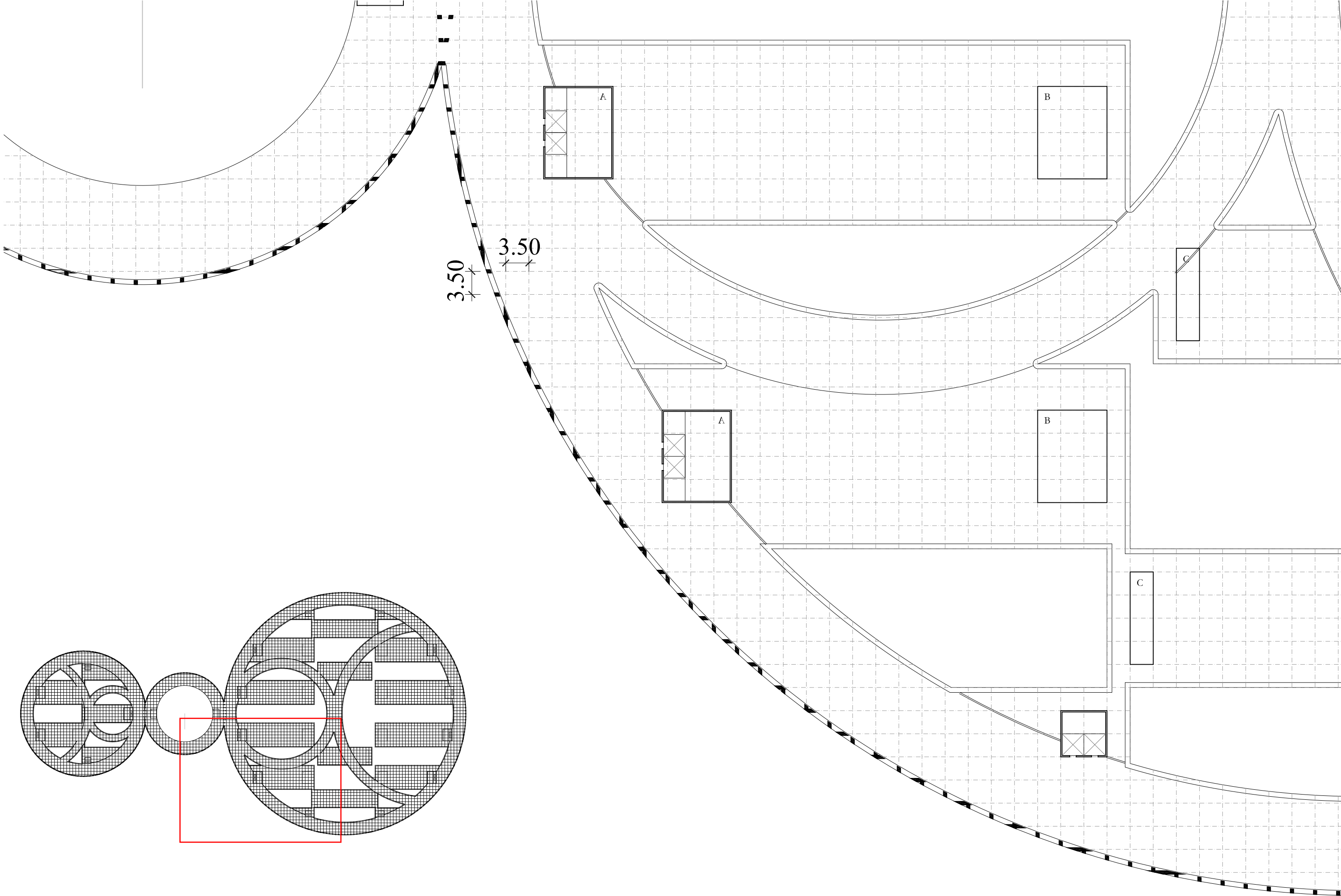




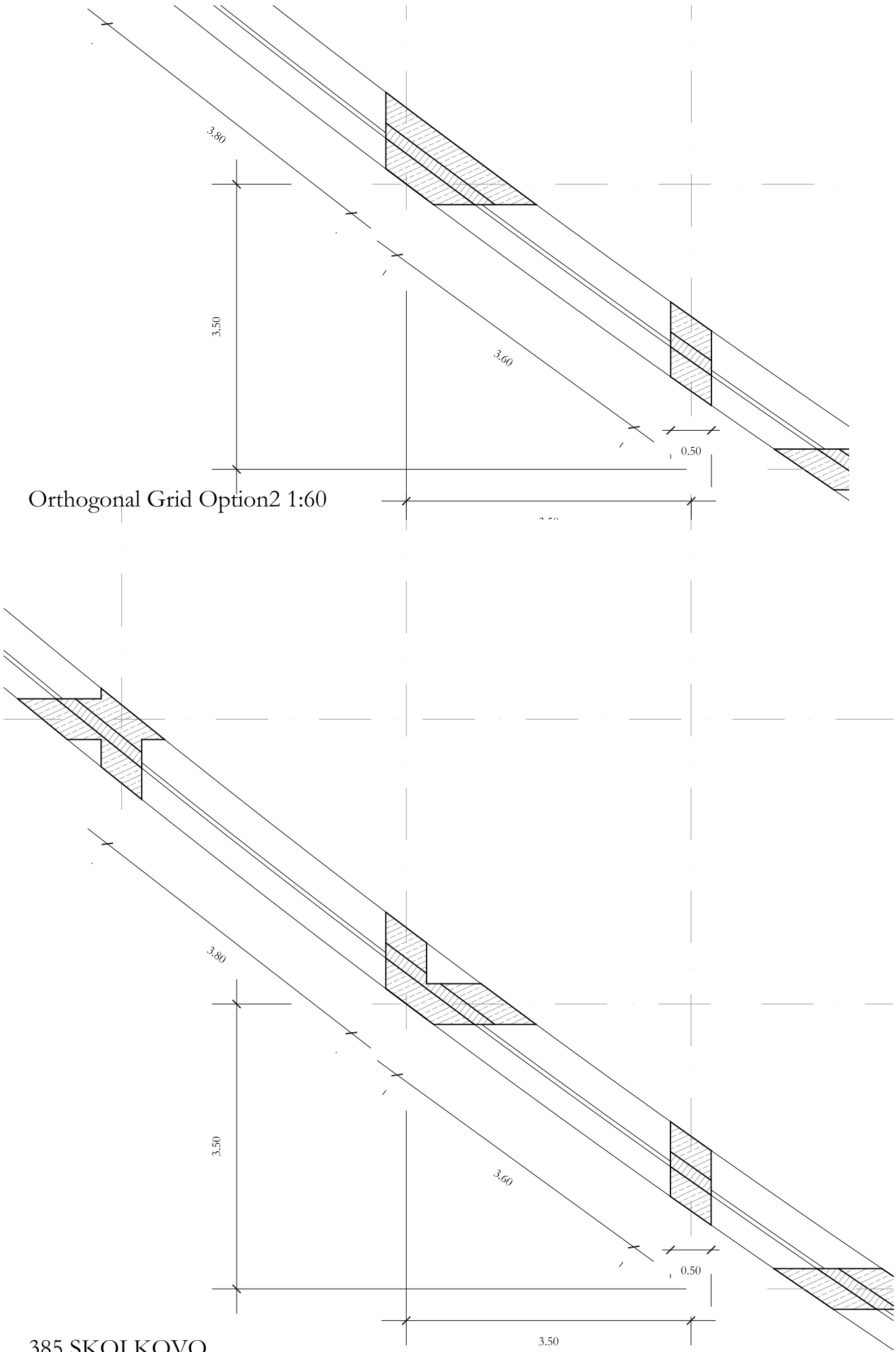
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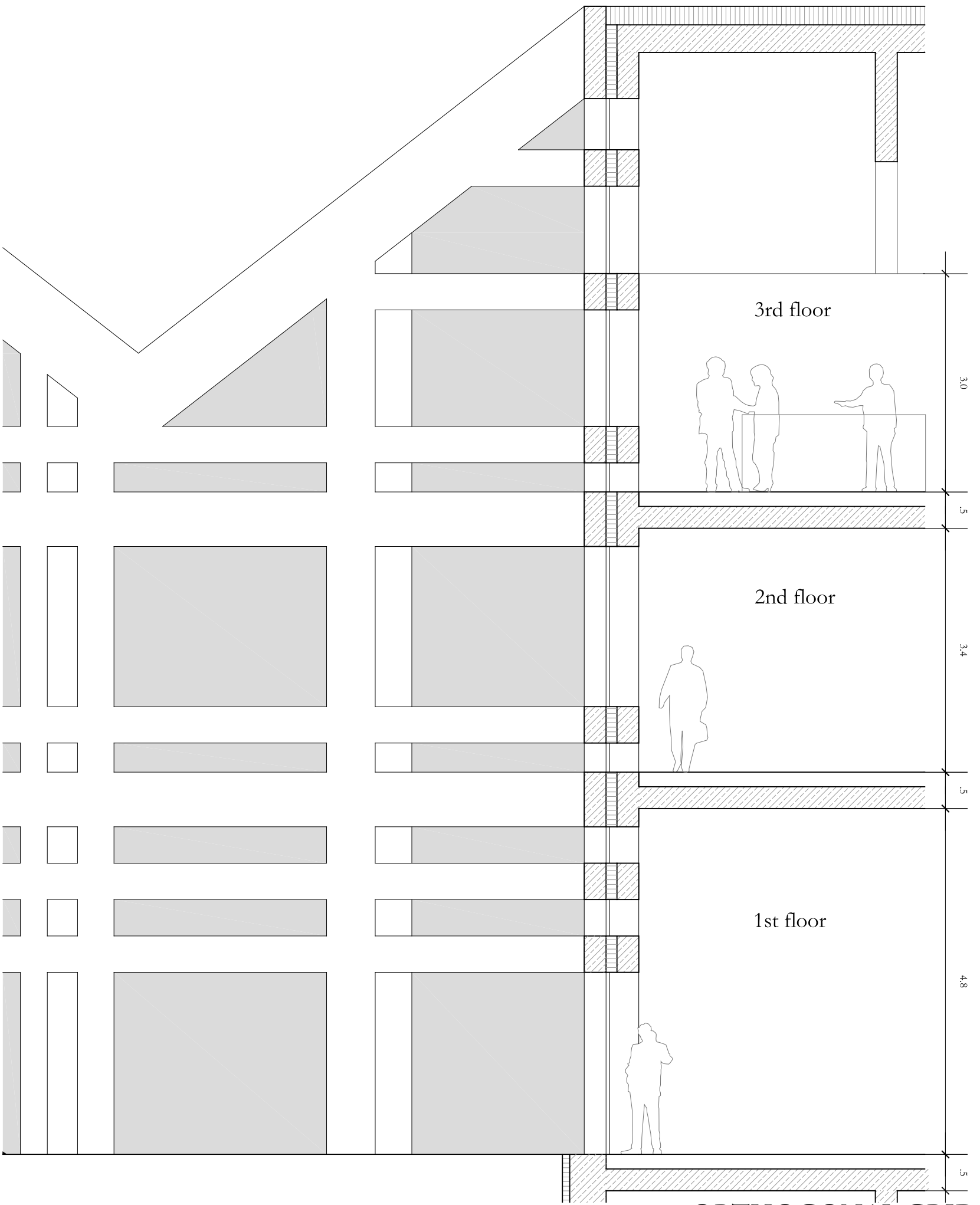


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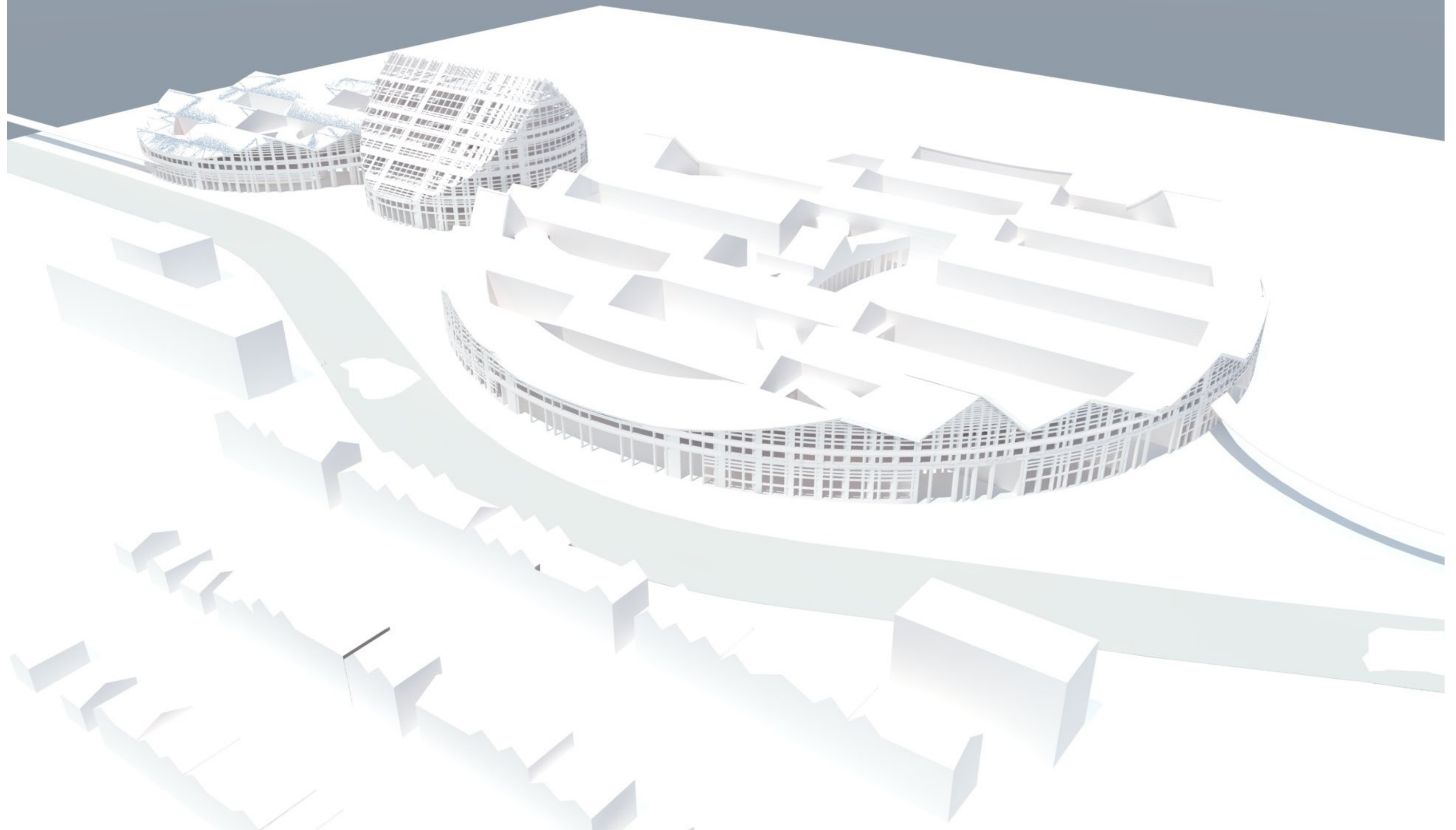


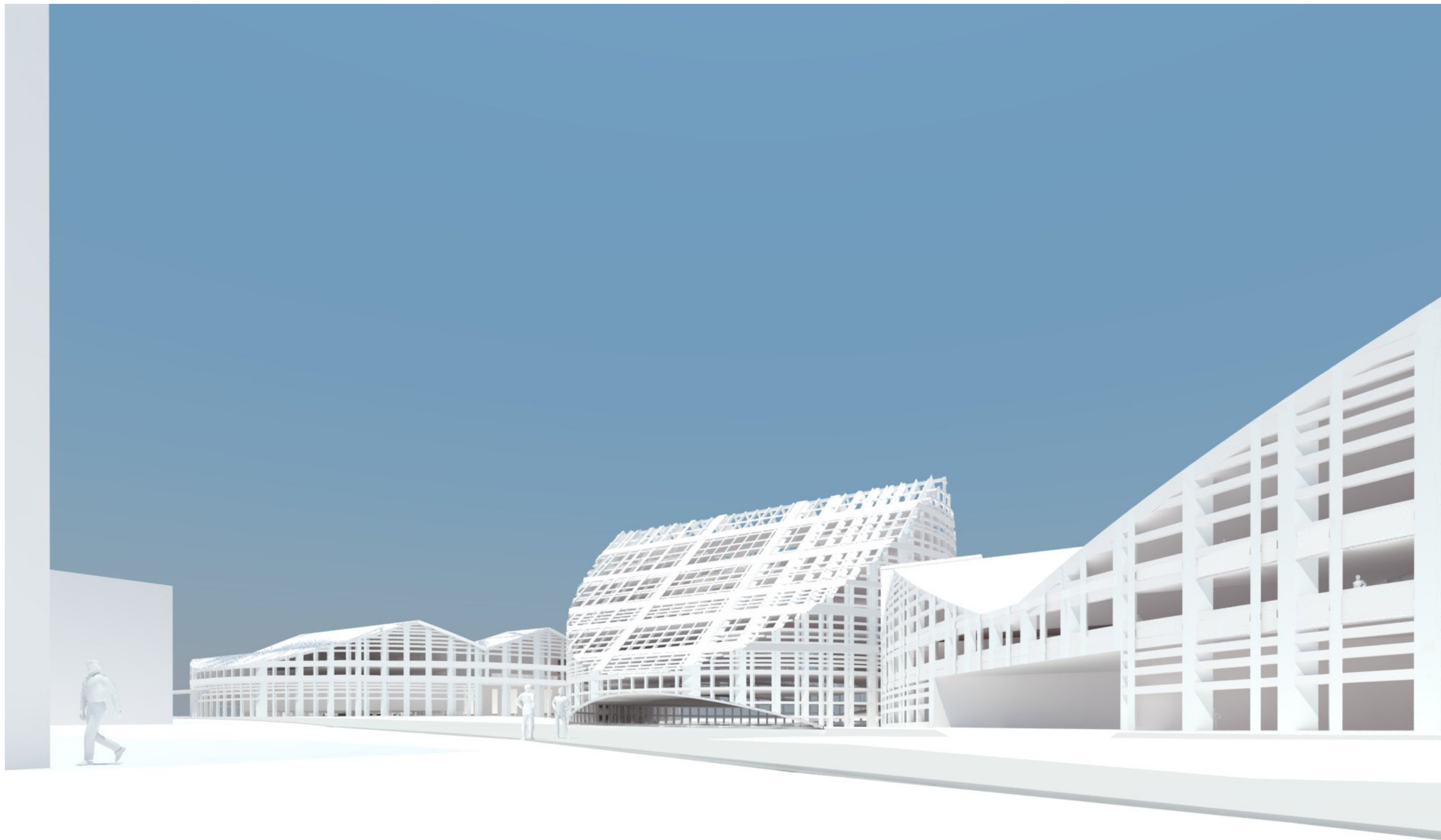
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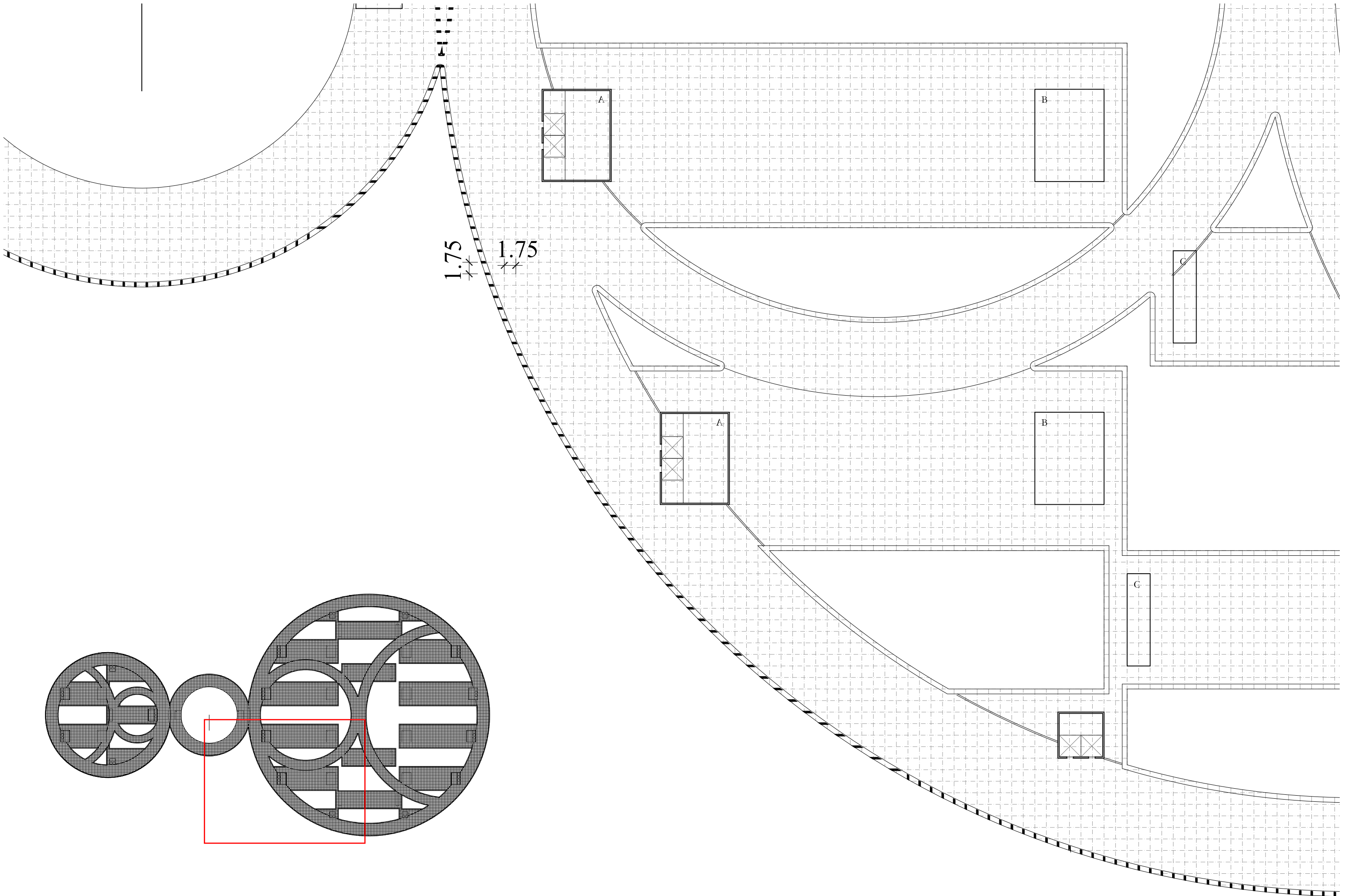
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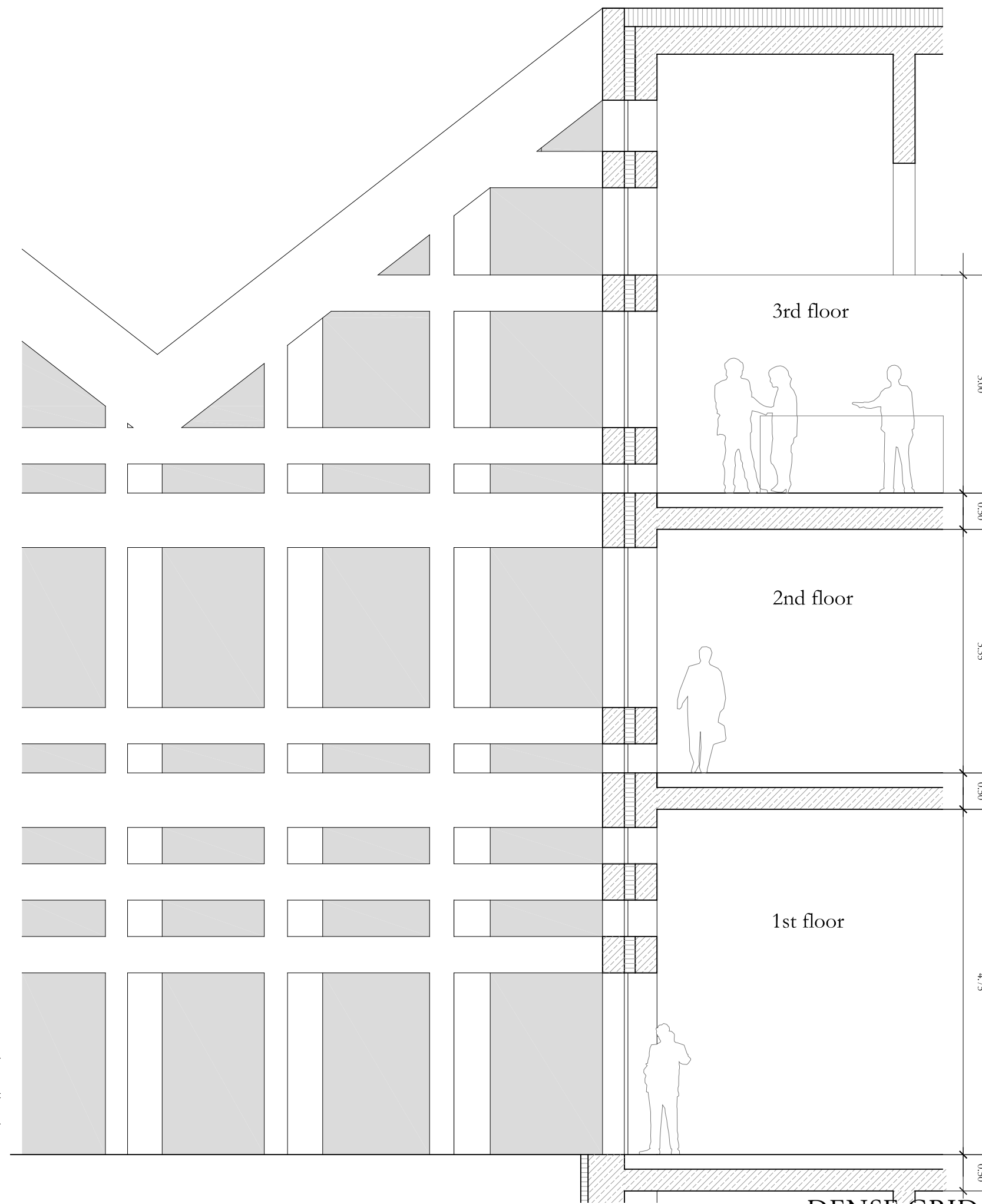
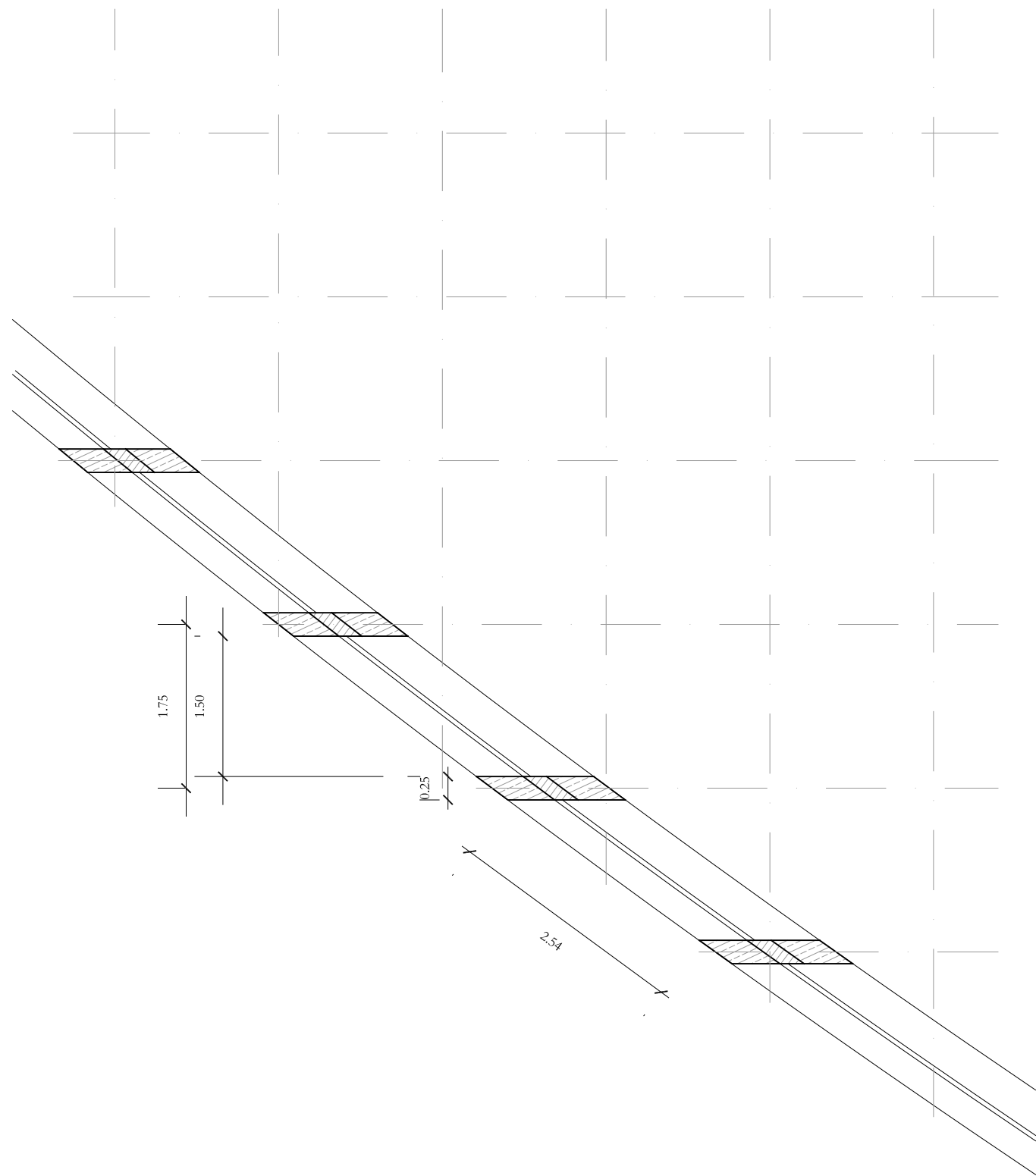


ORTHOGONAL GRID
FACADE STUDIES



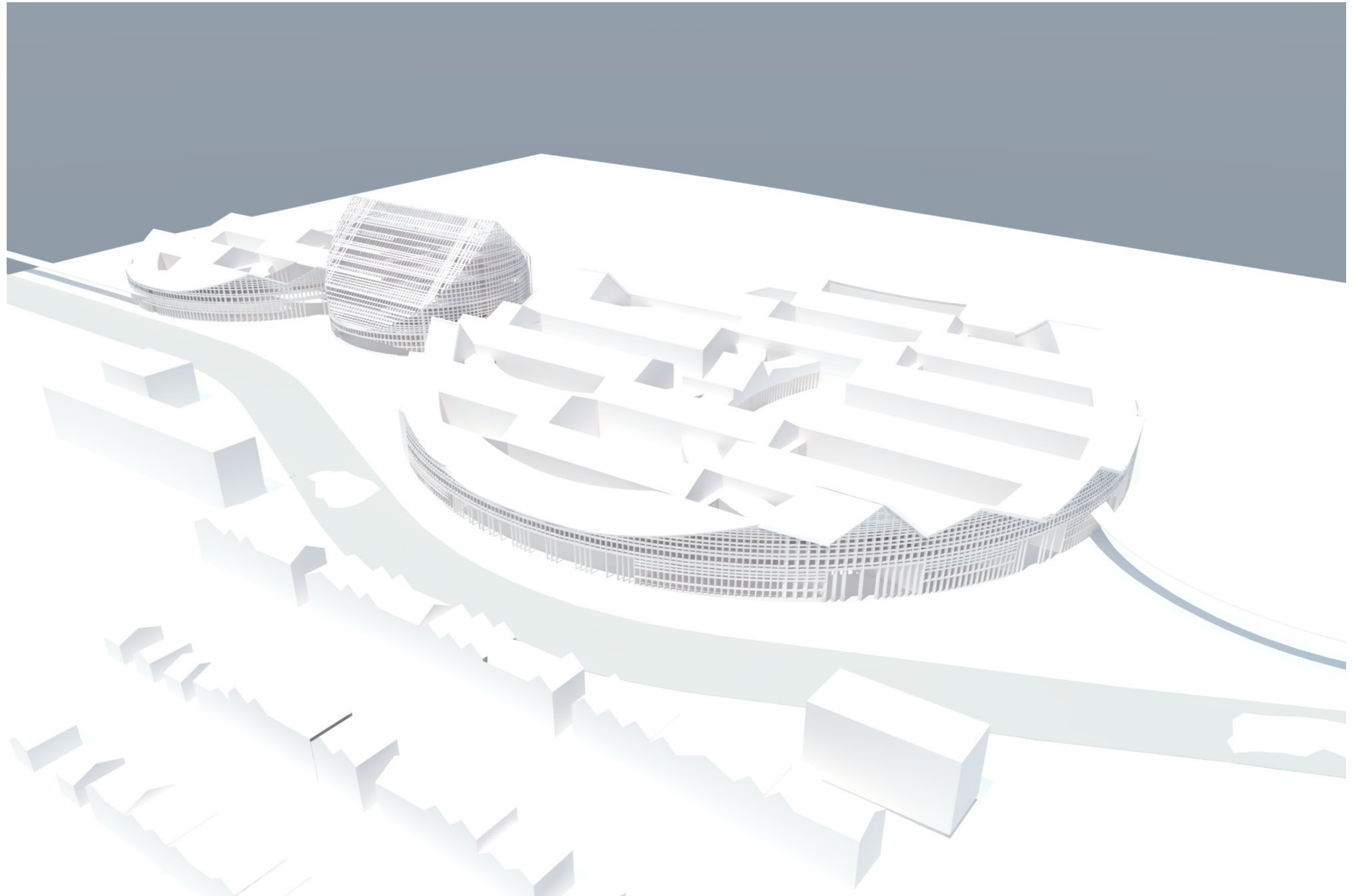


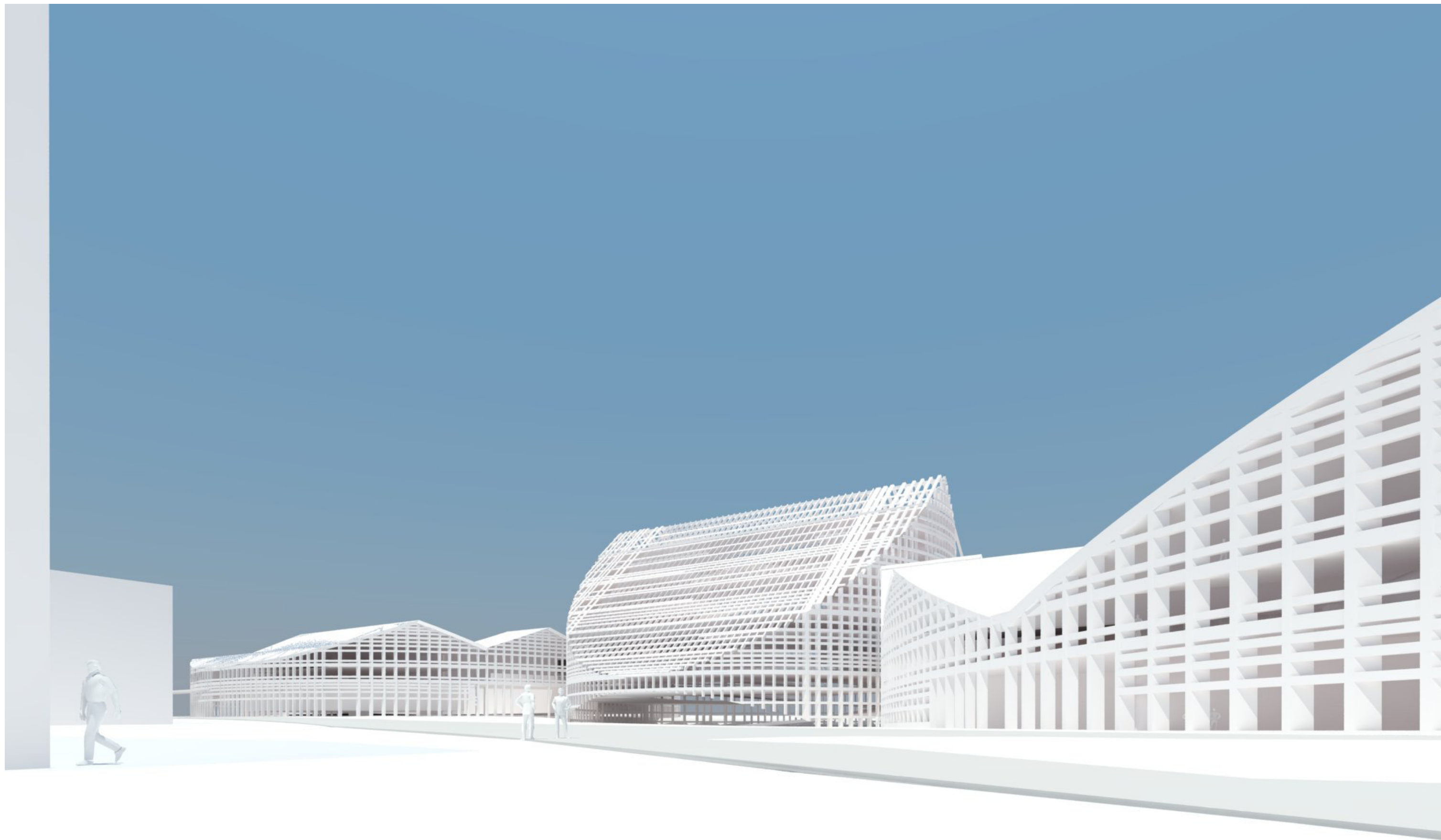


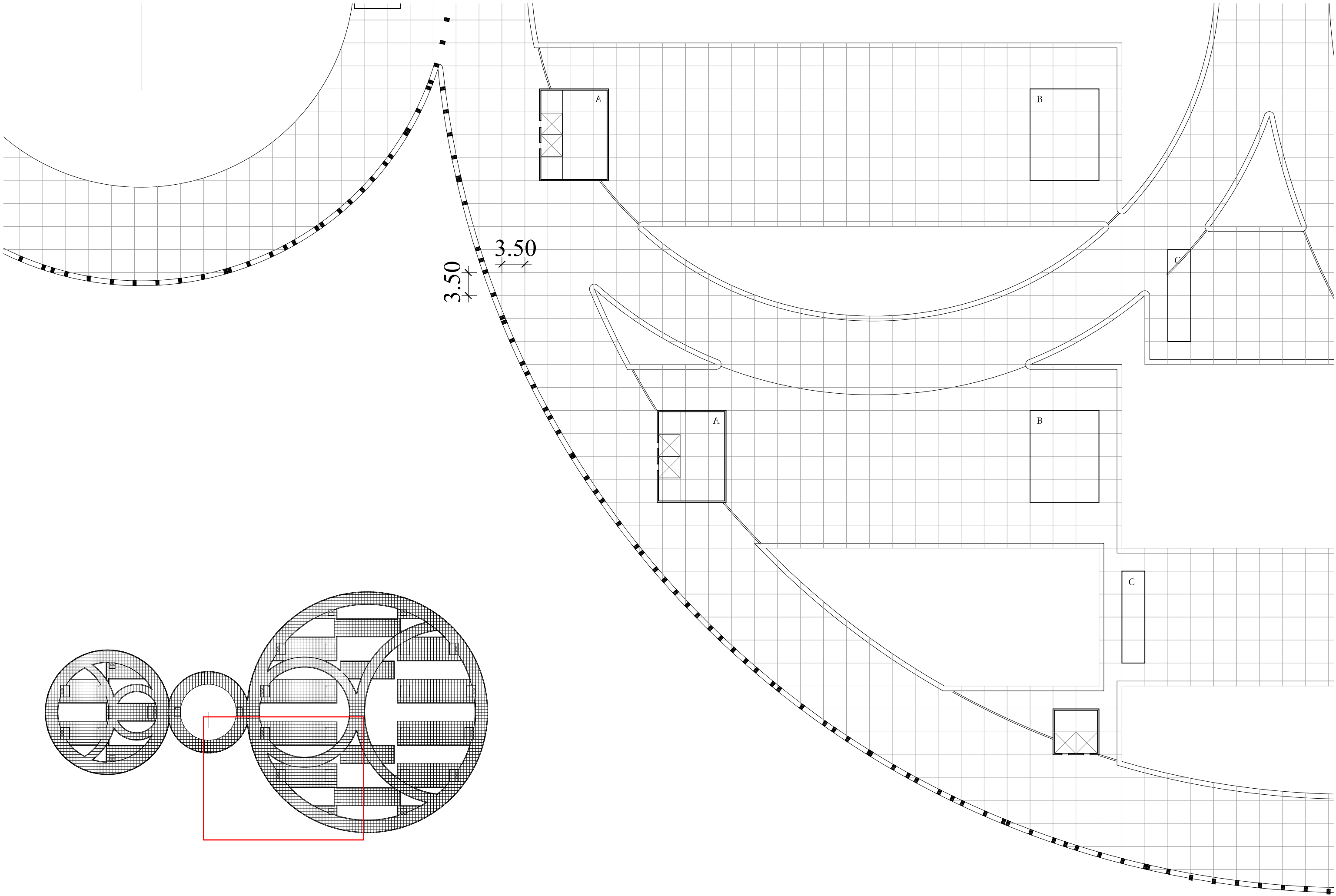


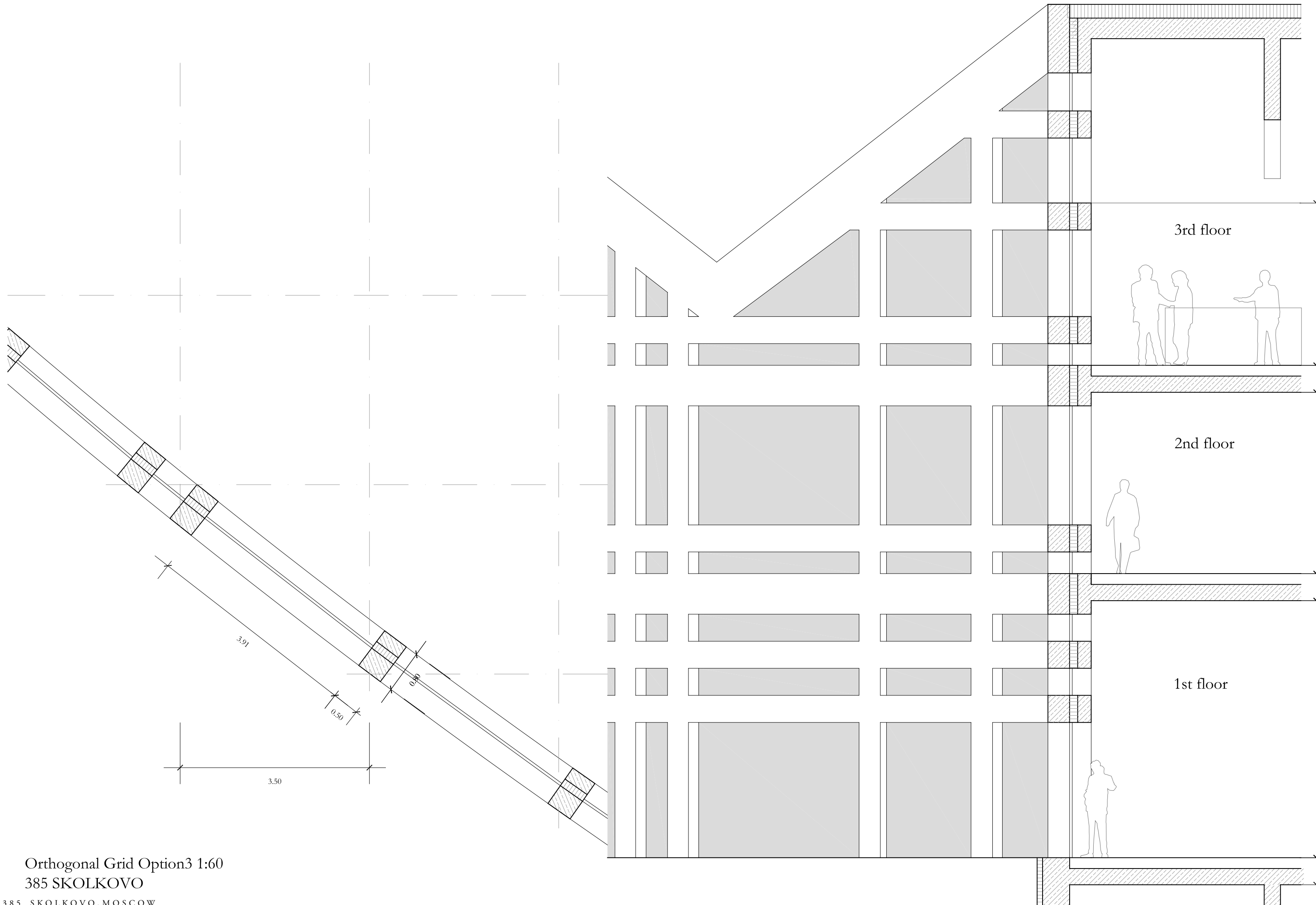
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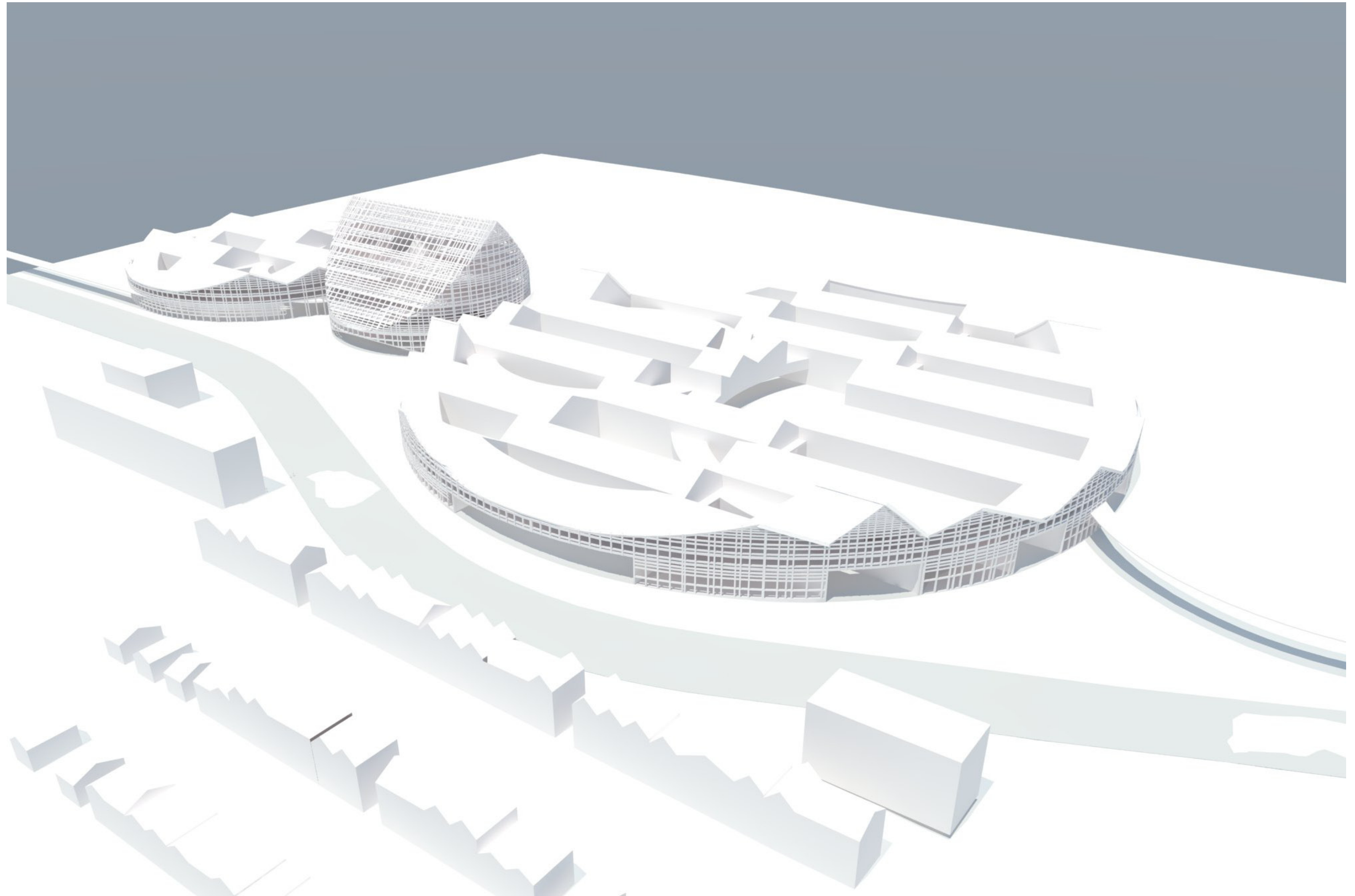


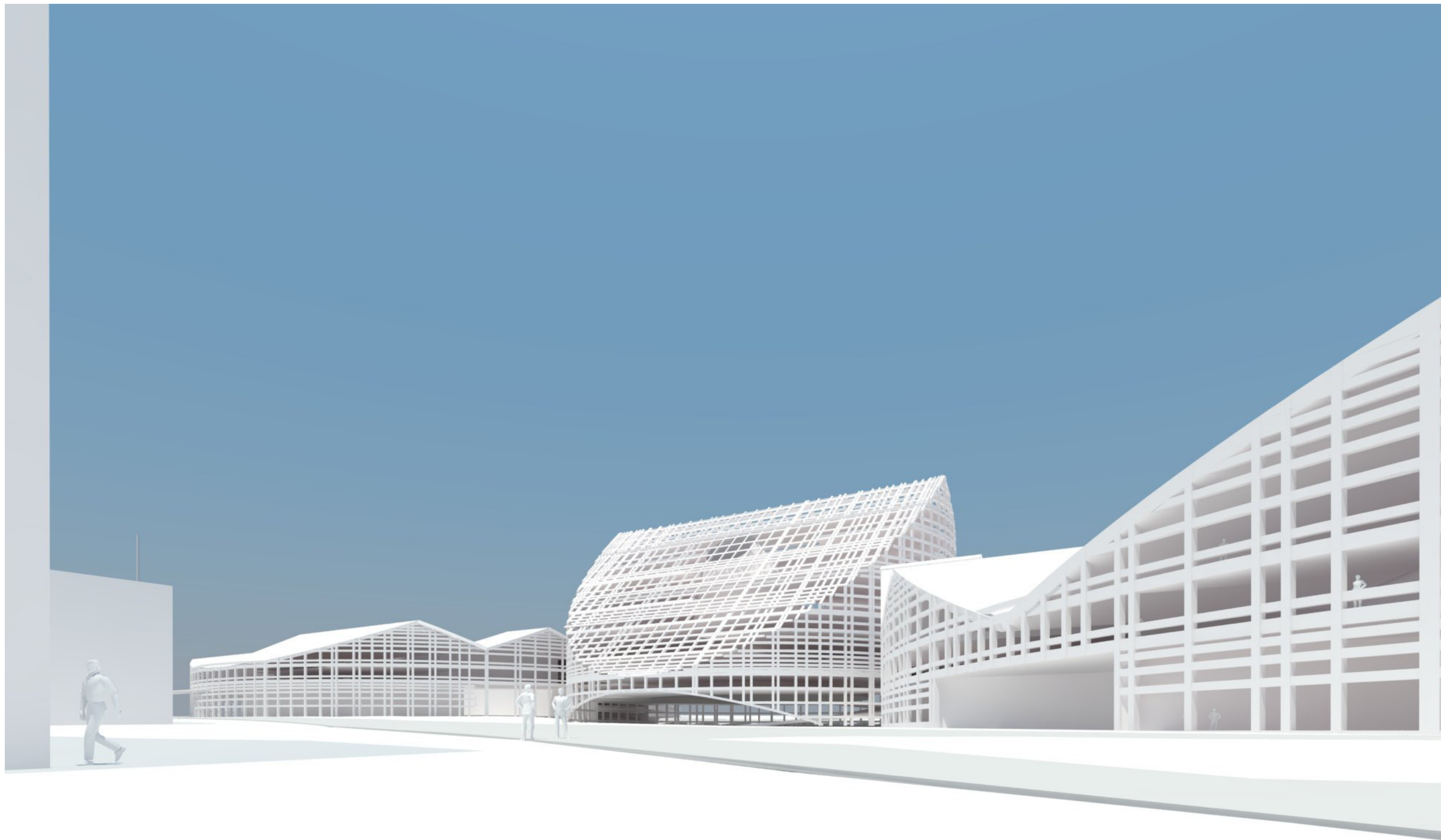






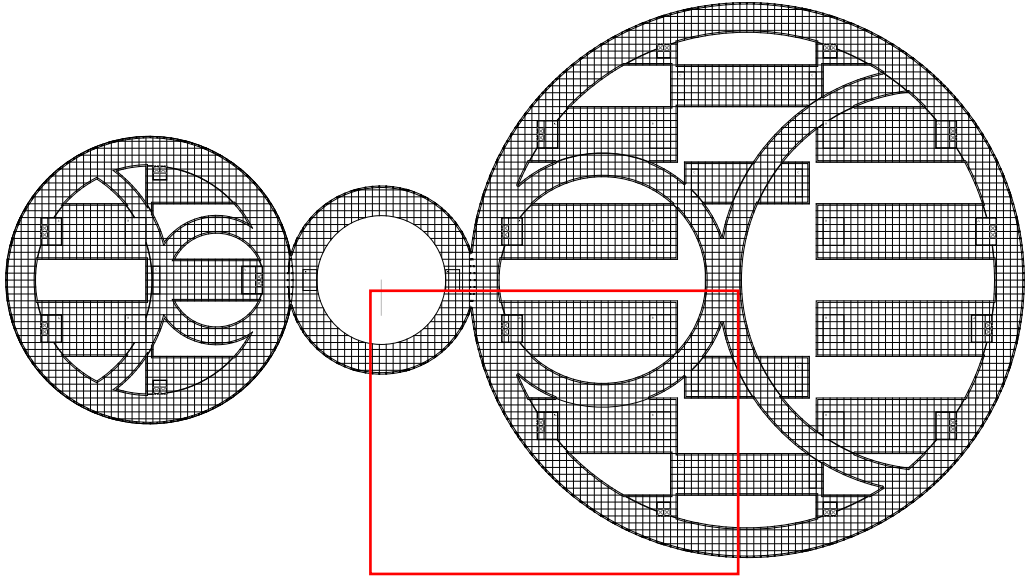
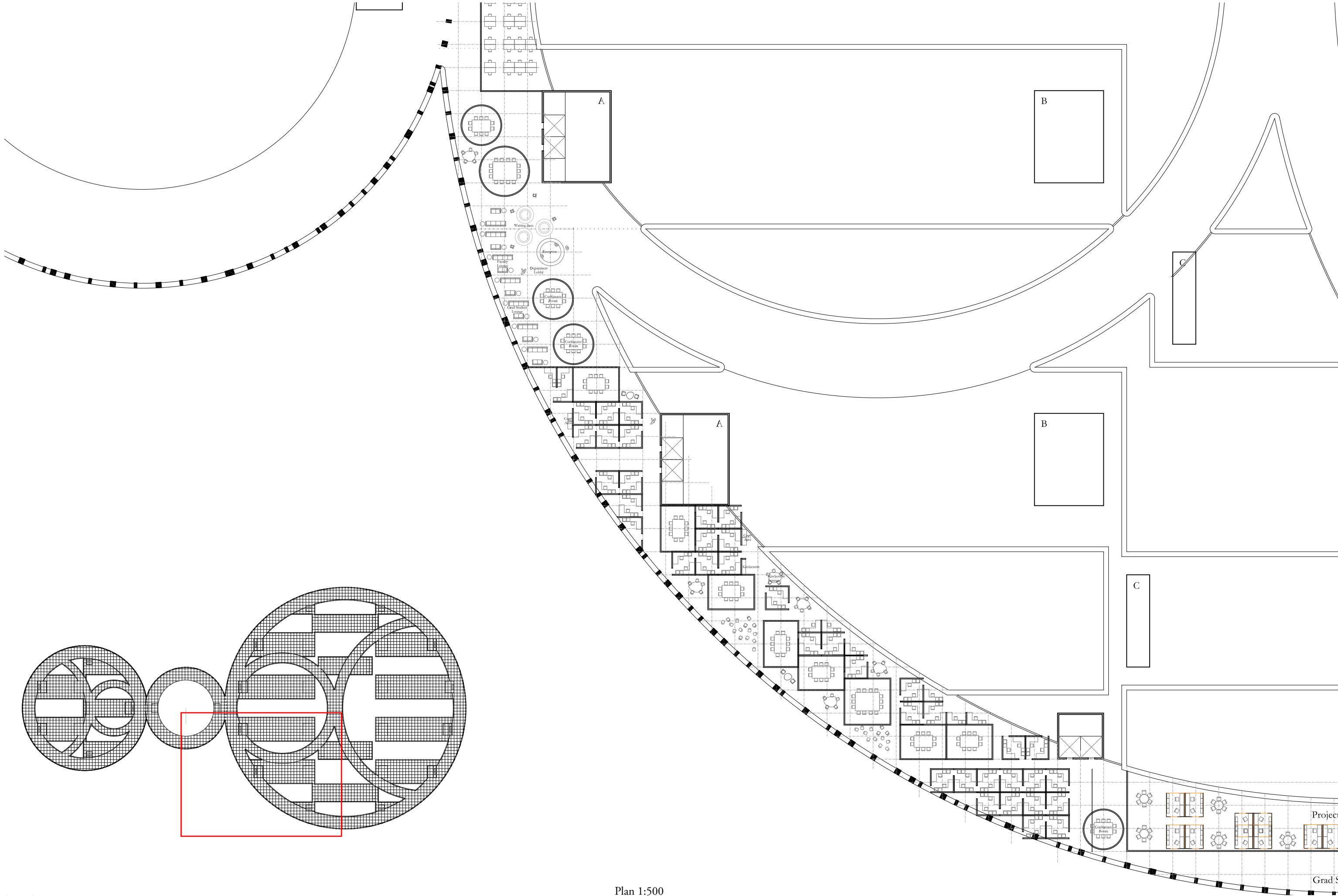
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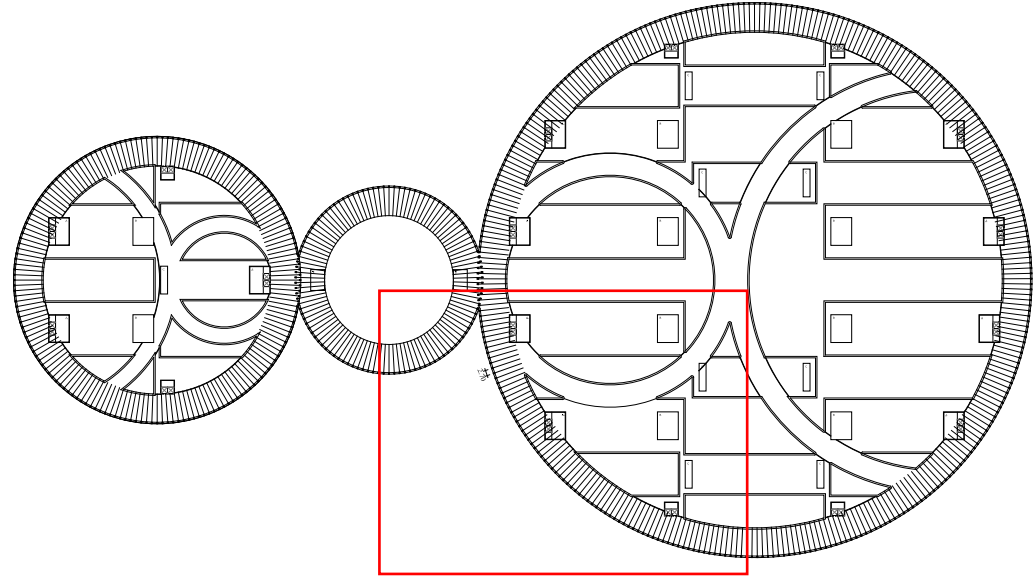
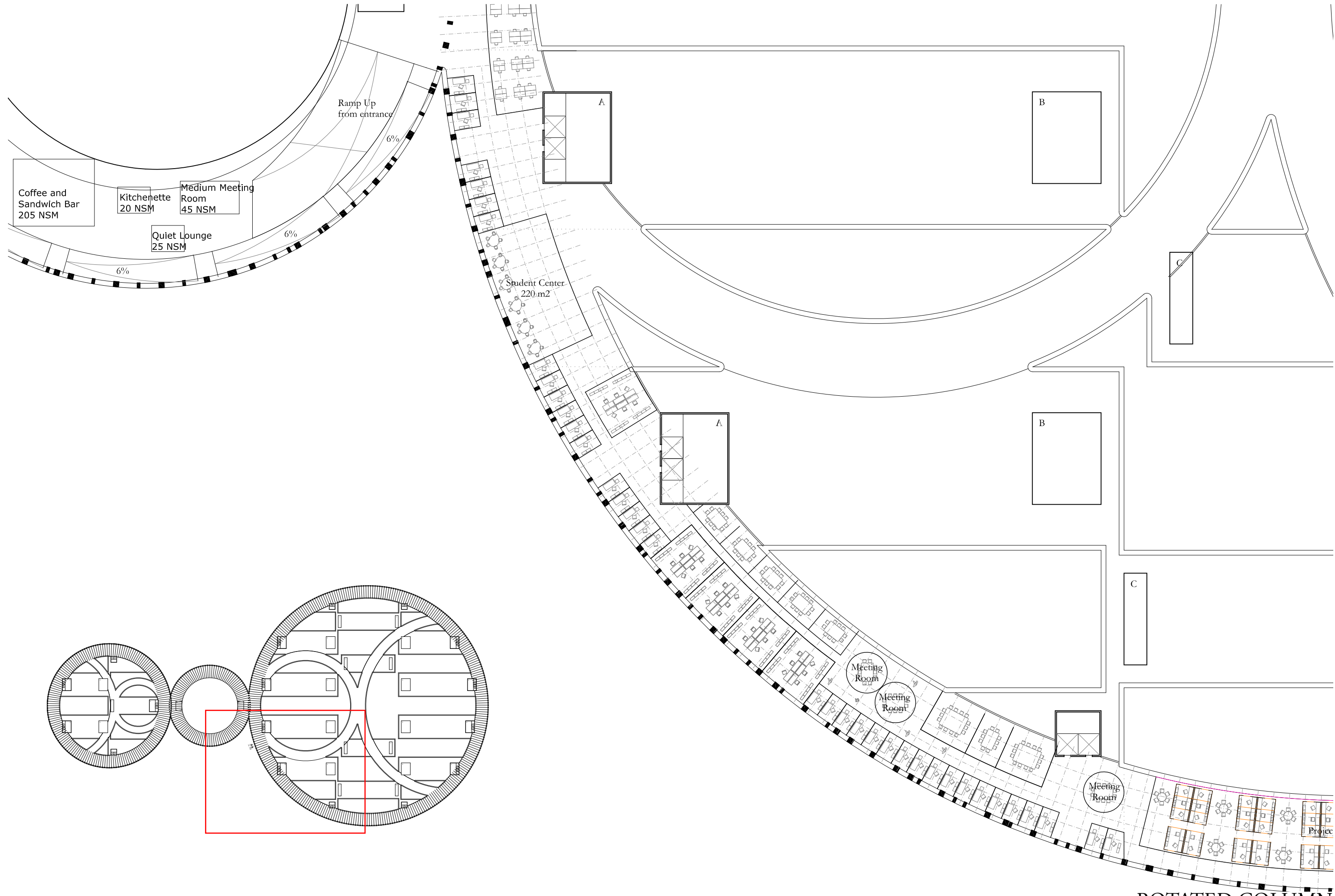
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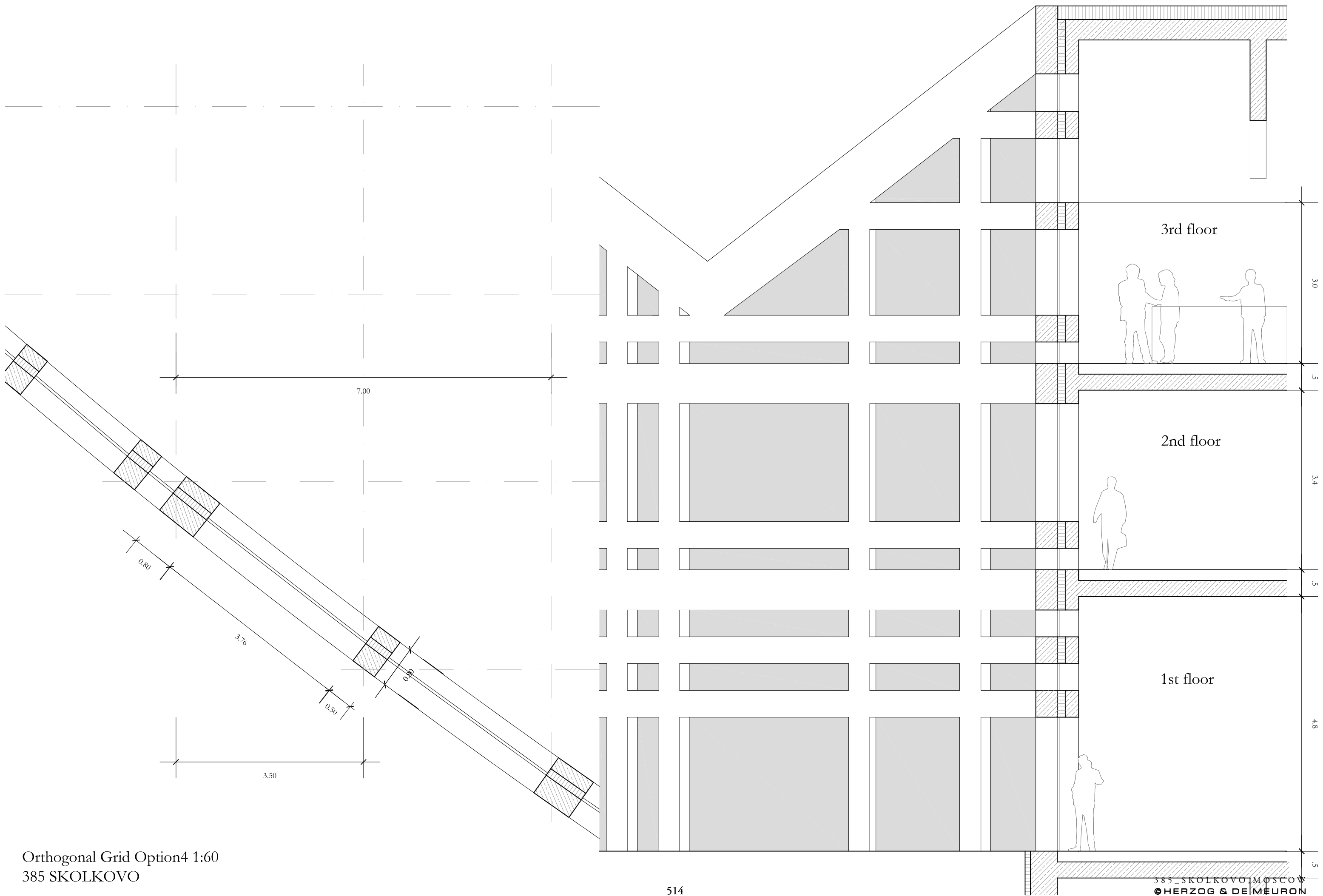
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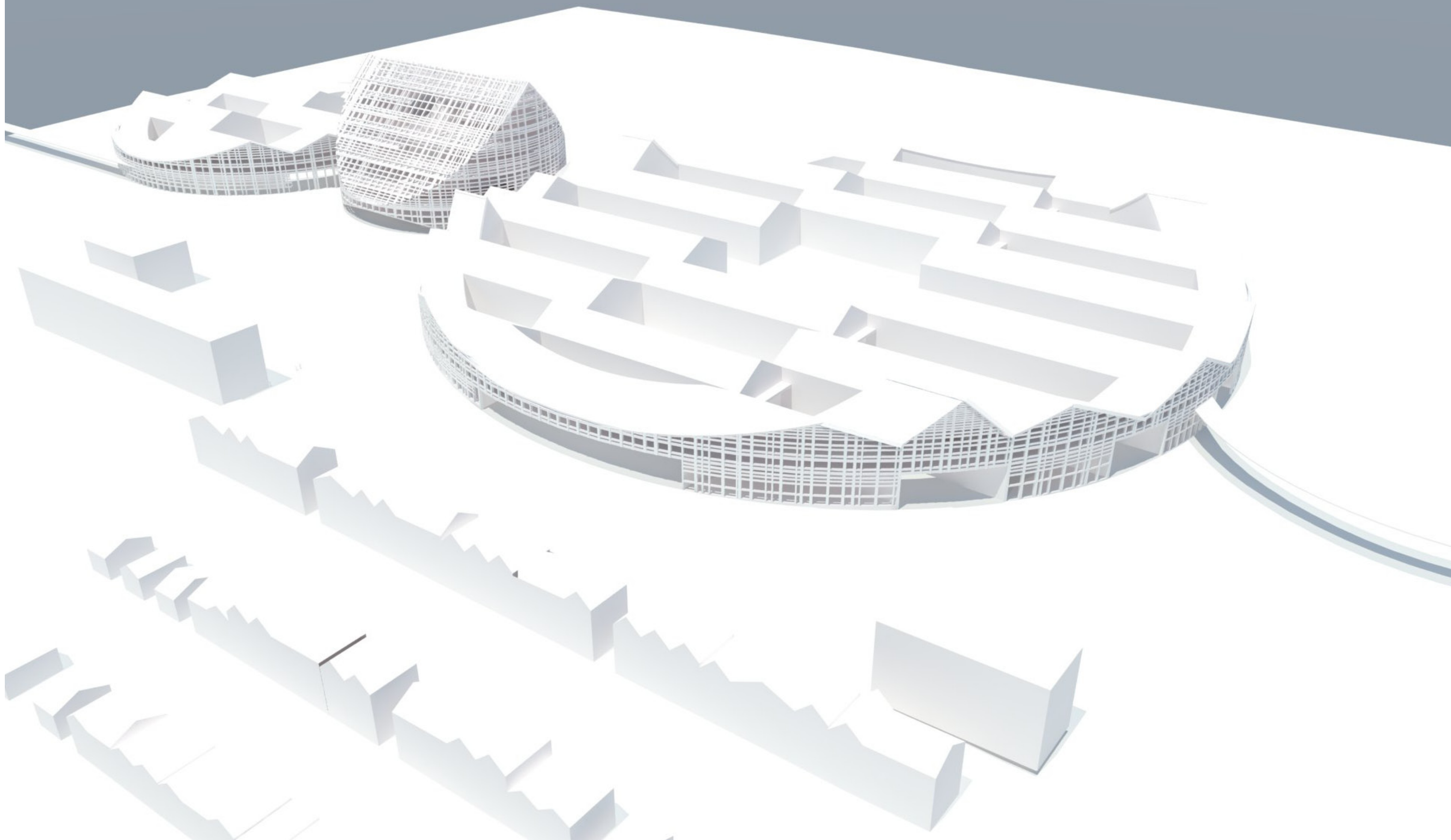


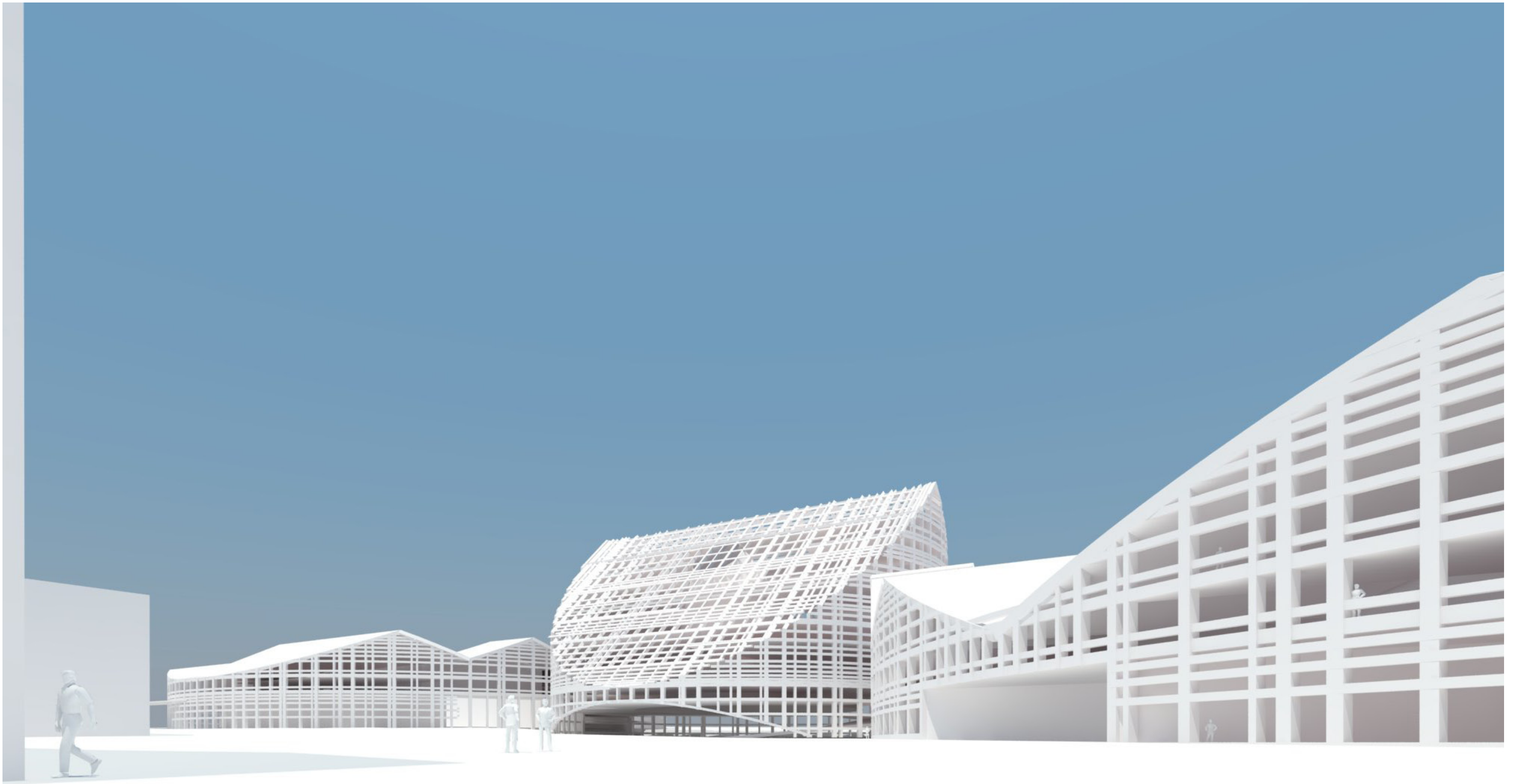
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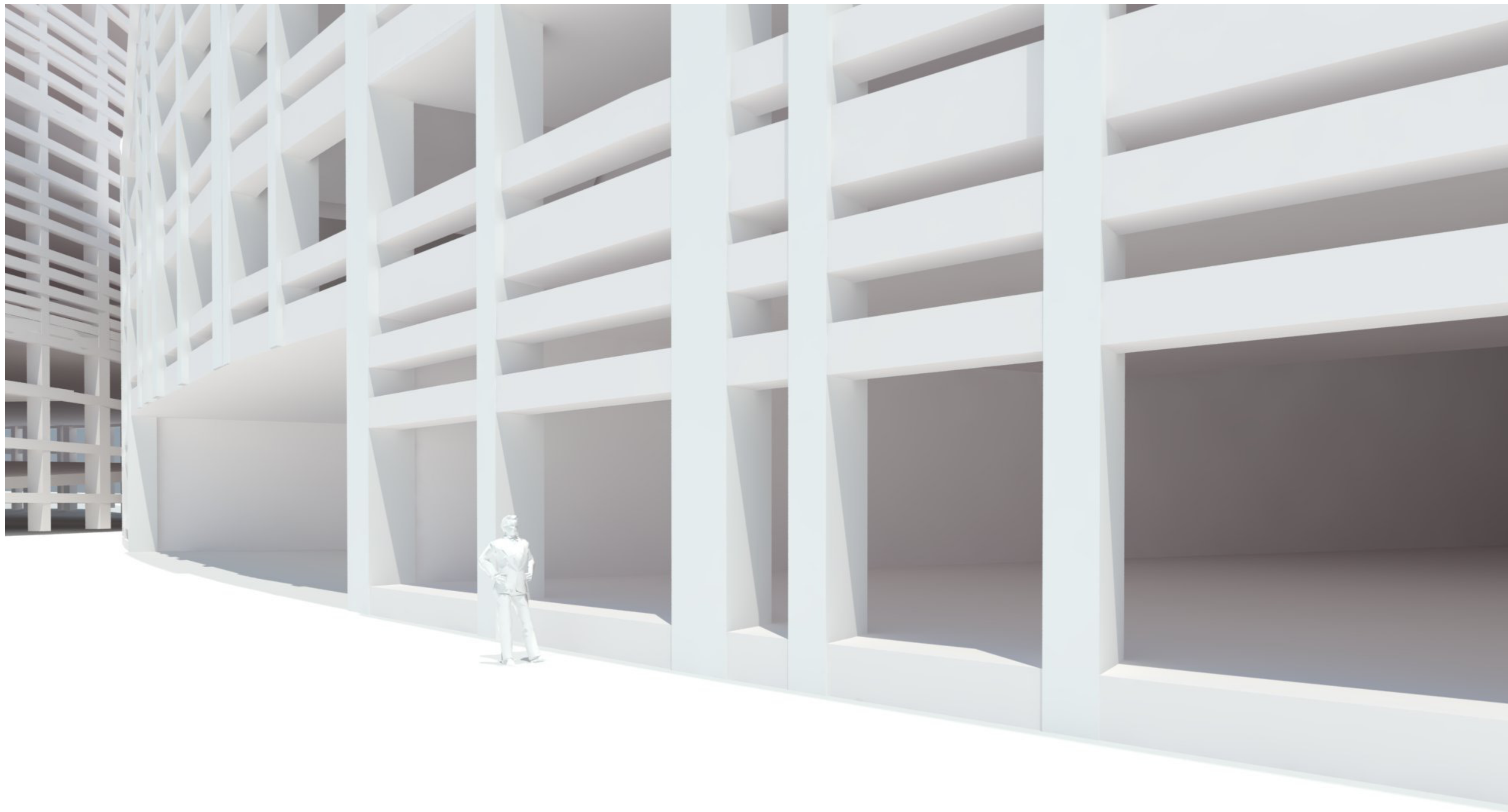






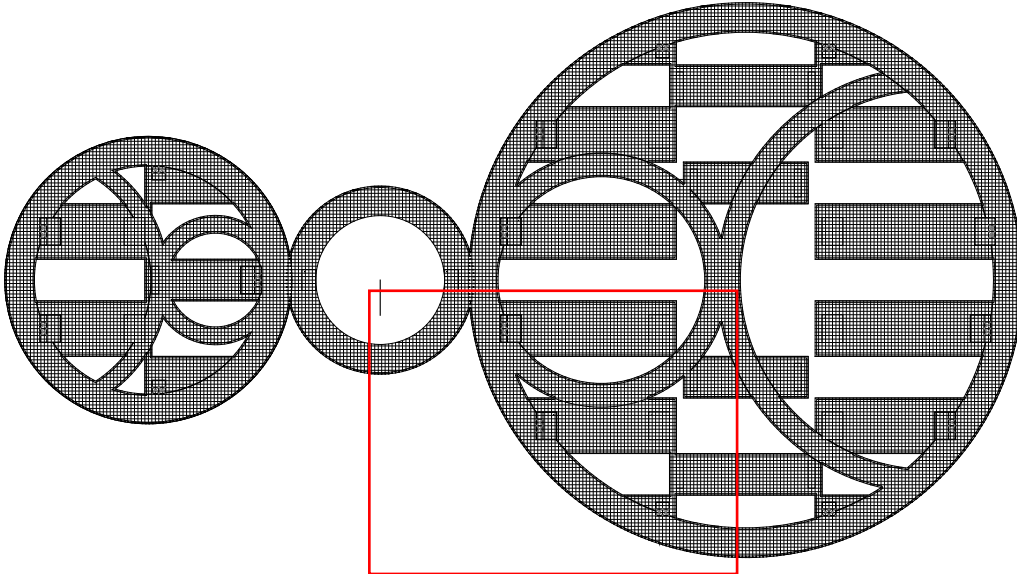
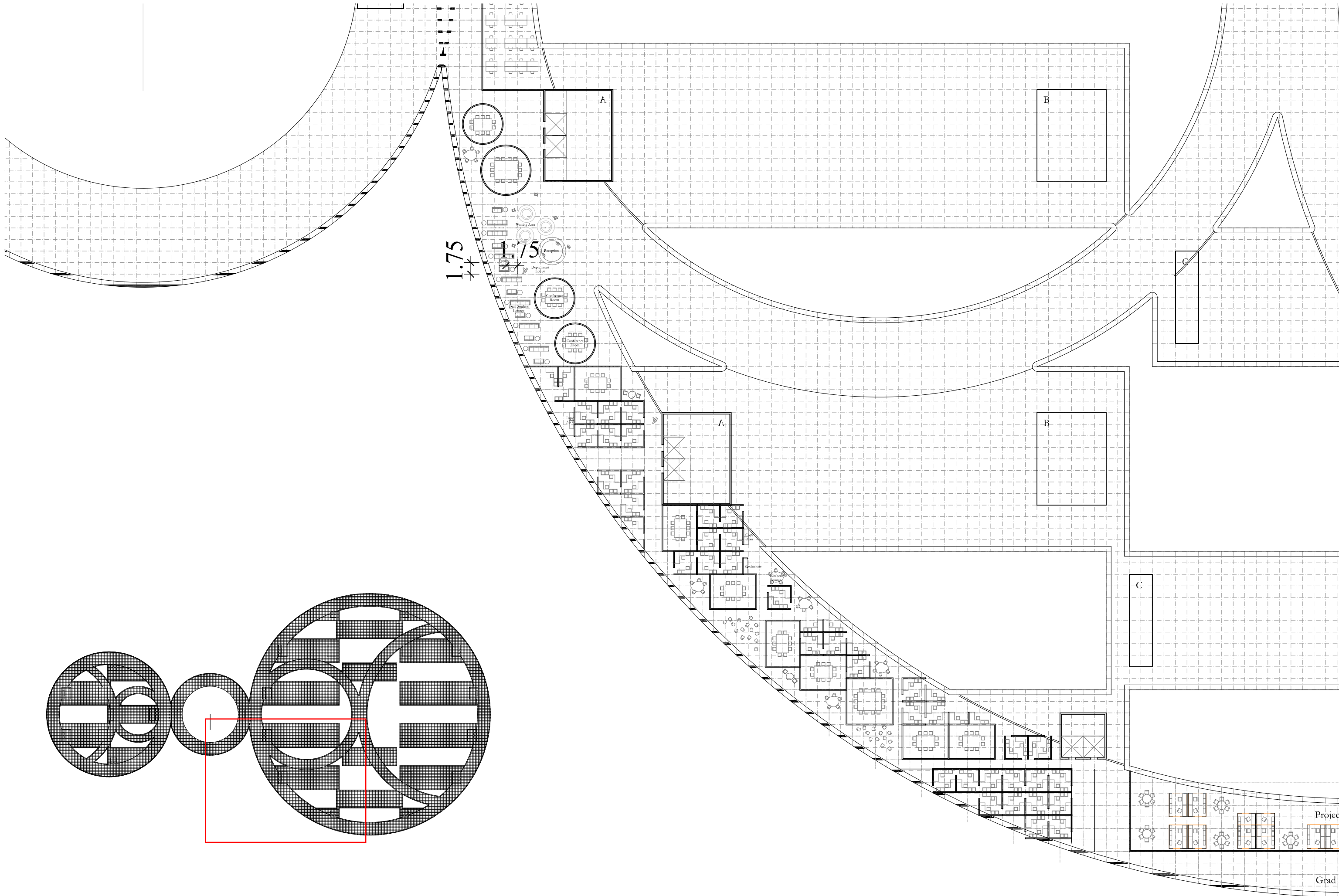


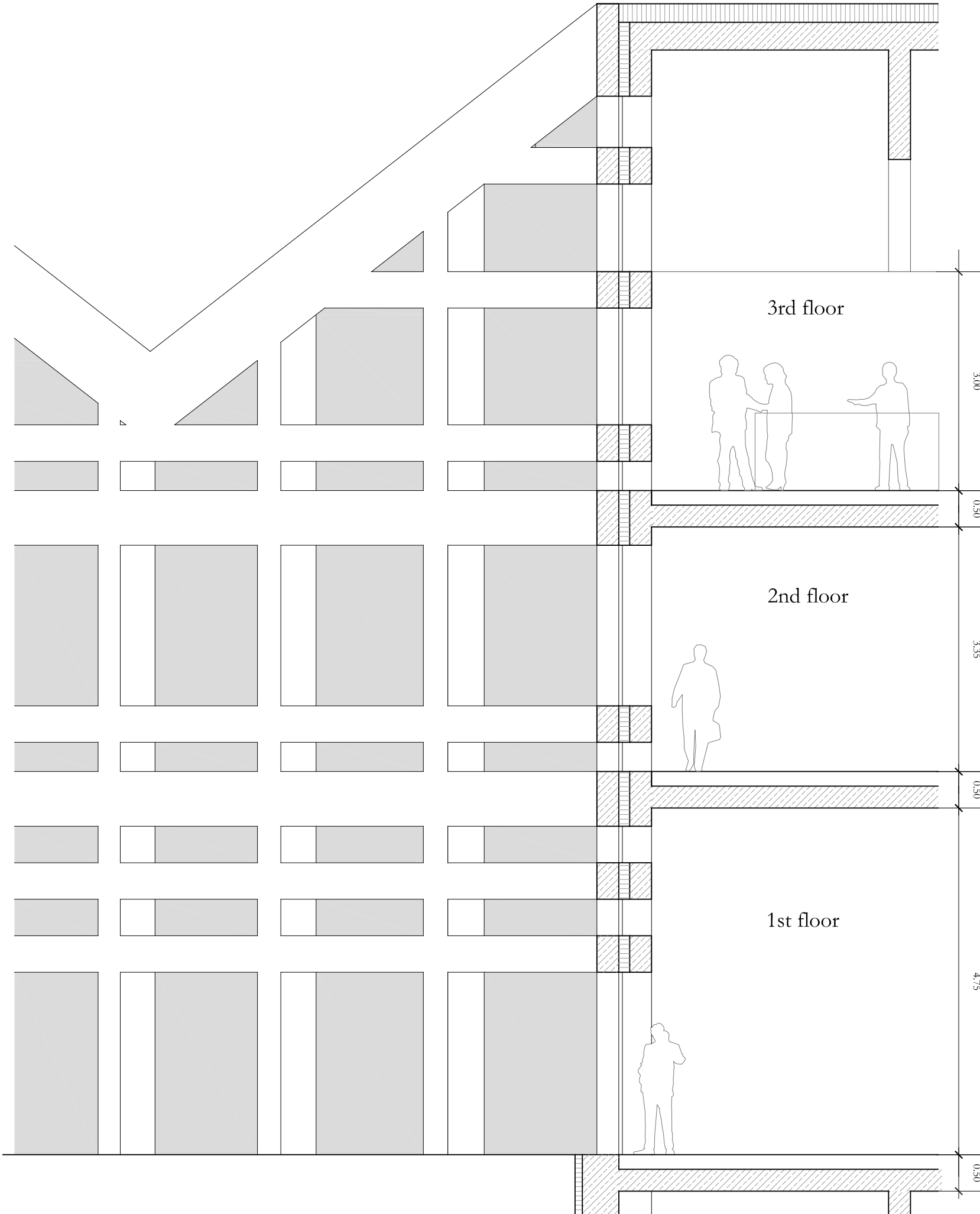
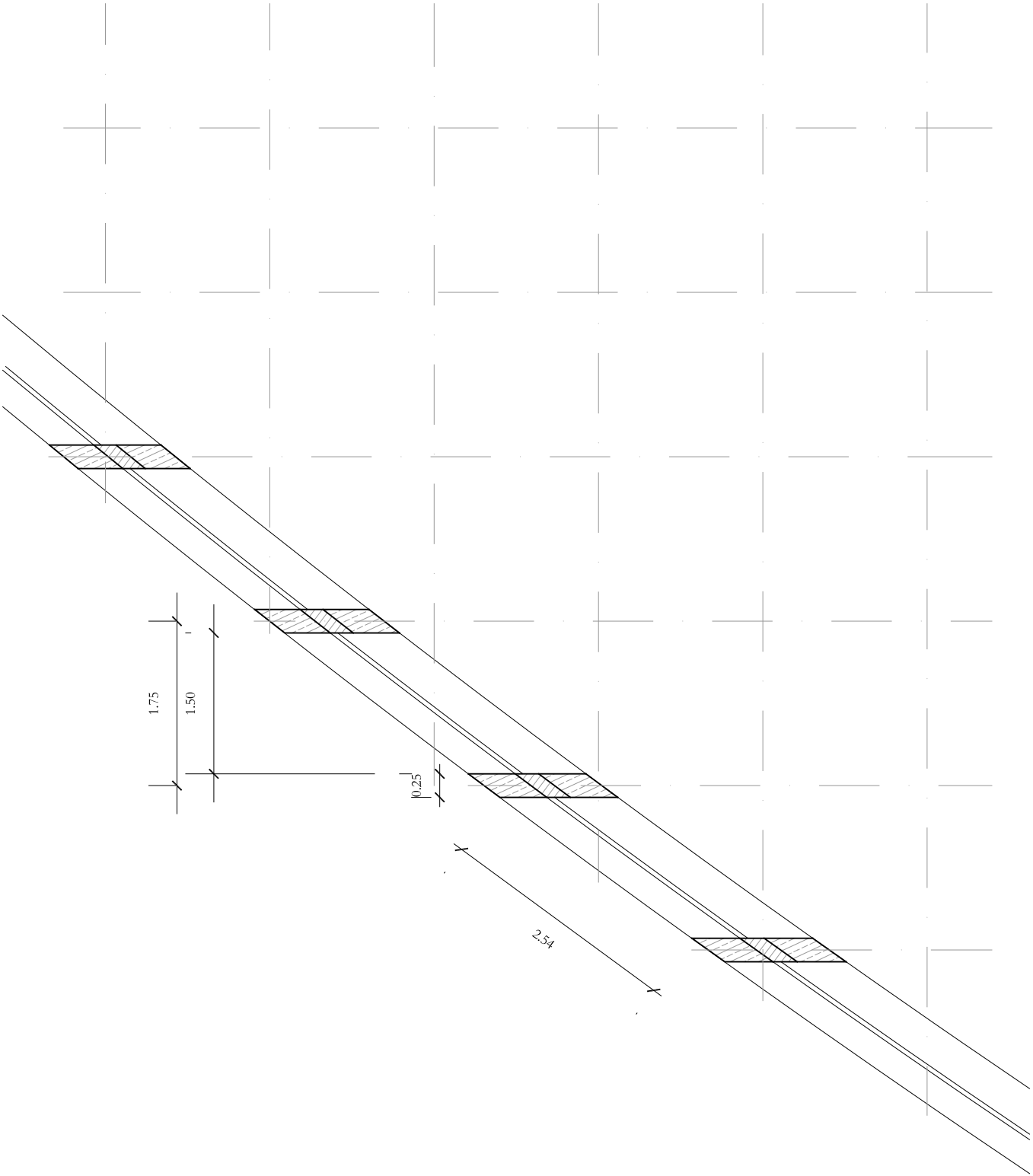
ROTATED COLUMN
ENTRANCE PLAZA

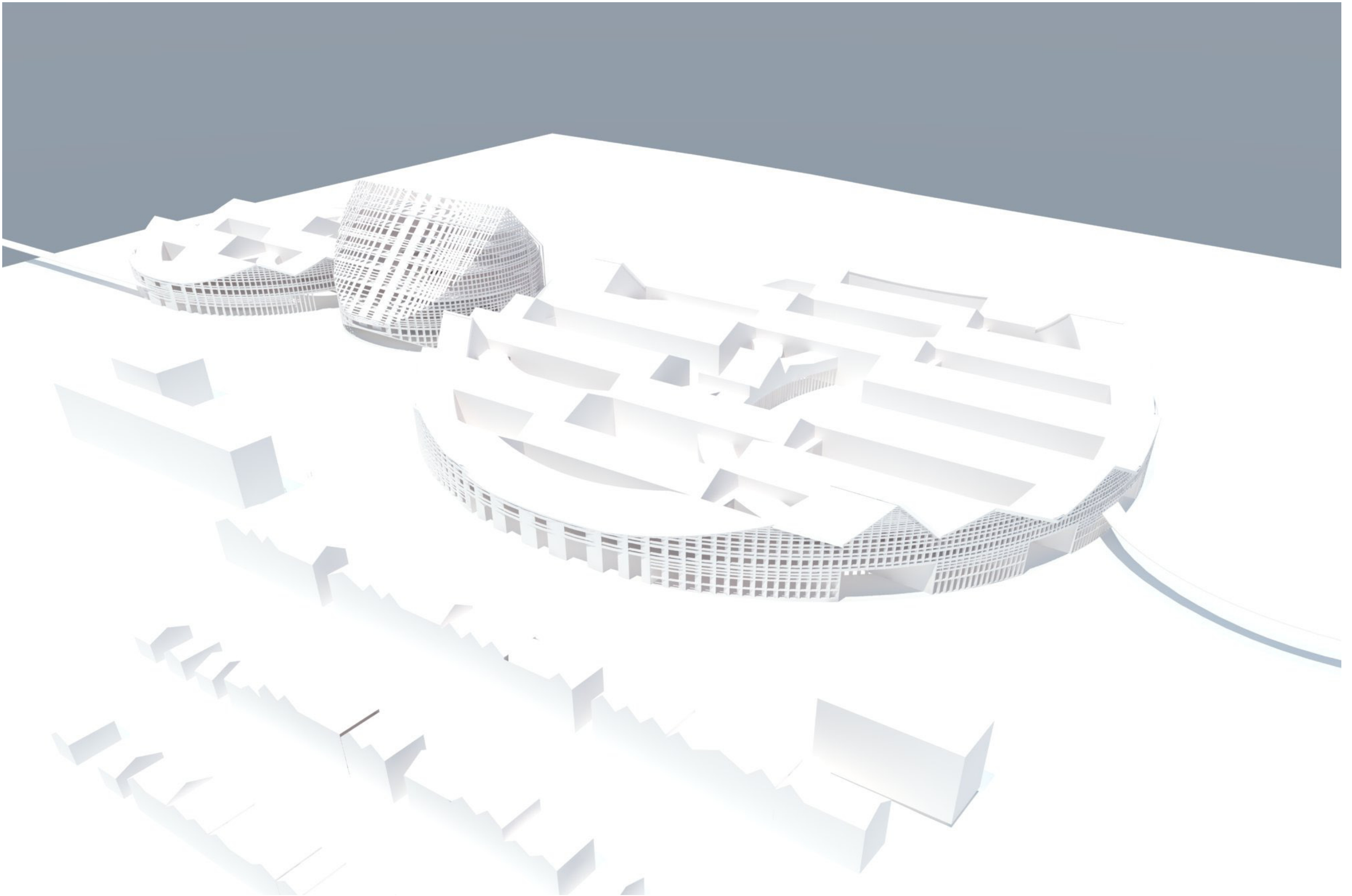


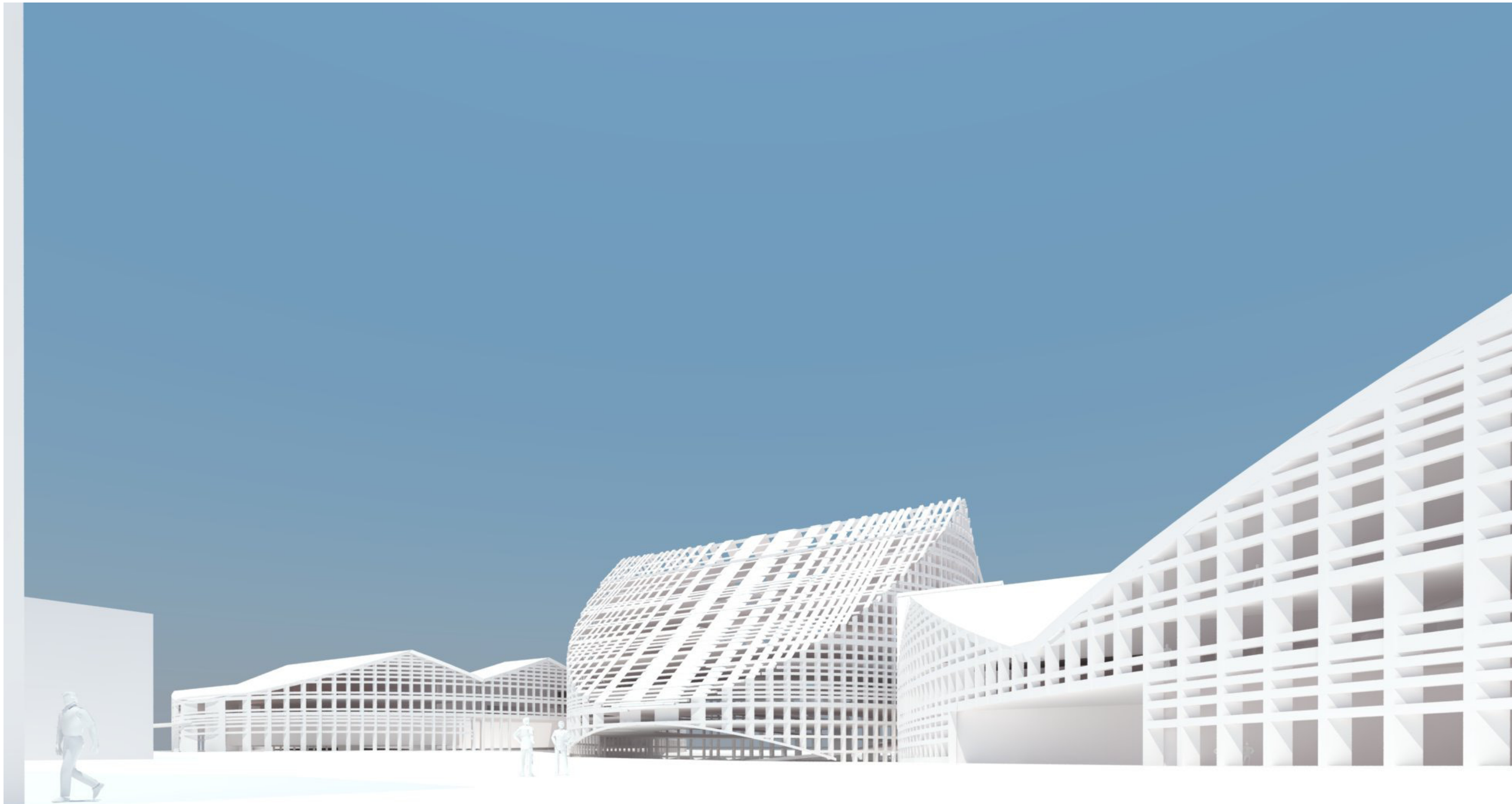


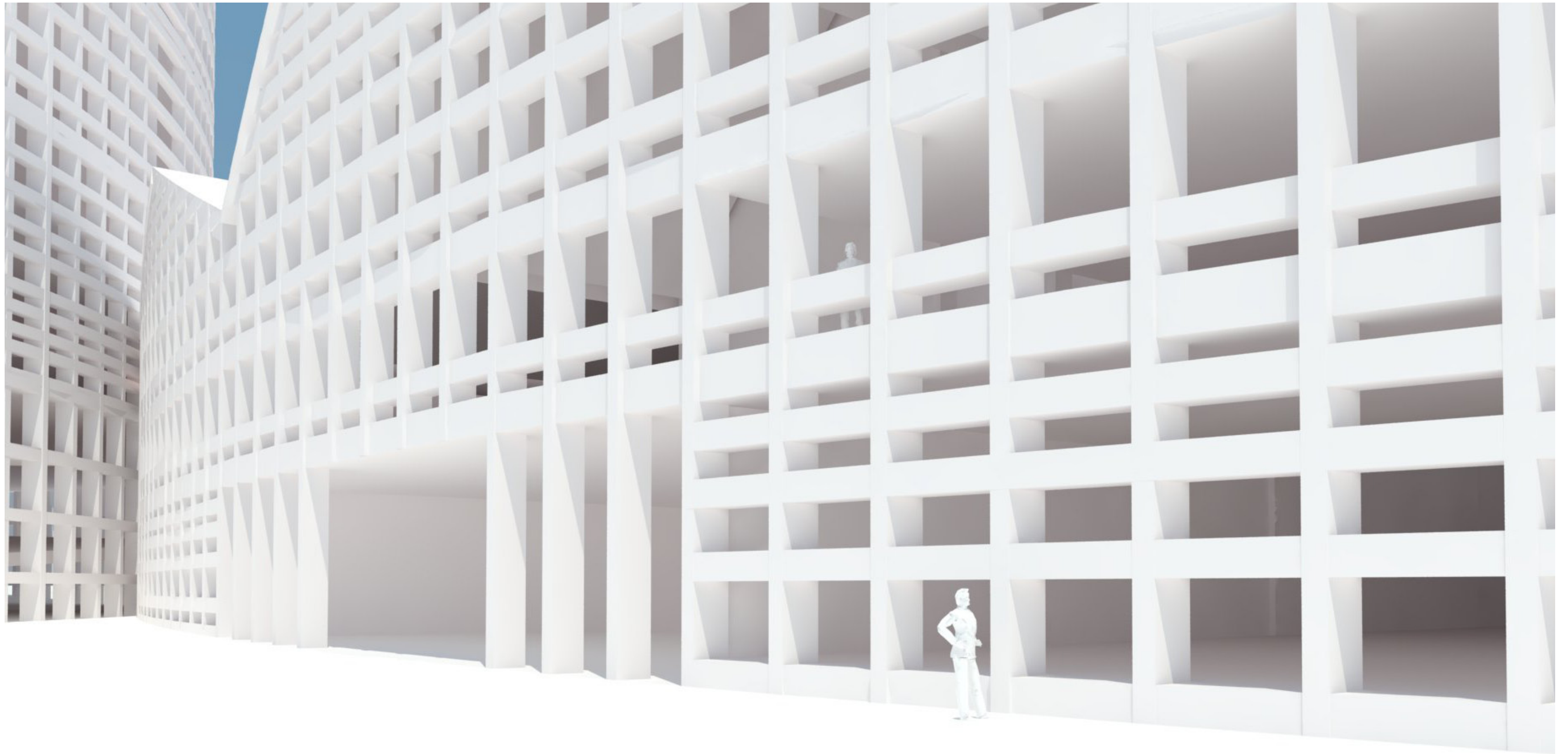
ROTATED COLUMN
RING



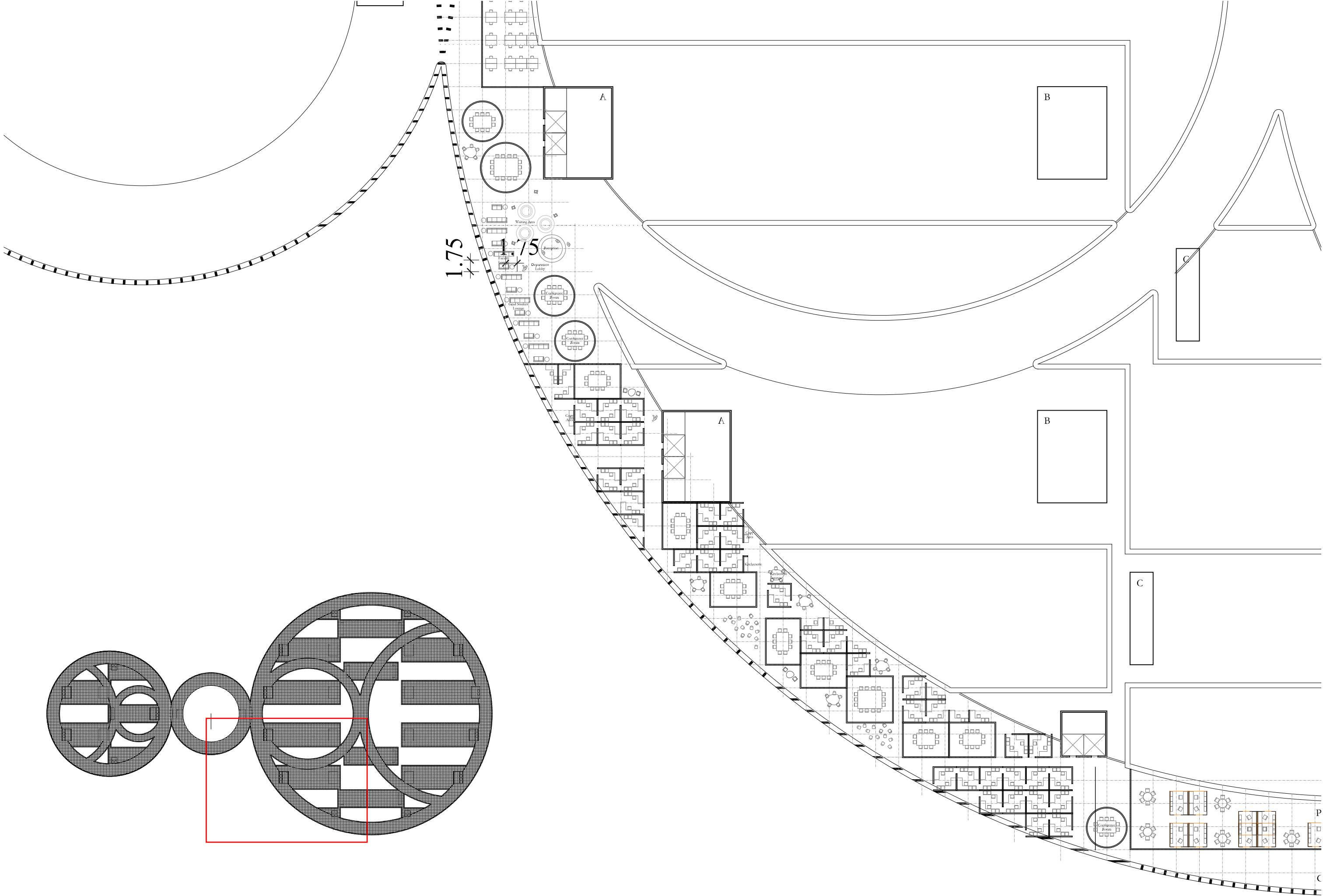




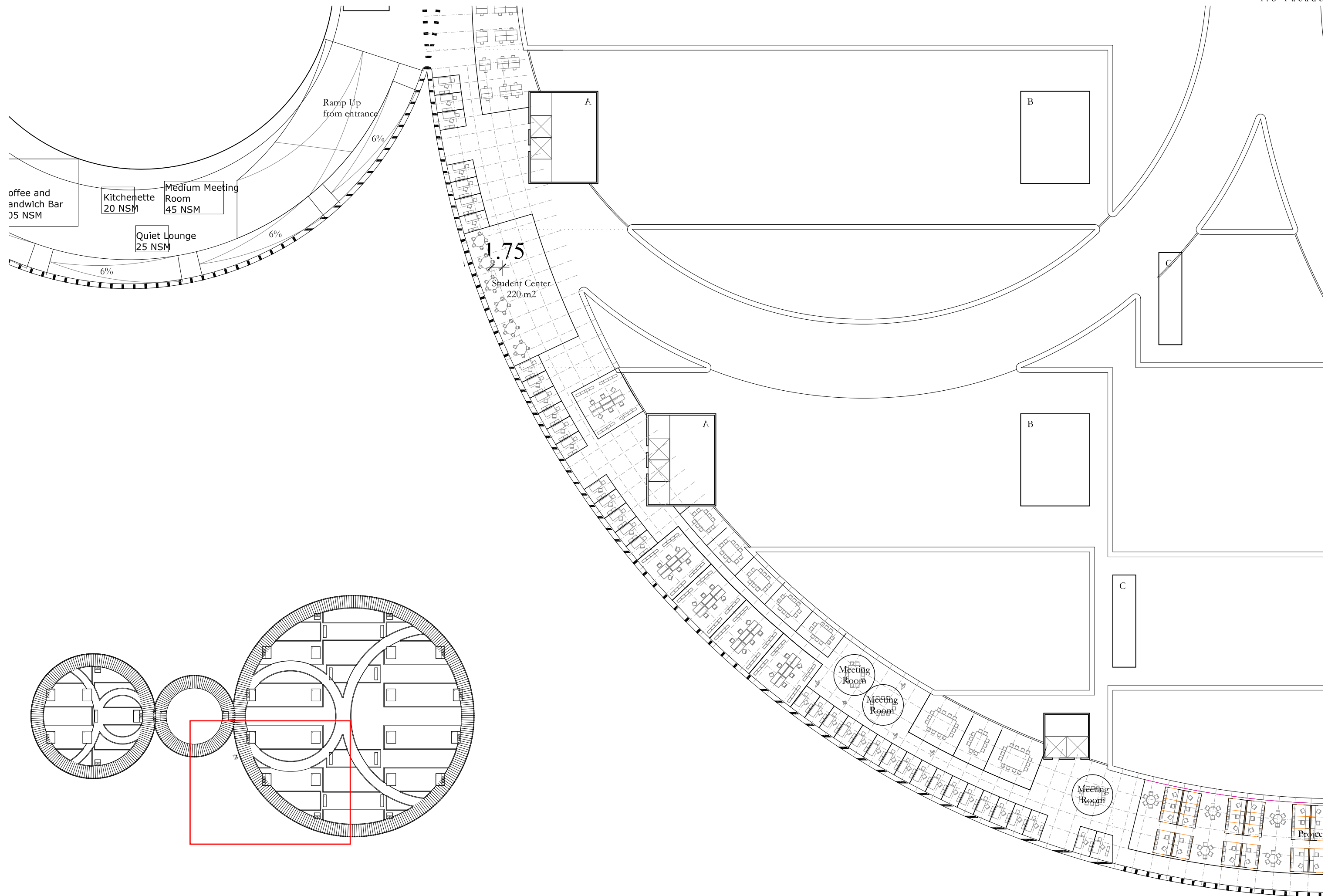


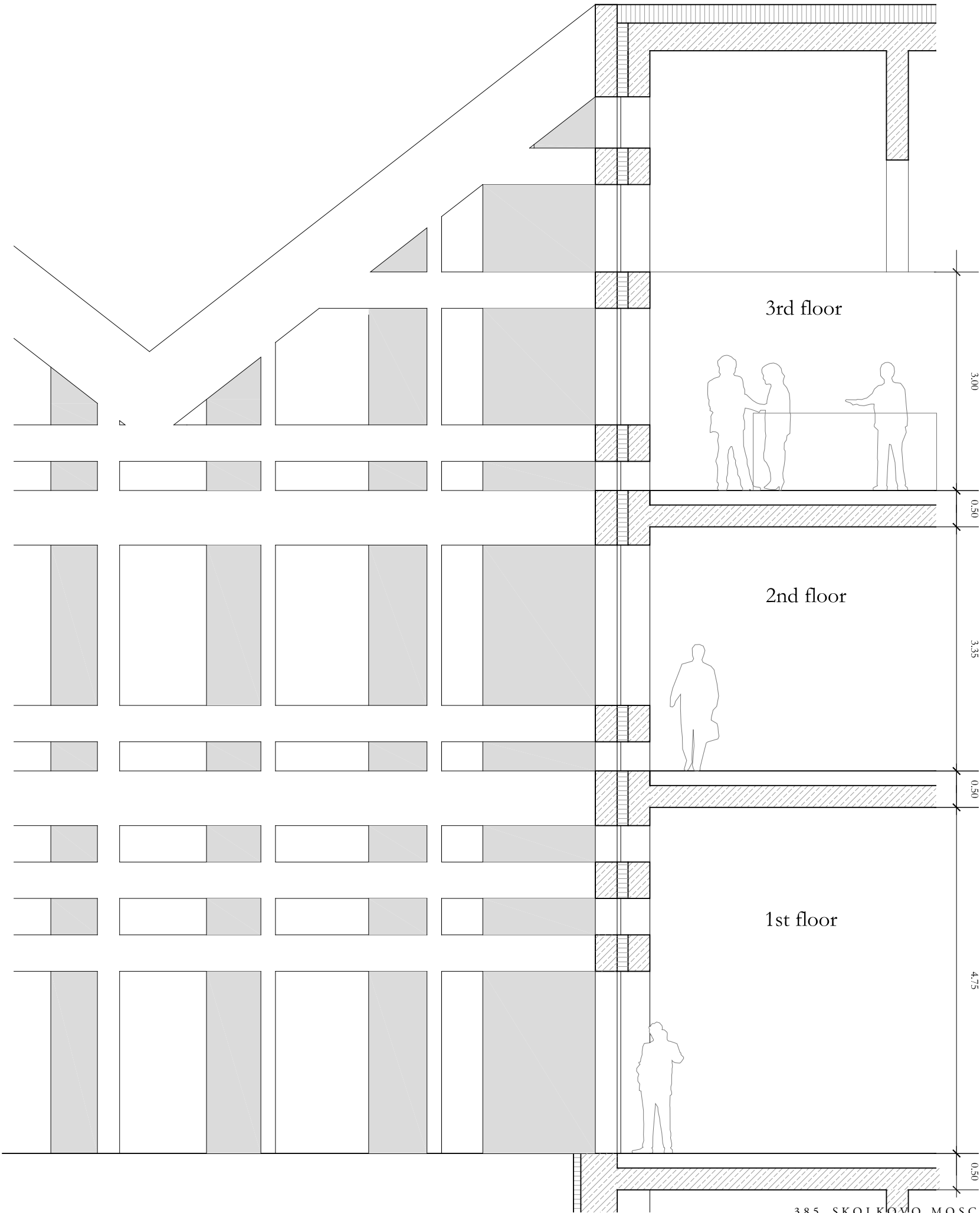
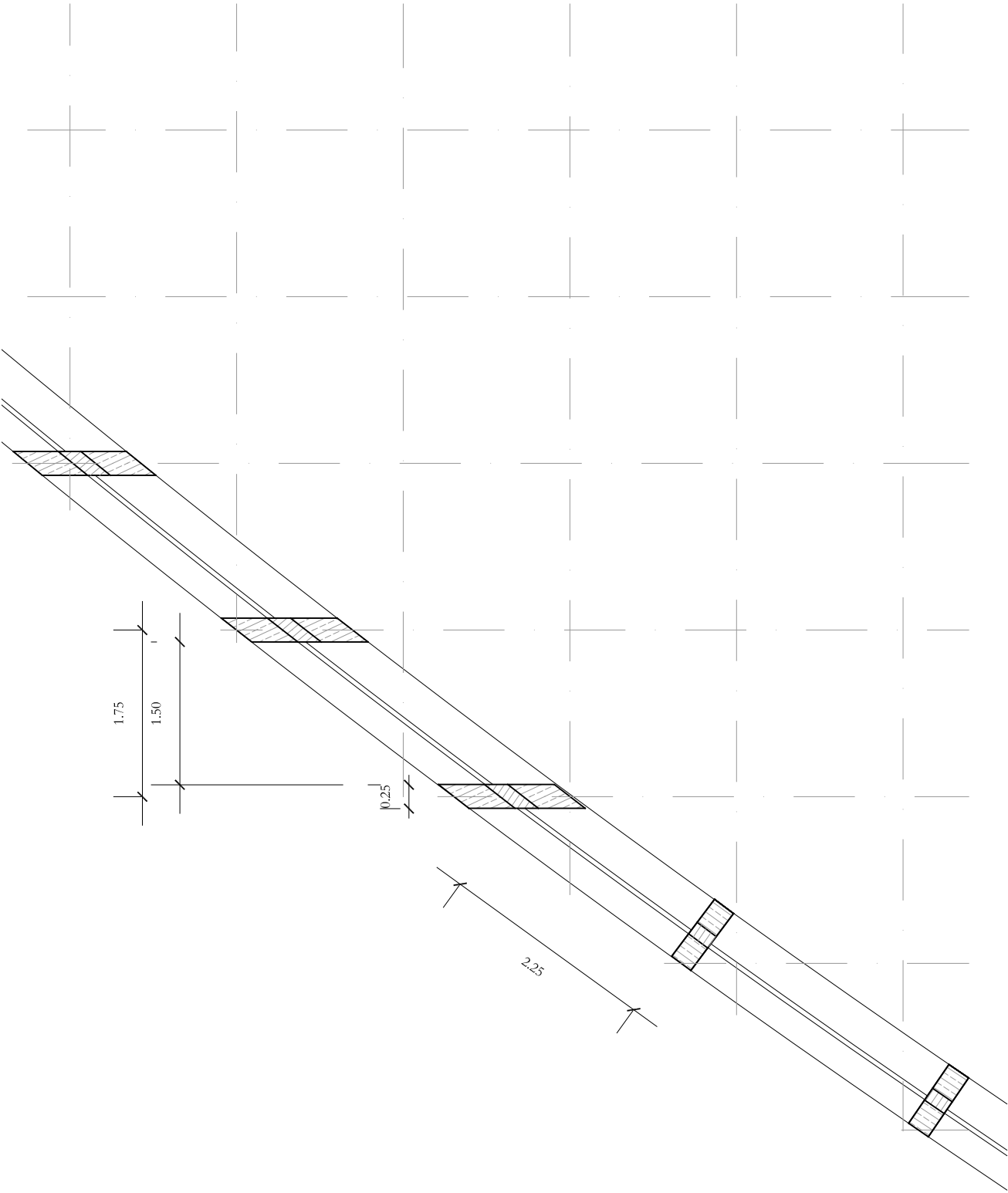


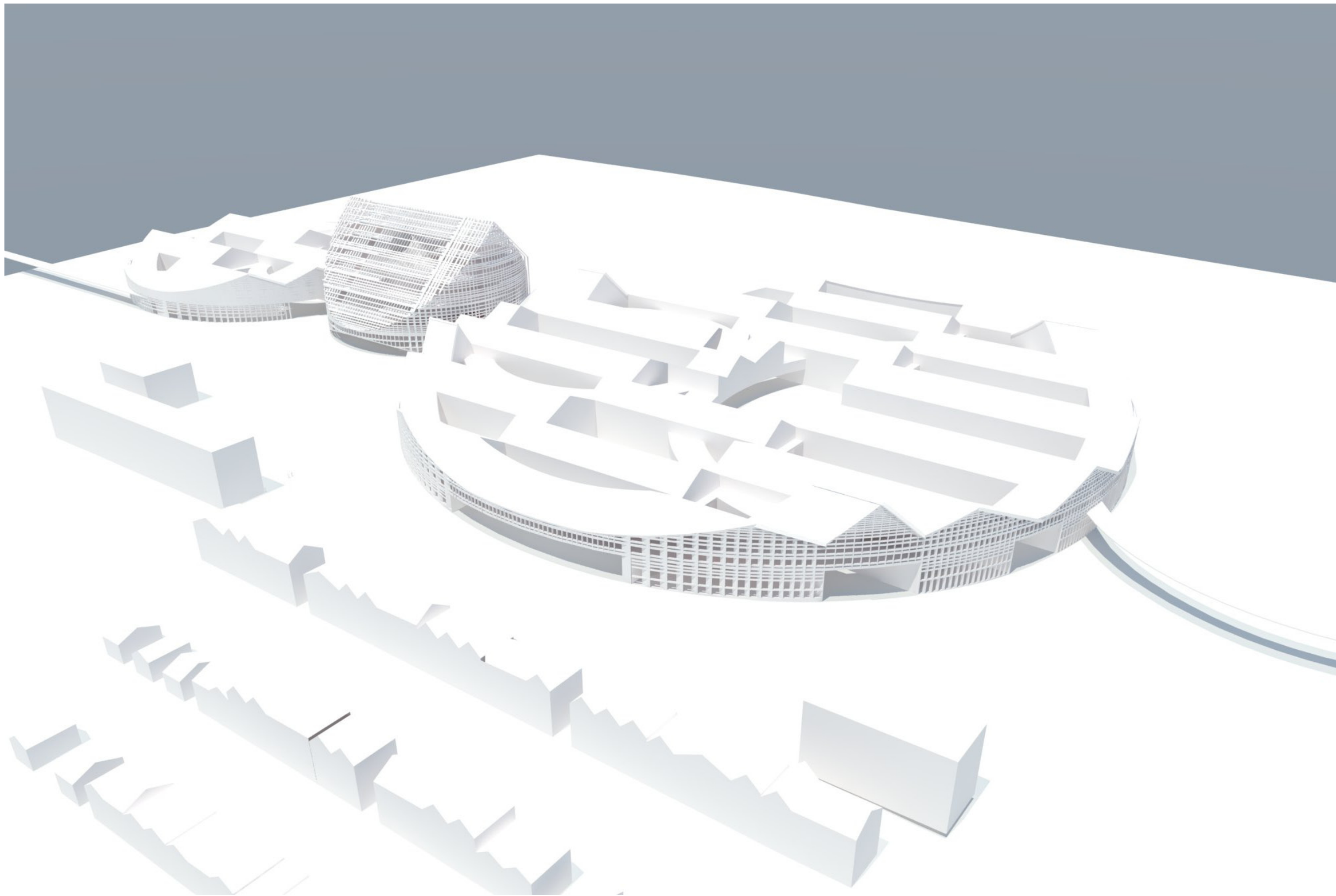


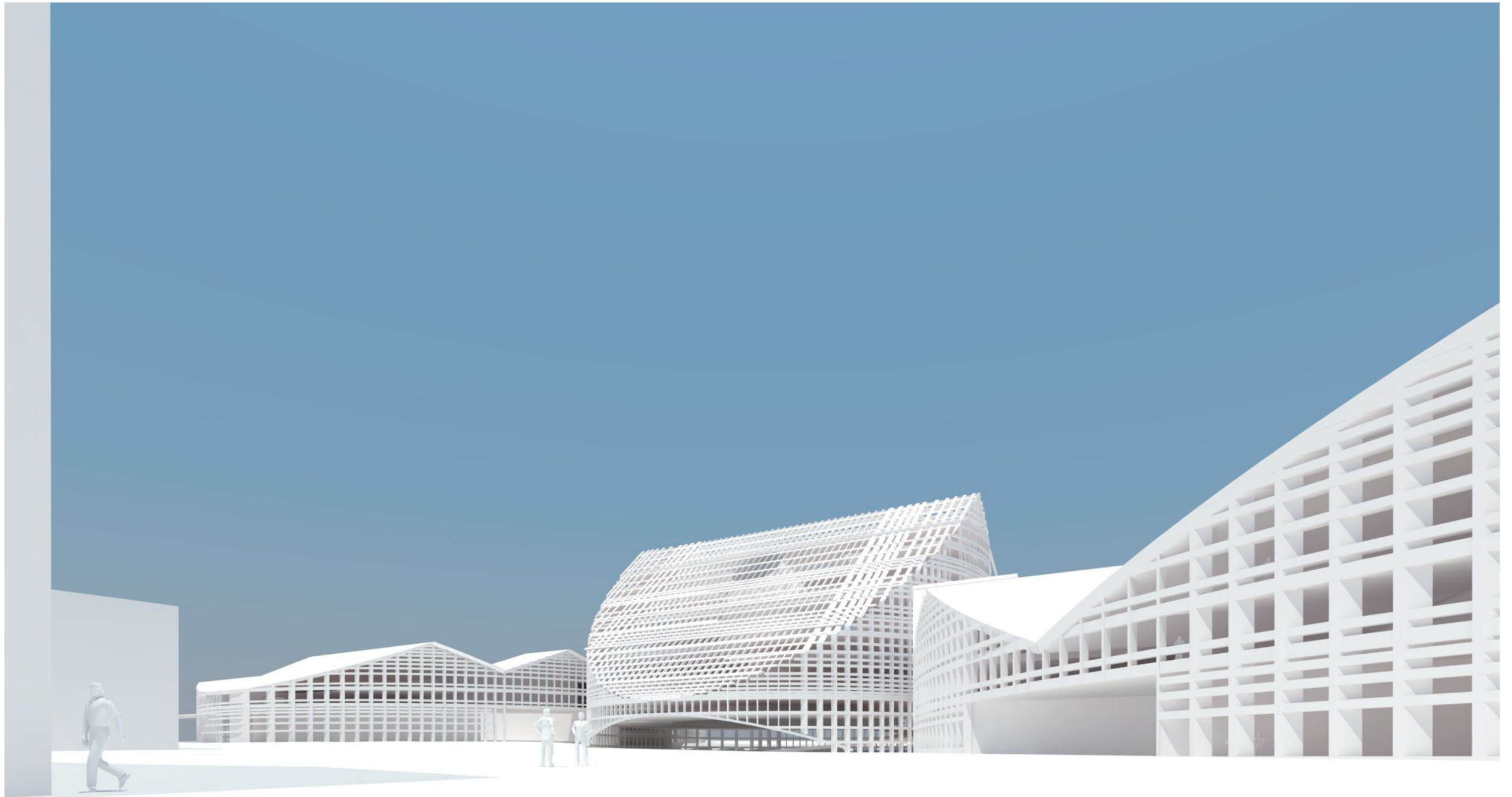


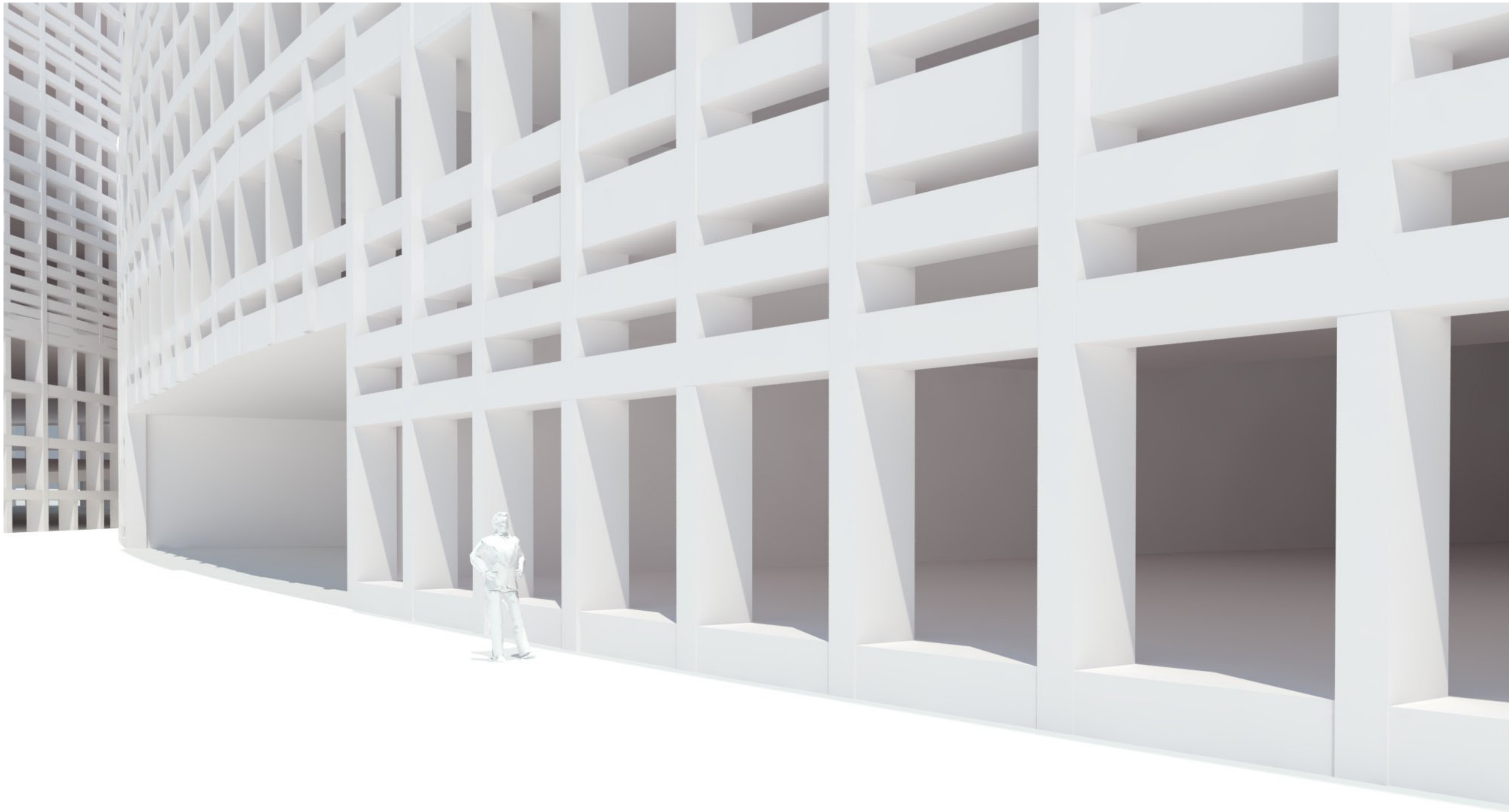
MIXED COLUMN
ORTHOGONAL GRID

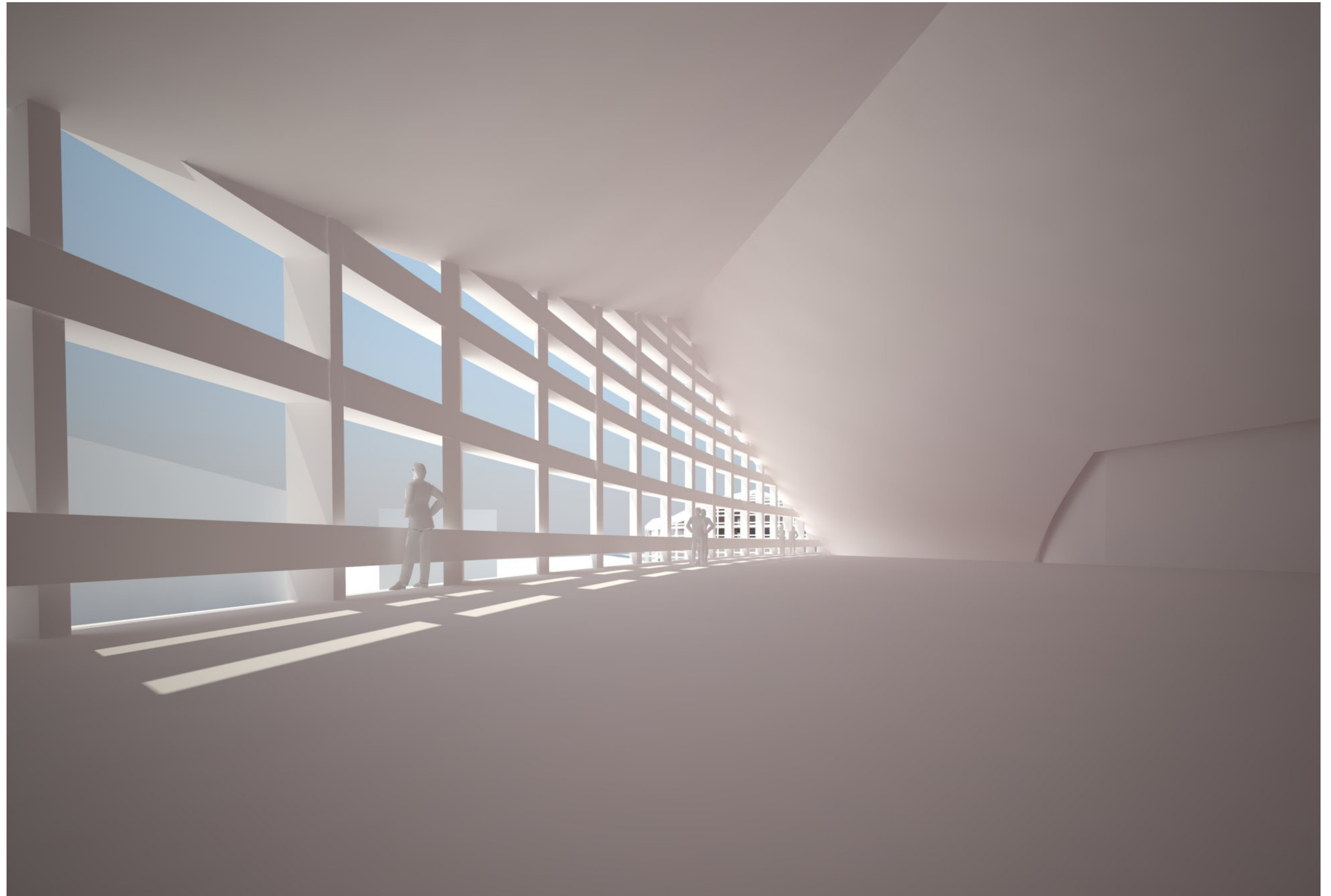






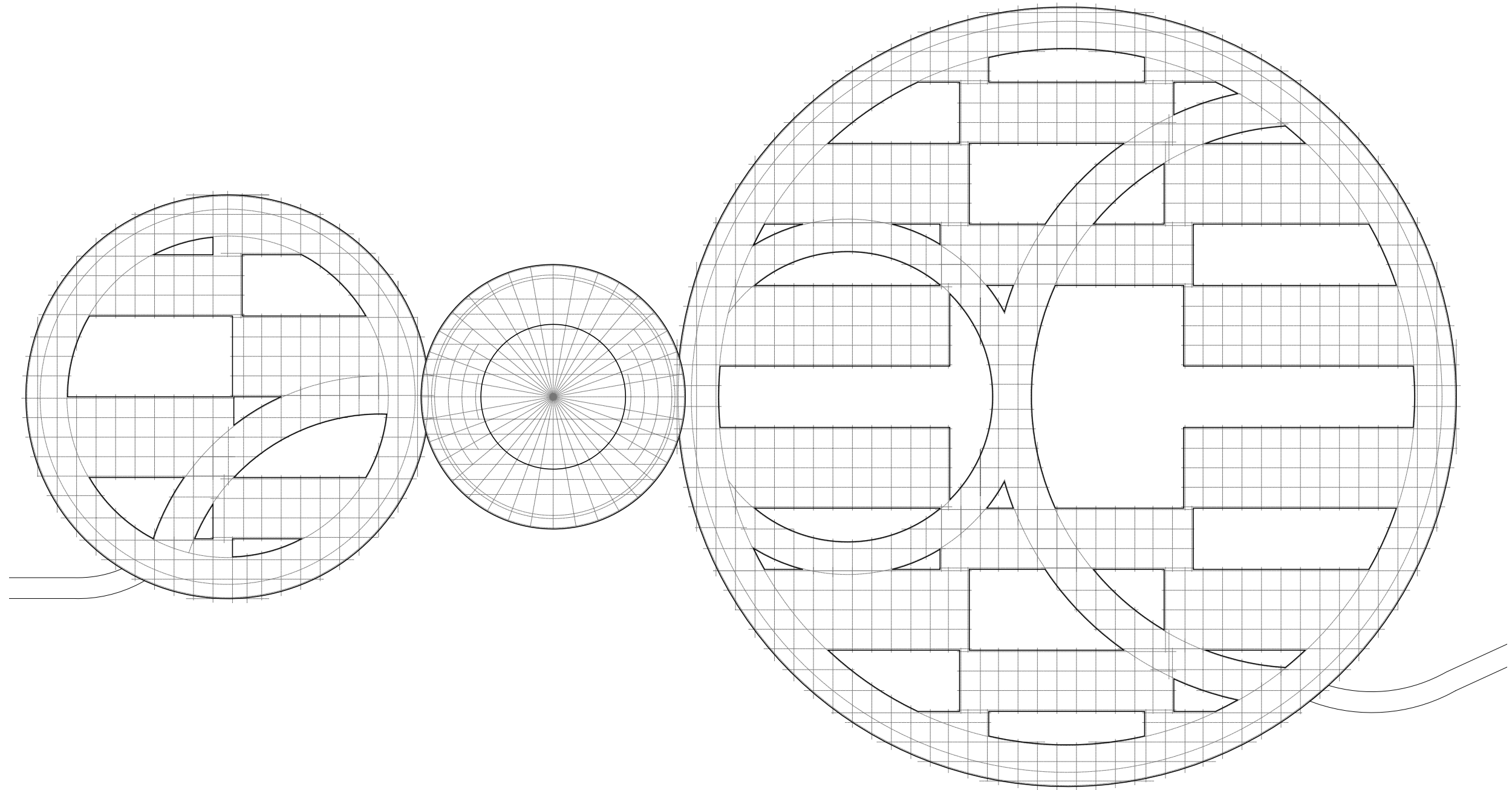




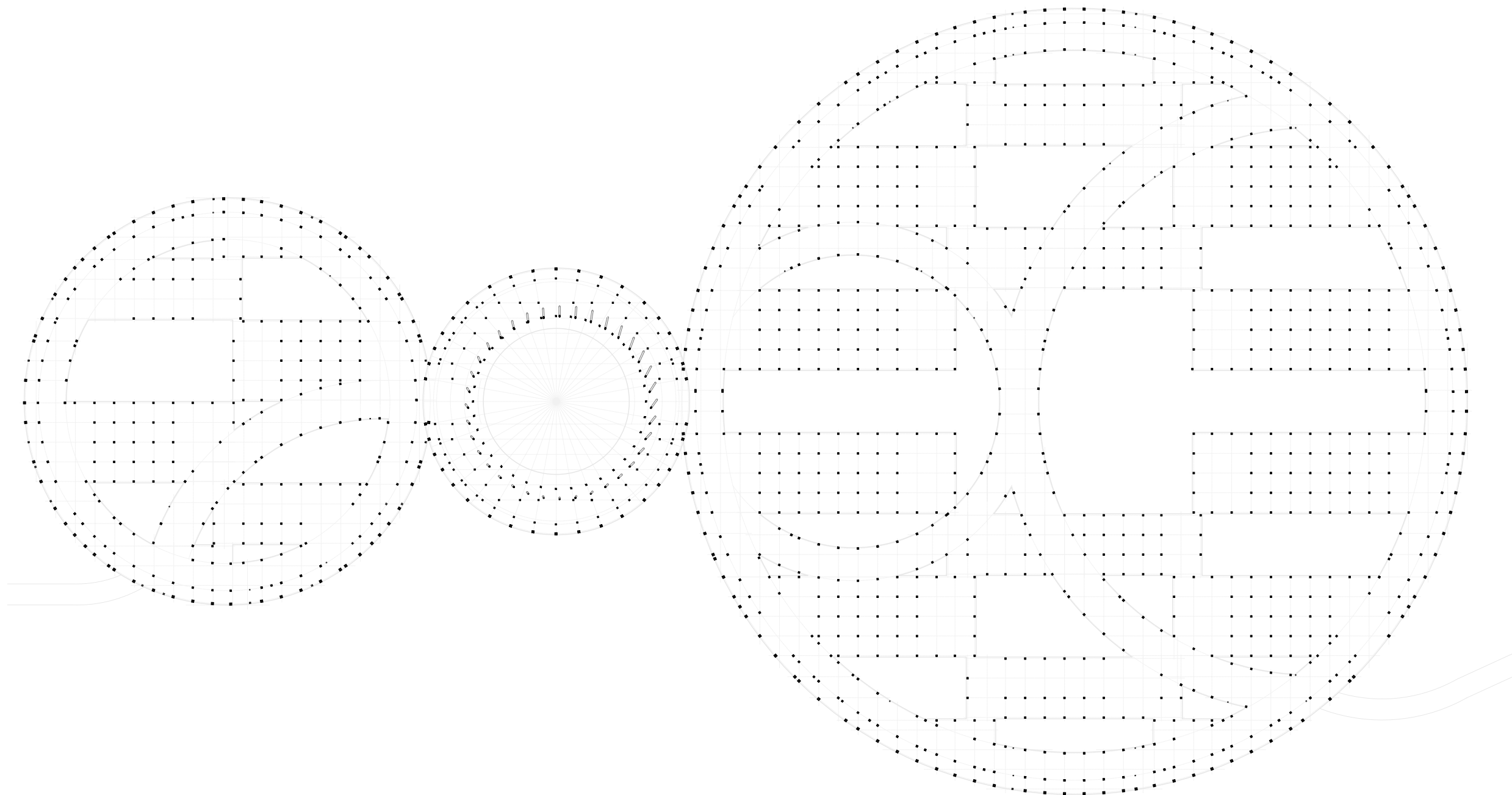


MIXED COLUMN
ENTRANCE

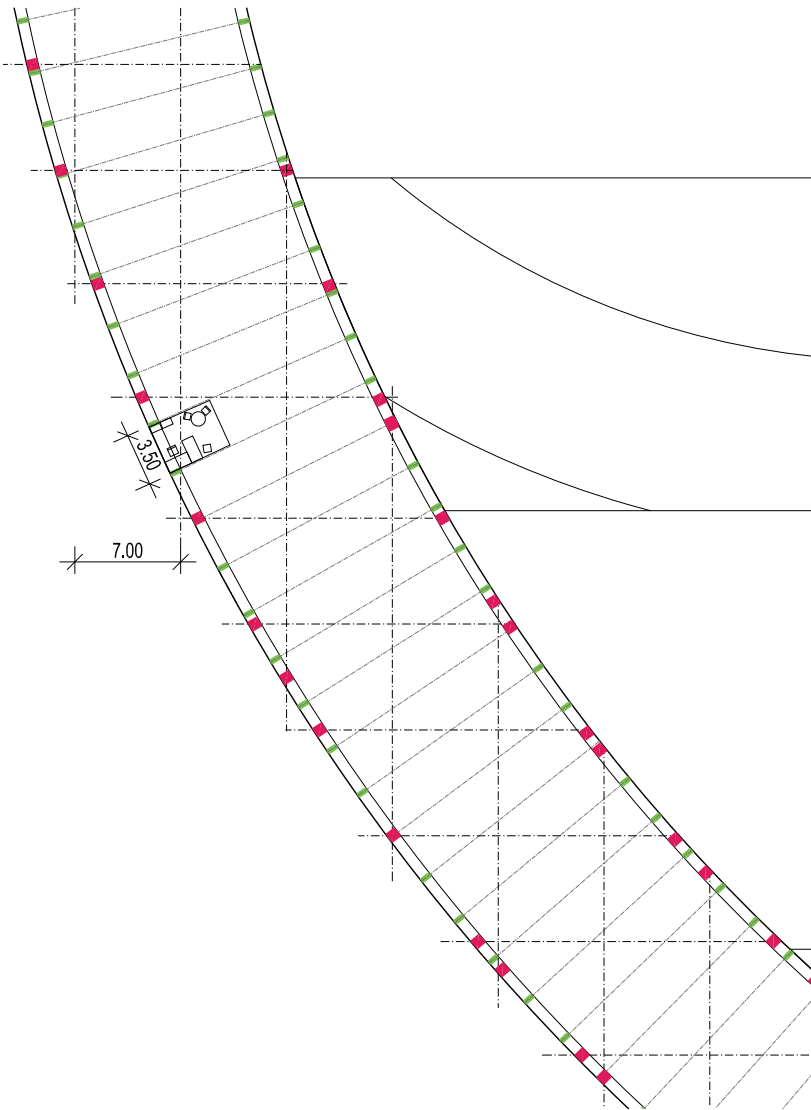
S T R U C T U R E = S K I N = S P A C E
0 8 . M A I 2 0 1 2 -



STRUCTURAL GRID

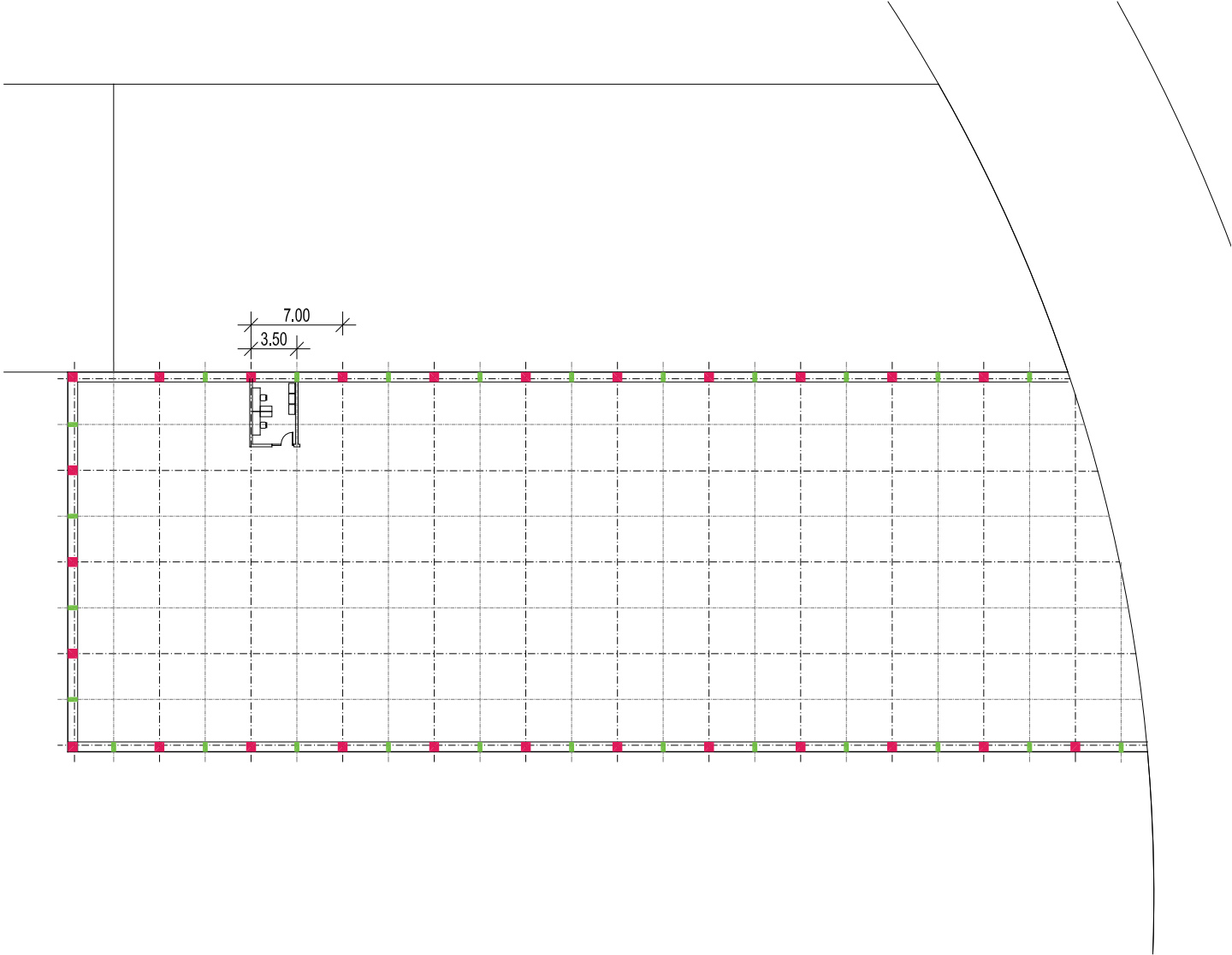


COLUMNS AT GRID INTERSECTIONS:
EXTENSION OF LAB RATIONALE



MAIN FACADE

Orthogonal structural grid + Radial office grid

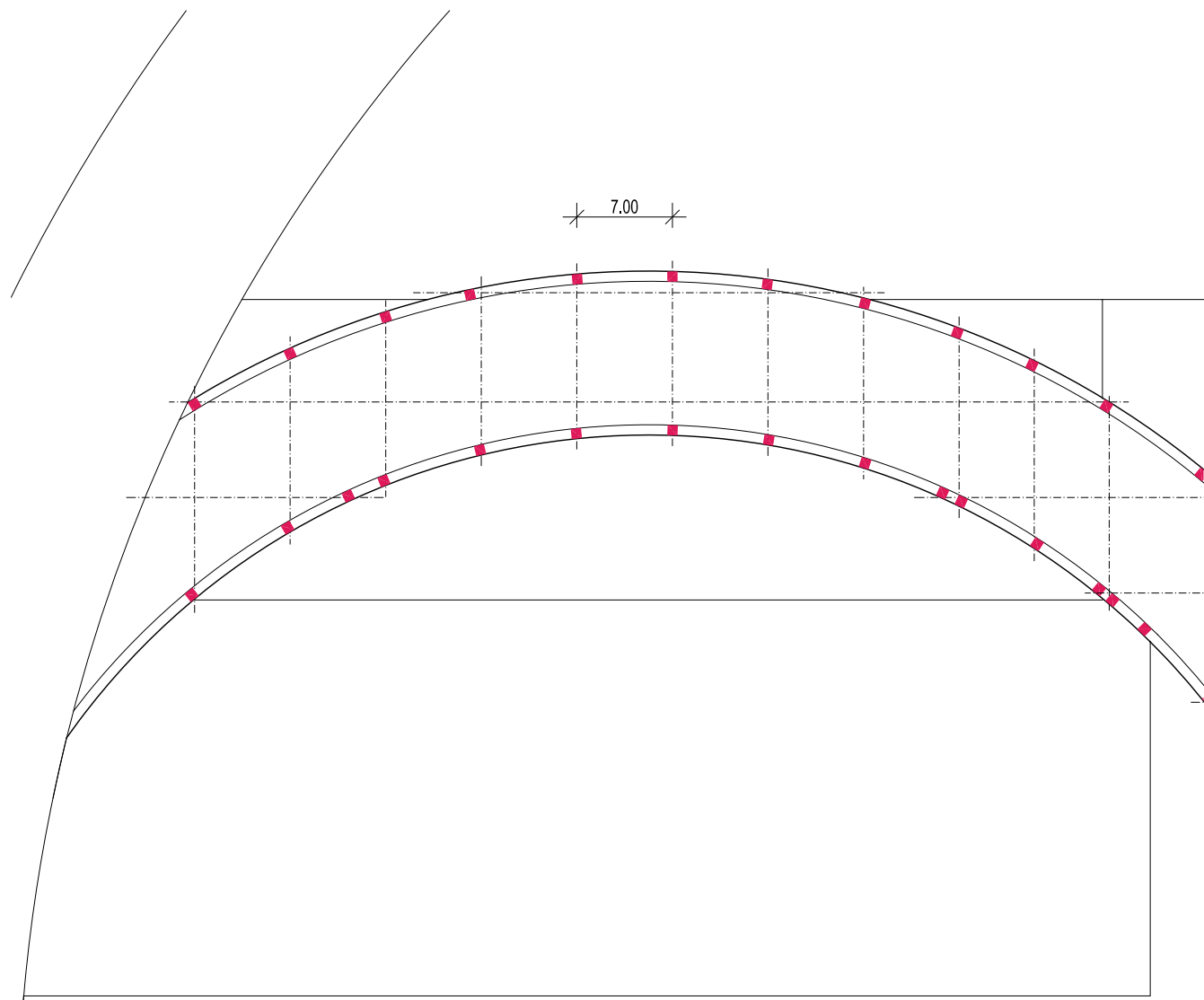


LABORATORY FACADE

Orthogonal structural grid + Orthogonal laboratory grid

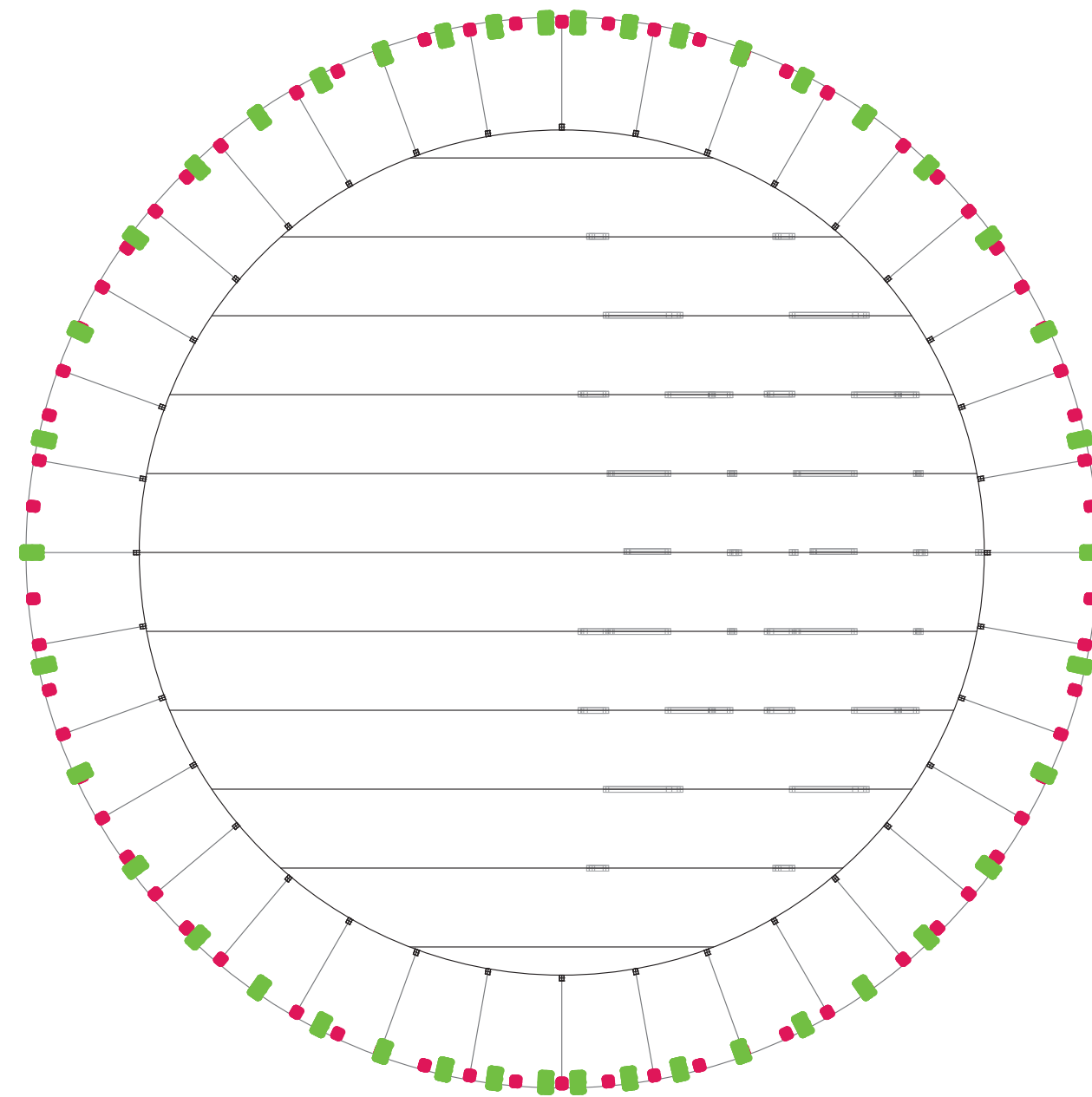
Structure ■
Mullions ■

S T R U C T U R E = S K I N = S P A C E



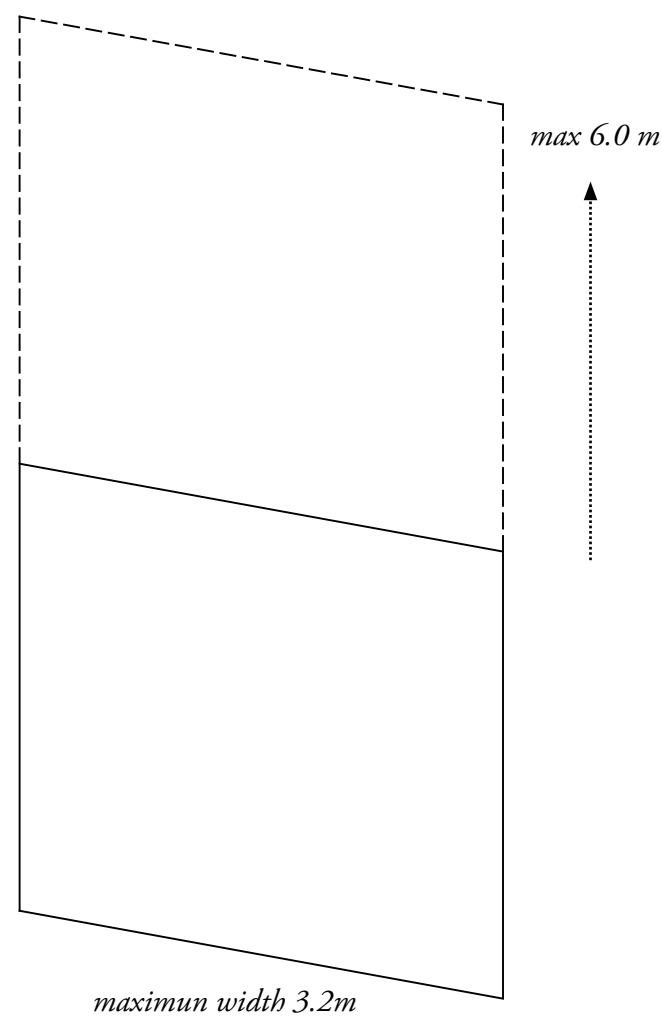
RING FACADE
Orthogonal structural grid

Structure ■
Mullions ■

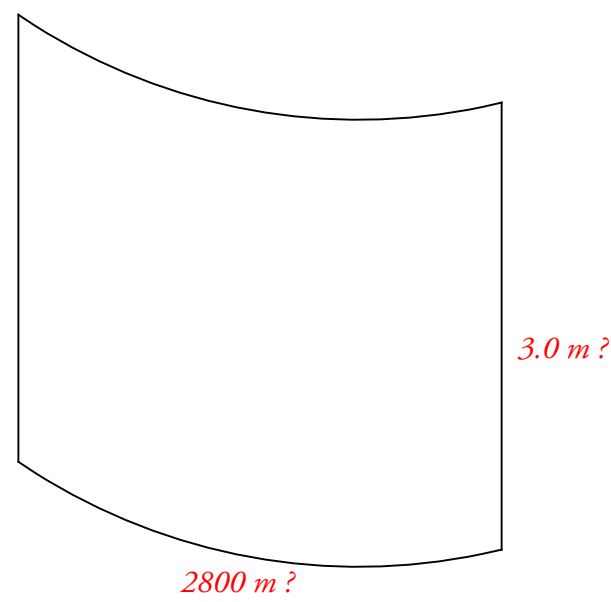


AGORA
Intersection of Slab + Radial office grid

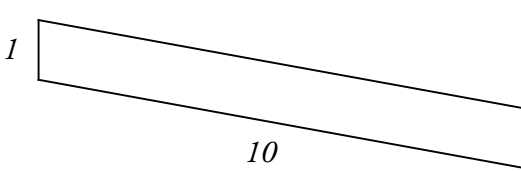
STRUCTURE = SKIN = SPACE



STRAIGHT GLASS
Standard maximum dimensions in Europe

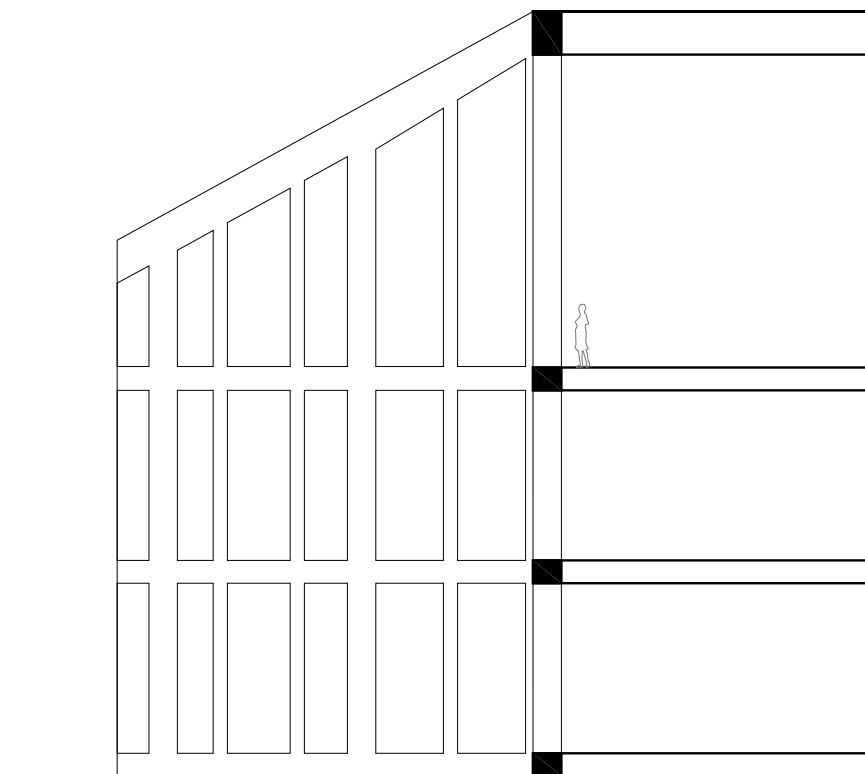


CURVED GLASS

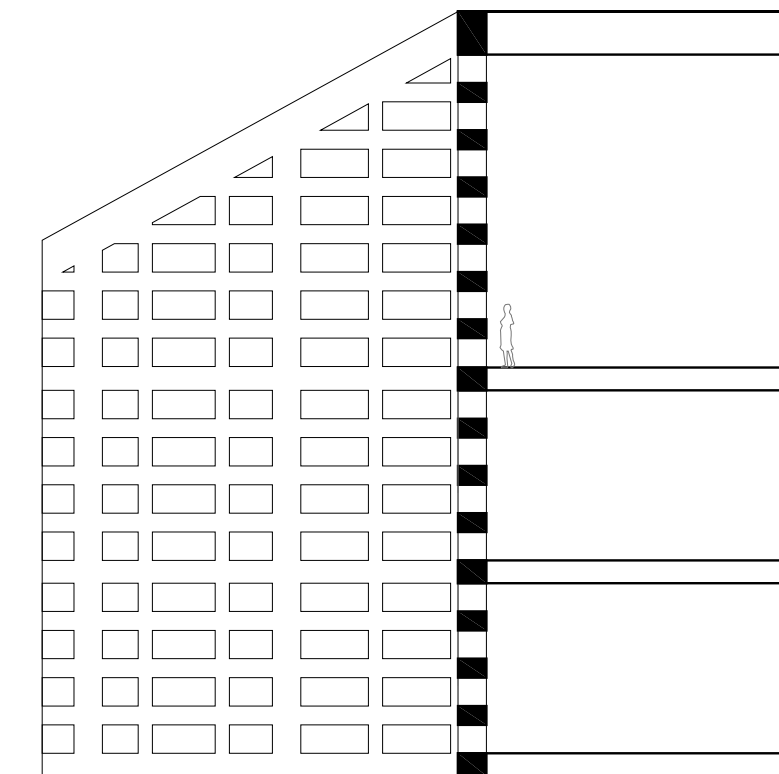


HEIGHT WIDTH RATIO
1 / 10

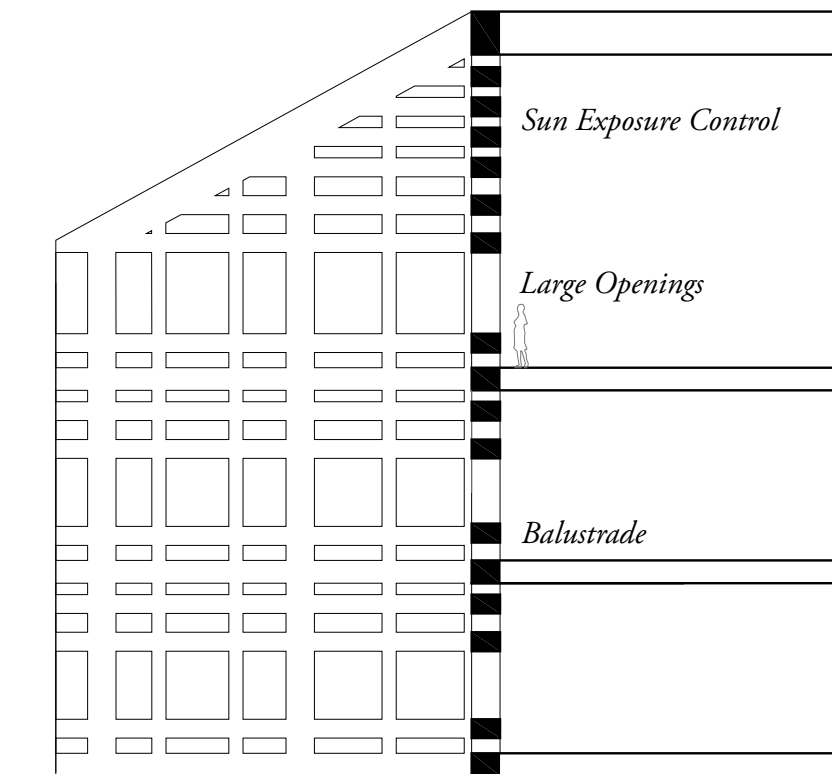
GLASS DIMENSIONS



EXPOSED STRUCTURE



OPTIMAL WALL / WINDOW RATIO
50/50



DISTRIBUTION OF LAMELLAS

L A M E L L A S



Prada Aoyama, Tokio

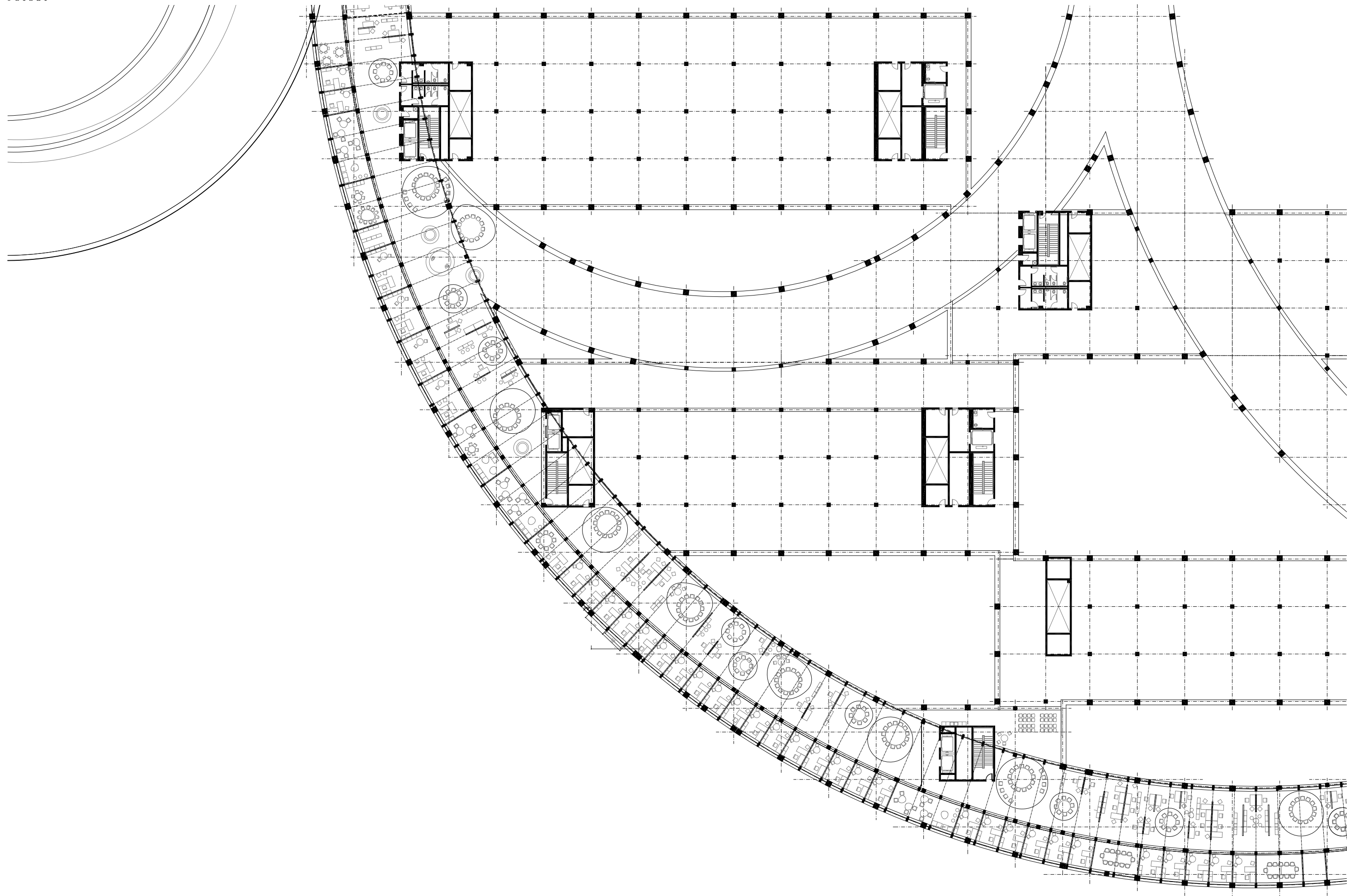


National Olympic Stadium, Beijing



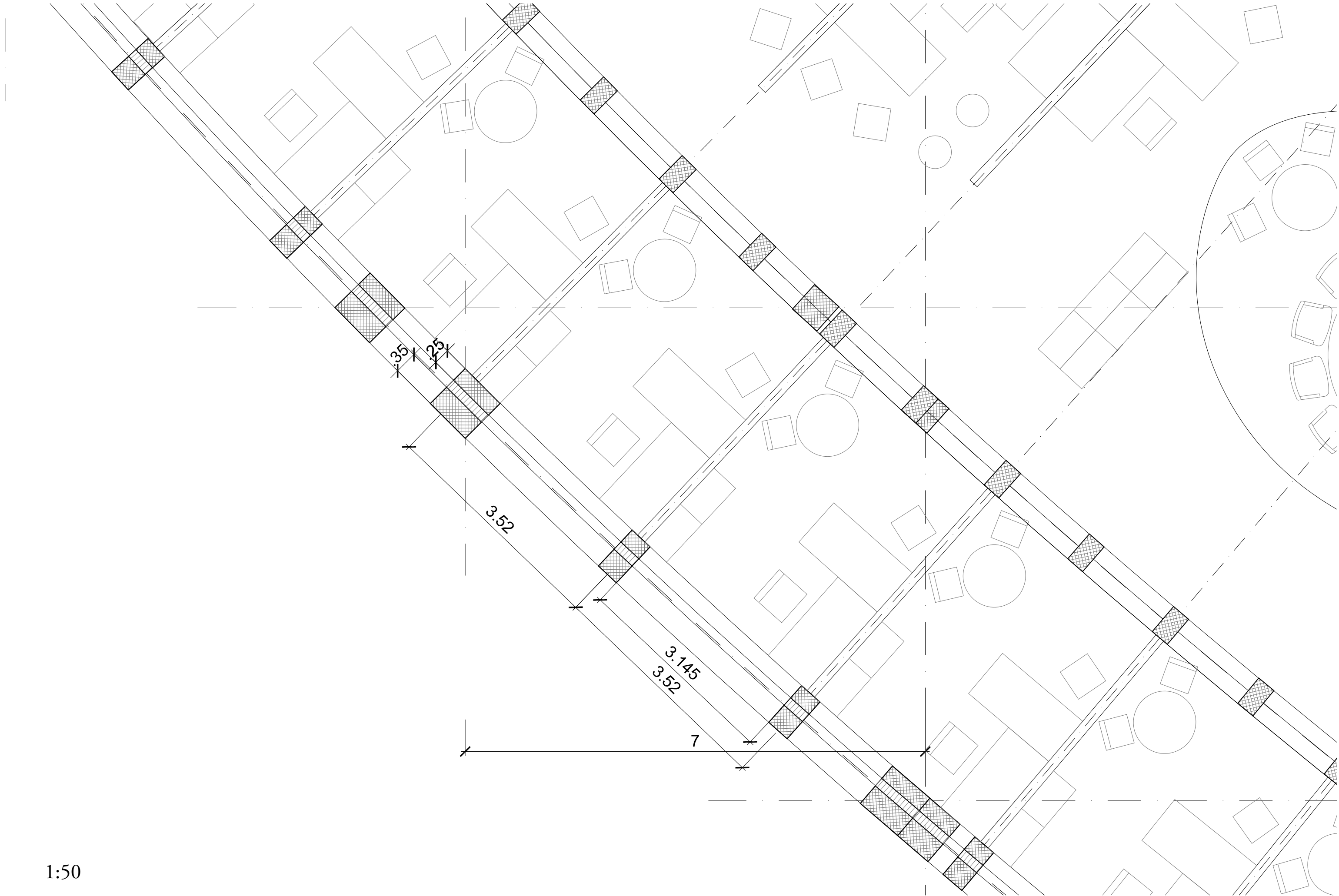
Novartis, Basel

M A I N F A C A D E



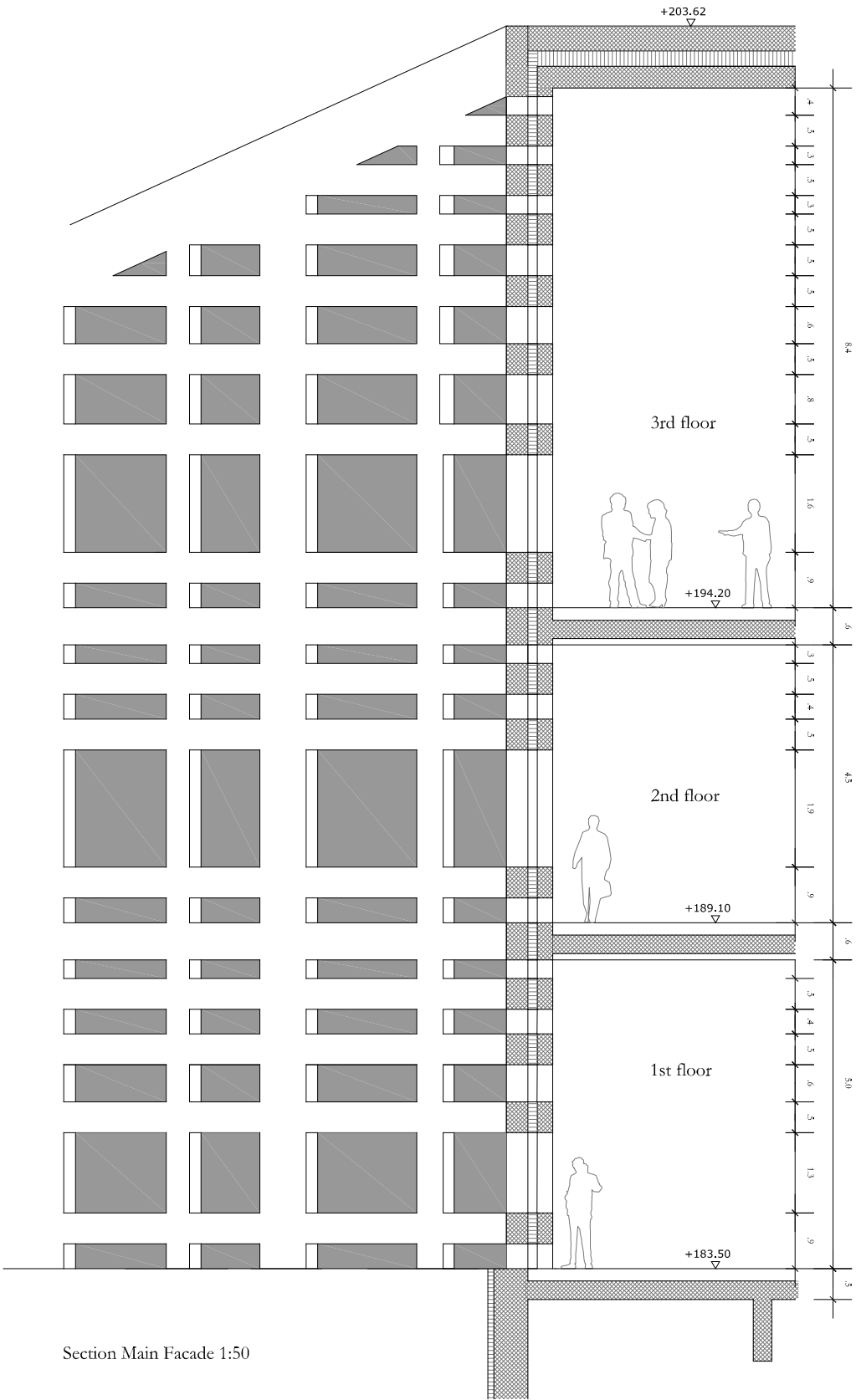
1:500

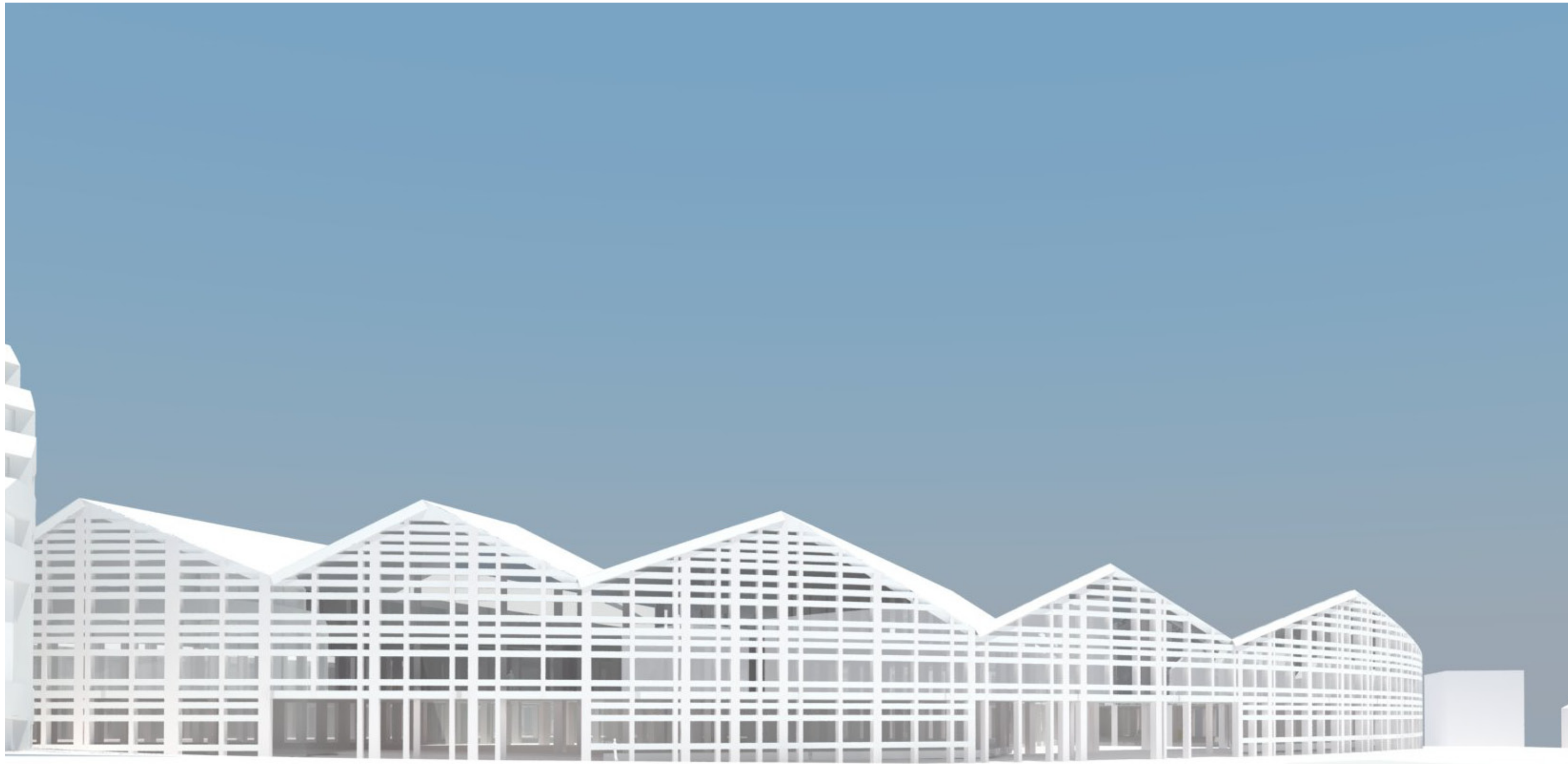
2 GRIDS
MAIN FACADE



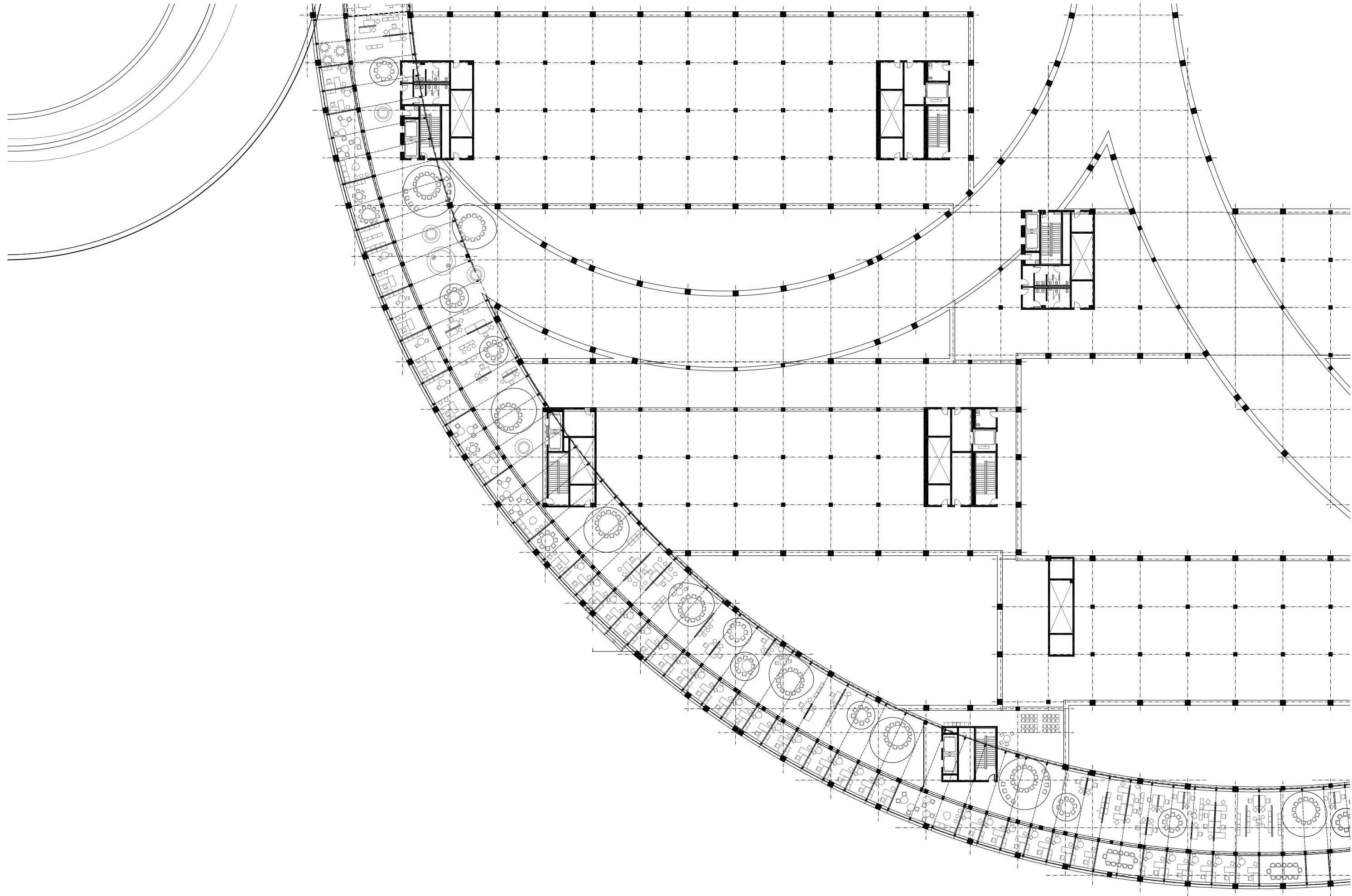
1:50

section 1:50, print on A2 portraot

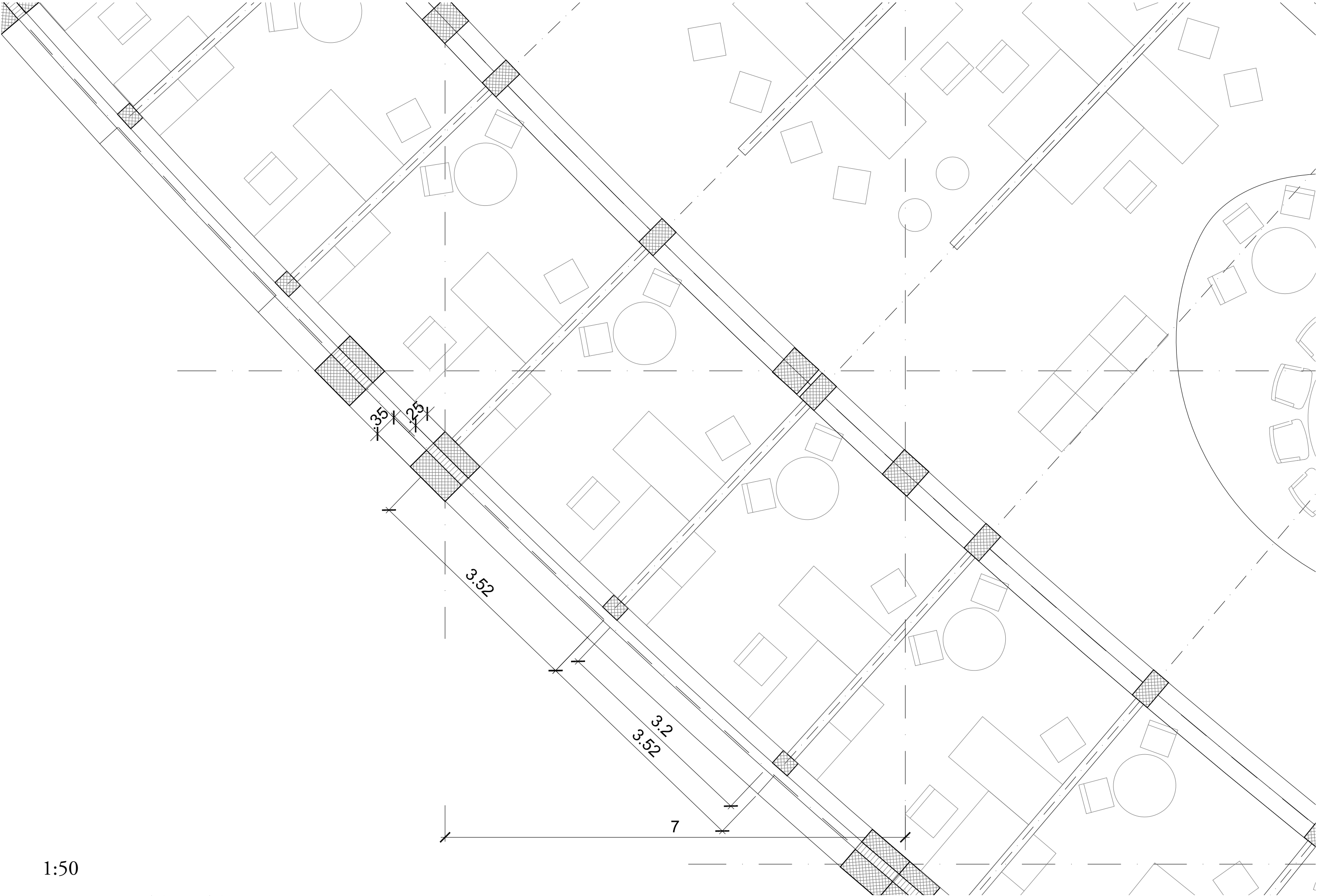






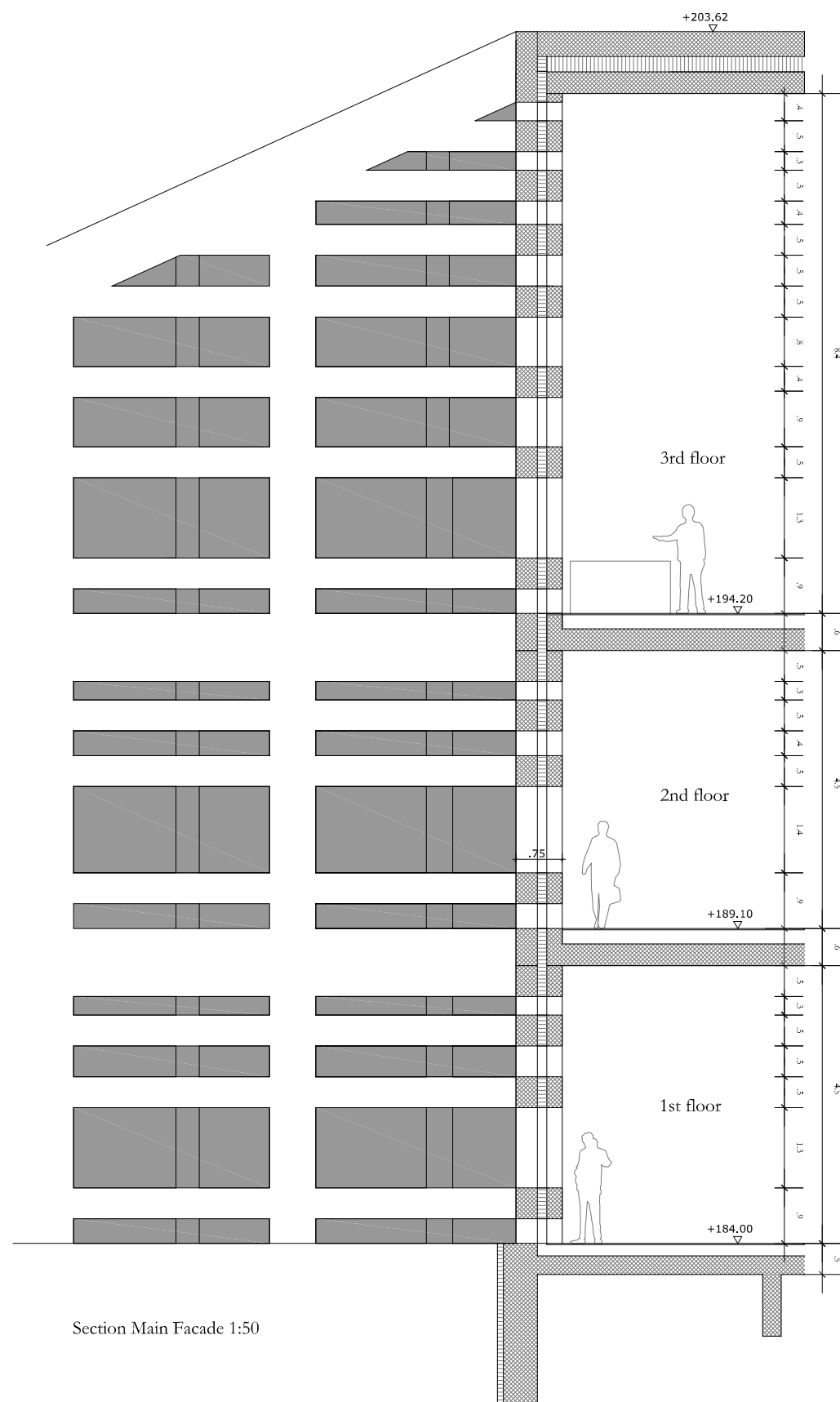


1:500



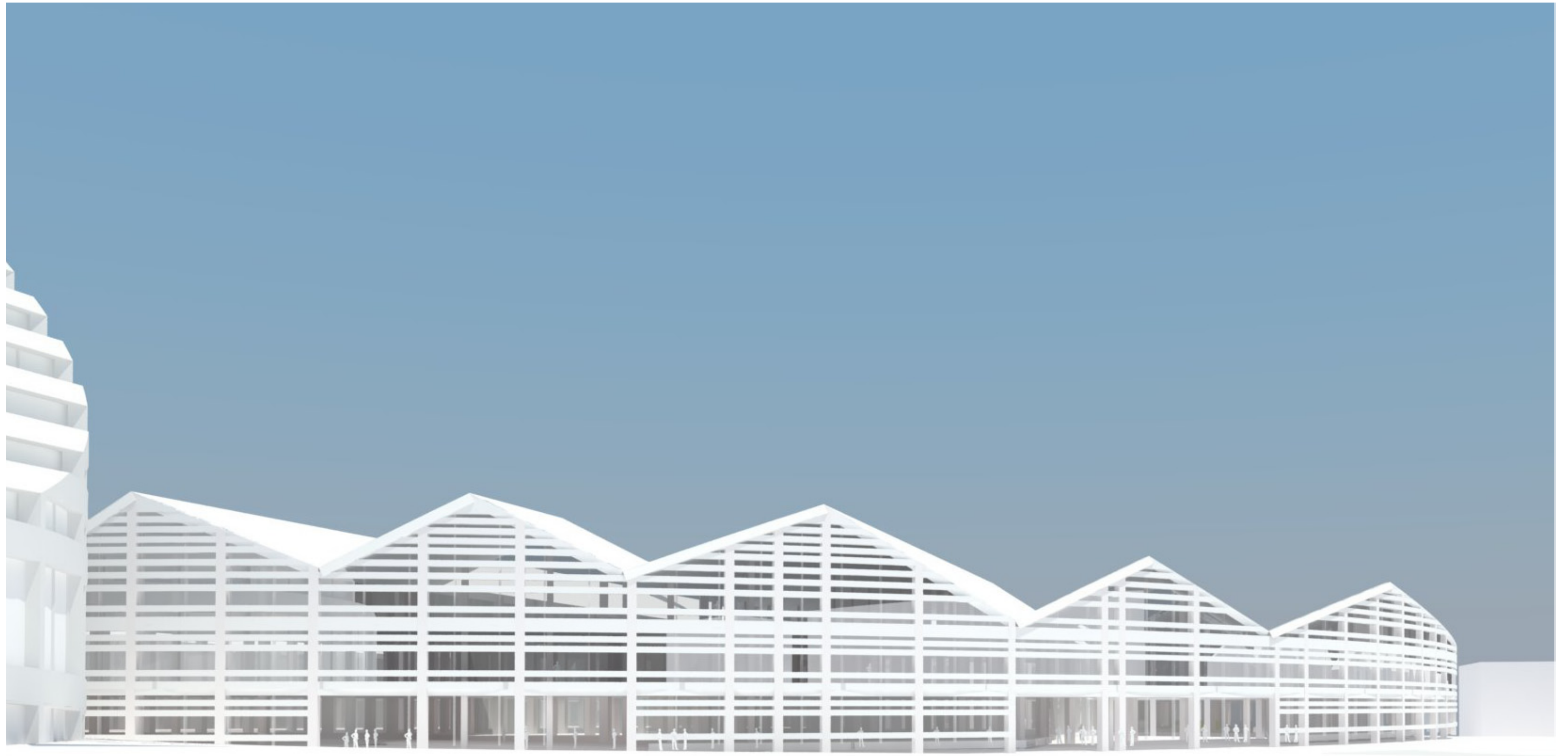
1:50

EMPHASIZED STRUCTURE
MAIN FACADE

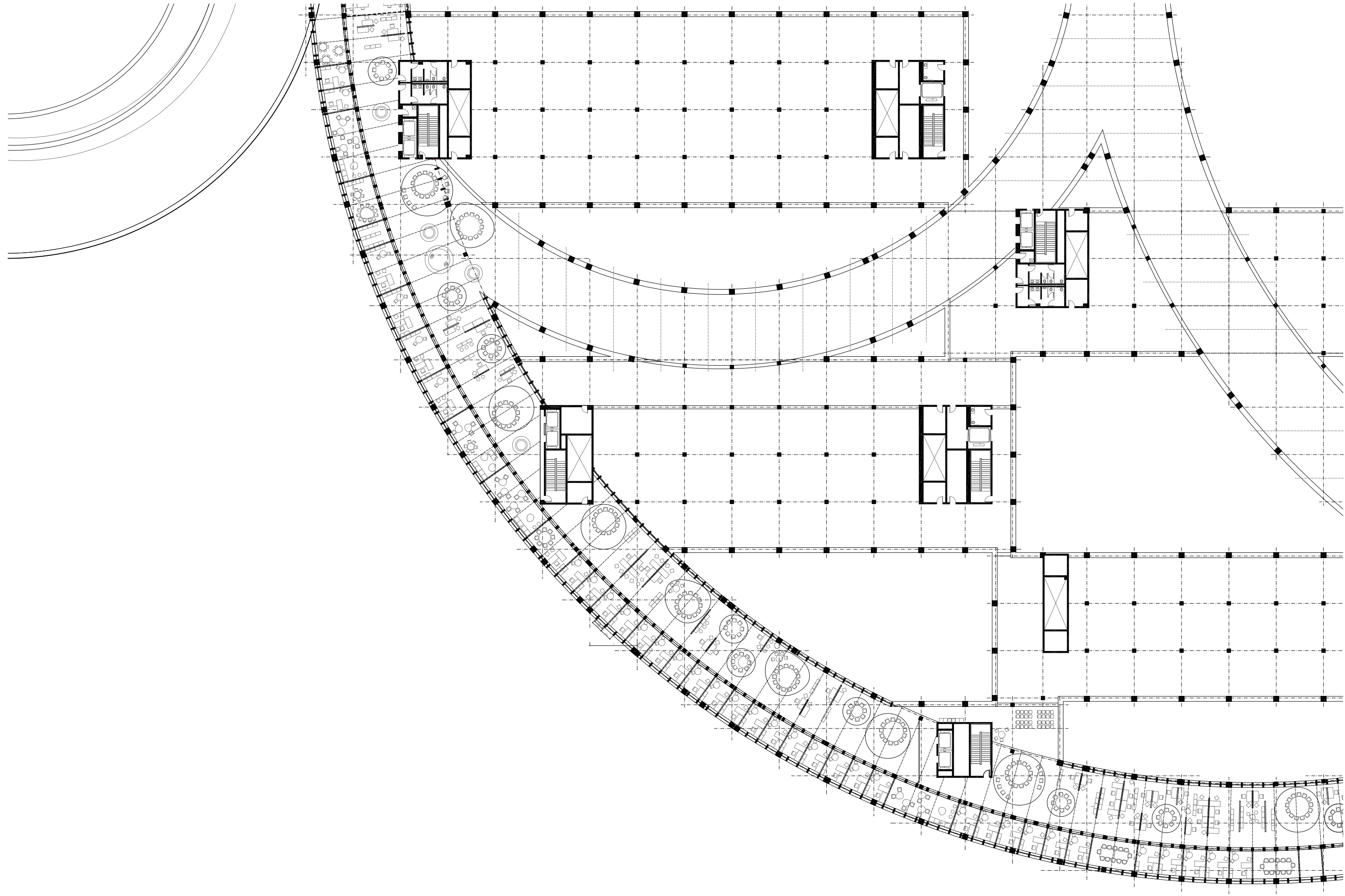


Section Main Facade 1:50

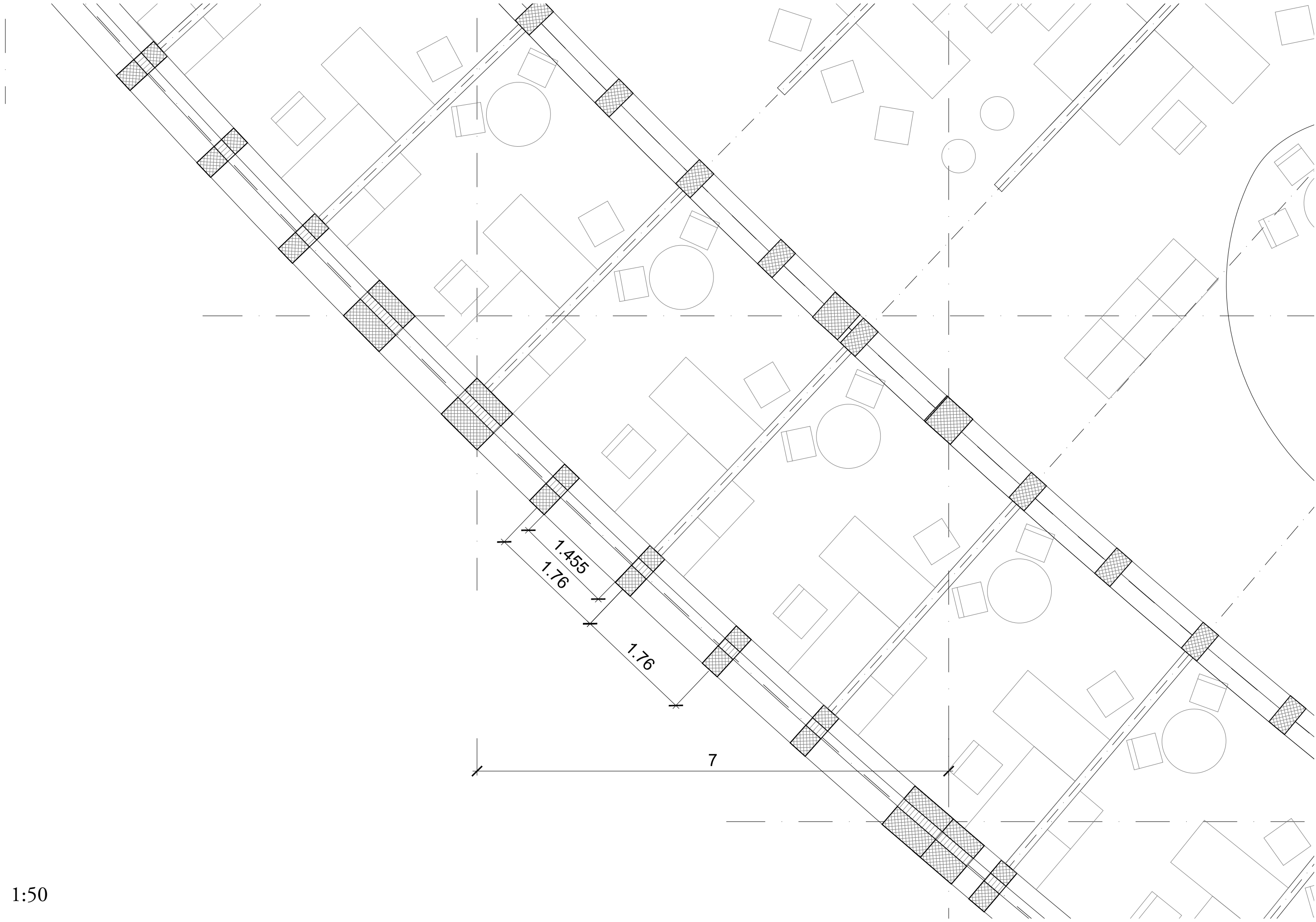
section 1:50, print on A2 portrait



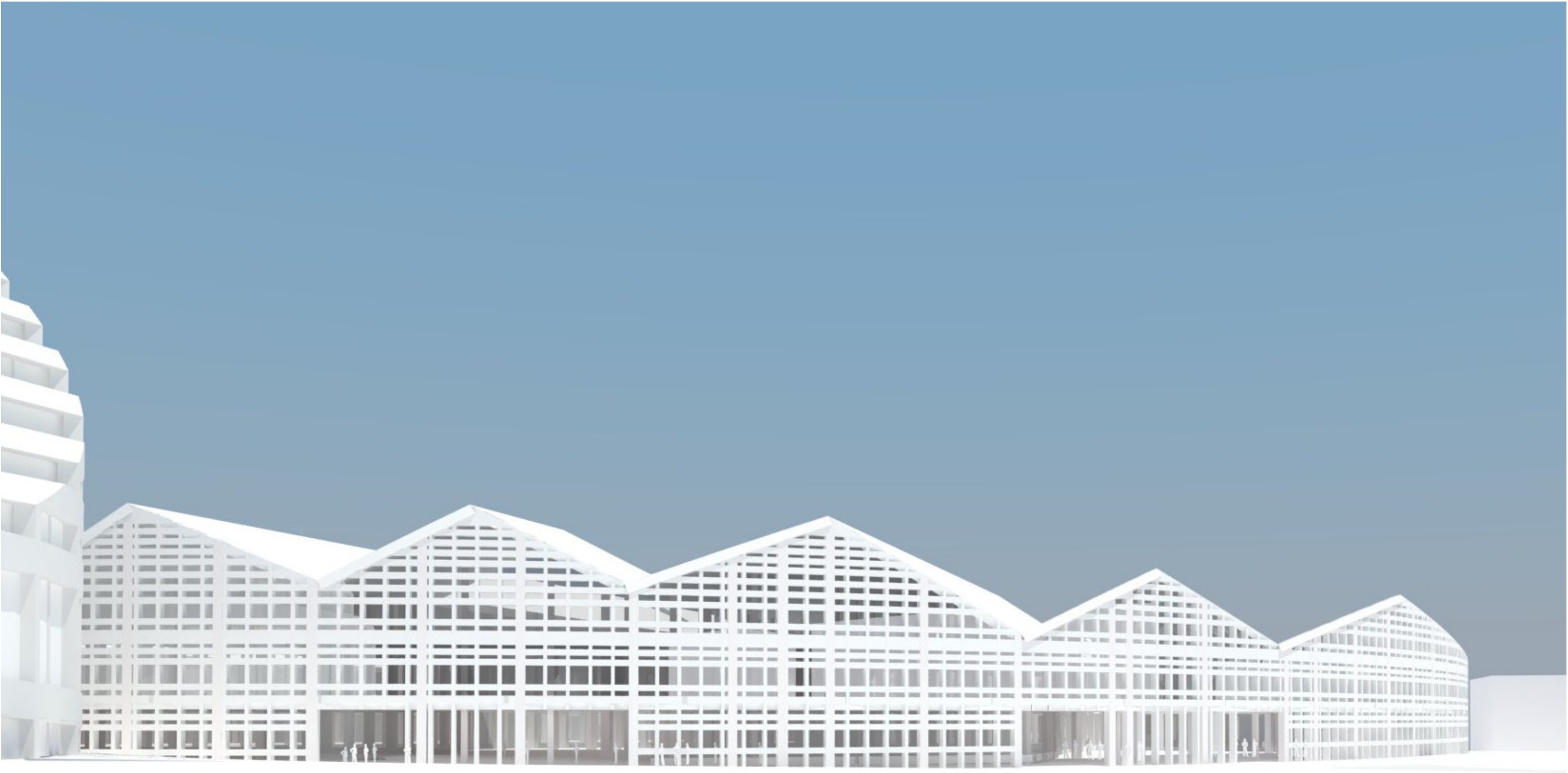




1:500
DENSE
MAIN FACADE

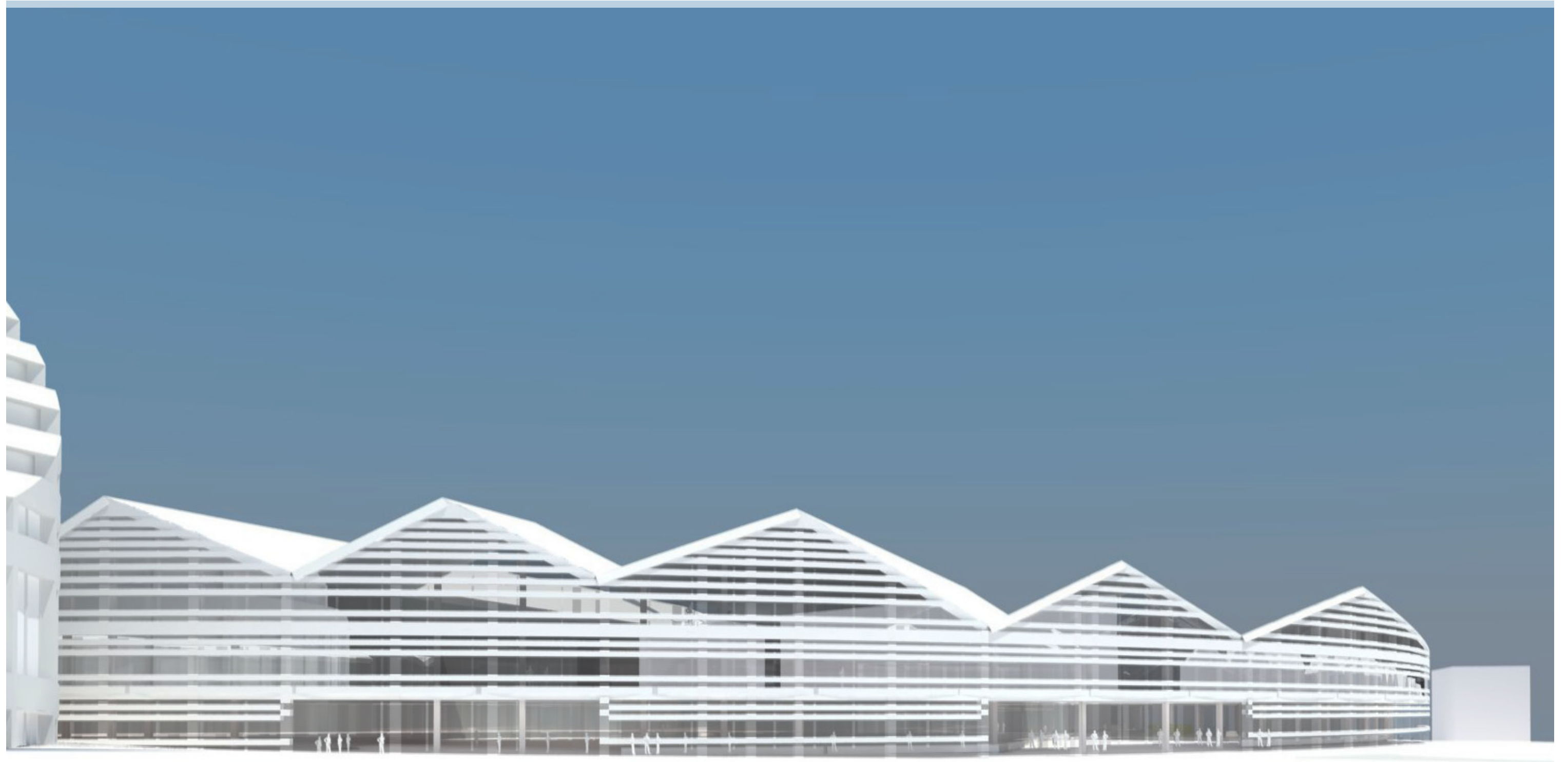


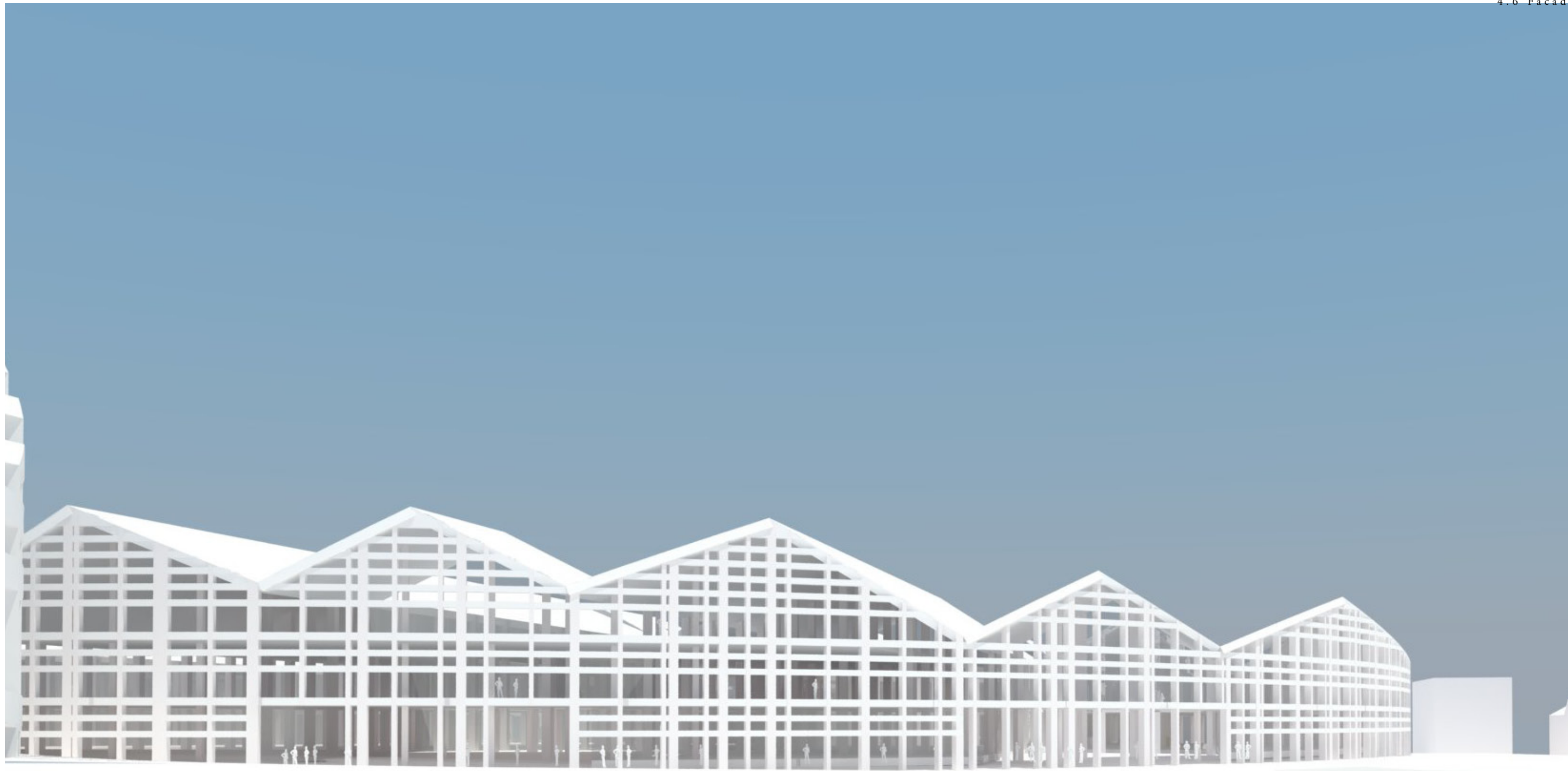
1:50



DENSE
MAIN FACADE

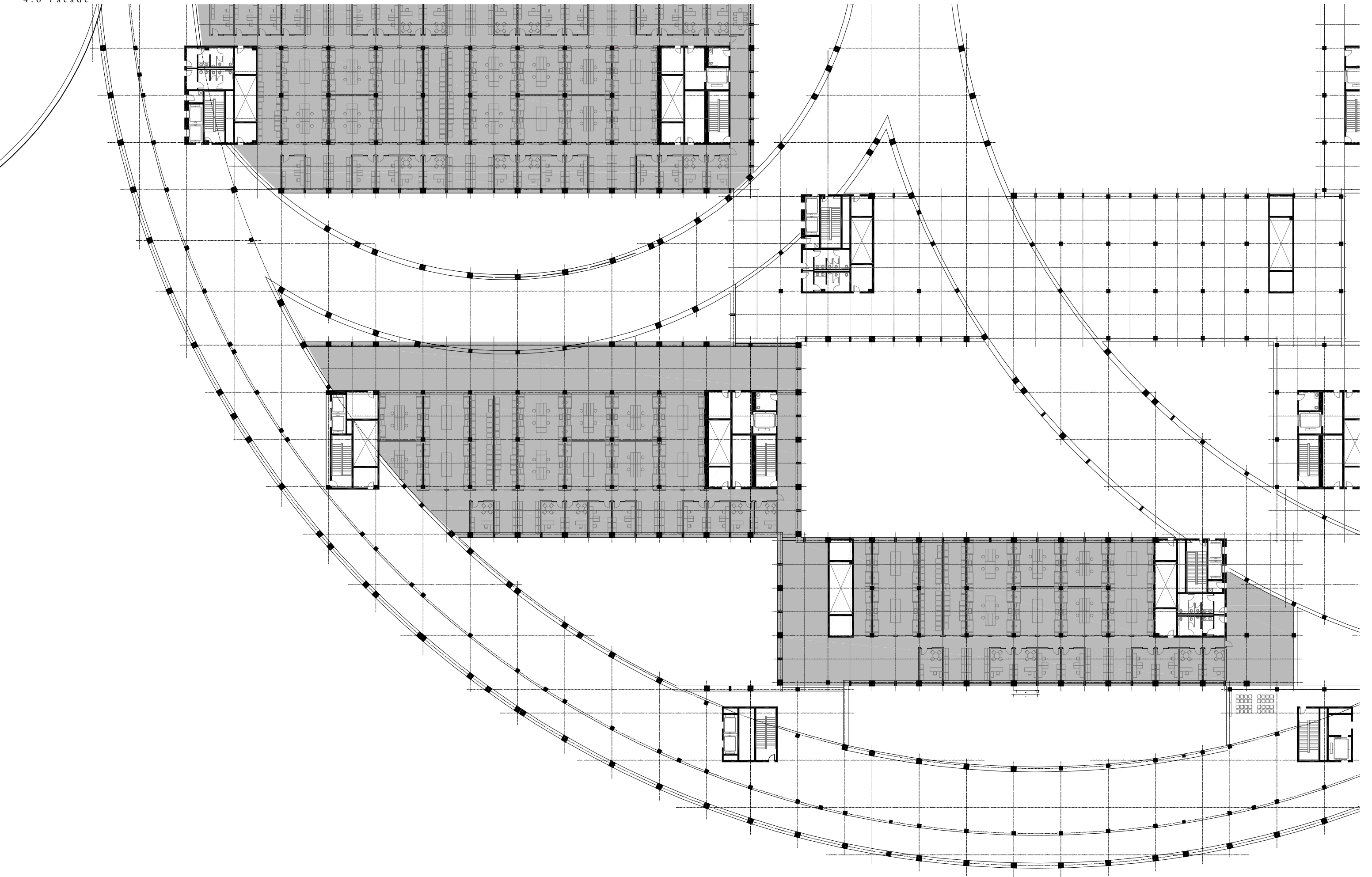






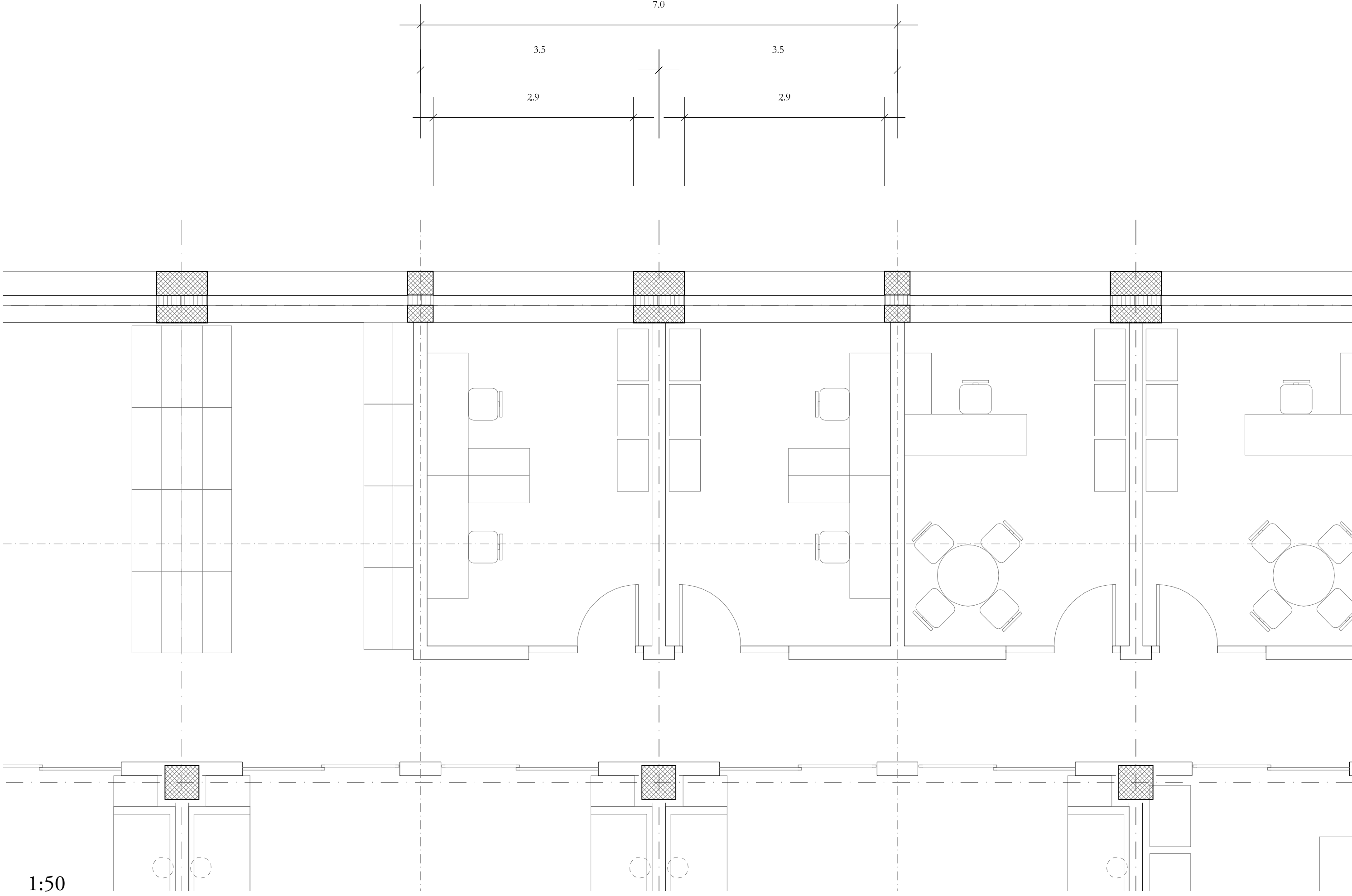


L A B F A C A D E

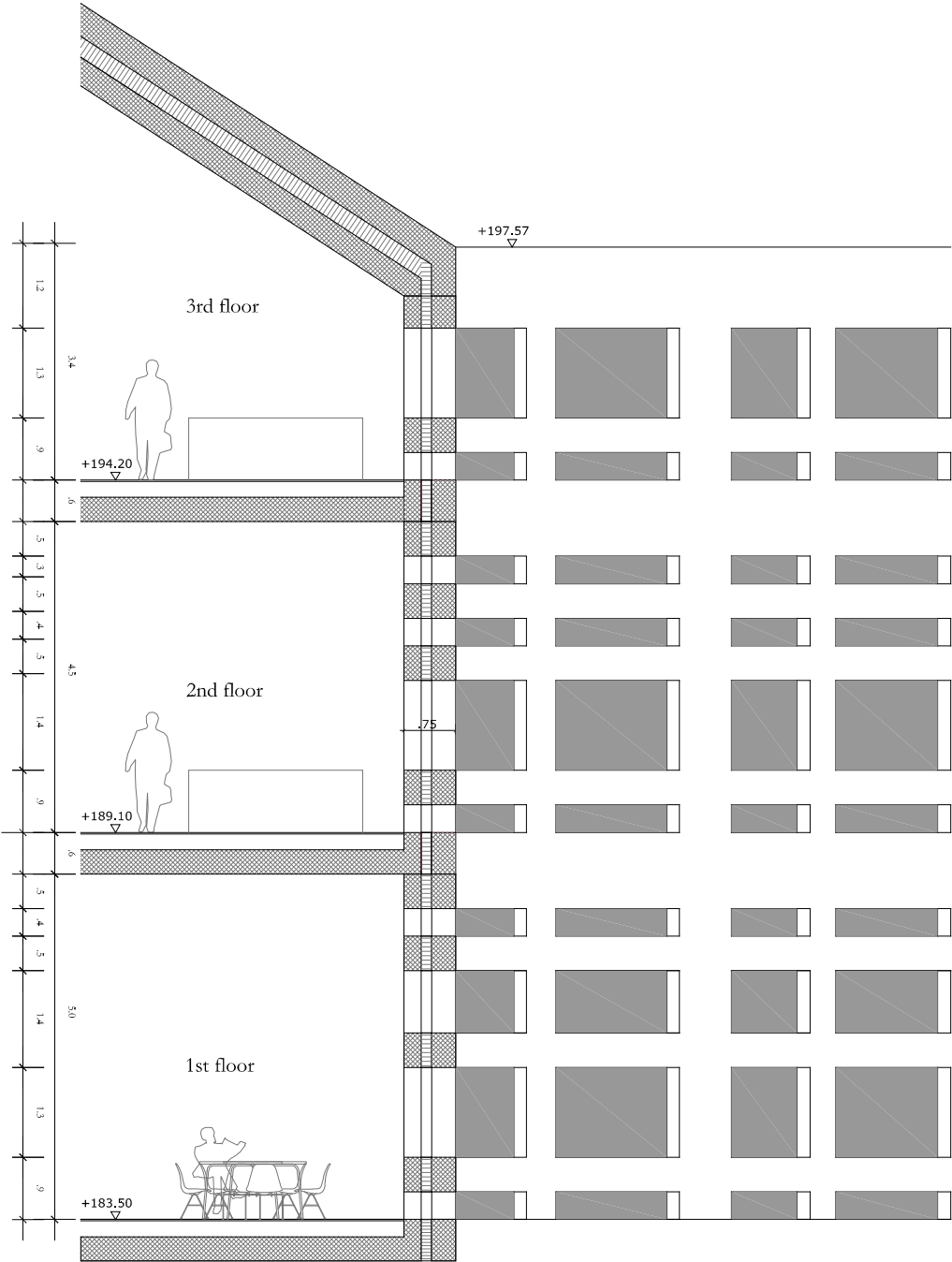


1:250

ORTHO 7m + 3.5m
LAB FACADE

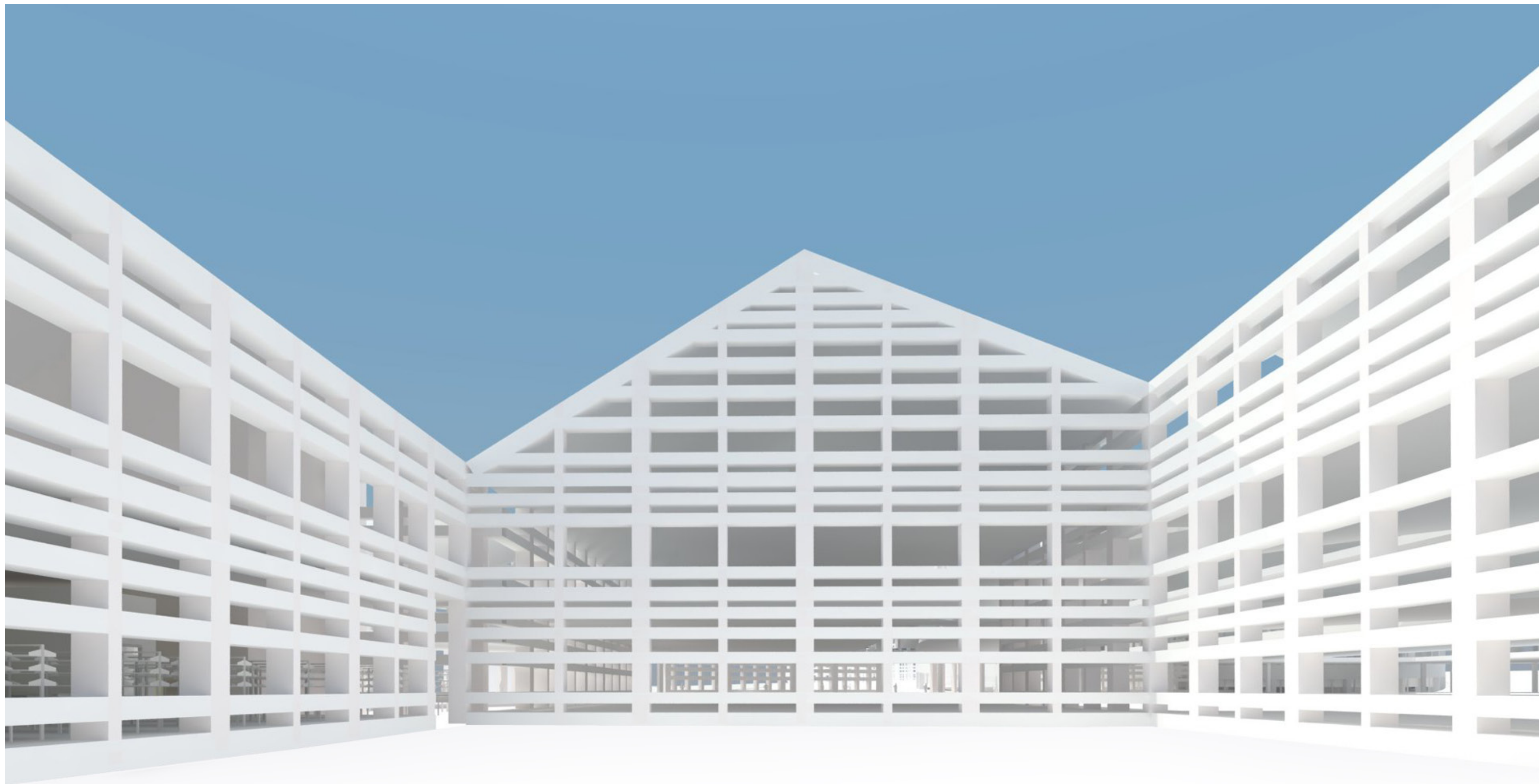


1:50



Section Lab Facade 1:50

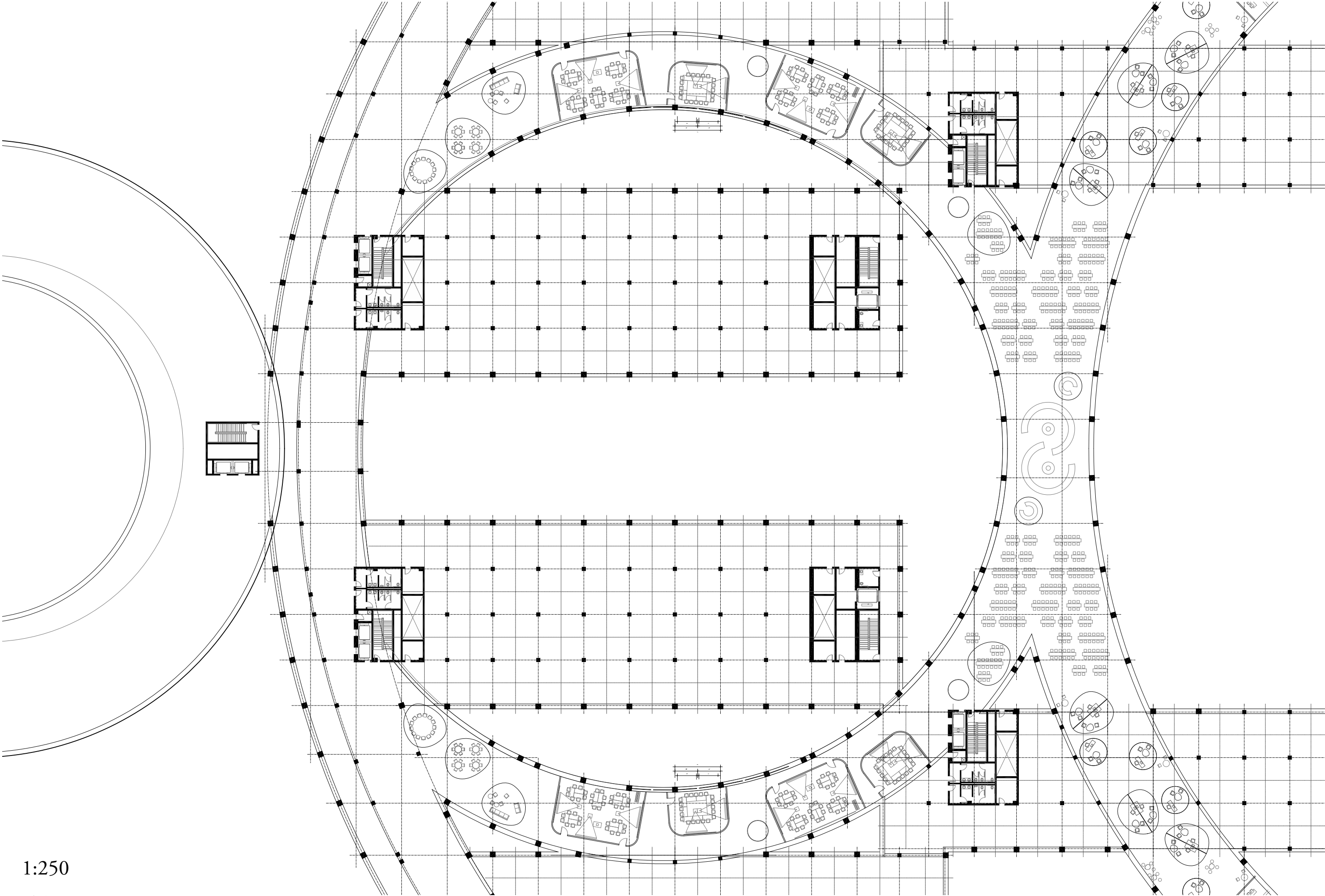
section 1:50, print on A2 portraot



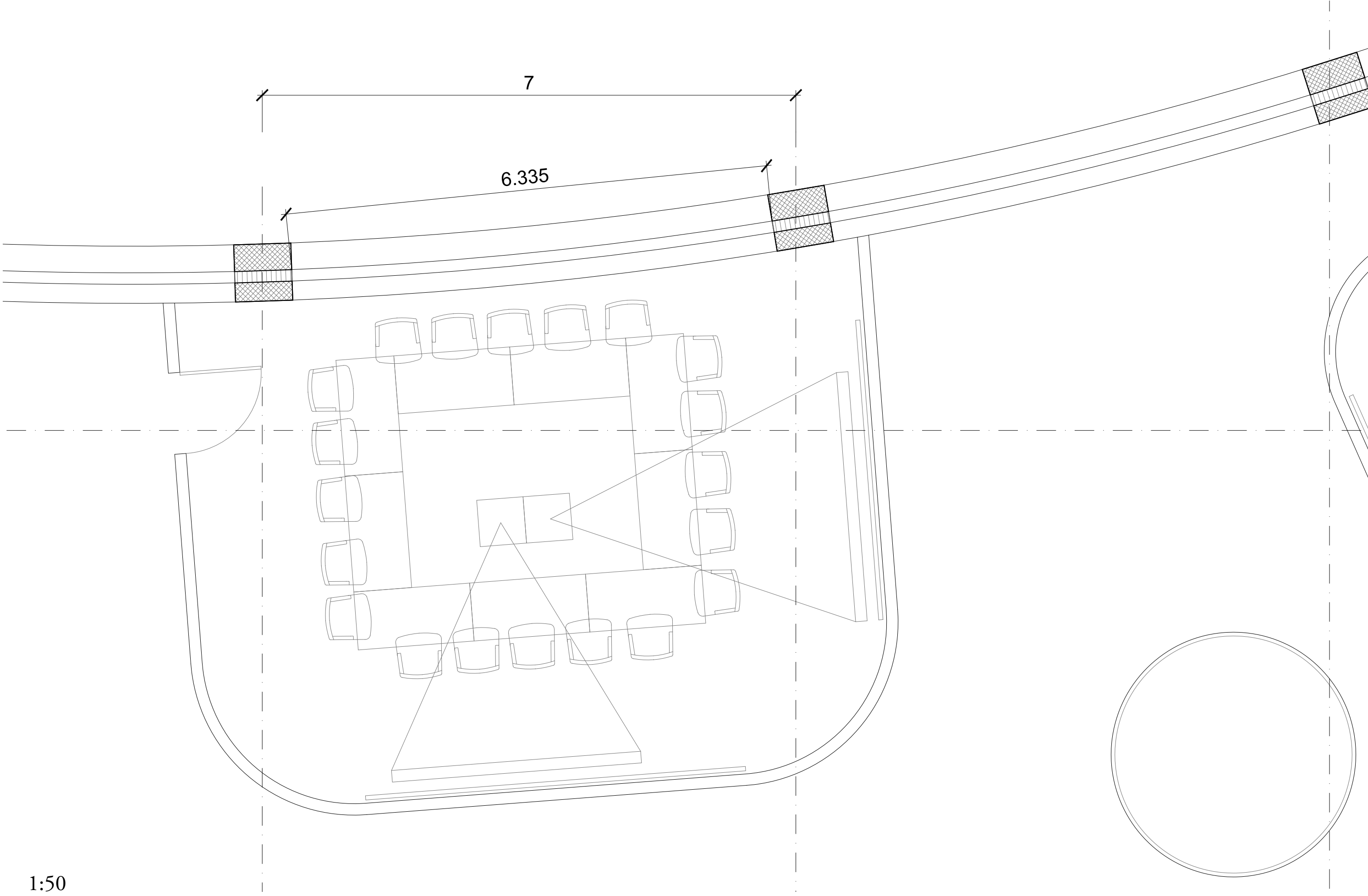




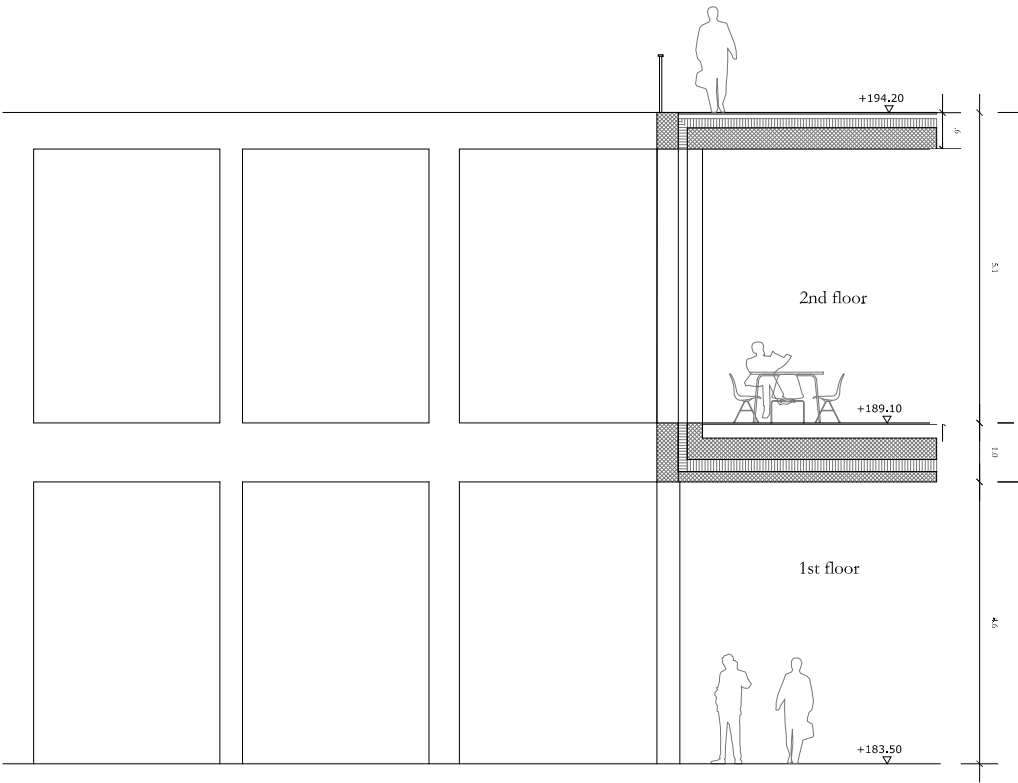
R I N G F A C A D E



1:250
ORTHO 7m + 3.5m
LAB FACADE

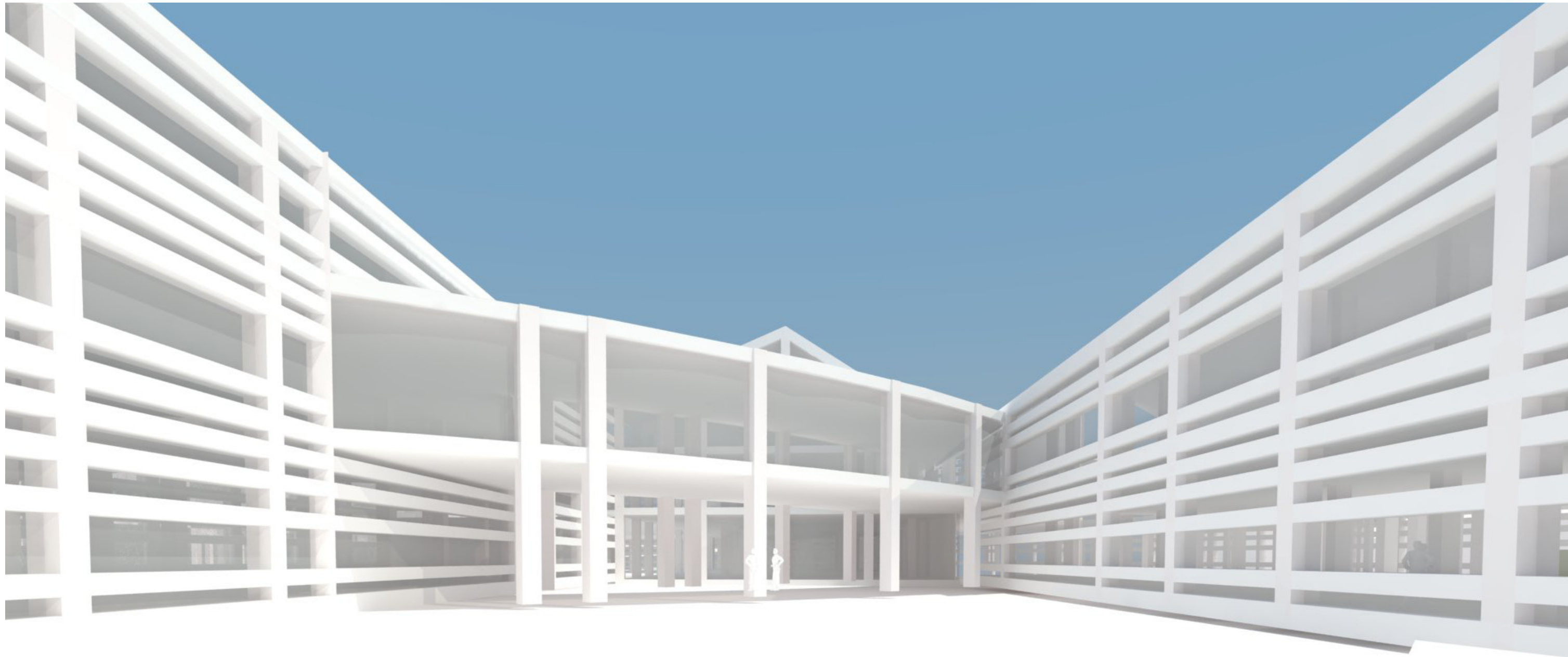


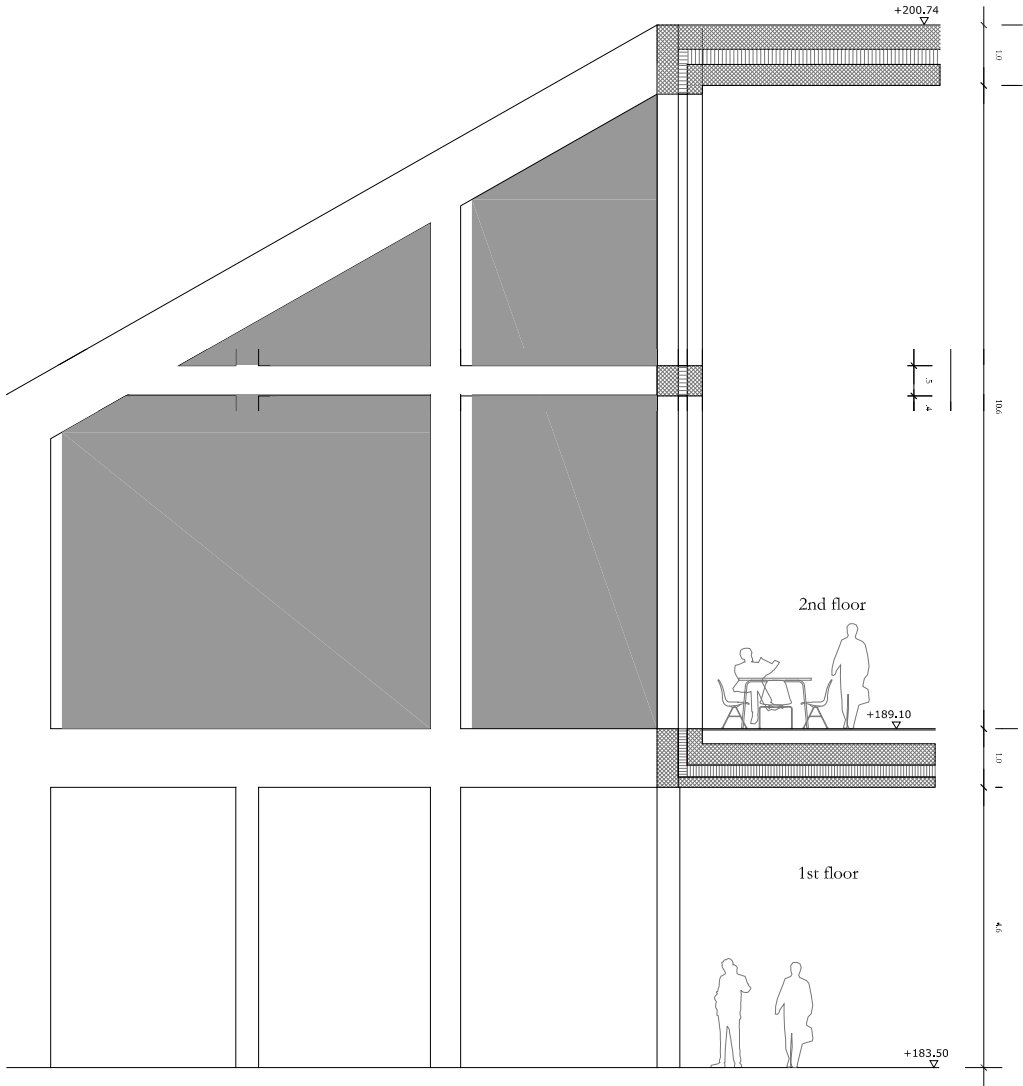
1:50



Section Ring Facade 1:50

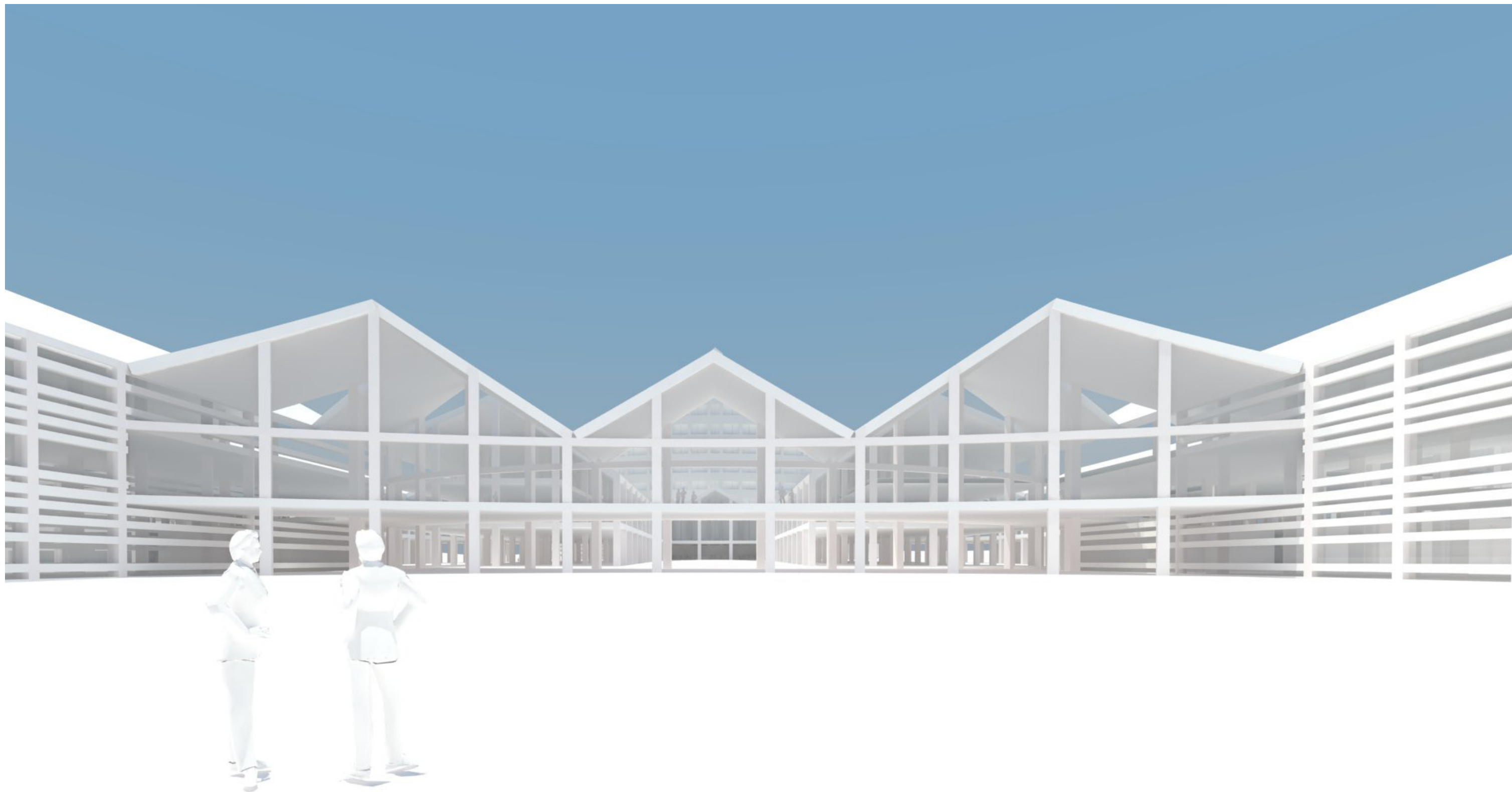
section 1:50, print on A2 portraot





Section Ring Facade (Center) 1:50

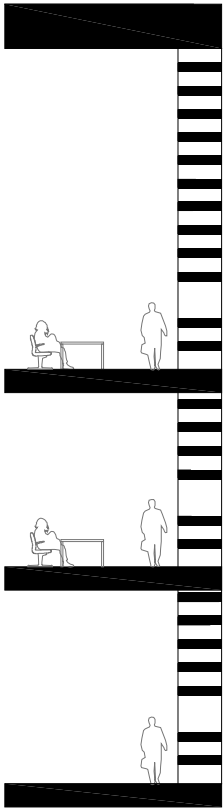
section 1:50, print on A2 portraot



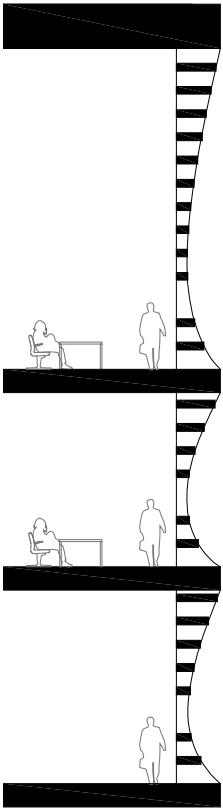


L A M E L L A S A L T E R N A T I V E S T U D I E S

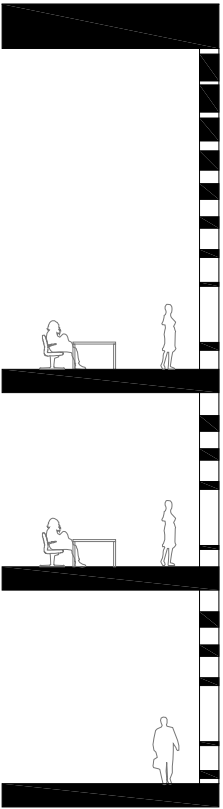
DENSE LAMELLAS

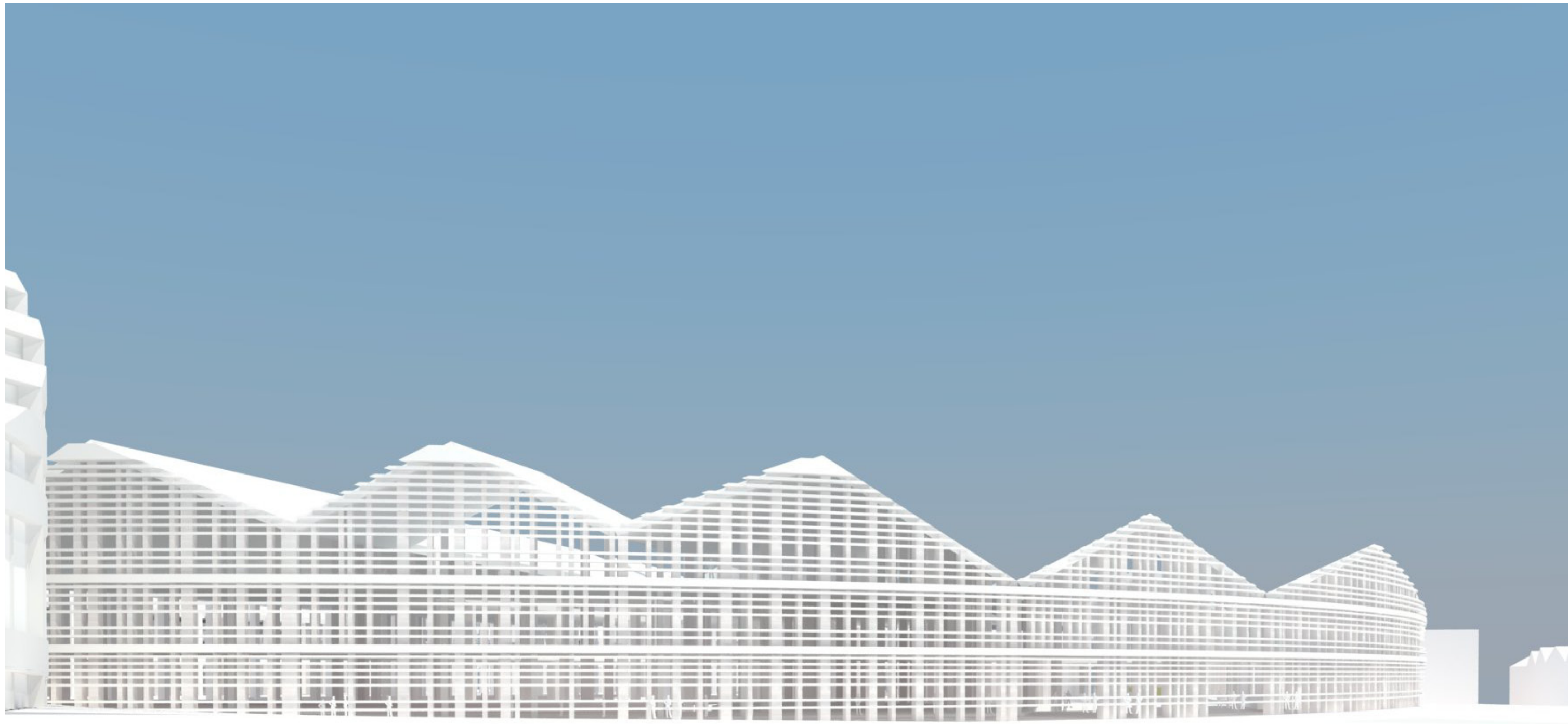


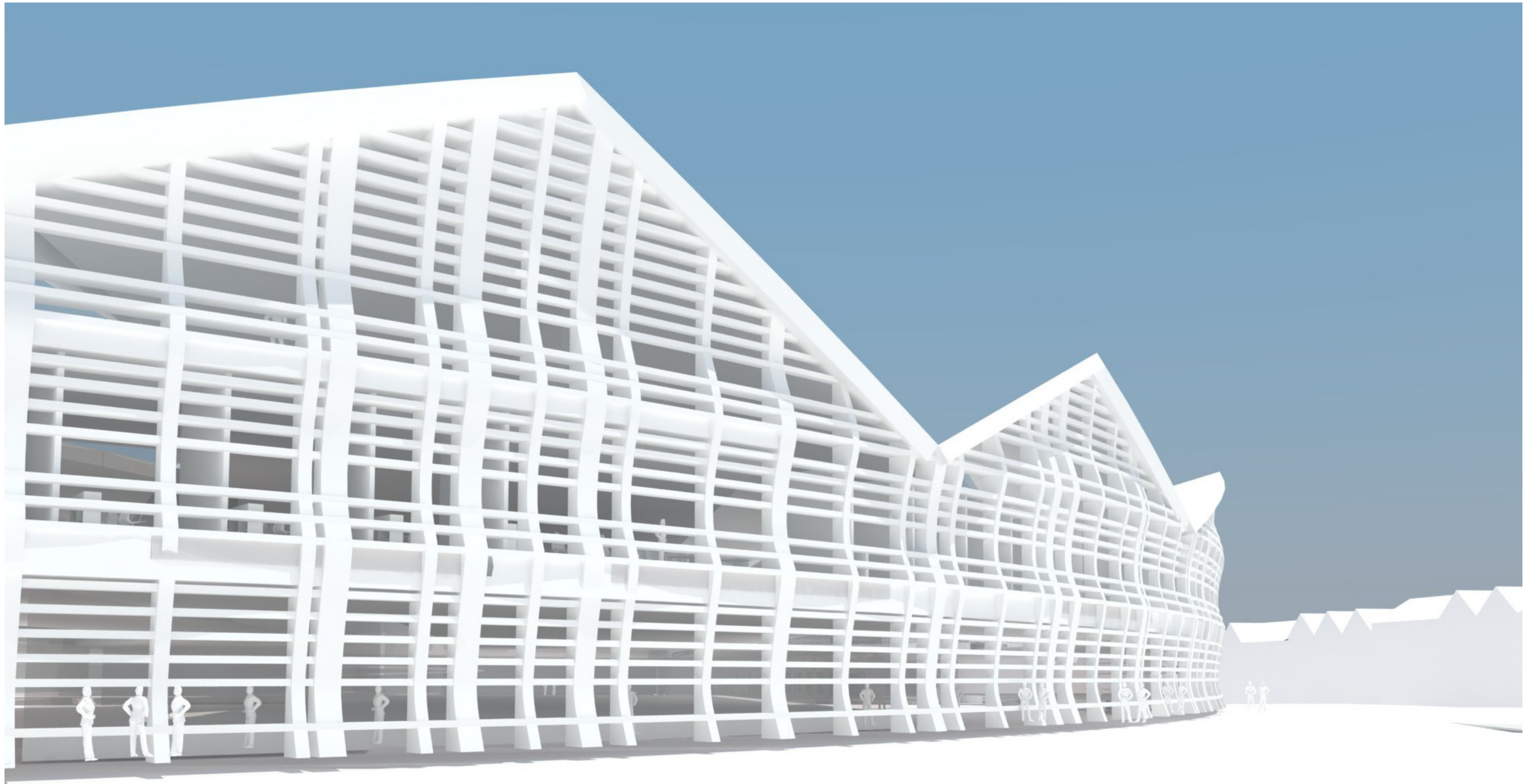
CURVED LAMELLAS & STRUCTURE

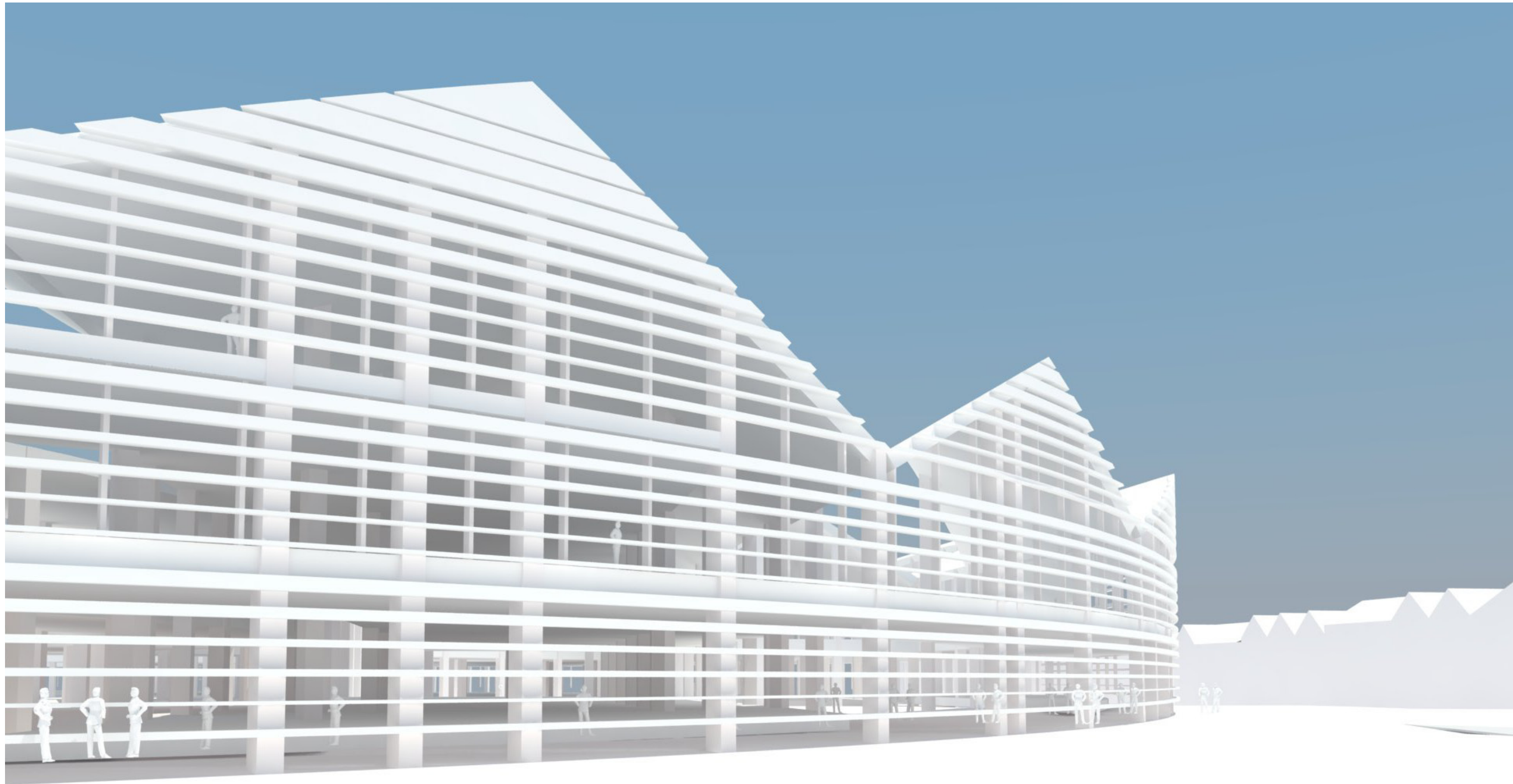


GRADIENT







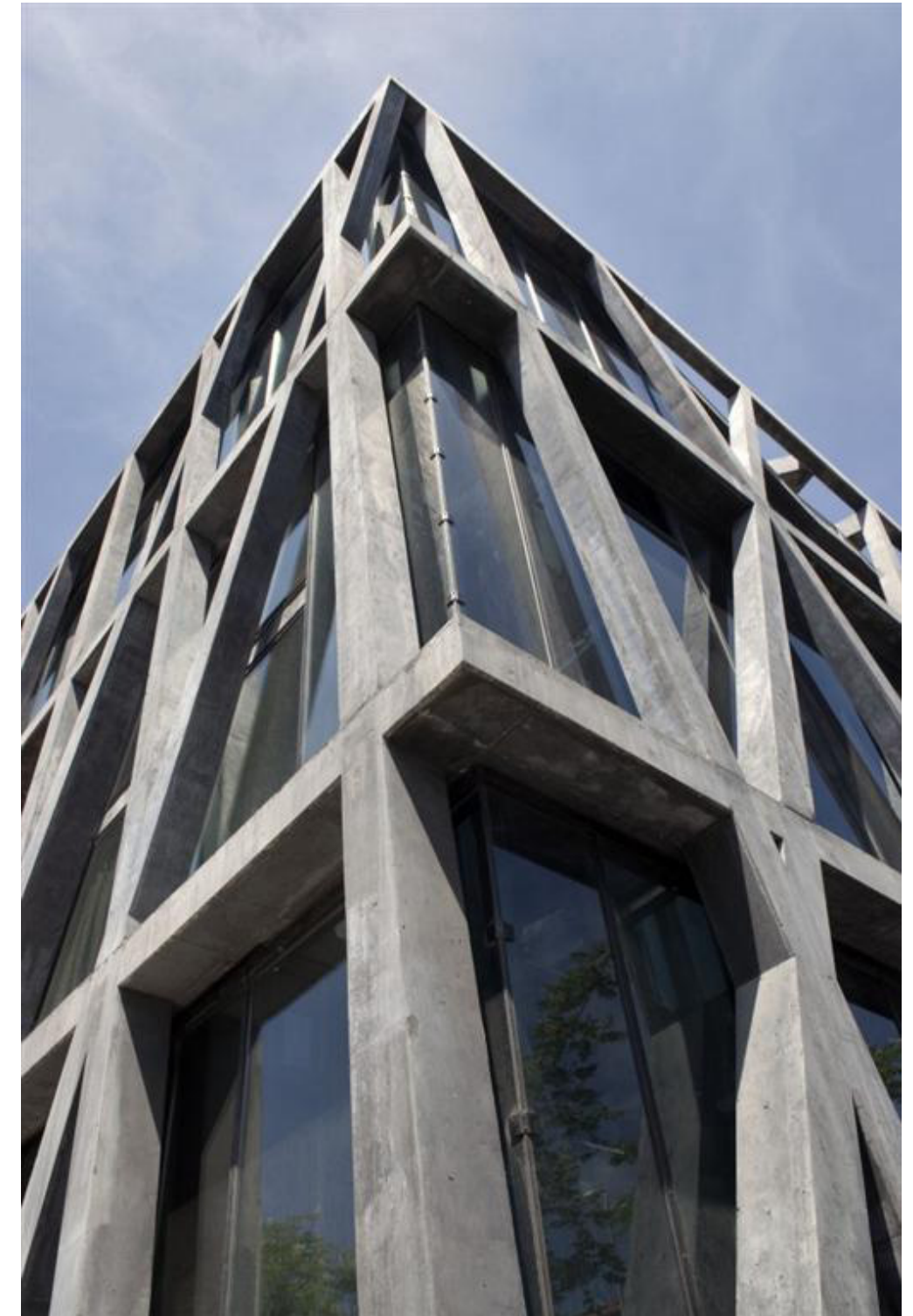




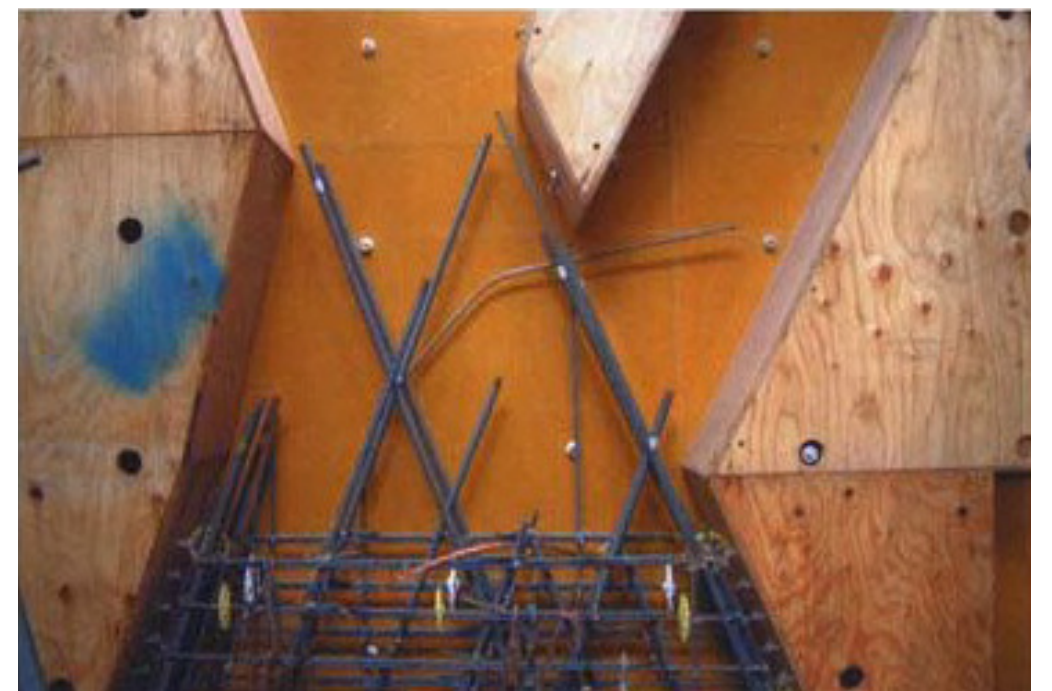
M A T E R I A L I T Y

FACADE	Architecture	Speed of Construction	Cost	Ageing	Quality / Craftmanship	Complexity / Geometry	Time for Design	Reference	Detail
Cast on Site Concrete	rough appearance (difficult to achieve quality)	slow	cheap	Relatively good	Difficult	flexible	short	Centre National de la Danse, Ruty Ricciotti / Tod's Tokyo, Toyo Ito / Feltrinelli, HdM	
Precast Concrete	depends on quality	fast	cheap	Relatively good	Good	Difficult	short	Kaufhaus Tyrol, Chipperfield / Akasaka K-Tower, Kaijima	
Rendered	fake appearance	fast	cheap	bad	Good	flexible	short	Sudpark Basel, HdM	
Cladding (stone, copper, wood, ceramic)	various options	fast	depends	good	Good	flexible	relatively long	Novartis, Chipperfield / De Young, HdM / Bond Street, HdM	
Wood ???	fits the site context	relatively slow	expansive	good (problematic)	Difficult	Difficult	long		
Printed Glass	potential monolith appearance	fast	expansive	bad	Good	flexible	realtively long	Cottbus University Library, HdM	





Centre National de la Danse, Rudy Ricciotti
CAST ON SITE CONCRETE





Kaufhaus Tyrol, Chipperfield
PRECAST CONCRETE





Akasaka K-Tower, Kajima Corporation
PRECAST CONCRETE



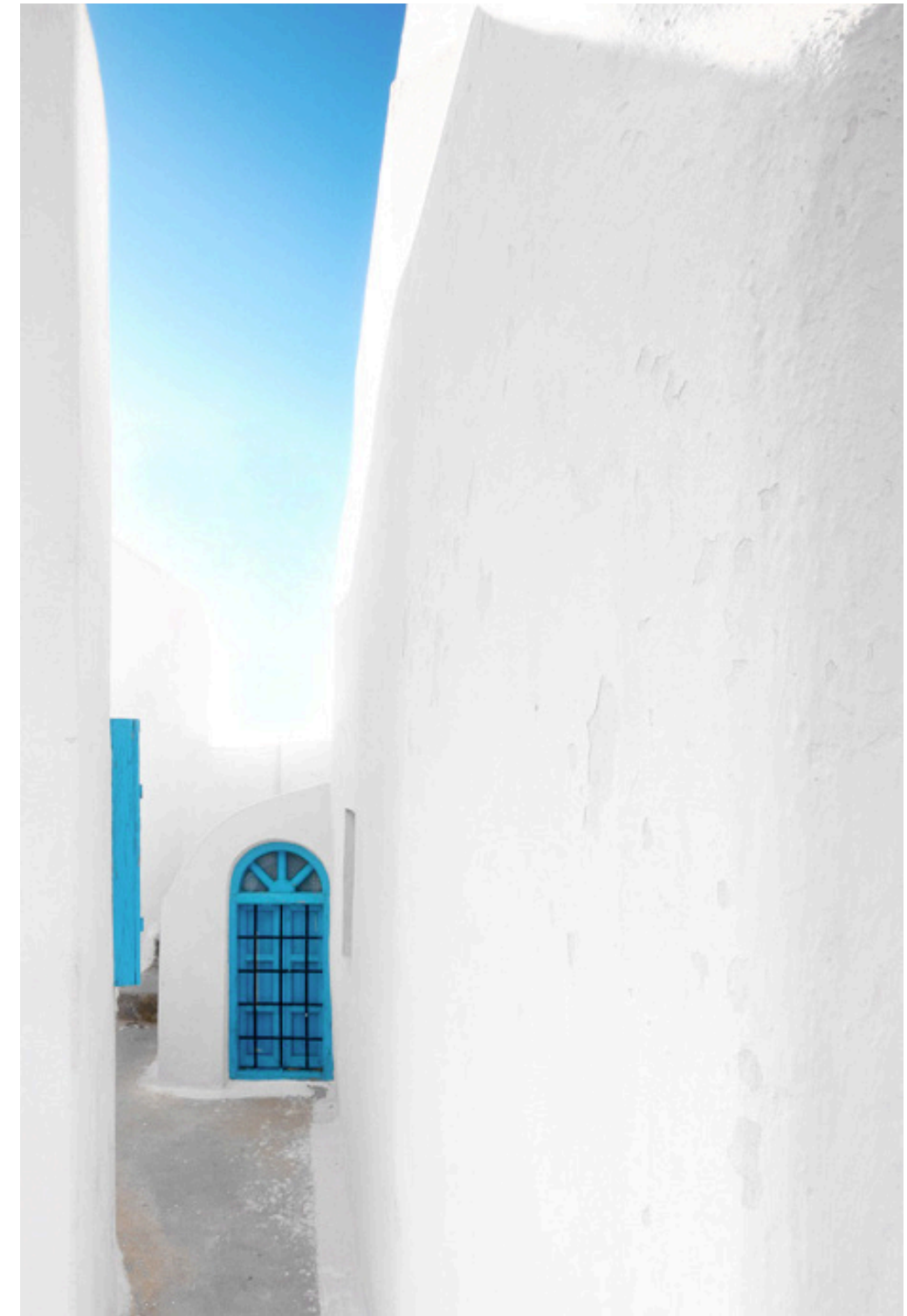


Bauzentrum Munchen-Riem, Hild&K Architekten
PRECAST CONCRETE



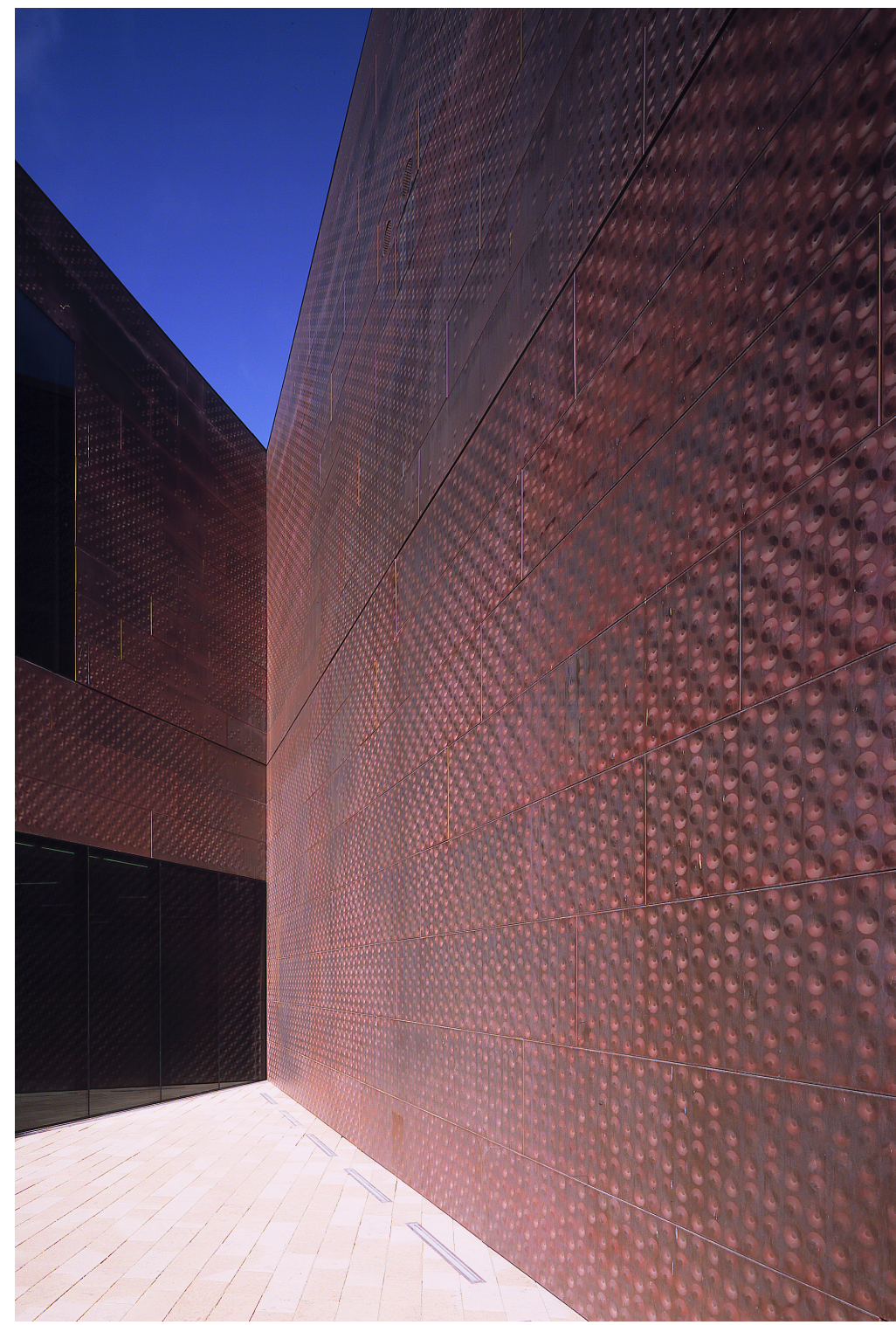
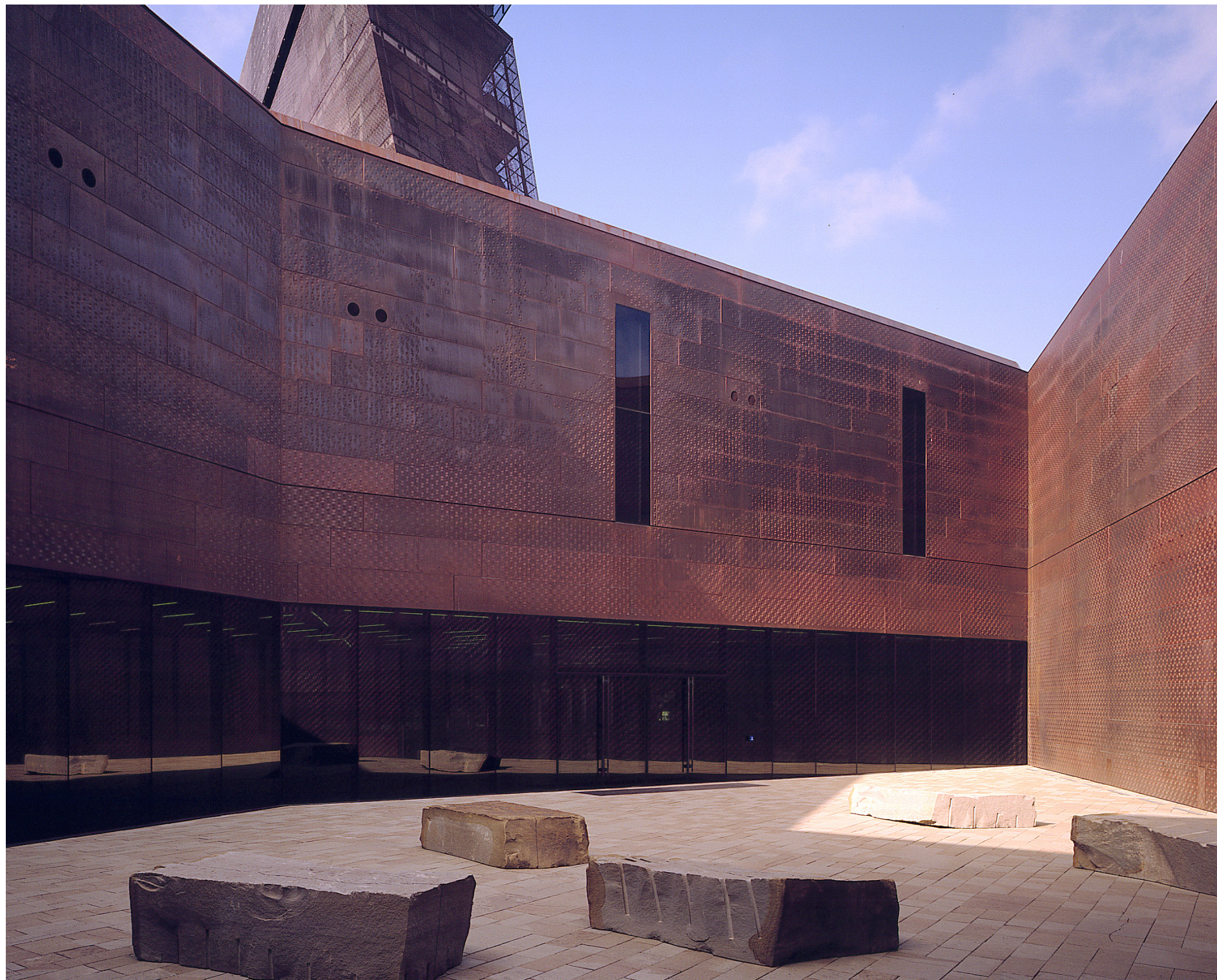


Hanil visitors Center & Guest House, BCHO Architects
CAST CONCRETE





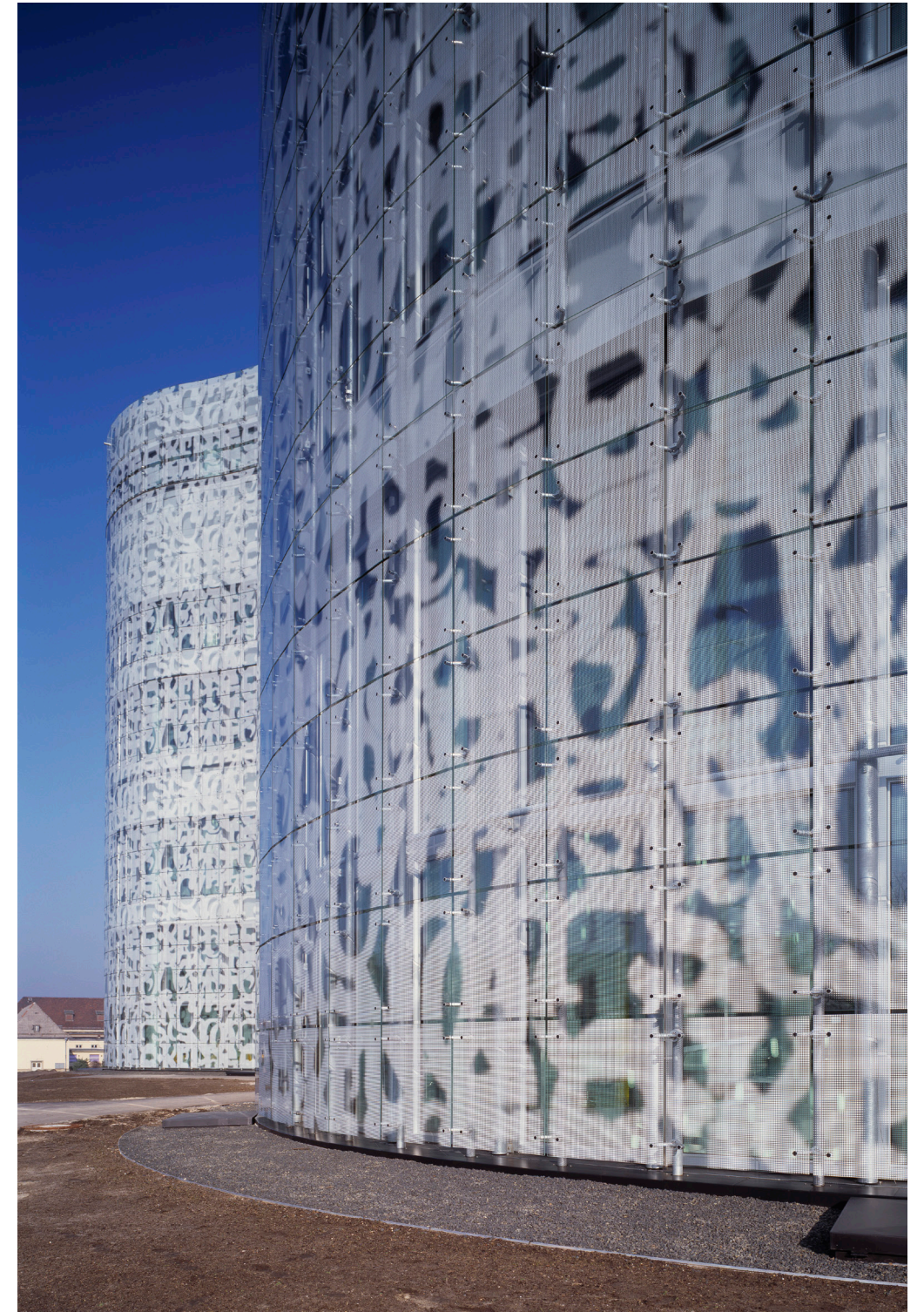
Flims Houses, Rudolf Olgiati
RENDERED





Bond Street, HdM
CLADING



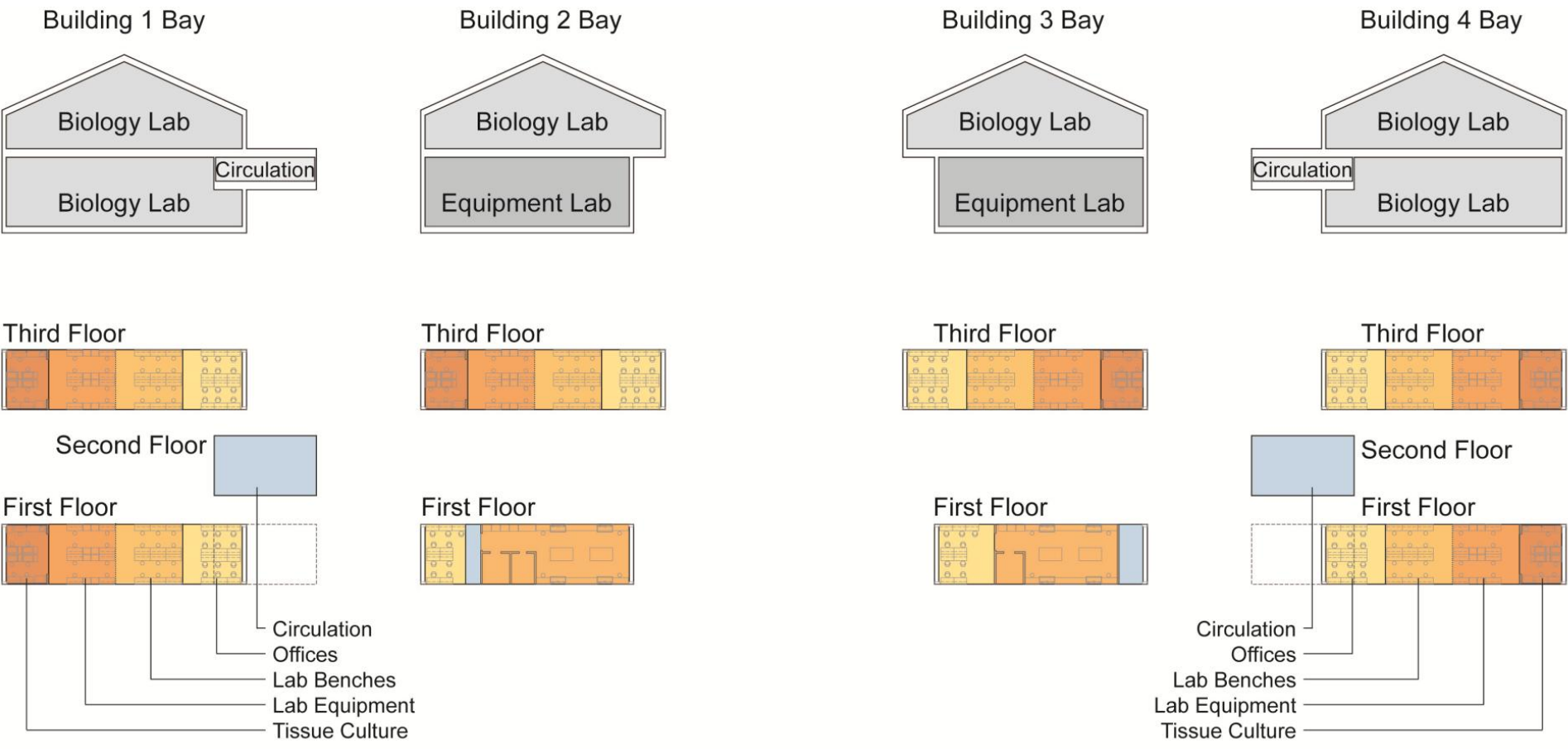


Cottbus Library, HdM
PRINTED GLASS

2 0 1 2 0 3 0 6
P a y e t t e

G L A Z I N G P E R C E N T A G E S T U D Y

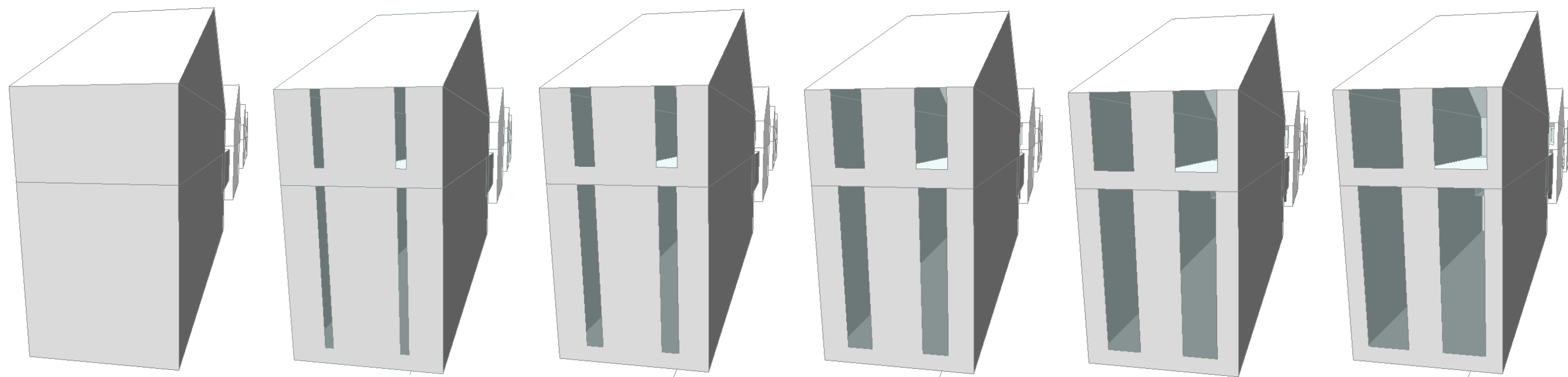
PERCENT GLAZING STUDY | SHOEBOX MODELS



- Key Assumptions:
 - Highly Transmission Glazing
 - No Interior Shading
 - Reflective Walls & Ceilings
 - Interior Partitions 100% Glass
 - Second Floor Always 100% Exterior & Interior Glazing
 - R-values 20% better than ASHRAE
 - Low Lighting Power Density (Sherman Fairchild)
 - Chilled Beams & Radiant Heating
 - 1 cfm/sf
 - Schedules & Occupancy Information Based on Labs21
 - Other Efficiencies Based on ASHRAE



PERCENT GLAZING STUDY | SHOEBOX MODELS



0%

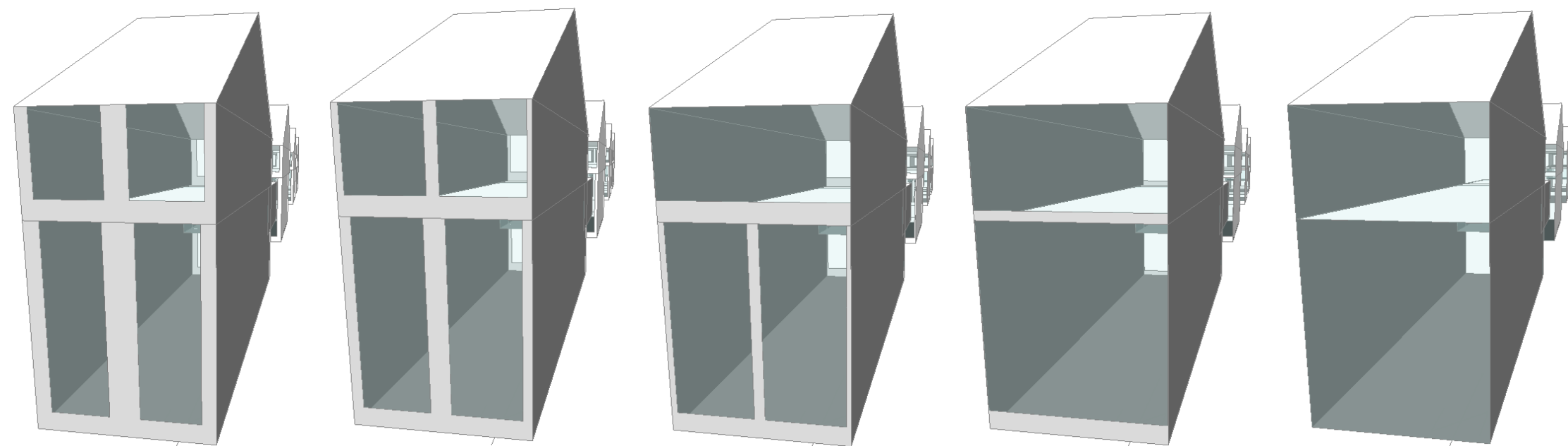
10%

20%

30%

40%

50%



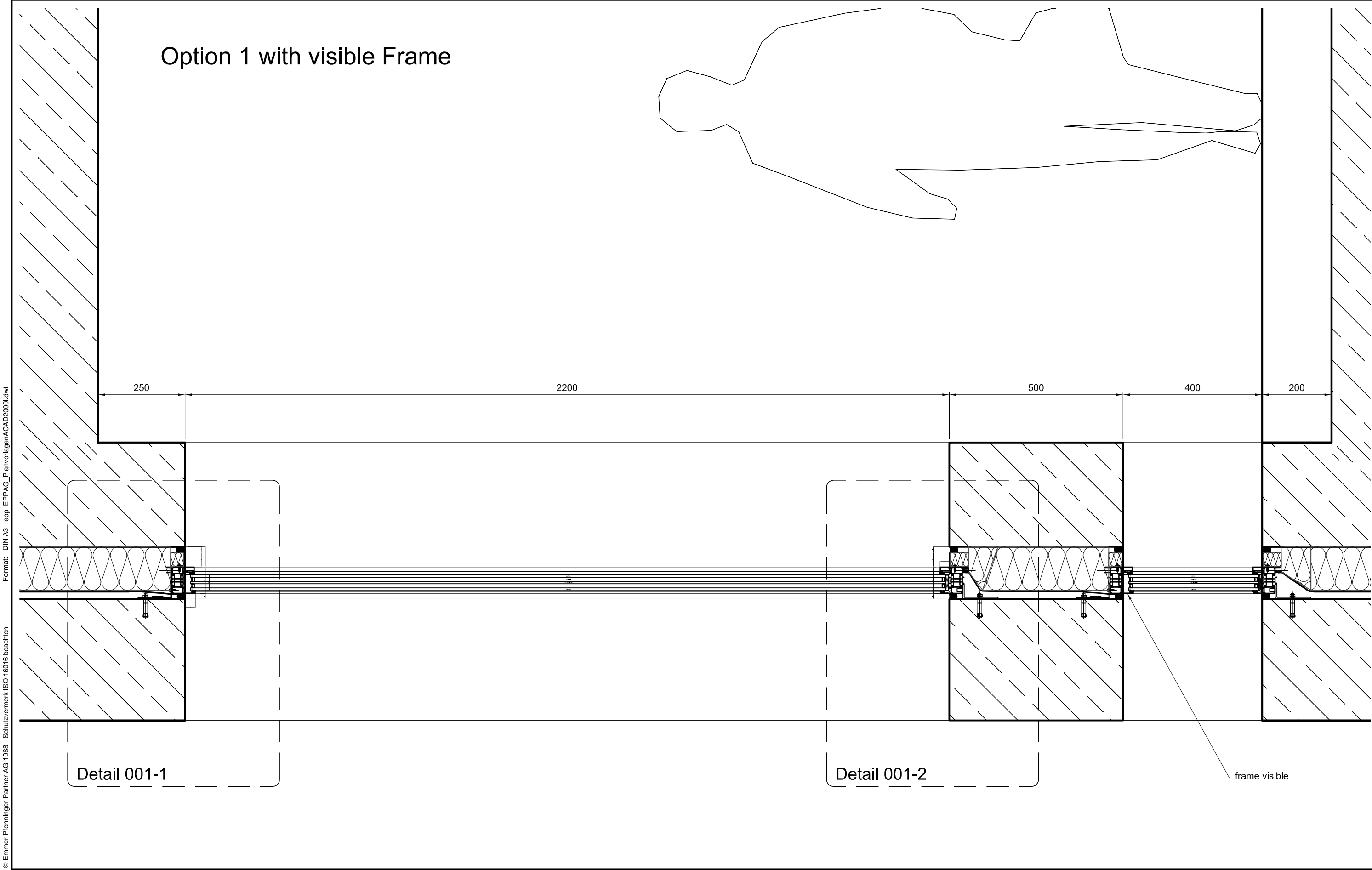
60%

70%

80%

90%

100%



Schnittflächen Wärme- oder Schalldämmung
Platten: Bauseitige Leistung
anderes Gewerk
Platten: Leistung Fassadenbauer
Streifen-, Stopf- oder Formteile:
Leistung Fassadenbauer

Revision:

Ingenieur-Zentrum
für Bauphysik, Metallbau-,
Fenster-, Fassadentechnik
Weldenstrasse 13
CH - 4142 Münchenstein
Telefon +41 (0)61 416 96 96
Telefax +41 (0)61 416 96 97
info@eppag.ch - www.eppag.ch



Emmer Pfenninger Partner AG

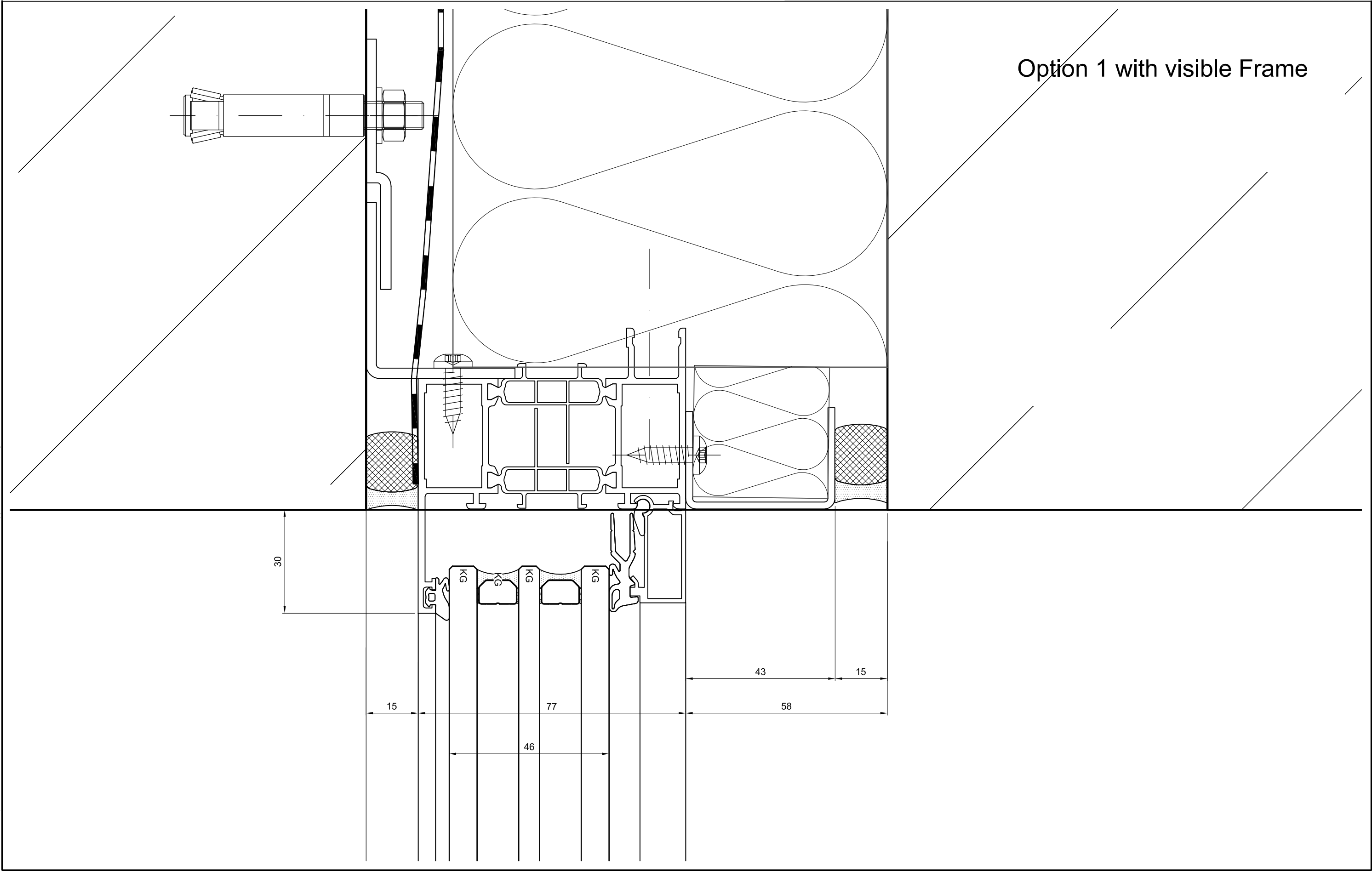
Projekt
Skollovo University
Architekt
Herzog & Demeuron

Inhalt
Projekt-Prinzipzeichnung (Leitdetail)
Vertikalsection
Fassade

Masstab Datum Auftrags Nr. Name
1: 10 14.01.2012 4208 D. Müller

D E T A I L S

E m m e r - P f e n n i n g e r 1 4 . 1 . 2 0 1 2



Schnittflächen Wärme- oder Schalldämmung
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anderes Gewerk
Platten: Leistung Fassadenbauer
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Leistung Fassadenbauer

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Fenster-, Fassadentechnik



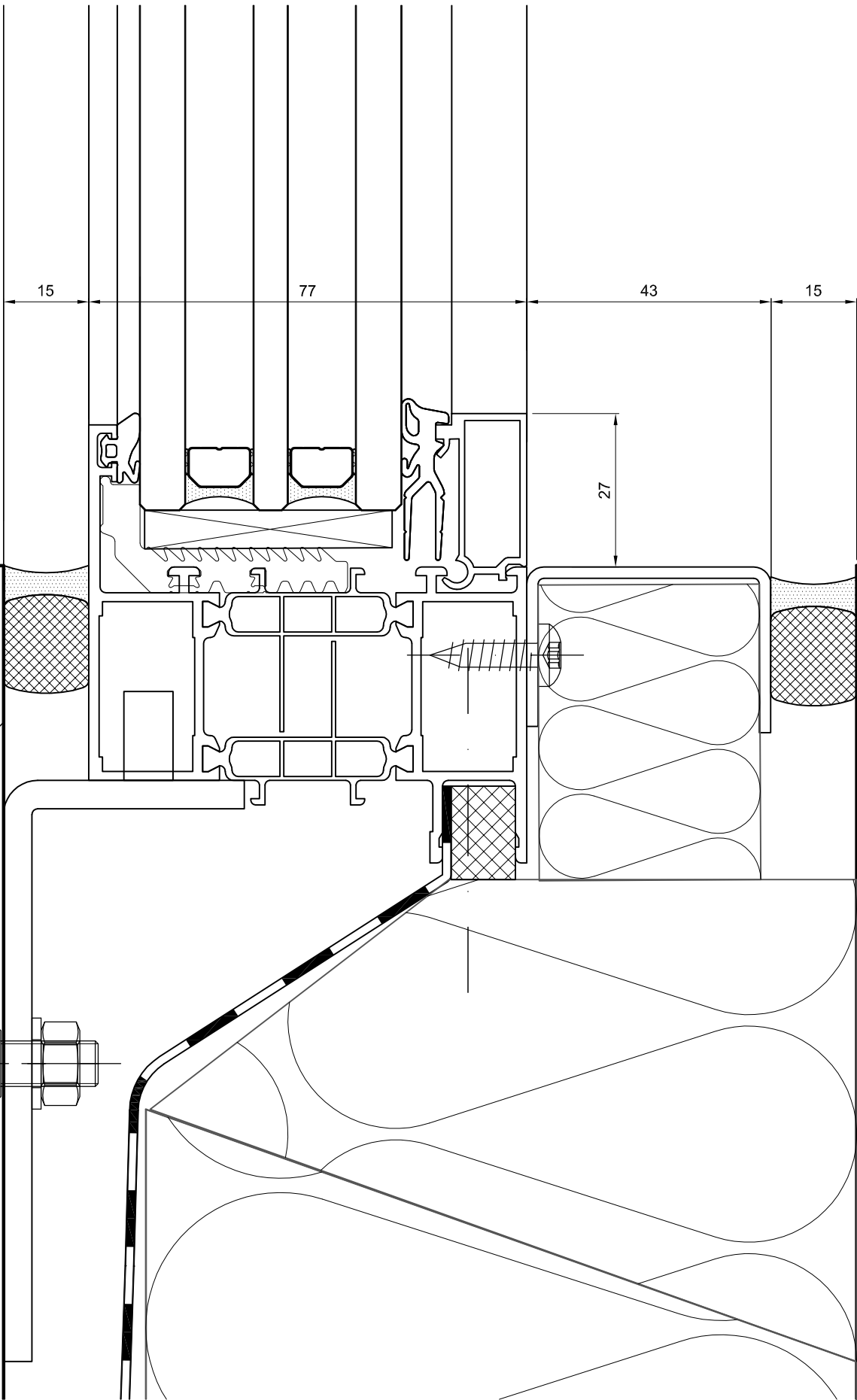
Weldenstrasse 13
CH - 4142 Münchenstein
Telefon +41 (0)61 416 96 96
Telefax +41 (0)61 416 96 97
info@eppag.ch - www.eppag.ch

Projekt
Skolovo University
Architekt
Herzog & Demeuron

Inhalt
Projekt-Prinzipzeichnung (Leitdetail)
Vertikalsection
Fassade

Massstab Datum Auftrags Nr. Name
1: 1 14.01.2012 4208 D. Müller

Option 1 with visible Frame



Format: DIN A3 epp EPPAG_PlanvorlagenACAD2000.dwt

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anderes Gewerk
 - Platten: Leistung Fassadenbauer
 - Streifen-, Stopf- oder Formteile:
Leistung Fassadenbauer

Revision:

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für Bauphysik, Metallbau-,
Fenster-, Fassadentechnik

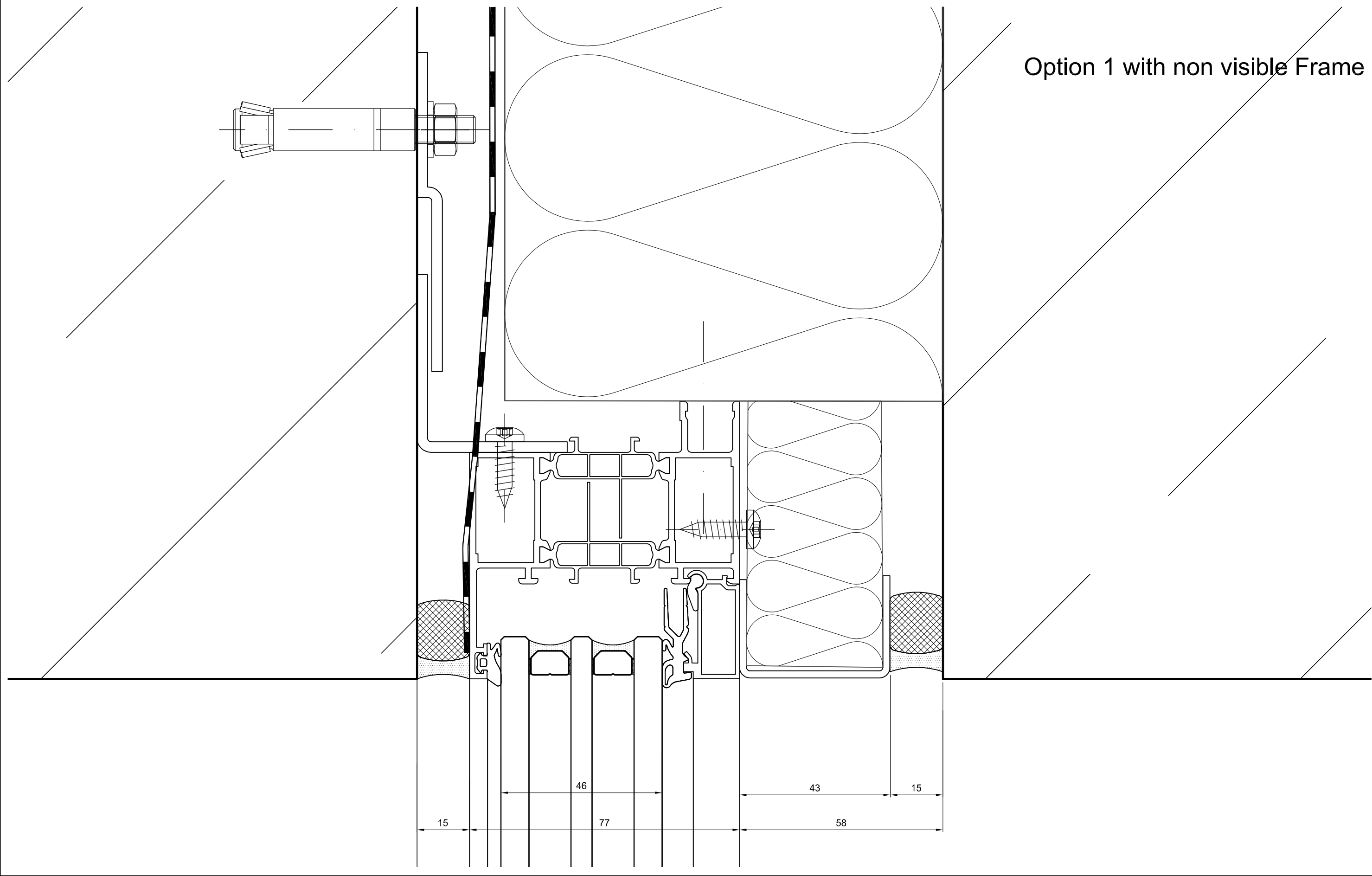
Weldenstrasse 13
CH - 4142 Münchenstein
Telefon +41 (0)61 416 96 96
Telefax +41 (0)61 416 96 97
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Projekt
Skolovo University
Architekt
Herzog & Demeuron

Inhalt
Projekt-Prinzipzeichnung (Leitdetail)
Vertikalsection
Fassade

Massstab	Datum	Auftrags Nr.	Name
1: 1	14.01.2012	4208	D. Müller

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Format: DIN A3 epp EPPAG_PlanvorlagenACAD2000.dwt



Schnittflächen Wärme- oder Schalldämmung
Platten: Bauseitige Leistung
anderes Gewerk
Platten: Leistung Fassadenbauer
Streifen-, Stopf- oder Formteile:
Leistung Fassadenbauer

Revision:



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für Bauphysik, Metallbau-,
Fenster-, Fassadentechnik

Weldenstrasse 13
CH - 4142 Münchenstein
Telefon +41 (0)61 416 96 96
Telefax +41 (0)61 416 96 97
info@eppag.ch - www.eppag.ch

Projekt
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Architekt
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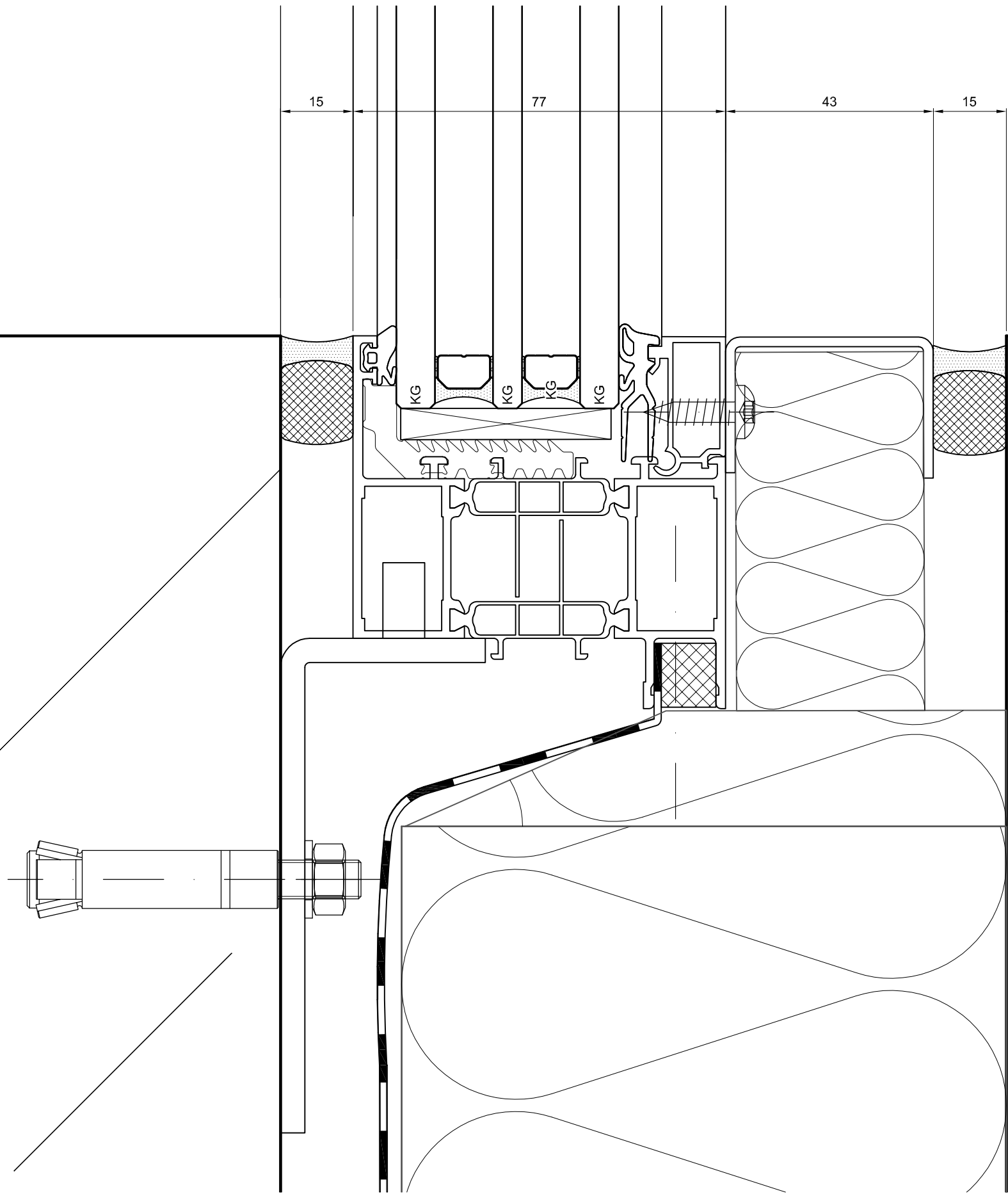
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Projekt-Prinzipzeichnung (Leitdetail)
Vertikalsection
Fassade

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Option 1 with non visible Frame



Schnittflächen Wärme- oder Schalldämmung
Platten: Bauseitige Leistung
anderes Gewerk
Platten: Leistung Fassadenbauer
Streifen-, Stopf- oder Formteile:
Leistung Fassadenbauer

Revision:

Emmer Pfenninger Partner AG

Ingenieur-Zentrum
für Bauphysik, Metallbau-,
Fenster-, Fassadentechnik



Weldenstrasse 13
CH - 4142 Münchenstein
Telefon +41 (0)61 416 96 96
Telefax +41 (0)61 416 96 97
info@eppag.ch - www.eppag.ch

Projekt
Skolovo University
Architekt
Herzog & Demeuron

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