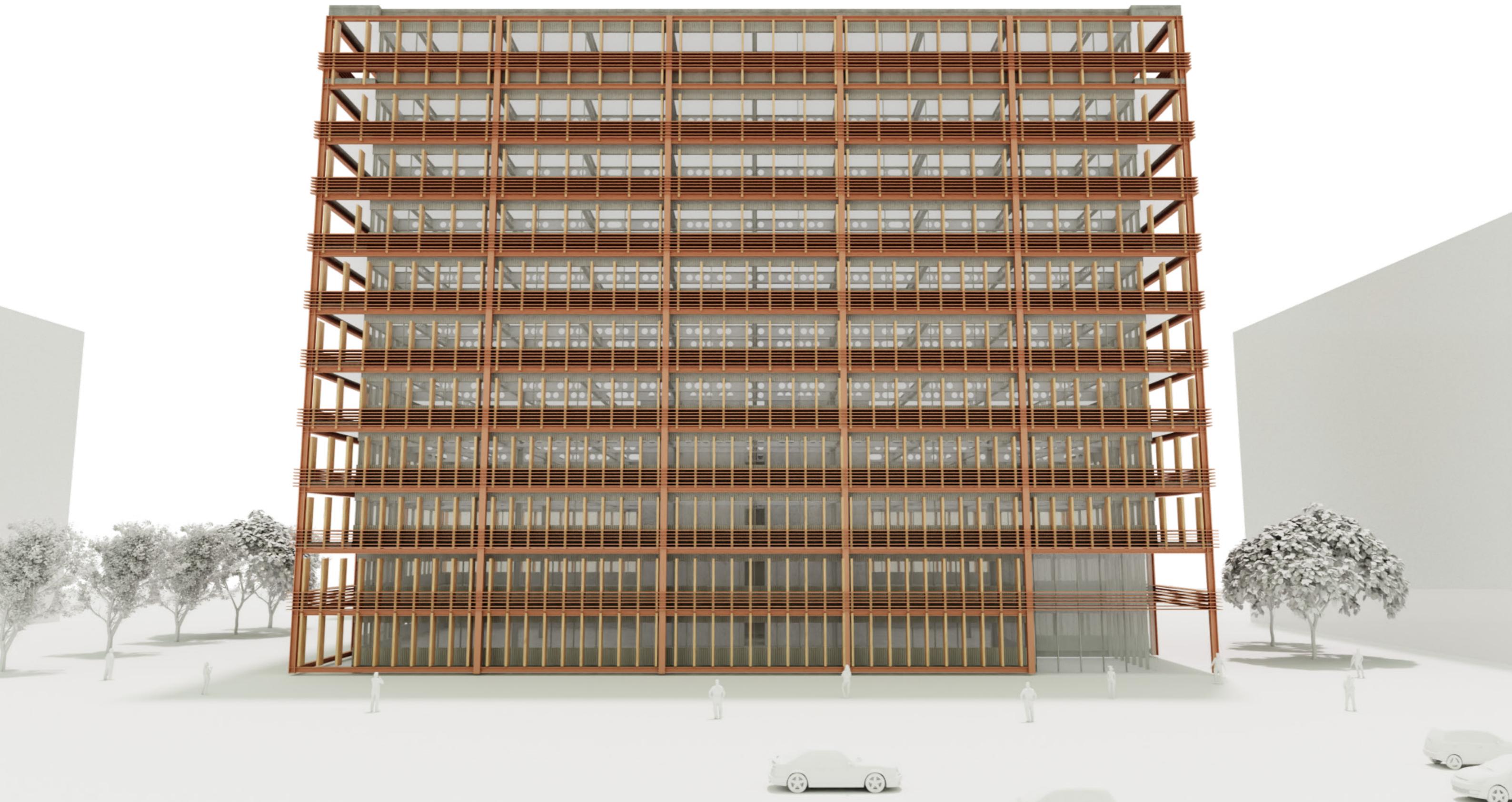
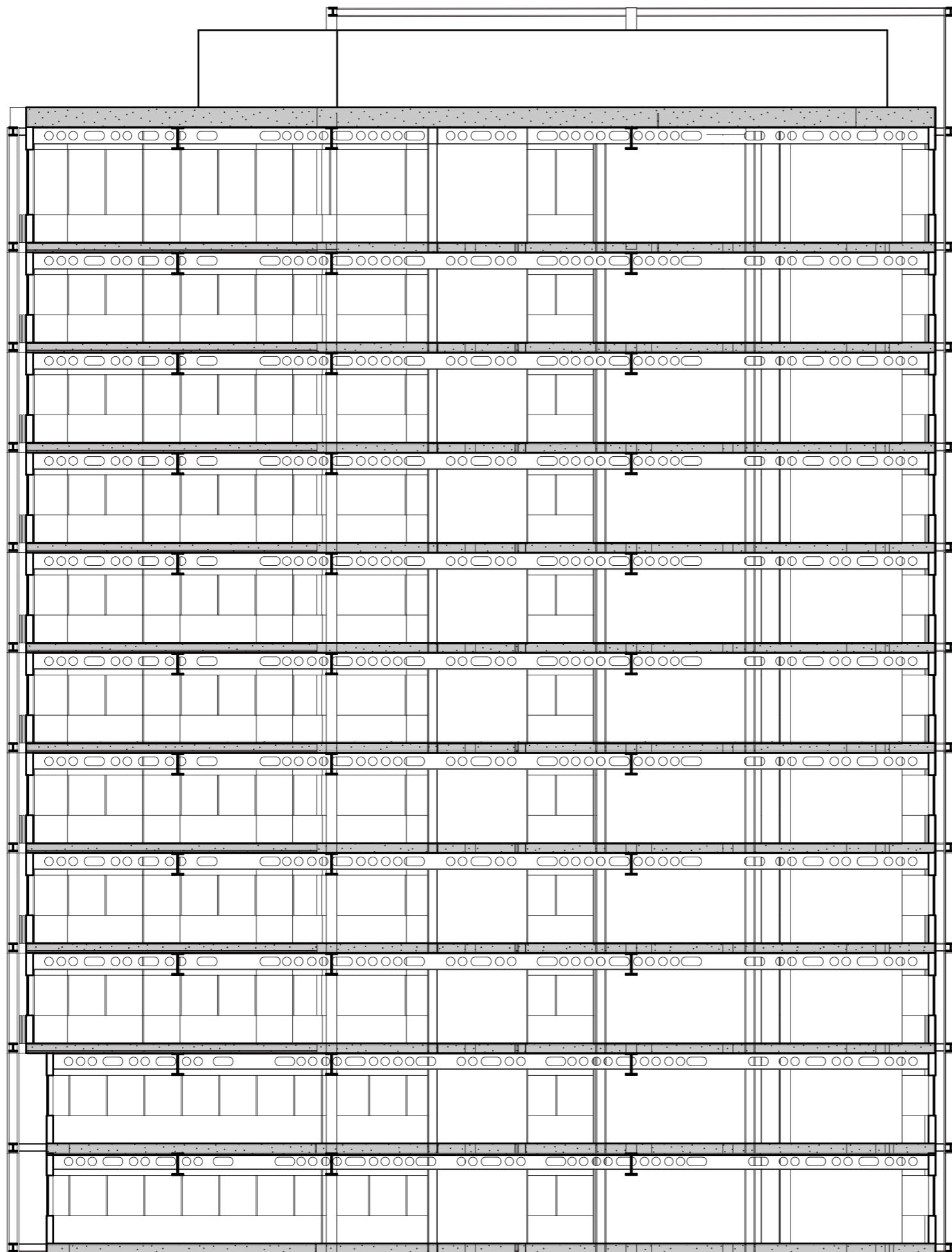


Environmental Technology II Report: Daylighting System

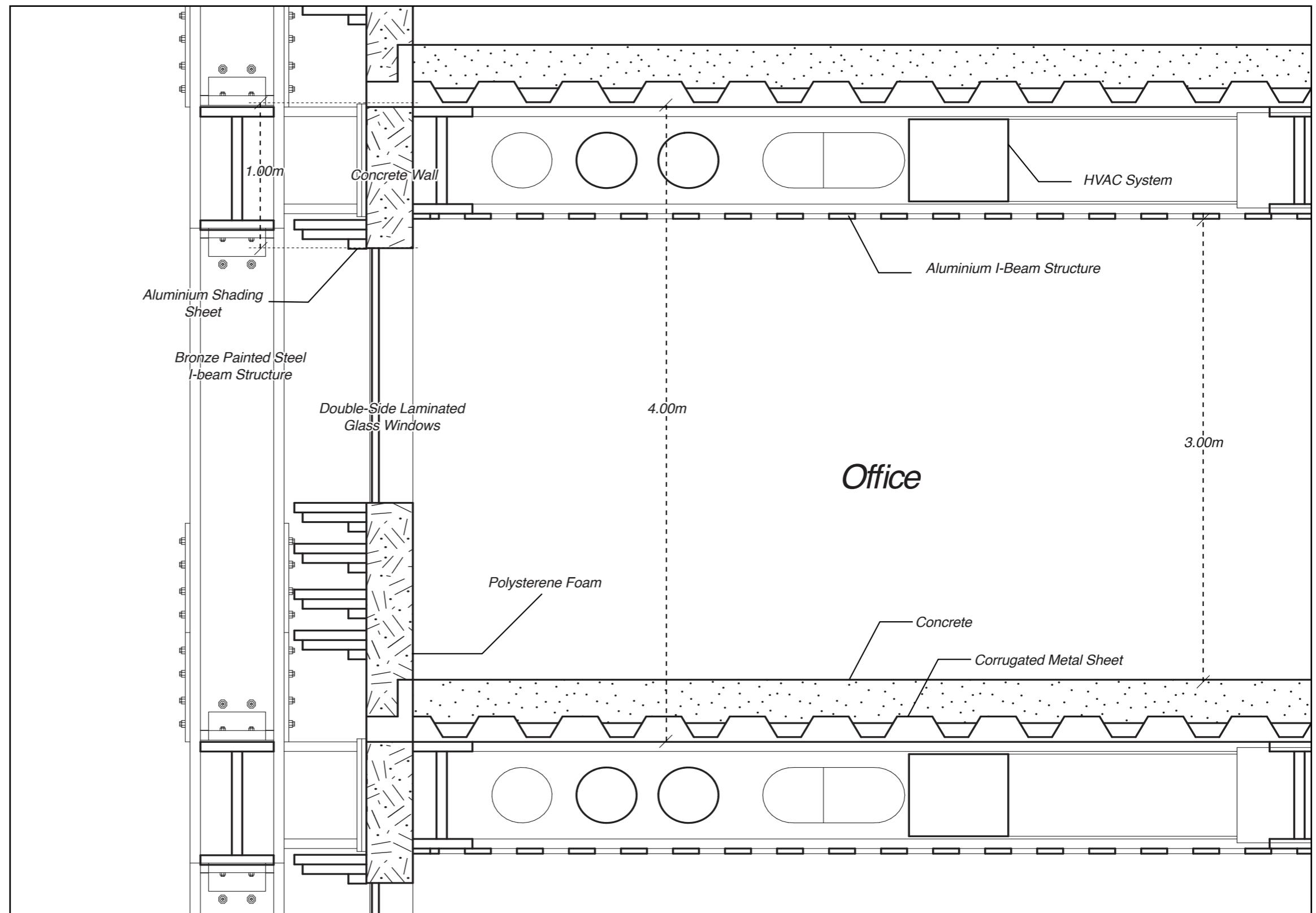




Two New Bailey Cross Section.

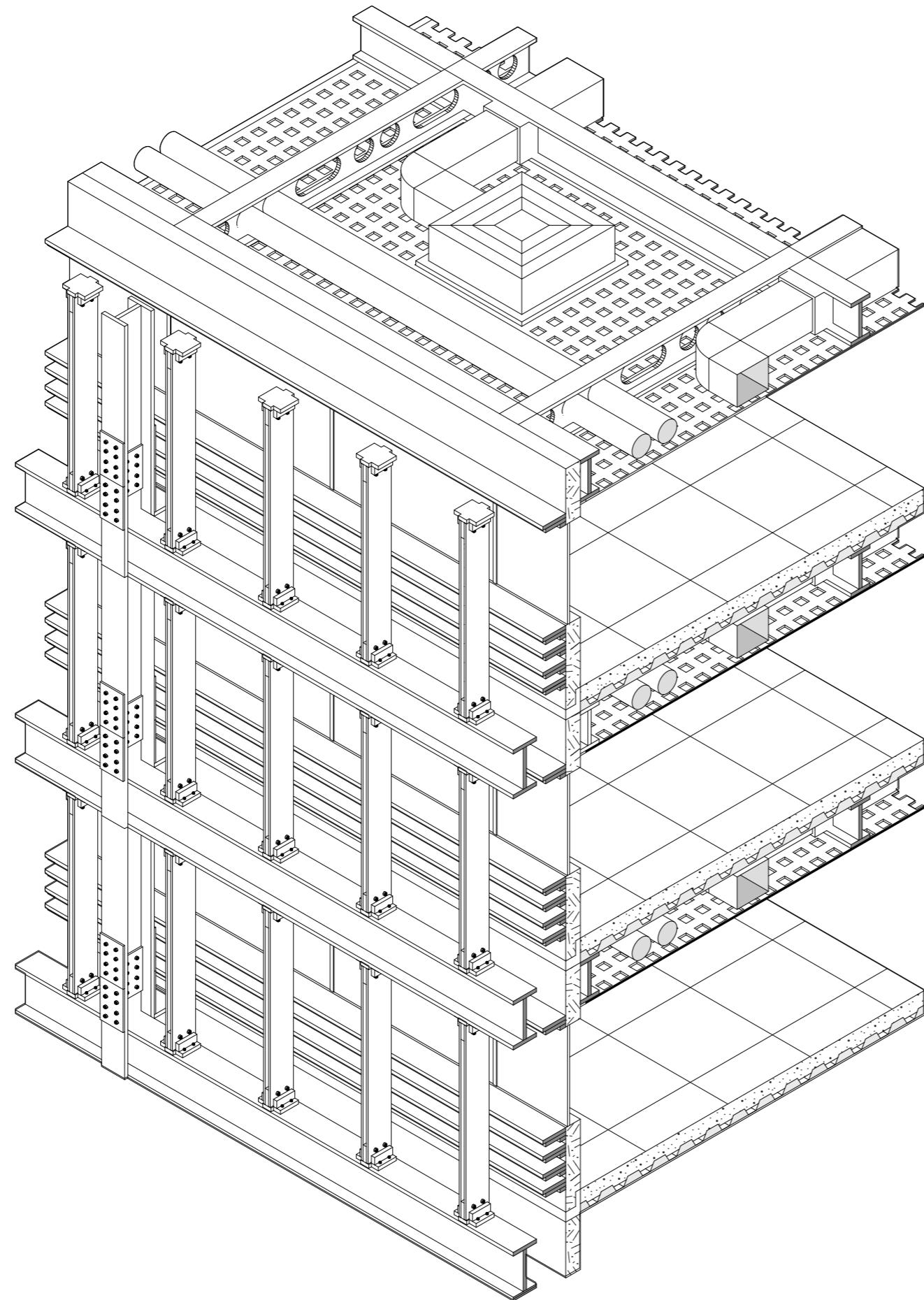
On the floorplates, the main design requirement was to maximise the floor to ceiling heights. Therefore, steel composite decks were decided upon, not only providing a fast method of construction, and facilitating overall lighter construction, but also creating the greatest floor to soffit heights.

The exposed steel structure, columns, beams, and soffit supply the main material finish, while the internal face of the facade is used to provide a visual contrast with panels of elm veneered timber. Beyond this, finishes are simple and robust throughout the building including the use of Viroc cementitious boards used extensively as a raw material and also installed as a decorative wall panelling system.



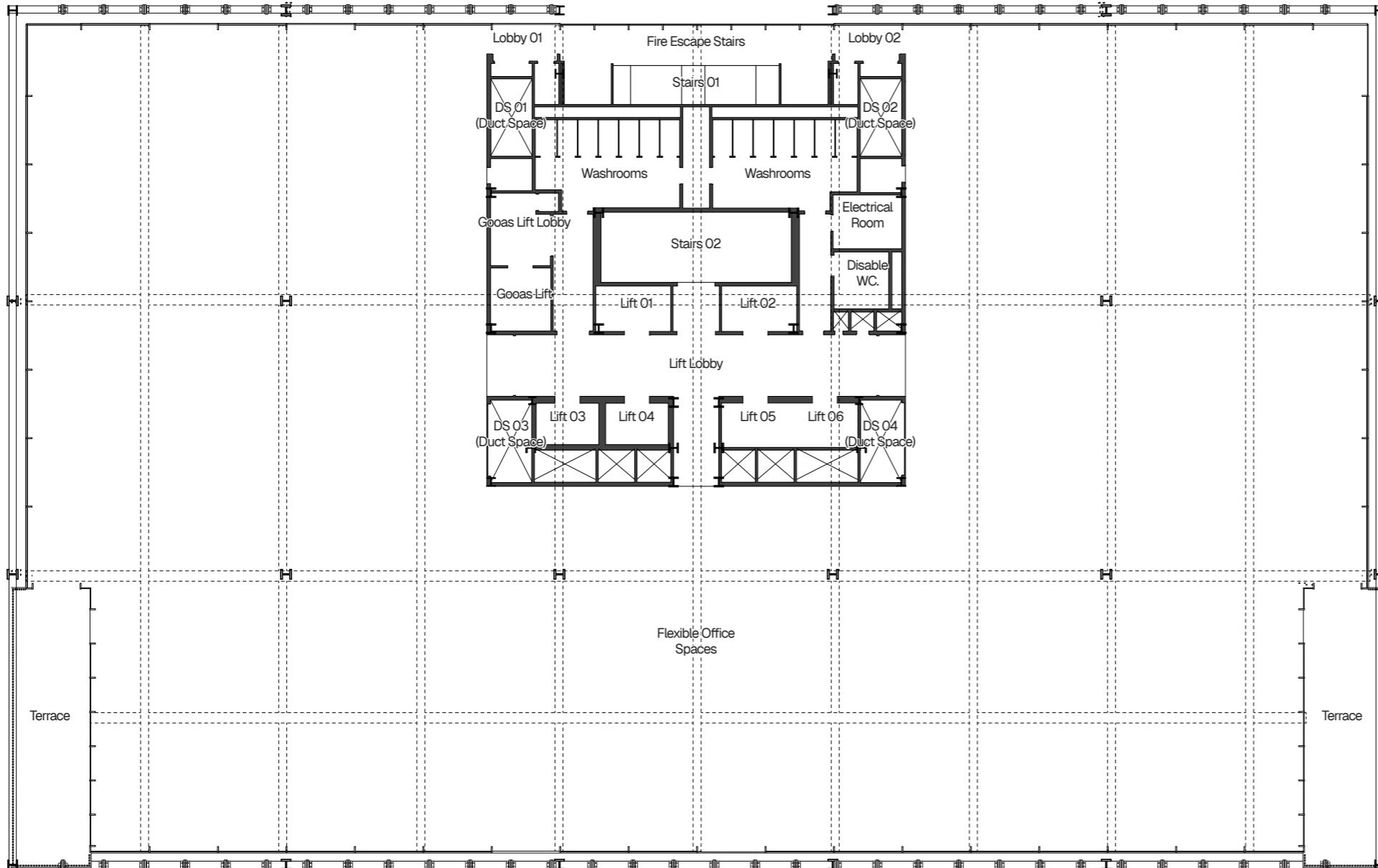
Zoom In: Detail Section.

The HVAV system would be housed in the ceiling, allowing the system to be a barebone shown, and would be embedded and occurs associated with the H-beam structure of each floor ceiling. This would allow the diffuser to be according to the thermal zone grid. As well as showing the facade detail through drawings.



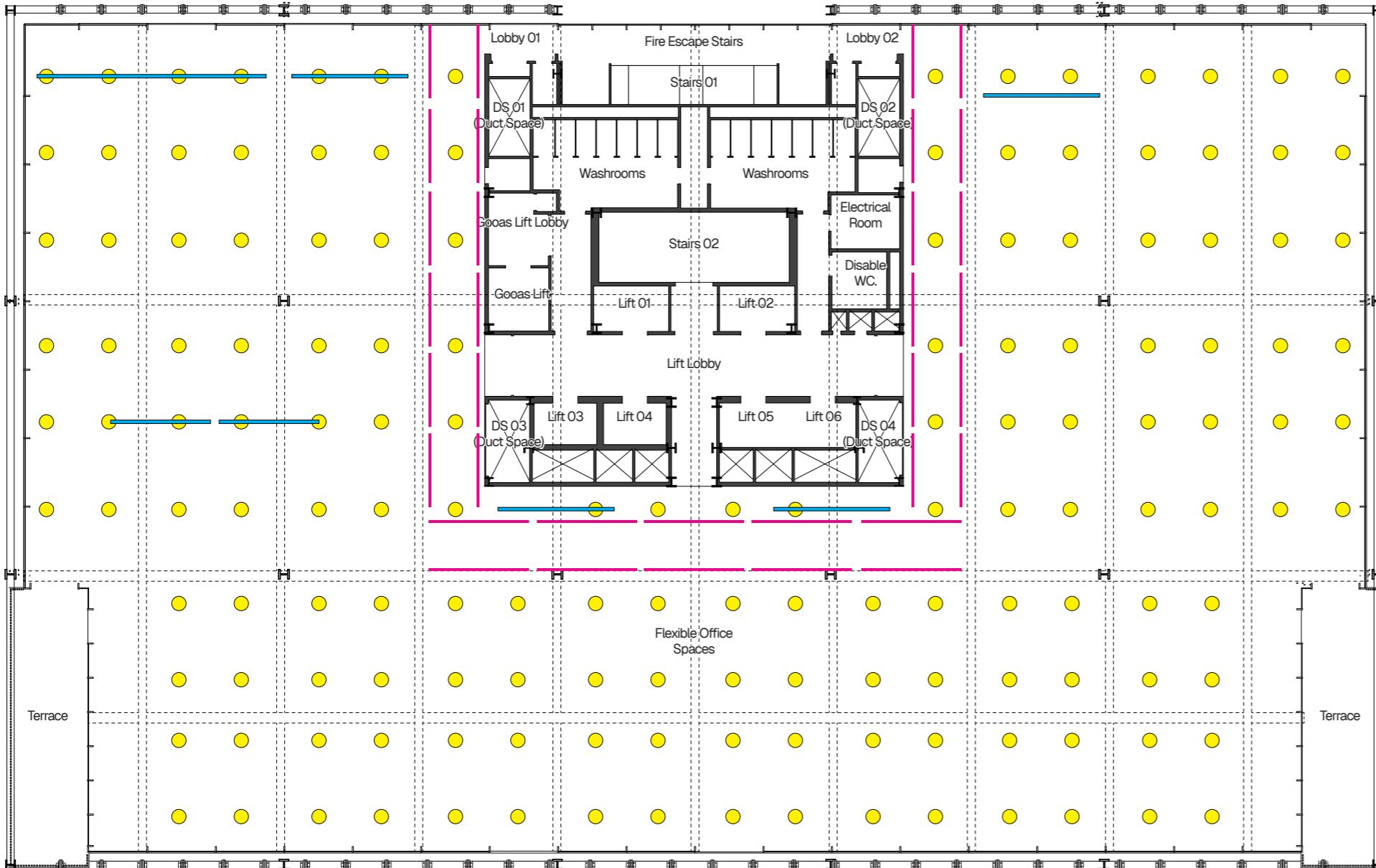
**Two New Bailey Cross Section.
Building Detail Section HVAC System**

A **VRF (Variable Refrigerant Flow) HVAC system** works by using an outdoor unit to control the flow of refrigerant to multiple indoor units, adjusting the temperature in different areas based on demand. Instead of using air ducts, it circulates refrigerant through pipes, allowing each indoor unit to heat or cool its space independently. The system continuously adjusts refrigerant levels for precise temperature control, reducing energy waste. Some models also include **heat recovery**, which transfers excess heat from one room to another, improving efficiency. This flexible and energy-saving design makes VRF systems ideal for offices, hotels, and multi-unit buildings.



Two New Bailey Typical Floor Plan.

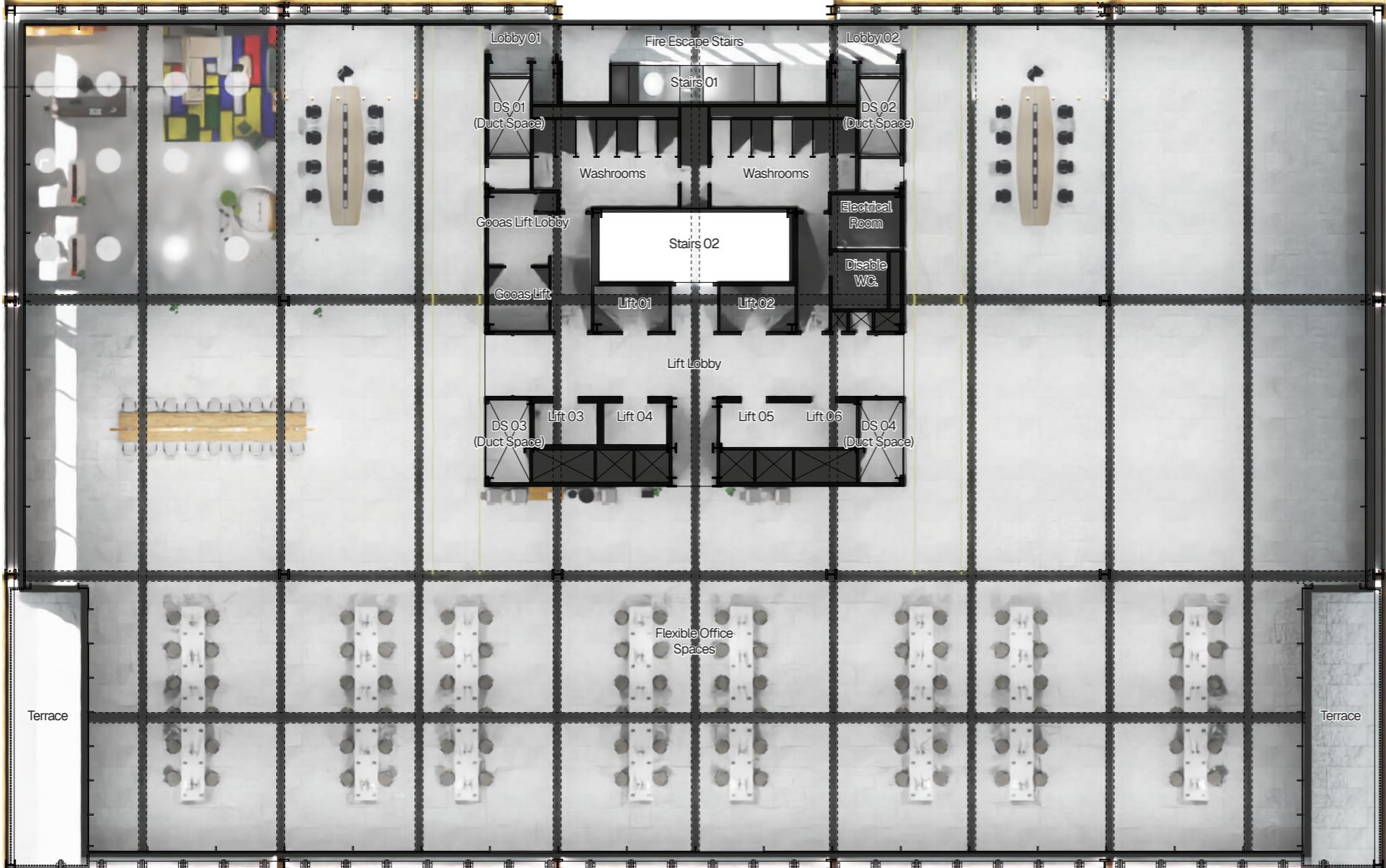
The office building's main entrance and reception are on the east side to connect with the new public plaza and give easy access from Salford Central train station. Visitors enter through a tall space with round glass windows that show the first floor. Inside, there is a reception hall, an information desk, and lifts and stairs to the offices above and the basement below. A direct path from the plaza leads to the cycle store and changing rooms, so everyone enters through the main reception. Only deliveries and cars use separate entrances. The building has concrete panels and Viroc boards that match the timber walls and colorful furniture. The steel structure is mostly left open, with pipes and wires running through the beams. Special ceiling panels help hide some parts but keep the space flexible. Steel floors were used to make building faster and ceilings higher. The exposed steel beams and columns give the building its main look, with wood panels inside for contrast. Simple and strong materials like Viroc boards are used for decoration and walls.



- ◆ Luminaire LED -
SL6L 3 FLP 80CRI 30K 900LMF x 34
- ◆ Mark Architectural Lighting -
VRP 1X1 2500LM 50K 80CRI 120V FPC25 x 152
- ◆ Luminaire LED -
SL6L 3 FLP 80CRI 30K 900LMF x 8

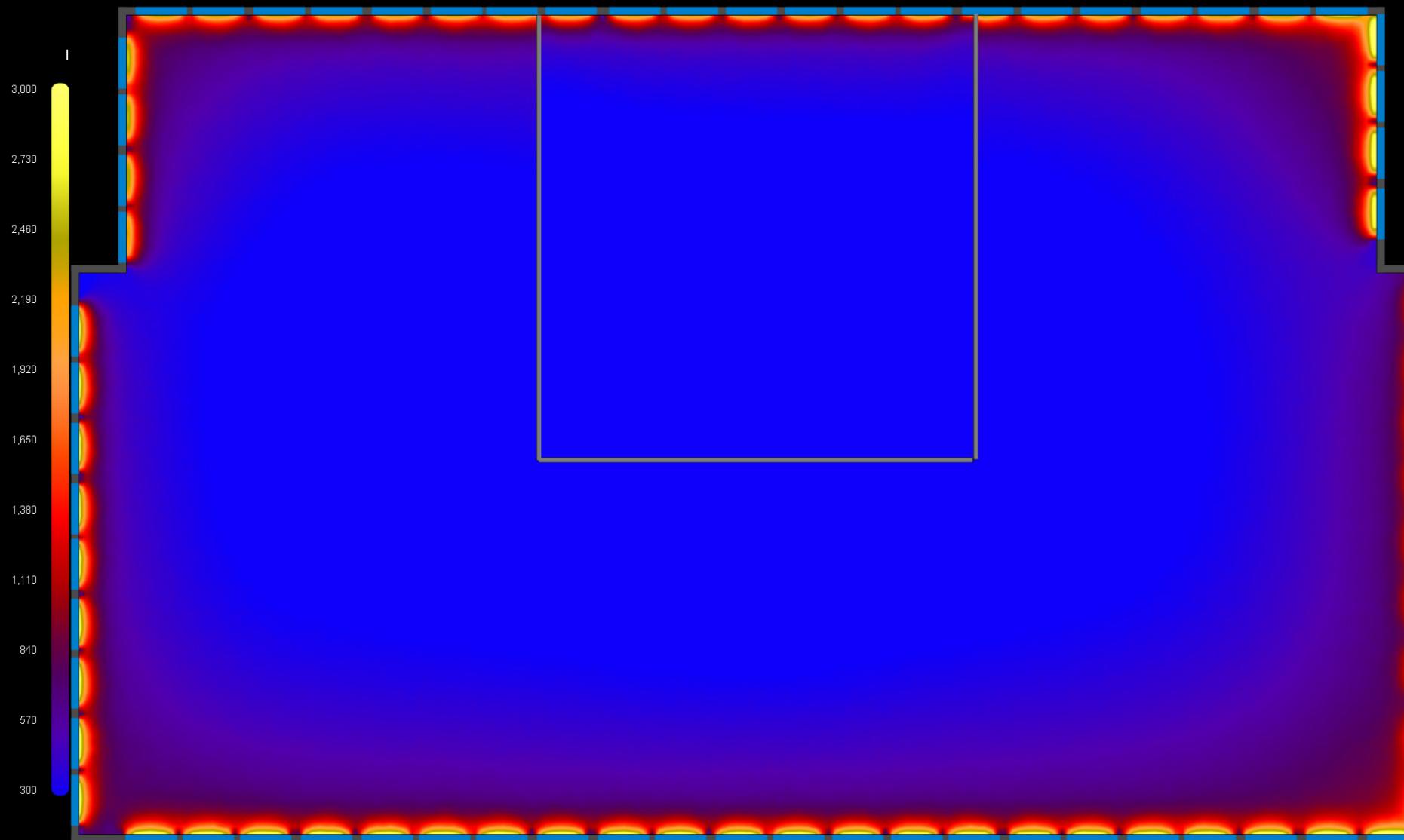
Two New Bailey Lighting System.

The office building's main entrance and reception are on the east side to connect with the new public plaza and give easy access from Salford Central train station. Visitors enter through a tall space with round glass windows that show the first floor. Inside, there is a reception hall, an information desk, and lifts and stairs to the offices above and the basement below. A direct path from the plaza leads to the cycle store and changing rooms, so everyone enters through the main reception. Only deliveries and cars use separate entrances. The building has concrete panels and Viroc boards that match the timber walls and colorful furniture. The steel structure is mostly left open, with pipes and wires running through the beams. Special ceiling panels help hide some parts but keep the space flexible. Steel floors were used to make building faster and ceilings higher. The exposed steel beams and columns give the building its main look, with wood panels inside for contrast. Simple and strong materials like Viroc boards are used for decoration and walls.



Two New Bailey Render Floor Plan.

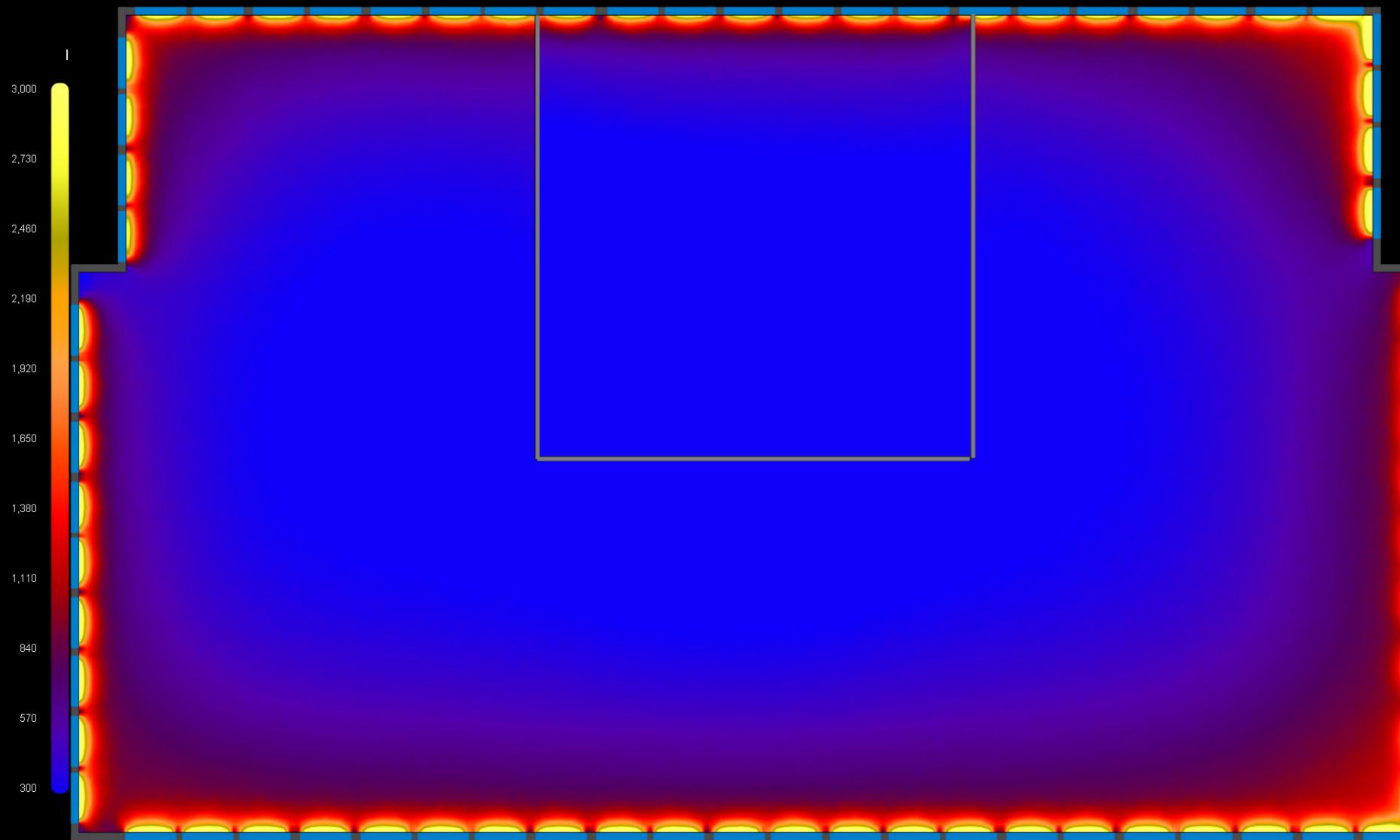
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Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



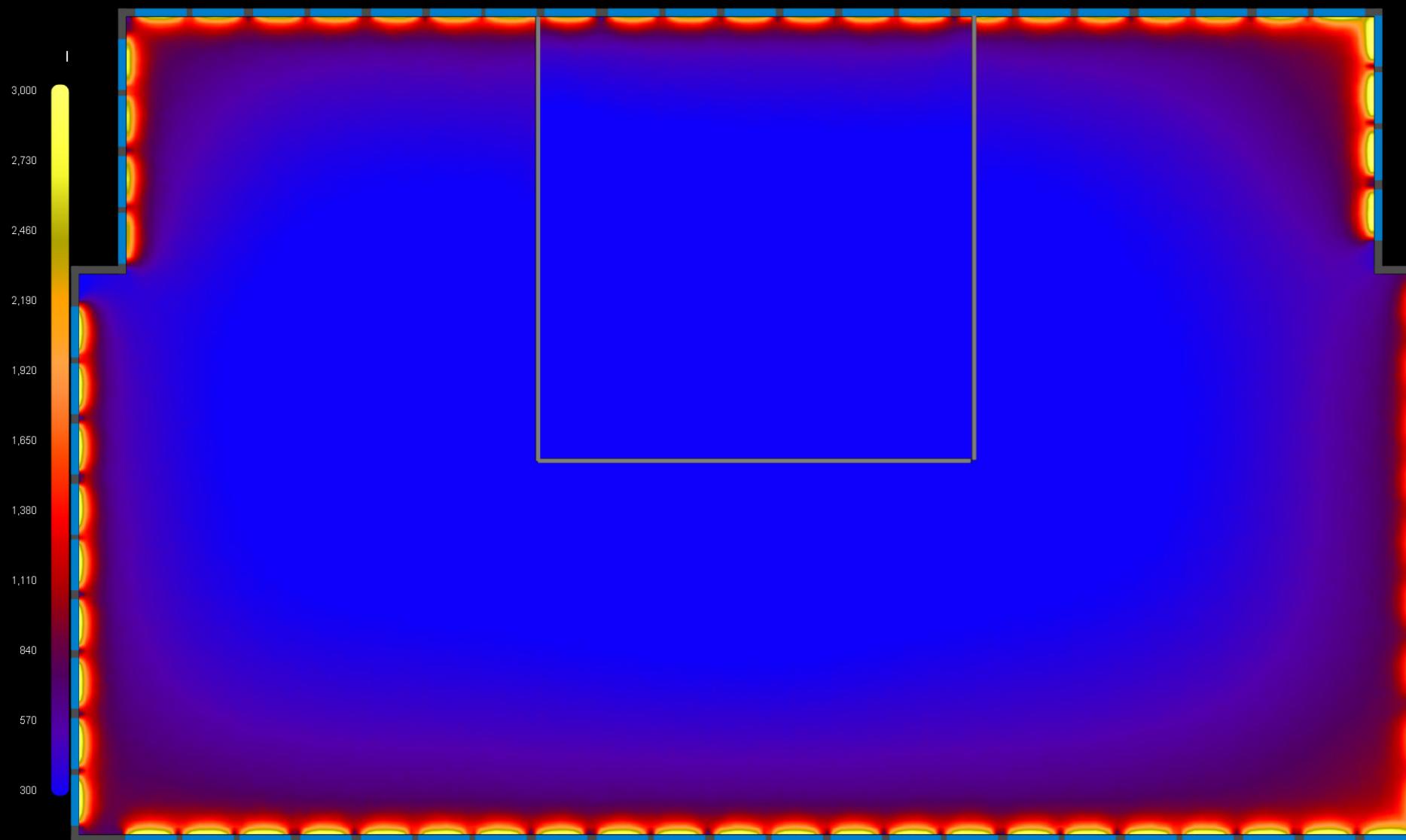
Two New Bailey Daylighting Plan.
9.00AM March



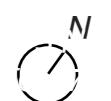
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Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



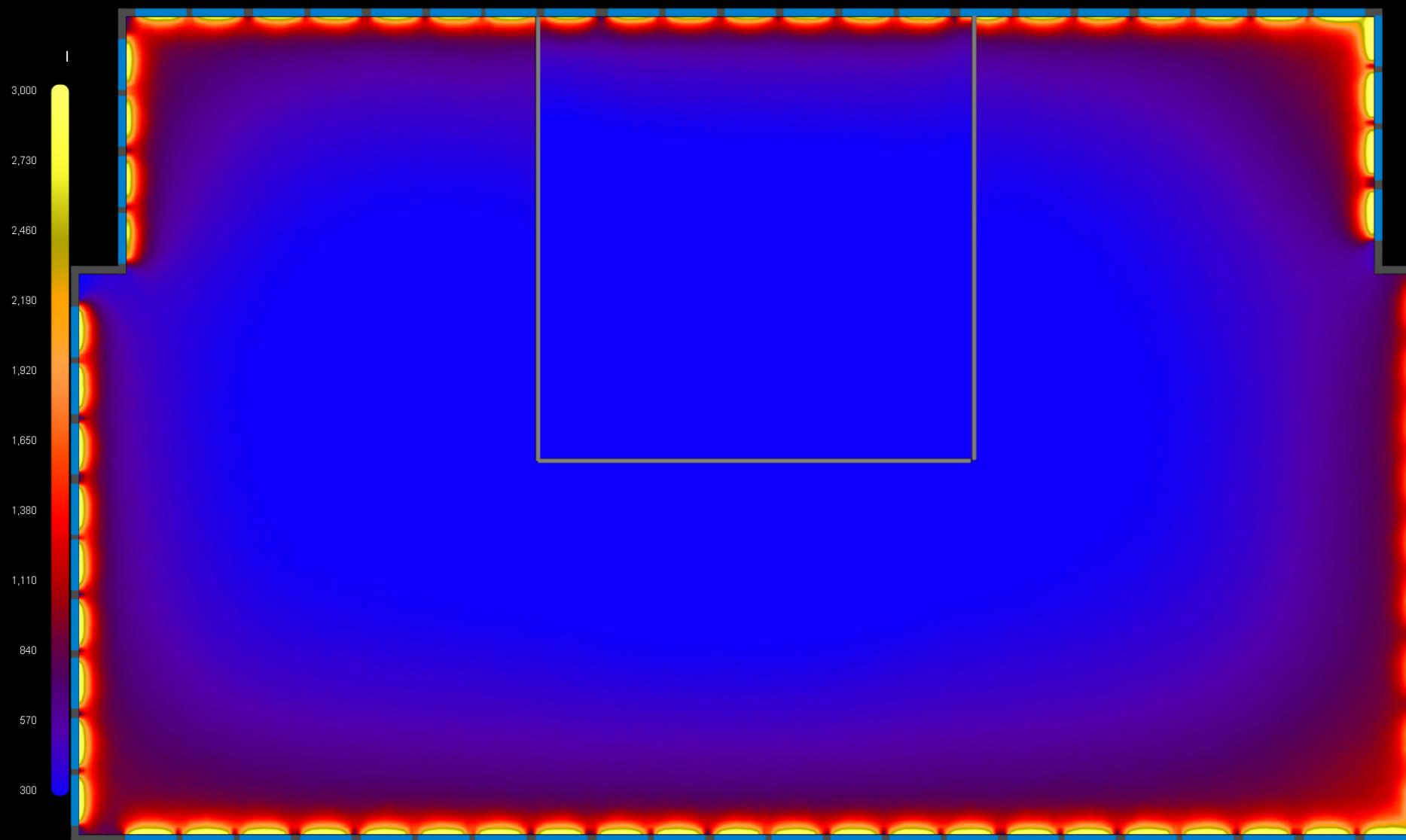
Two New Bailey Daylighting Plan.
3.00PM March



Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



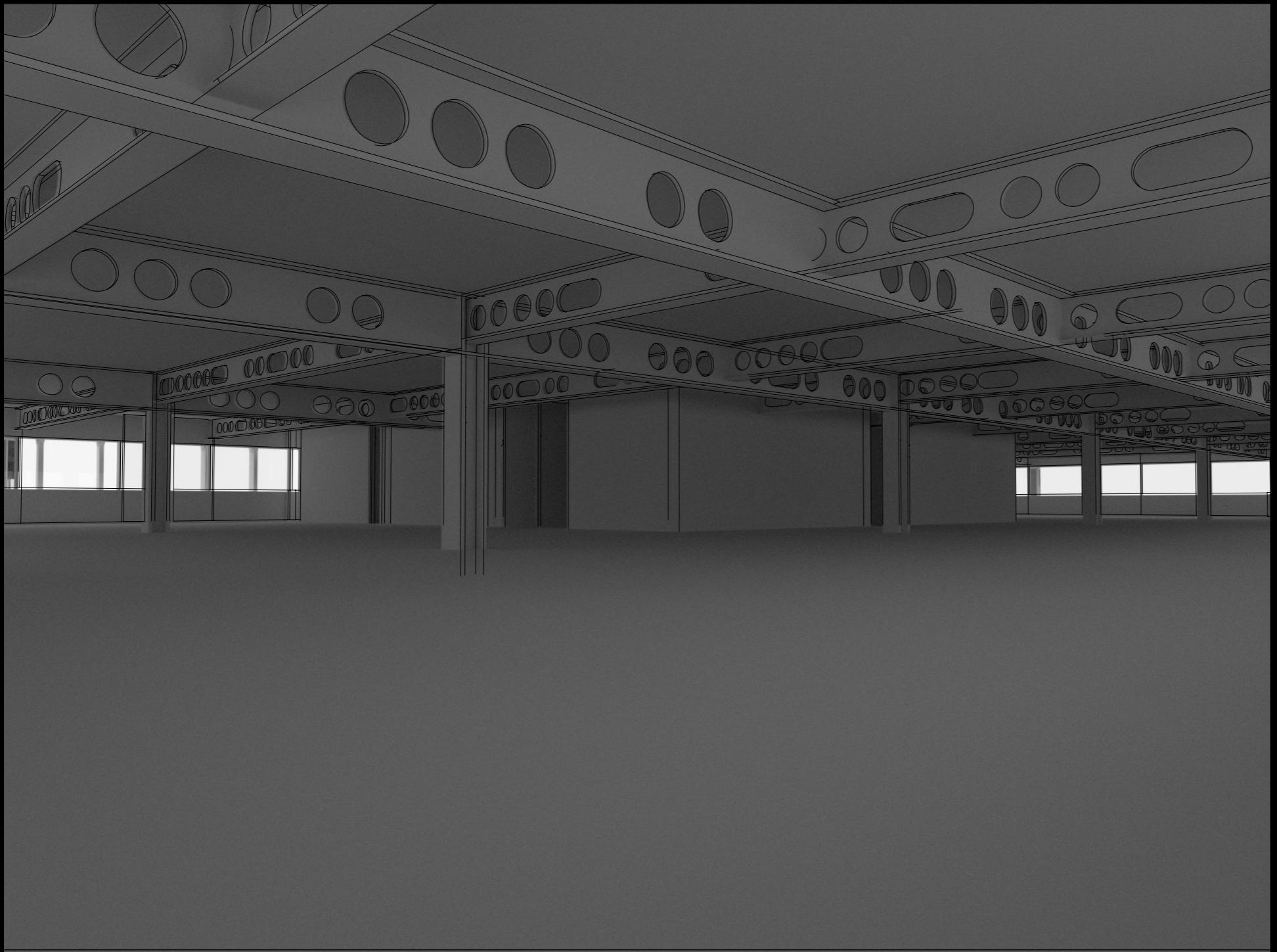
Two New Bailey Daylighting Plan.
9.00AM September



Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



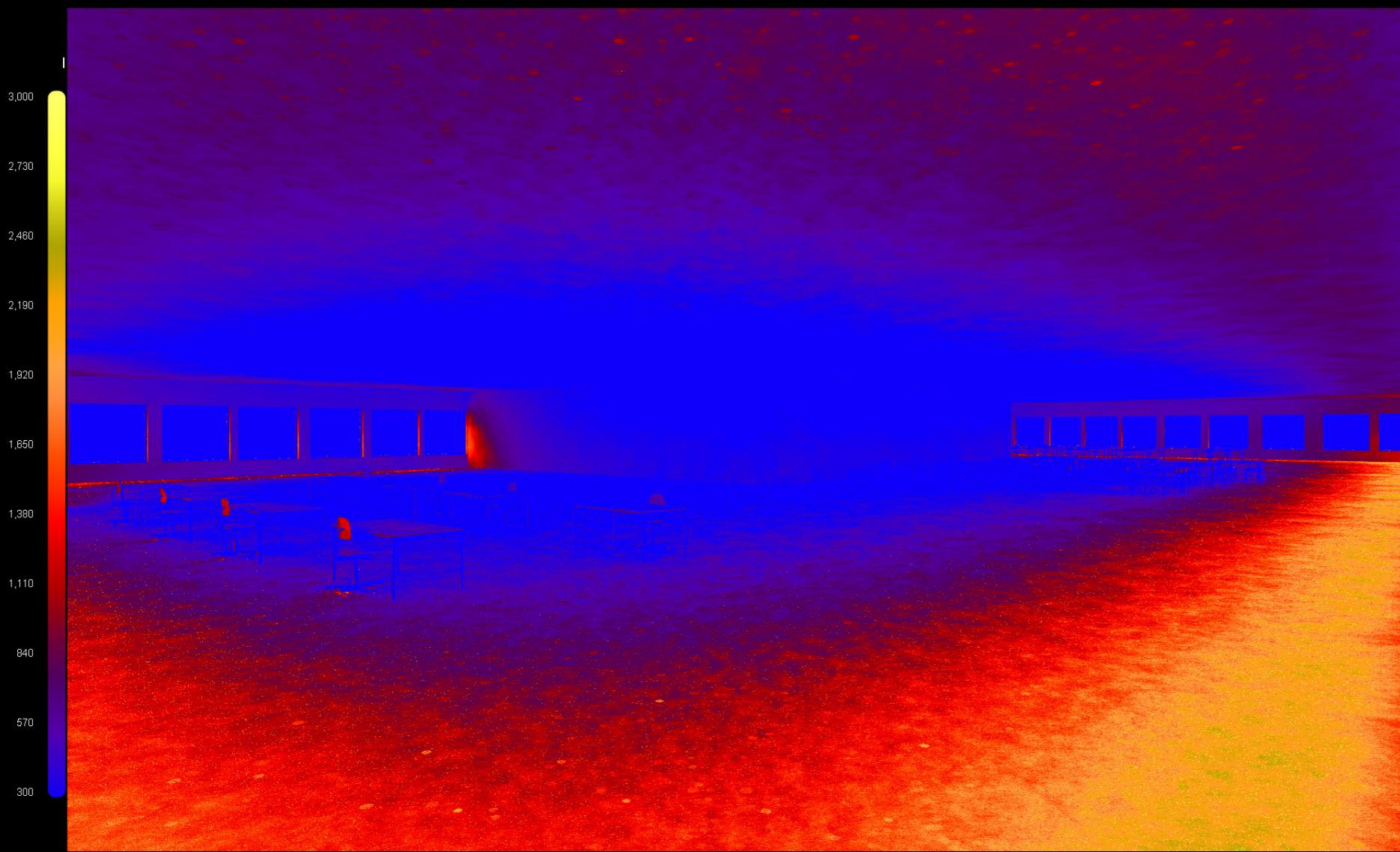
Two New Bailey Daylighting Plan.
3.00PM March



Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



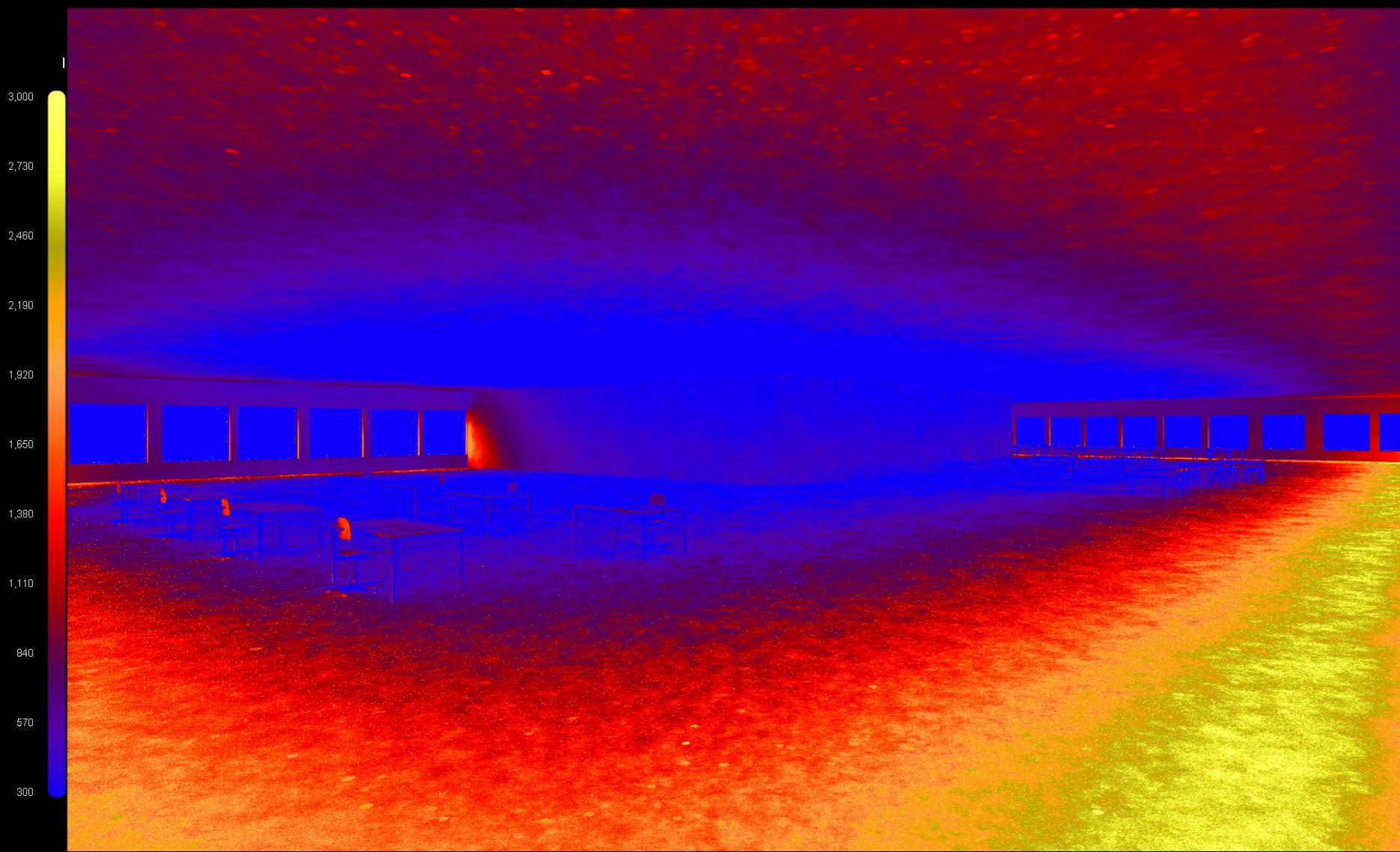
Two New Bailey Interior Perspective.
Perspective Render



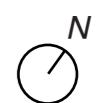
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Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



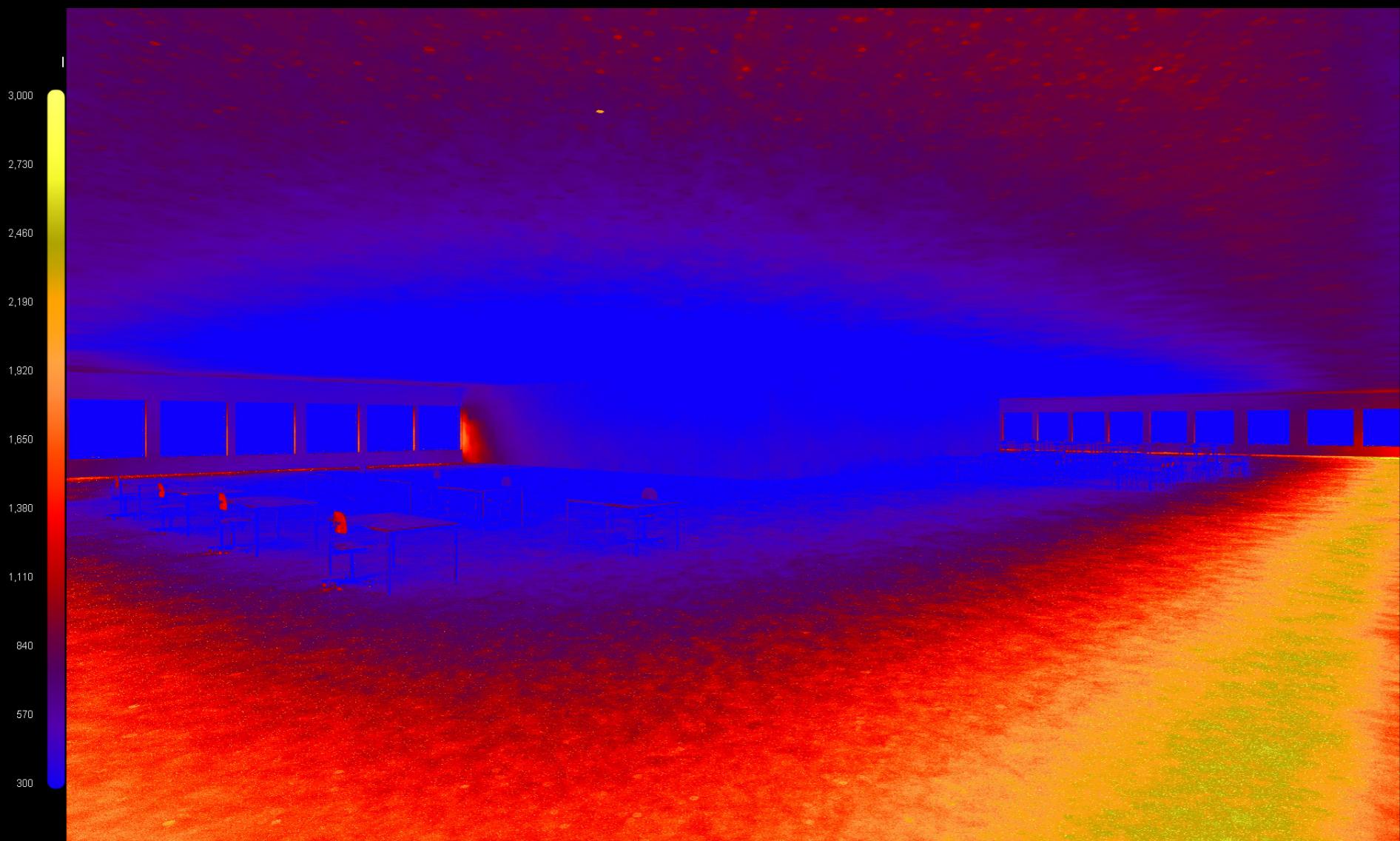
Two New Bailey Interior Perspective.
9.00AM March



Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



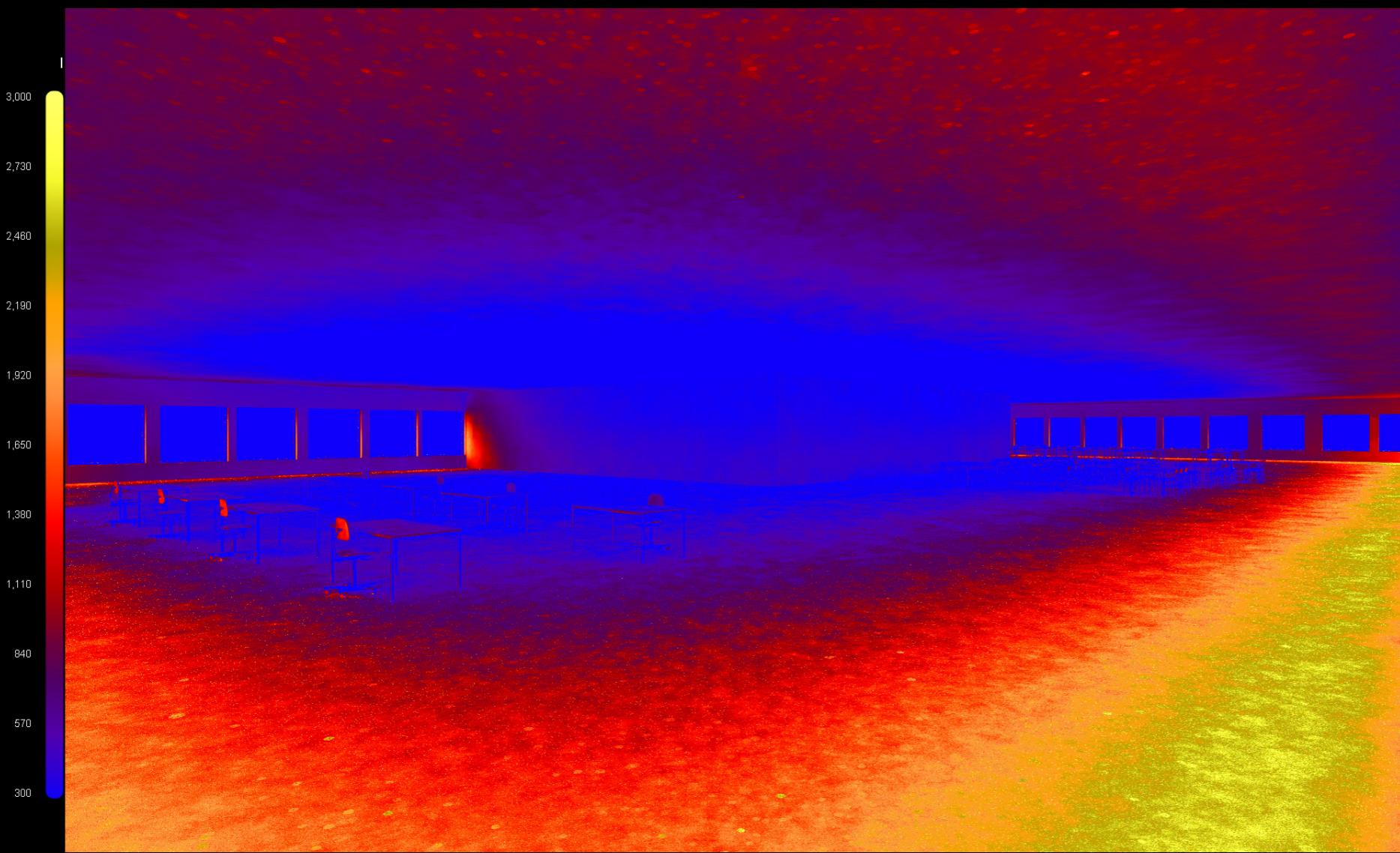
Two New Bailey Interior Perspective.
3.00PM March



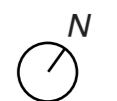
Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
9.00AM September



Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW

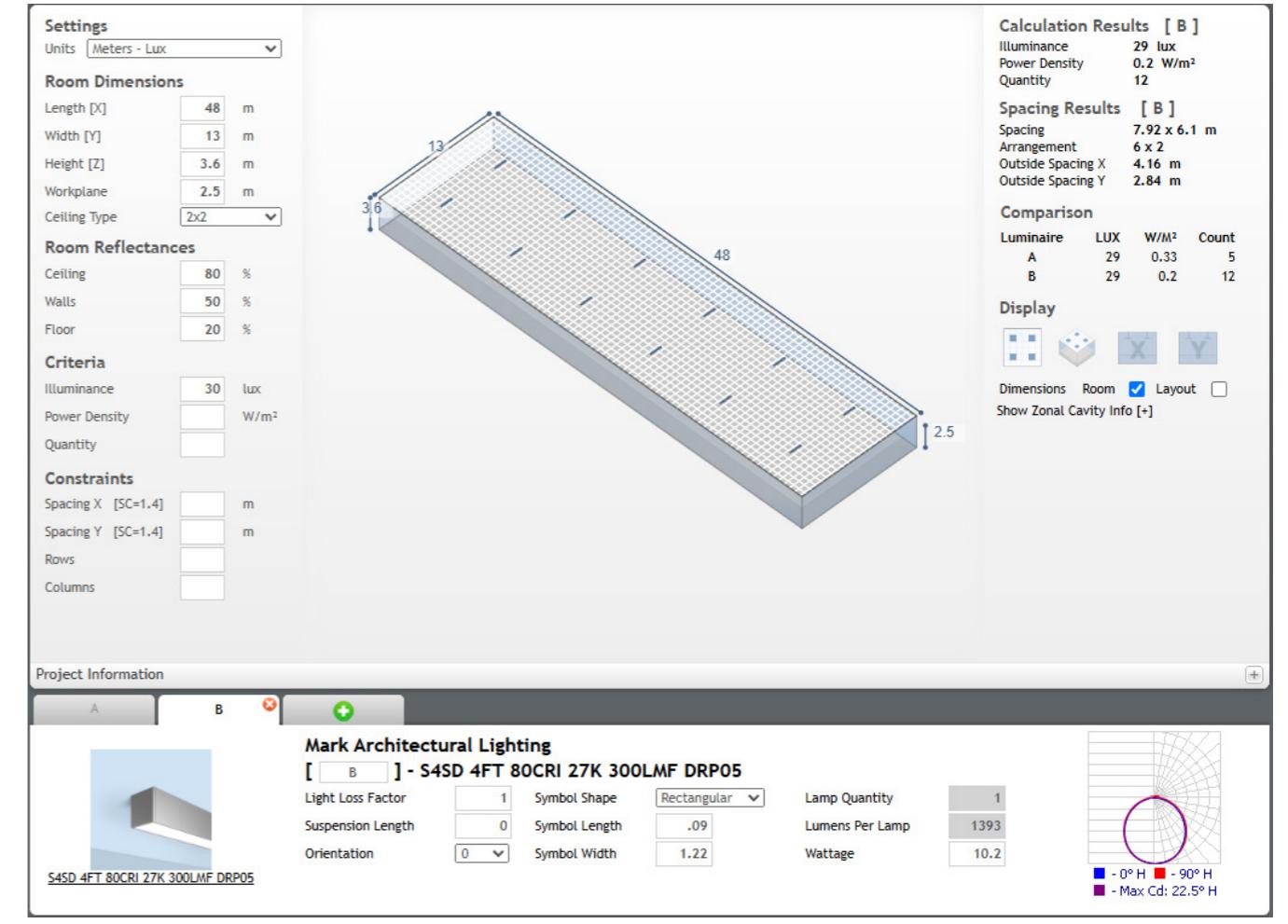
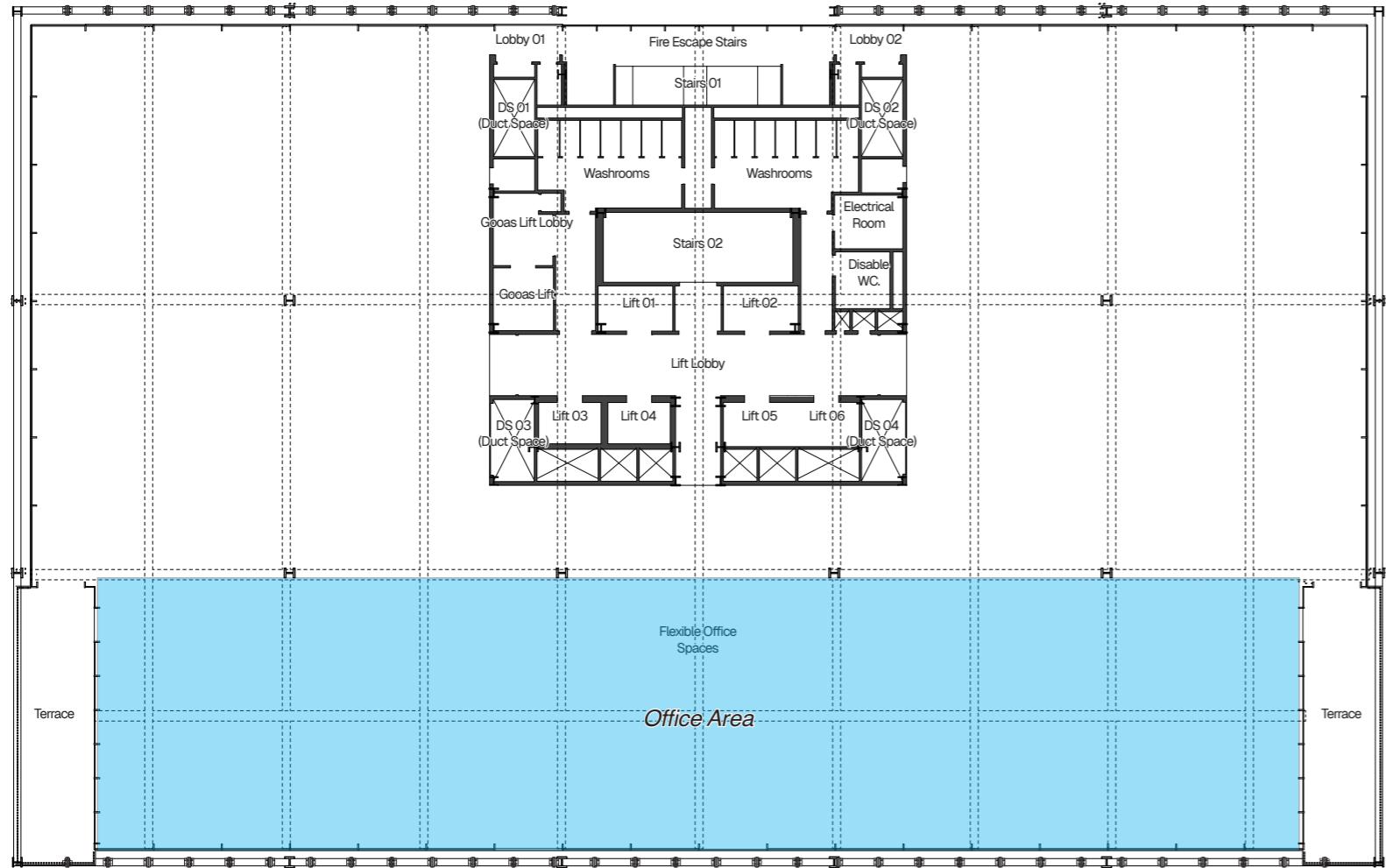


Two New Bailey Interior Perspective.
3.00PM September



Two New Bailey Lighting Plan.

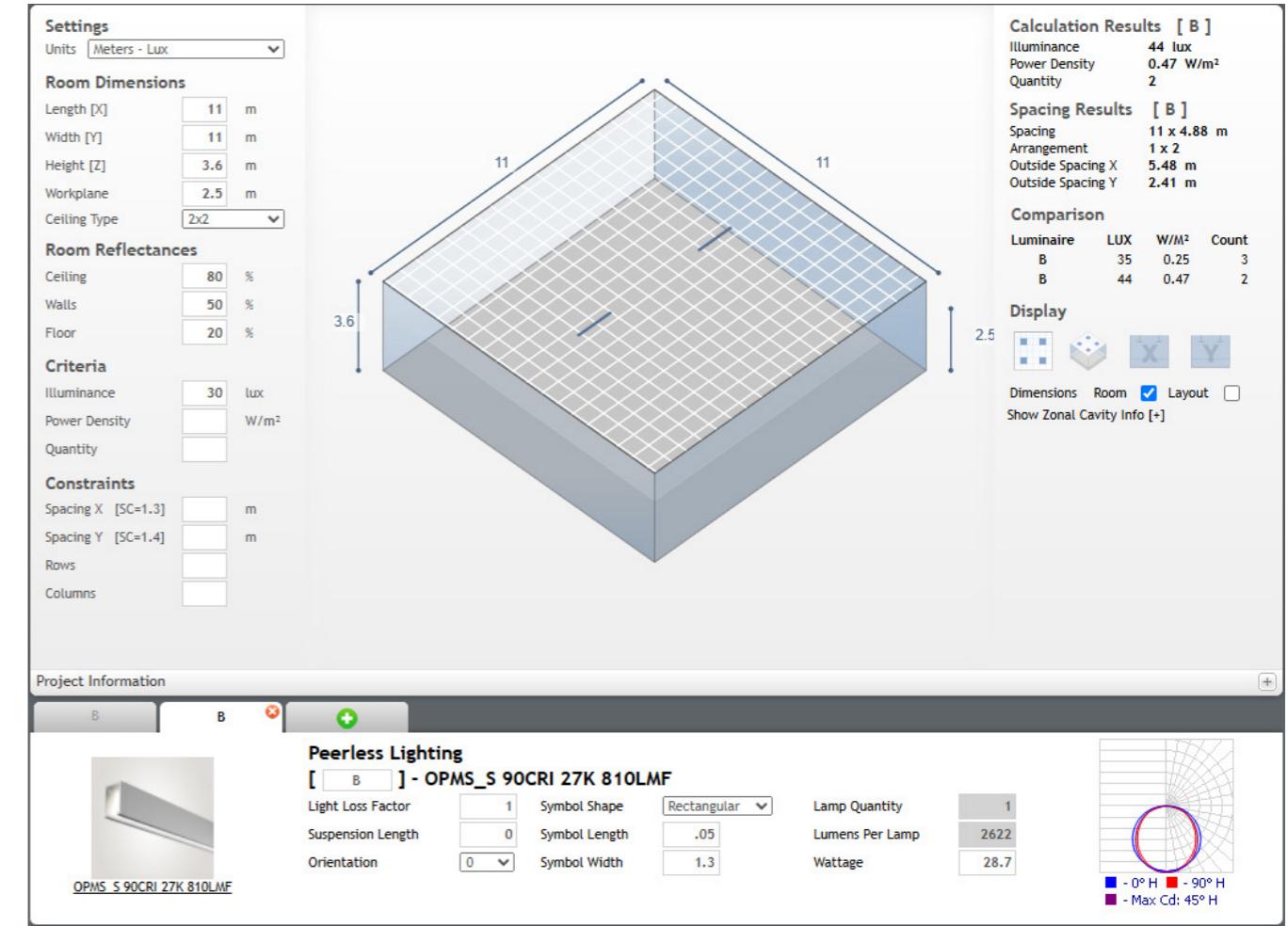
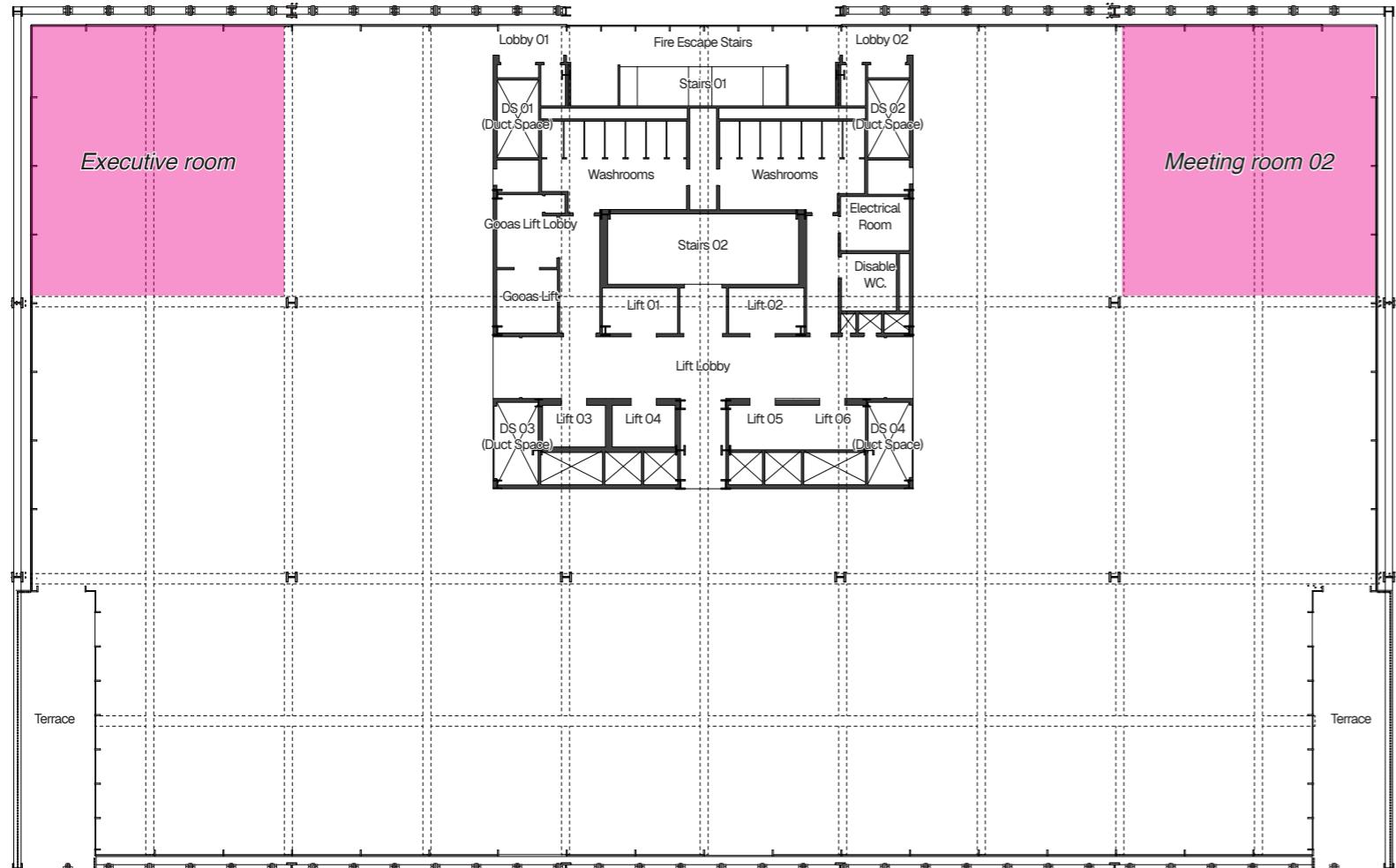
Divide the spaces into different programs such as pantry, meeting room, boss room, co-working spaces area, and office area. Allowing the lighting design to be according to the spaces program and based on their LUX needed.



Two New Bailey Lighting Plan.

Divide the spaces in for different programs such as pantry, meeting room, boss room, co-working spaces area, and office area. Allowing the lighting design to be according to the spaces program and based on their LUX needed.

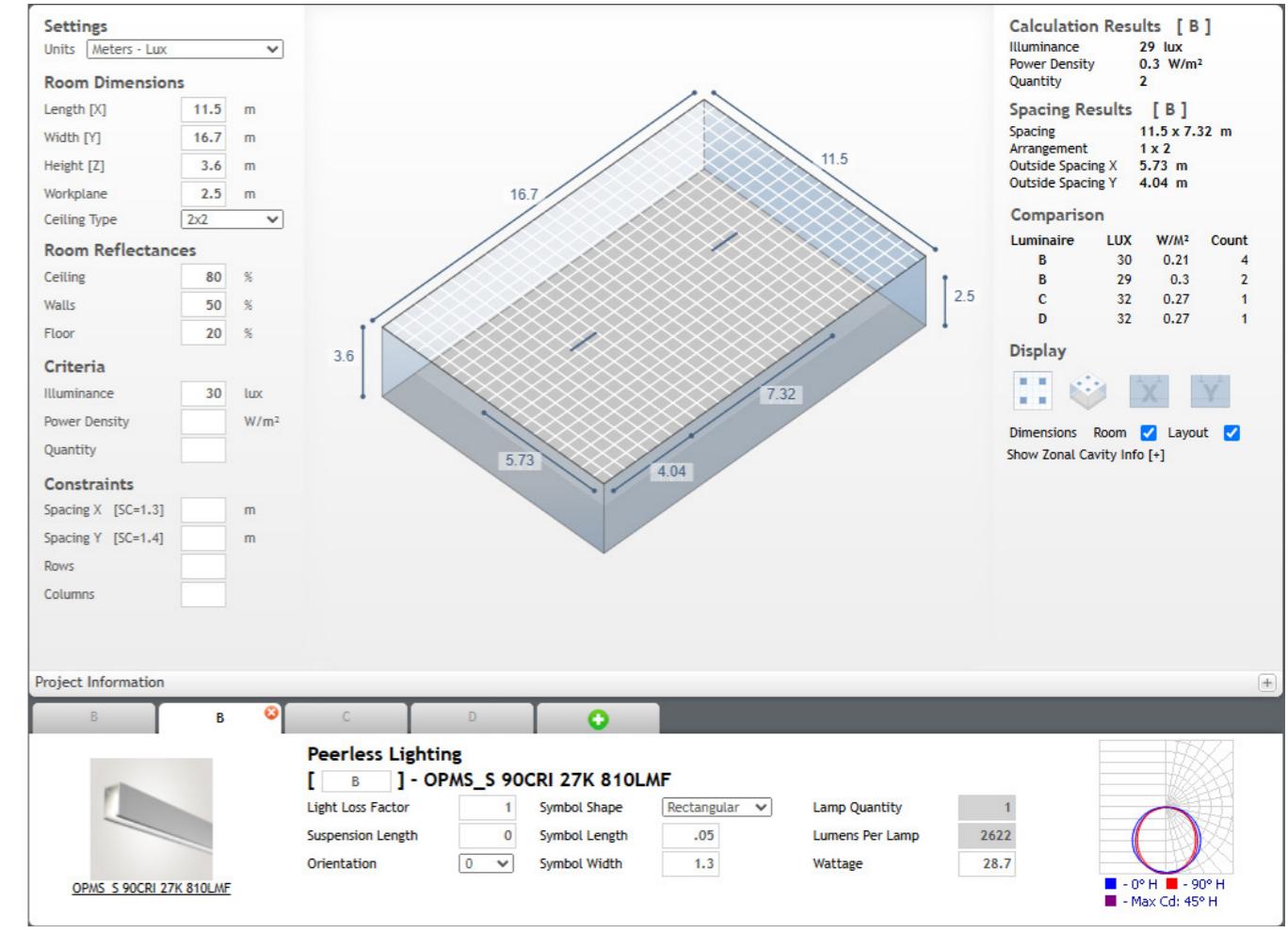
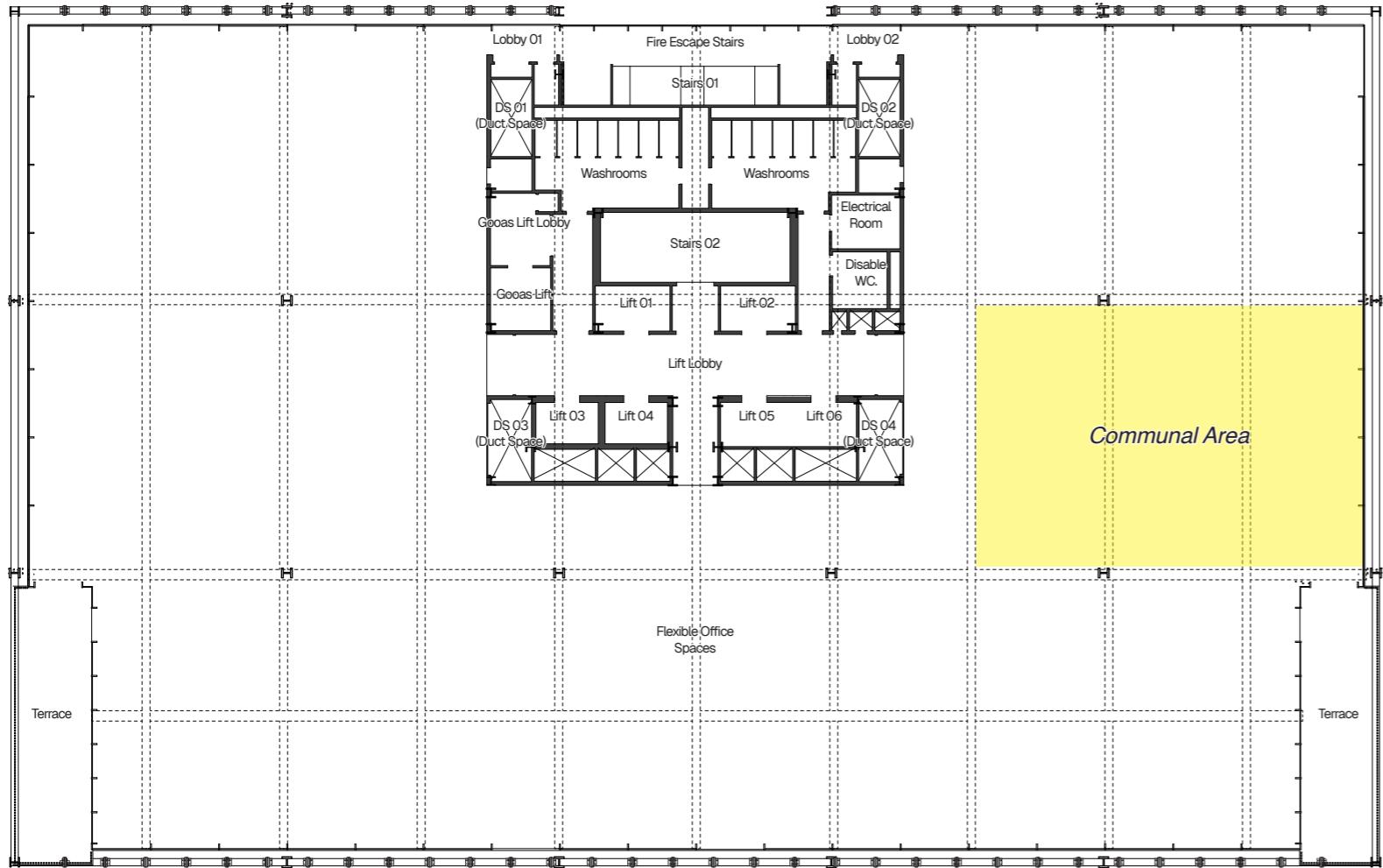
- █ Meeting Room
- █ Communal Area
- █ Office area



Two New Bailey Lighting Plan.

Divide the spaces in for different programs such as pantry, meeting room, boss room, co-working spaces area, and office area. Allowing the lighting design to be according to the spaces program and based on their LUX needed.

- █ Meeting Room
- █ Communal Area
- █ Office area



Two New Bailey Lighting Plan.

Divide the spaces in for different programs such as pantry, meeting room, boss room, co-working spaces area, and office area. Allowing the lighting design to be according to the spaces program and based on their LUX needed.

- █ Meeting Room
- █ Communal Area
- █ Office area



Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Flat Render.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW

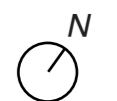


Two New Bailey Interior Perspective.
Perspective Render



Natural Lighting Condition.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW

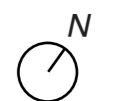


Two New Bailey Interior Perspective.
Perspective Render



Natural Lighting Condition + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW

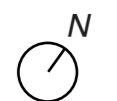


Two New Bailey Interior Perspective.
Perspective Render



Office Area
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Office Area
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Office Area
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Office Area Hallway
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW

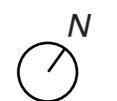


Two New Bailey Interior Perspective.
Perspective Render



Office Area Hallway
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Executive Room
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Executive Room
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Executive Room
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Executive Room
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Meeting Room
Lighting Design Concept + Furniture.

Longitude: 100.50 E
Latitude: 13.75 N
Timezone: UTC +7
Orientation: 20 CW



Two New Bailey Interior Perspective.
Perspective Render



Environmental Technology and Integrative Building System Design II
Environmental Technology II Report:
Pruek Hongboontai

2541332
Daylighting System
Instructor: Takumi Saito