

THE GREEN LINK

2021 TRANSFORMATION DR. LINCOLN, NE 68508 COMMUNITY DEVELOPMENT 2,000,000 SQFT ELIJAH VELINSKY, MUMINJON MIRZOEV, AND CALVIN GLOMB

ARCH 510 ADV ARCH DESIGN 1 FALL 2024 tian li

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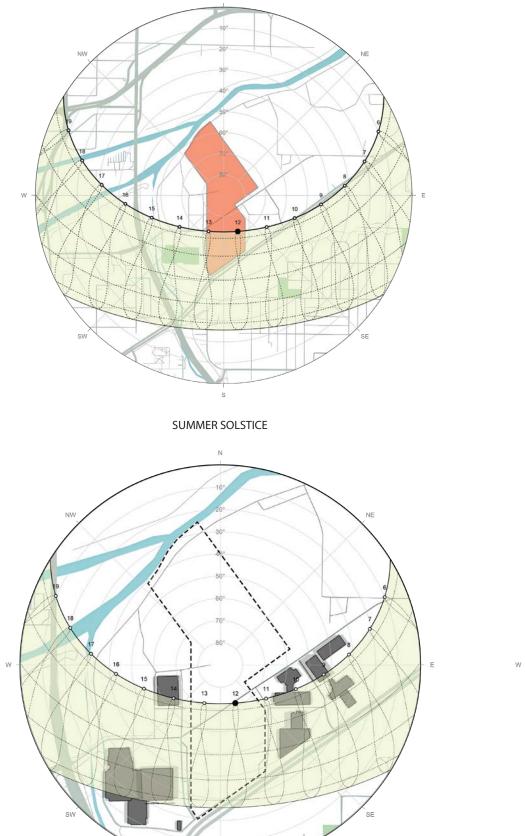
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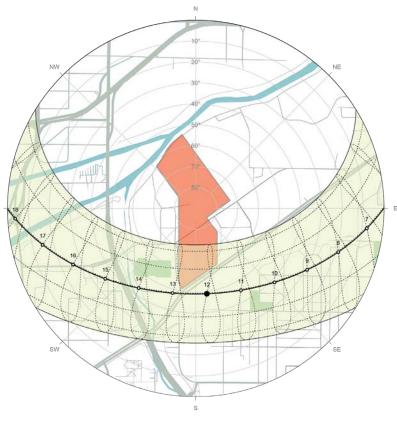
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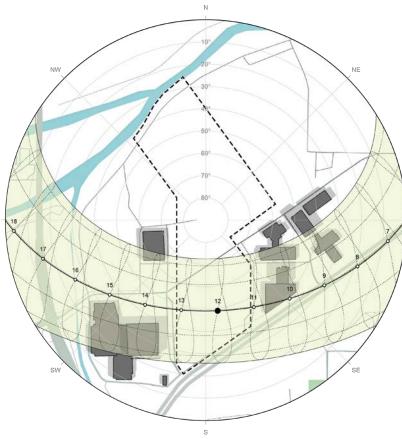


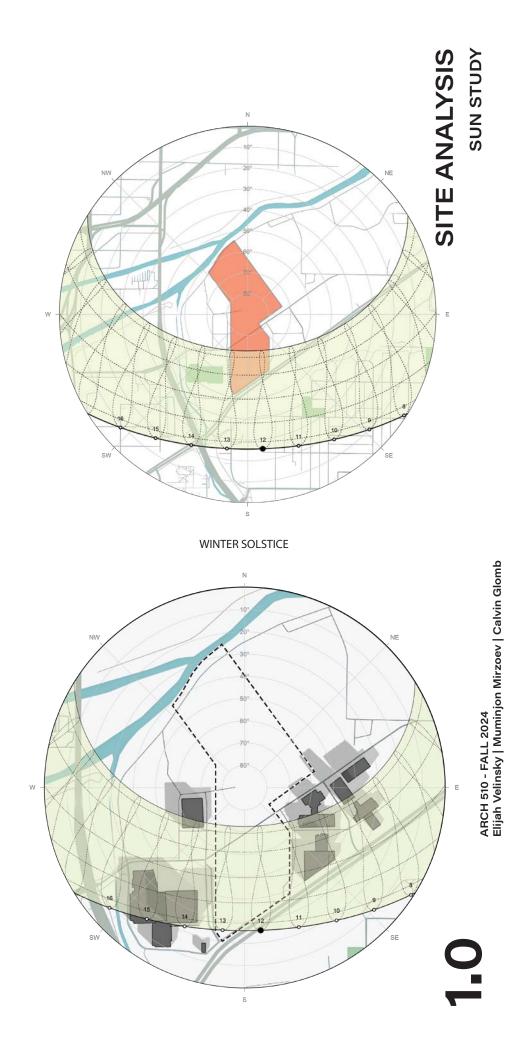
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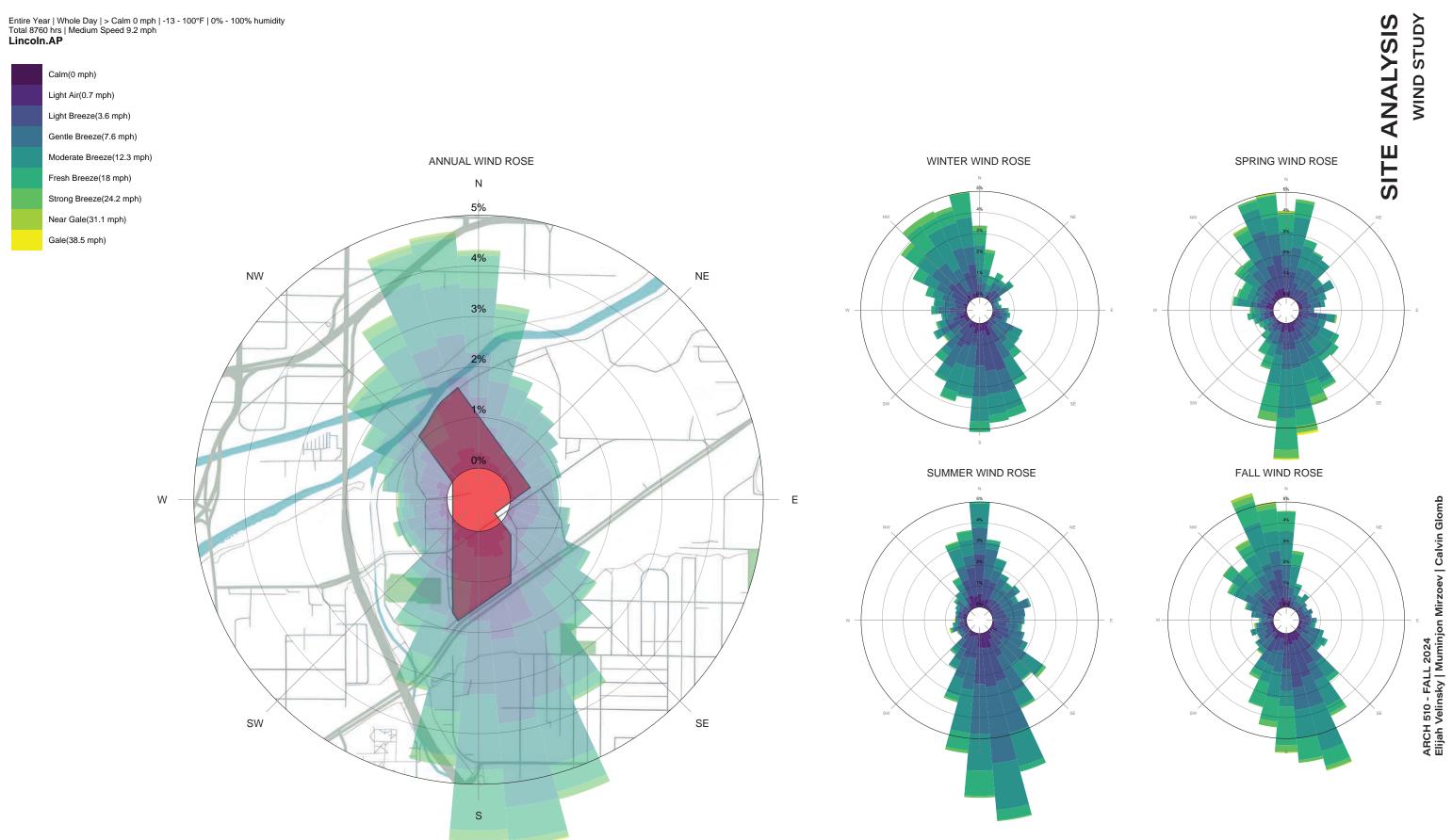
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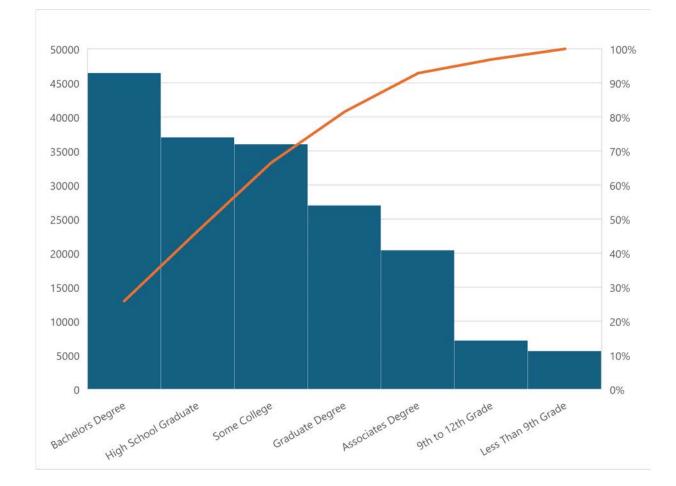


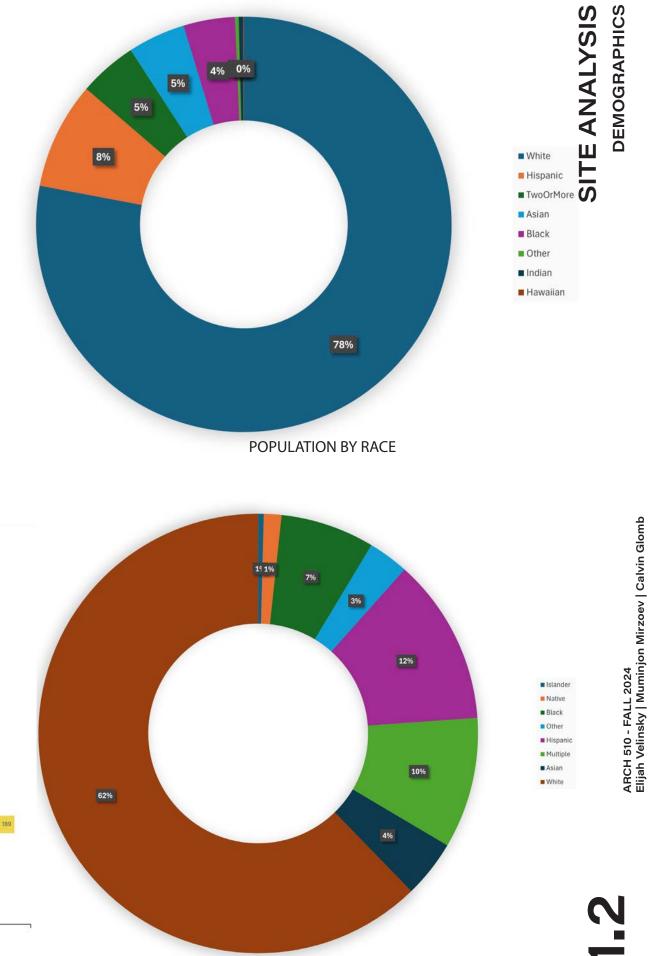
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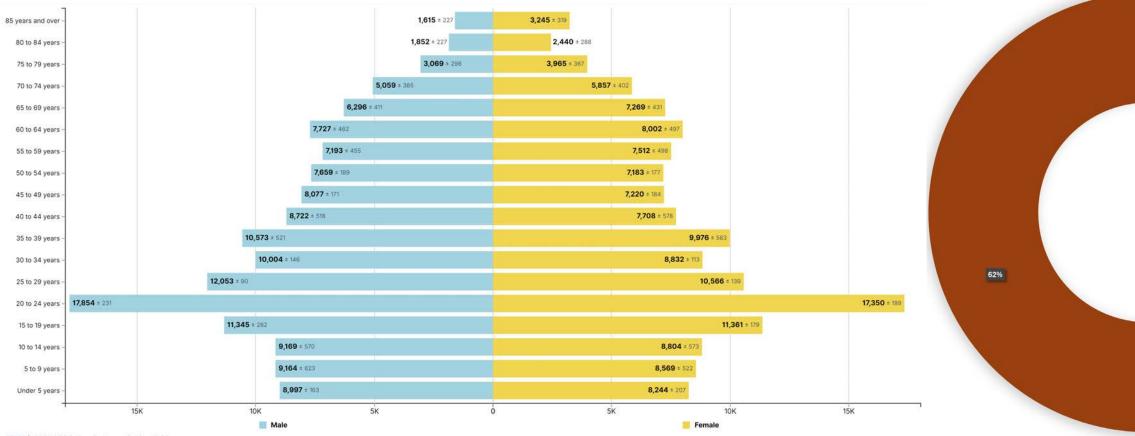






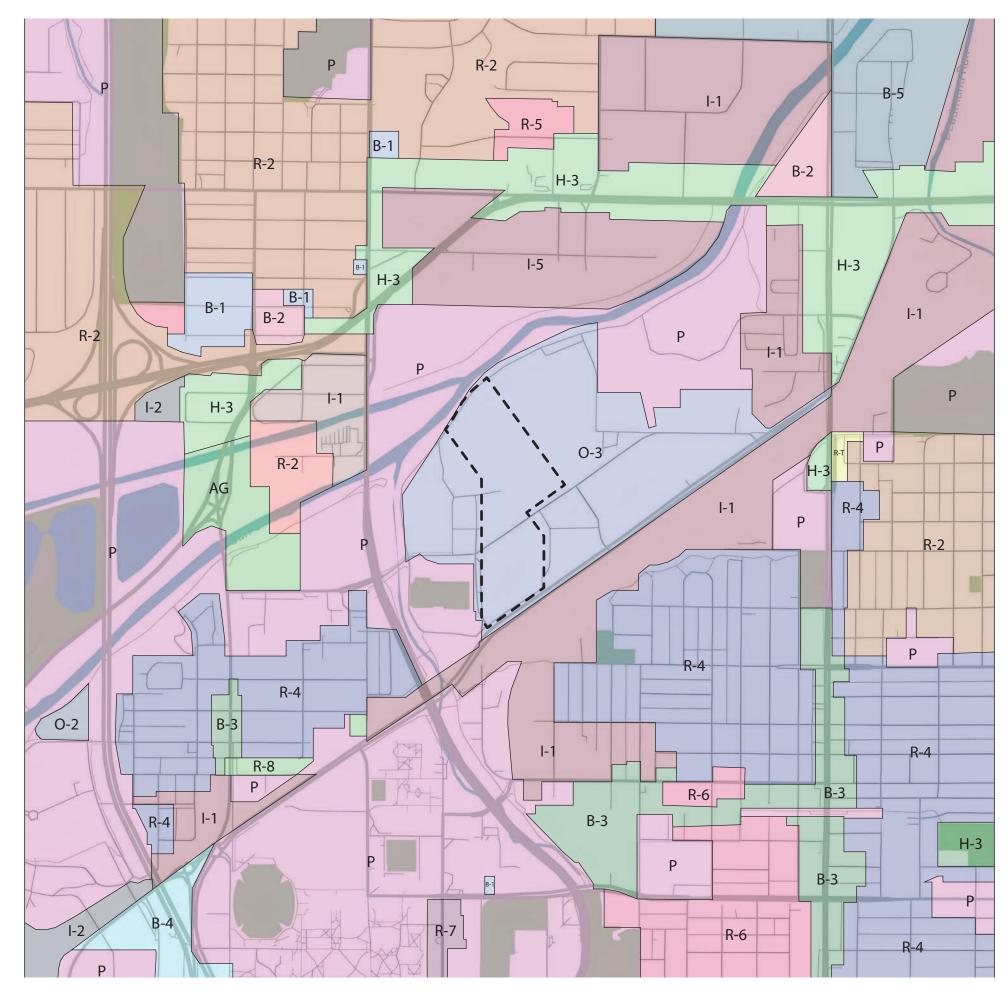






S0101 | 2022 ACS 5-Year Estimates Subject Tables

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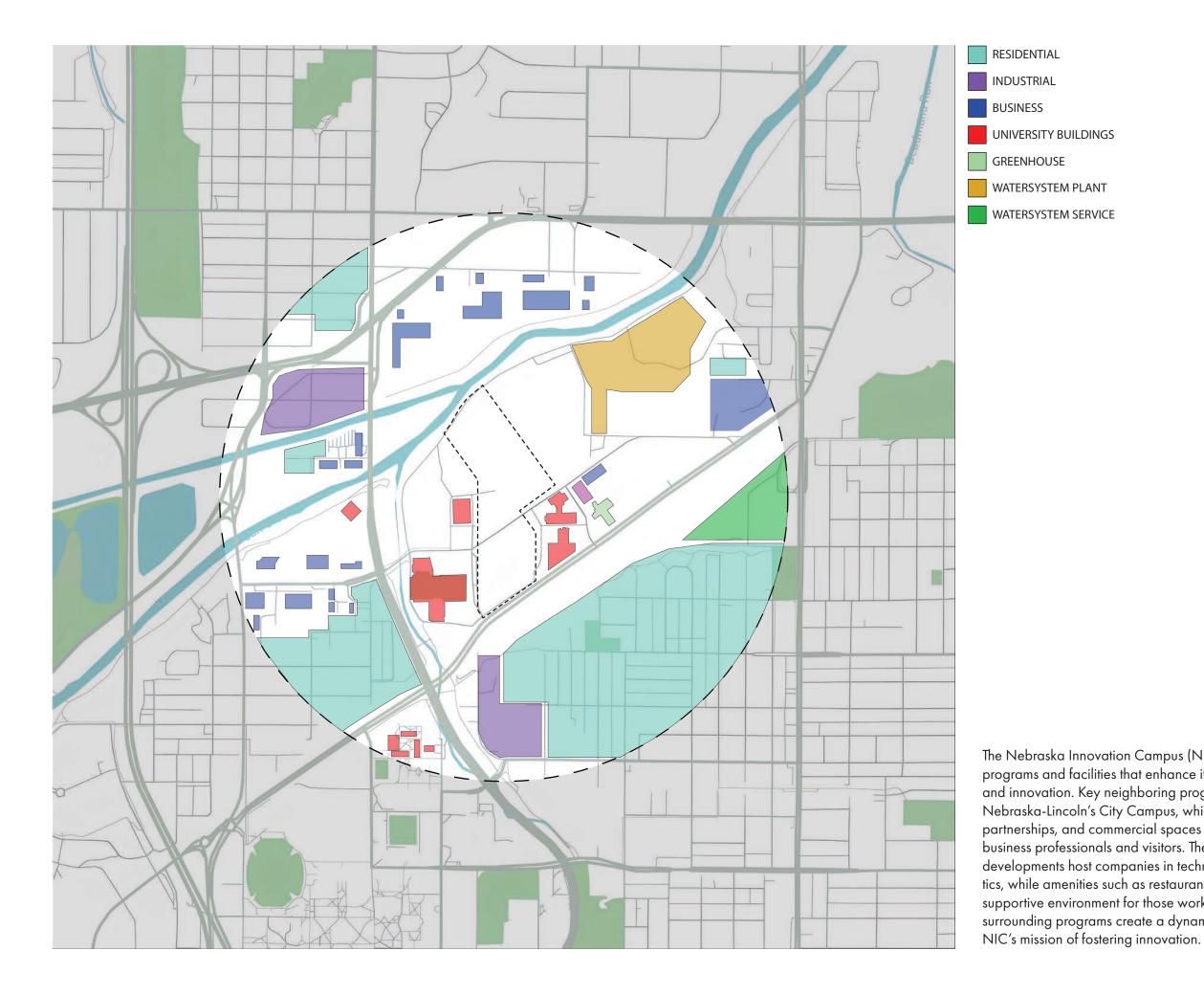


The Nebraska Innovation Campus (NIC) in Lincoln, Nebraska, is located near a mix of zoning districts that reflect its proximity to urban, commercial, and industrial areas. The site is adjacent to Downtown Lincoln and the University of Nebraska-Lincoln, surrounded by zones for commercial and industrial uses, as well as areas designated for mixed-use development. This strategic location supports a variety of uses, including research, education, and innovation-focused businesses, fostering collaboration between the university and private enterprises.

For our site, which is zoned O-3, this designation allows for office park developments with a focus on providing a mix of professional, administrative, and limited commercial services. O-3 zoning is designed to support higher-intensity office use while maintaining compatibility with surrounding areas through thoughtful site planning and landscaping requirements. This zoning classification provides flexibility for incorporating supporting amenities like retail or recreational spaces, making it ideal for creating vibrant, multi-functional developments that align with the vision of Nebraska Innovation Campus.

SITE ANALYSIS ZONING

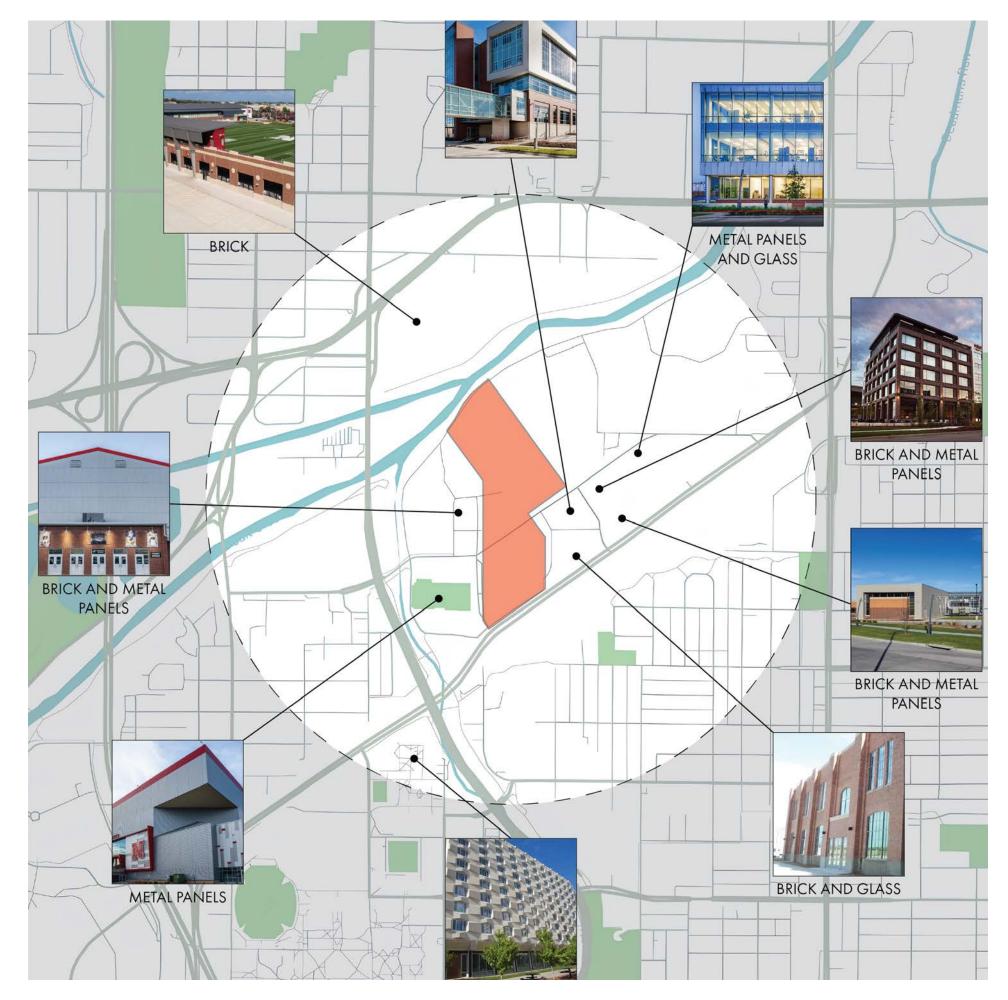
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SITE ANALYSIS PROGRAM ADJACENCY

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The Nebraska Innovation Campus (NIC) is surrounded by a variety of programs and facilities that enhance its role as a hub for collaboration and innovation. Key neighboring programs include the University of Nebraska-Lincoln's City Campus, which supports academic and research partnerships, and commercial spaces like The Scarlet Hotel, catering to business professionals and visitors. The nearby industrial and mixed-use developments host companies in technology, manufacturing, and logistics, while amenities such as restaurants and recreational areas provide a supportive environment for those working and visiting the campus. These surrounding programs create a dynamic ecosystem that complements

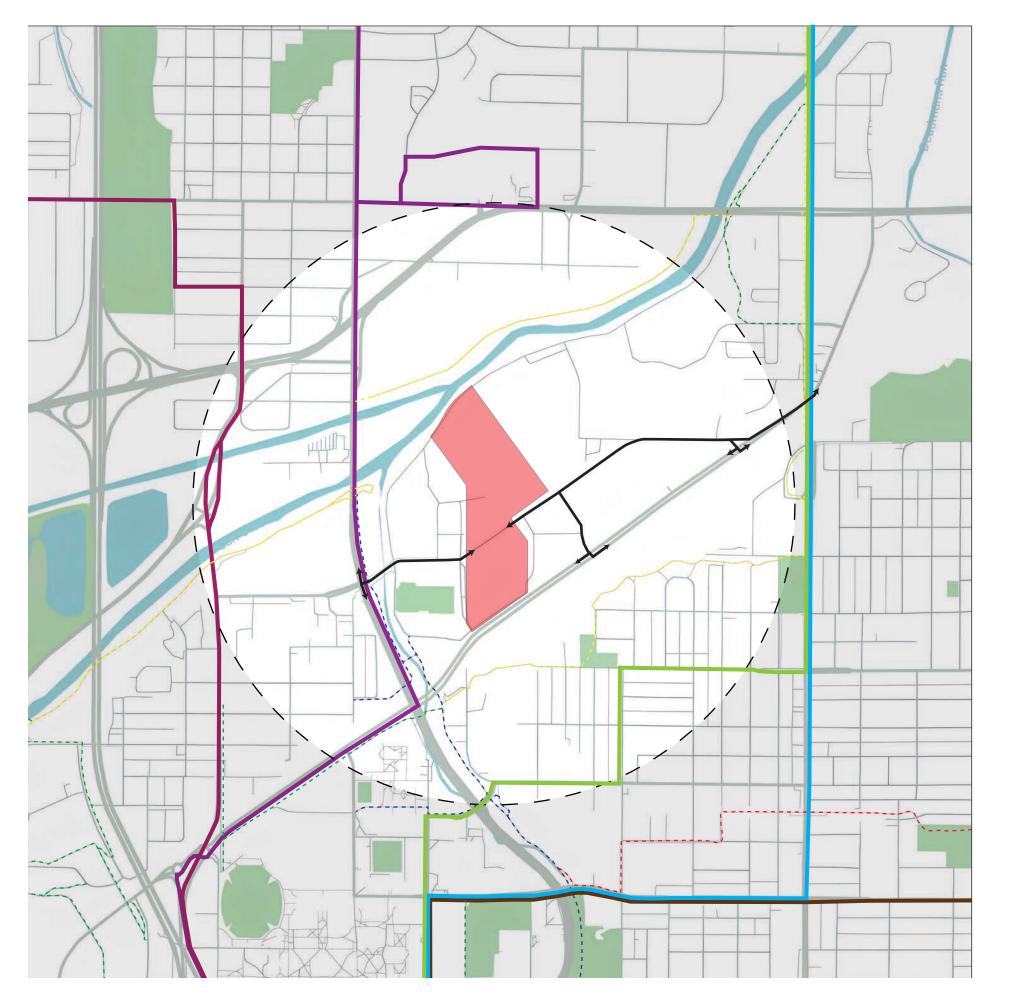


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SITE ANALYSIS MATERIAL STUDY

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TRAILS SALT CREEK LEVEE SALT CREEK ROAD BILLY WOLFF MOPAC

BUS #52 BUS #49 BUS #42 BUS #41 BUS

→ #27 BUS

The site is served by limited public transportation options, with the only nearby bus stop being part of Bus Route #41, which provides access to select areas in Lincoln but lacks extensive connectivity. This presents challenges for accessibility via public transit. Additionally, the site has only three main entrances, which focus vehicular and pedestrian traffic to specific access points, limiting options for circulation. However, the presence of trails near and through the site offers opportunities for pedestrian and cyclist connectivity. These trails not only enhance access but also promote sustainable and active transportation, aligning with the vision of creating an accessible and connected space for the community.

SITE ANALYSIS BUS ROUTES

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Euro American Innovation City in Hangzhou, China

Sustainable Design

The city emphasizes the use of renewable energy sources, such as solar power and wind energy, to minimize reliance on nonrenewable energy. Buildings are designed with energy-efficient systems, including high-performance glazing, shading devices, and materials that reduce the need for artificial lighting and heating. Green roofs and walls help to insulate buildings while promoting biodiversity and reducing the urban heat island effect. Water conservation systems, such as rainwater harvesting and greywater recycling, ensure efficient water use throughout the city, further reducing its environmental footprint.

Natural Ventilation

Incorporating natural ventilation into building design is another innovative aspect of the city's approach to sustainability. Many buildings are oriented to maximize cross-ventilation, reducing the need for mechanical air conditioning systems. Strategically placed windows, louvers, and open spaces allow for fresh air to circulate freely, maintaining a comfortable indoor environment while reducing energy consumption. Atriums and courtyards also contribute to passive cooling by promoting airflow and creating shaded areas that reduce indoor temperatures.

This approach not only lowers energy costs but also improves the health and well-being of residents by providing fresher air and more comfortable living spaces. By combining these sustainable strategies, Euro American Innovation City sets a precedent for future urban developments that seek to balance modern living with environmental responsibility.

PRECEDENT ANALYSIS SUSTAINABILITY PRECEDENT

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https://www.archdaily.com/1020874/foster-plus-partners-reveals-details-ofthe-euro-american-innovation-city-in-hangzhou-china?ad_source=search&ad_ medium=projects_tab&ad_source=search&ad_medium=search_result_all



Green Roof / Samoo **Architects & Engineers**

Green Roof Design

The green roof serves multiple functions: it provides natural insulation, reduces stormwater runoff, and contributes to biodiversity by creating habitat for local flora and fauna. By using a layered green roof system, the building reduces its energy consumption by maintaining more stable internal temperatures, minimizing the need for mechanical heating and cooling. This natural insulation is particularly beneficial in urban environments, where the heat island effect can lead to higher energy demands.

The green roof also acts as a rainwater management system, capturing and storing rainwater to reduce the burden on municipal drainage systems. This sustainable water management helps mitigate flood risks and conserves water, as the stored rainwater can be reused for irrigation or non-potable building functions.

Energy Efficiency

Beyond the green roof, Samoo Architects & Engineers designed the building to maximize energy efficiency. The project incorporates energy-efficient glazing and shading devices that minimize heat gain in the summer while maximizing natural light during the day. These strategies reduce the reliance on artificial lighting and climate control systems, lowering the building's overall energy footprint.

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PRECEDENT ANALYSIS EFFICIENCY PRECEDENT

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https://www.archdaily.com/47918/green-roof-samoo-architects-engineers/



Bunkie on the Hill Residence

Orientation

The Bunkie on the Hill Residence by Dubbeldam Architecture + Design takes full advantage of its orientation to allow natural light to flood into the home. Positioned with careful consideration to the surrounding environment, the house is oriented to capture sunlight throughout the day while minimizing direct exposure to harsh midday sun. Large windows and skylights are strategically placed on the east and west sides of the house, allowing soft morning and late afternoon light to stream into the living spaces.

The home features open-plan interiors with high ceilings, which enhance the flow of light from one area to another. The design includes expansive glass walls and doors that blur the boundary between indoors and outdoors, ensuring that the house remains well-lit with natural light while offering sweeping views of the landscape. By utilizing indirect sunlight and diffused lighting techniques, the Bunkie on the Hill Residence creates a bright, welcoming atmosphere without the discomfort of excessive heat or glare.

PRECEDENT ANALYSIS ORIENTATION PRECEDENT

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https://www.archdaily.com/1020974/bunkie-on-the-hill-dubbeldamarchitecture-plus-design/66df4e7275090c070fcf7b71-bunkie-on-the-hilldubbeldam-architecture-plus-design-photo



Soul Garden House / Spacefiction Studio

Indirect Light

This precedent showcases how skylights in tropical regions are used to capture natural light without the intensity of direct sunlight. In tropical climates, direct sun can lead to overheating and glare, so these homes are designed to filter and diffuse light.

Skylights are positioned to capture indirect light, often on shaded or north-facing areas, to soften the illumination. Techniques like using frosted glass or louvers help control the light's intensity, preventing direct rays from entering. Light wells and atriums further distribute the light throughout the home, creating bright, naturally lit spaces without the heat or harshness of direct sunlight.

This design not only enhances indoor comfort but also improves energy efficiency by reducing the need for artificial lighting and cooling systems. By using natural, indirect light, these homes maintain a connection to the outdoors while staying cool and pleasant.

https://www.archdaily.com/1021425/skylights-in-tropical-architecture-20homes-that-redefine-natural-lighting?ad_medium=gallery

PRECEDENT ANALYSIS INDIRECT LIGHT PRECEDENT

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Kibi Kogen N Square / Kengo Kuma & Associates

Sustainable Materials

One of the most prominent features of Kibi Kogen N Square is its use of locally sourced, natural materials. Wood is the primary material used throughout the project, which not only reduces the embodied carbon of the building but also supports local forestry industries. The use of timber connects the building to its surrounding environment, providing a warm, organic aesthetic while promoting sustainability through renewable resources. By relying on these natural materials, the project minimizes the environmental impact typically associated with the production and transportation of conventional construction materials like steel and concrete.

Energy Efficiency and Natural Ventilation

The design of Kibi Kogen N Square incorporates passive environmental strategies to maximize energy efficiency. The building's orientation takes advantage of natural daylighting, reducing the need for artificial lighting during the day. Large overhangs and strategically placed openings help to control solar heat gain, creating a comfortable interior climate without the need for energy-intensive air conditioning systems. Natural ventilation is a key component, as the building's layout allows for cross-ventilation, using the wind and air movement to cool the interiors and maintain fresh air circulation.

Harmonizing with Nature

Kengo Kuma's design philosophy emphasizes the importance of harmonizing architecture with its natural surroundings, and Kibi Kogen N Square is no exception. The project's form and materiality are inspired by the landscape, creating a seamless transition between the built environment and nature. The building's green roofs, for example, are planted with local vegetation, reducing stormwater runoff and providing insulation to improve energy efficiency. The project also includes open, outdoor spaces that encourage engagement with the natural environment, promoting a sustainable, healthy lifestyle for its users.

and-associates-photo



https://www.archdaily.com/1018259/kibi-kogen-n-square-kengo-kuma-andassociates/667ed237483cb3444296f448-kibi-kogen-n-square-kengo-kuma-

Project Goals

1. Entertainment Connection to Devaney Center

The south side of the site will be designed to complement the energy and activity of the Devaney Center, serving as an extension for Nebraska sports events. Flexible spaces will be created to host concerts, farmers' markets, and other large-scale gatherings, ensuring year-round activity and a dynamic environment that supports entertainment and community engagement.

2. Integration with Nebraska Innovation Campus (NIC)

The north side of the site will connect seamlessly with the Nebraska Innovation Campus to foster collaboration between research facilities, students, and the public. Thoughtful design will integrate modern materials and elements reflective of NIC's innovative identity, establishing a strong visual and functional link between the spaces and encouraging interaction across disciplines.

3. Promote Community and Inclusivity

This development will prioritize community connection by creating inclusive spaces that cater to people of all ages, interests, and backgrounds. Whether it's through social gathering spaces, events, or amenities, the site will serve as a welcoming and vibrant destination that strengthens community ties and supports local culture.

4. Prioritize Walkability

The site will be designed to encourage walkability with pedestrian pathways that connect key areas, such as the entertainment zone, research facilities, and community spaces. Existing trails that run through and near the site will be leveraged to enhance accessibility, promote active transportation, and ensure a safe and enjoyable experience for pedestrians and cyclists alike.

5. Sustainable Design

Sustainable principles will be embedded in every aspect of the site's design, from the use of environmentally friendly materials like wood to strategies that promote energy efficiency and reduce carbon emissions. The integration of trails, walkability, and public transit options will further encourage sustainable transportation methods.

6. Give Back Greenspace to the Community

A continuous green roof ramp will be incorporated to connect all the buildings on the site, giving back greenspace to the community. This elevated feature will offer recreational areas, walking paths, and seating, while also contributing to environmental benefits such as stormwater management, improved air quality, and reduced heat island effects. The green roof will provide a visually striking and functional centerpiece for the site, blending architecture with nature.

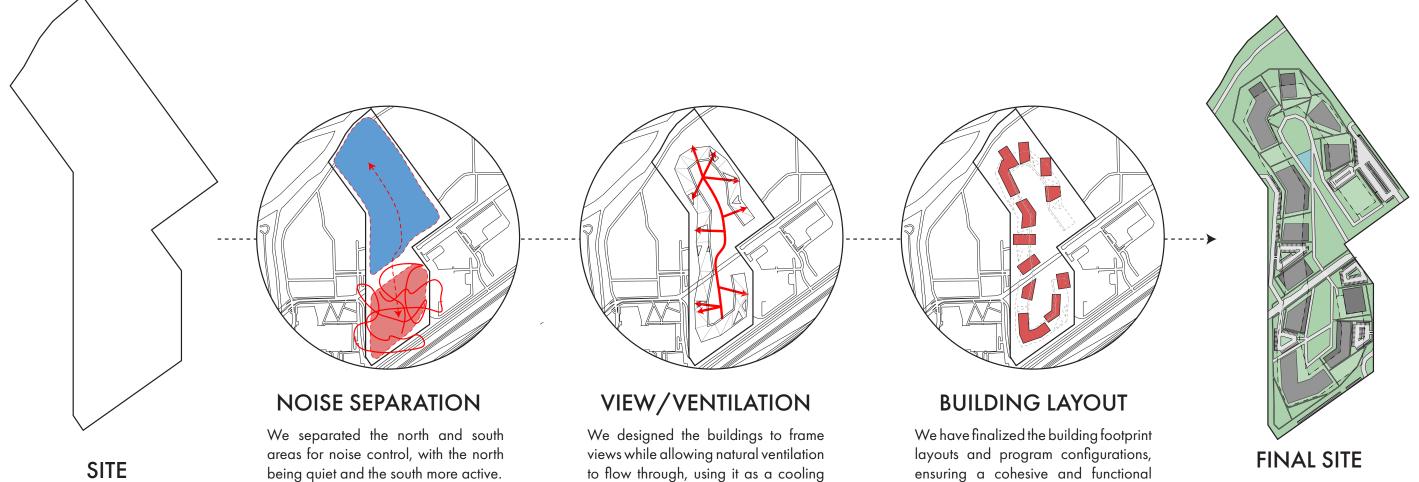
Design Position Statement

Our development is designed to be an inclusive and central space that fosters community connections and provides a welcoming environment for everyone. By combining spaces for entertainment, research, recreation, and social interaction, the site will cater to individuals of all ages, backgrounds, and interests, creating a dynamic destination that strengthens community ties. The south side of the site will activate the area with entertainment and event spaces, complementing the adjacent Devaney Center and supporting activities such as Nebraska sports, concerts, and farmers' markets. On the north side, the development will seamlessly connect to the Nebraska Innovation Campus, fostering collaboration and interaction between researchers, students, and the community.

Prioritizing walkability and sustainability, the site will feature pedestrian-friendly pathways, connections to nearby trails, and green infrastructure that promotes active transportation and environmental responsibility. A continuous green roof ramp will link the buildings, providing elevated greenspace for recreation, relaxation, and environmental benefits, while also symbolizing the integration of architecture and nature. Ultimately, this development will serve as a hub for innovation, entertainment, and community—a space where people come together to connect, create, and thrive.

DESIGN SYNTHESIS GOALS AND STATEMENT

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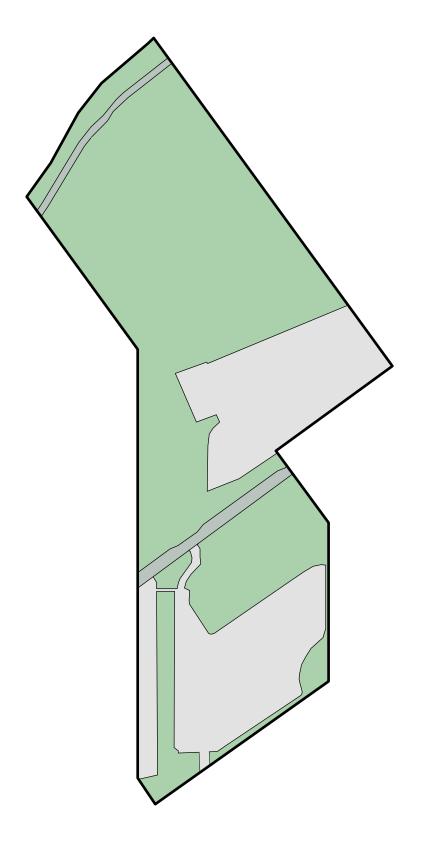
being quiet and the south more active.

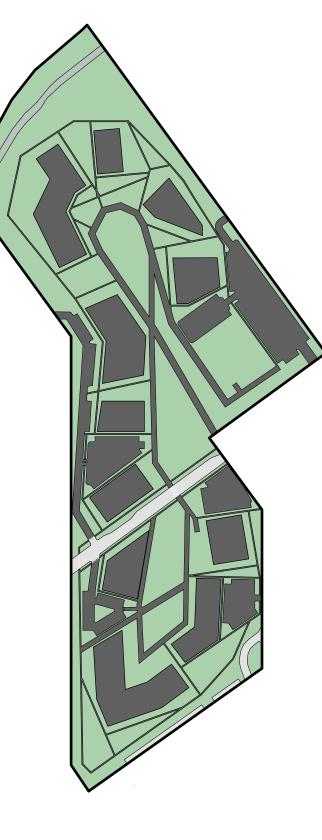
ensuring a cohesive and functional design.

DESIGN SYNTHESIS NARRATIVE DIAGRAM

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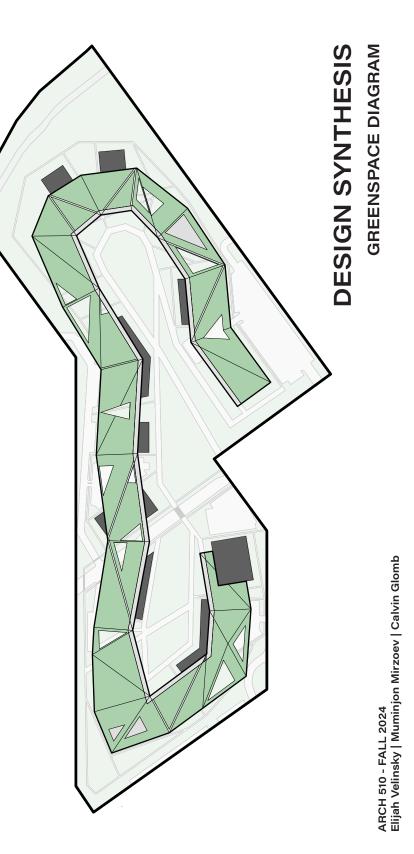


EXISTING SITE

The site originally has open greenspace, but two large parking lots cover most of the area, reducing green areas and creating a car-dominant environment.

GREENSPACE REMOVED

We began by removing some greenspace to accommodate building footprints and circulation sidewalks on the site. This reshaped the layout, reducing open green areas and creating a more structured environment.

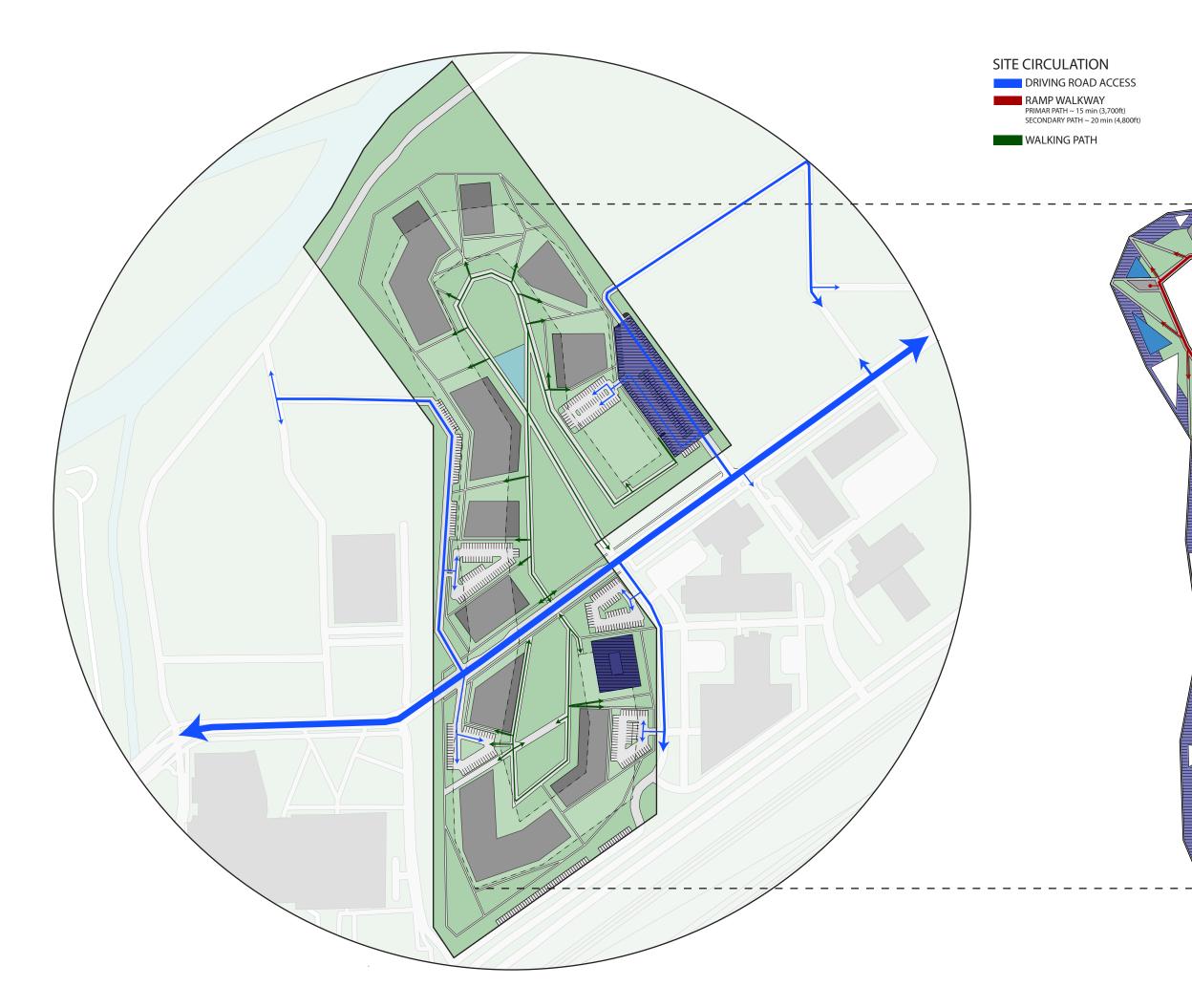


GREENSPACE RETURNED

To give back to the community and restore what was taken, we designed a ramp that covers every building, creating a continuous greenspace for recreation and connection.



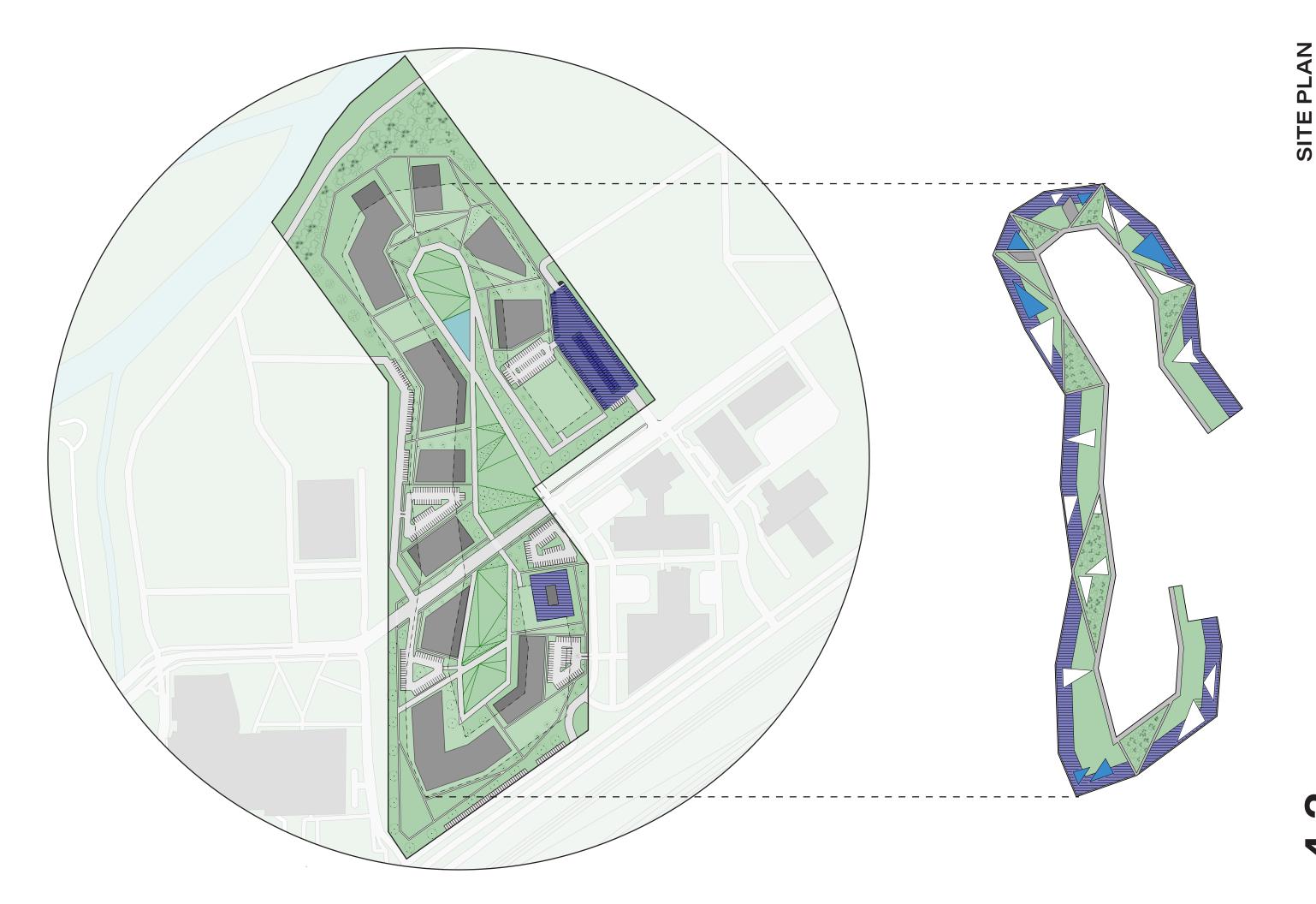




SITE PLAN CIRCULATION DIAGRAM

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LANDSCAPE DIAGRAM

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This render shows a building with wooden accents and large glass windows, surrounded by greenery and open spaces. The design blends natural elements with practical features, creating a welcoming and eco-friendly atmosphere.

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SITE PERSPECTIVES UNDER RAMP PERSPECTIVE



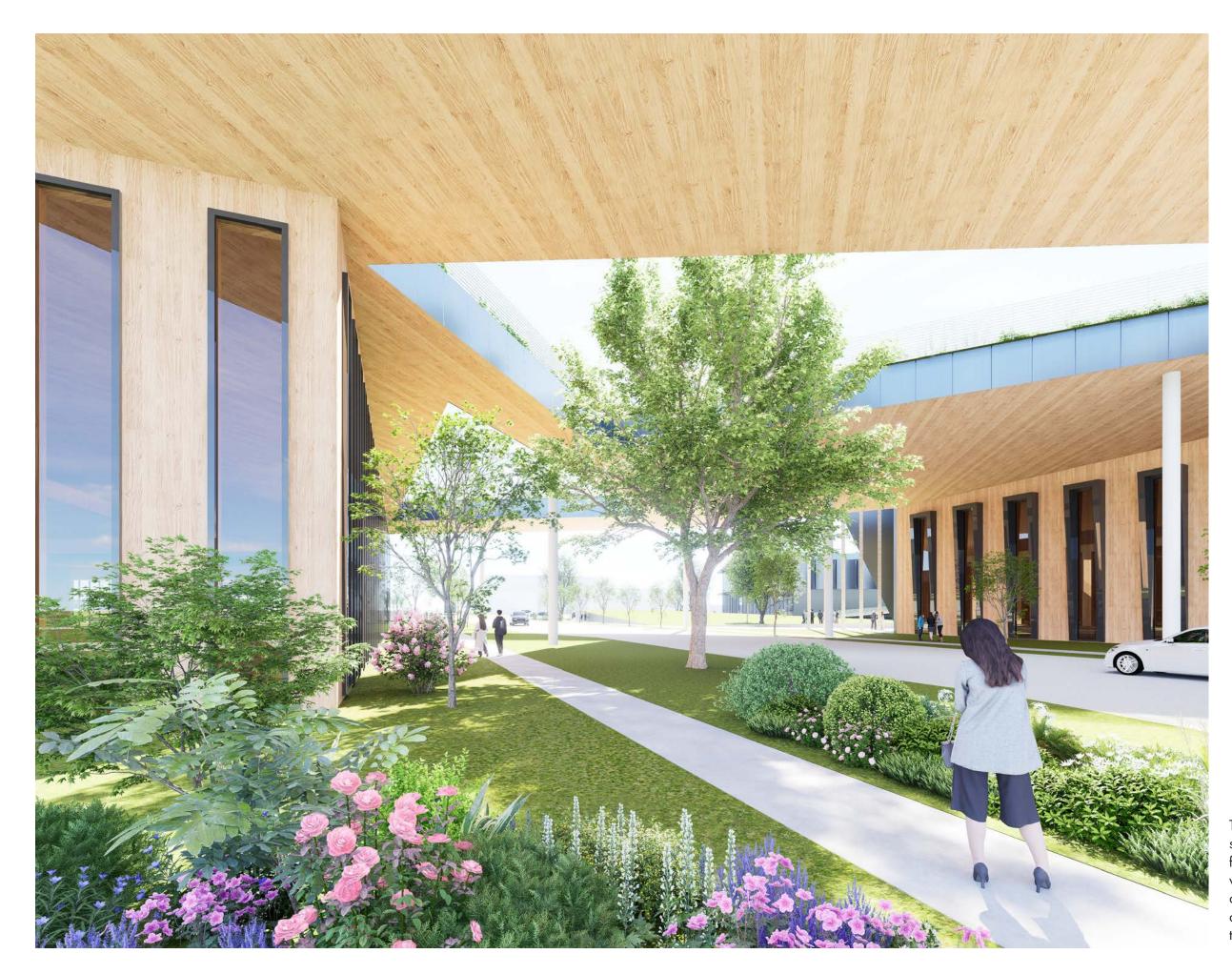




SITE PERSPECTIVES ROOF PERSPECTIVE

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This render shows a rooftop walkway with greenery and flowers, offering scenic views and spaces for people to gather and relax. The design combines beauty with modern architecture, creating a peaceful and inviting outdoor environment.





SITE PERSPECTIVES UNDER BRIDGE PERSPECTIVE

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This render features a pathway surrounded by greenery and flowers, set against sustainable wooden architecture. The open design emphasizes natural light and seamless integration with the surrounding landscape.



This render shows a bright, sunny day with people walking along a tree-lined path next to a modern metal and wood building. The combination of greenery and architecture creates a welcoming and open atmosphere.

SITE PERSPECTIVE MAIN WALKWAY PERSPECTIVE

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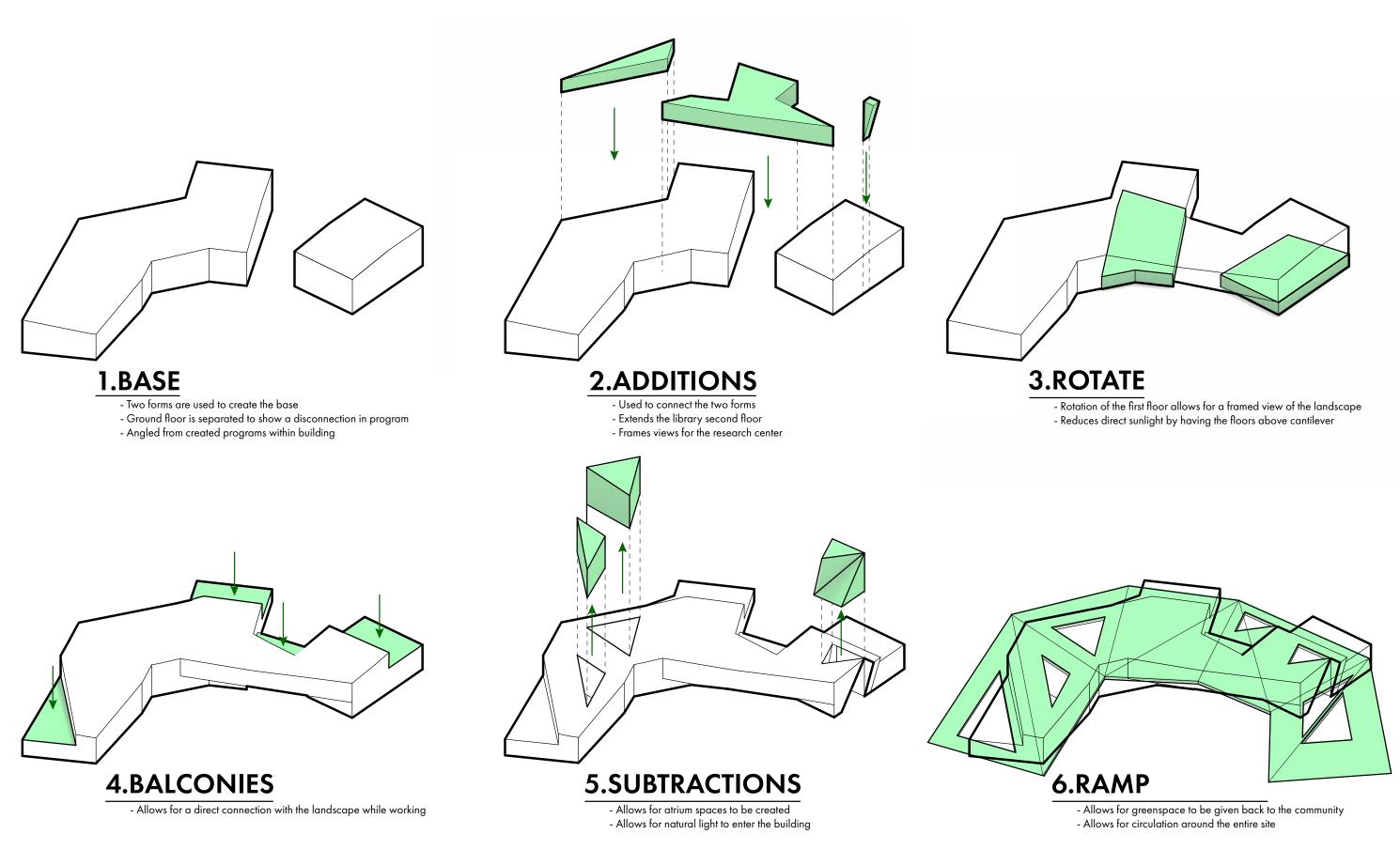






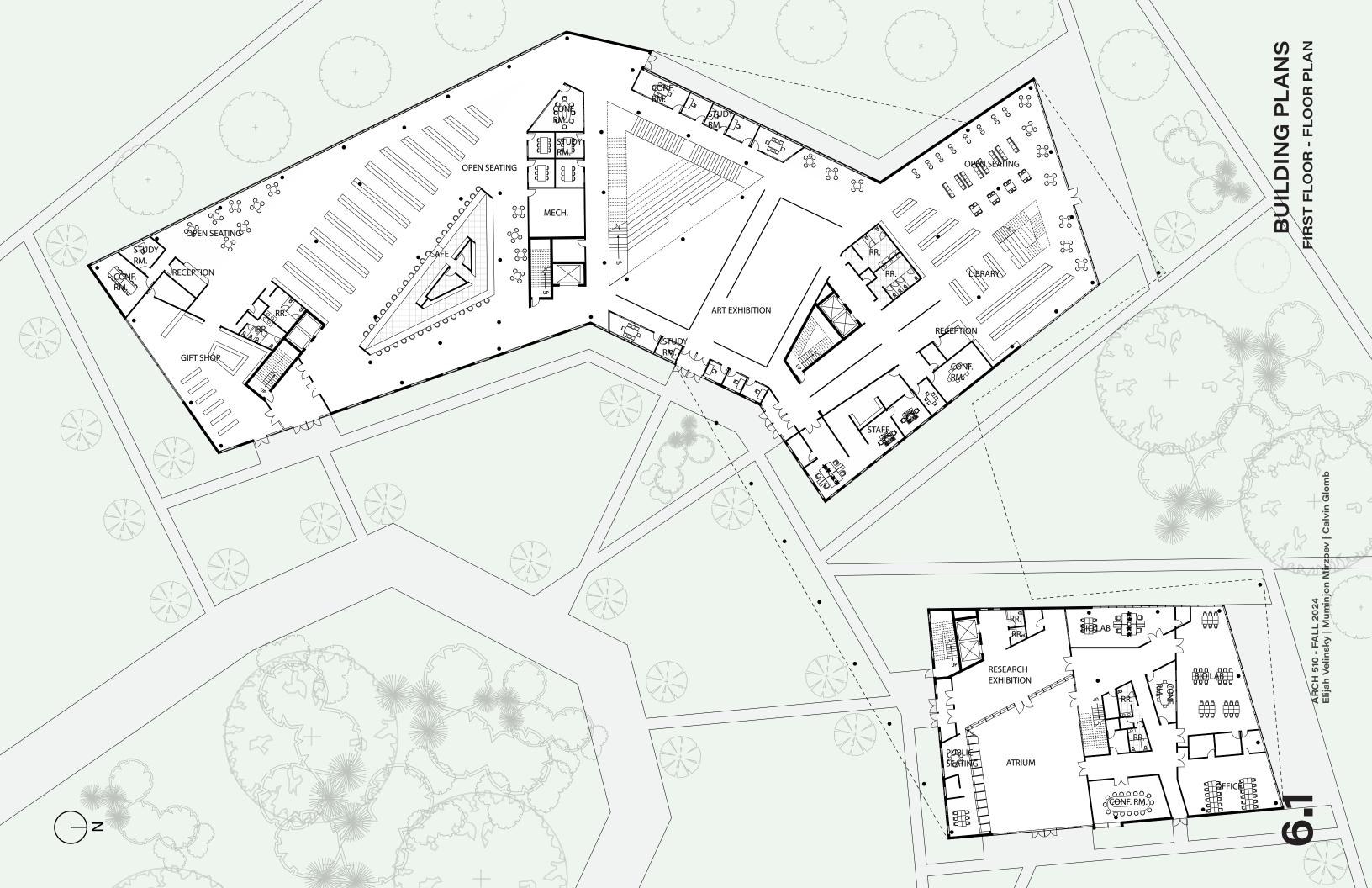


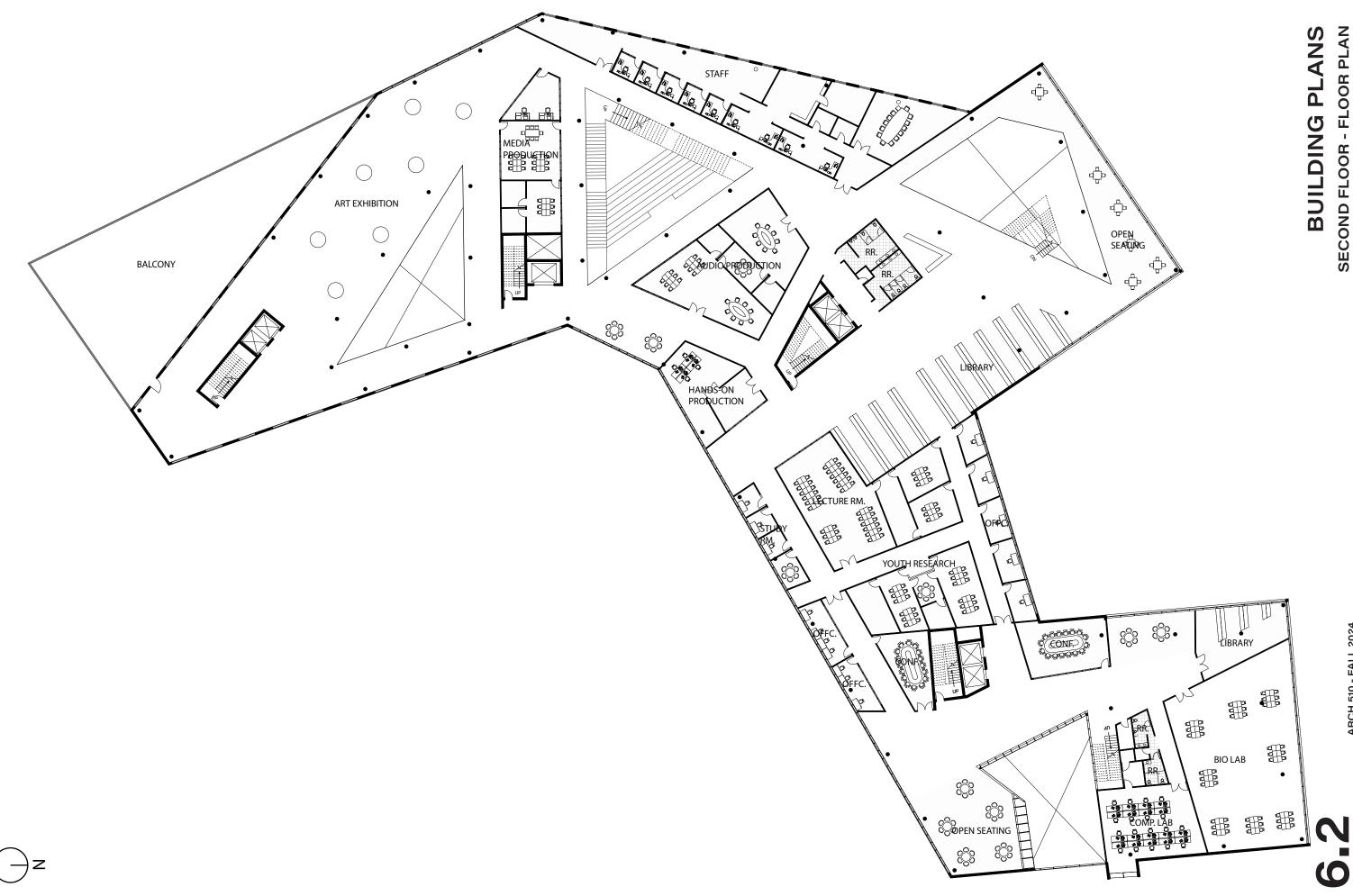
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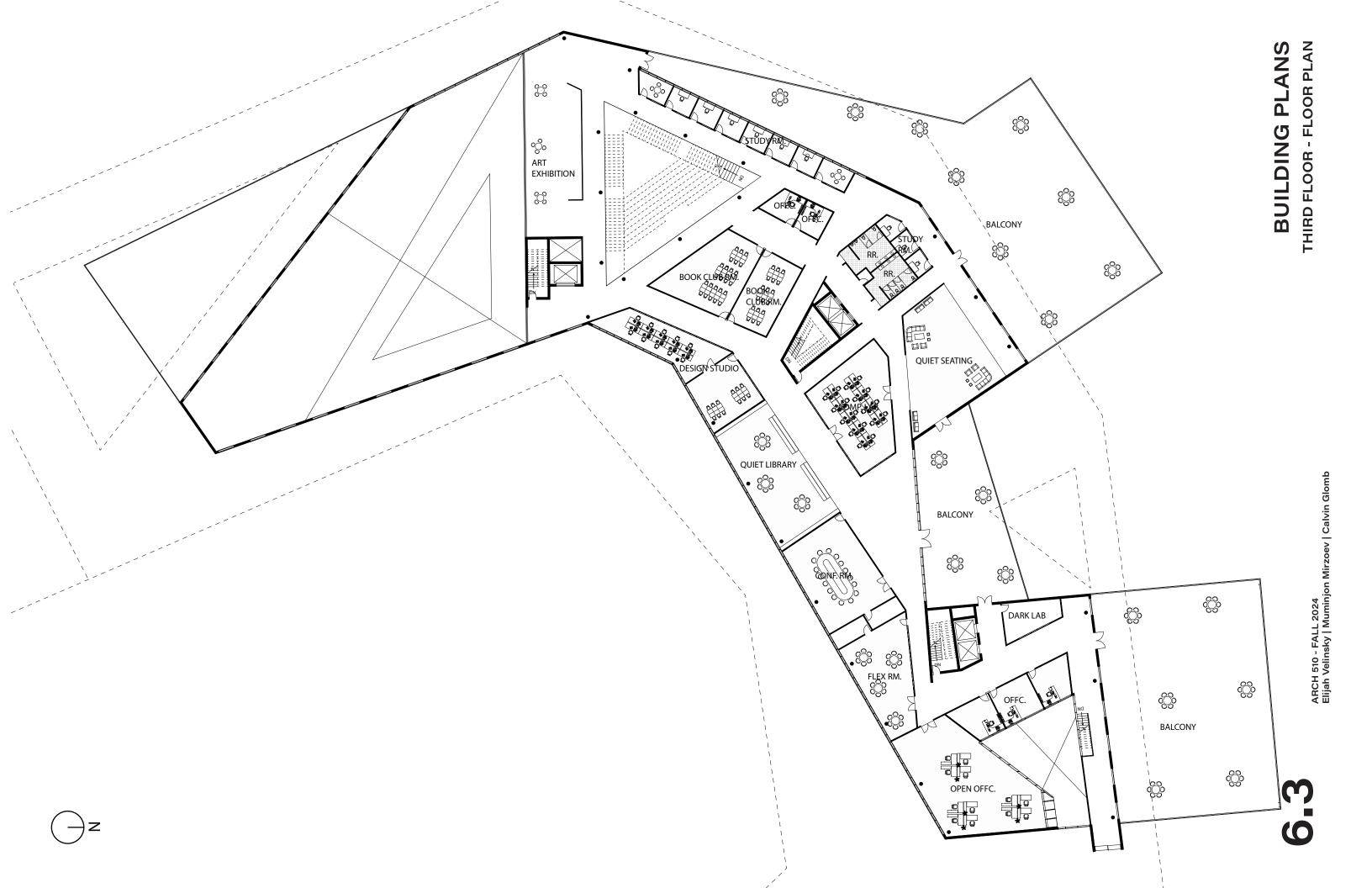


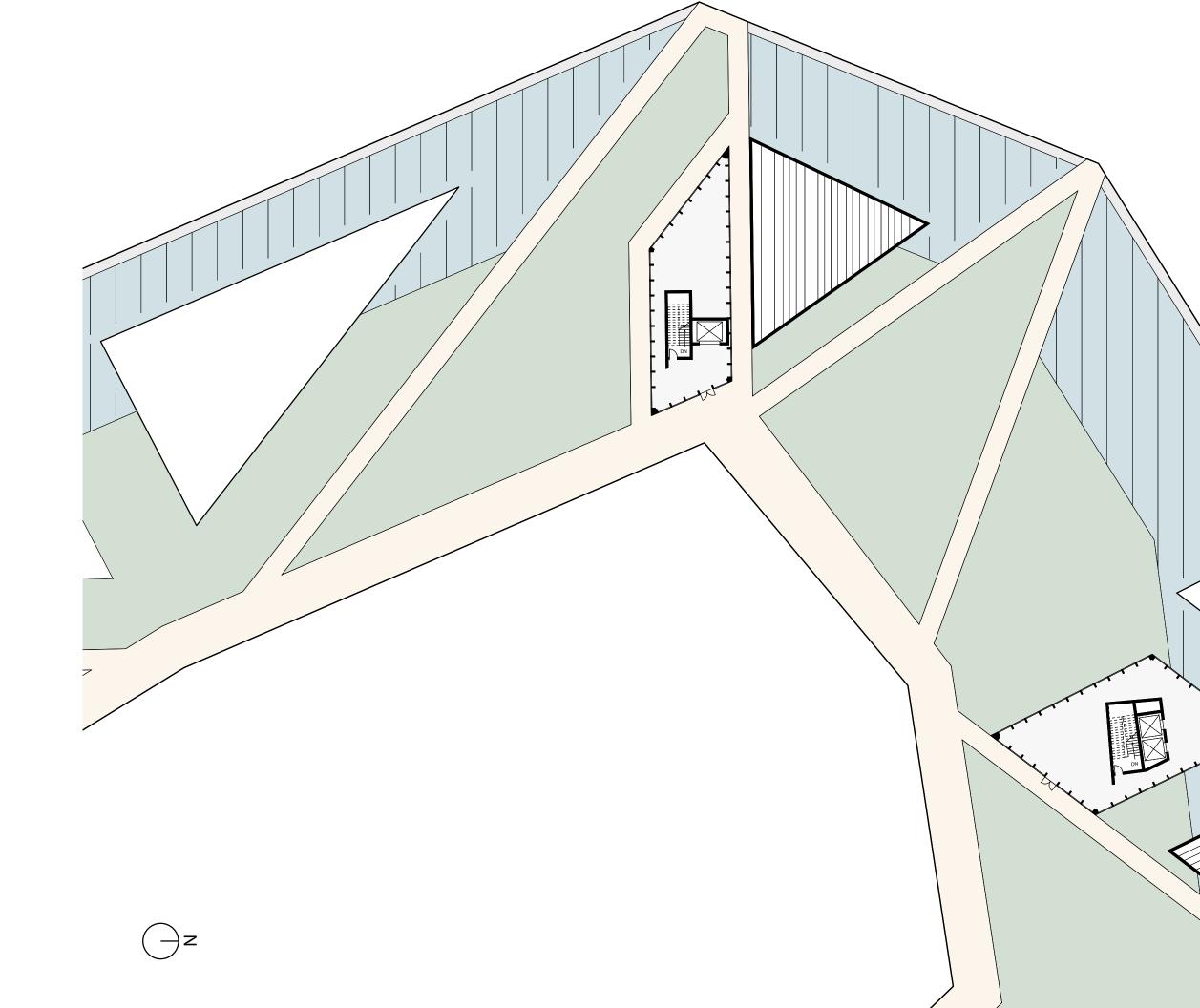


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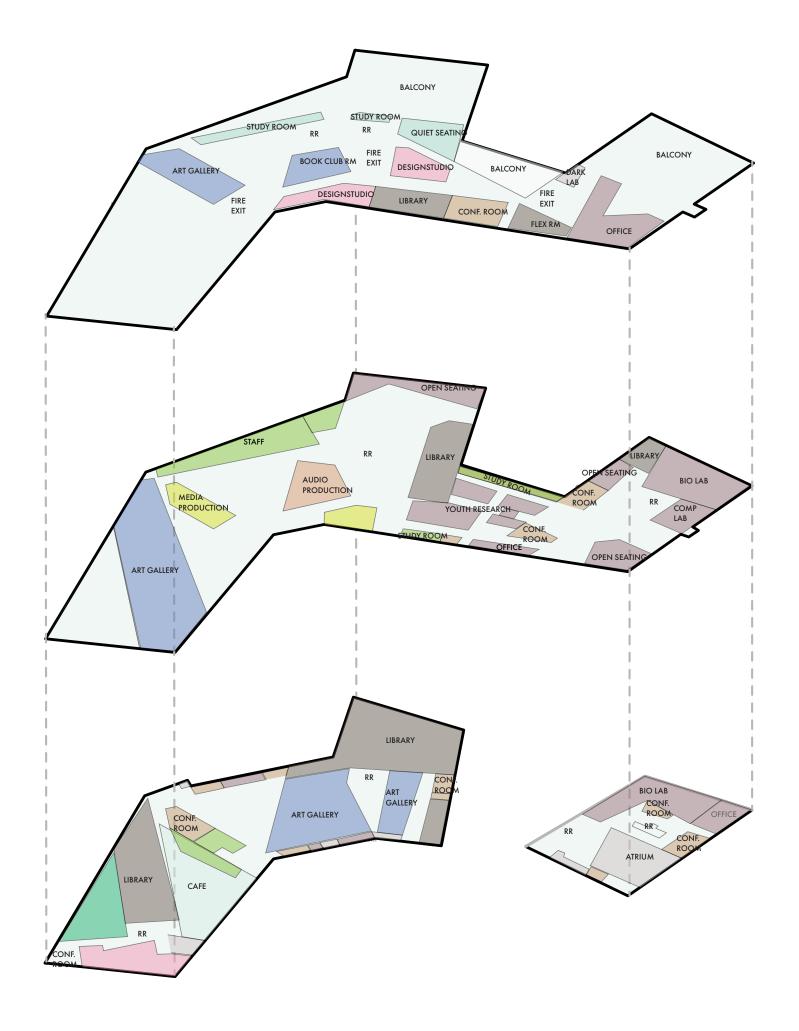




BUILDING PLANS ROOF PLAN

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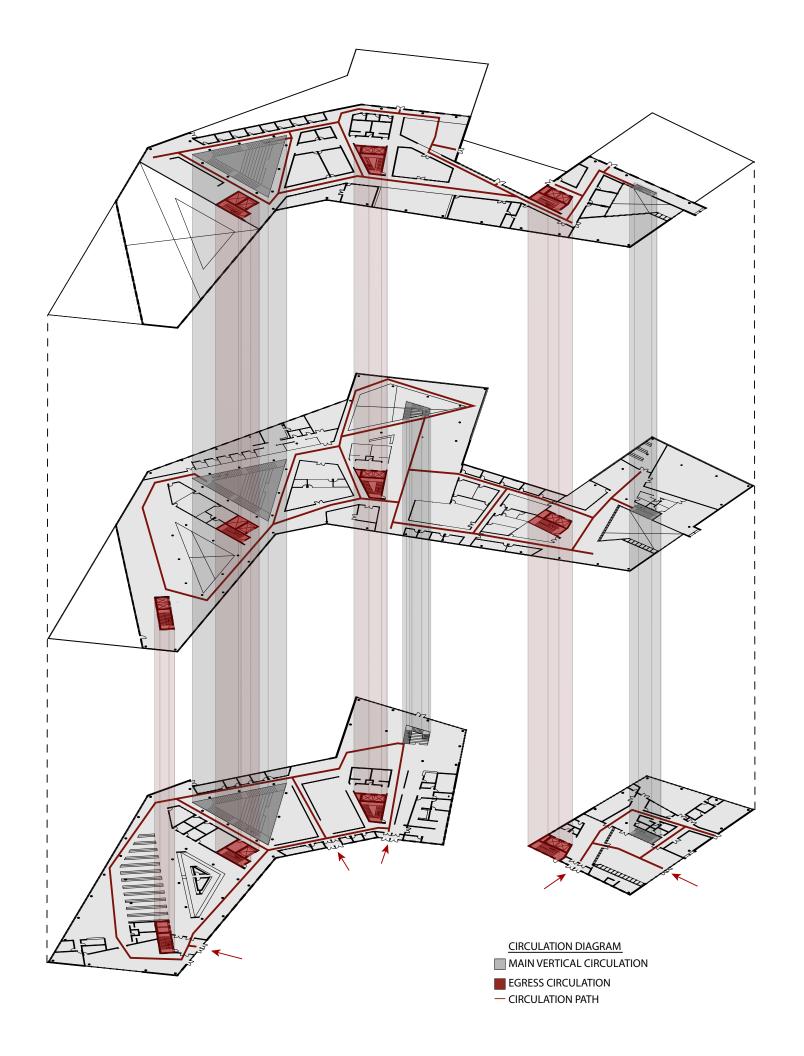




Our building is designed to serve as a place for community connection, encouraging collaboration and engagement among individuals of all ages and backgrounds. By integrating diverse programs and flexible spaces, the building encourages people to come together to share ideas, learn from one another, and engage in creative and meaningful activities. It aims to create a welcoming environment that promotes interaction, inspires curiosity, and strengthens the bonds within the community, making it a space where everyone feels included and valued.

BUILDING PLANS PROGRAM DIAGRAM

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The circulation in our building follows a linear triangular layout, efficiently connecting all areas while maintaining a clear path for movement. The vertical circulation is facilitated by four means of egress, ensuring accessibility throughout the building, with three main circulation areas—two located on the library side and one on the research side—designed to serve as central ciculation for movement and interaction.

BUILDING PLANS CIRCULATION DIAGRAM

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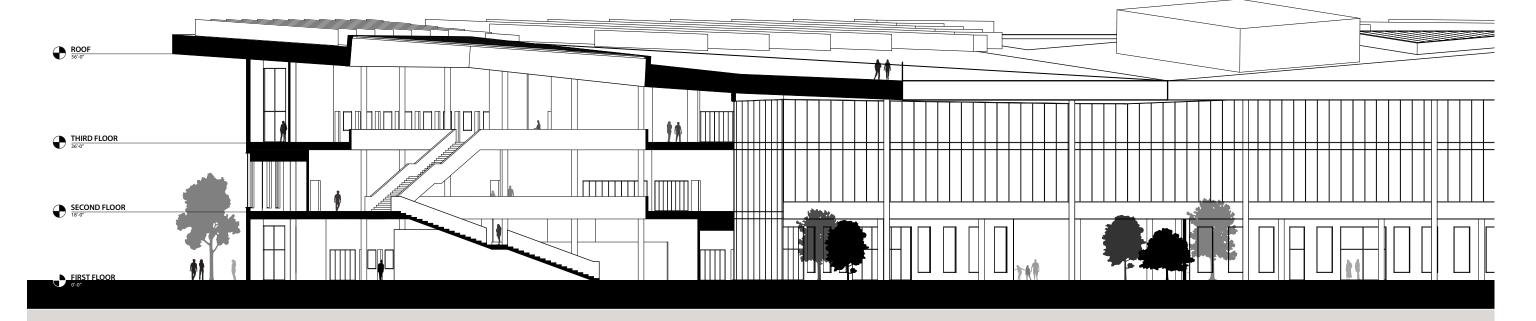




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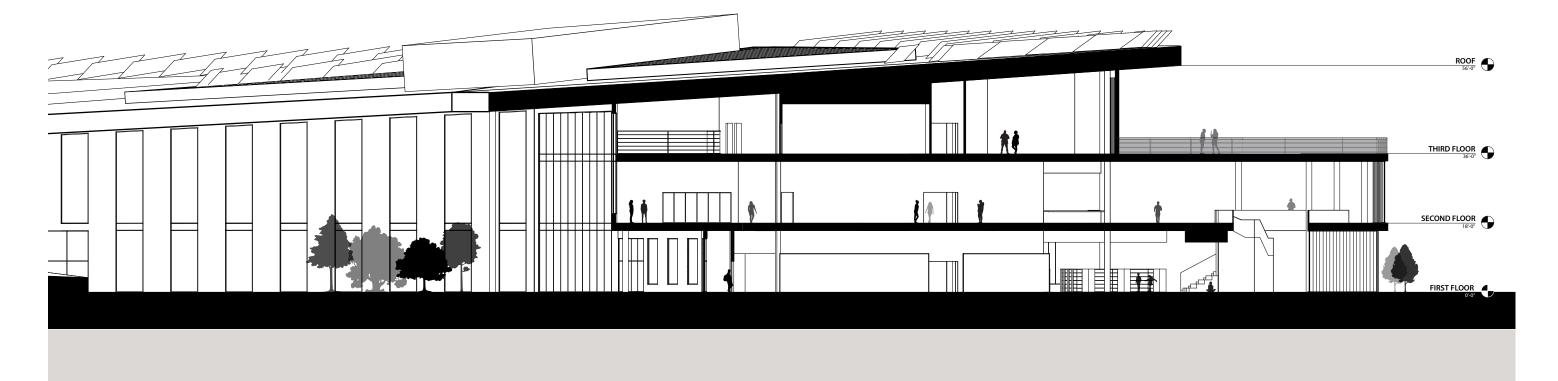




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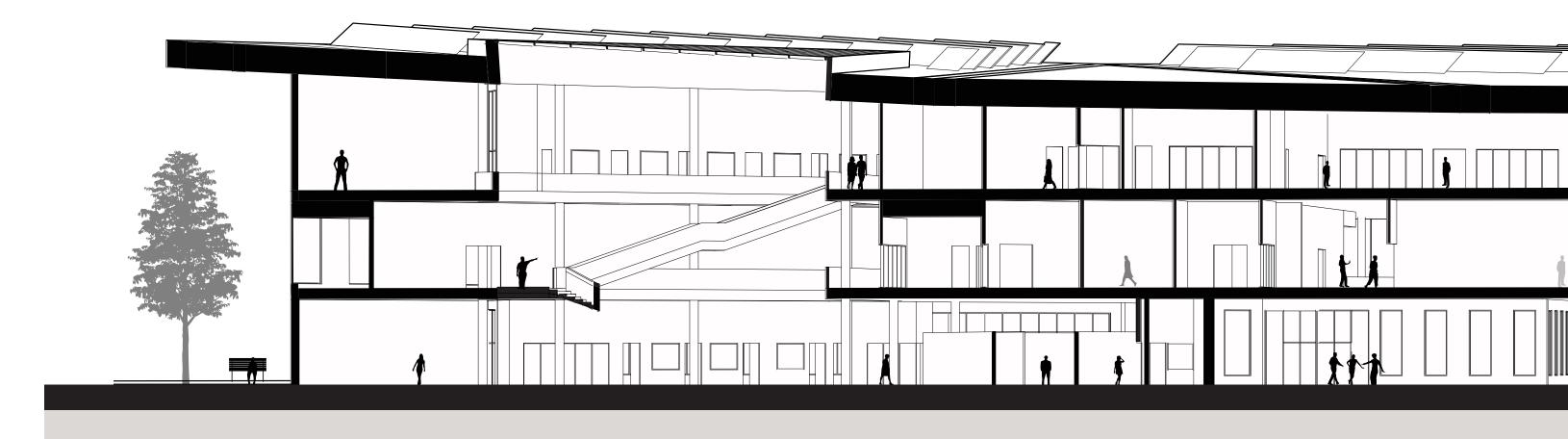
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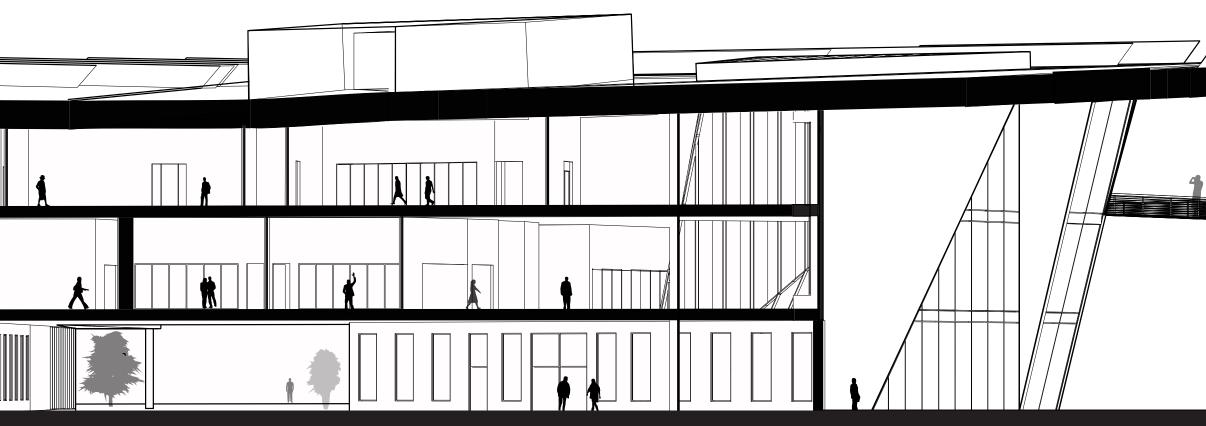
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SECTIONS EAST SECTION



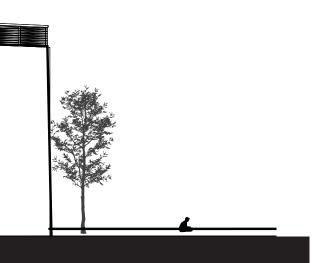


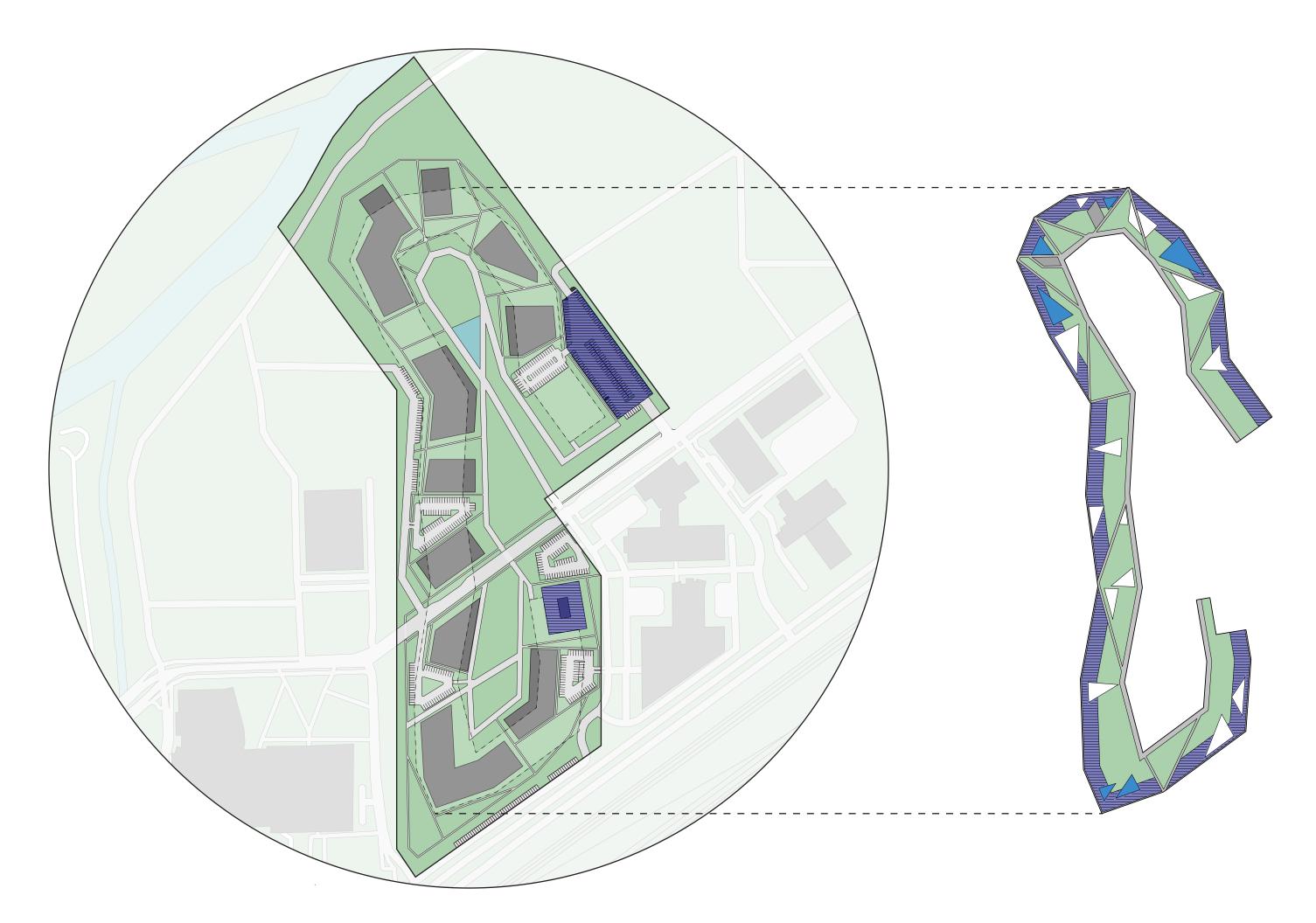


SECTIONS LONG NORTH SECTION

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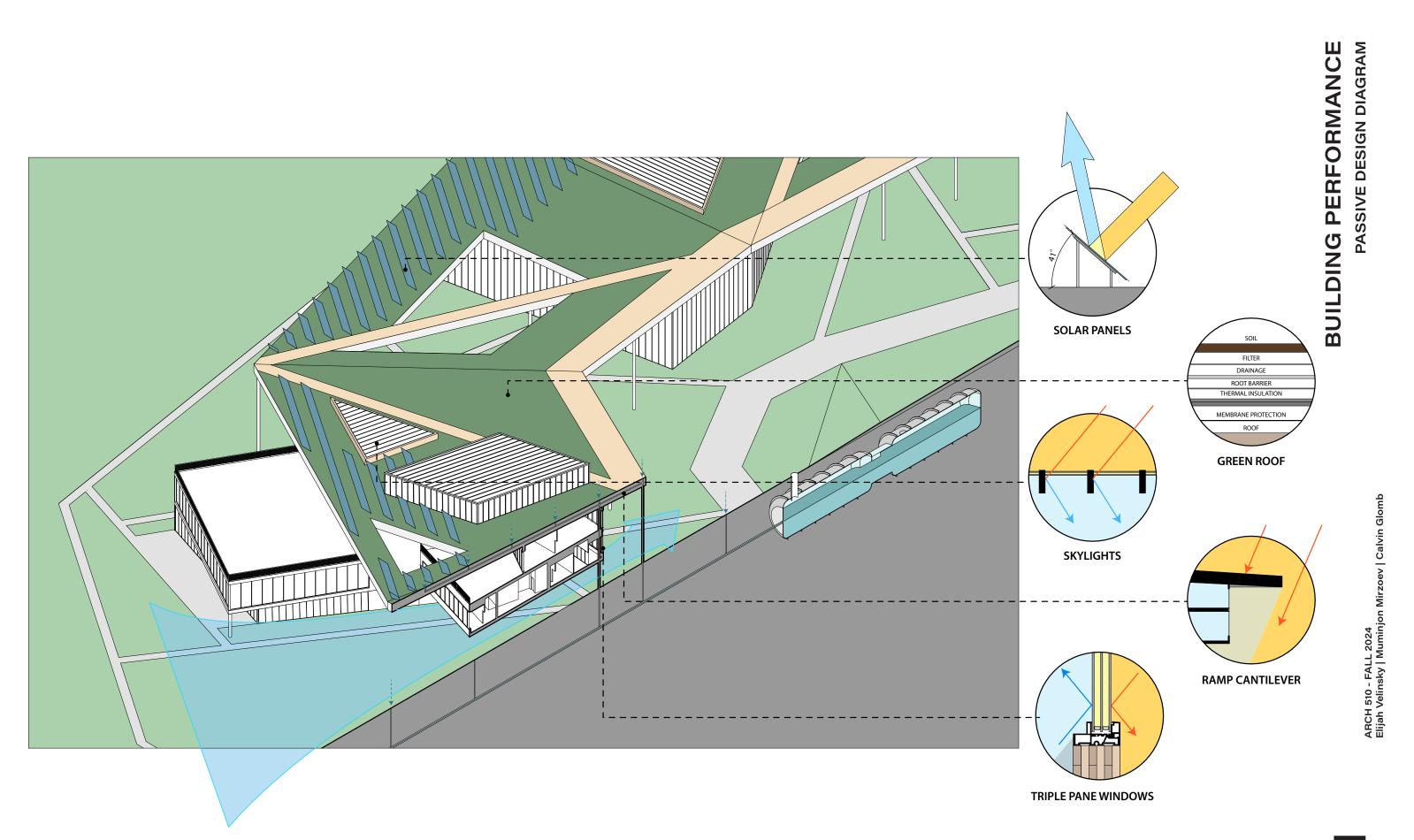
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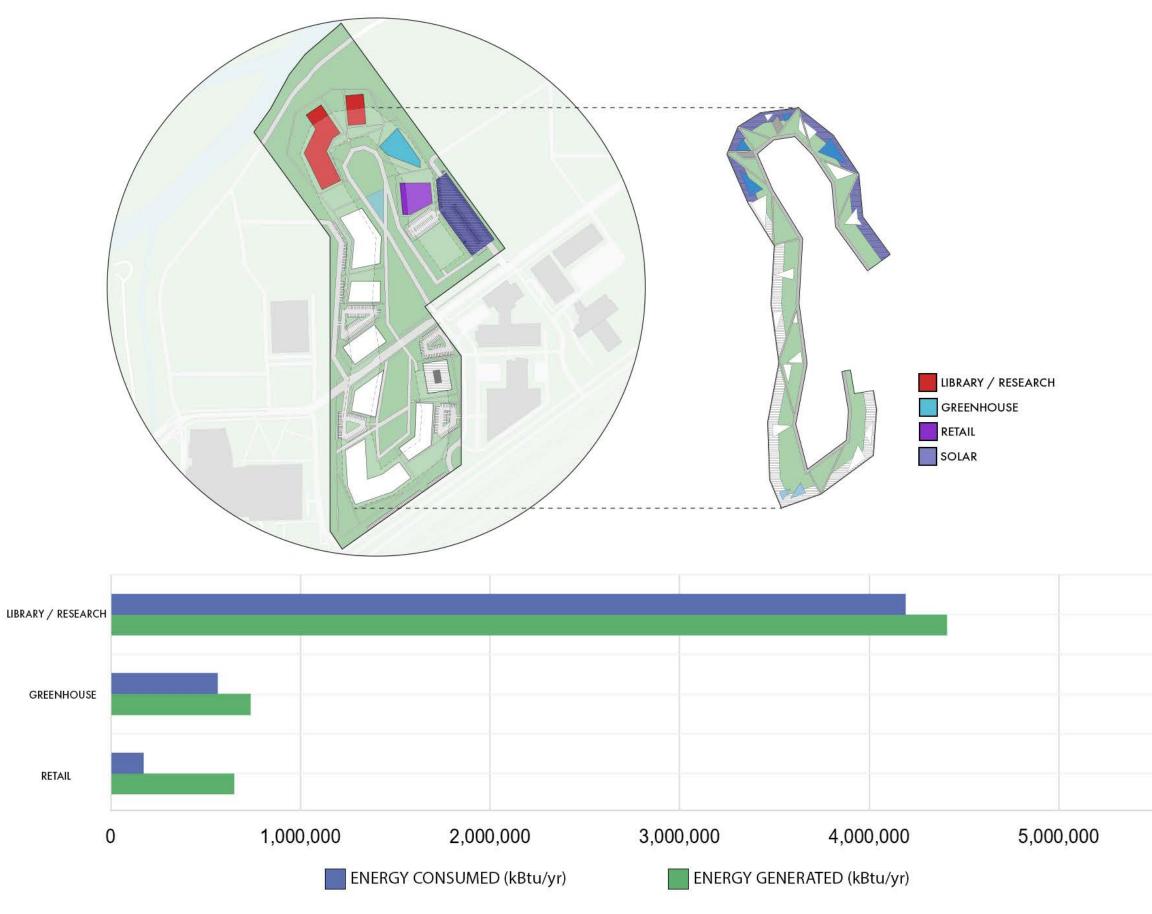




BUILDING PERFORMANCE SOLAR DIAGRAM

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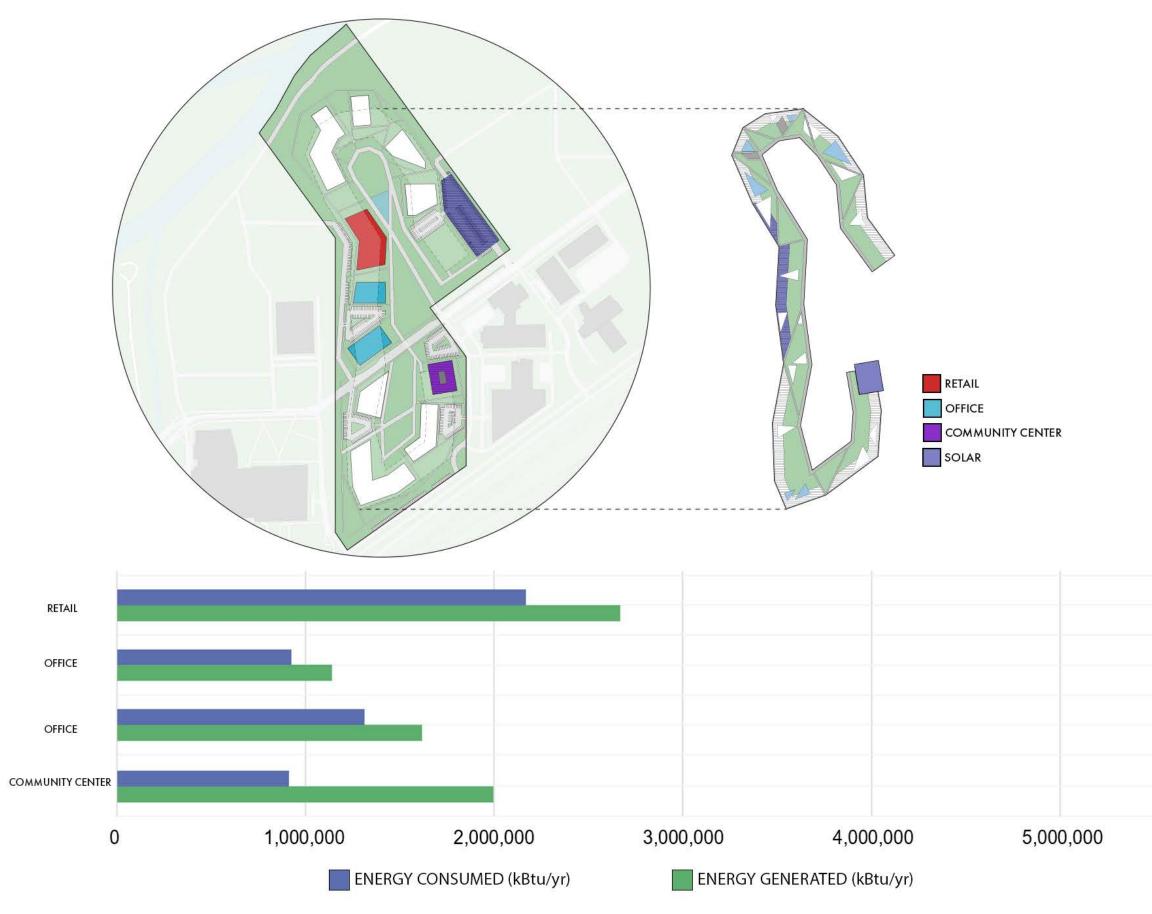


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BUILDING PERFORMANCE SOLAR CALCULATION DIAGRAM

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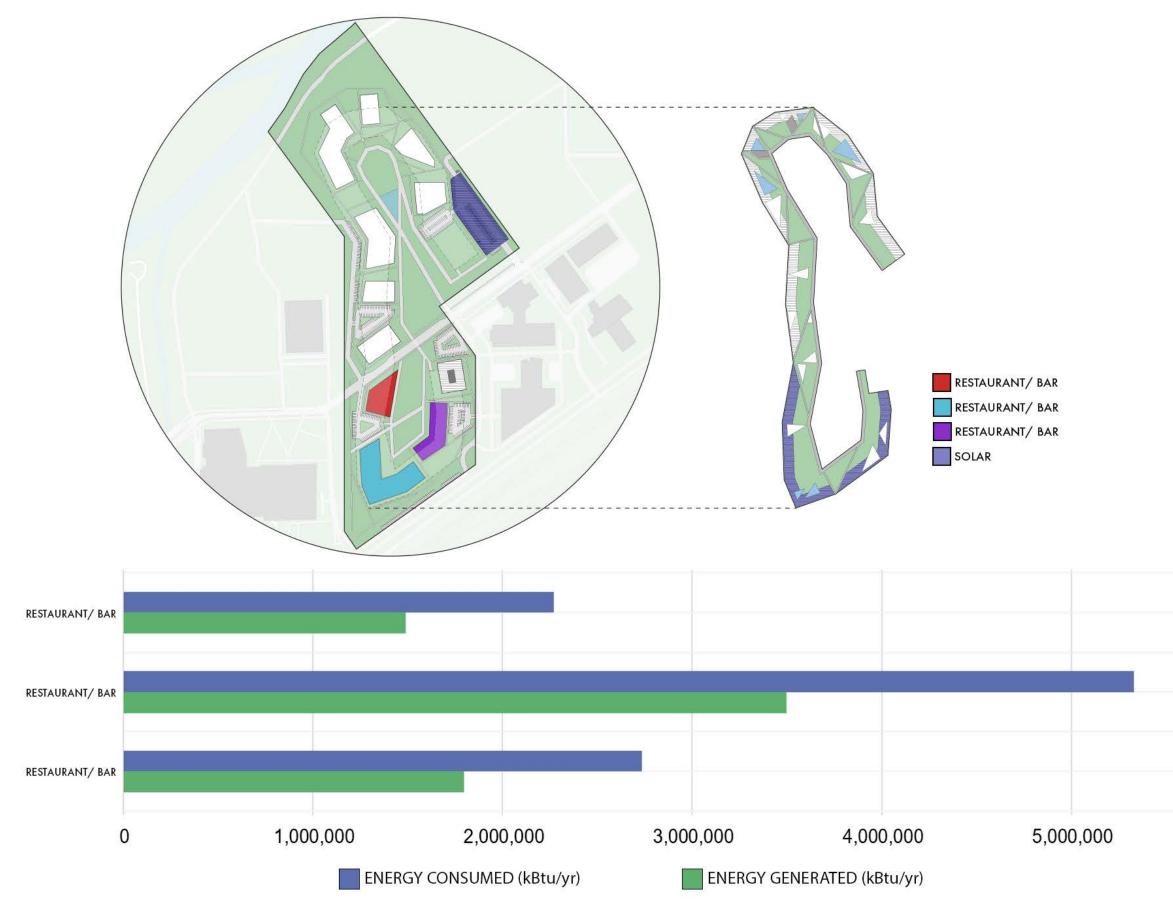


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BUILDING PERFORMANCE SOLAR CALCULATION DIAGRAM

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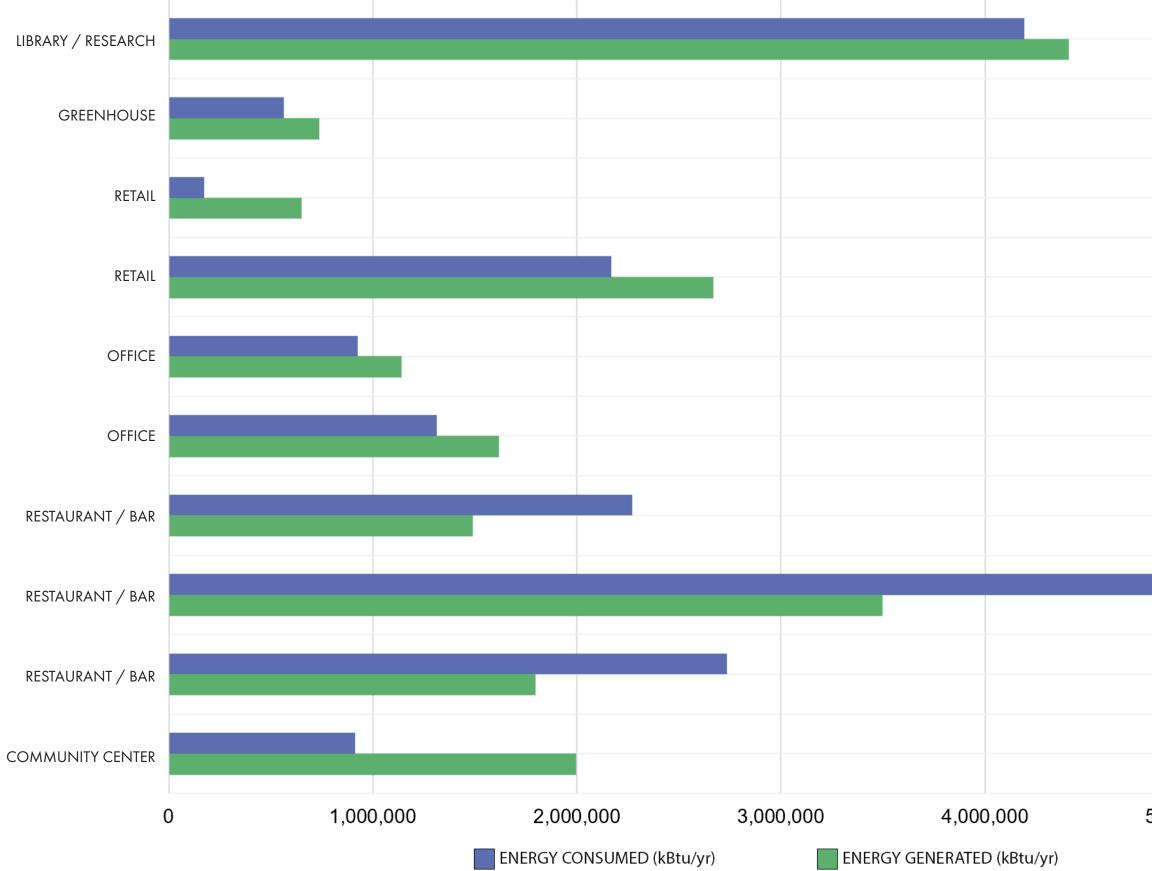


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BUILDING PERFORMANCE SOLAR CALCULATION DIAGRAM

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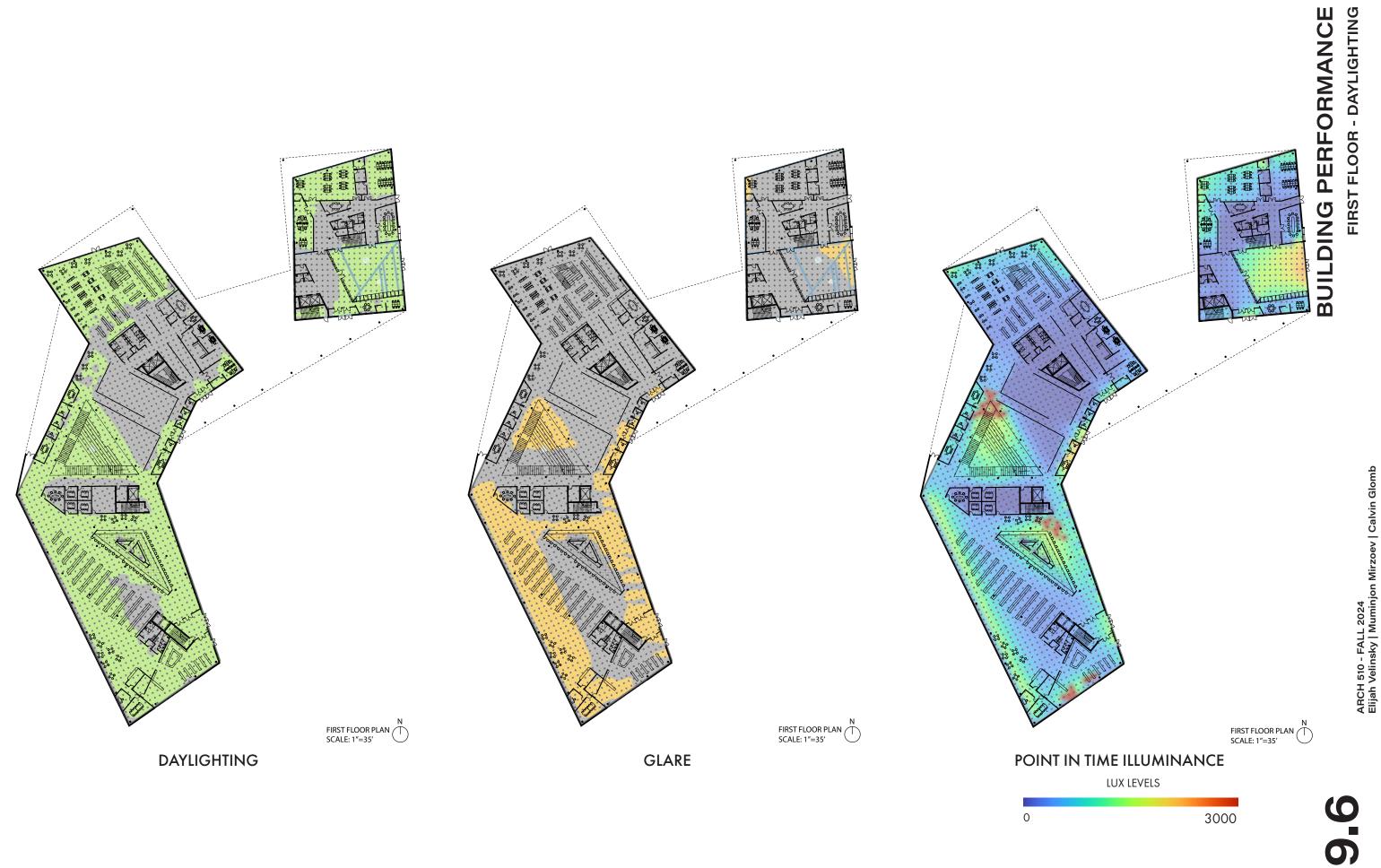


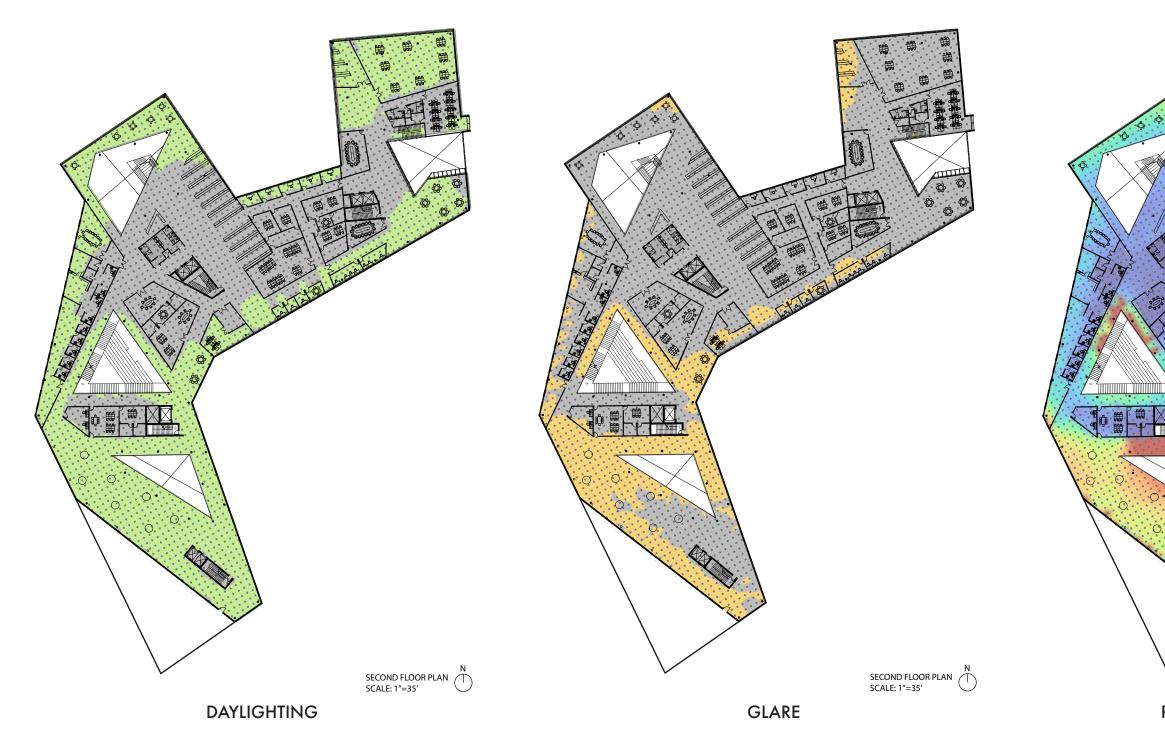
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BUILDING PERFORMANCE SOLAR CALCULATION GRAPH

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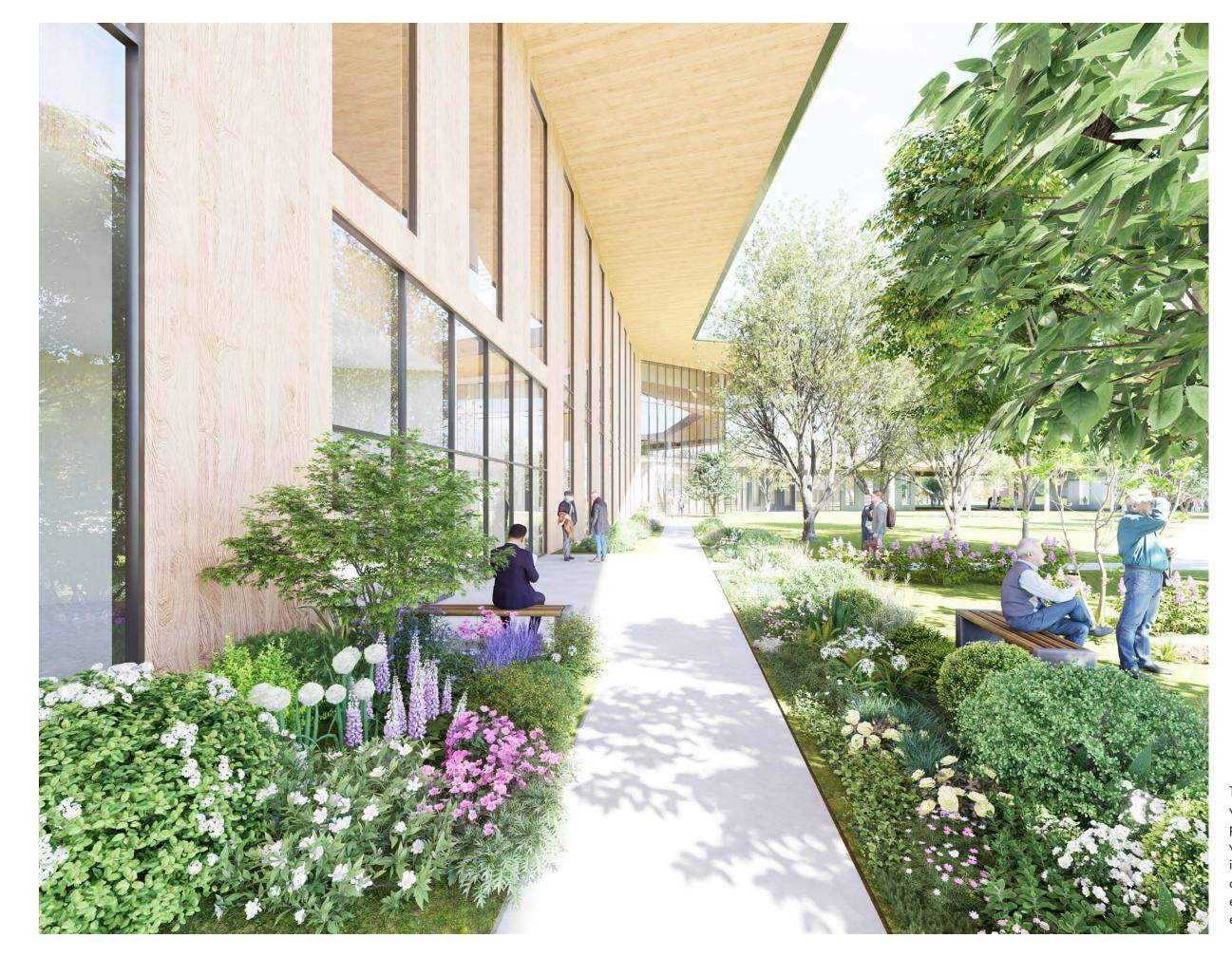


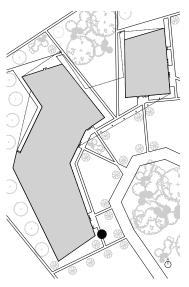










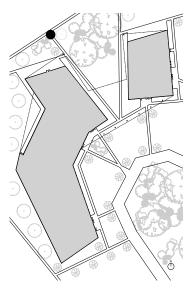


BUILDING PERSPECTIVES MAIN ENTRANCE PERSPECTIVE

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This render highlights a walkway bordered by colorful plants leading to our building with large windows. The scene is alive with people relaxing on benches, strolling, and enjoying the peaceful, green environment.





BUILDING PERSPECTIVES NORTH SIDE PERSPECTIVE

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This render shows our building from the north side with its sloped roof overlooking the green landscape below. People are gathered in the center to enjoy the natural space that is created from the blend of modern architecture and natural environment.

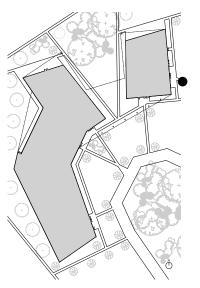


This render shows our building from the south side with its sloped roof overlooking the green landscape below. People are gathered in the center to enjoy the natural space that is created from the blend of modern architecture and natural environment.

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BUILDING PERSPECTIVES NORTH SIDE PERSPECTIVE - WINTER

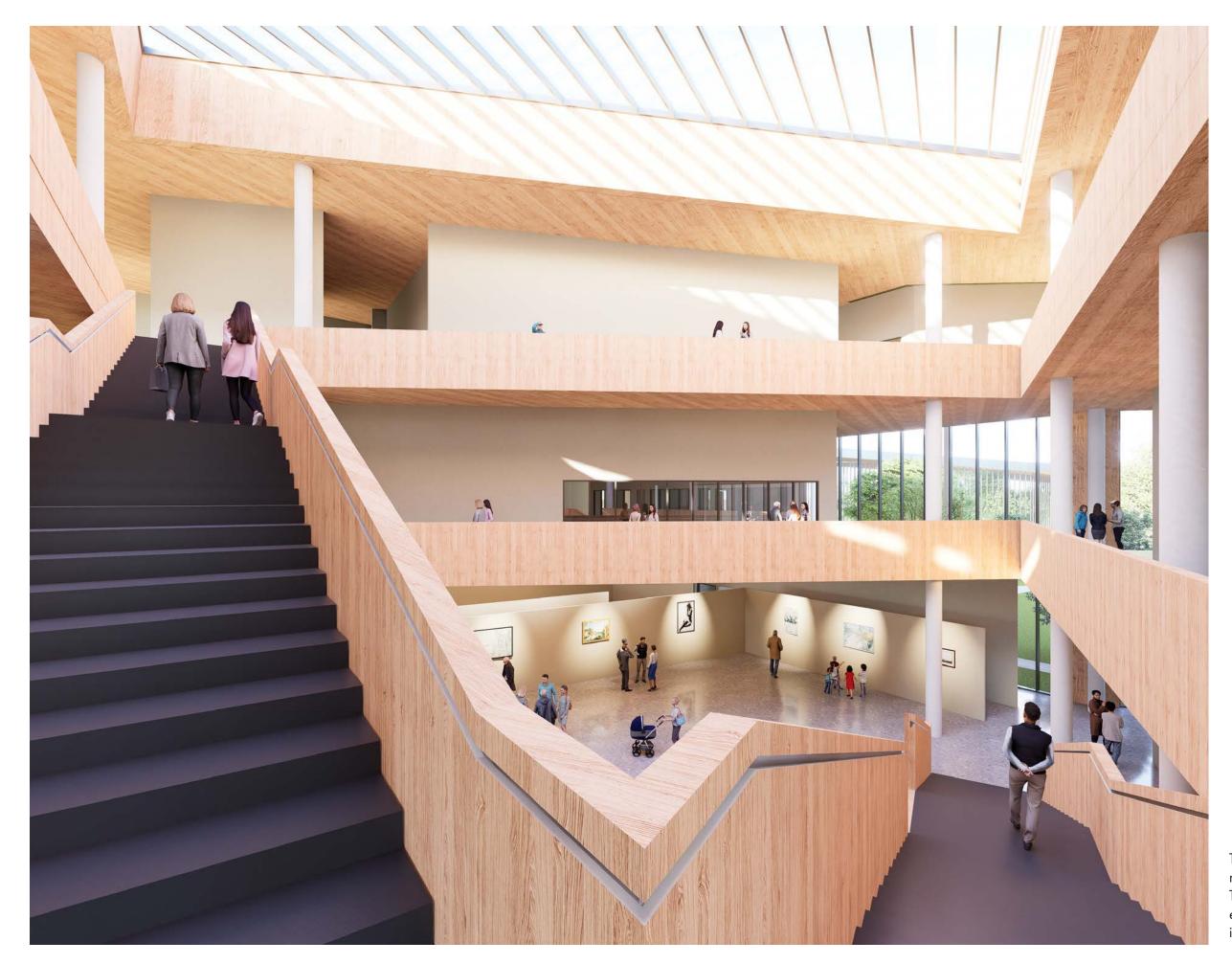


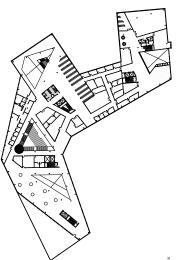


BUILDING PERSPECTIVES RESEARCH ENTRANCE PERSPECTIVE

ARCH 510 - FALL 2024 Elijah Velinsky | Muminjon Mirzoev | Calvin Glomb

This render shows an angled glass entrance with a wooden overhang, inviting the public to explore the spaces inside. The sharp angled glass creates curiosity while blending seamlessly with the surrounding environment





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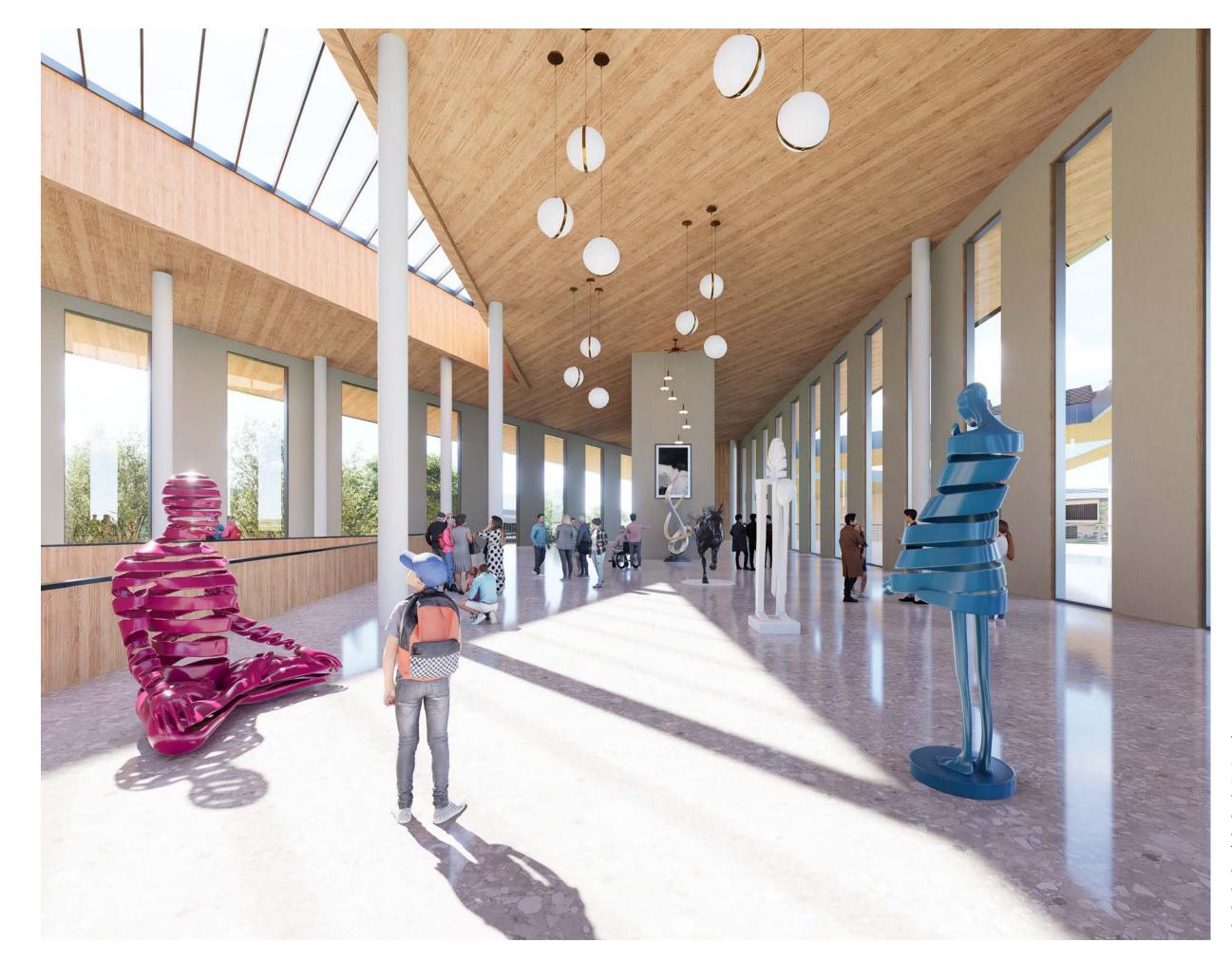
MAIN ATRIUM PERSPECTIVE

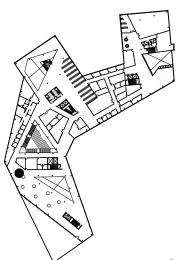
BUILDING PERSPECTIVES

ARCH 510 - FALL 2024 Elijah Velinsky | Muminjon Mirzoev | Calvin Glomb

This render shows the three story main atrium with a wood finish. The natural light and open views encourages movement and interaction





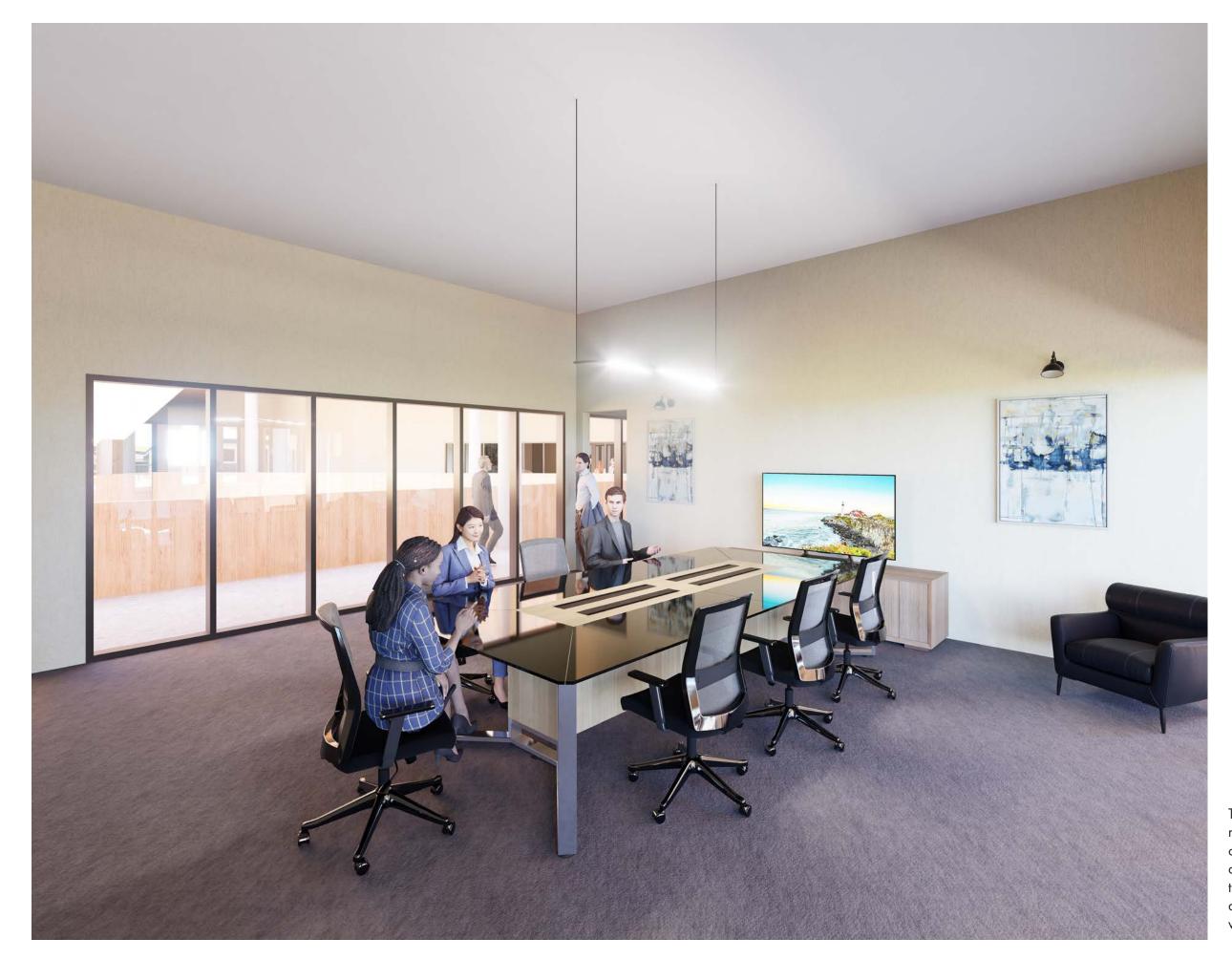


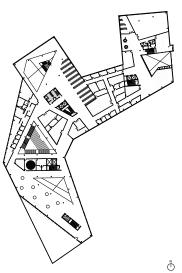
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BUILDING PERSPECTIVES MAIN GALLERY PERSPECTIVE

ARCH 510 - FALL 2024 Elijah Velinsky | Muminjon Mirzoev | Calvin Glomb

This perspective render showcases a bright, open sculpture gallery featuring tall windows, a wood ceiling, and art sculptures that invite exploration and reflection. The natural light and spacious design create an inviting environment for visitors to engage with the art and one another.





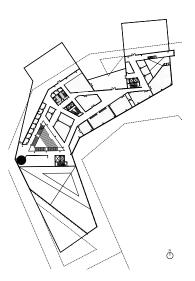
CONFERENCE ROOM PERSPECTIVE - TYPICAL

BUILDING PERSPECTIVES

ARCH 510 - FALL 2024 Elijah Velinsky | Muminjon Mirzoev | Calvin Glomb

This render shows a meeting room with people working in a comfortable environment. The design features a curtain wall that lets in natural light, creating an inviting and productive workspace.

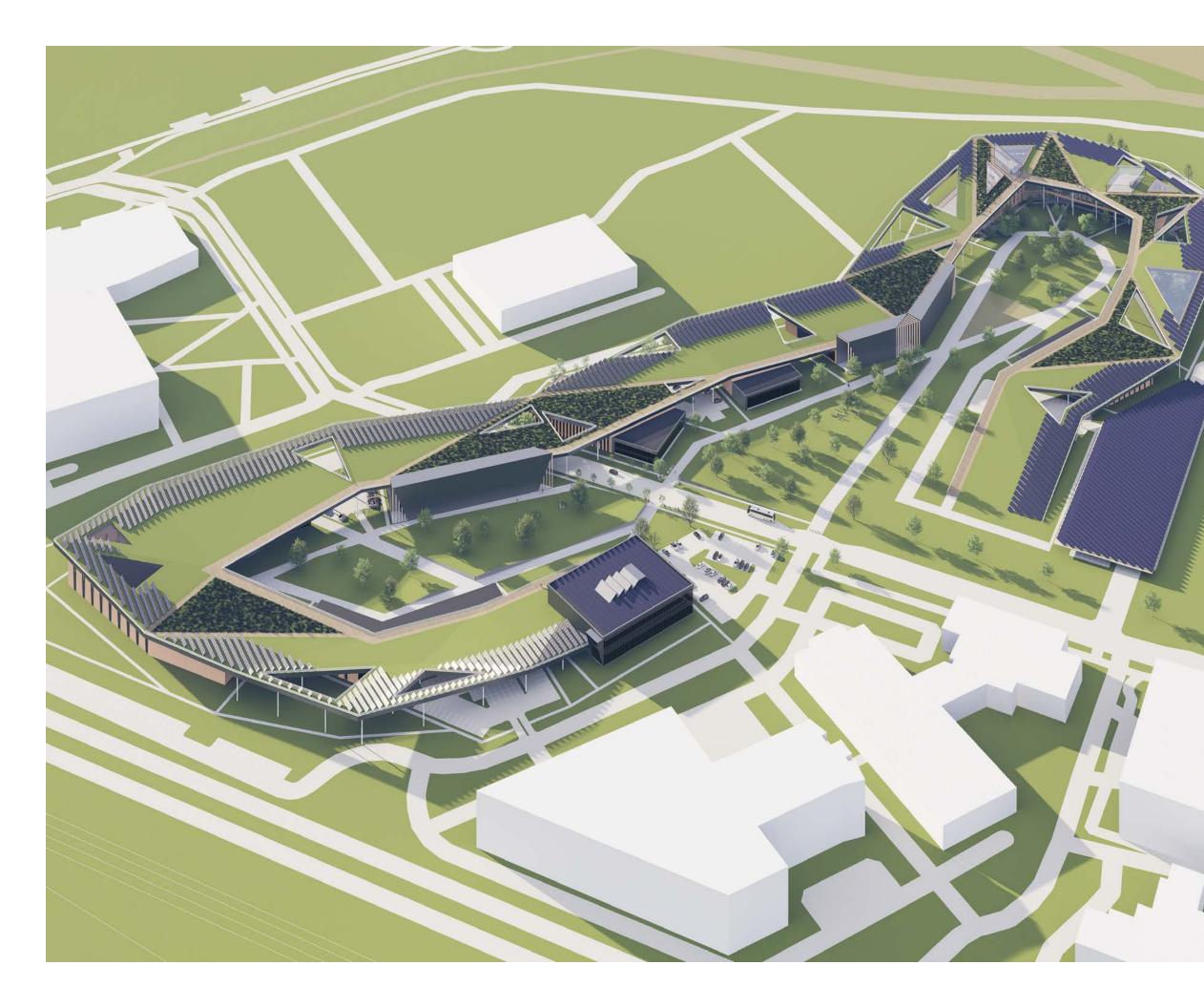




BUILDING PERSPECTIVES THIRD FLOOR ART GALLERY

ARCH 510 - FALL 2024 Elijah Velinsky | Muminjon Mirzoev | Calvin Glomb

This render highlights an art gallery with natural lighting from skylights and comfortable seating for visitors to enjoy the displayed artwork. The elevated ceiling offers views of the surrounding spaces, creating a connection between the gallery and the rest of the building.



SITE AXONOMETRIC AXONOMETRIC

ARCH 510 - FALL 2024 Elijah Velinsky | Muminjon Mirzoev | Calvin Glomb

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This axonometric render showcases the site's interconnected design, featuring a series of green roof ramps that unify the buildings and provide continuous greenspace. The layout emphasizes walkability, sustainability, and seamless connections between the quiet research-focused north and the activity-driven south.