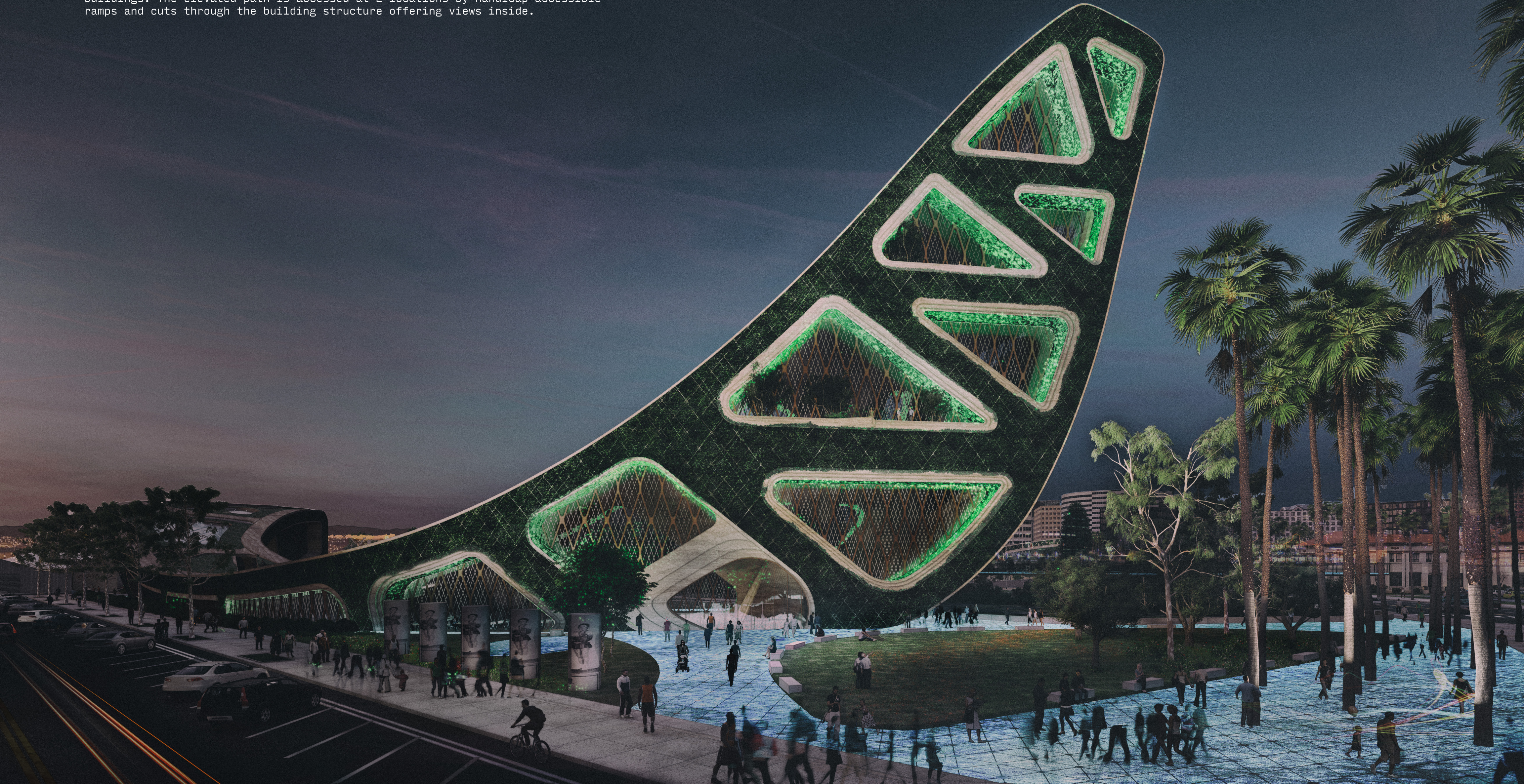
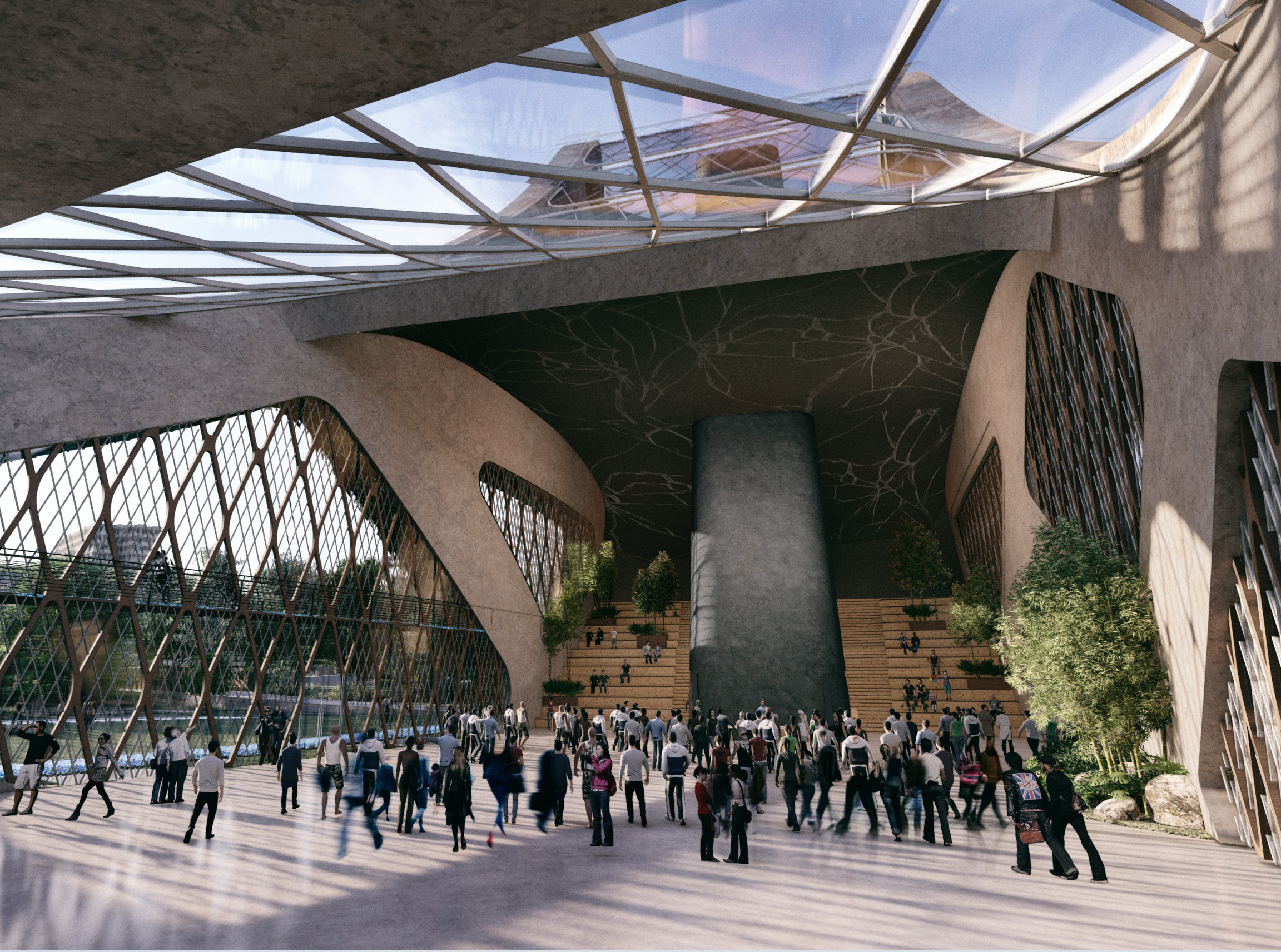


# TUNUK

Tunuk creates a place for collaboration to solve global environmental and social problems, while also celebrating our emerging ability to integrate technology and nature into the built environment. Tunuk means "to cradle" in Miwok, an almost extinct language belonging to the local Miwok tribe. The design consists of 4 buildings linked by an elevated path, which together appear to cradle the nature within the site. To create a holistic design language, the structures rise out the ground, overtaken by green walls and planters, lit with bioluminescent lights at night. The main tower in the SW corner contains event spaces, dining and an observation deck. The NW building transitions into a quieter space catered towards contemplation, yoga and other activities to help foster peace of mind in this busy world. The NE corner contains a collaboration center, capable of hosting exhibits with a focus on emerging sustainable technology and practices. It also has a lecture hall and meeting spaces for colleagues to come together and brainstorm. The SE corner has a high-tech plant nursery which will help repopulate the Riparian corridor. The Riparian habitat is allowed to expand further from the river, with lawn and garden spaces serving as buffer between itself and the buildings. The elevated path is accessed at 2 locations by handicap accessible ramps and cuts through the building structure offering views inside.





The exterior walls have a living green wall attached to their surface.

There are many examples of naturally occurring bioluminescent plants and fungi.

The inside face of the large triangular openings are lined with moss walls that combine bioluminescent plants.

Researchers at the London Institute of Medical Sciences have inserted a bioluminescent gene derived from mushrooms into plants allowing the plant to glow for the duration of its lifetime.

The elevated path around the site combines two products. Pavegen is a kinetic paver system that generates roughly 5 watts of energy for every step. For lighting we add a top layer to the Pavegen, made with a phosphors material developed by TPA Instytut in Poland that can soak up light and then glow for up to 18 hours at night in a carefully selected wavelength of blue that is not harmful to wild animal behavior.

Interior spaces are shaded by the depth of the structure. The skylights are made with electrochromic glass, which uses a very mild current, that when the switch is flipped on it turns from transparent to tinted.

The triangulation and diamond patterns on the exterior were inspired by native American artwork from the region.

The floor around the base of the structure is made of structural glass, and gets lit at night by being flooded with bioluminescent algae inside. This naturally occurring and easy to harvest organism is already commercially available in small toys, we propose to use it as a key lighting feature for the project.

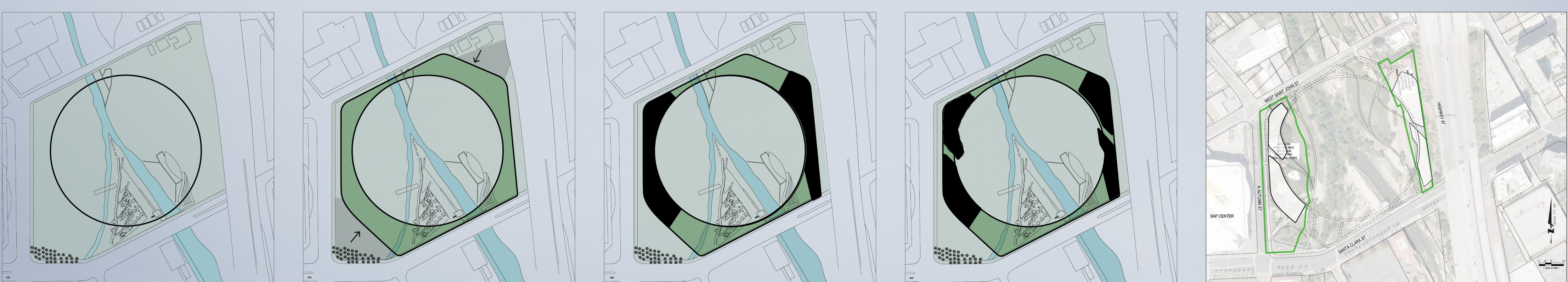
Site Plan

1. SOUTH WEST TOWER - event space, dining, observation
2. WELLNESS PAVILION - contemplation space, meditation, yoga
3. COLLABORATION CENTER - exhibit space, lecture hall, meeting rooms
4. PLANT NURSERY - greenhouse, lab space

Section b-b

Section a-a

1. OBSERVATION DECK
2. BAR / CAFE
3. DINING
4. MAIN HALL
5. BUILDING SERVICES / LOADING
6. WELLNESS SPACE
7. CONTEMPLATION SPACE
8. LABS / OFFICE
9. GREENHOUSE
10. EXHIBIT HALL
11. LECTURE HALL
12. MEETING SPACES
13. ART MURAL



The circle was inspired by both the circular courtyards created by existing trees on Arena Green West, as well as the form used by local Ohlone people to create their dwellings which they built here for 6,000 years. The circle focuses the project in on the nature and unifies the 2 sites.

The hexagon resulted in wanting to preserve the SW plaza with the massive palm trees, as well as preserve and respect the existing properties on the NE. A hexagon becomes a strong symbol for Silicon Valley; the hexagon is found in the molecular structure of crystalline silica, and is a common shape used in the world of computing for creating micro chips, building data trees, as well as recent breakthroughs in quantum computing.

Structures are placed within the site boundaries located on each side of the river, linked together by an elevated path, forming a circle inscribed in a hexagon. These shapes are tilted up to create the elevations of the buildings, resembling a valley.

In 2020, the world seem to break. Wanting to capture this critical moment in history, the perfect shape is broken in 2 places. From this break, 4 buildings rise out of the ground, like a phoenix rising out of the ashes to represent a new paradigm in architecture where man made infrastructure is integrated with the natural world. The greenery from the ground rises up the buildings from these 2 break points, over taking the structure. The function of each building was inspired by a study into sites found around the world which were based on their orientation to the sun. SW is the angle of the sun in the August quarter days, marking a time of harvest celebration. NW represents the time of year when the sun begins to withdraw, such sites represented the feeling of going within, a 'return to the womb', harboring a space for self contemplation. NE faces the rising light of the midsummer Sun, when the zenith is at its highest, such places are associated with wisdom and universal knowledge. SE aligns to the winter solstice, when light begins to over take dark, a new rebirth - these sites were associated with fertility.

The structure is made up of a series of optimized steel box trusses, which allows for a light structure, easy routing of services and you can actually walk/bike through it in certain spots.

Rendering of an Ohlone Village

Photo from Arena Green West

Silica Molecule

Hexagonal Walks (computer science)

