The redevelopment of a 7-acre site in San Diego for Alexandria Real Estate Equities created a new home for a premier pharmaceutical research company. The new facility combines world-class laboratory and research spaces in a facility designed to foster collaboration with the company’s biotech partners. The new 164,000-square-foot, four-level building is bright and open, taking full advantage of natural light and the views of the site. The design takes its cues from traditional Japanese architecture, acknowledging the tenant by featuring natural materials, efficiency, and a connection to nature, while striving to establish a unique character and identity that is distinctly San Diego and melded into the fabric of the community. The project’s marquee element is a glass entry pavilion with cross-laminated timber (CLT) panels and a glulam beam roof. The roof-structure was the first use of CLT on a large-scale project in San Diego. The project team spent seven months working with the City of San Diego to gain approval for the use of this Alternative Material in a high seismic, and fire-prone zone.

Aside from the need for alternative material review, the vision for the pavilion roof presented several structural challenges. Wood-to-wood connections needed to be fully concealed, requiring innovative product selection and detailing. The wood roof is elevated above the main roof, transferring lateral loads through a system of concealed braces and cantilever columns. Collectors and chords are placed above the roof, simplifying beam-to-beam and beam-to-column connections, which take on a more sculptural form. The monumental stair becomes another dramatic design element, cantilevering 35 feet from the floor framing, without columns. This innovative feature utilizes concealed trusses and is designed to accommodate loads arising from building drift. The structural solutions embrace the minimalist ethos and contribute to the character of this world-class facility.