ZGF

Burr & Burton Academy Founders Hall Expansion | Photo Credit: Halkin | Mason Photography

STUDIO SPOTLIGHT BY THINK WOOD

70 Years of Designing for People and Place

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Founded in Portland, Oregon, ZGF (formerly Zimmer Gunsul Frasca Partnership) is the city's largest architecture firm.

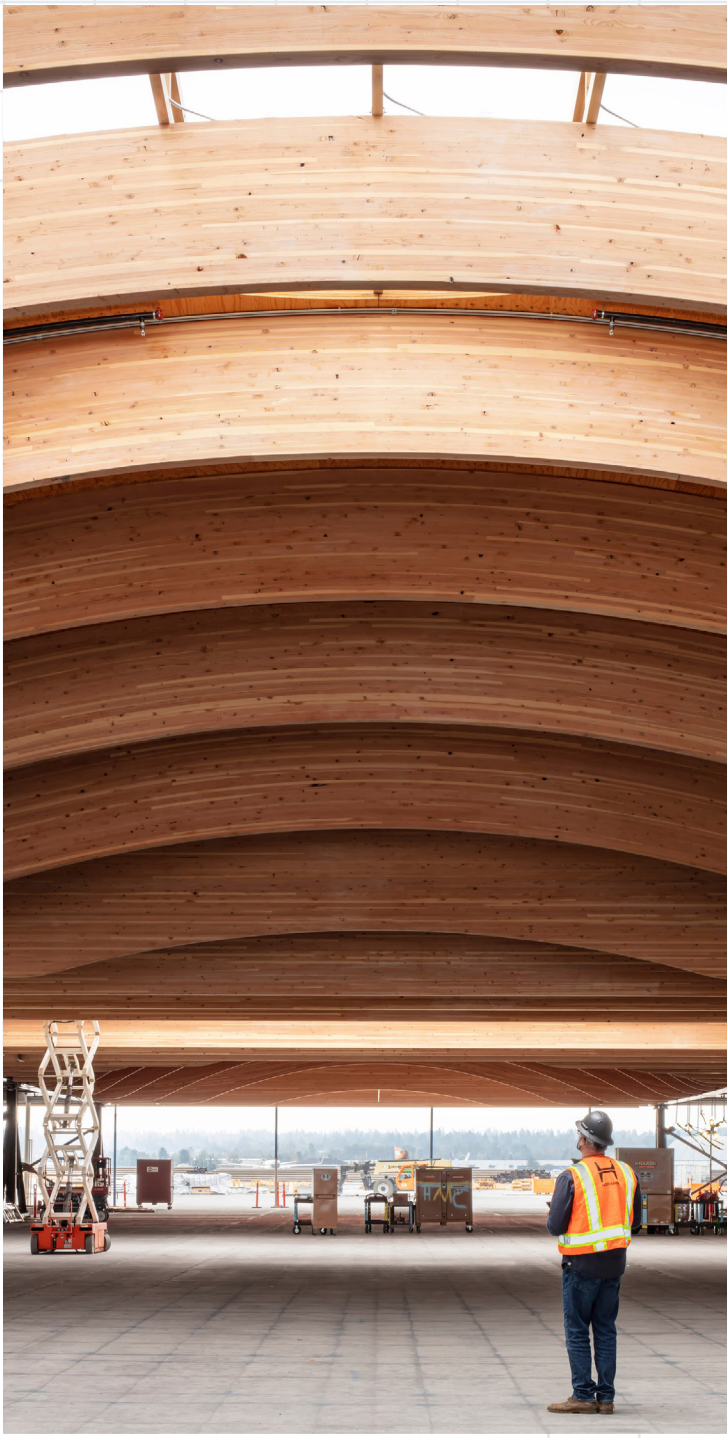
The firm's roots date back to 1942, and in recent years, ZGF has carved out a niche with its growing roster of large-scale mass timber projects. This includes two currently on the boards: the PDX Airport New Main Terminal and the over 2-million-square-foot Amazon headquarters in Arlington, Virginia, which includes a mass timber design for the Amazon Metropolitan Park Events Center.

Equity in design is a central value at ZGF, and it underpins three core principles of the firm's work: making a difference in people's lives, fighting climate change, and advancing social justice. Over the past five years, ZGF has donated nearly 10,000 hours of professional services in support of nonprofit and emerging organizations. This includes the design of the new home for DC Central Kitchen, a non-profit and social enterprise that combats hunger and poverty in the Washington, D.C., region, and architectural services to help expand Taylor Made Retreat, an innovative, immersive residential treatment facility for adults who are suffering from alcoholism and addiction.

The firm also invests in research and development that it, in turn, shares with the industry. For example, in 2022, it published a developer's guide for mass timber high-rise construction.

ZGF was honored with the American Institute of Architects' (AIA's) Architecture Firm Award in 1991, in recognition of the firm's "high standards, humanistic concerns, and unique ability to capture the spirit of a place and the aspirations of its inhabitants," according to the AIA.

The 750-person firm includes regional offices in Portland; Seattle; Los Angeles; Denver; Washington, D.C.; New York and Vancouver, B.C.



Portland International Airport | Photo Credit: Stephen A. Miller

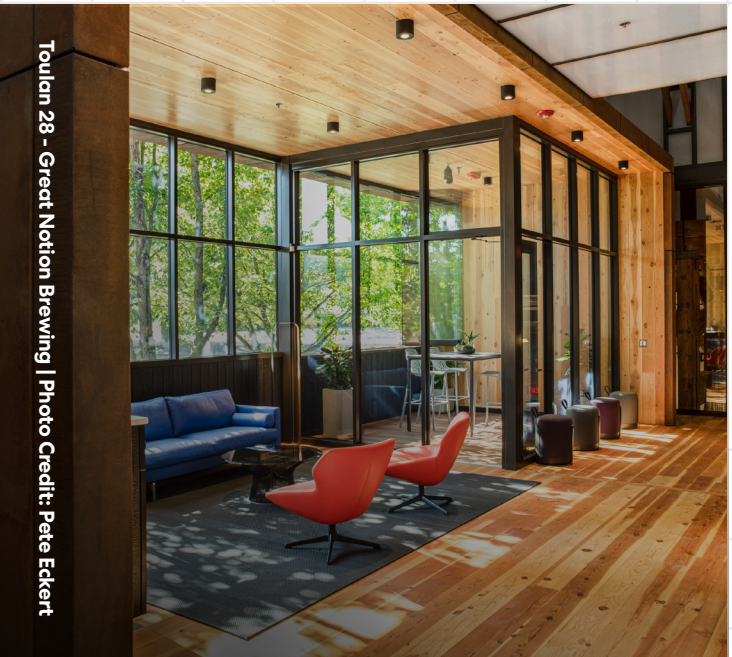
"We explore new evidence and push the boundaries of technology to meet our clients' needs and climate challenges head-on, but we'll continue to do what we have done for the past 70 years: solve for people and place."

ZGF

Toulan 28 - Great Notion Brewing | Photo Credit: Pete Eckert

"Our goal has always been to pioneer a holistic and humane understanding of the relationship between buildings, people, and the environment."

ZGF



Toulan 28 - Great Notion Brewing | Photo Credit: Pete Eckert

From the studio:

"There's no denying that wood is aesthetically beautiful, and research has proven that natural materials can enhance occupant wellness and productivity. As we continue to advance biophilic design, mass timber brings the outdoors in, creating a sense of belonging and connecting people to the natural world."

Portland International Airport
New Main Terminal

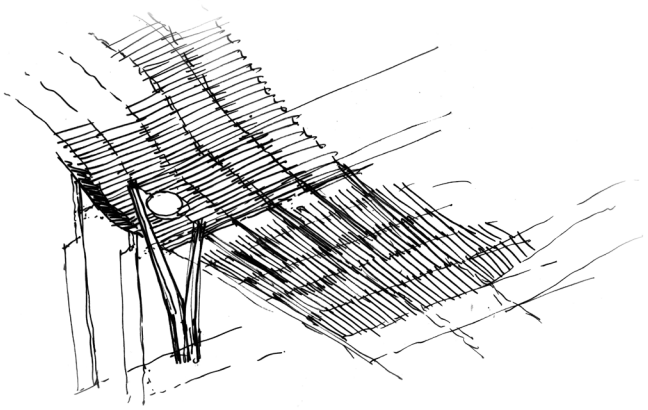
Location Portland, Oregon
Typology Aviation
Status In Construction, Complete 2025
Wood Systems Glulam, Mass Plywood Panels
Render Credit ZGF
Photo Credit Stephen A. Miller

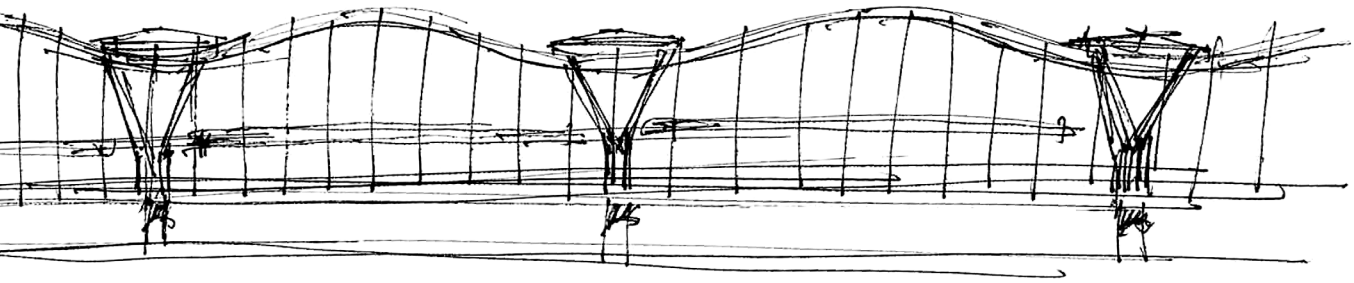
ZGF is spearheading the Portland International Airport expansion design to meet much-needed capacity and accommodate up to 35 million passengers annually. And with that growth comes the opportunity to cut carbon, celebrate the region's rich connection to forestry, and build with naturally renewable mass timber components.

Upon entering the new terminal core, visitors will find themselves in "the forest"—what the design team is calling the airport's interior, which features ample daylight and views of the airfield as well as live trees and plantings under an undulating wood roof that pays homage to the state's roots in forestry and lends the warmth of exposed wood construction.

The 9,000-ton, 380,000-square-foot roof is to be built with mass plywood and glulam composed of wood supplied by local landowners and mills within a 600-mile radius.

It will be supported by Y-shaped columns and incorporate large skylights spanning the full width of the building. The sustainably sourced timber can be traced back to its forest of origin, honoring the family businesses, Pacific Northwest tribes, and other landowners that contributed to its creation. The project is slated for completion in 2025.





Google
Spruce Goose

Location Playa Vista, California
Typology Office
Status Completed 2019
Wood Systems Douglas Fir, Glulam
Photo Credit Connie Zhou

In Los Angeles's Playa Vista neighborhood, ZGF transformed a historic timber hangar into a unique, open-plan office environment designed with biophilic principles for 1,000 Google employees. The 450,000-square-foot, four-level timber hangar—named "Spruce Goose" after the Howard Hughes plane it once housed—incorporates a variety of nature-inspired design elements, creating an inviting office for the high-tech juggernaut.

The ZGF team conceived of this project as "a building built inside another building"—meaning that the restored heavy timber hangar contains a modern four-story office structure. The interior of the new building is set back from the original building envelope to allow occupants to fully see and experience the historic wood structure. Each piece of existing wood was carefully documented, refurbished, and reassembled.

The open-plan office offers workers views of the facility's biomorphic forms. A series of curved ribs reconstructed from the hangar's salvaged wood support the ceiling, and the remaining smaller pieces were used to construct furniture throughout. Inside, the landscape design includes lush, mature palm groves with custom-designed planters, irrigation, and grow lights.

Spruce Goose's interior makes the most of wood's warm color, collinear lines, and contours—elements that are complemented by greenery and an abundance of natural sunlight.

Eight artists were commissioned to create large-scale original works inspired by nature, such as a multi-story cloudscape by Hueman containing folds of fabric that are reminiscent of the red hues of a California sunset and a perceptual sculpture by Michael Murphy that evokes a rain shower.

PAE
Living Building

Location Portland, Oregon
Typology Mixed-Use
Status Completed 2021
Wood Systems Douglas Fir, Glulam, CLT
Photo Credit Benjamin Benschneider, Lara Swimmer

As one of the world's first developer-driven Living Buildings, this five-story, mixed-use structure demonstrates replicable and cost-effective solutions for sustainable mass timber construction. PAE—an integrated design and engineering firm focused on sustainability—is one of the primary tenants, relocating from the firm's downtown address to the new space. The eco-friendly building includes ground-floor retail topped by four stories of commercial office space. Occupant comfort and health considerations were central throughout the design process. The mass timber structure offers biophilic design features, including exposed, regionally sourced Douglas fir, glulam, and CLT; ample daylighting and access to natural light; and improved air quality and ventilation. Detailed planning up front meant the offsite prefabricated timber system went up smoothly while still allowing for easy troubleshooting on site.

In addition to pushing the envelope in terms of sustainability, the project also pushed earthquake-resistant mass timber systems to new levels. The seismic resilience of the building structure is rated to Category IV, which is the same as essential buildings like fire stations and hospitals.

The densely reinforced shear-wall core surrounded by glulam columns and beams and concrete-topped CLT floor diaphragms should allow the building to survive a magnitude-7.5 quake with barely a scratch, according to the structural engineer, KPFF.

Along with high-performance mechanical, electrical, and plumbing systems, PAE features the first commercial installation in the Americas of a nutrient recovery system that makes agriculture-grade fertilizer from nutrient-rich urine. It is also the first large-scale commercial installation of vacuum-flush toilets.

Burr & Burton Academy Founders Hall Expansion

Location Manchester, Vermont
Typology K-12 Education
Status Completed 2021
Wood Glulam
Photo Credit Halkin | Mason Photography

Nestled into the base of Equinox Mountain on Burr & Burton Academy's upper campus, the three-story, 25,000-square-foot Founders Hall provides the historic Vermont high school with interdisciplinary classrooms; a unified science, technology, engineering, arts, and mathematics (STEAM) lab; and an expanded school library.

The facility's multipurpose program is centered around a spacious, light-filled atrium showcasing an exposed glulam structure. Framing the feature stairway, the structure takes on asymmetrical, non-orthogonal shapes; its unique lattice-like pattern demonstrates how mass timber can break with the typical right-angle post-and-beam structure in favor of more organic, contemporary forms.

Inspired by heavy timber bridge construction historic to southern Vermont, the atrium's glulam trusses twist as they ascend the hill, highlighting mountain views beyond. Precise laser surveying ensured the bases of the prefabricated glulam columns could be custom milled to match the baseplates on the site.

From the exterior, the building's understated design complements the adjacent buildings' traditional aesthetic and gabled roofs. Its slate and contrasting metal cladding—and interior wood structure visible from the exterior—blend with the mountain landscape beyond. Integrated into the three-level atrium, the library and its collection have been reimagined as a lively environment that encourages chance meetings and informal interactions.

The central commons are surrounded by four distinct "learning neighborhoods" that feature versatile spaces that can accommodate different educational activities, layouts, and configurations. This includes a student maker space with specialty equipment, a computer laboratory, and learning space. These spaces are connected by operable garage doors that can be opened to form a single larger maker commons.

Designed to be net-zero-ready, the facility features electric HVAC systems and an air-to-water heat pump. The expansion welcomed its first students in the fall of 2021.

Mass timber—an exposed glulam structure—was selected to help support student health and success as a growing body of research suggests it has psychological health and well-being benefits correlated with reduced stress and lower blood pressure.

Camp Namanu
Sherwood Units

Location Portland, Oregon
Typology Civic
Status Completed 2022
Wood Douglas Fir Heavy Timber Framing, Juniper Decking
Photo Credit Stephen A. Miller

For nearly a century, Camp Fire Columbia's Camp Namanu has served the youth of Oregon, offering outdoor education and personal discovery in an idyllic natural setting. Most recently, the camp has focused on supporting historically oppressed communities, with an emphasis on supporting LGBTQIA2S+ youth.

Camp Namanu covers over 500 acres and sits on the banks of the Sandy River—just one hour east of Portland and in the shadow of Mount Hood. The camp offers overnight summer camp programming, small and large group rentals, community events, and volunteer opportunities throughout the year.

As part of its commitment to supporting the communities in which they live and work, ZGF provided pro bono services to the organization to improve inclusion and accessibility at Camp Namanu, creating spaces where all youth feel safe and welcome. In this first phase of a larger camp revamp, a new cluster of cabins with a central fire pit were designed to be ADA accessible and to increase overall capacity.

The wood cabins include five bunk areas (10 beds) and a gathering space for youth and staff, along with an alcove for two staff beds and a shared accessible restroom. Each bunk has its own dedicated operable window for natural ventilation as well as a reading light and power outlet.

With an emphasis on durable eco-friendly design, the Douglas fir and juniper, used for heavy timber and framing, respectively, were both harvested directly from trees on the site.

The cabin interiors incorporate exposed Douglas fir on the wall and ceilings, while clerestory windows wash the interiors with natural light. Each cabin features an expansive juniper deck oriented toward a central fire pit, creating a sense of community while improving visibility and safety for staff.

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