



THE BUILDING'S CENTRAL HUB

Source: FFA Architecture and Interiors Inc.; Credit: Christian Columbres

CASE STUDY: CHEMEKETA COMMUNITY COLLEGE, AGRICULTURE & HORTICULTURE COMPLEX

MASS TIMBER — CONNECTING A COMMUNITY

PROJECT OWNER: CHEMEKETA COMMUNITY COLLEGE

PROJECT LOCATION: 4000 LANCASTER DRIVE NE, SALEM, OR 97305

COMPLETION DATE: JUNE 1, 2021

ARCHITECT/DESIGNER: FFA ARCHITECTURE AND INTERIORS INC.

MASS TIMBER ENGINEER/MANUFACTURER: FRERES LUMBER CO.

GENERAL CONTRACTOR: SWINERTON

STRUCTURAL ENGINEER: KPFF

MECHANICAL, ELECTRICAL, AND PLUMBING: PAE

OTHER CONTRACTORS: LANGO HANSEN (LANDSCAPE); WESTECH ENGINEERING (CIVIL); LUMA (LIGHTING DESIGN)

THE CHEMEKETA AGRICULTURE & Horticulture Complex serves as a hub to expand classes and facilities to better meet the training needs of farms and nurseries in the region.

Chemeketa Community College, near Salem, Oregon, decided to expand its Agriculture & Horticulture Complex to better meet the need



EARLY AERIAL SHOT SHOWS THE AGRICULTURE & HORTICULTURE COMPLEX WITH THE MAIN ACADEMIC BUILDING ON THE LEFT.

Source: Swinerton; Credit: Swinerton

for trained workers at farms and nurseries in the Willamette Valley region.

FFA Architecture and Interiors Inc. led the design team in close collaboration with Lango Hansen Landscape Architects; the college; and its partners from educational extension programs, local businesses, and community outreach groups. The result is the new Net-Zero Energy Agricultural Complex.

The college's agriculture and horticulture studies program serves the larger community and supports the agricultural sector, from corporations to migrant farm workers. The complex was also designed to be a community resource for indoor and outdoor gatherings when classes are not in session. It is used throughout the day and into the evening for meetings, banquets, and lectures for community groups, and it hosts a thriving weekend outdoor farmers market.

The large central space in the main academic building—called The Hub—was designed to maximize flexibility. It can be opened up to adjacent classrooms with movable partition walls and to the surrounding outdoor spaces with large, roll-up glass doors, allowing for a variety of configurations and uses. The superstructure is made of mass timber,

including Mass Plywood Panels (MPP) for the roof. They double as the finished ceiling, supported by exposed glulam columns and beams, creating a warm indoor-outdoor learning environment.

STRUCTURE

The design team and contractor refined the structural system using a 2-inch MPP roof deck that spans 10-foot structural bays and a 5-inch-high bay roof with 40-foot-long MPP that also bridge 20-foot bays and 10-foot cantilevers at each end. The need for multiple sets of glulam columns and beams was reduced by using the cantilever capacity of the MPP in multiple locations throughout the main classroom building and outbuildings.

CELEBRATING WOOD

The use of wood provided numerous benefits to both the design and construction—from community building to cost savings to direct educational benefits. The school celebrated and honored its curriculum while creating a connection between the facility and locally harvested Oregon products.

STRENGTHENING COMMUNITY

With multiple custom furniture elements created using off-cuts from the MPP, not only was construction landfill waste minimized, but community connections were deepened. The college collaborates with Oregon Corrections Enterprises (OCE) to offer educational opportunities to incarcerated people. The OCE carpentry shop fabricated all the custom wood furniture components while providing training and reinforcing both parties' educational missions.

The finished furniture also provides cues to the major building components, allowing occupants a direct visual connection to the story of the structure. 🌲