



OMIC
Training Center

Case study

Green building education

The Oregon Manufacturing Innovation Training Center (OMIC) is the first building at Portland Community College's new Columbia County Center, located on a 17-acre site in Scappoose. The college's Office of Planning & Capital Construction (P&CC) managed the planning, design and construction of the facility, which is scheduled to open Fall 2021.

The building contains 32,245 square feet of space for a range of programs and services focused on the training of skilled workers in advanced manufacturing.

The training center floor plan includes: laboratories for Mechatronics, Welding, and Fabrication; a machining/shop area; a measurement and verification laboratory; the PLC (Programmable Logic Controller) studio; the CAD (Computer Aided Design) laboratory; a board room; group study and collaboration spaces; classrooms; a testing center; a tool room; and a materials receiving and storage room.

The Team

Design-Build Team

Mortenson/Hennebery Eddy Architects

Mechanical | Electrical | Plumbing Design

Stantec Consulting Services

LEED

Brightworks Sustainability

Commissioning Agent

Elevate Building Commissioning

Building Envelope Testing Agent

QEDLAB

Civil

Humber Design Group, Inc.

Structural Engineering

Equilibrium Engineers, LLC

Landscape Architecture and Signage

Knot Design

Sustainability objectives

The OMIC project is pursuing LEED v4 BD+C (New Construction), with a goal of achieving LEED Silver® certification. The building is designed to achieve approximately 22 percent energy savings over baseline (ASHRAE 90.1-2010), 32 EUI (kBtu/sf/year) per the 2014 Oregon energy efficiency specialty code.

LEED® — an acronym for Leadership in Energy and Environmental Design™ — is a registered trademark of the U.S. Green Building Council®.



Thermal insulation



Electric vehicle charging stations



Natural light and adjustable shades

LEED® certification strategies

Location & transportation

Green vehicles:

- Provided EV charging stations and EV-ready spaces for future charging stations in preferred locations within the parking area.

Sustainable sites

Protect or restore habitat:

- Strategically located development to reduce impact to existing old growth trees.
- Landscaped with native or adapted vegetation in areas disturbed by development.
- Restored top soil (site was previously reclaimed farmland).

Naturally vegetative bioswales



Stormwater management:

- Used low-impact, green development strategies (naturally vegetative bioswales along site's perimeter and throughout parking area to control flooding and filter water).
- Installed underground infiltration chambers to improve water quality.

Waterfill stations:

- Installed waterfill stations to encourage the use of reusable water bottles and prevent plastic water bottle waste.

Indoor environmental quality

Outside views to nature:

- Included daylighting and direct lines of sight to outdoor environment to provide building occupants a connection to nature.

Low-Emitting materials credit:

- Selected flooring, composite wood, paints, coatings, adhesives, sealants, and insulation with low emissions and low VOC content.

Materials & resources

Low carbon materials:

- Used more than 20 products with Environmental Product Declarations, showcasing manufacturers that are transparent about impact of their manufacturing processes.

Material ingredients:

- Used more than 20 products with Material Ingredient Declarations, showcasing manufacturers that are transparent about ingredients in their products.

Waste management:

- Diverted 66 percent of construction and demolition waste from landfill.

Water efficiency

Indoor water use reduction (by 20 percent):

- Installed low-flow efficient fixtures throughout facility to reduce water use by 40 percent over a standard facility.

Innovation & design

Green cleaning:

- Custodians will use non-toxic green cleaning products whenever possible for human and ecological health.

Green education:

- Provided signage throughout the building explaining the green strategies used in the project.
- Project case study will serve as a source of information and an educational tool.

Social equity within the project team:

- Ensured that 20% or more of design team (by dollar value of design contracts) demonstrated social responsibility on a company level by achieving certification, or developing a social responsibility report. Hennebery Eddy Architects, Inc. is a certified JUST organization and Brightworks Sustainability is a certified B Corporation.



LED lights



Photovoltaic solar array

Energy & atmosphere

Renewable energy production:

- Roof-top photovoltaic array (92.5 Kwh/Year) will offset approximately 32 percent of the building's energy needs.

Efficient building envelope:

- Thermally insulated sandwich tilt panels provide structural support while maintaining a comfortable building temperature.
- Continuous exterior insulation and cavity insulation mitigate the building's interior temperature from fluctuating throughout the day.
- Low-E coating in IGU (insulated glazing unit) and thermally broken storefront system allow light into the building while reducing the amount of heat filtering inside.

Use of natural daylight to reduce the use of electric lighting:

- Use of clerestories (top lighting) bring light into center of building and illuminate large manufacturing space.
- Translucent panels reduce glare.

LED lighting throughout:

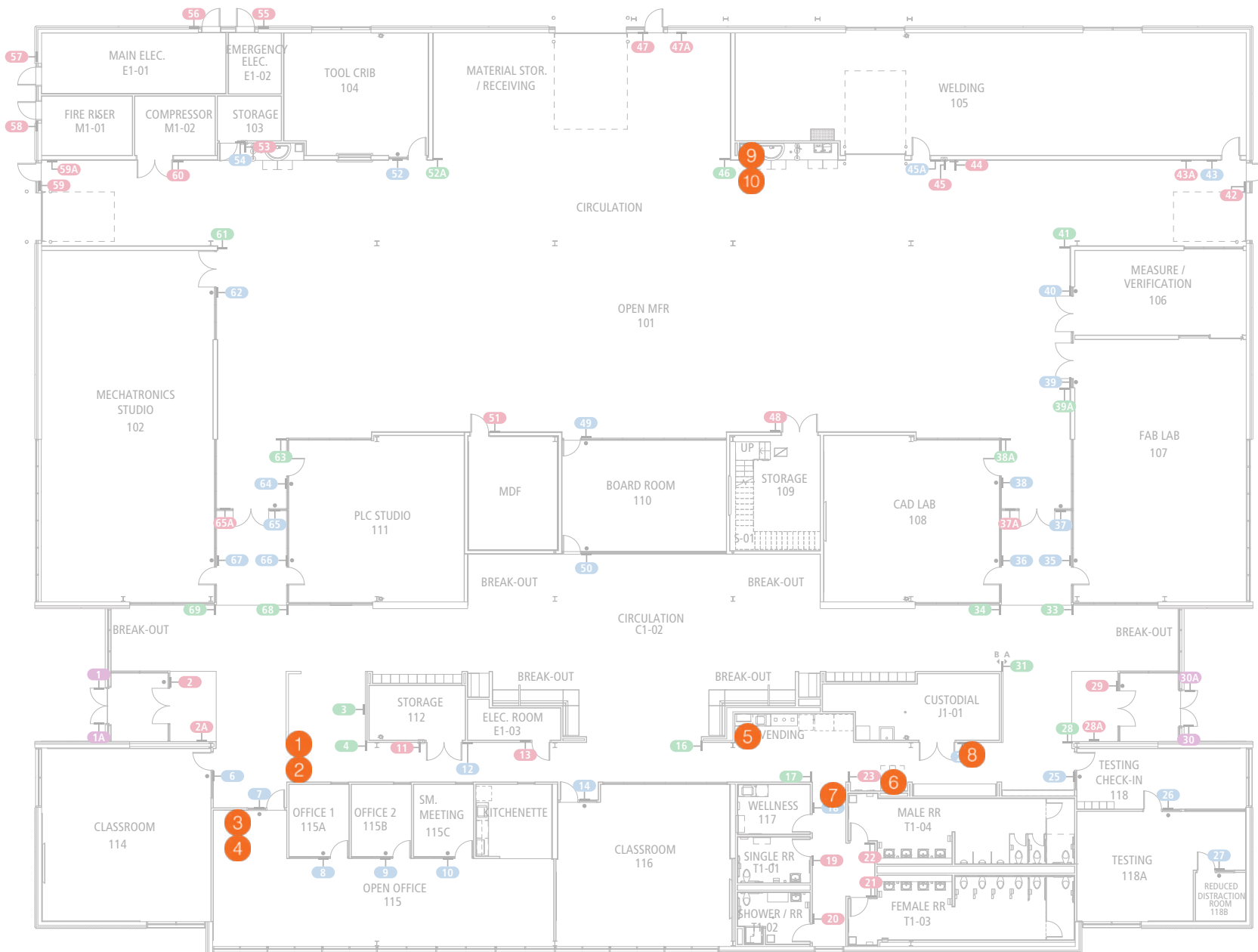
- Light levels can be controlled.
- Daylight sensors automatically control use of artificial lighting.
- Occupancy sensors control use of artificial lighting when space is not in use.

Destratification fans:

- Fans save energy and increase comfort by reducing difference between high and low temperature points in a room.

Oregon Manufacturing Innovation Training Center

Green educational signage plan



1



NATIVE PLANTING
Native and drought-resistant plantings reduce water and fertilizer inputs and support natural habitat.

2



STORMWATER MANAGEMENT
Low-impact development (LID) techniques, permeable pavement, vegetative swales, and rain gardens reduce runoff and improve water quality.

3



OUTSIDE VIEWS TO NATURE
Building occupants are provided a connection to the outdoors through daylighting and direct views of sight to the natural environment.

4



BETTER AIR QUALITY
Low-VOC paints, low-VOC flooring and sealants reduce indoor air pollution creating healthier environments.

5



WASTE REDUCTION
Recycling efforts reduce the amount of trash sent to the landfill.

6



WATERFILL STATIONS
These stations encourage the use of reusable water bottles and prevent plastic water bottle waste.

7



WATER EFFICIENCY
Low-flow faucets and low-flow fixtures that greatly reduce water usage.

8



GREEN CLEANING
Whenever possible, custodial use non-toxic green cleaning products for human and ecological health.

9



FANS
Circulation fans save energy and increase comfort by reducing the temperature difference between the high and low points in a room.

10



SOLAR ARRAY
Solar panels harvest solar energy, absorbing and converting sunlight into electricity and saving energy costs while reducing the carbon footprint.